Export Catalogue 2024

REDI

Soil, Waste & Vent
Heating, Cooling & Water Supply
Surface & Floor Drainage
UGD & Sewage
Water Management

aliaxis


we
make
life
flow

Index

The Aliaxis brand story

In a rapidly changing world, with a growing population and a changing climate, water is key. Being one of the most precious resources on our planet, we today must radically change the way we use water. As a global industry leader that connects people with water and energy, Aliaxis is ready to take up this challenge and help shape a better tomorrow.

As one of the world's largest advanced plastic piping manufacturers, we combine the strength of a global group with the diversity and passion of our local teams. We offer world-class water and energy solutions across continents, and it is the specific knowledge and experience of our people on the field that makes the difference for our customers. Whether it is designing the most efficient water supply systems or meeting the ever-growing demands of cities and their inhabitants, we work closely together with our customers and partners to deliver trusted performance, today and tomorrow.

Our global network of leading local brands, intimate market understanding, and proven technical expertise means we are well placed to collaborate with our customers, so they can access the industry's most advanced products and services. We are constantly challenging ourselves to think further and faster, ensuring we deliver ever smarter, innovative and sustainable solutions that benefit people all over the world and that make life flow.

REDI

ASTORE

FIP

jimten

MASA tubos y sistemas

aliaxis.com

aliaxis

IQNet
THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

CISQ/IIP S.r.l. has issued an IQNet recognized certificate that the organization

REDI SPA

legal place: VIA MADONNA DEI PRATI, 5/A - 40069 ZOLA PREDOSA (BO)

VIA MADONNA DEI PRATI, 5/A - 40069 ZOLA PREDOSA (BO)
LOC. ISCHIA DI CROCIANO - 57025 PIOMBINO (LI)
VIA STATALE EMILIA, 34 - 26862 GUARDAMIGLIO (LO)

has implemented and maintains a

Quality Management System

for the following scope:

Design, development, production and trading of pipes and fittings systems, valves, gullies, covers and channels-grills made of plastic material to be used for waste water drainage, water supply, sewage nets and soil drainage. (Zola Predosa)
Design, production, assistance to commissioning and after sales service of civil and industrial wastewater, rain water treatment systems, rain water recovery, lifting stations and tanks for storage of liquids. (Guardamiglio)
Production of multilayer metal-plastic pipes for thermo-idraulic systems and water supply. (Piombino)

which fullfills the requirements of the following standard:

ISO 9001

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document.

Registration Number: **IT-3503** **IIP 47**

Alex Stoichitoiu
President of IQNET

Ing. Mario Romersi
President of CISQ

IQNet
THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

REDI SPA

Environmental Management System

ISO 14001

Registration Number: IT-58410 IIP 136

IIP

CISQ is a member of IQNet
THE INTERNATIONAL CERTIFICATION NETWORK
www.iqnet-certification.com

IQNet, the association of the world's first class certification bodies, is the largest provider of management System Certification in the world. IQNet is composed of more than 30 bodies and counts over 150 subsidiaries all over the globe.

CERTIFICATO N. **043**
CERTIFICATE N.

Si certifica che il Sistema di gestione della Salute e Sicurezza sul Lavoro di
We hereby certify that the Occupational Health and Safety Management System operated by

REDI SPA

sede legale: VIA MADONNA DEI PRATI, 5/A — 40069 ZOLA PREDOSA (BO)

UNITA' OPERATIVE / OPERATIVE UNITS

VIA MADONNA DEI PRATI, 5/A — 40069 ZOLA PREDOSA (BO)

è conforme alla norma
is in compliance with the standard

UNI ISO 45001

per le seguenti attività
for the following activities

IAF14

Progettazione e produzione di sistemi di tubazione in materiale termoplastico per scarico acque tramite i processi di preparazione materia prima (estrusione), stampaggio ad iniezione, assemblaggio, imballaggio, immagazzinamento e spedizione.
Design and production of thermoplastic piping systems for waste water by means of preparation processes of raw material (compounding), injection moulding, assembly, packaging, storing and dispatching.

L'Amministratore Delegato
Mauro La Ciacera

ACCREDIA
L'ENTE ITALIANO DI ACCREDITAMENTO
SCR n° 014F

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreements

IIP SRL - via Velleia 2 - 20900 Monza (MB)
www.iip.it info@iip.it

FEDERAZIONE CISQ
www.cisq.com

CISQ è la Federazione Italiana di Organismi di Certificazione dei sistemi di gestione aziendale.
CISQ is the Italian Federation of management system Certification Bodies.

The production site in Zola Predosa, IT

Since 1960 the Redi brand is synonymous with quality sustainability and success for our customers.

The reason for this success is our constant effort in offering the most comprehensive service to our clients aiming at establishing long-lasting and profitable business relationships.

Redi is certified in accordance with quality standards UNI EN ISO 9001.

Redi brand manufactures and offers the following product ranges:

- PVC-U rubber ring-sealed fittings for underground drainage (EN 1401)
- PVC-U and pp inspection chambers (AFNOR-ANF)
- PVC-U anti-flooding valves (Ø 100 ÷ 630)
- PVC-U solvent welding fittings for above ground drainage (EN 1329 - AFNOR-ENF)
- Phonoline: soundproof piping system 12 dB (EN 14366)
- Phonoblack: soundproof piping system 13 dB (EN 14366)
- PP pipes and fittings for non-pressure above grounddrainage (EN 1451)
- Ventilation systems
- ISEA, solutions for wastewate, rainwater treatment and rainwater recicle
- Surface drainage systems

Aliaxis world leader in the manufacture of building materials.

The company operates a policy of progressive improvements and reserves the right to alter the specification of any product without prior notice. Information given by way of illustrations and dimensions is intended to assist the buyer but where such information is of paramount importance it should be confirmed with the company in writing before any order is placed.

Certified in accordance with quality standards:

– UNI EN ISO 9001

– UNI EN ISO 14001

– UNI ISO 45001

Voluntary commitment to sustainable development of the European PVC industry

REDI SpA associate GBC Italy (Green Building Council Italy)

Building Services Portfolio

REDI ISEA FLUXO

Advice for drainage systems installation

Soil & Waste branches in the bathroom

The sizing of the collecting branches of all sanitary equipments is based on the fluid quantity discharged in a specific time unit. The nominal diameter of a DN branch has to be calculated by interpolation (Pict. 1) among the following variables related to any single case taken into consideration.

Q= flow rate expressed in liter/second
u= pipe usage ratio or filling factor
J= pipe slope expressed in %

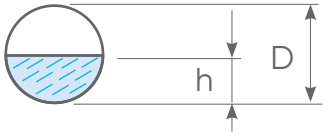
Description of the variables:

Q: basing on the kind of user, it's possible to fix some average typical Q-rates for each sanitary equipment

Kind of Sanitary Equipment	Flow rate Q (l/sec.)	Average discharge duration (sec.)
Shower plate	0,45	13
Washbasin	0,45	13
Bidet	0,45	13
Bathtub	0,90	200
Double kitchen sink	0,90	13
Domestic washing machine	0,90	80
Dishwasher	0,90	80
Double washtub	1,50	20
Restaurant dishwasher	1,60	130
Service washing machine	1,80	140
W.C. W. & S.	2,50	10

Pict. 1

u: usage ratio calculated as **h/D = 0,5**
This filling hypothesis avoids the creation of internal counter pressures that slow the S&W down and increase its noise. In order to maintain this ratio constant, the S&W branch diameter will have to be bigger at least of a measure than the fixing point diameter.
J: by increasing the branch slope, an increase of the discharge flow speed is observed, and consequently of the S&W flow rate in the pipe itself.



By changing the slope, the same quantity of water coming out from the same equipment might be drained away by pipes of different diameters. (Pict. 2)
As it is not always convenient to carry on with the dimensioning in the best conditions, through the practical experience it has been created a simplification of the dimensioning theory of the drainage networks proposed in Pict. 3.

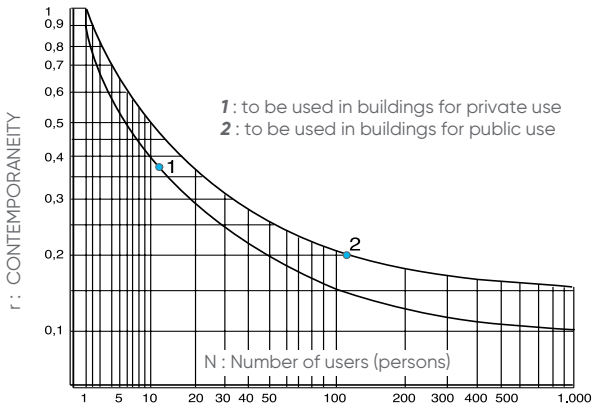
DN	Slope J					
Considering u=0,5 (mm)	0,5 %	1,0 %	1,5 %	2,0 %	2,5%	3,0 %
32	0,19	0,27	0,34	0,39	0,43	0,48
40	0,30	0,43	0,54	0,61	0,67	0,74
50	0,47	0,66	0,84	0,95	1,04	1,16
63	0,54	0,76	0,95	1,08	1,19	1,32
75	0,92	1,29	1,63	1,85	2,03	2,26
80	1,21	1,70	2,14	2,43	2,67	2,96
100	1,90	2,67	3,35	3,81	4,19	4,65
110	2,47	3,46	4,04	4,59	5,44	5,60
125	2,97	4,16	5,24	5,95	6,54	7,26

Pict. 2

Sanitary Equipment kind	DN connection (mm)	DN branch (mm)
Washbasin	25/32	32/40
Bidet	25/32	32/40
Showerplate	32	40
Bathtub	32	40
Double kitchen sink	32	40
Domestic washing machine	32	40
Dishwasher	32	40
Double washtub	40	50
Restaurant dishwasher	50	63
Home washing machine	65	80
W.C. S&W	90	100

Pict. 3

Definition of the discharge flow rate of a stack



Pict. 4

The calculation of the total flow rate (Qt) of a stack or of a sewer pipe is equal to the sum of the S&W intensity of the single users, multiplied by the "r", namely usage contemporaneity ratio.
While calculating the sum of the flow rates you have to take in consideration a single sanitary equipment for each bathroom (you have to choose the equipment with the largest S&W intensity, usually the W.C.) and the other independent S&W units, i.e.: kitchen sinks, washing machines S&W, dishwasher, etc...

The variables that affect the calculation of the total Qt flow rate are connected by the following formula:

$$QT = \frac{r}{4} \times \sum Q \times \frac{N}{A} = l/sec$$

whereas:
QT = max discharge intensity
Q = discharge intensity for kind of equipment, namely one for each room (pict. 1)
r = contemporaneity ratio of the various bathrooms that involve the same stack (pict. 4)
N = number of users (persons)
A = number of the involved bathrooms
∑Q = the sum of the discharge intensities for each floor (Q1 x n. of apartment kind 1+ Q2 x apartment kind 2 + Q3 x apartment kind 3)

Calculation example for a stack having 1 bathroom to be connected at each floor:
QT = ?
Q = considering a single sanitary equipment every bathroom, we will use for each single apartment the WC and the kitchen sink (pict. 1)
r = the data can be obtained by interpolation in the chart of picture 4
N = 20 people (4 located in each apartment)
A = 5 bathrooms + 5 kitchens
∑Q = (Q w.c. x n. of w.c. + sink Q x n. of sinks)

$$QT = \frac{0,3}{4} \times (5 \times 2,50 + 5 \times 0,90) \times \frac{20}{10} = 2,55\ l/sec$$

Dimensioning of the vertical and ventilation stacks DN1

A stack receives the discharges of various branches located on different floors: it is advisable that this stack maintain a constant section along its own length from the bottom to the roof vent cowl with a constant DN diameter. The problems related to the secondary ventilation of the stack will be discussed in the following chapter; right now we will just calculate its DN1 diameter. In order to proceed with the dimensioning it is necessary to have already defined the max flow rate (Qt).

Pict.5

QT (l/sec) Max discharge intensity	**DN** (mm) Ø stack	**DN1** (mm) Ø secondary ventilation stack	**WC** Maximum nstallable n.	
			Total	For floor
1,74	**50**	40	-	-
2,03	**63**	50	-	-
4,51	**80**	63	-	-
7,24	**100**	80	30	6
10,57	**125**	80	56	8
17,25	**160**	100	150	16
28,26	**200**	110	300	38

Ventilation of the S&W systems

General remarks

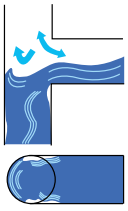
The ventilation of a system is the set of pipes made up for the air passage, which is necessary for compensating the hydrostatic depressions, that originate inside gravity discharge stacks.
When the water falls inside the stack (about 10 mt/sec speed) it originates an effect of compression of the below existing air, and an hydrostatic depression (vacuum) just over the referring sewage unit.
The ventilation must temporarily fill in this vacuum, thus avoiding the emptying of the trap interceptors of each single connected system; it must also limit as much as possible the water fluttering inside the stack, which causes the S&W noise.
The main cause that originates pressures and corresponding hydrostatic depressions has to be searched in the structure of the pipes that make up the evacuation system of the building.
By following the S&W water run from the entrance into the stack until the sewage network itself we should take in consideration the variables that might occur:

Connection to the stack:

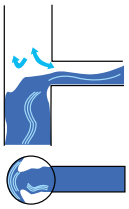
1) with a 87°30' Branch at constant section during the discharge there is a total closure of the pipe and a consequent pressure fall in the top stack.
On the other side the air circulation inside the link pipe is good and it can be avoided the danger of the WC trap interceptor emptying.

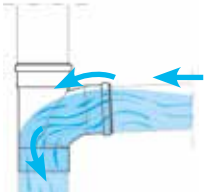
2) with a Reduced 87°30' Branch during the discharge there is a partial closure of the stack with a lower pressure fall than the previous case. The air circulation inside the pipe is good by the way, and if the pipe has been measured in the appropriate way, there will be no suction phenomenon in the trap interceptors.

Pict .6



Pict .7



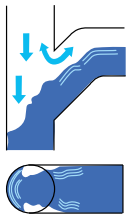


Example of installation of a Phonoline long radius branch M/F Ø110:
the acoustic abatement is improved thanks to its wide radius.

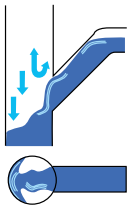
3) with a 45° Branch at constant section the hydraulic closure of the stack during the discharge will be just partial. The discharge flow rate (Qt) strongly increases and the chances of emptying the trap interceptors are practically impossible.

4) with a Reduced 45 ° branch it will similarly happen as the previous case, a partial hydraulic closure of the stack. However, it is necessary to carefully measure the diameter of the link branch of the stack because in case of hydraulic closure there might be an emptying risk of the trap interceptors of the sanitary equipments.

Pict .8



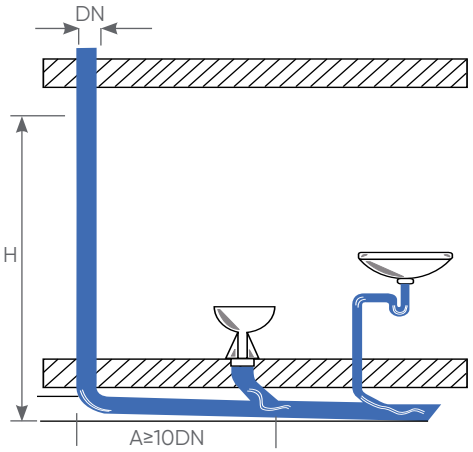
Pict .9



Stack bottom:

1) At the bottom of the stack where the discharge pipe gets from vertical to horizontal the water flow violently changes direction; this causes a strong increase of the internal pressure, which is proportional to the height of the stack itself. In order to weaken the impact intensity it should be advisable to get two 45° bends rather than one of 87° 30' (this general rule should be always applied when there is enough space).

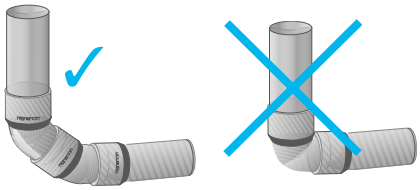
2) For stacks' heights superior than 4 building storeys, the H counterpressure level caused by the stack bottom might change from 3 to 5 mt (Pict.11).
It is absolutely not advisable to connect the equipments to the stack in these stretches, except for those cases in which there's a secondary ventilation (pict. 17) or a stack doubling beneath the mentioned stretch (pict. 16).
On the other hand, the link is possible along the horizontal stretch of the sewer pipe in a neutral A area, which is usually placed at a distance at least 10 times superior than the stack diameter (DN).



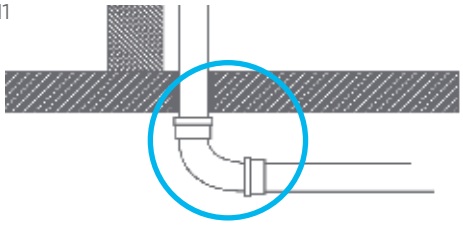
Stack trap interceptor

1) In order to avoid that the roof vent cowl acts like a chimney tower with the sewage system i.e. causing a drying up of the internal deposits by its constant draw, as well as the diffusion into the atmosphere of polluting substances - it is necessary to place a black waters trap interceptor (B-W) at the stack basement. For a correct positioning of the trap interceptor you must take in consideration the elevated pressure created during the discharge in the stack basement. In order to avoid the trap interceptor damaging and its bad functioning, you must keep a distance from the stack basement 10 times larger than its own diameter.
In order to get a good water flow inside the trap interceptor it is not advisable to use trap interceptors (realized by assembling bends) for the short reachable height (Hs) of water seal. REDI proposes its one piece B-W trap interceptor planned for ensuring the maximum height (Hs) equipped for the connection with the ventilation system and provided with double inspection having a diameter equal to the pipe one. REDI trap interceptor being an inspectable product must be installed inside a drain well for its periodic cleaning or for easily reaching the above placed stack in case of obstruction. In case of secondary ventilation, the basement link must be connected to the dedicated socket which is placed on the B-W trap interceptor, close to the inspection cap.

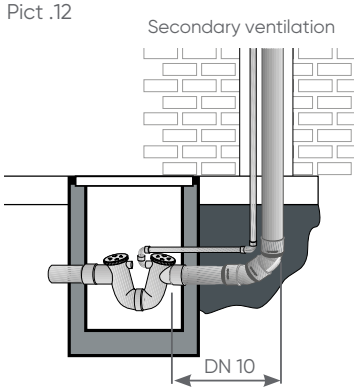
Pict .10



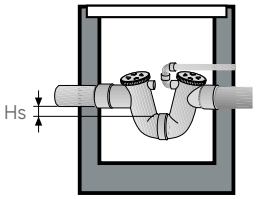
Pict .11



Pict .12



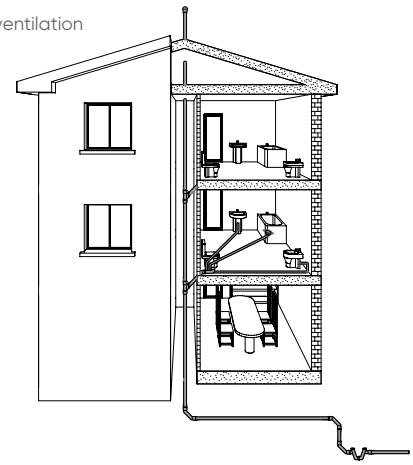
Pict .13



Primary ventilation

It is the easiest and most economic ventilation system. It's advisable to use it in buildings with few floors where the S&W contemporaneousness risks are limited. It is realized just with the extension of the stack getting outside, on the roof: the only important thing is to maintain the stack diameter equal until the roof-vent cowl. In case it occurs a S&W contemporaneousness in two sanitary systems placed on different floors, there might be the risk of an emptying of the intermediate-placed trap interceptors. This is due to the fact that there are no air exits that compensate the suction effect. In this case the kind of stack joint is extremely important; as a matter of fact, it must not completely obstruct the stack flow during the S&W. You can see from picture 10 that the most convenient connection may realized with a 45° branch at constant section.

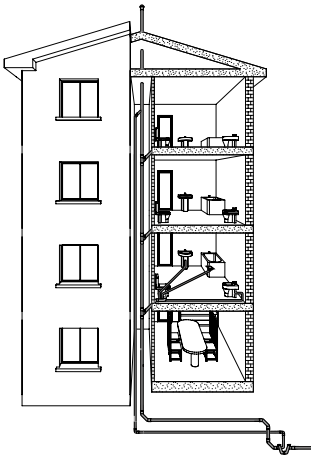
Pict.14
Primary ventilation



Stack secondary ventilation (roundventilation)

It consists in the stack doubling by a ventilation bypass connection located on each floor (picture 17). In this case the stack must be extended up to the roof vent cowl by always keeping its constant diameter. The joint of the secondary stack in the final section of the roof-vent cowl allows internal recycles that strongly reduce the gas flow towards the external side. This flow becomes ten times larger when a secondary stack gets outside through its own roof-vent cowl (this procedure must absolutely be avoided). In case of medium height buildings (3/4 floors) you can just connect the upper side of the ventilation stack (at least 20 cm above the 5th floor), with the connection placed above the B-W trap interceptor of the stack basis (picture 15).
When the building is high (8/10 floors) the excessive stack length might create more intense suction phenomena on the lower floors; in order to avoid this problem you should connect the equipments to an independent stack (pict.16) at the level of the lower floors. By this way you will avoid flowings, foams and noise, that occur hight otherwise on the lower floors. The diameter of the secondary DN1 column must be minimum 2/3 of the diameter of the main Stack DN (pict.5); the building material is the same used for the stack: fire resistant PVC-U Me Class.

Pict.16
Secondary ventilation with max 3 floors



Pict.15
Secondary ventilation with auxiliary stack

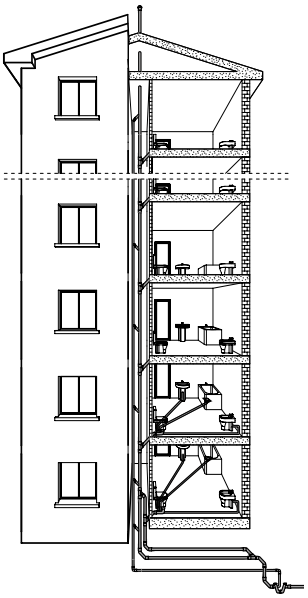
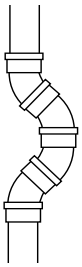
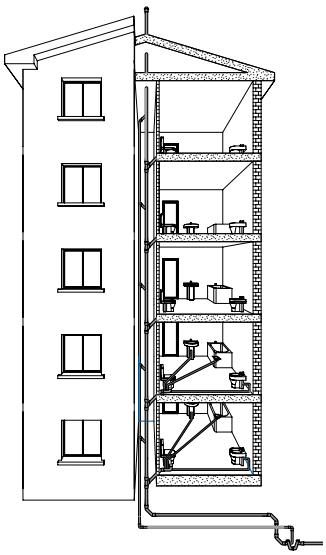


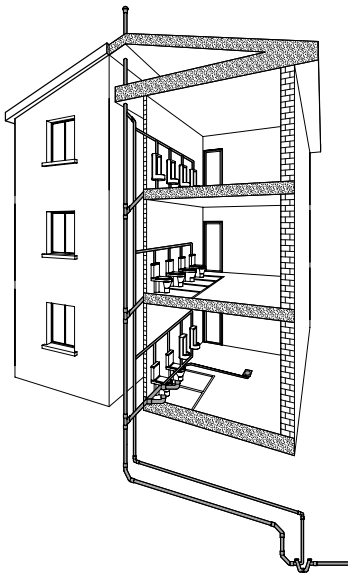
Fig.17



Pict.17
Secondary column ventilation (roundventilation)



Pict.18
Secondary ventilation




1.1
PHONOBLACK
Soundproof PVC-U Soil & Waste System
13 dB - 2 l/s Acoustic Performance
B s1 d0 Fire Reaction Euroclass
1.6
VENTILATION
Air Admittance Valve
for primary ventilation
ARIO

1.1

PHONOBLACK
Soundproof PVC-U Soil & Waste System
13 dB - 2 l/s Acoustic Performance
B s1 d0 Fire Reaction Euroclass

PHONOBLACK Soundproof PVC-U Soil & Waste System

phono black

1.1 PHONOBLACK

Push-Fit PVC-U Pipe and Fittings
13 dB - 2 l/s Acoustic Performance
B s1 d0 Fire Reaction Euroclass

aliaxis

phono black

The Acoustic PVC Choice

The new Phonoblack by REDI PVC mineral additives strengthened formula guarantees excellent acoustic performance. Phonoblack is designed and developed to satisfy low levels of noise emissions of waste water systems according to the different in force norm and standards.

- PVC is a sustainable and low environmental footprint material, it is lead free and completely recyclable.
- PVC allows the installation of both push-fit and solvent welded joints. It allows an excellent quick fit and give flexibility to the installers.
- PVC is suitable to be easily used to install soundproof acoustic system both for new and renovation building applications, also combined on the the already installed different type of waste water systems.
- PVC has an excellent chemical resistance to several agents like acids, alkalies, salts and organic compound solved into the water.

General characteristics of PVC

- Name: Polyvinyl Chloride
- Color: RAL 9005 - Black
- Operation Temperature Range:
  70 °C is the MAX temperature of waste water in permanent conditions. For discontinuous drainage applications as common household appliances discharge, instant peak of 95 °C are allowed.

High Level System
New and innovative PVC-U compound formula with mineral additives that provide excellent performances.

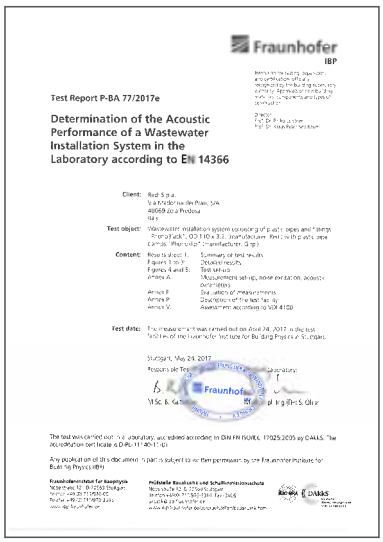
Fire Reaction
Phonoblack is certified as B s1 d0 Fire Reaction Euroclass applied to plastic material made soil and waste drainage systems according to the EN 13501 standard

Complete Range
Pipe and Fittings available starting from Ø40 up to Ø160. Both Single and Double Socket Pipes available in 0.5, 1, 2 and 3 m length.

Exclusivity
The only one Soundproof PVC Push-Fit system also available in Ø100 on the market

Acoustic Performance
13 dB - 2 l/s acoustic performance certified by the Stuttgart Fraunhofer Physical Constructions Institute according to EN 14366 standard (P-BA 77 / 2017e).

Phonoblack Euroclass certified by AFITI



Sound performance certified by Fraunhofer

The certificates shown on this catalogue may be subject to revisions. Updated certificates for each product are available on website www.aliaxis.it

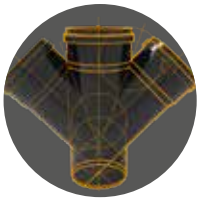
Strength Points

REDI presents Phonoblack: the acoustic soil and waste system made in black PVC-U, mineral additives-strengthened, fire resistant (B s1 d0 Euroclass), available with patented and certified acoustic brackets for each diameter.
Phonoblack offers a complete range of pipes and fittings for soil and waste water applications. The innovative specific compound guarantees the soundproof performances, high chemical resistance, excellent mechanical performances even at low temperatures.

1

High quality gaskets (SBR and EPDM)

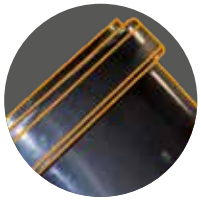
The lip seal gaskets guarantee a perfect sealing even in difficult conditions. They are slightly lubricated and temporarily removable during the installation without any issue.



4

Soundproof geometry

The geometry of the Phonoblack fittings provide a high soundproof performance limiting the noises generated by water flow on the impact areas



2

Total safety

Phonoblack guarantees complete sealing thanks to the square profile of the socket, even in severe working conditions (low temperatures, exposure to chemical agents)

5

Easy installation

Phonoblack is the ideal solution in renovations, allowing both the push-fit and solvent welded connections to the existing pipes.

3

High flow capacity

Thanks to the excellent smooth surface of the new PVC compound strengthened with mineral additives, Phonoblack guarantees a perfect water flow avoiding irregular outflows and clogs that cause annoying noises

6

Compact fittings

The range of Phonoblack fittings, ensures a versatile and compact system, easy to handle and ideal for specific situations where the space is limited

Phonoklip

brackets for the best perfomance

Essential
Brackets are essential to anchor and guide the piping network improving its performances

Patended and certified
The new Phonoklip brackets are patented and certified to reach the best acoustic performances

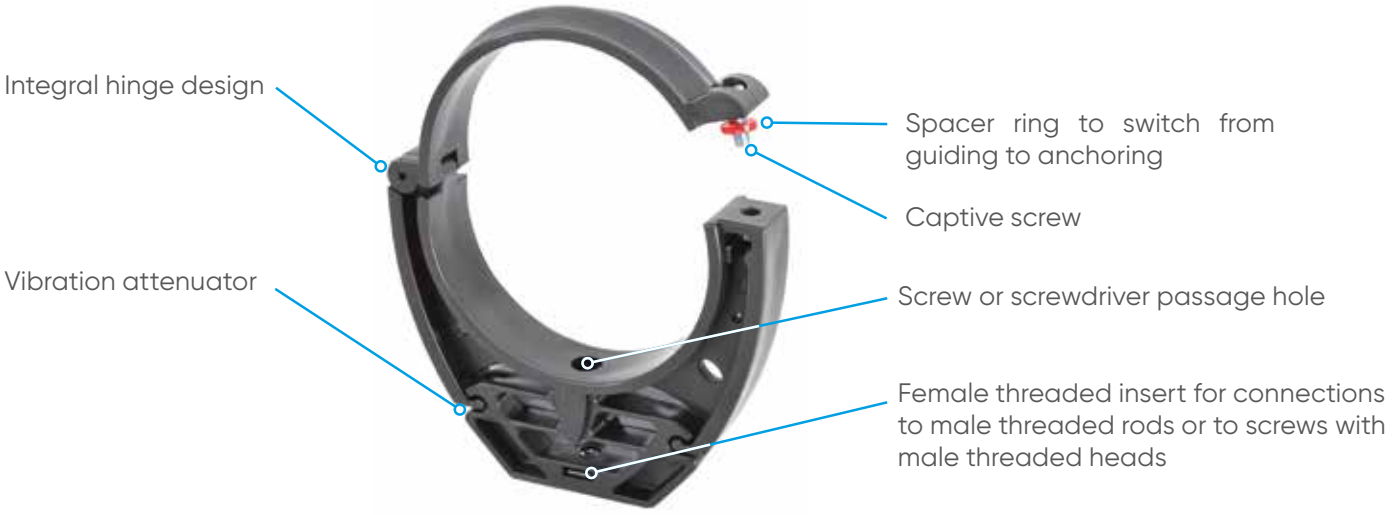
Totally plastic
The Phonoklip bracket, thanks to its full plastic structure, guarantees durability, flexibility and exceptional mechanical strength

Wide range
Wide range of diameters:
Ø 50-75-90-100-110-125-160

Horizontal and vertical installation
Phonoklip brackets can be indifferently installed horizontally and vertically, both for anchoring and guiding purposes. Using Phonoklip brackets Phonoblack system reaches the highest possible performances.

For guiding purposes, keep the red spacer ring in position so that the pipe is allowed to move freely.

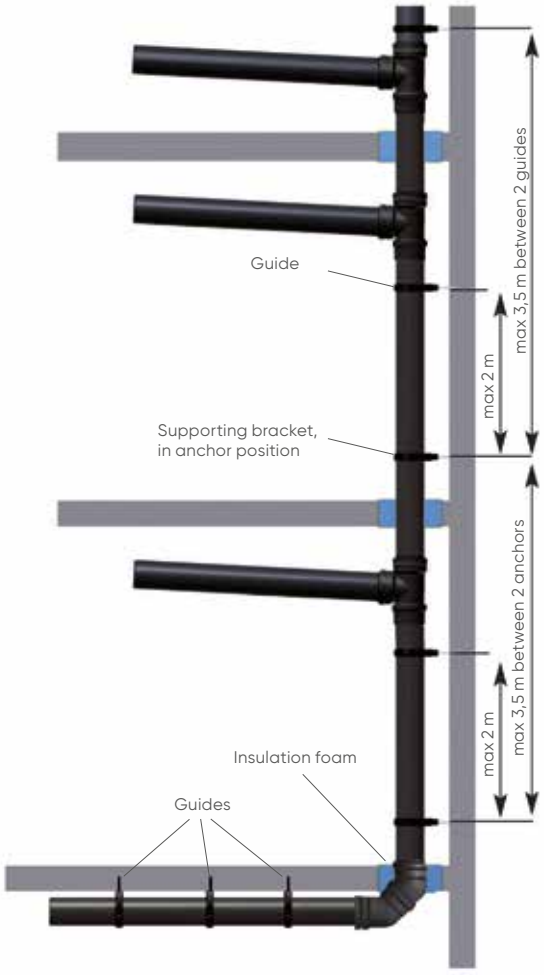
For anchoring purposes, remove the red spacer ring before closing the bracket



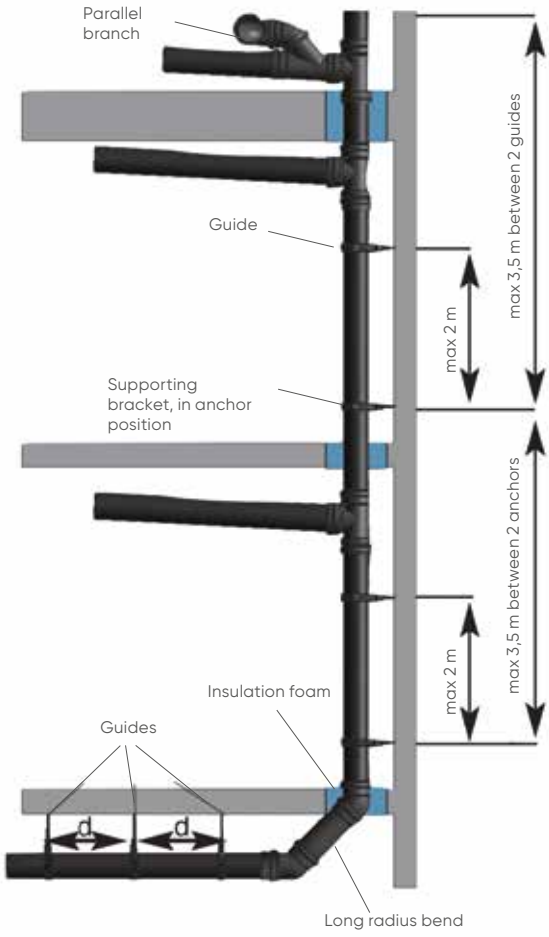
Distance between Phonoklip brackets

For vertical pipes 2 brackets must be used at each floor level:
- 1 anchor
- 1 guide

For horizontal pipes, the distance are:
- DN 50 = 0,50 m
- DN 75 - DN 125 = 0,80 m
- DN 160 = 1,00 m

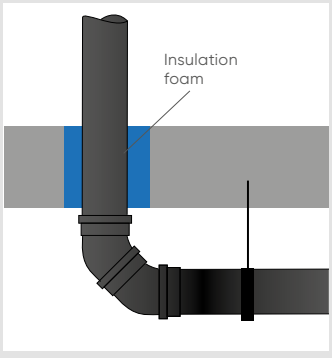


Alternative configuration
for pipes drops above 10 m

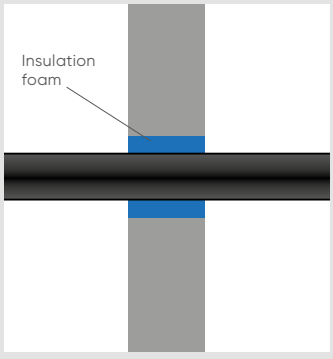


Acoustic insulation of pipes passing through floors, partitions and walls

In order to limit the trasmission of structural noise, pipes must be disconnected by floors, partitions and walls each time they pass through, by use of foam or insulating material (minimun thickness 4 mm).



Passage through the floor.
(Up to 10 m pipe drop).



Passage through the wall or partition.

Different Situations, Unique Solution

Phonoblack can be easily connected to the existing PVC soil and waste system using a slip coupler or any other fitting by solvent welding jointing technique.

Phonoblack PVC pipe, allows the direct connection in any point along the piping stack.
A new cross connection can be easily done thanks to the PVC saddle, which avoids a branch installation an let to save slab space.

Tender specifications

Soundproof and fire resistant pipes and fittings system for soil and waste systems inside buildings; it can be located in a specific technical shaft, fixed with noise-insulating supports or directly embedded in the wall. Phonoblack system is made of thermoplastic mineral reinforced material.
Acoustic performance certified by German Fraunhofer Institute according to EN 14366 (13 dB at 2/ls flow rate, using Phonoklip acoustic bracket).
Push-Fit system with elastomeric lip seals certified according to the EN 681 and DIN 4060.
Pipes and fittings branded “Phonoblack by REDI”.
Fire reaction B s1 d0 according to the EN 13501 standard.

Handling and storage

It is recommended to always store pipes on flat surfaces, in dry conditions and UV-protected place.
Pallets must be stored at 3 m maximum height.
Take care to handle pipes and fittings.
Excessive scratch or impact stress on the pipe may have damage on the external surface or can affect seal properties.
Take extra care to handle pipes and fittings during the winter: the low temperatures reduce the plastic material resistance to impact stress.

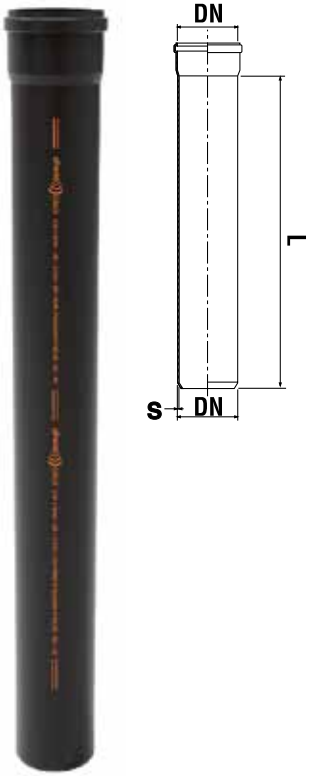
PVC - Chemical resistance

Product	Conc. %	Temp. 20 °C	Temp. 60 °C
Acetic Acid	60	S	L
Acetic Acid Monochloride	SOL.	S	L
Acetic Aldehyde	100	NS	-
Acetic Anhydride	100	NS	NS
Acetone	100	NS	NS
Adipic Acid	SOL.SAT.	S	L
Allyl Alcohol	90	L	S
Aluminum Chloride	SOL. SAT.	S	S
Aluminum Sulphate	SOL. SAT.	S	S
Ammonia (aqueous)	100	L	NS
Ammonia (gas)	100	S	S
Ammonia (solution)	SOL. DIL.	S	L
Ammonium Chloride	SOL. SAT.	S	S
Ammonium Fluoride	20	S	L
Ammonium Nitrate	SOL. SAT.	S	S
Ammonium Sulphate	SOL. SAT.	S	S
Amyl Acetate	100	NS	NS
Amyl Alcohol	100	S	L
Aniline	100	NS	NS
Aniline	SOL. SAT.	NS	NS
Aniline Hydrochloride	SOL. SAT.	NS	NS
Antimony Chloride	90	S	S
Arsenic Acid	SOL. DIL.	S	-
Beer		S	S
Benzaldehyde	0,1	NS	NS
Benzene	100	NS	NS
Benzoic Acid	SOL. SAT.	L	NS
Borax	SOL. SAT.	S	L
Boric Acid	SOL. DIL.	S	L
Bromine (liquid)	100	NS	NS
Bromine Acid	10	S	-
Butadiene	100	S	S
Butane	100	S	-
Butyl Acetate	100	NS	NS
Butyl Phenol	100	NS	NS
Butylene	100	S	L
Butyric Acid	20	S	L
Butyric Acid	98	NS	NS
Calcium Chloride	SOL. SAT.	S	S
Calcium Nitrate	50	S	S
Carbon Dioxide	100	S	S
Carbon Sulphide	100	NS	NS
Carbon tetrachloride	100	NS	NS
Cetyl Acid	100	S	S
Chlorine (dry gas)	100	L	NS
Chlorine (liquid)	SOL. SAT.	L	NS
Chlorosulphonic Acid	100	L	NS
Chromic Acid	1~50	S	L
Citric Acid	SOL. SAT.	S	S
Copper Chloride	SOL. SAT.	S	S
Copper Fluoride	2	S	S
Creosol	SOL. SAT.	-	NS
Cresol Acid	SOL. SAT.	NS	NS
Crotonic Aldehyde	100	NS	NS
Cyclohexanol	100	NS	NS
Cyclohexanone	100	NS	NS
Developing Bath		S	S
Dextrine	SOL. SAT.	S	L
Dichloroethylene	100	NS	NS
Diglycolic Acid	18	S	L
Dimethylammine	30	S	-
Ethyl Acetate	100	NS	NS
Ethyl Acrylate	100	NS	NS
Ethyl Alcohol	95	S	L
Ethyl Ether	100	NS	L
Ethylene Glycol	CONC.	L	L
Fluosilicic Acid	32	S	S
Formaldehyde	SOL.	S	S
Formaldehyde	40	S	S
Formic Acid	1~50	S	L
Furfural Alcohol	100	NS	NS
Glucose	SOL. SAT.	S	L
Glycerin	100	S	S
Glycolic Acid	30	S	S
Golden Syrup	SOL.	S	L
Hydrazine Benzene	100	NS	NS
Hydrazine Benzene Cloric	97	NS	NS
Hydrobromic Acid	50	S	L
Hydrochloric Acid	>30	S	S

Product	Conc. %	Temp. 20 °C	Temp. 60 °C
Hydrofluoric Acid	60	L	NS
Hydrogen	100	S	S
Hydrogen Dioxide	30	S	S
Hydrogen Sulphide	100	S	S
Iron Chloride	SOL. SAT.	S	S
Lactic Acid	10	S	L
Lactic Acid	10~90	L	NS
Lead Acetate	SOL. SAT.	S	S
Lead Tetraethyl	100	S	-
Magnesium Chloride	SOL. SAT.	S	S
Magnesium Sulphide	SOL. SAT.	S	S
Maleic Acid	SOL. SAT.	S	L
Methyl Alcohol	100	S	L
Methyl Methacrylate	100	NS	NS
Methylene Chloride	100	NS	NS
Milk		S	S
Nickel Sulphide	SOL. SAT.	S	S
Nicotinic Acid	CONC.	S	S
Nitric Acid	<46	S	L
Nitric Acid	46~98	NS	NS
Oils		S	S
Oleic Acid	100	S	S
Oleum	10% of SO	NS	NS
Oxalic Acid	SOL. DIL.	S	L
Oxalic Acid	SOL. SAT.	S	S
Oxigen	100	S	S
Ozone	100	NS	NS
Perchloric Acid	10	S	L
Perchloric Acid	70	L	NS
Petrol	80/20	NS	NS
Phenol	90	NS	NS
Phosphine	100	S	S
Phosphor Trichloride	100	NS	-
Phosphoric Acid	30	S	L
Picric Acid	SOL. SAT.	S	S
Potassium Bichromate	40	S	S
Potassium Bromide	SOL. SAT.	S	S
Potassium Chloride	SOL. SAT.	S	S
Potassium Chromate	40	S	S
Potassium Cyanide	SOL.	S	S
Potassium Ferricyanide	SOL. SAT.	S	S
Potassium Ferrocyanide	SOL. SAT.	S	S
Potassium Hydroxide	SOL.	S	S
Potassium Nitrate	SOL. SAT.	S	S
Potassium Permanganate	20	S	S
Potassium Persulfate	SOL. SAT.	S	L
Propane (gas liquid)	100	S	-
Pyridine	100	NS	-
Sea Water		S	L
Silver Nitrate	SOL. SAT.	S	L
Soap	SOL.	S	L
Sodium Benzoate	35	S	L
Sodium Bisulphite	SOL. SAT.	S	S
Sodium Chlorate	SOL. SAT.	S	S
Sodium Ferricyanide	SOL. SAT.	S	S
Sodium Hydroxide	SOL.	S	L
Sodium Hypochlorite	100 (13% Cl.)	S	L
Sodium Sulphite	SOL. SAT.	S	L
Sugar	SOL. SAT.	S	S
Sulphur Acid	SOL.	S	S
Sulphur Anhydride	100 (liquid)	L	NS
Sulphur Anhydride	100 (dry)	L	NS
Sulphuric Acid	40~90	S	L
Sulphuric Acid	96	L	NS
Tannic Acid	SOL.	S	S
Tartaric Acid	SOL.	S	S
Tin Chloride	SOL. SAT.	S	S
Toluene	100	NS	NS
Trichloroethylene	100	NS	NS
Trimethyl Propane	<10	S	L
Urea	10	S	L
Urine		S	L
Vinagre		S	S
Vinyl Acetate	100	NS	NS
Wine		S	S
Xylene	100	NS	NS
Yeast	SOL.	S	L
Zinc Chloride	SOL. SAT.	S	S

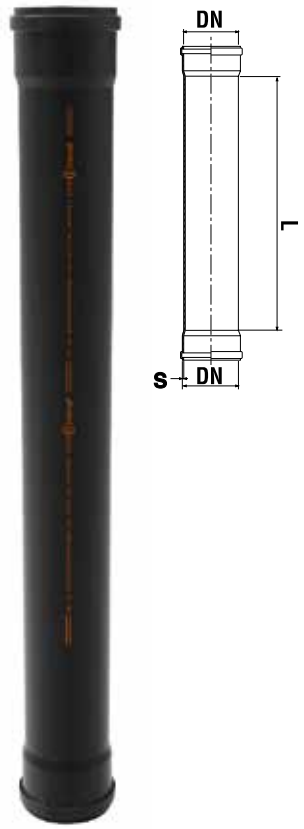
TS = Without corrosion L = Limitaded corrosion NS = Corrosion

For special applications it is recommended to contact the REDI Technical Department.



Single socket pipe M/F
Tube M/F - Tubo M/H

DN (mm)	L (ml.)	S (mm)	Reference			Note
40	0,50	3	V0504P8	20	20	
40	1,00	3	V0104P8	20	20	
40	2,00	3	V0204P8	20	20	
40	3,00	3	V0304P8	20	20	
50	0,50	3	V0505P8	20	20	
50	1,00	3	V0105P8	20	20	
50	2,00	3	V0205P8	20	20	
50	3,00	3	V0305P8	20	20	
75	0,50	3	V0575P8	10	10	
75	1,00	3	V0175P8	10	10	
75	2,00	3	V0275P8	10	10	
75	3,00	3	V0375P8	10	10	
90	0,50	3	V0509P8	10	10	
90	1,00	3	V0109P8	10	10	
90	2,00	3	V0209P8	10	10	
90	3,00	3	V0309P8	10	10	
100	0,50	3	V0510P8	10	10	
100	1,00	3	V0110P8	10	10	
100	2,00	3	V0210P8	10	10	
100	3,00	3	V0310P8	10	10	
110	0,50	3.2	V0511P8	10	10	
110	1,00	3.2	V0111P8	10	10	
110	2,00	3.2	V0211P8	10	10	
110	3,00	3.2	V0311P8	10	10	
125	0,50	3.2	V0512P8	8	8	
125	1,00	3.2	V0112P8	8	8	
125	2,00	3.2	V0212P8	8	8	
125	3,00	3.2	V0312P8	8	8	
160	0,50	4	V0516P8	6	6	
160	1,00	4	V0116P8	6	6	
160	2,00	4	V0216P8	6	6	
160	3,00	4	V0316P8	6	6	



Double socket pipe F/F

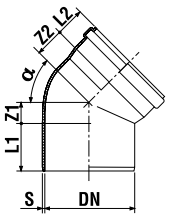
Tube F/F - Tubo de doble embocadura H/H

DN (mm)	L (ml.)	S (mm)	Reference			Note
40	0,50	3	VF504P8	20	20	
40	1,00	3	VF104P8	20	20	
40	2,00	3	VF204P8	20	20	
40	3,00	3	VF304P8	20	20	
50	0,50	3	VF505P8	20	20	
50	1,00	3	VF105P8	20	20	
50	2,00	3	VF205P8	20	20	
50	3,00	3	VF305P8	20	20	
75	0,50	3	VF575P8	10	10	
75	1,00	3	VF175P8	10	10	
75	2,00	3	VF275P8	10	10	
75	3,00	3	VF375P8	10	10	
90	0,50	3	VF509P8	10	10	
90	1,00	3	VF109P8	10	10	
90	2,00	3	VF209P8	10	10	
90	3,00	3	VF309P8	10	10	
100	0,50	3	VF510P8	10	10	
100	1,00	3	VF110P8	10	10	
100	2,00	3	VF210P8	10	10	
100	3,00	3	VF310P8	10	10	
110	0,50	3.2	VF511P8	10	10	
110	1,00	3.2	VF111P8	10	10	
110	2,00	3.2	VF211P8	10	10	
110	3,00	3.2	VF311P8	10	10	
125	0,50	3.2	VF512P8	8	8	
125	1,00	3.2	VF112P8	8	8	
125	2,00	3.2	VF212P8	8	8	
125	3,00	3.2	VF312P8	8	8	

Acoustic pipe insulation

Gaine d'isolation phonique - Funda de aislamiento acústico

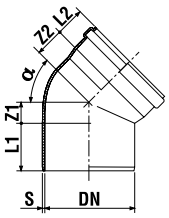
DN (mm)	DN Pipe (mm)	Reference			S Thick.	Note
80	75 - 80 - 90	CD08500	6	12	5	15 metre-roll
110	100 - 110	CD11500	5	10	5	15 metre-roll
110	100 - 110	CD11100	5	-	10	15 metre-roll



Bend 15° M/F
Coude 15° M/F - Codo 15° M/H

DN (mm)	Reference			S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Note
40	01004P8	25	2.025	3	3	27	48	41	
50	01005P8	15	1.215	3	4	17	53	45	
75	01007P8	8	648	3	5	18	50	45	
• 90	01009P8	5	260	5.1	11	14	59	55.7	
110	01011P8	5	260	3.2	9	22	62	57	
125	01012P8	4	208	3.2	10	22	68	63	
160	01016P8	4	96	4.0	14	28	82	72	

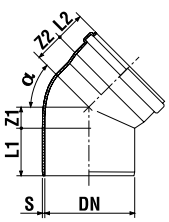
• High thickness / À paroi épaisse / Alto espesor



Bend 30° M/F
Coude 30° M/F - Codo 30° M/H

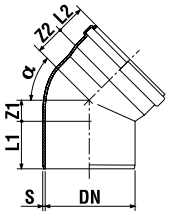
DN (mm)	Reference			S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Note
40	01104P8	25	2.025	3	5	19.5	49	41	
50	01105P8	15	1.215	3	8	20	53	45	
75	01107P8	8	648	3	11	24	50	45	
• 90	01109P8	5	260	5.1	17	18	59	55.7	
100	07810P8	5	260	3.2	12	20	68	56	
110	01111P8	4	208	3.2	17	29	61	57	
125	01112P8	6	144	3.2	19	29	68	62	
160	01116P8	3	72	4.0	25	40	82	72	

• High thickness / À paroi épaisse / Alto espesor



Bend 45° M/F
Coude 45° M/F - Codo 45° M/H

DN (mm)	Reference			S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Note
40	07004P8	30	2.430	3	8	22	48	36	
50	07005P8	20	1.620	3	10	24	52	40	
75	07307P8	10	520	3.2	16	25	52	45	
90	01209P8	5	260	3	23	33	56	54	
100	07010P8	10	240	3	20	35	62	53	
110	01211P8	4	208	3.2	27	39	58	50	
125	07012P8	6	144	3.2	29	42	68	62	
160	07016P8	3	72	4.0	37	50	80	66	

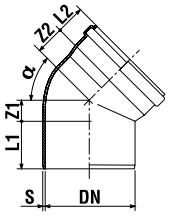


Bend 67°30′ M/F

Coude 67°30′ M/F - Codo 67°30′ M/H

DN (mm)	Reference			S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Note
75	01307P8	9	468	3	25	40	60	51	
• 90	01309P8	5	260	5.1	36	42	59	55,7	
100	07210P8	3	156	3.2	33	53	75	57	
110	01311P8	6	144	3.2	41	53	62	56	
125	01312P8	6	144	3.2	46	60	69	62	
160	01316P8	2	48	4.0	60	74	82	74	

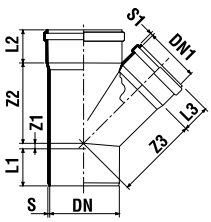
• High thickness / À paroi épaisse / Alto espesor



Bend 87° M/F

Coude 87° M/F - Codo 87° M/H

DN (mm)	Reference			S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Note
40	07104P8	30	2.430	3	20	32	43	36	
50	07105P8	20	1.040	3	23	40	53	40	
75	07407P8	9	468	3.2	52	58	50	45	
90	07109P8	5	260	3	47	57	56	54	
100	07110P8	10	240	3	47	63	63	55	
110	07111P8	3	156	3.2	59	69	58	50	
125	07112P8	5	120	3.2	67	79	69	62	
160	07116P8	2	48	4.0	84	100	80	66	

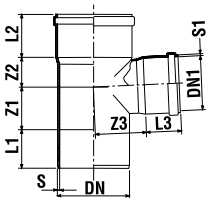


Branch 45° M/F

Culotte 45° M/F - Derivación 45° M/H

DN/DN1 (mm)	Reference			S (mm)	S1 (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L2 (mm)
40/40	08004P8	20	1.040	3	3	9	52	52	49	45
50/50	08005P8	10	520	3.2	3.2	14	70	70	48	40
75/50	03127P8	6	312	3.2	3.2	-	85	-	42	45
75/75	08807P8	4	208	3.2	3.2	15	93	93	51	45
• 90/50	03128P8	5	260	5,5	3	10	77	100	53	53
90/90	08809P8	6	144	3	22	119	119	56	54	54
100/40	08310P8	10	240	3	3	-20	84	95	84	60
100/50	08330P8	3	156	3	3	-14	90	101	72	60
100/100	08810P8	6	144	3.2	3.2	25	131	131	60	53
110/50	03131P8	6	144	3.2	3.2	-14	102	114	63	55
110/75	03151P8	6	144	3.2	3.2	3	120	127	63	55
110/110	03011P8	4	96	3.2	-	27	143	143	58	50
125/110	03192P8	2	48	3.2	3.2	19	147	152	69	62
125/125	08012P8	2	48	3.2	-	30	161	161	71	62
160/110	03116P8	2	48	4.0	3.2	2	168	176	82	74
160/160	03016P8	4	32	4.0	-	38	205	205	83	71

• High thickness / À paroi épaisse / Alto espesor



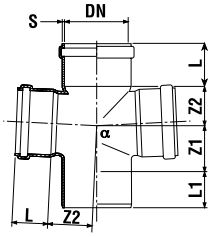
♦ Ref. 08913P8

Branch 87°30′ M/F

Culotte 87°30′ M/F - Derivación 87°30′ M/H

DN/DN1 (mm)	Ref.			S (mm)	S1 (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L2 (mm)
40/40	08104P8	15	1.215	3.2	3.2	25	33	33	44	36
50/50	08105P8	14	728	3.2	3.2	29	38	38	48	40
75/40	03507P8	4	324	3.2	3.2	25	35	50	48	45
75/50	03527P8	6	312	3.2	3.2	30	40	52	53	45
75/75	08907P8	5	260	3.2	3.2	37	39	58	66	50
● 90/50	03528P8	5	260	5,5	3	39	31	47	53	53
● 90/90	03409P8	5	120	5.1	4.5	49	51	51	59	55.7
100/50	08430P8	10	240	3.2	2.8	23	44	63	65	53
100/100	08110P8	5	120	3.2	3.2	55	64	64	55	53
110/50	03531P8	6	144	3.2	3.2	30	40	70	63	55
110/75	03571P8	6	144	3.2	3.2	43	54	70	63	55
♦ 110/110	08913P8	5	120	3.2	2.9	146	62	57.5	57.5	95.5
125/110	03572P8	4	96	3.2	3.0	84	58	92	78	77
125/125	08112P8	3	72	3.2	3.2	66	70	78	62	62
160/110	03516P8	10	80	4.0	3.2	59	69	37	81	74
160/160	08116P8	5	40	4.0	-	76	98	98	88	74

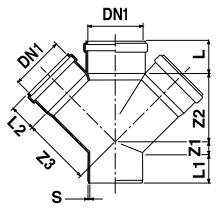
● High thickness / À paroi épaisse / Alto espesor
♦ Long radius



Double Branch 87°30′ M/F

Té double 87°30′ M/F - Derivación doble 87°30′ M/H

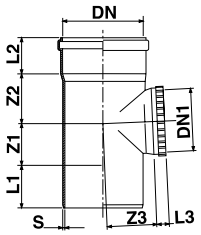
DN (mm)	Reference			α	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Note
110/110	03811P8	2	48	87°30′	3.2	62	70	70	80	



Double Branch 45° M/F

Culotte double 45° M/F - Derivación doble 45° M/H

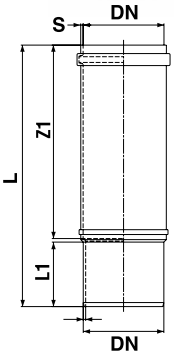
DN/DN1/DN1 (mm)	Ref.			S (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L (mm)	L1 (mm)
100/40/40	04150P8	2	104	3	-20	93	105	60	75
100/50/50	04149P8	2	104	3	-15	99	110	60	64
110/110/110	03611P8	2	48	3.2	30	141	141	57	60



Access pipe M/F

Té de visite M/F - Te M/H con boca de regristro

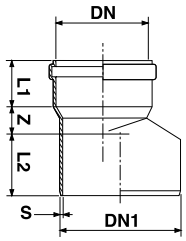
DN (mm)	Reference			S (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L2 (mm)
75	18207P8	6	312	3.2	37	39	58	66	50
100	18210P8	6	144	3.2	55	64	64	55	53
110	18211P8	6	144	3.0	59	69	69	60	55
125	18212P8	2	104	3.2	66	70	78	62	62
160	18216P8	2	48	4.0	83	99	99	85	72



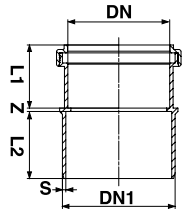
Repairing coupler

Manchon de réparation - Manguito de reparación

DN (mm)	Reference			S (mm)	L1 (mm)	Z1 (mm)	L (mm)	Note
100	02910P8	5	170	3	80	240	324,4	
125	02912P8	5	110	3	80	240	324,4	



Excentrée



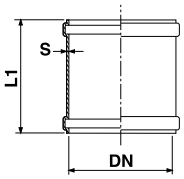
** Centrée

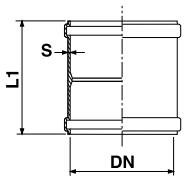
Invert Reducer M/F

Réduction excentrée M/F - Ampliación excéntrica M/H

DN/DN1 (mm)	Reference			S (mm)	Z (mm)	L1 (mm)	L2 (mm)	Note
40/50	09005P8	25	2.025	3.2	22	42	48	
40/100	09048P8	10	520	3	48	42	58	
50/75	05107P8	15	1.215	3	30	45	48	
50/100	09010P8	8	648	3.2	45	45	61	
50/110	05111P8	6	486	3	51	45	70	
75/100	05033P8	6	486	3	31	50	61	
75/110	05131P8	6	486	3.2	35	45	63	
90/100	05310P8**	5	405	3	3	56	59,5	
90/110	05311P8**	5	260	3	3	56	63,5	
100/110	05331P8**	6	486	3	3	60	61	
100/125	09012P8	4	208	3	16	57	61	
110/125	05132P8	4	324	3.2	22	56	63	
110/160	05116P8	6	144	4.0	43	56	82	
110/160	0686348**	16	384	-	-	-	-	
125/160	05136P8	6	144	4.0	36	62	82	

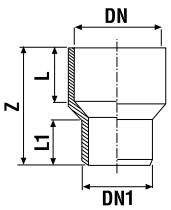
** Centrée / Escentrée / Concéntrico





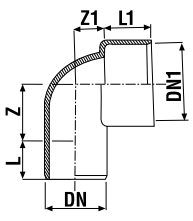
Repair/Slip coupler F/F
Manchon coulissant F/F - Manguito H/H

DN (mm)	Reference			S (mm)	L1 (mm)	Note
40	06144P8	30	2.430	2.2	57	
50	06145P8	20	1.620	2.2	67	
75	06107P8	10	810	2.5	92	
90	06109P8	6	312	2.5	104	
100	06110P8	5	260	2.5	116	
110	06111P8	4	208	2.9	122	
125	06112P8	4	208	2.9	141	
160	06116P8	4	96	3.6	154	
40	06344P8	40	2.080	-	57	with central stop / avec butée / con tope
50	06345P8	20	1.620	-	67	with central stop / avec butée / con tope
75	06307P8	10	810	2.5	92	with central stop / avec butée / con tope
90	06309P8	6	312	2.5	104	with central stop / avec butée / con tope
100	06310P8	5	260	2.5	116	with central stop / avec butée / con tope
110	06311P8	4	208	2.9	122	with central stop / avec butée / con tope
125	06312P8	4	208	2.9	68	with central stop / avec butée / con tope
160	06316P8	4	96	4.4	141	with central stop / avec butée / con tope



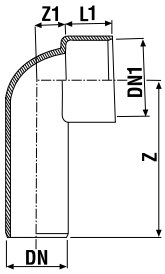
Technical coupling M/F
Manchon pour raccordements multi-matériaux M/F
Manguito técnico M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Note
50	40	09305P8	50	2.600	31,5	26,5	67,5	



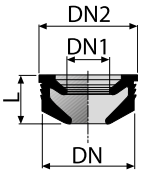
Technical bend (with protection plug) M/F
Coude (avec tampon de protection) M/F
Codo técnico M/H (con tapa protectora)

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	Note
40	50	07424P8	20	1.620	62	70	70	-	



Technical bend long version M/F
Coude long (avec tampon de protection) M/F
Codo técnico largo M/H (con tapa protectora)

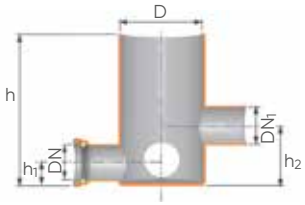
DN (mm)	DN1 (mm)	Reference			L1 (mm)	Z (mm)	Z1 (mm)	Note
40	50	07454P8	20	1.040	33	150	17	



Gasket
Joint - Junta de goma

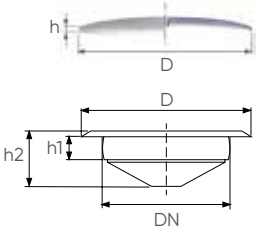
DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	Note
50	1"	55	6820502	50	6000	19	
50	1" 1/4	56	6820500	50	6000	19	
50	1" 1/2	55	6820501	50	6000	19	

1" = 26 mm. 1"1/4 = 32 mm. 1"1/2 = 40 mm.



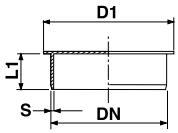
Floor gullies whit multiple inlets
Siphonnette a entrée multiples
Bote sifónico 3 entradas 1 salida

D (mm)	DN 3 inlets	DN1 1 inlet	Reference			h (mm)	h1 (mm)	h2 (mm)	Material
100	40	40	Z9511P8	20	160	200	30	80	PP



Plug for floor gully with stainless steel plate
Bouchon pour collecteur avec tournette en acier inox
Tapa bote sifónico con embellecedor acero inoxidable

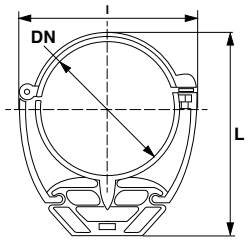
DN (mm)	Reference			D (mm)	h (mm)	h1 (mm)	h2 (mm)	Note
100	Z7450PP	20	1.040	135	3	19	44,9	



Socket plug
Bouchon de fermeture - Tapón

DN (mm)	Reference			D1 (mm)	S (mm)	L1 (mm)	Note
40	06604P8	10	10.400	45	2.5	18	
50	06605P8	10	7.800	55	2.5	20	
75	06507P8**	10	810	80	2.5	39	
90	06509P8**	8	648	125	3	52	
100	06699P8	15	1.215	125	3	56	
110	06611P8	10	810	126	3.2	38	
125	06612P8	8	648	142	3.2	42	
160	06616P8	4	324	180	4.0	49	

**Screwing version / *Vérsion à visser/ Versión roscada*



PHONOKLIP
Acoustic brackets
Collier coulissant isophonique
Abrazadera acústica

DN (mm)	Reference			Filetto Ø	L (mm)	I (mm)	Note
50	PHONK50	10	-	M8	76	78	
75	PHONK75	10	-	M8	112	111	
90	PHONK90	10	-	M8	144	131	
100	PHONK10	10	-	M7	160	140	Screws M7
110	PHONK11	10	-	M8	171	150	
125	PHONK12	2	-	M10	213	170	
160	PHONK16	2	-	M10	245	213	

PVC-U Soil & Waste System

EN 1329 Solvent Welded PVC-U Fittings
ME Type
B s2 d0 Fire Reaction Euroclass

PVC-U
Soil & Waste System

REDI PVC-U solvent welded fittings are compliant to the EN1329 ("Plastics piping systems for soil and waste discharge, low and high temperature, within the building structure - Unplasticized Polyvinyl Chloride") standard and follows the ME Type French designation, corresponding to the highest level of protection against fire.

The products standard compliance guarantees the respect of the required dimensional tolerances, the designs criteria and the performances for building water drainage applications.

General characteristics of PVC

- Name: Polyvinyl Chloride
- Color: RAL 7037 - Grey
- Operation Temperature Range: 70 °C is the MAX temperature of waste water in permanent conditions. For discontinuous drainage applications as common household appliances discharge, instant peak of 95 °C are allowed.

Mechanical resistance

	Testing method	Unit of measure	Measured value*
Yield point	ISO 527	MPa	53
Tensile strength	ISO 527	MPa	43
Elongation at break	ISO 527	%	150
Modulus of elasticity	ISO 527	MPa	≥ 3,000

Physical properties

	Testing method	Unit of measure	Measured value*
•Average density	ISO 1183	g/cm3	1.43
•Softening temperature (VICAT)	EN 727	°C	80
•Coefficient of linear thermal expansion		mm/m x °C	0.07
•Thermal conductivity		W/m x °C	0.16
•Surface electrical resistivity		Ω	> 1012

- Resistance to decay: PVC is completely resistant to decay.

- Biological resistance: algae and bacteria present in the waste water do not have any effect on the PVC pipes.

- The PVC is not affected by rodents.

- Abrasion resistance: the pipes and fittings conforming to EN1329 standard are abrasion-proof.

- Hydraulic roughness: the internal surfaces of the pipes and fittings conforming to EN1329 standard are hydraulically smooth. REDI couplings and fittings are designed to ensure good hydraulic performance. For flow rate calculations on PVC branches, an effective roughness coefficient can be used (k = 0.25 mm).

- For flow rate calculations on PVC branches, an effective roughness coefficient can be used k = 0.25 mm. (See installation guide).

- Chemical resistance: PVC is particularly resistant to chemical attacks and can therefore be used without problems for the drainage of industrial water containing chemical compounds in the pH range between 2 (acid) and 12 (alkaline).

PVC is also one of the few plastic materials that can be joined with solvent socket, which simplifies and speeds up many installation operations.
In the following page, a summarising table contains information obtained from laboratory tests.

Fire Reaction

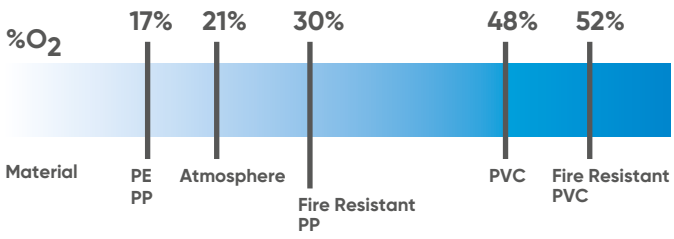
- Regarding building materials applications, the fire reaction and resistance assessment is a key point to consider during the different designs and project phases. PVC is a fire-proof polymer and shows a better resistant behavior than the other traditional plastic materials.

REDI PVC fittings are certified as B S2 d0 Fire Reaction Euroclass applied to plastic material made soil and waste drainage systems.

"B" letter refers to a fire reaction range starting from A1, A2, B, C, D, E, F where the performances decrease progressively from class A1 (non-flammable, as gres or concrete) to class F (non-classifiable, the most dangerous one). PVC has a very limited contribution to fire.
"S2" letter characterizes the release attitude of smoke.
"d0" letter characterizes the release attitude of fire droplets. This kind of event may be able to spread a fire, particularly starting from a floor to another. PVC does not release any droplets.

REDI PVC Fittings also guarantee a minimum expansion capacity equal to 800 times of the wall thickness (800% minimum expansion) when heat stress occurs. This product characteristic enables the pipe or fitting cross-section to be obstructed during the fire event and consequently avoiding the flame spreading.

The oxygen level contained into the different building material formulations may influence their fire attitude during the event.
The higher is the oxygen level, the higher is the material's fire resistance. PVC has the higher level of oxygen compared to the other common used for drainage applications.



PVC - Chemical resistance

Product	Conc. %	Temp. 20 °C	Temp. 60 °C
Acetic Acid	60	S	L
Acetic Acid Monochloride	SOL.	S	L
Acetic Aldehyde	100	NS	-
Acetic Anhydride	100	NS	NS
Acetone	100	NS	NS
Adipic Acid	SOL.SAT.	S	L
Allyl Alcohol	90	L	S
Aluminum Chloride	SOL. SAT.	S	S
Aluminum Sulphate	SOL. SAT.	S	S
Ammonia (aqueous)	100	L	NS
Ammonia (gas)	100	S	S
Ammonia (solution)	SOL. DIL.	S	L
Ammonium Chloride	SOL. SAT.	S	S
Ammonium Fluoride	20	S	L
Ammonium Nitrate	SOL. SAT.	S	S
Ammonium Sulphate	SOL. SAT.	S	S
Amyl Acetate	100	NS	NS
Amyl Alcohol	100	S	L
Aniline	100	NS	NS
Aniline	SOL. SAT.	NS	NS
Aniline Hydrochloride	SOL. SAT.	NS	NS
Antimony Chloride	90	S	S
Arsenic Acid	SOL. DIL.	S	-
Beer		S	S
Benzaldehyde	0,1	NS	NS
Benzene	100	NS	NS
Benzoic Acid	SOL. SAT.	L	NS
Borax	SOL. SAT.	S	L
Boric Acid	SOL. DIL.	S	L
Bromine (liquid)	100	NS	NS
Bromine Acid	10	S	-
Butadiene	100	S	S
Butane	100	S	-
Butyl Acetate	100	NS	NS
Butyl Phenol	100	NS	NS
Butylene	100	S	L
Butyric Acid	20	S	L
Butyric Acid	98	NS	NS
Calcium Chloride	SOL. SAT.	S	S
Calcium Nitrate	50	S	S
Carbon Dioxide	100	S	S
Carbon Sulphide	100	NS	NS
Carbon tetrachloride	100	NS	NS
Cetyl Acid	100	S	S
Chlorine (dry gas)	100	L	NS
Chlorine (liquid)	SOL. SAT.	L	NS
Chlorosulphonic Acid	100	L	NS
Chromic Acid	1~50	S	L
Citric Acid	SOL. SAT.	S	S
Copper Chloride	SOL. SAT.	S	S
Copper Fluoride	2	S	S
Creosol	SOL. SAT.	-	NS
Cresol Acid	SOL. SAT.	NS	NS
Crotonic Aldehyde	100	NS	NS
Cyclohexanol	100	NS	NS
Cyclohexanone	100	NS	NS
Developing Bath		S	S
Dextrine	SOL. SAT.	S	L
Dichloroethylene	100	NS	NS
Diglycolic Acid	18	S	L
Dimethylammine	30	S	-
Ethyl Acetate	100	NS	NS
Ethyl Acrylate	100	NS	NS
Ethyl Alcohol	95	S	L
Ethyl Ether	100	NS	L
Ethylene Glycol	CONC.	L	L
Fluosilicic Acid	32	S	S
Formaldehyde	SOL.	S	S
Formaldehyde	40	S	S
Formic Acid	1~50	S	L
Furfural Alcohol	100	NS	NS
Glucose	SOL. SAT.	S	L
Glycerin	100	S	S
Glycolic Acid	30	S	S
Golden Syrup	SOL.	S	L
Hydrazine Benzene	100	NS	NS
Hydrazine Benzene Cloric	97	NS	NS
Hydrobromic Acid	50	S	L
Hydrochloric Acid	>30	S	S

Product	Conc. %	Temp. 20°	Temp. 60°
Hydrofluoric Acid	60	L	NS
Hydrogen	100	S	S
Hydrogen Dioxide	30	S	S
Hydrogen Sulphide	100	S	S
Iron Chloride	SOL. SAT.	S	S
Lactic Acid	10	S	L
Lactic Acid	10~90	L	NS
Lead Acetate	SOL. SAT.	S	S
Lead Tetraethyl	100	S	-
Magnesium Chloride	SOL. SAT.	S	S
Magnesium Sulphide	SOL. SAT.	S	S
Maleic Acid	SOL. SAT.	S	L
Methyl Alcohol	100	S	L
Methyl Methacrylate	100	NS	NS
Methylene Chloride	100	NS	NS
Milk		S	S
Nickel Sulphide	SOL. SAT.	S	S
Nicotinic Acid	CONC.	S	S
Nitric Acid	<46	S	L
Nitric Acid	46~98	NS	NS
Oils		S	S
Oleic Acid	100	S	S
Oleum	10% of SO	NS	NS
Oxalic Acid	SOL. DIL.	S	L
Oxalic Acid	SOL. SAT.	S	S
Oxigen	100	S	S
Ozone	100	NS	NS
Perchloric Acid	10	S	L
Perchloric Acid	70	L	NS
Petrol	80/20	NS	NS
Phenol	90	NS	NS
Phosphine	100	S	S
Phosphor Trichloride	100	NS	-
Phosphoric Acid	30	S	L
Picric Acid	SOL. SAT.	S	S
Potassium Bichromate	40	S	S
Potassium Bromide	SOL. SAT.	S	S
Potassium Chloride	SOL. SAT.	S	S
Potassium Chromate	40	S	S
Potassium Cyanide	SOL.	S	S
Potassium Ferricyanide	SOL. SAT.	S	S
Potassium Ferrocyanide	SOL. SAT.	S	S
Potassium Hydroxide	SOL.	S	S
Potassium Nitrate	SOL. SAT.	S	S
Potassium Permanganate	20	S	S
Potassium Persulfate	SOL. SAT.	S	L
Propane (gas liquid)	100	S	-
Pyridine	100	NS	-
Sea Water		S	L
Silver Nitrate	SOL. SAT.	S	L
Soap	SOL.	S	L
Sodium Benzoate	35	S	L
Sodium Bisulphite	SOL. SAT.	S	S
Sodium Chlorate	SOL. SAT.	S	S
Sodium Ferricyanide	SOL. SAT.	S	S
Sodium Hydroxide	SOL.	S	L
Sodium Hypochlorite	100 (13% Cl.)	S	L
Sodium Sulphite	SOL. SAT.	S	L
Sugar	SOL. SAT.	S	S
Sulphur Acid	SOL.	S	S
Sulphur Anhydride	100 (liquid)	L	NS
Sulphur Anhydride	100 (dry)	L	NS
Sulphuric Acid	40~90	S	L
Sulphuric Acid	96	L	NS
Tannic Acid	SOL.	S	S
Tartaric Acid	SOL.	S	S
Tin Chloride	SOL. SAT.	S	S
Toluene	100	NS	NS
Trichloroethylene	100	NS	NS
Trimethyl Propane	<10	S	L
Urea	10	S	L
Urine		S	L
Vinagre		S	S
Vinyl Acetate	100	NS	NS
Wine		S	S
Xylene	100	NS	NS
Yeast	SOL.	S	L
Zinc Chloride	SOL. SAT.	S	S

TS = Without corrosion L = Limitaded corrosion NS = Corrosion

For special applications it is recommended to contact the REDI Technical Department.

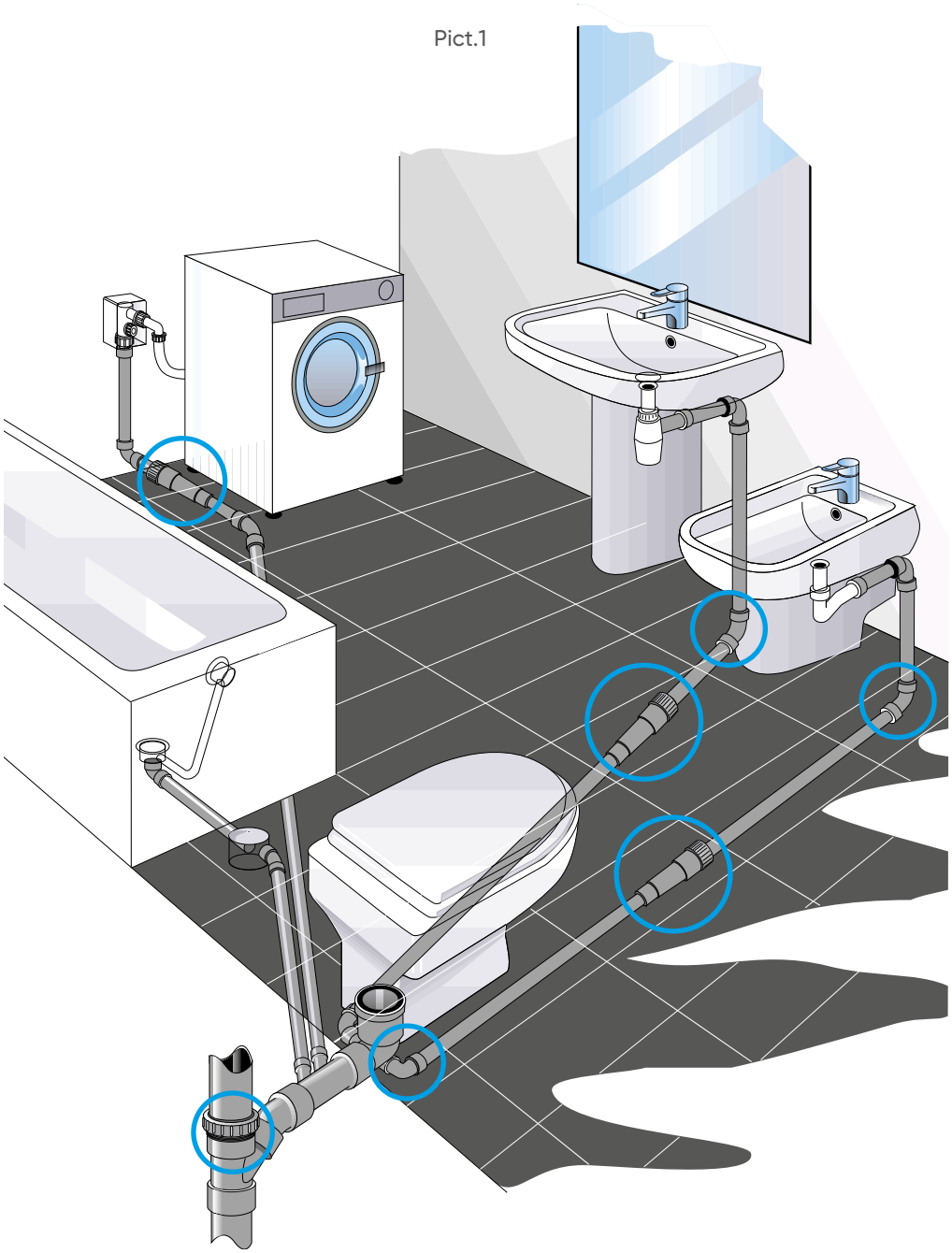
Installation Guide

Installation of the expansion joint in the PVC drainage systems:

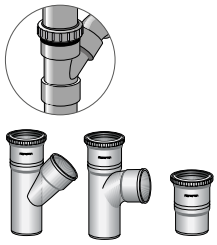
In branches or bends, the most correct technical solution is inserting a horizontal expansion joint (A; B; C) into the piping whenever the section between two fixed points is higher than 2÷3 m, and always when connecting washing-machines, dishwashers and kitchen sinks.

A vertical expansion joint (D) should be inserted onto each level of the vertical columns above the branch that connects to the bend and the toilet bowl. Alternatively, a branch equipped with an expander (E or F) can be used to directly connect to the column.

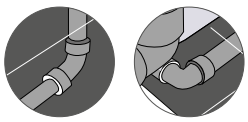
Pict.1



Expansion joint horizontal
•A •B •C



Expansion
•D •E •F

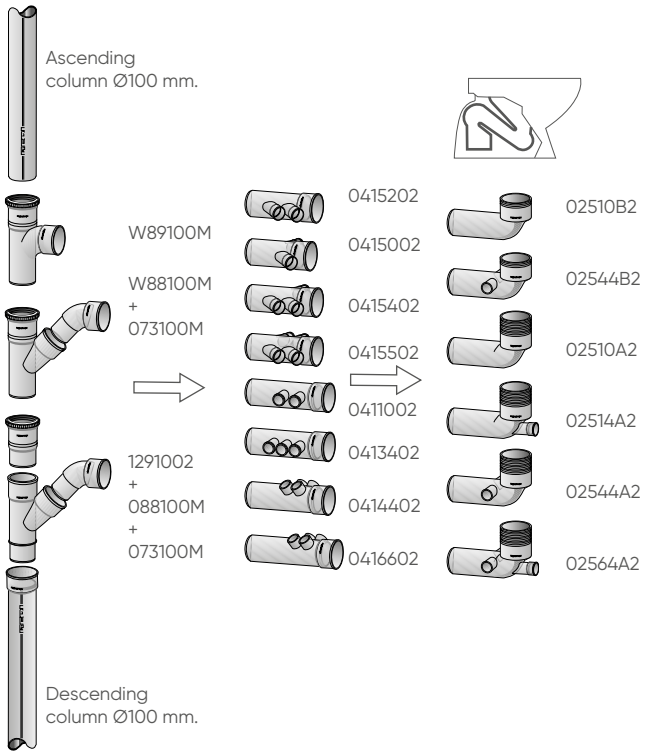


Technical bend

Connection to sanitary fittings:

Vertical connection to the toilet

Pict.2



* = Product with various dimensions, in the Pict. 3 the code of the most widely used type is to be found.

Connecting elements:

Extension for toilet bend.
EVA Universal Seal with high wear and tear resistance.
Concentric and eccentric adapters.
Flat rubber seal with clamping ring.

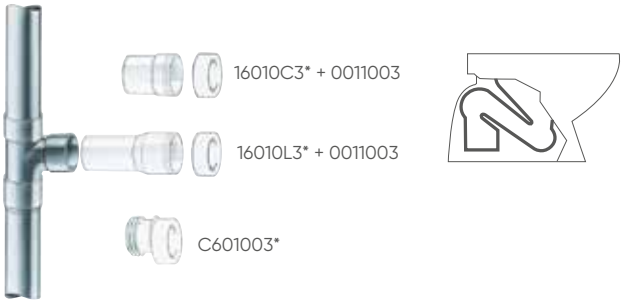
Pict.3

* = Product with various dimensions, in the Pict. the code of the most widely used type is to be found.

Horizontal connection to the toilet (back or suspended)

A both long and short toilet coupling is used on when the same accessories indicated in the figure below can be inserted.

Pict.3

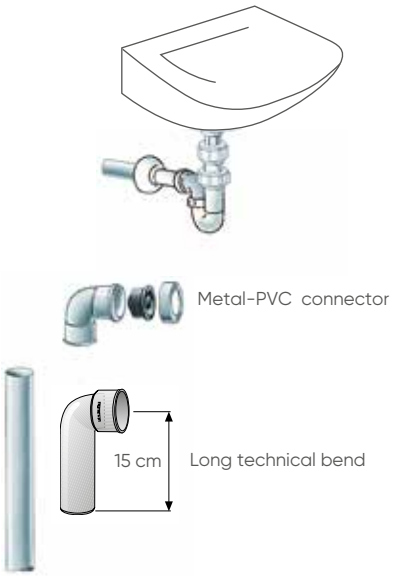


* = Product with various dimensions, in the Pict. the code of the most widely used type is to be found.

Sink/bidet connection

Technical bends: guarantee good water-tightness, maintaining compact sizes against the wall.
The same product exists also in the technical coupling version. Technical bends with ferrule.
Extended technical bend.

Pict.4

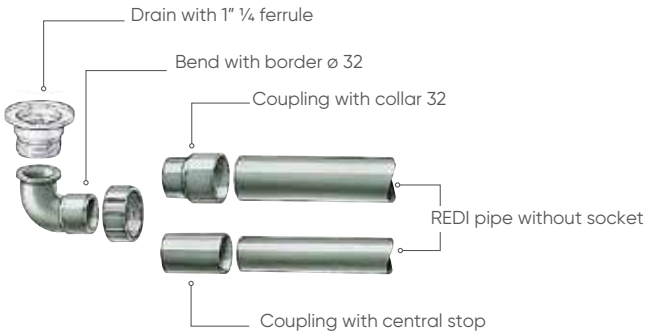


Technical bends with ferrule: guarantee greater stability of the technical seal which bears slight misalignment of the sleeve connection pipe better.
This fitting needs a technical self-locking seal shaped accordingly to allow the ferrule to be assembled.
This product exists also in the technical coupling version.

Bath and shower connection:

The connection of the bath drains directly to the bend with border Ø32 (026030M) with half a brass ferrule or made from 1" ¼ polypropylene.

Pict.5



Floor trap:

Waterproofing of the surrounding area, in consideration that infiltration may occur between the walls of the trap and the floor covering:
for installation refer to the exploded figure below which indicates the positioning of the necessary components:

Tap for floor trap (0661002)

Stainless steel plate (PIAOXNI)

Drain ring for PVC cloth (0201002)

PVC cloth (02; R991202)

Pict.6

Typical problems of the drainage system

The main problems which can affect the drainage system are:

- CLOGGING often occurs as a result of an inadequate diameter, that not allowing the regular disposal of sewage, it prevents the correct passage of the liquid which normally makes the internal self-cleaning of the walls: a reduced cross-section prevents disposal whilst an excessive cross-section causes the deposit of sediments that might lead to the gradual shrinking of the section until it is blocked. This phenomenon can also occur due to small slopes, abrupt deviations and inadequate confluence.

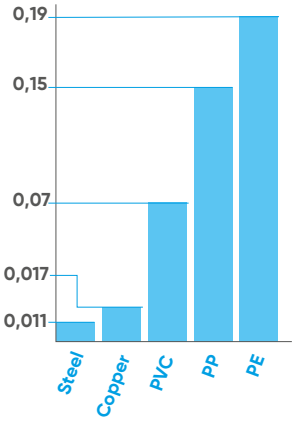
- SMELL EMISSION is another problem strictly linked to the ventilation system: the descent of sewage can cause the leakage of gases conveyed through the drain pipes of the lower floors or the emptying by suction of the drain pipes located upstream. The misplacement of the vent can cause the emission of odours into the environment: this must be at least 2 ml. above the ground floor of high houses, at least 20 cm above the roof cover and always 1 ml. above the architrave of the nearest window.

- LINEAR EXPANSION is a problem which affects all plastic and metal systems, depending on the coefficient of linear thermal expansion that is a given characteristic of each material. In order to assess the elongation of each single system section, the thermal expansions of different materials are compared in graph A. It is clear that, as concernins the effects of thermal expansion containment, PVC is the least subjected to changes of size which are in the range of:

- 0.07 mm each 1 ml. of pipe
- for 1 °C of heat gradient

4 ml. piping installed at 0 °C that reaches the temperature of 42 °C, is subject to an elongation of around 12 mm (e.g. upright column).
However, in the case of a kitchen drain where boiling water is poured (around 90 C° for the thermal expansion which occurs inside the sink pipe) in a room temperature pipe (20 °C) on a 3 ml. length of tube it will increase in length by around 15 mm.

Pict.7



Graph A
Linear thermal expansion
expressed in mm. x m. x °C

Example of expansion calculation:

T = max operating temperature (e.g. 90°C)

T1 = mounting temperature or minimum operating temperature if below (e.g 20°C

0,07 = linear thermal expansion of PVC expressed in mm x m x °C (Pict. 7)

L = length of the section in question (e.g. 3 linear metres)

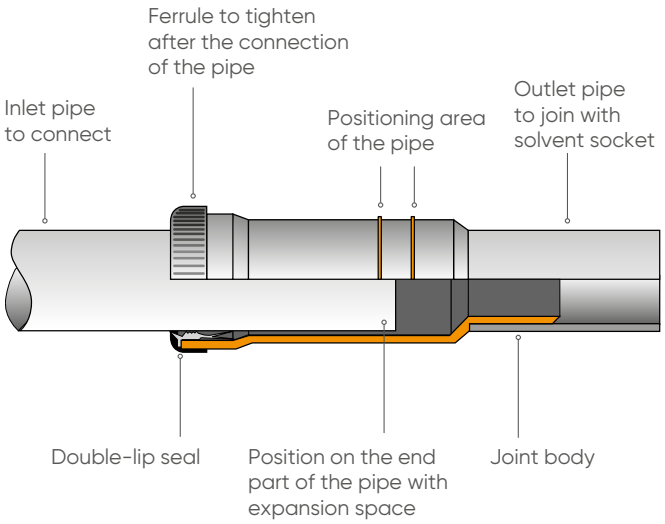
(T - T1) x 0.07 x L

specifically in the case under examination: (90-20) x 0.07 x 3 = 15 mm

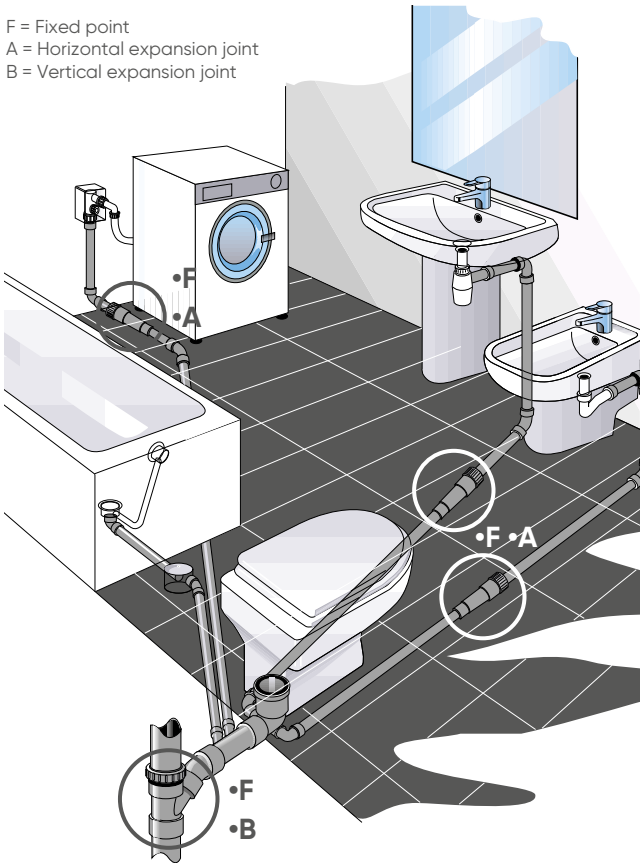
The following general rules can be gathered from the example shown below:

1) in branches or bends (Pict. 9) the most correct solution is inserting a horizontal expansion joint into the piping (Pict. 8) whenever the section between two fixed points F (Pict. 9) exceeds 2 ÷ 3 metres and always when connecting washing-machines and dishwashers (branches subjected to continuous discharge of hot water).

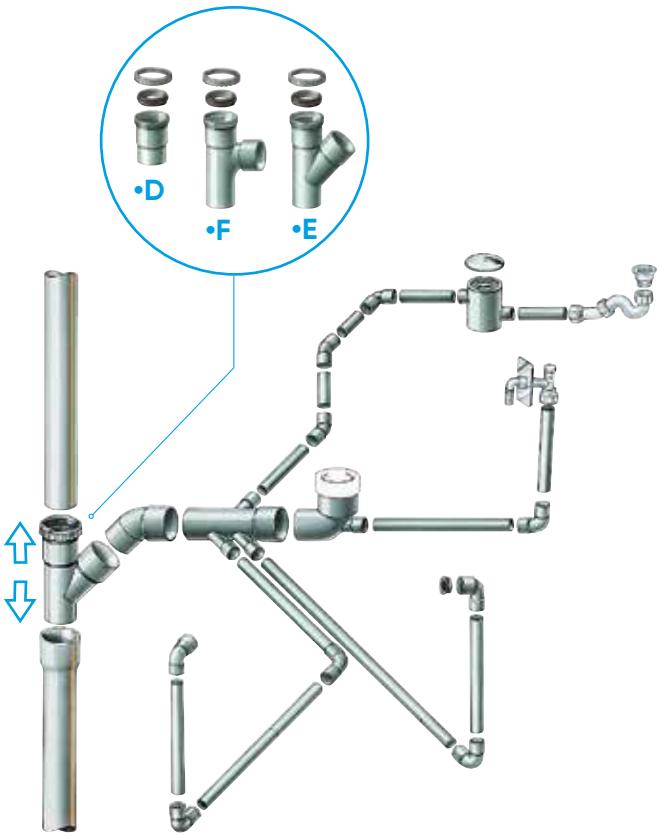
Pict.8



Pict.9



Pict.10
Vertical expansion-joint and insertion according to the mounting diagram

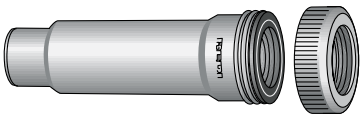


2) A vertical expansion joint should be inserted on each level (every 3 ÷ 4 metres) of the upright columns above the branch which receives the bend and the toilet bowl. Alternatively, a branch equipped with an expander can be used for direct connection to the column (Pict. 10).

3) During the installation of the expansion joint, the following requirements must be observed:

a) after having treated the joint seal with REDI greaser, apply also the grease to the pipe and insert it into the relative slot. Before tightening the locking ring nut, feed the pipe until it has its end part in the field marked out by two lines, superimposed on the joint body (Pict. 9).

c) install the pipe placed behind the wall without immersing it in the cement, using for the filling of the section fine grained-stabilised material in order to allow for any adjustment caused by expansion.



Expansion joint horizontal M/F
Manchon de dilatation horizontal M/F
Manguito de dilatación horizontal M/H

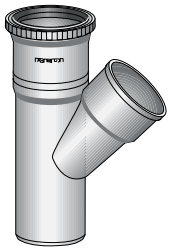
DN (mm)	Reference			Type
32	1290302	5	1.920	**A** (see Picture 9)
40	1290402	5	1.440	**B** (see Picture 9)
50	1290502	5	960	**C** (see Picture 9)
63	MLH00NI	32	768	
75	MPH00NI*	20	-	
80	MRH00NI	35	420	
100	MTH00NI	20	240	
110	MVH00NI	20	240	
125	MXH00NI	16	192	
160	MZH00NI	18	144	

*upon request

Expansion joint vertical M/F
Manchon de dilatation vertical M/F
Manguito de dilatación vertical M/H

DN (mm)	Reference			Type
100	1291002*	10	240	**D** (see Picture 10)

*upon request



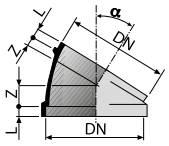
Expansion branch 45° M/F
Culotte de dilatation 45° M/F
Derivación de dilatación 45° M/H

DN (mm)	Reference			Type
100	W88100M*	20	-	**E** (see Picture 10)

*upon request

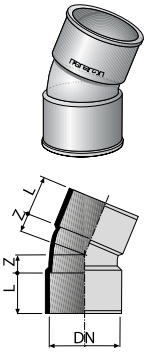
Expansion joint vertical M/F
Manchon de dilatation vertical M/F
Manguito de dilatación vertical M/H

DN (mm)	Reference			Type
100	1291002	10	240	**D** (see Picture 10)



Segment Bend 15°/30° M/F
Secteur de coude 15°/30° M/F
Sector de codo 15°/30° M/H

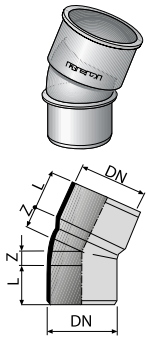
DN (mm)	Reference			L (mm)	Z (mm)	α	Note
100	017100M	40	960	20	9	15°	
100	018100M	40	960	20	16	30°	



Bend Double Socket 22°30′ F/F
Coude 22°30′ F/F - Codo 22°30′ H/H

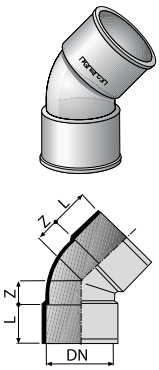
DN (mm)	Reference			L (mm)	Z (mm)	Note
32	028030M*	100	5.200	23	5,5	
40	028040M	60	3.120	27	6,5	
50	028050M	40	2.080	32	7,5	
100	028100M	12	288	56	20	

*upon request



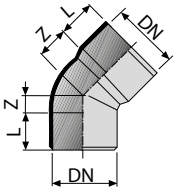
Bend 22°30′ M/F
Coude 22°30′ M/F - Codo 22°30′ M/H

DN (mm)	Reference			L (mm)	Z (mm)	Note
32	078030M	100	5.200	23	5,5	
40	078040M	150	3.600	27	6,5	
50	078050M	40	2.080	32	7,5	
100	078100M	12	288	56	20	



Bend Double Socket 45° F/F
Coude 45° F/F - Codo 45° H/H

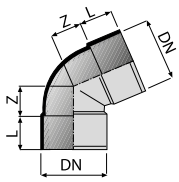
DN (mm)	Reference			L (mm)	Z (mm)	Note
32	023030M	100	5.200	23	11	
40	023040M	140	3.360	27	13	
50	023050M	80	1.920	32	17	
63	023060M	45	1.080	39	22	
75	023070M	25	600	44,5	25	
80	023080M	20	480	47	26,5	
100	023100M	40	320	53	33	
110	023110M	30	240	56	38	
125	023120M	20	160	61	41	
140	023140M	15	120	61	47	
160	023160M	10	80	72	50	
200	023200M	5	40	85	65	
250	0232502	1	27	101	79	
315	0233002	1	14	116	100	



Bend 45° M/F
Coude 45° M/F - Codo 45° M/H

DN (mm)	Reference			L (mm)	Z (mm)	Note
32	073030M	100	5.200	23	11	
40	073040M	150	3.600	27	13	
50	073050M	80	1.920	32	17	
63	070060M	50	1.200	39	22	
75	073070M	25	600	44,5	25	
80	073080M	25	600	47	26,5	
100	073100M	40	320	53	33	
110	073110M	8	192	56	38	
125	073120M	20	160	61	41	
140	0121402	20	160	61	47	
160	0701602	15	120	72	50	
200	0702002	5	40	85	65	
250	0122502	1	50	101	79	
315	0123002	1	16	116	100	
400	0124002	1	7	155	125	
500	0125002*	1	4	150	160	

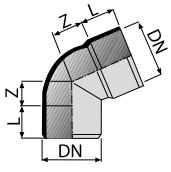
*upon request



Bend Double Socket 67°30′ F/F
Coude 67°30′ F/F - Codo 67°30′ H/H

DN (mm)	Reference			L (mm)	Z (mm)	Note
32	027030M*	50	4.050	23	18	
40	027040M*	50	2.600	27	21	
50	027050M*	60	1.440	32	27	
100	027100M*	30	240	57	53	

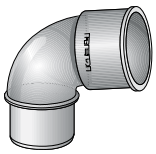
*upon request

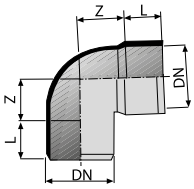


Bend 67°30′ M/F
Coude 67°30′ M/F - Codo 67°30′ M/H

DN (mm)	Reference			L (mm)	Z (mm)	Note
32	072030M	50	4.050	23	18	
40	072040M	50	2.600	27	21	
50	072050M*	60	1.440	32	27	
100	072100M	30	240	57	53	
125	013120M*	18	144	64	58	

*upon request



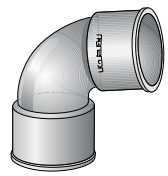


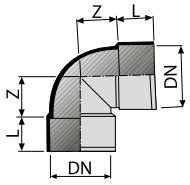
Bend 87°30′ M/F

Coude 87°30′ M/F - Codo 87°30′ M/H

DN (mm)	Reference			L (mm)	Z (mm)	Note
32	074030M	80	4.160	23	25	
40	074040M	100	2.400	27	31	
50	074050M	50	1.200	32	39	
63	071060M	35	840	39	48	
75	074070M	20	480	44,5	58	
80	074080M	15	360	47	61	
100	074100M	30	240	57	77	
110	0711102	25	200	61	65	
125	074120M	15	120	60	101	
140	0141402	12	96	61	83	
160	074160M	8	64	60	124	
200	074200M	5	40	60	153	
250	0142502	1	22	103	155	
315	0143002	1	10	120	192	
400	0144002	1	6	155	245	
* 110	074110M	20	160	62	87	

* Long radius / Grand rayon / Gran radio



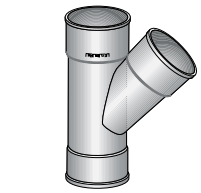


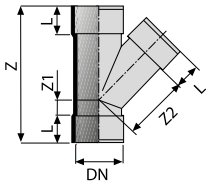
Bend Double Socket 87°30′ F/F

Coude 87°30′ F/F - Codo 87°30′ H/H F/F

DN (mm)	Reference			L (mm)	Z (mm)	Note
32	024030M	80	4.160	23	25	
40	024040M	100	2.400	27	31	
50	024050M	50	1.200	32	39	
63	024060M	30	720	39	48	
75	024070M	18	432	44,5	58	
80	024080M	15	360	47	61	
100	024100M	25	200	57	77	
110	0241302	25	200	61	65	
125	024120M	15	120	60	101	
140	E24140M	10	80	61	83	
160	024160M	8	64	60	124	
200	024200M	4	32	60	153	
250	0242502	1	20	103	155	
315	0243002	1	10	120	192	
* 110	024110M	18	144	62	245	

* Long radius / Grand rayon / Gran radio

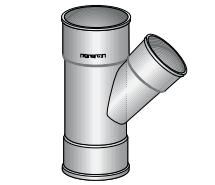


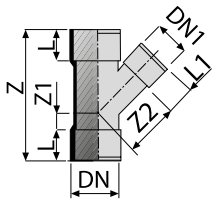


Branch Triple Socket 45° F/F

Culotte 45° F/F - Derivación 45° H/H

DN (mm)	Reference			L (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Note
32	044030M	100	2.400	23	98	11	41	
40	044040M	60	1.440	27	118	13	51	
50	044050M	30	720	32	144	17	63	
63	044060M	15	360	39	180	21	81	
75	044070M	10	240	44,5	207	25	93	
80	044080M	10	240	47	224	27	103	
100	044100M	20	160	57	271	33	124	
110	044110M	10	80	60,5	296	37	138	
125	E44120M	10	80	61	319	41	156	
140	E44140M	8	64	60	334	32	176	
160	044160M	4	32	65	387	45	203	
200	1442002	1	22	86	483	45	250	
250	1442502	1	11	103	609	57	315	
315	1443002	1	5	115	725	73	380	



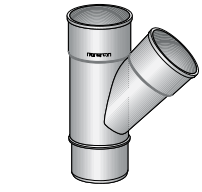


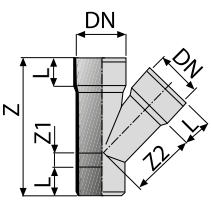
Unequal branch triple socket 45° F/F

Culotte et embranchement 45° F/F

Derivación reducida 45° H/H

DN (mm)	DN1 (mm)	Reference			L (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Note
40	32	BH244NI	10	1.920	27	106	7	46	



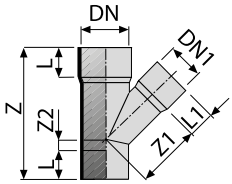


Branch 45° M/F

Culotte 45° M/F - Derivación 45° M/H

DN (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Note
32	088030M	50	2.600	23	-	98	11	41	
40	088040M	60	1.440	27	-	118	13	51	
50	088050M	30	720	32	-	144	17	63	
63	088060M	20	480	39	-	180	21	81	
75	088070M	10	240	44,5	-	207	25	93	
80	088080M*	8	192	47	-	224	27	103	
100	088100M	20	160	57	-	271	33	124	
110	088110M	15	120	60,5	-	296	37	138	
125	080120M	10	80	61	-	319	41	156	
140	0301402	8	64	60	-	334	32	176	
160	0301602	5	40	65	-	387	45	203	
200	0302002	1	22	86	-	483	45	250	
250	0302502	1	12	103	-	609	57	315	
315	0303002	1	5	115	-	725	73	380	

*upon request

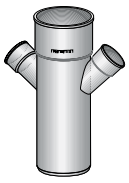


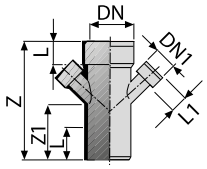
Unequal Branch 45° M/F

Culotte 45° M/F - Derivación reducida 45° M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Note
75	50	031270M	20	480	45	40	180	87	8	
100	40	083100M	10	240	53	36	180	100	15	
100	50	083300M	10	240	53	40	193	104	8	
100	63	083500M*	10	240	56	38	208	107	3	
110	50	031310M	10	240	55	40	206	15	114	
110	75	031510M	20	160	59	45	237	1	122	
125	100	031720M	12	96	70	62	294	145	14	
125	110	031920M*	10	80	62	56	298	19	150	
160	110	0311602	1	72	72	55	325	2	175	
160	125	0313602	6	48	74	62	346	12	182	
200	110	0313502	1	48	86	56	360	17	200	
200	125	0313702*	1	40	86	60	380	7	210	
200	160	0312002	1	30	86	74	430	18	230	
250	160	0314002	1	20	103	72	482	3	260	

*upon request



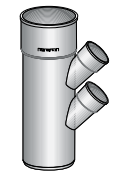


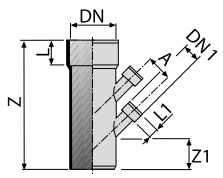
Reduced multibranch 45° M/F

Culotte multiple 45° M/F - Derivación múltiple reducida 45° M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	Note
100	40	0415002*	10	180	57	27	273	145	

*upon request



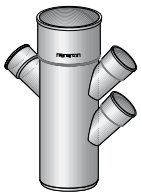


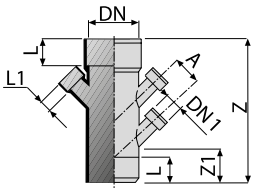
Reduced multibranch 45° M/F

Culotte multiple 45° M/F - Derivación múltiple reducida 45° M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	A (mm)	Note
100	40	0415202*	10	190	57	27	273	67	55	

*upon request



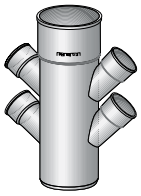


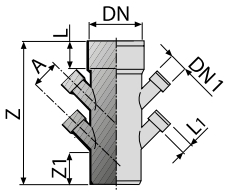
Reduced multibranch 45° M/F

Culotte multiple 45° M/F - Derivación múltiple reducida 45° M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	A (mm)	Note
100	40	0415402*	10	160	57	27	273	67	55	

*upon request



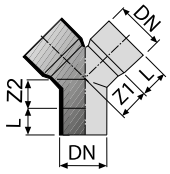


Reduced multibranch 45° M/F

Culotte multiple 45° M/F - Derivación múltiple reducida 45° M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	A (mm)	Note
100	40	0415502*	20	-	57	27	273	65	55	

*upon request

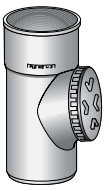


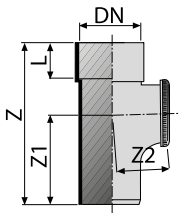
Double bend 45° M/F

Coude double 45° M/F - Codo doble 45° M/H

DN (mm)	Reference			L (mm)	Z1 (mm)	Z2 (mm)	Note
100	0421002*	10	180	64	56	28	

*upon request



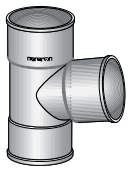


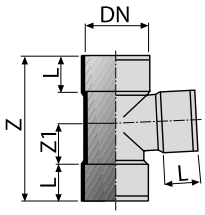
Access pipe M/F

Té de visite M/F - Té con registro M/H

DN (mm)	Reference			Z (mm)	Z1 (mm)	Z2 (mm)	Note
100	182100M*	20	160	90	243	134	
110	182110M*	20	160	95	246	119	
160	1821602	1	75	110	333	164	
315	1403002*	1	8	240	611	310	

*upon request

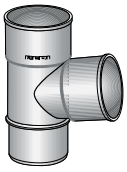


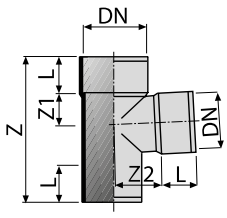


Branch triple socket 87°30′ F/F

Culotte 87°30′ F/F - Derivación 87°30′ H/H

DN (mm)	Reference			L (mm)	Z (mm)	Z1 (mm)	Note
32	045030M	50	2.600	23	88	25	
40	045040M	70	1.680	27	106	31	
50	045050M	40	960	32	129	39	
75	045070M	15	360	44	185	58	
80	045080M	10	240	47	195	61	
100	045100M	20	160	57	243	77	
110	045110M	13	104	62	268	87	
125	E45120M	10	80	60	283	100	
160	045160M	5	40	74	335	95	
200	1452002	1	28	86	410	120	
250	1452502	1	15	103	510	152	
315	1453002	1	8	115	620	185	



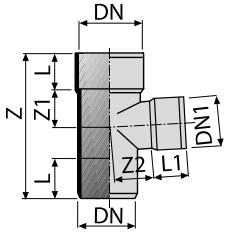


Branch 87°30′ M/F

Culotte 87°30′ M/F - Derivación 87°30′ M/H

DN (mm)	Reference			L (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Note
32	089030M*	50	2.600	23	88	17	25	
40	089040M	70	1.680	27	106	21	31	
50	089050M	40	960	32	129	26	39	
63	0810602	20	480	46	160	42	42	
75	089070M	12	288	44	185	39	58	
80	089080M	15	360	47	195	40	61	
100	089100M	20	160	56	227	44	64	
110	089110M	12	96	62	268	57	87	
125	081120M	12	96	62	275	70	70	
140	0341402	8	64	62	260	70	78	
160	0811602	6	48	74	333	95	95	
200	0342002	3	24	86	410	120	120	
250	0342502	1	18	103	510	152	152	
315	0343002	1	8	115	620	185	185	

*upon request

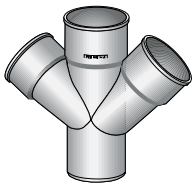


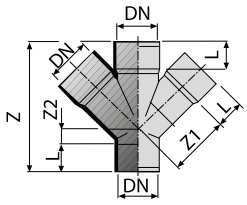
Unequal branch 87°30′ M/F

Culotte 87°30′ M/F - Derivación reducida 87°30′ M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Note
75	50	035270M	20	480	45	168	40	52	
100	40	0841002	8	192	53	36	170	44	
100	50	0843002*	10	240	53	40	174	44	
100	63	0845002*	10	240	53	41	175	44	
110	50	035310M	10	240	59	198	50	71	
110	75	035710M	8	192	59	210	50	71	
200	160	0352002*	1	40	86	380	110	132	

*upon request





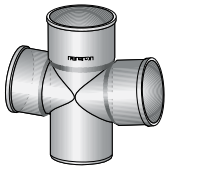
Double branch 45° M/F

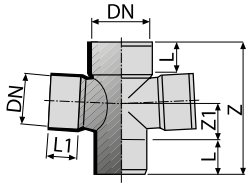
Culotte double parallèle 45° M/F

Derivación doble plana 45° M/H

DN (mm)	Reference			L (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Note
50	0360502	50	550	40	168	69	19	
75	036070M	8	192	45	221	102	29	
100	0361002*	5	100	53	264	125	30	
110	0361102	1	96	58	289	141	32	
125	0361202	1	60	64	316	157	31	
160	0361602	1	30	72	412	201	67	

*upon request





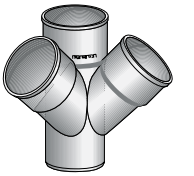
Double branch 87°30′ M/F

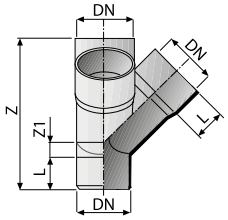
Culotte double parallèle 87°30′ M/F

Derivación doble plana 87°30′ M/H

DN (mm)	Reference			L (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Note
75	038070M	25	200	45	221	102	29	
100	0381002*	5	105	53	264	125	30	
110	0381102	1	120	58	289	141	32	

*upon request



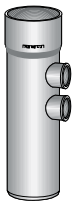


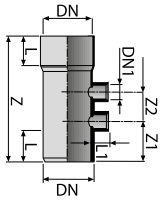
Double corner branch 45° M/F

Culotte double d'équerre 45° M/F

Doble derivación escuadra 45° M/H

DN (mm)	Reference			L (mm)	Z (mm)	Z1 (mm)	Note
100	U391002	5	70	50	271	40	



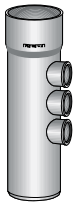


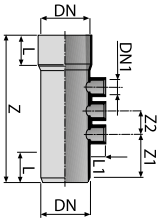
Multibranch 87°30′ M/F

Culotte multiple 87°30′ M/F - Derivación múltiple 87°30′ M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Note
100	40	0413302*	1	248	40	-	-	-	-	
110	50	0411102	5	120	68	42	330	110	100	

*upon request



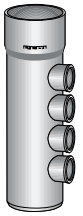


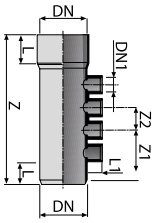
Multibranch 87°30′ M/F

Culotte multiple 87°30′ M/F - Derivación múltiple 87°30′ M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Note
100	40	0413402*	1	224	56	26	330	180	52	

*upon request



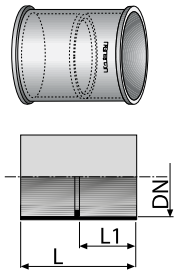


Multibranch 87°30′ M/F

Culotte multiple 87°30′ M/F - Derivación múltiple 87°30′ M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Note
100	40	0414702*	1	140	-	-	450	-	-	

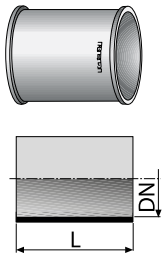
*upon request



Coupler with central stop F/F

Manchon avec butée F/F - Manguito de unión con tope H/H

DN (mm)	Reference			L (mm)	L1 (mm)	Note
32	063030M	100	8.100	49	23	
40	063040M	50	4.050	57	27	
50	063050M	40	2.080	67	32	
63	063060M	20	1.040	81	39	
75	063070M	20	1.040	92	44,5	
80	063080M	20	1.040	97	47	
100	063100M	60	480	116	57	
110	063110M	12	288	125	61	
125	063120M	35	280	138	67,5	
160	0631602	18	144	172	84	
200	0632002	8	64	217	106	
250	0632502	1	36	252	123	
315	0633002	1	20	296	145	

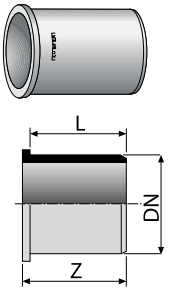


Slip coupler

Manchon coulissant - Manguito deslizante

DN (mm)	Reference			L (mm)	Note
32	061030M*	100	8.100	49	
40	061040M*	50	4.050	57	
50	061050M*	40	2.080	67	
100	061100M	16	384	116	
125	061120M	35	280	138	
160	0611602	18	144	172	
200	0612002	8	64	217	
250	0612502	1	36	252	
315	0613002	1	20	296	

*upon request

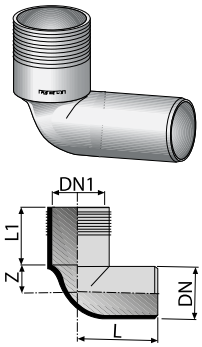


Coupler with collar

Douille d'évacuation - Acoplamiento con valona

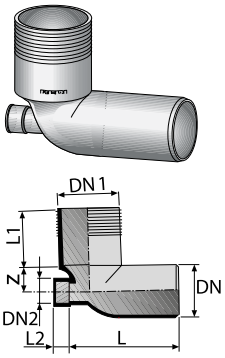
Ø ghiera	DN (mm)	Reference			L (mm)	Z (mm)	Note
1" 1/4	32	062320M*	100	8.100	39,5	42	
1" 1/2	40	062400M	100	8.100	39,5	42	

*upon request



Long WC bend
Coude WC haut - Manguito inodoro acodado largo

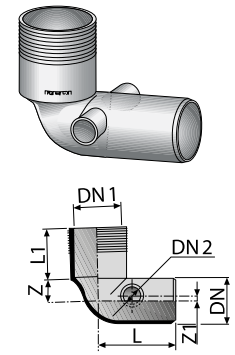
DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Note
100	116	02510A2	25	200	127	113	48	



Long WC bend with frontal inlet
Coude WC haut avec 1 entrée frontale
Manguito inodoro acodado largo 1 toma frontal

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	L1 (mm)	L2 (mm	Z (mm)	Note
100	116	40	02514A2*	25	200	175	225	27	48	

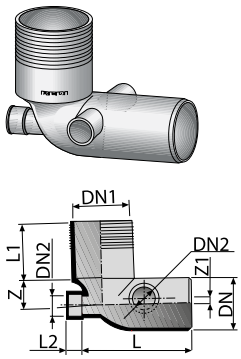
*upon request



Long WC bend with 2 side-inlets
Coude WC haut avec 2 entrées laterales
Manguito inodoro acodado largo 2 tomas laterales

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	L1 (mm)	Z (mm	Z1 (mm)	Note
100	116	40	02544A2*	15	120	175	113	48	10	
100	116	50	02555A2*	15	120	175	113	48	10	

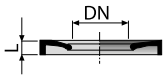
*upon request



Long WC bend with 3 side-inlets
Coude WC haut avec 3 entrées laterales
Manguito inodoro acodado largo 3 tomas auxiliares

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	L1 (mm)	L2 (mm)	Z (mm	Z1 (mm)
100	116	40	02564A2*	15	120	225	113	27	48	10

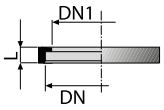
*upon request



WC snap cap

Bague de sertissage WC - Anillo de inserción inodoro

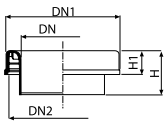
DN (mm)	DN1 (mm)	Reference			L (mm)	Colour
126	116,5	0201302	100	2.000	25	Grey
126	116,5	0201303	100	2.000	25	White



Gasket for WC bends and connectors

Joint pour coudes et manchons WC avec anneau de blocage
Junta para manguitos inodoro con anillo de bloqueo

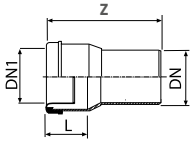
DN (mm)	Reference			L (mm)	Colour
70	7810003	1	800	21,5	White



Gasket WC

Joint WC - Junta inodoro

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			H (mm)	H1 (mm)	Colour
94	130	120,5	0011003	25	2.000	50,5	27	White

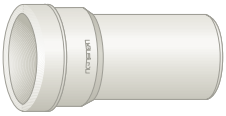


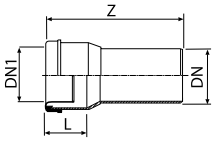
Straight WC connector

Sortie WC droite - Manguito inodoro corto

DN (mm)	DN1 (mm)	Ref.			L (mm)	Z (mm)	Colour	Note
100	95÷105	16010C3*	40	320	80	162	White	
110	95÷105	16031C3*	40	320	80	162	White	
100	-	06010C3*	1	310	80	162	White	without gasket/sans joint/sin junta
110	-	06031C3*	1	310	80	162	White	without gasket/sans joint/sin junta

*upon request



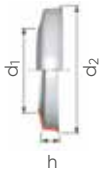


Long straight WC connector

Sortie WC droite longue - Manguito inodoro largo

DN (mm)	DN1 (mm)	Ref.			Z (mm)	Colour	Note
100	95÷105	16010L3	25	200	250	White	
110	95÷105	16031L3*	20	160	250	White	
100	-	06010L3	1	230	250	White	without gasket/sans joint/sin junta
110	-	06031L3*	1	-	250	White	without gasket/sans joint/sin junta

*upon request

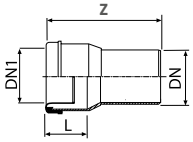


Rosette for WC connector

Rosace pour sortie WC - Plafón para salida inodoro

d1 (mm)	d2 (mm)	Reference			L (mm)	Colour
100	137	0481003*	20	1.620	30	White
110	162	0481103	50	1.200	35	White

*upon request

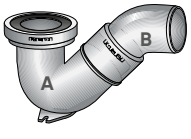


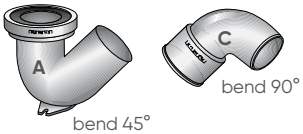
Extension for WC bend

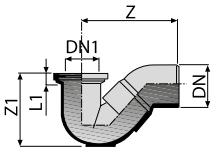
Manchette pour coude WC - Extensión para manguito inodoro

DN (mm)	DN1 (mm)	Reference			L (mm)	Z (mm)	Colour	Note
116	95÷105	1601103	10	240	50	135	White	
116	-	0601103*	10	240	50	135	White	without gasket/sans joint/sin junta

*upon request





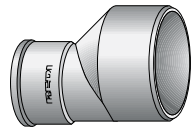


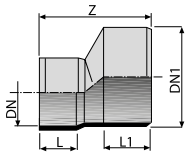
Low backed gully with bend

Siphon pour siège à la turque - Sifón placa turca

DN (mm)	DN1 (mm)	Reference			L (mm)	Z (mm)	Z (mm)	Type
110	95÷135	1771402	15	120	33	280	214	A
100	95÷135	17710A2*	10	80	33	280	214	A + B
110	95÷135	17714A2*	10	80	33	200	214	A + B
110	95÷135	17714C2*	10	80	33	310	214	A + C

*upon request



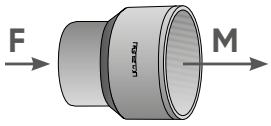


Invert reducer M/F

Réduction excentrée M/F - Ampliación excéntrica M/H

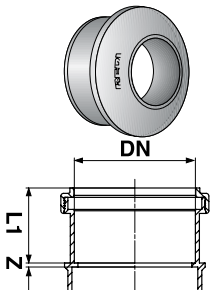
DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Note
32	50	091050M	150	3.600	23	32	75	
40	50	091250M	110	2.640	27	32	71	
40	63	0900602	70	1.680	36	50	116	
40	100	090480M*	30	720	36	58	142	
50	63	090260M	50	1.200	40	50	114	
50	75	051070M	50	1.200	40	48	115	
50	80	090080M	40	960	40	53	128	
50	100	090100M	30	720	40	62	148	
50	110	051110M	50	400	40	70	173	
63	80	0902802	50	800	4 3	53	122	
63	100	0903002*	30	720	43	61	142	
75	110	0513102	25	450	-	-	-	
80	100	090500M	20	480	46	61	135	
100	125	090120M	45	360	57	61	134	
100	140	E511002	30	240	-	-	-	
100	160	E511302	30	240	-	-	-	
100	200	E511502	15	120	-	-	-	
110	125	051320M	35	280	56	69	148	
110	160	0511602	30	240	56	82	180	
125	160	0513602	30	240	62	82	180	
125	200	0512002	15	120	62	100	221	
125	250	0534202	10	80	62	90	159	
140	160	0515602	30	240	60	81	166	
140	200	E512202*	4	96	-	-	-	
160	200	0514002	15	120	74	100	211	
160	250	0514602	6	48	74	90	172	
160	315	0534802	5	40	74	93	174	
200	250	0512502	5	60	86	134	265	
200	315	0513302	4	32	86	145	318	
250	315	0513002	1	32	103	144	307	
315	400	0519202	1	18	118	156	363	

*upon request



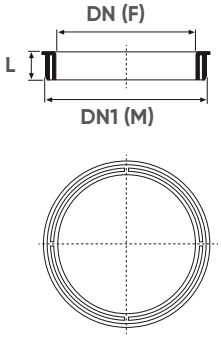
Conic reducer F/M
Réduction conique F/M - Reducción doble H/M

DN (F) / DN (M) (mm)	Reference			Note
63/75	0530702	50	-	
63/110	0503102	25	500	
100/110	0533102	25	500	



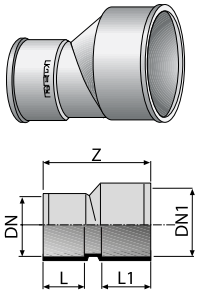
Inside reducer M/M
Réduction incorporée M/M - Tapón de reducción H/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Note
32	40	054040M	150	7.800	22	26	33	
32	50	054050M	80	4.160	22	31	42	
40	50	054250M	80	4.160	26	31	39	



Concentric reducer M/F
Réduction concentrique M/F - Reducción concéntrica M/H

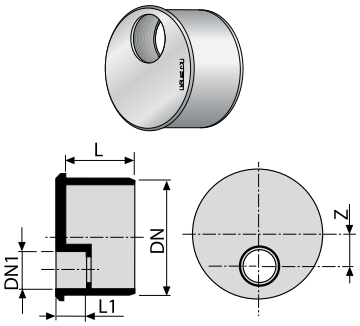
DN (mm)	DN1 (mm)	Reference			L (mm)	Note
110	125	0209202	35	1.820	22	



Invert reducer double socket F/F
Réduction excentrée F/F - Ampliación excéntrica H/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Note
32	50	092050M	150	3.600	23	32	75	
40	50	092250M*	130	3.120	27	32	71	

*upon request

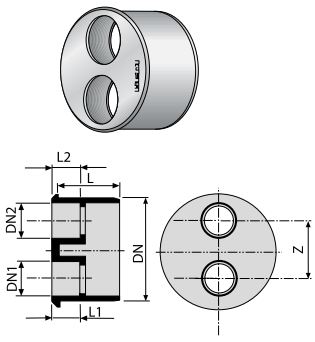


Reducing plug M/F

Tampon de réduction M/F - Tapón reductor M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Note
63	32	054070M	40	3.240	-	-	-	
63	40	054060M	40	3.240	38	27	3	
63	50	054090M*	40	3.240				
80	40	054080M*	25	2.025	47	27	11,5	
80	50	054850M	25	2.025	-	-	-	
100	32	R6000NI	10	1.920	-	-	-	
100	40	054100M	20	1.040	56	26	28	
100	50	054200M	20	1.040	56	31	23	
100	63	054300M	20	1.040	56	38	16	
100	80	054400M	20	1.040	56	47	8	
110	40	054910M	35	840	60	27	32	
110	50	054920M	35	840	60	32	27	
110	63	054970M	35	840	60	38	20	
110	75	054930M	35	840	60	44,5	14,5	
110	80	054940M	35	840	60	47	12	
110	100	054990M	35	840	60	57	0	
125	40	054120M*	30	720	-	-	-	
125	50	054130M*	30	720	-	-		
125	80	X4440NI	25	-	-	-	-	
125	100	054150M	10	520	-	-	-	
125	110	054160M	10	520	-	-	-	

*upon request

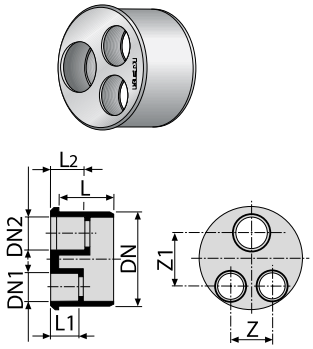


Reducing plug M/F

Tampon de réduction M/F - Tapón reductor doble M/H

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	L1 (mm)	L2 (mm)	Z (mm)	Note
100	40	32	054600M*	20	1.040	56	26	22	60	
100	40	40	054700M	20	1.040	56	26	26	56	
100	50	40	054800M	20	1.040	56	31	26	51	
110	40	40	054950M	35	840	60	27	27	95	
110	50	40	054960M*	35	840	60	32	27	90	

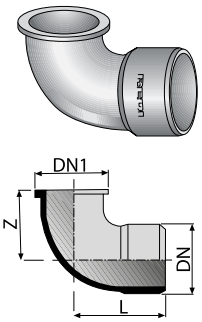
*upon request



Reducing plug M/F

Tampon de réduction M/F - Tapón reductor triple M/H

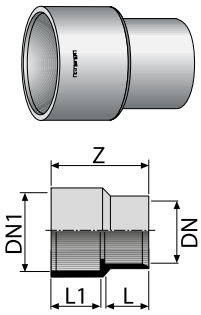
DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	L1 (mm)	L2 (mm)	Z (mm)	Z1 (mm)	Note
110	40	40	054980M	35	840	60	27	27	56	48	



Bend with collar 87°30'
Coude à collet 87°30' - Codo con valona 87°30'

DN (mm)	DN1 (mm)	Reference			L (mm)	Z (mm)	Note
1" 1/4 32	38	026030M*	100	5.200	43	33	
1" 1/2 40	44,5	026040M	150	3.600	55	42	

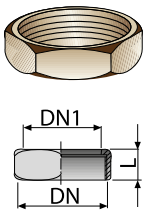
*upon request



Coupler with collar F/F
Manchon à collet F/F - Manguito con collar H/H

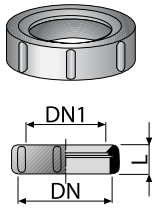
DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Note
32	40	060320M*	50	4.050	22,5	26,5	51	

*upon request



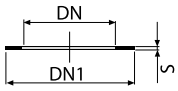
Brass nut
Écrou laiton - Tuerca latón

DN (mm)	DN1 (mm)	Reference			L (mm)	Note
1" 1/4	35	C661400	5	16.200	15	
1" 1/2	40	C661200	5	12.150	15	



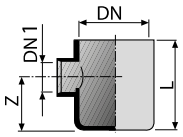
PP nut
Écrou en PP - Tuerca en PP

DN (mm)	DN1 (mm)	Reference			L (mm)	Note
1" 1/2	42	B661202	1	10.400	20	



Gasket
Joint plat - Junta plana

DN (mm)	DN1 (mm)	Reference			S (mm)	Note
1" 1/4	39	B821400	1	-	2,5	
1" 1/2	44	B821200	1	-	2,5	

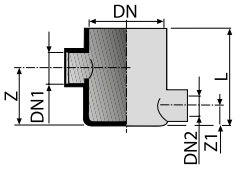


Floor gully
Collecteur - Colector 1 salida

DN (mm)	DN1 (mm)	Reference			L (mm)	Z (mm)	Note
100	40*	0961002*	20	480	120	74	

* Outlet Ø 40 Female / Sortie Ø 40 Femelle

*upon request

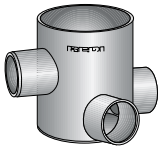


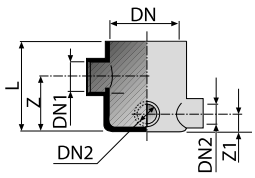
Floor gully
Collecteur - Colector 2 salidas

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	Z (mm)	Z1 (mm)	Note
100	40/50*	40	0971022*	20	480	120	74	25	

* Outlet Ø 40 Female - Outlet Ø 50 Male
* Sortie Ø 40 Femelle - Sortie Ø 50 Male

*upon request



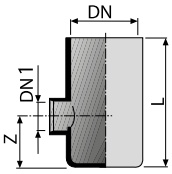


Floor gully
Collecteur - Colector 3 salidas

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	Z (mm)	Z1 (mm)	Note
100	40/50*	40	0971042*	40	320	120	74	25	
100	50	40	0941042*	40	320	120	80	25	

* Outlet Ø 40 Female - Outlet Ø 50 Male
* Sortie Ø 40 Femelle - Sortie Ø 50 Male

*upon request

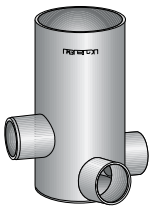


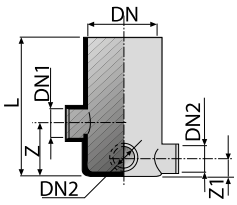
High floor gully - 2 outlets
Collecteur haut - 2 sorties - Colector alto 2 salidas

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	Z (mm)	Z1 (mm)	Note
100	40/50*	40	0951022*	10	240	200	74	25	

* Outlet Ø 40 Female - Outlet Ø 50 Male
* Sortie Ø 40 Femelle - Sortie Ø 50 Male

*upon request



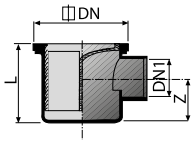


High floor gully - 3 outlets
Collecteur haut - 3 sorties - Colector alto 3 salidas

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	Z (mm)	Z1 (mm)	Note
100	40/50**	40	0981042*	22	176	200	74	25	
100	50	40	0951042*	25	200	200	80	25	

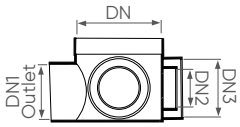
** Outlet Ø 40 Female - Outlet Ø 50 Male / Sortie Ø 40 Femelle - Sortie Ø 50 Male

*upon request



PVC trapped floor drain (horizontal outlet)
Siphon de cour PVC (sortie horizontale)
Sumidero sifónico, salida horizontal hembra de PVC

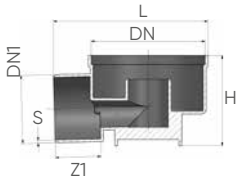
DN (mm)	DN1 (mm)	Reference			L (mm)	Z (mm)	Note
100	40 external /32 internal	0210304	16	832	82	45	
100	40 internal	0210404	16	832	82	45	



Floor gully

Collecteur grand débit - Colector

DN (mm)	DN1 (mm)	DN2 (mm)	DN3 (mm)	Reference			Note
160	110	75	110	0961602	10	80	
F/Sk	M/Sp	F/Sk	F/SK				



Trapped balcony outlet

Siphonnette de balcon - Terminal bote sifónico para terraza

DN (mm)	DN1 (mm)	Reference			L (mm)	H (mm)	Z1 (mm)	S (mm)	Note
125	50	19935F2	15	360	169	88	40	3	
125	75	19937F2	15	360	169	100	50	3	

Low

High

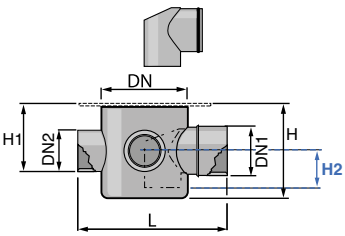
New reinforced shape

Floor trap with Multi-inlets

Siphon parquet - Terminal bote sifónico entradas múltiples

Ø (mm)	DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	H (mm)	H1 (mm)	H2 (mm)	Version
150	125	75*	50**	1961202	20	160	237,5	137,5	92	50	High / *Haute / Alto*
150	125	75*	50**	19613B2	24	192	237,5	107,5	82	35	Low / *Baisse / Corto*

Connections: * 1 spigot outlet DN 75 mm. ** 3 female blank inlets DN 50 mm.
Connections: * 1 sortie male DN 75 mm . ** 3 entres femelle DN 50 mm.



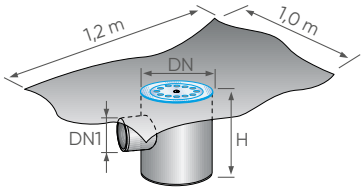
Water seal 50 mm in compliance with UNI EN1253

PVC insulating membrane

Membrane d'étanchéité - Lámina de PVC, impermeabilizante

DN (mm)	Reference			Note
1500 x 1500 x 0,8 mm	J022087	1	36	1 single sheet

Material: PVC plasticized - Colour: Grey - Use: waterproofing sheet

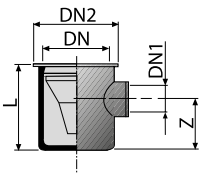


Floor gully with PVC membrane

Collecteur avec membrane d'étanchéité
Colector con lámina impermeabilizante

DN (mm)	DN1 (mm)	Reference			H (mm)	Note
100	40	1960402*	1	64	120	

*upon request

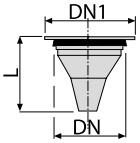


Floor trap with inox grid and funnel

Siphonette avec grille inox et entonnoir
Sifón con rejilla de acero inox y embudo

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	Z (mm)	Note
100	40/50*	125	1961002	15	360	121	74	

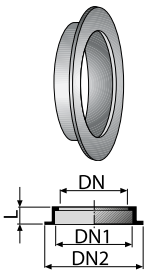
* Male outlet / Sortie male



Inox grid with funnel

Grille inox avec entonnoir - Rejilla de acero inox y embudo

DN (mm)	DN1 (mm)	Reference			L (mm)	Note
100	125	1993302	1	720	106	



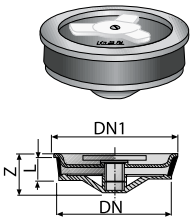
Locking ring for PVC membrane
Anneau de blocage de la membrane d'étanchéité
Anillo de bloqueo de la junta de estanqueidad

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	Note
100	107	145	0201002*	20	2.000	20	

*upon request

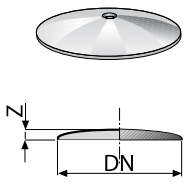
Protection cap for floor gully
Plaque de protection pour collecteur
Tapón de protección bote sifónico

DN (mm)	Reference			Note
100	T651000	20	2.000	Made of plastics



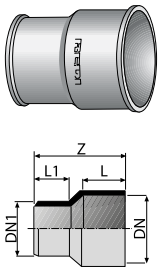
Plug for floor gully
Bouchon pour collecteur - Tapa expansión para colector

DN (mm)	DN1 (mm)	Reference			L (mm)	Z (mm)	Note
100	106	0661002	20	1.620	20	35	



Stainless steel plate
Plaque de protection inox - Tapa de acero inoxidable

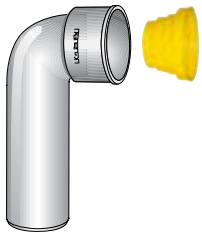
DN (mm)	Reference			Z (mm)	Note
135	PIAOXNI	20	26400	5	

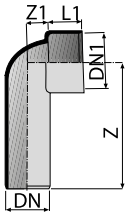


Technical coupling M/F
Manchon technique M/F - Manguito técnico M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Note
40	50	0930302*	50	2.600	22,5	31	55,5	F/F
40	32	0930402	50	4.050	26,5	22,5	57,5	M/F
50	40	0930502	50	2.600	31,5	26,5	67,5	M/F

*upon request



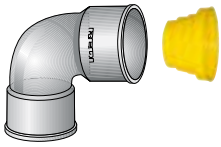


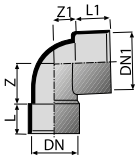
Technical bend long version M/F
Coude technique long M/F - Codo técnico M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Note
40	50	074540M*	5	1.200	33	150	17	

With protection plug /Avec bouchon de protection / Con tapa protectora

*upon request

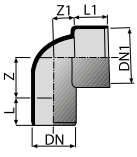




Technical bend F/F
Coude technique F/F - Codo técnico H/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	Note
32	40	024230M	130	3.120	23	28	29	14	
40	50	024240M	70	1.680	26	33	-	17	

With protection plug /Avec bouchon de protection / Con tapa protectora

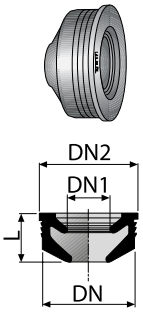


Technical bend M/F
Coude technique M/F - Codo técnico M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	Note
32	40	074230M*	80	1.920	23	28	29	14	
32	50	074530M*	80	1.920	26	33	36	17	
40	50	074240M*	80	1.920	-	-	-	-	

With protection plug /Avec bouchon de protection / Con tapa protectora

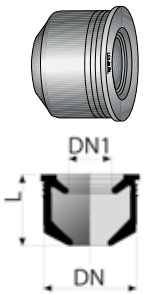
*upon request



Gasket
Joint - Junta de goma

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	Note
32	1"	37	6820300	50	24.000	13	
40	1"	46,5	6820400	50	1.000	18	
40	1" 1/4	46,5	6820401	50	12.000	18	
50	1"	55	6820502	50	6.000	19	
50	1" 1/4	56	6820500	50	6.000	19	
50	1" 1/2	55	6820501	50	6.000	19	

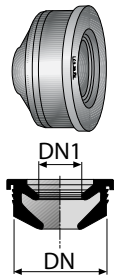
1" = 26 mm. 1"1/4 = 32 mm. 1"1/2 = 40 mm.



Long Gasket
Joint long - Junta de goma larga

DN (mm)	DN1 (mm)	Reference			L (mm)	Note
50	1"	68255LU	50	6.000	33	
50	1" 1/4	68265LU	50	6.000	33	
50	1" 1/2	68260LU	50	6.000	33	

1" = 26 mm. 1"1/4 = 32 mm. 1"1/2 = 40 mm.

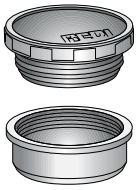


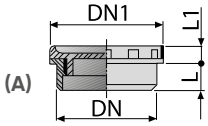
Technical gasket with nut (for bends and couplers)
Joint technique avec écrou (pour coudes et manchons)
Junta técnica con tuerca (para codos y manguitos)

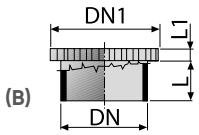
DN (mm)	DN1 (mm)	Reference			Note
37	1"	6823200*	1	4.200	
45	1" 1/4	6824404*	50	14.400	

1" = 26 mm. 1"1/4 = 32 mm. 1"1/2 = 40 mm.

*upon request

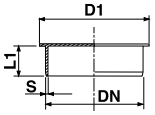






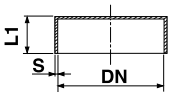
Access plug M
Tampon de visite M - Tapón de inspección M

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Note
32	39	065320M	50	20.250	15	8,5	(A) With gasket / *Avec joint / Con junta*
40	47	065400M	50	12.150	15	8,5	(A) With gasket / *Avec joint / Con junta*
50	57	065500M	25	8.100	15	8,5	(A) With gasket / *Avec joint / Con junta*
63	78	065060M	90	2.160	38	17	(B)
75	97	065070M	20	1.040	44	17	(B)
80	97	065080M	50	1.200	47	17	(B)
90	-	0650902	30	720	52	-	(B)
100	116	065100M	30	960	56	20	(B)
110	-	0651102	70	560	62	22	(B)
125	-	0651202	50	400	60	20	(B)
160	-	1651602	30	240	60	20	(B)
200	-	1652002	15	120	80	22	(B)
250	-	1652502	10	100	90	17	(B)
315	-	1653002	6	48	93	21	(B)



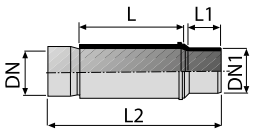
Socket plug M
Bouchon de fermeture M - Tapón ciego M

DN (mm)	DN1 (mm)	Reference			L (mm)	S (mm)	Note
40	45	0660402	50	12.000	18	2,5	
50	55	0660502	50	8.400	20	2,5	
100	104	0669902	45	1.080	15	-	
110	126	0661102	150	1.200	38	3,2	
125	142	0661202	100	800	42	3,2	
160	180	0661602	55	440	49	4,0	
200	223	0662002	25	200	59	4,9	
250	282	0662502	1	114	90	6,2	
315	350	0663002	1	67	93	7,7	
400	440	06640M2	1	50	95	9,8	



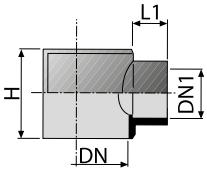
Female cap F
Bouchon femelle F - Tapón hembra H

DN (mm)	Reference			L1 (mm)	S (mm)	Note
110	06613F2	30	1.560	32	2,0	
125	06615F2	20	1.040	32	2,5	
160	06617F2	30	720	35	2,7	
200	06621F2	60	480	35	2,9	
250	06628F2	30	240	40	3,5	
315	06634F2	15	120	52	4,0	
400	06640F2	1	50	52	4,0	



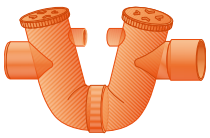
Repairing coupler (orange colour)
Manchon de réparation (coleur orange)
Manguito de reparación (color naranja)

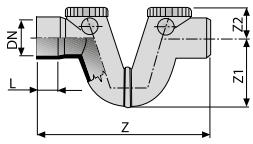
DN (mm)	DN1 (mm)	Reference Orange Ral 2003			L (mm)	L1 (mm)	L2 (mm)	Note
50	-	1790509	10	-	-	-	-	
63	-	1790609	5	-	150	50	-	
80	-	1790809	5	-	168	56	-	
100	94	1791009	5	150	240	76	324	
125	118	1791209	5	100	240	76	324	

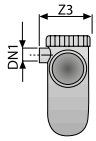


Clip
Selle - Injerto clip

DN (mm)	DN1 (mm)	Reference			H (mm)	L1 (mm)	Note
100 - 110 - 115	32	043050M	20	1.040	80	25	
100 - 110 - 115	40	043100M	20	1.040	80	27	
100 - 110 - 115	50	043300M	20	1.040	80	32	







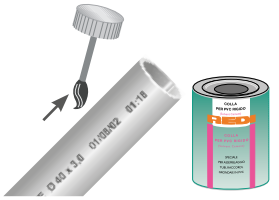
Syphon O-O (with blank outlets for ventilation Ø40
Siphon O-O (avec piquage pour ventilation Ø40)
Sifón en línea (con conexión para ventilación Ø40)

DN (mm)	DN1 (mm)	Reference Orange Ral 2003			L (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	Note
140	40	1751409	1	24	-	-	-	-	-	
160	50	1751609	1	18	-	-	-	-	-	
200	50	1752009	1	9	-	-	-	-	-	

RAL 2003: orange colour /coleur orange / color naranja

How to use the solvent cement welding socket couplers

Cut the pipe into the required length. If necessary, deburr pipe end with a chamferer.

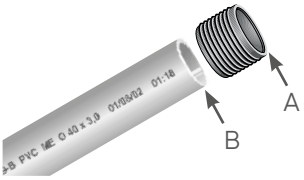


Apply the solvent cement lengthwise on the previously cleaned pipe end.

Apply the solvent cement inside the coupler's spigot end

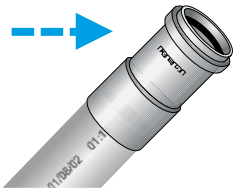
Fit the socket coupler without turning it until it stops against pipe end.

How to use the push-fit socket couplers

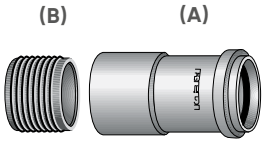


Fit the corrugated gasket onto the pipe end as shown in the picture (the sealing edge A to be in contact with pipe's front section B).

Apply a thin layer of lubricant onto the corrugated gasket.

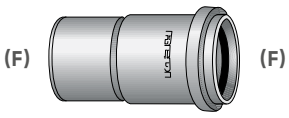


Fit the socket coupler without turning it until it stops against pipe end.



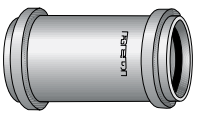
Socketer coupler - push-fit version F/F
Manchon avec joint F/F
Manguito de conexión push-fit con junta H/H

DN (mm)	Reference			Note
(A) 40	063228M	50	2.600	
(A) 50	063238M	35	1.820	



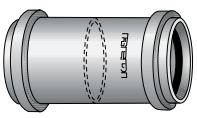
Socketer coupler - solvent welding version F/F
Manchon à coller F/F
Manguito de conexión push-fit encolar H/H

DN (mm)	Reference			Note
40	063338M	10	2.600	
50	063348M	40	2.080	



Slip coupler with 2 gaskets F
Manchon coulissant avec 2 joints F
Manguito deslizante H, con junta labiada H

DN (mm)	Reference			Note
40	061445M	10	1.920	



Coupler with central stop with 2 gaskets F/F
Manchon avec butée avec 2 joints F/F
Manguito con tope H/H, con junta labiada

DN (mm)	Reference			Note
40	063445M	40	2.080	
50	063455M	50	1.200	

PVC

PE

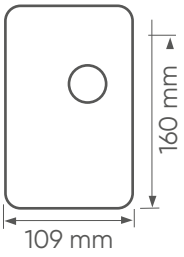
CUBO REDI

Syphon for washing-machine

Siphon machine à laver

Sifón sencillo para empotrar, toma lavadora

DN (mm)	Reference			Note
40	1999903	8	416	for PVC pipes
40/50	199PE03	6	312	for PE pipes



CUBO REDI
NEW Cover plate in stainless steel 160x109 mm

Inspection Syphon for washing-machine

Siphon machine à laver

Sifón sencillo para empotrar, toma lavadora

DN (mm)	Reference			Note
1" 1/2-40	19999S3	1	780	for PVC pipes

Packed in plastic bag

PE Syphon for washing-machine
Siphon machine à laver - Sifón máquina lavadora

DN (mm)	Reference			Note
40/50	C13PEAI	15	-	for PE pipes

Adaptor with Air Admittance Valve
Sortie avec anti-vide - Válvula aireación, toma lavadora

DN (mm)	Reference			Note
40	C130403	1	1.280	

Solvent cement THF free
Colle sans THF - Adhesivo sin THF

Pack. type	Content (ml)	Reference			Note
Tube	125	COLLA12	30	1920	
Jar	250	COLLA25	24	1296	With brush / *Avec pinceau*
Jar	500	COLLA50	16	768	With brush / *Avec pinceau*
Jar	1.000	COLLA00	8	432	With brush / *Avec pinceau*

Cleaner
Détergent - Limpiador

Pack. type	Content (ml)	Reference			Note
Can	1 litre	6721100	8	384	

PVC-U Soil & Waste System

REDI

EN 1329 Push-Fit PVC-U Fittings

aliaxis

PVC-U
Soil & Waste System

REDI PVC-U Push-Fit fittings are compliant to the EN1329 standard.
The products standard compliance guarantees the respect of the required dimensional tolerances, the designs criteria and the performances for building water drainage applications.

General characteristics of PVC
- Name: Polyvinyl Chloride
- Color: RAL 8023 - Red
- Operation Temperature Range:
  70 °C is the MAX temperature of waste water in permanent conditions.
  For discontinuous drainage applications as common household appliances discharge, instant peak of 95 °C are allowed

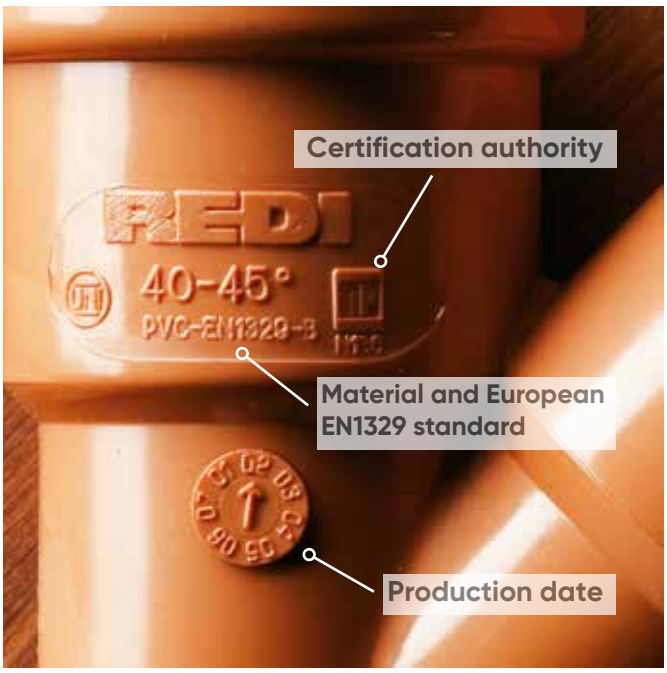
Certificates: EN1329
Plastics piping systems for soil and waste discharge, low and high temperature, within the building structure - Unplasticized Polyvinyl Chloride


CERTIFICATO DI CONFORMITÀ
Certificate of conformity

The certificates shown on this catalogue may be subject to revisions.
Updated certificates for each product are available on website www.aliaxis.it

Connection
Sockets are fitted with preassembled and prelubricated lip seal gasket.

Gasket section  Flow direction in reference to the position of the gasket.



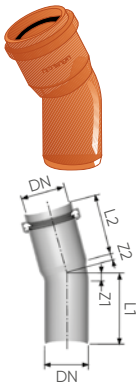
Gasket certificates
The certificates printed on these pages are constantly updated. The updated certificates are available on our website www.aliaxis.it

MPS NRW
Standard nr. 220000032 04-02-1b
DIN 4060

KIWA KOMO
Standard nr. K4195/06
Type rubbe SBR ss-p-60-00

BSI
Standard nr. KM 51718
BS EN 681-1

DNV Det Norske Veritas
Standard n. 112.929.01-01E; SS-EN 681-1
Type test report: SP report No. 98K12514 A-C, 98K 12558, 99K12583, 99K12604, F020847C, F101033

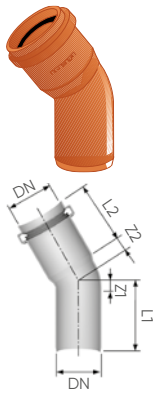


Bend S/S 15°

Coude 15° M/F - Codo 15° M/H

DN (mm)	Reference RAL 8023 Red EN1329			Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Note
40	0100411	25	2.025	3	27	48	41	

Lip Ring

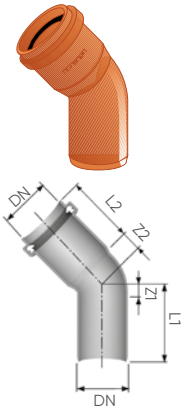


Bend S/S 30°

Coude 30° M/F - Codo 30° M/H

DN (mm)	Reference RAL 8023 Red EN1329			Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Note
40	0110411	25	2.025	5	19.5	49	41	
100	0781011	12	288	12	20	68	56	

Lip Ring

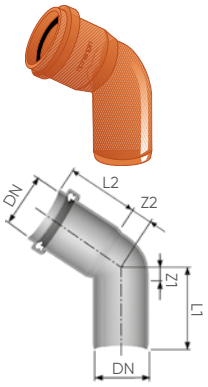


Bend S/S 45°

Coude 45° M/F - Codo 45° M/H

DN (mm)	Reference RAL 8023 Red EN1329			Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Note
40	0700411	100	2.400	8	22	48	36	
50	0700511	60	1.440	10	24	52	40	
63	0700611	40	960	-	-	-	-	
75	0730711	25	600	16	25	52	45	
82	0708211	25	600	-	-	-	-	
100	0701011	40	320	20	35	62	53	

Lip Ring

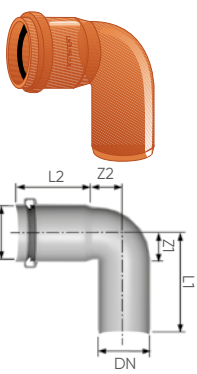


Bend S/S 67°30'

Coude 67°30' M/F - Codo 67°30 M/H

DN (mm)	Reference RAL 8023 Red EN1329			Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Note
100	0721011	30	240	33	53	75	57	

Lip Ring

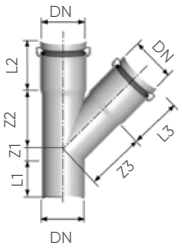


Bend S/S 87°30'

Coude 87°30' M/F - Codo 87°30 M/H

DN (mm)	Reference RAL 8023 Red EN1329			Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Note
40	0710411	100	2.400	-	-	-	-	
50	0710511	50	1.200	-	-	-	-	
63	0710611	30	720	-	-	-	-	
75	0740711	20	480	-	-	-	-	
100	0711011	30	240	-	-	-	-	

Lip Ring



Branch 45° D/S
Culotte 45° M/F - Derivación 45° M/H

DN (mm)	Reference RAL 8023 Re EN1329			Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)
40	0800411	50	1.200	9	52	52	49	45	45
50	0800511	25	600	14	70	70	48	40	40
63	0880611	15	360	-	-	-	-	-	-
75	0880711	10	240	15	93	93	51	45	45
100	0881011	15	120	25	131	131	60	53	53

Lip Ring

Unequal branch 45° D/S
Culotte et embranchement 45° M/F
Derivación reducida 45° M/H

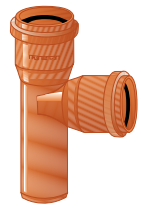
DN (mm)	Reference RAL 8023 Red EN1329			Note
100/40	0831011	10	240	
100/50	0833011	10	240	
110/63	D312611	5	-	
110/75	0315111	20	160	
110/100	D312811*	5	-	
125/75	D312711	10	100	

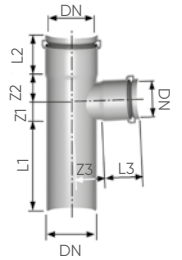
*upon request Lip Ring

Unequal branch 45° D/S
Embranchement double 45° M/F
Derivación doble reducida 45° M/H

DN-DN1 (mm)	Reference RAL 8023 Red EN1329			Note
100-40-40	0415011*	8	192	
100-50-50	0414911*	7	168	

*upon request Lip Ring

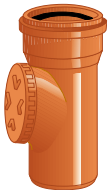


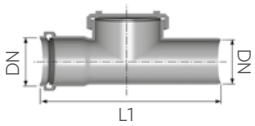


Branch 87° D/S
Culotte 87° M/F - Derivación 87° M/H

DN (mm)	Reference RAL 8023 Red EN1329			Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)
82	0818211*	30	300	-	-	-	-	-	-
100	0811011	20	160	55	64	64	55	53	53

*upon request Lip Ring



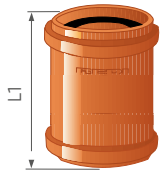


Access pipe

Tè de visite - Te con boca de registro

DN (mm)	Reference RAL 8023 Red EN1329			L1 (mm)	Note
100	1821011*	20	160	227	

*upon request Lip Ring

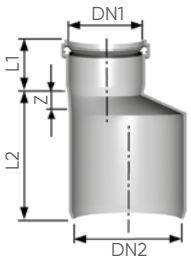


Repair/Slip coupler F/F

Manchon coulissant F/F - Manguito deslizante H/H

DN (mm)	Reference RAL 8023 Red EN1329			L1 (mm)	Note
63	D610611	10	-	-	
75	0610751	10	810	92	

Lip Ring



Invert reducer M/F

Réduction excentrée M/F - Ampliación excéntrica M/H

DN1-DN2 (mm)	Reference RAL 8023 Red EN1329			Z (mm)	L1 (mm)	L2 (mm)	Note
40/50	0900511	80	1.920	22	42	48	
40/63	0900611	60	1.440	-	-	-	
40/100	0904811	30	600	48	42	58	
50/63	0902611	50	1.200	-	-	-	
50/75	0510711	40	960	30	45	48	
50/100	0901011	25	600	45	45	61	
50/110	0511111	50	400	51	45	70	
63/100	0903011	30	720	-	-	-	
75/100	0503311	25	500	31	50	61	
75/125	0907311	10	300	48	55	115	
100/125	0901211	10	240	16	57	61	

Lip Ring

Invert reducer M/F
Réduction M/F - Ampliación excéntrica M/H

DN1-DN2 (mm)	Reference RAL 8023 Red EN1329			Note
63/75	0530711	40	960	
100/110	0533111	18	432	

Lip Ring

Invert reducer M/F
Réduction M/F - Ampliación M/H

DN (mm)	Reference RAL 8023 Red EN1329			Note
40	0635589	50	2.600	
50	0635689*	40	2.080	

*upon request Lip Ring

Invert reducer M/F
Réduction M/F - Ampliación M/H

DN1-DN2 F - M (mm)	Reference RAL 8023 Red EN1329			Note
125/100	0931211	15	360	
125/110	D931111	45	360	

Lip Ring

Lip ring
Joint à lévre - Junta labiada

DN (mm)	Reference			Note
40	6830400	1	40.768	
50	6830500	1	29.568	
75	6830700	1	13.970	
82	6808200*	1	100.000	OR section round
100	6801000*	1	50.000	

*upon request

PP Soil & Waste System

ULTRAMAX

AMAX

EN 1451 Push-Fit PP Pipe and Fittings
Impact-Resistant
B1 Fire Reaction Class, Self-extinguishing

aliaxis

ULTRAMAX Pipe Range Completed by AMAX Fittings

ULTRAMAX completed with AMAX fittings range is the push-fit polypropylene complete soil and waste system for civil and industrial waste water drainage.

ULTRAMAX features:

- White internal layer
- Impact-resistant
- B1 Fire Reaction Class according to DIN4102, Self-extinguishing

Pipe and Fittings available starting from Ø32 up to Ø160. Both Single and Double Socket Pipes available from 0.15 m up to 3 m length.

Fitting marking

Pipe marking:

Impact resistance

ULTRAMAX Pipes are produced with a multilayer technology and without using any mineral material additives. The great elasticity of the pipe allows a strength compression resistance if impact-stressed, without breaks, cracks or functional consequences even at low temperatures. The impact resistance is directly tested along line, at regular intervals, for each production batch.

1)
Compression test of an ULTRAMAX pipe by REDI.
During the test the pipe is hit with a 5 kg heavy hammer

2)
After the impact of the ULTRAMAX pipe by REDI, it returns to its original form without cracks or crushing

White Interior

ULTRAMAX presents a perfectly WHITE and uniform interior. This feature is particularly appreciated during video inspection.
The technology used allows an extremely regular raw material extrusion flow, which allows a perfect fusion among different layers.

Self-extinguishing material

ULTRAMAX is completely self-extinguishing and matches Class B1 characteristics according to the DIN 4102 standard.

ULTRAMAX and AMAX Poliypropylene System

Pipes and fittings are both made of self extinguishing polypropylene homopolymer.
The raw material performances is certified according to DIN 4102 quality tests, which certify the conformity to the required fire reaction specifications. The System is classified as B1 Fire Reaction class ("hardly flammable building material").
The products performances are certified according to the **EN 1451** standard ("Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure - Polypropylene").

Conditions for use	Fields of application
95 °C is the MAX temperature of waste water conveyed allowed.	for sanitary fittings
	for washing-machines, dishwashers and boilers also extended for waste water (large kitchens, laundry rooms, industrial appliances)
	for corrosive fluids in schools, laboratories and industrial factories. In this case, the chemical resistance at the operating temperature can be derived from the ISO/TR7471344.

The certificates printed on these pages are constantly updated.
The updated certificates are available on our website www.aliaxis.it

SKZ Certificate for pipe

SKZ Certificate for fittings

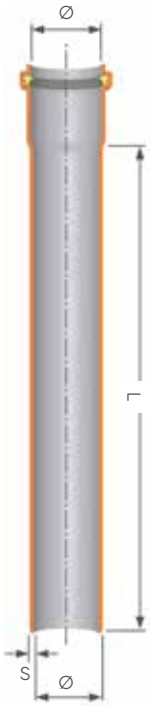
PP - Chemical resistance

Product	Conc. %	Temp. 20 °C	Temp. 60 °C
Acetic Acid	60	S	L
Acetic Acid Monochloride	SOL.	S	L
Acetic Aldehyde	33	L	NS
Acetic Anhydride	100	L	NS
Acetone	100	S	S
Adipic Acid	-	-	-
Allyl Alcohol	96	S	S
Aluminum Chloride	SOL. SAT.	S	S
Aluminum Sulphate	SOL. SAT.	S	S
Ammonia (gas)	100	S	S
Ammonia (liquid)	100	S	L
Ammonia (solution)	SOL. DIL.	S	L
Ammonium Chloride	SOL. SAT.	S	S
Ammonium Fluoride	-	-	-
Ammonium Nitrate	SOL. SAT.	S	S
Ammonium Sulphate	SOL. SAT.	S	S
Amyl Acetate	100	NS	NS
Amyl Alcohol	100	S	L
Aniline	100	S	L
Aniline	SOL. SAT.	S	L
Aniline Hydrochloride	SOL. SAT.	-	-
Antimony Chloride	90	S	S
Arsenic Acid	SOL. DIL.	S	-
Beer		S	S
Benzaldehyde	100	S	-
Benzene	100	NS	NS
Benzoic Acid	SOL. SAT.	S	L
Borax	SOL. SAT.	S	L
Boric Acid	SOL. DIL.	S	L
Bromine (liquid)	100	NS	NS
Bromine Acid	10	S	-
Butadiene	100	S	S
Butane	100	S	-
Butyl Acetate	100	NS	NS
Butyl Phenol	100	NS	NS
Butylene	100	S	L
Butyric Acid	20	S	L
Butyric Acid	98	NS	NS
Calcium Chloride	SOL. SAT.	S	S
Calcium Nitrate	50	S	S
Carbon Dioxide	100	S	S
Carbon Sulphide	100	S	-
Carbon tetrachloride	100	NS	NS
Chlorine (dry gas)	100	NS	NS
Chlorine (liquid)	SOL. SAT.	NS	NS
Chlorosulphonic Acid	100	NS	NS
Chromic Acid		-	-
Citric Acid	SOL. SAT.	S	S
Copper Chloride	SOL. SAT.	S	S
Copper Fluoride	2	S	S
Creosol	100	L	NS
Cresol Acid	SOL. SAT.	NS	NS
Crotonic Aldehyde	100	NS	NS
Cyclohexanol	100	L	NS
Cyclohexanone	100	L	NS
Developing Bath		S	S
Dextrine	SOL. SAT.	-	-
Dibutyl Phthalate	100	NS	L
Dichloroethylene	100	NS	NS
Diglycolic Acid	18	S	L
Dimethylammine	30	S	-
Ethyl Acetate	100	NS	NS
Ethyl Alcohol	95	S	L
Ethyl Benzene	100	NS	NS
Ethyl Ether	100	S	-
Ethylene Glycol	CONC.	S	S
Fluorine	100	NS	NS
Formaldehyde	SOL. DIL.	S	S
Formaldehyde	40	S	S
Formic Acid	1~50	L	NS
Furfural Alcohol	100	NS	NS
Glucose	SOL. SAT.	S	L
Glycerin	100	S	S
Glycolic Acid	30	S	S
Golden Syrup	SOL.	S	L
Hydrobromic Acid	50	-	-
Hydrochloric Acid	30	L	NS
Hydrofluoric Acid	60	L	NS

Product	Conc. %	Temp. 20 °C	Temp. 60 °C
Hydrogen	100	S	S
Hydrogen Dioxide	30	S	L
Hydrogen Sulphide	100	S	S
Isooctane	100	L	S
Lactic Acid	10	S	L
Lactic Acid	10~90	L	L
Lead Tetraethyl	100	S	-
Magnesium Sulphide	SOL. SAT.	S	S
Maleic Acid	SOL. SAT.	S	L
Methyl Alcohol	100	S	L
Methyl Methacrylate	100	NS	NS
Methylene Chloride	100	NS	NS
Milk		S	S
Mineral Oil	100	L	L
N-Heptane	100	L	NS
Nickel Sulphide	SOL. SAT.	S	S
Nicotinic Acid	CONC.	S	S
Nitric Acid	<25	L	NS
Nitric Acid	50	NS	NS
Oleic Acid	100	L	L
Oleum	10% of SO^3	NS	NS
Oxalic Acid	25	S	L
Oxalic Acid	SOL. SAT.	L	L
Oxigen	SOL. SAT.	L	L
Petrol	80/20	NS	NS
Petroleum	100	L	NS
Phenol	SOL. SAT.	S	S
Phosphine	100	S	L
Phosphor Oxichloride	100	L	L
Phosphoric Acid	30	S	L
Potassium Bichromate	SOL. 20	S	S
Potassium Bromide	SOL. SAT.	S	S
Potassium Chloride	SOL. SAT.	S	S
Potassium Chromate	40	S	S
Potassium Cyanide	SOL.	S	S
Potassium Ferricyanide	SOL. SAT.	S	S
Potassium Ferrocyanide	SOL. SAT.	S	S
Potassium Hydroxide	SOL.	S	S
Potassium Nitrate	SOL. SAT.	S	L
Potassium Permanganate	20	S	S
Potassium Persulfate	SOL. SAT.	S	L
Propane (gas liquid)	100	S	-
Propionic Acid	50	S	S
Pyridine	100	NS	NS
Sea Water		S	L
Silver Nitrate	SOL. SAT.	S	L
Soap	SOL.	S	S
Sodium Bisulphite	SOL. SAT.	S	S
Sodium Chlorate	SOL. SAT.	S	S
Sodium Chloride	SOL. SAT.	S	S
Sodium Ferricyanide	SOL. SAT.	S	S
Sodium Hydroxide	SOL.	S	S
Sodium Hypochlorite	25	L	NS
Sodium Hypochlorite	100 (13% Cl.)	S	L
Sodium Silicate	SOL.	S	S
Sodium Sulphite	SOL. SAT.	S	L
Sulphur Acid	SOL.	S	S
Sulphur Anhydride	100 (liquid)	S	L
Sulphur Anhydride	100 (dry)	L	NS
Sulphuric Acid	40~90	L	L
Sulphuric Acid	96	NS	NS
Sulphuric Chloride	100	NS	NS
Sulphuryl Chloride	100	NS	NS
Tannic Acid	SOL.	S	S
Tartaric Acid	SOL.	S	S
Tetrachloroethene	100	NS	NS
Thiophene	100	L	L
Tin Chloride	SOL. SAT.	S	S
Toluene	100	NS	NS
Trichloroethylene	100	NS	NS
Turpentine (oil)	100	NS	NS
Urea	10	S	L
Vaseline		L	L
Vinagre		S	S
Vinyl Acetate	100	NS	NS
Wine		S	S
Xylene	100	NS	NS
Yeast	SOL.	S	L

TS = Without corrosion L = Limitaded corrosion NS = Corrosion

For any special application, please contact the REDI Technical Service beforehand.

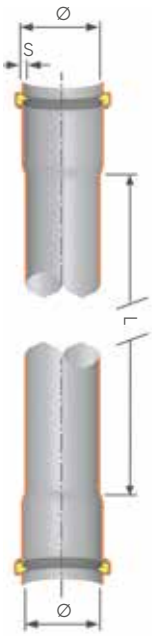


Single socket pipe M/F (Self-extinguishing class B1)
Tube M/F (classe d'inflammabilité B1)
Tubo M/H (Autoextinguible clase B1)

Ø (mm)	x	L (ml.)	S Thick	Reference			Note
32	x	0,25	1,8	ZT232PP	40	1.280	
32	x	0,50	1,8	ZT332PP	10	1.200	
32	x	1,00	1,8	ZT532PP	10	600	
32	x	1,50	1,8	ZT632PP	10	600	
32	x	2,00	1,8	ZT732PP	10	600	
32	x	3,00	1,8	ZT832PP	10	600	
40	x	0,15	1,8	ZT140PP	40	960	
40	x	0,25	1,8	ZT240PP	40	960	
40	x	0,50	1,8	ZT340PP	10	800	
40	x	1,00	1,8	ZT540PP	10	400	
40	x	1,50	1,8	ZT640PP	10	400	
40	x	2,00	1,8	ZT740PP	10	400	
40	x	3,00	1,8	ZT840PP	10	400	
50	x	0,15	1,8	ZT150PP*	20	800	
50	x	0,25	1,8	ZT250PP	20	640	
50	x	0,50	1,8	ZT350PP	10	480	
50	x	1,00	1,8	ZT550PP	10	240	
50	x	1,50	1,8	ZT650PP	10	240	
50	x	2,00	1,8	ZT750PP	10	240	
50	x	3,00	1,8	ZT850PP	10	240	
75	x	0,15	1,9	ZT175PP*	20	480	
75	x	0,25	1,9	ZT275PP	20	320	
75	x	0,50	1,9	ZT375PP	10	240	
75	x	1,00	1,9	ZT575PP	10	180	
75	x	1,50	1,9	ZT675PP	10	180	
75	x	2,00	1,9	ZT775PP	10	180	
75	x	3,00	1,9	ZT875PP	10	180	
90	x	0,15	2,2	ZT190PP	24	384	
90	x	0,25	2,2	ZT290PP	24	288	
90	x	0,50	2,2	ZT390PP	10	240	
90	x	1,00	2,2	ZT590PP	10	120	
90	x	1,50	2,2	ZT690PP	10	120	
90	x	2,00	2,2	ZT790PP	10	120	
90	x	3,00	2,2	ZT890PP	10	120	
110	x	0,15	2,7	ZT111PP	20	320	
110	x	0,25	2,7	ZT211PP	20	160	
110	x	0,50	2,7	ZT311PP	10	160	
110	x	1,00	2,7	ZT511PP	10	80	
110	x	1,50	2,7	ZT611PP	10	80	
110	x	2,00	2,7	ZT711PP	10	80	
110	x	3,00	2,7	ZT811PP	10	80	
125	x	0,25	3,1	ZT212PP*	10	120	
125	x	0,50	3,1	ZT312PP	1	45	
125	x	1,00	3,1	ZT512PP	1	45	
125	x	1,50	3,1	ZT612PP	1	45	
125	x	2,00	3,1	ZT712PP	1	45	
125	x	3,00	3,1	ZT812PP	1	45	
160	x	0,50	3,9	ZT316PP	1	48	
160	x	1,00	3,9	ZT516PP	1	24	
160	x	1,50	3,9	ZT616PP	1	24	
160	x	2,00	3,9	ZT716PP	1	24	
160	x	3,00	3,9	ZT816PP	1	24	

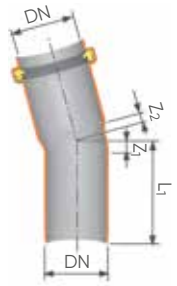
HTEM

*upon request



Double socket pipe F/F
Tube F/F - Tubo H/H

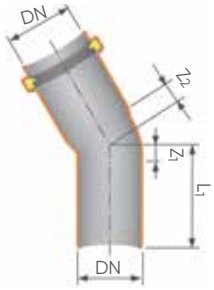
Ø (mm)	x	L (ml.)	S Thick	Reference			Note
32	x	0,5	1,8	ZT333PP	10	1.200	
32	x	1	1,8	ZT533PP	10	600	
32	x	1,5	1,8	ZT633PP	10	600	
32	x	2	1,8	ZT733PP	10	600	
32	x	3	1,8	ZT833PP	10	600	
40	x	0,5	1,8	ZT343PP	10	600	
40	x	1	1,8	ZT543PP	10	1.000	
40	x	1,5	1,8	ZT643PP	10	500	
40	x	2	1,8	ZT743PP	10	500	
40	x	3	1,8	ZT843PP	10	500	
50	x	0,5	1,8	ZT353PP	10	500	
50	x	1	1,8	ZT553PP	10	720	
50	x	1,5	1,8	ZT653PP	10	360	
50	x	2	1,8	ZT753PP	10	360	
50	x	3	1,8	ZT853PP	10	360	
75	x	0,5	1,9	ZT373PP	10	360	
75	x	1	1,9	ZT573PP	10	240	
75	x	1,5	1,9	ZT673PP	10	180	
75	x	2	1,9	ZT773PP	10	180	
75	x	3	1,9	ZT873PP	10	180	
90	x	0,5	2,2	ZT393PP	10	180	
90	x	1	2,2	ZT593PP	10	240	
90	x	1,5	2,2	ZT693PP	10	120	
90	x	2	2,2	ZT793PP	10	120	
90	x	3	2,2	ZT893PP	10	120	
110	x	0,5	2,7	ZT321PP	10	120	
110	x	1	2,7	ZT521PP	10	160	
110	x	1,5	2,7	ZT621PP	10	80	
110	x	2	2,7	ZT721PP	10	80	
110	x	3	2,7	ZT821PP	10	80	
125	x	0,5	3,1	ZT322PP	1	80	
125	x	1	3,1	ZT522PP	1	45	
125	x	1,5	3,1	ZT622PP	1	45	
125	x	2	3,1	ZT722PP	1	45	
125	x	3	3,1	ZT822PP	1	45	
160	x	0,5	3,9	ZT326PP	1	48	
160	x	1	3,9	ZT526PP	1	24	
160	x	2	3,9	ZT726PP	1	24	
160	x	3	3,9	ZT826PP	1	24	



Bend 15° M/F
Coude 15° M/F - Codo 15° M/H

DN (mm)	Reference			Z1 (mm)	Z2 (mm)	L1 (mm)	Note
32	Z1032PP	40	5.120	6	5	49	
40	Z1040PP	25	3.200	5	8	66	
50	Z1050PP	30	1.920	5	9	67,5	
75	Z1075PP	25	800	7	11	73	
90	Z1090PP	20	640	-	-	-	
110	Z1011PP	10	320	9	14	85	
125	Z1012PP	20	160	10	15	92	
160	Z1016PP	10	80	13	19	113	

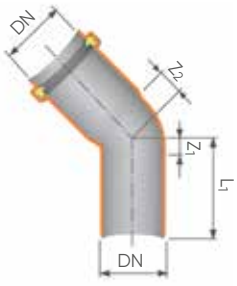
HTB



Bend 30° M/F
Coude 30° M/F - Codo 30° M/H

DN (mm)	Reference			Z1 (mm)	Z2 (mm)	L1 (mm)	Note
32	Z1132PP	40	5.120	6	7	52	
40	Z1140PP	25	3.200	7	11	69	
50	Z1150PP	30	1.920	9	12	71	
75	Z1175PP	25	800	12	15	78	
90	Z1190PP	15	480	-	-	-	
110	Z1111PP	10	320	17	21	92	
125	Z1112PP	20	160	19	23	100	
160	Z1116PP	10	80	24	30	123	

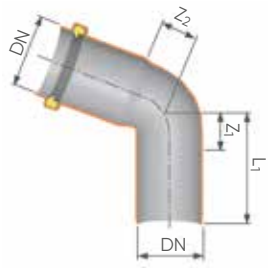
HTB



Bend 45° M/F
Coude 45° M/F - Codo 45° M/H

DN (mm)	Reference			Z1 (mm)	Z2 (mm)	L1 (mm)	Note
32	Z1232PP	40	5.120	8	10	55	
40	Z1240PP	20	2.560	10	14	72	
50	Z1250PP	30	1.920	12	16	74,5	
75	Z1275PP	20	640	18	21	83	
90	Z1290PP	30	480	-	-	-	
110	Z1211PP	20	320	25	29	101	
125	Z1212PP	20	160	28	33	110	
160	Z1216PP	5	80	36	42	136	

HTB

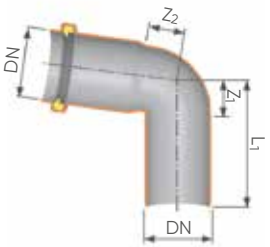


Bend 67°30′ M/F

Coude 67°30′ M/F - Codo 67°30′ M/H

DN (mm)	Reference			Z1 (mm)	Z2 (mm)	L1 (mm)	Note
32	Z1332PP	30	3.840	13	15	60	
40	Z1340PP	20	2.560	16	20	78	
50	Z1350PP	25	1.600	20	23	81,5	
75	Z1375PP	20	640	28	31	93	
90	Z1390PP	30	480	-	-	-	
110	Z1311PP	10	160	40	44	116	

HTB

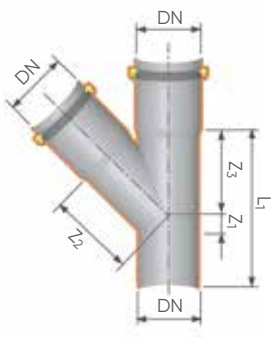


Bend 87°30′ M/F

Coude 87°30′ M/F - Codo 87°30′ M/H

DN (mm)	Reference			Z1 (mm)	Z2 (mm)	L1 (mm)	Note
32	Z1432PP	30	3.840	14	16	62	
40	Z1440PP	20	2.560	23	26	85	
50	Z1450PP	25	1.600	28	31	90	
75	Z1475PP	20	640	40	43	105	
90	Z1490PP	25	400	-	-	-	
110	Z1411PP	15	240	57	61	133	
125	Z1412PP	20	160	65	70	147	
160	Z1416PP	10	80	83	89	183	

HTB

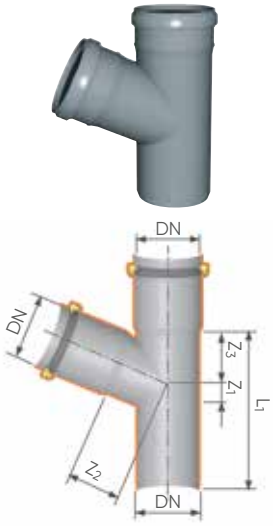


Branch 45° M/F

Culotte 45° M/F - Derivación 45° M/H

DN (mm)	Reference			Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	Note
32	Z3032PP	60	1.920	9	40	40	95	
40	Z3040PP	20	1.280	10	49	49	121	
50	Z3050PP	25	800	12	61	61	135	
75	Z3075PP	20	320	18	91	91	174	
90	Z3090PP	20	240	-	-	-	-	
110	Z3011PP	20	160	25	134	134	234	
125	Z3012PP	10	80	28	152	115	266	
160	Z3016PP	4	32	36	194	194	380	

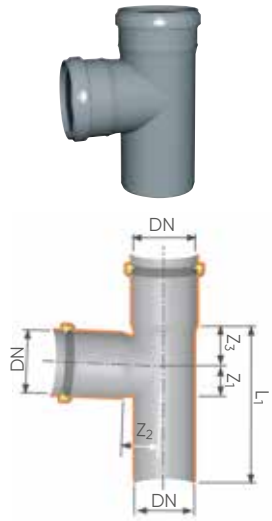
HTEA



Branch 67°30′ M/F
Culotte 67°30′ M/F - Derivación 67°30′ M/H

DN (mm)	Reference			Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	Note
32	Z3132PP	20	1.920	-	-	-	-	
40	Z3140PP	20	1.280	16	33	33	121	
50	Z3150PP	25	800	12	61	61	135	
75	Z3175PP	20	320	26	59	59	152	
110	Z3111PP	5	80	40	86	86	201	

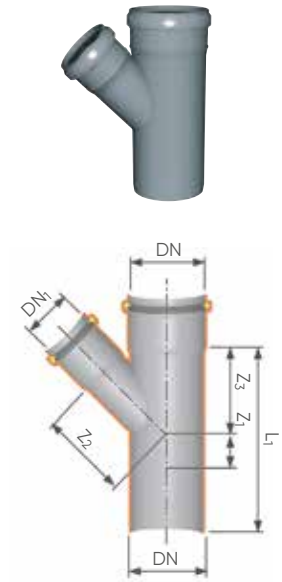
HTEA



Branch 87°30′ M/F
Culotte 87°30′ M/F - Derivación 87°30′ M/H

DN (mm)	Reference			Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	Note
32	Z3232PP	30	1.920	10	23	23	85	
40	Z3240PP	45	1.440	23	25	25	109	
50	Z3250PP	30	960	28	30	30	119	
75	Z3275PP	20	320	40	43	43	148	
90	Z3290PP	20	160	-	-	-	-	
110	Z3211PP	20	160	57	62	62	194	
125	Z3212PP	15	120	67	70	70	266	
160	Z3216PP	10	40	83	89	89	380	

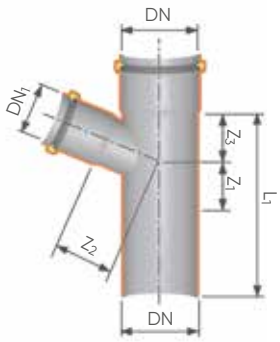
HTEA



Reduced branch 45° M/F
Culotte et embranchement 45° M/F
Derivación reducida 45° M/H

DN/DN1 (mm)	Reference			Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	Note
40/32	Z3340PP	20	1.040	-	-	-	-	
50/40	Z3350PP	30	960	5	56	54	121	
75/40	Z3475PP	35	560	-	74	67	125	
75/50	Z3375PP	25	400	-	79	74	139	
90/40	Z3590PP	20	240	-	-	-	-	
90/50	Z3490PP	25	300	-	-	-	-	
90/75	Z3390PP	20	240	-	-	-	-	
110/40	Z3511PP	20	160	0	86	68	128	
110/50	Z3411PP	20	240	-	104	91	149	
110/75	Z3311PP	10	160	1	116	109	185	
110/90	Z3310PP	10	80	-	-	-	-	
125/110	Z3312PP	10	80	18	144	141	243	
160/110	Z3416PP	8	64	1	168	159	265	
160/125	Z3316PP	10	40	12	176	169	280	

HTEA

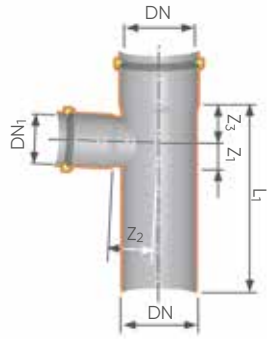


Reduced branch 67°30′ M/F
Culotte et embranchement 67°30′ M/F
Derivación reducida 67°30 M/H

DN/DN1 (mm)	Reference			Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	Note
40/32	Z3640PP*	20	1.920	-	-	-	-	
50/40	Z3650PP*	20	640	14	39	35	111	
75/50	Z3675PP	10	240	14	54	46	115	
110/40	Z3811PP	20	240	-	69	49	110	Fabricated
110/50	Z3711PP	5	160	8	73	54	135	
110/75	Z3611PP	20	160	22	73	67	163	

HTEA

*upon request

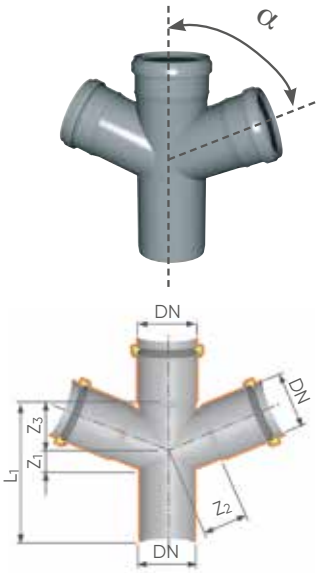


Reduced branch 87°30′ M/F
Culotte et embranchement 87°30′ M/F
Derivación reducida 87°30′ M/H

DN/DN1 (mm)	Reference			Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	Note
40/32	Z3940PP	20	1.040	-	-	-	-	
50/40	Z3950PP*	35	1.120	23	30	25	109	
75/50	Z3975PP*	10	320					
90/40	Z4190PP	20	320	-	-	-	-	
90/50	Z4090PP	20	240	-	-	-	-	
90/75	Z3990PP	20	160	-	-	-	-	
110/40	Z4111PP	20	160	-	60	32	110	
110/50	Z4011PP	20	160	28	60	32	133	
110/75	Z3911PP	20	160	40	60	45	160	
110/90	Z3910PP	20	160	-	-	-	-	Fabricated
125/110	Z3912PP	10	80	58	69	63	204	
160/110	Z4016PP	10	60	58	86	64	237	
160/125	Z3916PP	10	60	66	87	71	280	

HTEA

*upon request

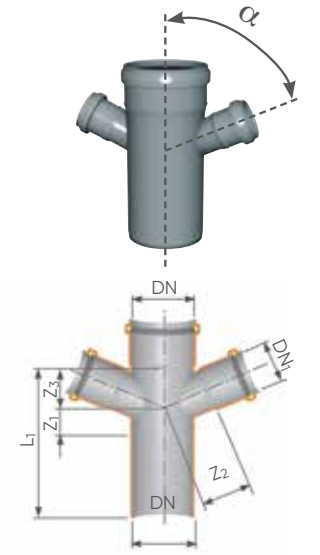


Double branch M/F
Culotte double M/F - Derivación doble M/H

DN (mm)	α	Reference			Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	Note
50	67°30'	Z4250PP*	10	640	20	41	41	124	
75	67°30'	Z4275PP	20	240	28	59	59	153	
90	87°30'	Z4511PP	8	96	-	-	-	-	
110	45°	Z4611PP	10	80	-	-	-	-	
110	67°30'	Z4211PP	5	80	40	86	86	201	
110	87°30'	Z4311PP	10	80	-	-	-	-	

HTDA

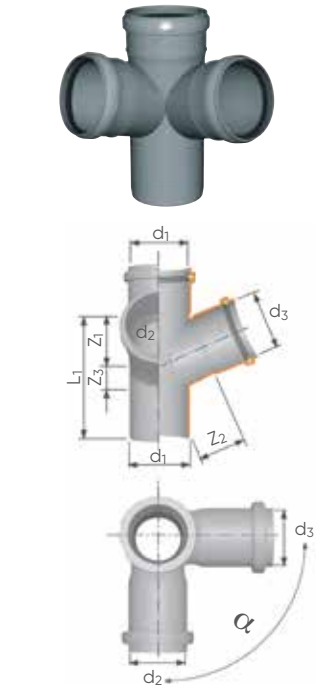
*upon request



Reduced double branch M/F
Embranchement double M/F
Derivación doble reducida M/H

DN/DN1/DN1 (mm)	α	Reference			Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	Note
90/40/40	45°	Z4540PP	20	240	19	87	79	120	
90/50/50	45°	Z4550PP	20	240	-	-	-	-	
110/40/40	45°	Z4650PP	20	160	10	96	-	153	
110/50/50	45°	Z4675PP	10	120	10	92	-	153	
110/50/50	67°30'	Z4711PP	10	160	-	-	-	-	
125/110/110	45°	Z4712PP	10	80	-	-	-	-	Fabricated

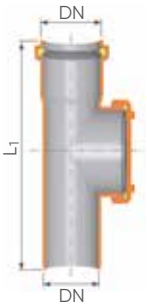
HTDA



Double corner branch M/F
Embranchement double d'équerre M/F
Doble derivación escuadra M/H

d1 (mm)	d2 (mm)	d3 (mm)	α	Reference			Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	Note
110	110	110	67°30'	Z4811PP	10	80	40	86	86	202	
110	110	110	87°30'	Z4950PP	10	80	40	86	86	202	Fabricated

HTED

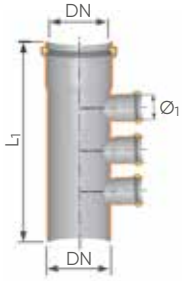


Access pipe M/F

Té de visite M/F - Te M/H con boca de regristro

DN (mm)	Reference			L1 (mm)	Note
50	Z7050PP	30	960	146	
75	Z7075PP	10	320	192	
90	Z7090PP	20	240	-	
110	Z7011PP	5	160	228	
125	Z7012PP	15	120	236	
160	Z7016PP	10	80	303	

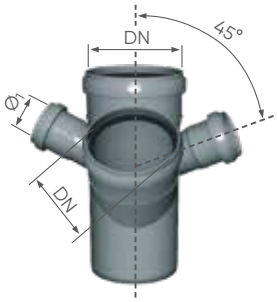
HTRE



Multiple branch M/F

Culotte multiple M/F - Derivación múltiple M/H

DN (mm)	Ø1 (mm)	Connection	Reference			L1 (mm)	Note
110	40	2	Z6942PP	20	160	330	Fabricated
110	40	3	Z6943PP	20	160	330	Fabricated



Multiple branch 45° M/F

Culotte multiple 45° M/F - Derivación múltiple 45° M/H

DN (mm)	Ø1 (mm)	Reference			Note
110	40	Z3044PP*	10	80	Fabricated

*upon request

Repair / Slip coupler F/F

Manchon coulissant F/F - Manguito deslizante H/H

DN (mm)	Reference			L1 (mm)	Note
32	Z6132PP	40	5.120	88	
40	Z6140PP	40	2.560	108	
50	Z6150PP	25	1.600	105	
75	Z6175PP	20	640	144,5	
90	Z6190PP	20	640	120	
110	Z6111PP	5	320	129,5	
125	Z6112PP	20	240	166,5	
160	Z6116PP	10	120	167,5	

HTU

Coupler with central stop F/F

Manchon avec butée F/F - Manguito con tope H/H

DN (mm)	Reference			L1 (mm)	L2 (mm)	Note
32	Z6332PP	40	5.120	88	1,2	
40	Z6340PP	40	2.560	108	1,2	
50	Z6350PP	25	1.600	105	1,2	
75	Z6375PP	20	640	144,5	1,5	
90	Z6390PP	20	640	120	-	
110	Z6311PP	12	384	126	1,5	
125	Z6312PP	20	240	166,5	2,7	
160	Z6316PP	10	80	181	3,0	

HTMM

Socketer M/F

Manchon d'adaptation M/F - Manguito adaptador M/H

DN (mm)	Reference			L1 (mm)	L2 (mm)	Note
40	Z6540PP	25	1.600	116	163	
50	Z6550PP	40	1.280	116	165	
75	Z6575PP	35	560	122	253	
90	Z6490PP	20	240	-	-	
110	Z6511PP	20	240	124	257	
125	Z6512PP	20	160	145	221	

HTLL

Reducer M/F
Réduction M/F - Reducción M/H

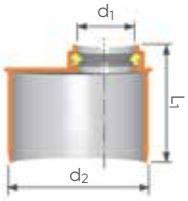
d1 (mm)	d2 (mm)	Reference			L1 (mm)	L2 (mm)	Note
40	32	Z5540PP	50	3.200	-	-	
50	40	Z5550PP	60	1.920	9	103	
75	50	Z5775PP	20	1.280	-	-	

HTRR

Inside reducer M/F
Réduction incorporée M/F - Reductor interior M/H

d1 (mm)	d2 (mm)	Reference			L1 (mm)	Note
32	40	Z5440PP	10	6.400	66	
40	50	Z5450PP	10	3.840	55	

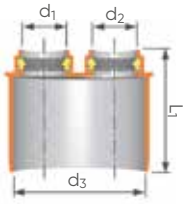
HTV



Reducer plugs M/F
Tampon de réduction M/F - Tapón reductor M/H

d1 (mm)	d2 (mm)	Reference			L1 (mm)	Note
50	75	Z5575PP	20	1.040	-	
40	90	Z5630PP	20	1.040	-	
50	90	Z5190PP	20	1.280	-	
40	110	Z5640PP	20	640	90	
50	110	Z5650PP	20	640	90	
75	110	Z5675PP	30	960	90	
90	110	Z5690PP	20	640	-	

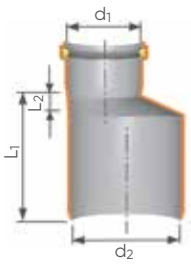
HTV



Double reducer plugs M/F
Tampon de réduction double M/F
Tapón reductor doble M/H

d1 (mm)	d2 (mm)	d3 (mm)	Reference			L1 (mm)	Note
32	40	110	Z5634PP	20	1.280	-	
40	40	110	Z5641PP	20	480	-	

HTV

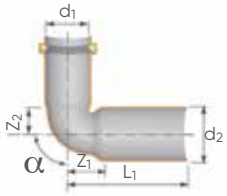


Invert reducer M/F

Réduction excentrée M/F - Reducción excéntrica M/H

d1 (mm)	d2 (mm)	Reference			L2 (mm)	L1 (mm)	Note
32	40	Z5040PP	20	2.800	-	-	
32	50	Z5150PP	20	1.400	12	73	
40	50	Z5050PP	20	1.280	12	73	
40	75	Z5175PP	20	1.280	26	91	
40	90	Z5290PP	20	640	--		
40	110	Z5110PP	20	640	-	-	
50	75	Z5075PP	20	1.280	20	86	
50	110	Z5111PP	15	480	40	115	
75	90	Z5090PP	20	640	-	-	
75	110	Z5011PP	15	480	26	101	
110	125	Z5012PP	20	320	15	101	
110	160	Z5116PP	20	240	34	137	
125	160	Z5016PP	20	240	27	130	

HTR

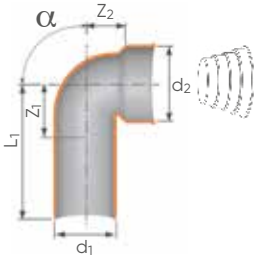


Reducing bend M/F

Coude de réduction M/F - Codo reductor M/H

d1 (mm)	d2 (mm)	Reference			Z1 (mm)	Z2 (mm)	L1 (mm)	α	Note
40	50	Z2650PP	20	1.280	36	26	83	87°30'	

HTBR



Technical bend M/F (with protection plug)

Coude M/F (avec tampon de protection)

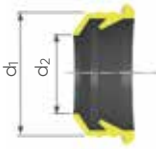
Codo técnico M/H (con tapa protectora)

D

d1 (mm)	d2 (mm)	Reference			Z1 (mm)	Z2 (mm)	L1 (mm)	α	Note
50	32	Z2910PP*	20	1.040	–	–	–	–	
40	40	Z2918PP	45	2.880	26	20	89	90°	
40	50	Z2916PP	35	2.240	31	25	89	90°	
50	50	Z2915PP	35	1.120	31	25	94	90°	
50	60	Z2917PP	35	1.120	31	25	94	90°	

*Female rail with gasket / Queue femelle à joint / Compatible con Junta de goma

HTSW



Gasket
Joint - Junta de goma

D

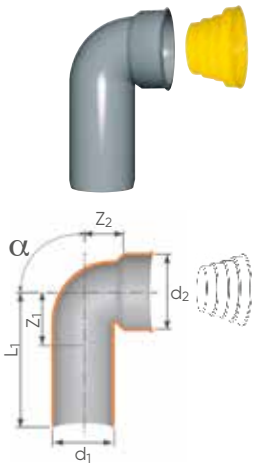
d1 (mm)	d2 (mm)	Reference			Note
40	20÷26	6820400	50	1.000	
40	26÷32	6820401	50	12.000	
50	20÷26	6820502	50	6.000	
50	26÷32	6820500	50	6.000	
50	40	6820501	50	6.000	
60	32	ZMG32PP*	20	12.000	
60	50	ZMG51PP*	20	500	

1" = 26mm. 1"1/4 = 32 mm. 1"1/2= 40 mm. *upon request

Technical Coupling M/F (with protection plug)
Manchon pour raccordements multi-matériaux M/F (avec tampon de protection)
Manguito técnico M/H (con tapa protectora)

d1 (mm)	d2 (mm)	Reference			L1 (mm)	L2 (mm)	Note
32	46	Z6810PP	20	1.040	79	50	
40	46	Z6811PP	25	1.600	93	63	

HTS



Technical bend M/F (with protection plug)
Coude M/F (avec tampon de protection)
Codo técnico M/H (con tapa protectora)

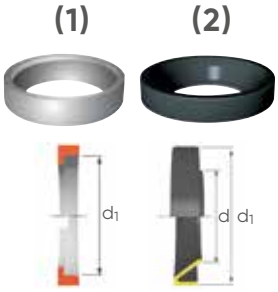
d1 (mm)	d2 (mm)	Reference			Z1 (mm)	Z2 (mm)	L1 (mm)	α	Note
32	46	Z2911PP	50	3.200	16	24	70	90°	
40	46	Z2912PP	35	2.240	17	27	76	90°	
50	46	Z2913PP	30	1.920	21	31	80	90°	
Long version / Version longue / Versión larga									
40	46	Z2920PP	50	1.600	88	27	140	90°	

HTSW

Gasket
Joint - Junta de goma

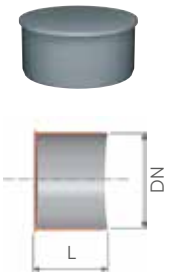
d1 Ext. (mm)	d2 Int.	d3	Reference			L1 (mm)	Note
46	1"- 1"1/4	20÷32	ZMG11PP	50	6.000	26	(1)
46	1" 1/2	40	ZMG12PP	50	12.000	26	(2)

HTGM



Gasket
Joint - Junta

d1 (mm)	d WC	Reference			Note
116	-	ZAB11PP	20	1.280	(1) PP White *PP blanc*
116	94÷104	ZGW12PP	10	4.160	(2) Rubber *Caoutchouc*



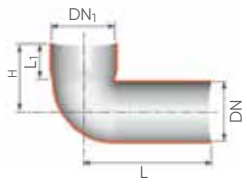
Socket plug
Bouchon de fermeture - Tapón

DN (mm)	Reference			L (mm)	Note
32	Z7132PP	20	7.680	39	
40	Z7140PP	10	7.680	39	
50	Z7150PP	20	5.120	39	
75	Z7175PP	20	2.560	39	
90	Z7190PP	30	1.920	-	
110	Z7111PP	20	1.280	46	
125	Z7112PP	20	640	50	
160	Z7116PP	10	320	58	

Rosette
Rosace - Plafón

d1 (mm)	d2 (mm)	Reference			h (mm)	Colour
90	-	0480903	20	1.620	-	White
100	137	0481003*	20	1.620	30	White
110	162	0481103	50	1.200	35	White

*upon request

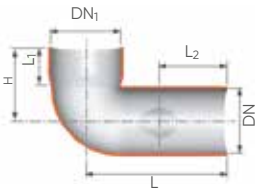


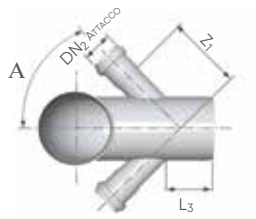
WC bend M/F

Coude WC M/F - Manguito inodoro acodado M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	h (mm)	Colour
110	116	Z2290PP	10	160	215	40	85	White

HTSB



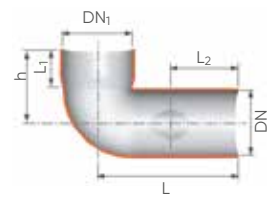


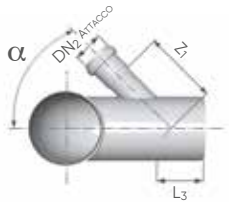
WC bend with 2 side-inlets M/F

Coude WC avec 2 entrése latérales M/F
Manguito inodoro acodado 2 tomas auxiliares M/H

Type	DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	h (mm)	Z1 (mm)	α	Colour
SX	110	116	50	Z2450PP	10	120	215	95	40	125	85	110	45°	White
DX	110	116	50	Z2405PP	10	80	215	95	40	125	85	110	45°	White

HTSB





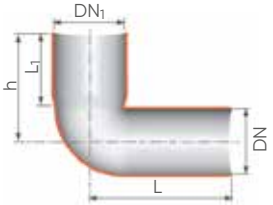
WC bend with 1 side-inlets left/right M/F

Coude WC avec 1 entrées latérales gauche/droite M/F
Manguito inodoro acodado 1 toma auxiliar derecha/izquierda M/H

DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	h (mm)	Z1 (mm)	α	Colour
110	116	40	Z2444PP*	10	80	215	100	45	130	85	110	45°	White
110	116	50	Z2455PP*	10	80	215	100	45	130	85	110	45°	White

HTSB

*upon request



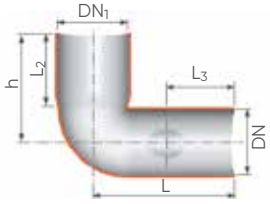
Long WC bend M/F

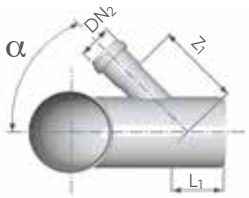
Coude WC haut M/F - Manguito inodoro acodado largo M/H

DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	h (mm)	Colour
110	116	Z2511PP	15	120	215	140	185	White

HTSB

Long WC bend with 1 side inlet left/right M/F
Coude WC haut avec 1 entrée latérale gauche/droite M/F
Manguito inodoro acodado largo 1 toma auxiliar derecha/izquierda M/H

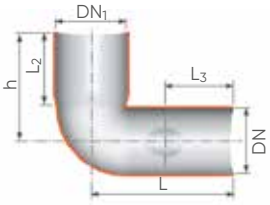


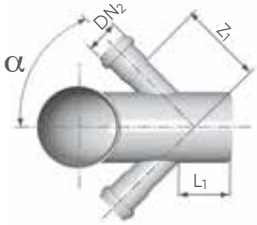


Mod	DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	h (mm)	Z1 (mm)	α	Colour
SX	110	116	40	Z2540PP	20	160	-	100	140	130	185	110	45°	White
SX	110	116	50	Z2550PP	10	80	-	100	140	130	185	110	45°	White
DX	110	116	40	Z2504PP	10	80	215	100	140	125	185	110	45°	White
DX	110	116	50	Z2505PP	10	80	215	100	140	125	185	110	45°	White

HTSB

Long WC bend with 2 side-inlets M/F
Coude WC haut avec 2 entrées latérales M/F
Manguito inodoro acodado largo 2 tomas auxiliares M/H

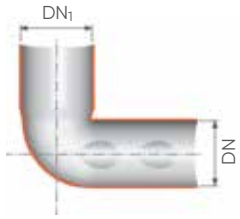


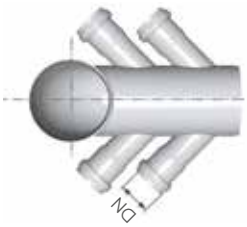


DN (mm)	DN1 (mm)	DN2 (mm)	Reference			L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	h (mm)	Z1 (mm)	α	Colour
110	116	40	Z2544PP	10	80	215	100	140	125	185	120	45°	White
110	116	50	Z2555PP	20	80	215	100	140	125	185	120	45°	White

HTSB

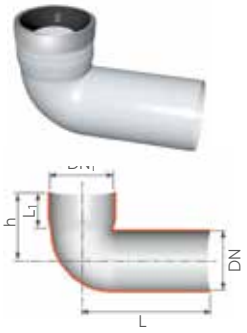
Long WC bend with 4 side-inlets M/F
Coude WC haut avec 4 entrées latérales M/F
Manguito inodoro acodado largo 4 tomas auxiliares M/H





DN (mm)	DN1 (mm)	DN2 (mm)	Reference			Colour
110	116	40	Z2566PP	10	80	White

HTSB

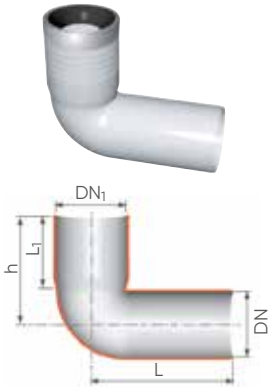


WC bend Ø90 M/F

WC long Ø90 M/F - Manguito inodoro Ø90 M/H

DN (mm)	DN1 (mm)	Reference			h (mm)	Colour
90	116	Z2090PP	10	160	85	White

HTSB



Long WC bend Ø90 M/F

Coude WC haut Ø90 M/F
Manguito inodoro acodado largo Ø90 M/H

DN (mm)	DN1 (mm)	Reference			h (mm)	Colour
90	116	Z2190PP	15	120	185	White

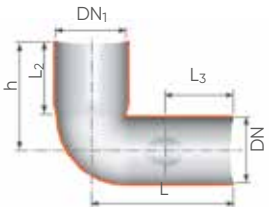
HTSB

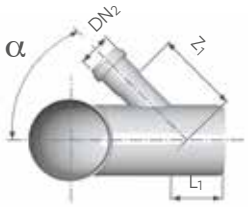
Long WC bend Ø90 with 1 side-inlet left/right M/F

Coude WC haut Ø90 avec 1 entrée latérale gauche/droite M/F
Manguito inodoro acodado largo Ø90, 1 toma auxiliar derecha / izquierda M/H

Type	DN (mm)	DN1 (mm)	DN2 (mm)	Reference			α	h (mm)	Colour
SX	90	116	40	Z2140PP	10	80	45°	185	White
SX	90	116	50	Z2150PP	10	80	45°	185	White
DX	90	116	40	Z2104PP	10	80	45°	185	White
DX	90	116	50	Z2105PP	10	80	45°	185	White

HTSB



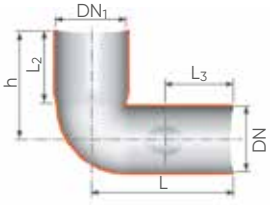


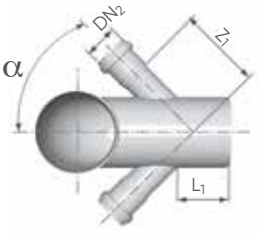
Long WC bend Ø90 with 2 side-inlets M/F

Coude WC haut Ø90 avec 2 entrées latérales M/F
Manguito inodoro acodado largo Ø90, 2 tomas auxiliares M/H

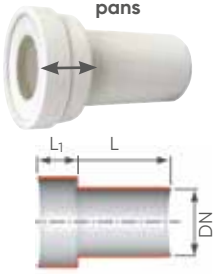
DN (mm)	DN1 (mm)	DN2 (mm)	Reference			α	h (mm)	Colour
90	116	40	Z2144PP	10	80	45°	185	White
90	116	50	Z2155PP	10	80	45°	185	White

HTSB





Ideal for suspended pans

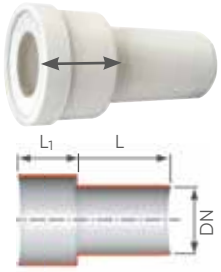


WC connector Ø90 with gasket, short socket

Manchon WC Ø90 avec joint, emboiture courte

Manguito inodoro Ø90 corto, con junta

DN (mm)	Reference			L (mm)	L1 (mm)	Colour
90	16009B3	12	288	190	40	White

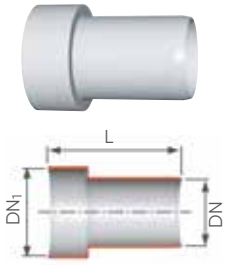


WC connector Ø90 with gasket, long socket

Manchon WC Ø90 avec joint - emboiture longue

Manguito inodoro Ø90 corto, con junta

DN (mm)	Reference			L (mm)	L1 (mm)	Colour
90	16009LB	30	240	240	80	White

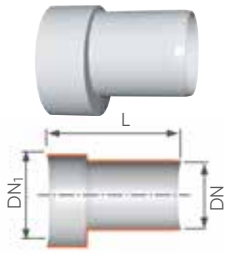


WC connector with gasket

Manchon WC avec joint - Manguito inodoro acordato con junta

DN (mm)	DN1 (mm)	Reference			L (mm)	Colour	Note
110	116	X121503	25	160	230	White colour	
110	116	Z2711PP	15	120	390	White colour	Long

HTSK



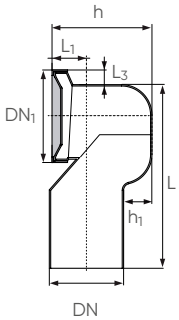
Eccentric WC connector with gasket included

Manchon WC avec joint - sortie droite excentrée

Manguito inodoro excéntrico acordato con junta

DN (mm)	DN1 (mm)	Reference			L (mm)	Colour
110	116	X121504	10	240	160	White

HTSK

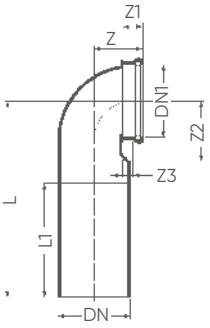


Horizontal WC Bend with gasket

Pipe WC avec joint

Manguito inodoro acodado horizontal con junta

DN (mm)	Reference			L (mm)	L1 (mm)	L2 (mm)	h (mm)	h1 (mm)	Colour
90	Z2525PP	12	144	278	48	22	148	40	White
110	Z2523PP	12	144	272	51	22	148	42	White



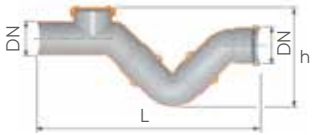
Vertical WC Bend (PE)

Coude WC vertical (PE)

Manguito acodado para conexión de inodoro al suelo (PE)

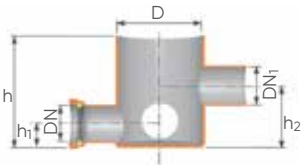
DN (mm)	DN1 (mm)	Reference			L (mm)	L1 (mm)	Z (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	Colour
90	90	K2530PE	10	160	225	120	76	34	83	17	Black
110	90	K2531PE	10	160	225	120	76	34	95	17	Black

Adjustable trap interceptors
Siphon réglable - Sifón ajustable



DN (mm)	Reference			h (mm)	l (mm)	Note
50	Z7850PP	10	320	144	356	
75	Z7875PP	10	120	220	480	
90	Z7890PP	10	80	-	-	
110	Z7811PP	10	80	230	521	
125	Z7812PP	5	40	250	610	
160	Z7816PP	1	-	-	-	

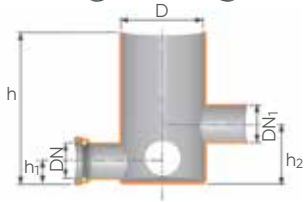
Low trapped floor gulley
Siphonnette basse - Bote sifónico, bajo



D (mm)	DN 3 inlets	DN1 1 outlet	Reference			L (mm)	h1 (mm)	h2 (mm)	Note
100	40	40	Z9411PP	10	160	120	30	80	
100	40	50	Z9711PP	10	160	120	30	80	

HTSB

High trapped floor gulley
Siphonnette haute - Bote sifónico, alto



D (mm)	DN 3 inlets	DN1 1 outlet	Reference			L (mm)	h1 (mm)	h2 (mm)	Note
100	40	40	Z9511PP	20	160	200	30	80	
100	40	50	Z9811PP	20	160	200	30	80	

HTSB

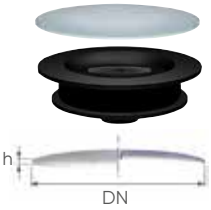
Inox grid with trap
Grille inox avec siphon - Rejilla con sifón en acero inox

DN (mm)	DN1 (mm)	Reference			h (mm)	Note
100	128	Z7470PP	20	800	96	

Protection cap for floor gully
Bouchon de protection pour collecteur
Tapón de protección bote sifónico

DN (mm)	Reference			Note
100	T651000	50	2.000	

Plug for floor gully with stainless steel plate
Bouchon pour collecteur avec tournette en acier inox
Tapa en acero inoxidable para bote sifónico



DN (mm)	Reference			h (mm)	Note
100	Z7450PP	20	1.040	3	

Accessories and Special Solutions

aliaxis

Sanitary Non-Return Valve

Non-return valve Ø50 PP (Type 1)
Clapet anti-retour Ø50 en PP (Type 1)
Válvula anti-retorno Ø50 PP (Tipo 1)

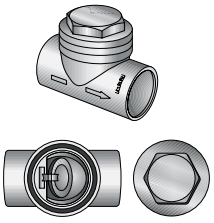
DN (mm)	Reference			Material	Colour	Note
50	ZVA51PP	1	432	PP	Grey RAL 7037	Push-fit system

Certifications: EN13564-1, EN1451, EN12056
Marking: CE

Supplied with packaging

Non-return valve Ø50 PP (Type O)
Clapet anti-retour Ø50 en PP (Type 1)
Válvula anti-retorno Ø50 PP (Tipo O)

DN (mm)	Reference			Material	Colour	Note
50	ZVA50PP	5	720	PP	Grey RAL 7037	Push-fit system



PVC Non-return valve, solvent welding version
Clapet anti-retour en PVC à coller
Válvula anti-retorno PVC, encolar

DN (mm)	Reference			Colour
32	W550302	1	–	Dark Grey
40	W550402	1	1.200	Dark Grey
50	W550502	1	720	Dark Grey
63	W550602	5	360	Dark Grey

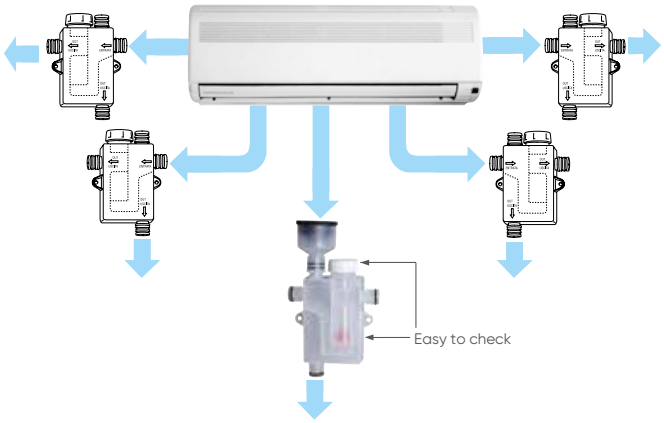
Ideal for connection to sanitary macerators
Idéal pour sanibroyeurs

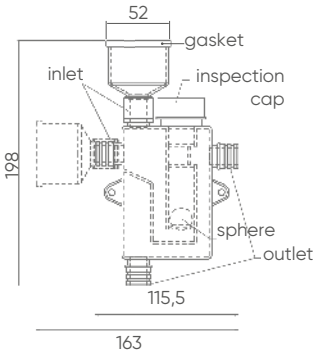
PVC Non-return valve 45°, solvent welding version F/F
Clapet anti-retour 45° en PVC à coller F/F
Válvula anti-retorno 45° PVC, encolar H/H

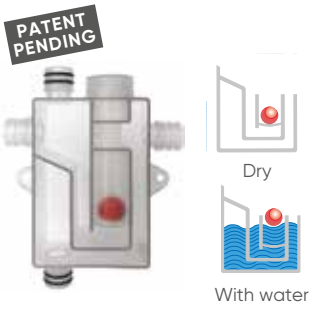
DN (mm)	Reference			Material
32	W600302	1	–	PVC
40	W600402	1	–	PVC
50	W600502	1	–	

Dry Condensate Trap for AC Units or Heating Pumps

Function: traps were conceived to eliminate bad smells produced in the condensate discharge hose, one of the major problems tied with recessed housings for air-conditioning units. Many traps are fitted and embedded into the wall without any possibility for the user to inspect them at a later stage.
Easy register: the cover guarantees an easy access to remove any likely obstruction (i.e. bugs or algae)
Fast inspection: thanks to its manufacturing process on a transparent material, an immediate vision of the good installation operation can be achieved inspection rapide.



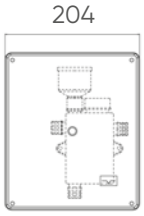




Dry condensate trap (for AC units or heating pumps)
Siphon à condensats
Sifón seco registrable para aire acondicionado

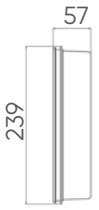
DN (mm)	Reference			Note
20-26-30	199CLPP	1	480	Kit: Gaskets - Adaptor - Sealing rings Inspection cap - Hole saw

A unique product allows multiple solutions to installation layouts
Un seul produit permet de multiples solutions d'installation



Inspection syphon with box
Siphon à condensats avec boitier de coffrage
Sifón de condensación con caja empotrable para registro

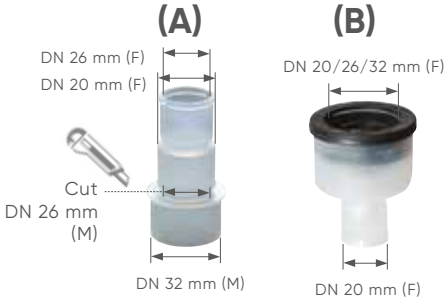
DN (mm)	Reference			Note
20-26-30	LSSIF00	1	300	Technical gasket and inlet - Dual-purpose outlet - Watertight gasket - Piercing tool - Inspection cap



Gasket Piercing tool

Inspection box
Boitier de coffrage
Caja empotrable, con tapa y tornillos

DN (mm)	Reference			Note
204x239x57	LSCAT00	1	312	With lid and screws / *Avec couvercle et*



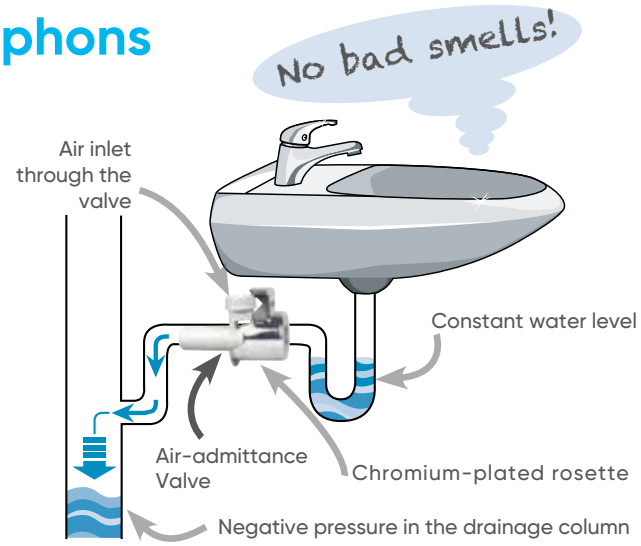
Connectors
Connecteurs
(A) Salida polivalente (B) Manguito de entrada con junta

DN (mm)	Reference			Note
26-32	Z0260PP	1	9.880	(A) Dual purpose outlet
52	Z0250PP	1	5.200	(B) Technical gasket and inlets

Air-admittance Valve for Syphons

Air-Admittance Valves (AAV) are suitable for most residential applications. They can be especially beneficial in retrofit applications where venting may be difficult. They are good for large new homes where long vent runs can be eliminated, and for kitchen island sinks.

How does an AAV work? A one-way valve that allows air into a plumbing system when there is water flow to allow drainage. Because the valve closes from internal air pressure, it seals under no-flow conditions. The valve will not open if there is positive internal pressure in the drainage system.



Installation guide lines


1. Remove the trap


2. Install the AAV with technical gasket


3. Connection with chromed pipe


4. Create the correct space to connect the trap


5. Fix the chromed cover


6. Connect the trap

Air-admittance valve
Aérateur à membrane - Válvula de aireación

DN (mm)	DN1 (mm)	Reference			Note
32	26/32	Z5803PP	1	640	For adaptors 1"÷1" ¼ / Pour adaptateurs 1"÷1" ¼ Made of PP / Corp en PP No metal parts / Pas d'éléments métalliques

Chromium-plated rosette
Rosette chromée - Plafon cromado

DN (mm)	Reference			Note
26 (32 e 40 preformed)	Z4803CR	1	810	Ideal for chromium-plated syphons Idéal pour siphons chromés

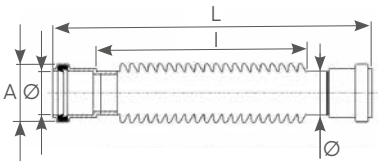
Air-admittance valve Ø40 (for sink and bathtub)
Soupape anti-vide (pour évier et baignoire)
Válvula de aireación intercalable

DN (mm)	DN1 (mm)	Reference			Note
40	40	Z5804PP	1	1.620	For adaptors 1" ½ / Pour adaptateurs 1" ½

Special Connections

"COUDIX" universal flexible sleeve (PVC)
Manchette flexible universelle (PVC)
Manguito flexible universal (PVC)

DN (mm)	Reference			l (mm)	L (mm)	A (mm)	Colour
32	COU3252	10	800	184	257	42	Ral 7037
40	COU4052	10	560	212	294	53	Ral 7037
50	COU5052	5	400	215	310	63,5	Ral 7037



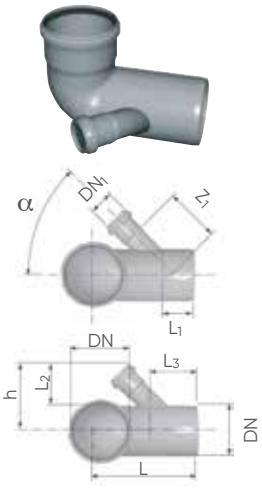
- Single piece, all **PVC made**
- Colour grey RAL 7037
- Resistant to hot temperature of household appliances and to clearing liquids
- It connects the siphon of the sanitary to the waste
- Flexibility, it can be bent beyond 180°
- By cutting off one or both the sockets with a cutter it can be used as M/F or M/M push-fit sleeve or solvent weld (use PVC glue)
- Shrinkable, suitable for maintenance and expansion joint
- Patented

Cast iron pipe adaptors (without sealing-rings)
Adaptateur pour tubes en fonte (sans joint)
Enlance mixto hierro fundido (sin junta)

DN (mm)	DN1 Cast iron	Reference			L (mm)	L1 (mm)	Material
50	72	Z6861PP*	20	1.280	140	70	PP
110	124	Z6863PP	15	480	158	83	PP

HTUG

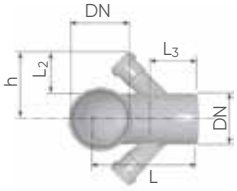
*upon request



WC bend 87°30′ 1 inlet left/right
Coude WC 87°30′ 1 entrée gauche/droite
Manguito inodoro acodado 87°30′, 1 toma auxiliar derecha/izquierda

Mod	DN1 (mm)	DN2 (mm)	Reference			L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	h (mm)	Z1 (mm)	α	Note
DX	110	40	Z2304PP*	20	160	161	66	68	87	138	88	45°	
SX	110	40	Z2340PP*	20	160	161	66	68	87	132	88	45°	
SX	110	50	Z2350PP	20	160	161	61	68	90	132	90	45°	

*upon request



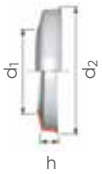
WC bend with 87°30′ 2 side-inlets
Coude WC 87°30′ avec 2 entrées latérales
Manguito inodoro acodado 87°30′, 2 tomas auxiliares

Mod	DN1 (mm)	DN2 (mm)	Reference			L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	h (mm)	Z1 (mm)	α	Note
SX-DX	110	40	Z2344PP	20	160	161	66	68	87	132	88	45°	
SX-DX	110	50	Z2355PP	20	160	161	61	68	90	132	90	45°	

WC bend with frontal inlet
Coude WC 87°30′ avec 1 entrée frontale
Manguito inodoro acodado 87°30′, 1 toma frontal

DN (mm)	DN2 (mm)	Reference			Note
110	40	Z2314PP*	20	160	

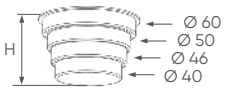
*upon request

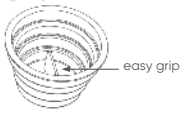


Rosette
Rosace - Plafón

d1 (mm)	d2 (mm)	Reference			h (mm)	Colour
90	-	0480903	20	1.620	-	Withe
100	137	0481003*	20	1.620	30	White
110	162	0481103	50	1.200	35	White

*upon request



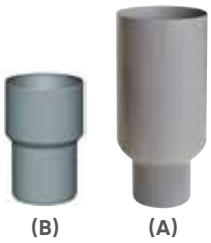


Multi-size technical plug
Bouchon technique multiple - Tapa protectora

DN (mm)	Reference			H (mm)	Colour	Material
40-46-50-60	0TAMUPP	1	9.600	37,5	Yellow	PP

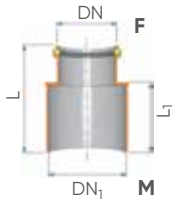
Protection plug for floor drain
Bouchon de protection pour collecteur
Tapón de protección bote sifónico

DN (mm)	Reference			Note
100	T651000	50	2.000	



Special connectors
Connecteurs spéciaux - Manguitos especiales

Mod	DF (mm)	DM (mm)	Reference			Note
B	100	90	1790902	1	840	
A	125	100	1791102	6	-	
A	125	110	1792202	1	100	
A	140	110	1795502	8	-	
A	160	110	1797702	6	60	
A	160	125	1798802	6	60	



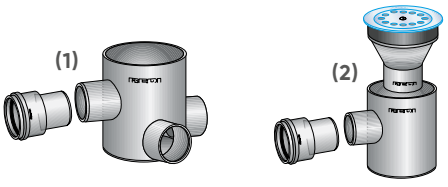
PVC-PP Adaptors / Invert reducer
Adaptateur PVC -PP / Réduction excentrée
Enlance mixto PVC-PP / Ampliación excéntrica

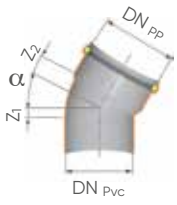
Type	DN F (mm)	DN1 M (mm)	Reference			L (mm)	L1 (mm)	Material
A	40	40	063558M	10	2.600	73	52	PVC
A	50	50	063568M	40	2.080	83	52	PVC
A	125	125	D501212	25	200	-	-	PVC
B	63	75	053075M	40	960	-	-	PVC
B	75	80	Z6868PP	20	940	190	78,5	PP
B	75	100	0503312	50	400	-	-	PVC
B	90	100	0531012	20	480	-	-	PVC
B	90	110	0531152	20	480	132	80	PVC
B	100	110	Z5331PP	15	480	123	66	PP
B	100	110	0533152	18	432	-	-	PVC
B	110	125	0513252	35	280	190	91	PVC

APPLICATION EXAMPLES

(1) 063558M + 0971042

(2) 063558M + 1961002





PP-PVC reducing bends
Coude de réduction PP-PVC - Codo reducción PP-PVC

α	DN PP (mm)	DN PVC (mm)	Reference			Z (mm)	Z1 (mm)	Material
15°	110	100	01011R2	15	360	15	15	PVC
45°	110	100	0041552	15	360	32	32	PVC
87°	110	100	07111R2	10	240	51	66	PVC

PP-PVC reducing adaptors
Adaptateur de réduction PP-PVC - Enlance reducción PP-PVC

Mod	DF (mm)	DM (mm)	Reference			Z (mm)	Z1 (mm)	L (mm)	L1 (mm)	Mat.	Note
A	75	63	0930712	15	780	-	-	-	-	PVC	O-Ring
A	80	75	0930812	20	1.040	-	-	-	-	PVC	O-Ring
A	110	90	0520952	20	480	67	10	148	90	PVC	O-Ring
A	110	100	0521152	18	432	67	10	148	90	PVC	O-Ring
A	125	100	0931212	15	360	77	18	172	102	PVC	O-Ring
A	125	110	D931112	45	360	-	-	-	-	PVC	O-Ring
B	110	100	Z6922PP	20	320	-	-	-	-	PVC	O-Ring Long

PE straight connector (with brass nut)
Connecteur en PE (avec écrou en laiton)
Enlace recto PE (con tuerca de latón)

DN (mm)	Reference			Material
40 - 1"1/4	ZP114PP	20	1.280	PE
40 - 1"1/2	ZP112PP	20	1.280	PE

PE long tail bend 87°30' (with brass nut)
Coude 87°30' longue (avec écrou en laiton)
Codo 87°30' PE (con tuerca de latón)

DN (mm)	Reference			Material
40 - 1"1/4	ZP214PP	20	1.280	PE
40 - 1"1/2	ZP212PP	20	1.280	PE

Lead / PVC-PP-PE connectors (tightening version)
Connecteur plomb / PVC-PP-PE (version à compression)
Enlance mixto plomo / PVC-PP-PE (cierre a presión)

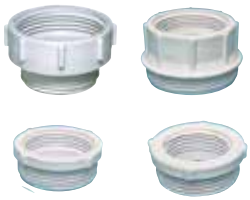
DN lead (mm)	DN PVC-PP-PE	Reference			Colour	Material
32	32	M6103FG	20	2.560	Grey	PP
35	40	M6104FG	10	2.560	White	PP

With nut and gasket *Avec écrou et joint*

Lead / PVC-PP (for tin welding)
Connecteur plomb / PVC-PP (à souder à l'étain)
Enlance mixto plomo / PVC-PP (para soldadura de estaño)

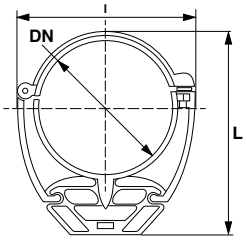
DN (mm)	Reference			Note
32	C170300	10	8.100	
40	C170400	10	2.400	
50	C180500*	10	3.240	

*upon request



Adapting nut
Écrou d'adaptation - Tuerca

Ø F x M	Reference			Note
1"1/4 x 1"1/2	M6704FG	50	8.100	Increase / *Augmentation*
1"1/2 x 1"1/4	M6733FG	25	8.100	Reducer / *Réduction*

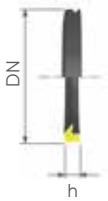


PHONOKLIP, noise-insulating support
Collier coulissant isophonique
Abrazadera acústica

DN (mm)	Reference			Filetto Ø	L (mm)	I (mm)	Note
50	PHONK50	10	-	M8	76	78	
75	PHONK75	10	-	M8	112	111	
90	PHONK90	10	-	M8	144	131	
100	PHONK10	10	-	M7	160	140	Screws M7
110	PHONK11	10	-	M8	171	150	
125	PHONK12	2	-	M10	213	170	
160	PHONK16	2	-	M10	245	213	

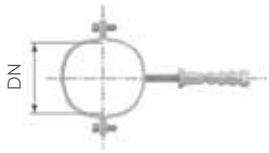
Standard noise-insulating support
Collier coulissant isophonique - Abrazadera fonoabsorbente

DN (mm)	Reference			Note
50	AV00500	2	1.800	Fixing screw included / *Vis de fixation incluse*
75	AV00700	2	720	Fixing screw included / *Vis de fixation incluse*
90	AV00900	2	720	Fixing screw included / *Vis de fixation incluse*
100	AV01000	2	720	Fixing screw included / *Vis de fixation incluse*
110	AV01100	2	720	Fixing screw included / *Vis de fixation incluse*
125	AV01200	2	720	Fixing screw included / *Vis de fixation incluse*
160	AV01600	10	360	Fixing screw included / *Vis de fixation incluse*



Lip ring
Joint à lèvre - Junta

DN (mm)	Reference			h (mm)	Note
32	7803000	1	50	6	
40	6830400	1	40.768	7,8	
50	6830500	1	29.568	7,8	
63	6800600	1	1.500	-	
75	6830700	1	13.970	7,8	
90	6800900	1	9.256	-	
100	6831000	1	7.452	-	
110	6831100	1	5.796	9,9	
125	6831200	1	3.600	10,2	
160	6831600	1	2.016	11,5	



Brackets
Colliers de fixation pour tubes - Abrazadera de tubo

DN (mm)	Ref.			Ø fixing screw	Ø anchor dim.	Note
40	ZCA40PP	50	1.800	Ø10 x 100	Ø14 x 80	Fixing screw included / *Vis de fixation incluse*
50	ZCA50PP	50	1.800	Ø10 x 100	Ø14 x 80	Fixing screw included / *Vis de fixation incluse*
75	ZCA75PP	50	1.800	Ø10 x 120	Ø14 x 80	Fixing screw included / *Vis de fixation incluse*
90	ZCA90PP	50	1.800	-	-	Fixing screw included / *Vis de fixation incluse*
110	ZCA11PP	2	1.440	Ø10 x 120	Ø14 x 80	Fixing screw included / *Vis de fixation incluse*
125	ZCA12PP	30	1.080	Ø10 x 120	Ø14 x 80	Fixing screw included / *Vis de fixation incluse*
160	ZCA16PP	10	360	Ø10 x 140	Ø14 x 80	Fixing screw included / *Vis de fixation incluse*

Fire collars (EN 1366-3 and ETAG 026-2)
Colliers coupe-feu - Manguito de protección contra incendios

DN (mm)	Reference			S (mm)	Note
40	K0096PE*	1	960	30	also suitable for Ø32
50	K0088PE*	1	960	30	
63	K0097PE*	1	960	30	
75	K0089PE*	1	960	30	
90	K0090PE*	1	960	30	
110	K0091PE	1	960	30	also suitable for Ø100
125	K0092PE*	1	960	30	
160	K0095PE*	1	940	30	

*upon request

Pipe insulation
Gaine d'isolation phonique - Funda de aislamiento acústico

DN (mm)	DN Pipe (mm)	S Thick.	Reference			Note
80	75 - 80 - 90	5	CD08500	6	12	15 meter-roll
110	100 - 110	5	CD11500	5	10	15 meter-roll
110	100 - 110	10	CD11100	5	-	15 meter-roll

Solvent cement THF free
Colle sans THF - Adhesivo sin THF

Pack. type	Content (ml)	Reference			Note
Tube	125	COLLA12	30	1.920	
Jar	250	COLLA25	36	1.269	With brush / *Avec pinceau*
Jar	500	COLLA50	24	768	With brush / *Avec pinceau*
Jar	1.000	COLLA00	12	432	With brush / *Avec pinceau*

Lubricant
Lubrifiant - Lubricante

Type	Weight (grs)	Reference			Note
Tube	150	6741500	50	1.500	
Tube	250	6742500	50	1.000	
Jar	500	6745000	12	840	
Jar	1.000	6746000	12	432	

Cleaner
Détergent - Limpiador

Type	Weight	Reference			Note
Tin	1 litre	6721100	8	384	

Chamfering tool for plastic pipes
Chanfreineur à rouleau
Achaflanadora exterior para tubos de material plástico

Ø (mm)	Reference			Note
25÷10	A080506	1	20	For 15° chamfering of PVC-PP-PE and soundproof pipes Pour chanfreinage à 15° de tubes PVC-PP-PE et acoustiques Adjustable for DN 25÷160 / Réglable pour DN 25÷160 Adjustable for thickness up to 10 mm Réglable pour épaisseurs jusqu'à 10 mm

Chamfering pipe cutter, tool box
Valise coupe-tubes chanfreineur - Maletín de corte y abocardado

Ø (mm)	Reference			Note
50-75-110	TT00100	1	20	For cutting and 15° chamfering of PVC-PP-PE end soundproof pipes / Pour coupage et chanfreinage à 15° de tubes PVC-PP-PE et acoustiques.
110-125-160	TT00200	1	-	

Adaptors for pipe cutters
Adaptateurs pour coupe-tubes
Adaptadores para cortadora de tubo de tubo

Ø (mm)	Reference			Note
100	TAD1000*	1	-	for pipe cutter Reference TT00100

*upon request

Multi-blade chamferer
Chanfreineur multi-lame - Escariador

Ø (mm)	Reference			Note
20÷50	A070506	10	810	Tempered stainless steel blades / Lames en acier inox trempé SDN: da Ø20÷Ø50 / Diamètres: Ø20÷Ø50 Both inside and outside chanfering Chamfreinage interne et externe

Conic chamferer
Chanfreineur conique - Escariador cónico

Ø (mm)	Reference			Note
32÷50	ZCS50PP	1	-	

Pipe cutting nippers
Pince coupe-tubes - Alicate corta tubos

Ø (mm)	Reference			Note
32	QA150RH*	1	32	

*upon request

Pipe cutting shears
Cisailles coupe-tubes - Tijeras corta tubos

Ø (mm)	Reference			Note
40 ÷ 63	QA160RH*	1	32	

*upon request

Ventilation AAV (Air-Admittance Valve)

REDI

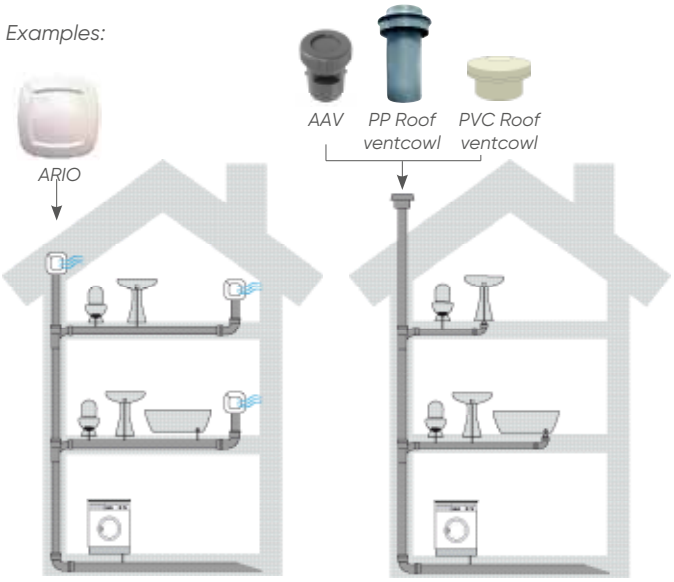
aliaxis

Ventilation System

Products for ventilation of the waste system:
- ARIO
- AAV (Air-Admittance Valve)
- Exhaling vent cowl
- Air-admittance valve for siphon bathroom/kitchen
Purposes:
- Eliminate bad smells and avoid syphons emptying
- Reduce discharge noise
- Improve drainage capacity (flow rate)
- Speed up discharge process

Norms:
EN 12056 Air-admittance valve systems
EN 12380 Air-admittance valves

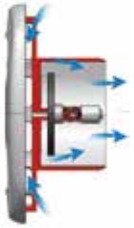
Examples:



Ario what it is and what it is used for

ARIO is an AAV, which has specific features and a revolutionary operating principle.
Thanks to a pre-loaded spring, which conveys the right pressure to the gasket seal, ARIO is able to operate regardless of its installation position. This feature makes it a unique product because it can be installed both inside and outside building.

Operating position "CLOSED": it prevents bad smells emission.

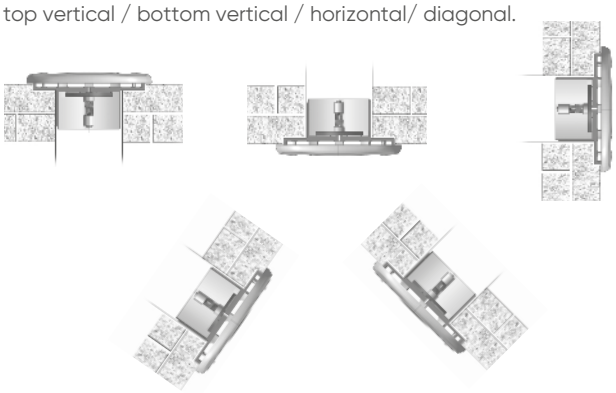


Operating position "OPEN": upon drainage, depressurization intakes air, which in turn opens the cover.

ARIO is particulary suitable for installation on concealed sanitation facilities, thanks to its design which makes it suitable to be applied in bathrooms, attics, stairwells.

The system designer has a broader flexibility of positioning and increase installation safety, thereby avoiding unexpected errors linked to pipe layout (leveling in required for other products.

Possible installation positions:
top vertical / bottom vertical / horizontal/ diagonal.



Sewage ventilation, why ad how

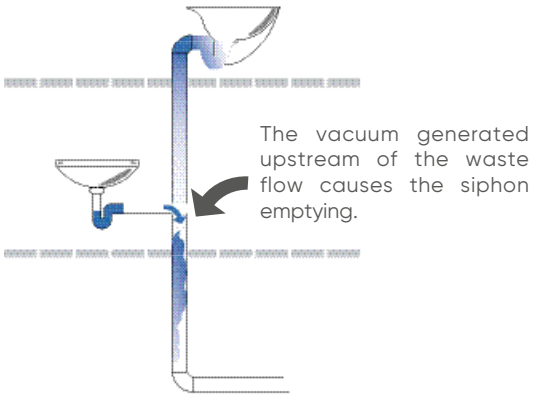
In order to impede the expulsion of pungent odor gasses from the discharge system, the use of cut-off devices known as siphons (or traps) are integrated. The hydraulic seal generate-prevents gas from escaping. There are many ways of designing a discharge system. In particular, the European standard EN 12056 describes the manner of sizing the discharge system and its relative ventilation. This standard has been implemented in Europe's main countries.
Conditions of pressurization and of depressurization come into being due to the water flow as the discharge system is operating. These pressure variations can cause problems to the traps: compression may result in trap "by-free" by the stagnant gasses, while depressurization may cause the siphon to empty (siphoning) with loss of the gas seal. Therefore, it is extremely important to compensate these effects by designing the drainage system for top efficiency, always taking ventilation into consideration. This allows drastic reduction of the pressure gradients that are generated as the system operates.System design must account both for both fluid and air flow, thus allowing these to circulate freely without acting on the siphon in undesired ways. Air intake into the discharge system can be performed by the implementation of specific devices known as ventilation chimney or ventilation valves. The use of ventilation valves allows air to enter, decreasing depressurization during discharge and that cause siphons to empty, while blocking pungent fumes from escaping.

Good design of a ventilation system allows:
- increase of discharge capacity
- reduction of noise generated during discharge
- thorough emptying of the system.

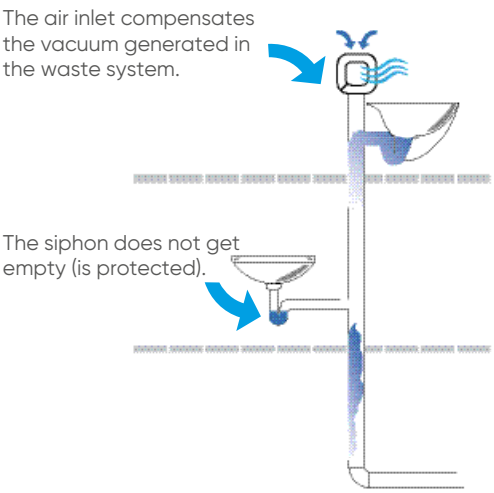
Siphoning

Siphoning is the first cause that involves emptying the traps within a building, from this point of view an effect of subordinate importance may be evaporation, that may lead to seal failure due to long periods of siphon inactivity.
The ventilation valve is a device designed to allow air intake when depressurization is generated within the system, thereby avoiding air intake by the siphons with consequential discharge.
The ARIO ventilation valve is designed to allow air intake that is suitable to the depressurization generated within the system due to the discharge flow, thus able to fully protect the siphons. As a result, this valve helps avoid the "siphoning" effect.

Without ventilation



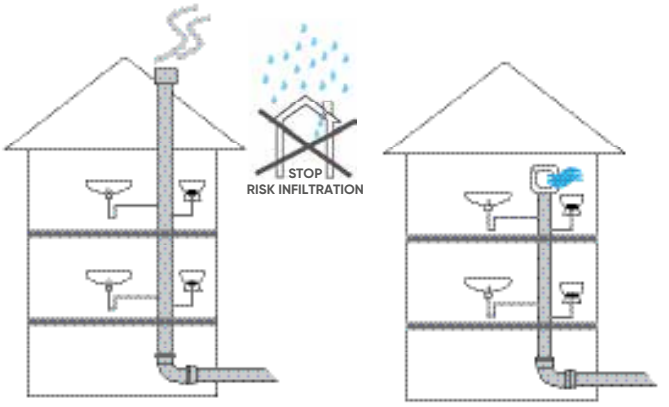
With ARIO



When installing a ventilation valve upstream of the horizontal section, the depressurization generated by discharge is compensated by air intake, thus protecting the sink siphon from the siphoning effect. Simultaneously, the valve remains closed to avoid release of foul odours after drainage. There are many applications for the device that must be considered during system design; however, the valve can be added to pre-existent systems. ARIO is designed to allow installation on both the secondary branches and on the main column.

Advantage of technology

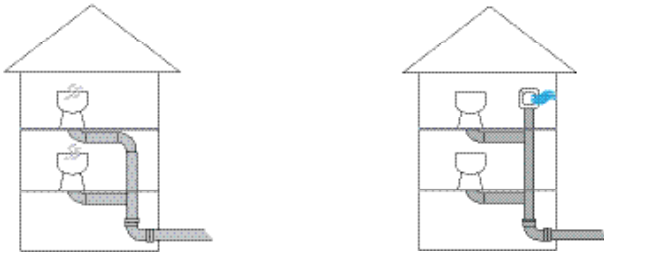
One of the most important features is that ARIO, thanks to its seal tightness, allows inside installation. An example of application may be the case in which you want to avoid freeing the ventilation column through the roof outside the roof to benefit from technical and aesthetic advantages. This does not make it necessary to enter through building tops with the consequent risk of seepage. In addition, no more external chimmneys are needed, which results in aesthetic advantage.



With ventilation chimney.

With ARIO ventilation valve.

Example of the advantages offered by this technology is the realization of ventilation for pre-existent systems. This can be achieved easily because using an ARIO valve means that no extension of the column, or of the branch at issue, is required. With the ARIO vent valve the installation can be performed inside the building in proximity of the manifold at issue. No floor free-through is necessary to reach the rooftop; and its design makes it perfect for bathroom installation.



Pre-existant system with no ventilation.

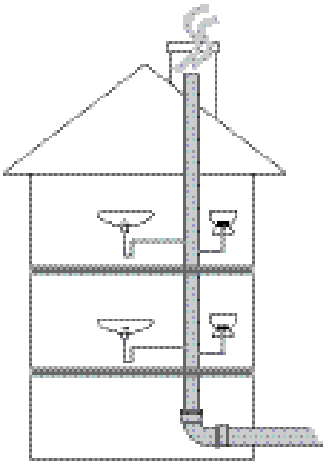
Ventilation is installed with ARIO.

This makes it possible to install the air inlet inside the building, i.e. in the stairwell of a condominium, given that there are no foul odours to expel outside. Installation is also possible in cases where we are in the proximity of an opening, such as a window, which requires compliance to air intake regulations.
The following example shows valve installation near a window, on the side of the building, with no problems of fumes. ARIO can be installed onto the building side in clear view thanks to its flat design and insensitivity to installation position. The valve comes in an array of available colors and can be painted.
Otherwise, the ventilation chimney would have to be installed on the roof.

Example of a discharge ventilation system with ARIO next to a window.

Compared Systems Solutions

Traditional way

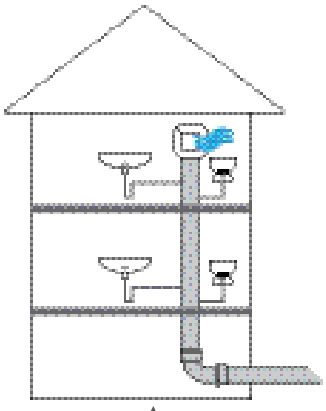


Calculation example for the construction of a chimney to allow pipes to free through the rooftop.

Drill a smoke stack hole	***€ 80,00***
Water-proofing with 4 mm. Sheath	***€ 24,00***
Copper flashing to protect hole	***€ 100,00***
Protection chimney	***€ 200,00***
Total	***€ 404,00***

The costs refer to realized installations - source data of 2011 Italy

Venting with ARIO



*When a discharge system is designed using a vent valve such as ARIO, **no additional costs** are necessary.*
For example: a valve can be installed in the attic.

Aside from avoiding a series of installation-linked complications, water seepage from the roof is no longer a problem.

Technical Application

Below are represented a series of system layouts suitable to different system needs and typologies. The purpose is to outline several possible applications, not all those obtainable. Sizing must be executed in compliance with the reference regulations and local laws. An international standard accepted throughout Europe is EN 12056 that provides indications on discharge system sizing.

Diagram 1

Pressure regulation in the discharge column can be achieved by means of a venting channel; alternatively, a ventilation valve may be installed.

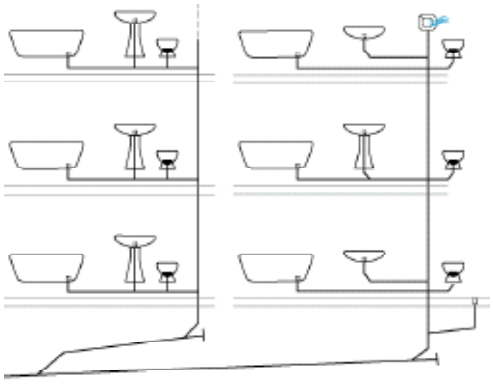


Diagram 2

Pressure control in the discharge branch can be achieved by means of a ventilation valve.

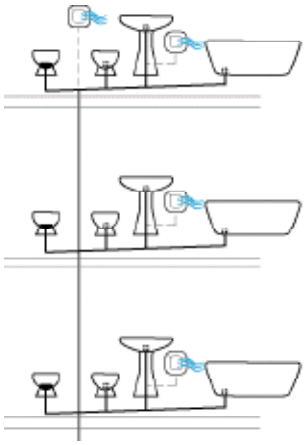


Diagram 3

Different ways of installing a ventilation systems.
The use of a ventilation valve greatly simplifies the installation scheme, thus avoiding rooftop free-through while keeping the same efficiency.

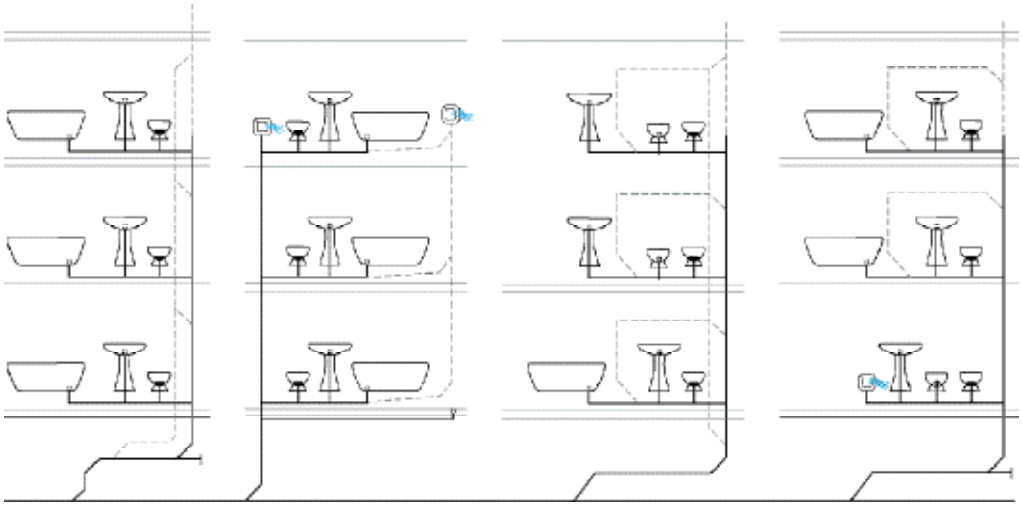
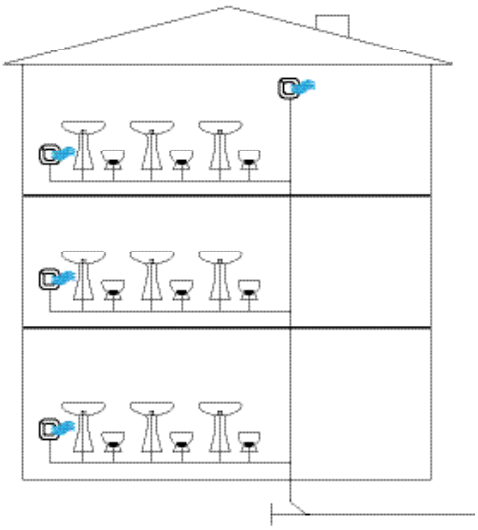


Diagram 4

ARIO vent can be considered as an effective solution for the ventilation of sequentially-installed systems (i.e. in tower buildings such as offices, schools, barracks) in a column of non-direct auxiliary ventilation. The system proves to be much simplified this way.



CE Marking

Ario CE 10

Air-admittance valves for drainage systems

EN 12380

Specifications:

- Name: **A II**
- Air flow capacity: **14 l/s**
- Air seal tested at: **10 KPa**
- Range of operating temperature: **from 0°C to 60°C**
- Subzero temperature performance: **NPD**

ISTITUTO GIORDANO

ABRIDGED TEST REPORT No. 278540
(Refers to test report No. 275298
issued by Istituto Giordano S.p.A. on 03/11/2010)

Place and date of issue: Bellaria-Igea Marina - Italy, 01/02/2011
Customer: REDI S.p.A. - Via Madonna Dei Prati, 5/A - 40069 ZOLA PREDOSA (BO) - Italy
Date test requested: 25/06/2010
Order number and date: 49608, 29/06/2010
Date sample received: 11/10/2010
Test date: from 18/10/2010 to 28/10/2010
Purpose of test: Testing air admittance valves for drainage systems in accordance with standard UNI EN 12380:2004
Test site: Istituto Giordano S.p.A. - Blocco 1 - Via Rossini, 2 - 47814 Bellaria-Igea Marina (RN) - Italy
Sample origin: sampled and supplied by the Customer
Identification of sample received: No. 2010/2239

Sample name*
The test sample is called "ARIO".

Test result
On the basis of the results obtained, the air admittance valve for drainage systems designated as A II and DN 75, identified as sample A, **meets the requirements** of the following tests specified under subclauses 6.3.2 j (Airtightness at 10000 Pa) and 6.5 (Opening characteristic and airflow capacity test) of standard UNI EN 12380:2004. The value obtained for airflow capacity is 48,9 m³/h or 13,6 l/s.

As regards the description of the specimen, normative references, test methods, test equipment, test results and everything else necessary for the identification of the work carried out, please see Test Report No. 275298 issued by Istituto Giordano on 03/11/2010.

(*) according to that stated by the Customer.

Test Technician (Dott. Ing. Emanuele Perlo) — Head of Applied Physics Laboratory (Dott. Ing. Vincenzo Iommi) — Managing Director L'AMMINISTRATORE DELEGATO Dott. Ing. Vincenzo Iommi

CLAUSOLE:

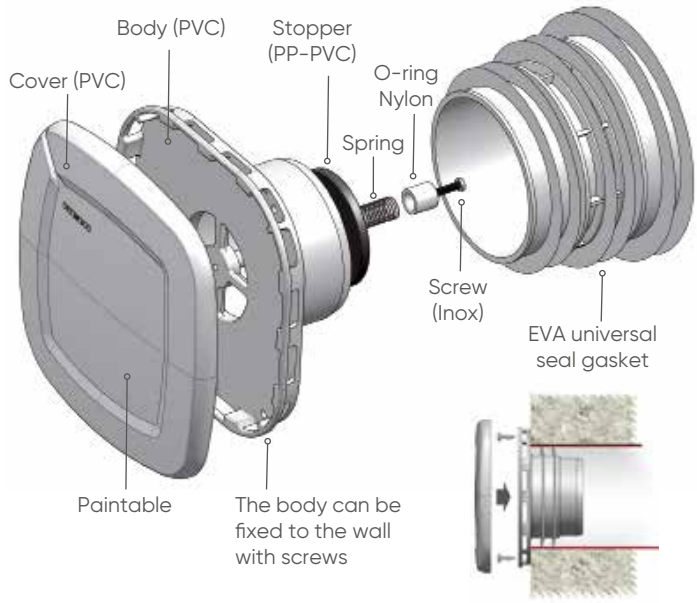
Corrp. AV Revis. | This abridged report consists of 1 sheet. This document is the English translation of the abridged report no. 278540 dated 01/02/2011 issued in Italian. Date of translation: 03/02/2011 | Sheet 1 of 1

Certificate "ISTITUTO GIORDANO"

The certificates shown on this catalogue may be subject to revisions.
Updated certificates for each product are available on website www.redi.it

Technical Specifications

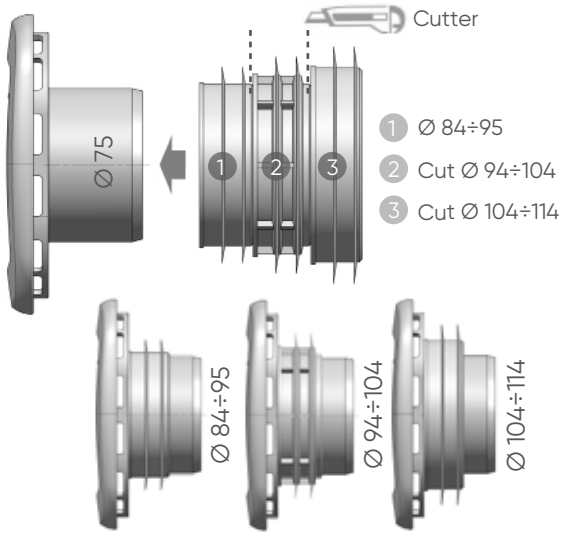
The outside cover of ARIO can be removed when needed, to either allow verification of the proper operating conditions of the sealing disc, or look for any obstructions. This disc can be removed from its seat for further inspection.



ARIO is designed to be installed through coupling.
The valve can be directly inserted when dealing with Ø75 pipes (glue to a PVC) pipe.
A special gasket is designed to allow fitting to a wide range of diameters – from Ø75 to Ø114.

The gasket is made of highly resistant EVA material and its shape makes it suitable to be trimmed to the desired diameter.

Assembling of the universal gasket (EVA)



Ario

AAV - primary ventilation (universal, diameter range: Ø75 ÷ Ø114)

Soupape anti-vide (Ø75 ÷ Ø114)

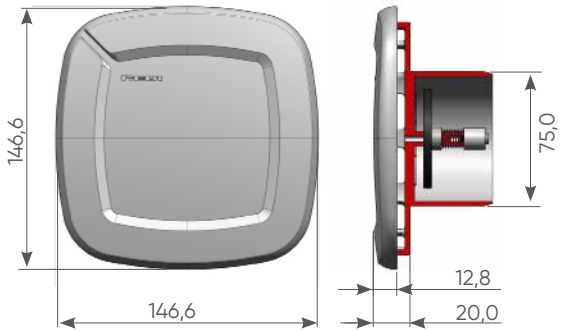
Válvula de aireación (diámetro universal rango: Ø75 ÷ Ø114)

Dim. (mm)	Reference			Type	Note
146,6 x 146,6	169000W	1	306	White	universal gasket included
146,6 x 146,6	1690007	1	306	Dark brown	universal gasket included

Available in single package, also including universal gasket
Adaptor required: Ø84÷95; Ø94÷104; Ø104÷110
For the kitchen, Ø75 can be directly inserted.

Dark brown

Universal, diameter range:
Ø 75 ÷ Ø 114

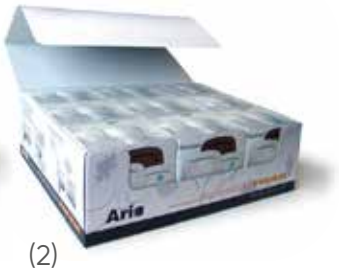


EN 12380 CE 10

- Description: **A II**
- Airflow rate: **14 l/s**
- Air tightness tested at: **10 KPa**
- Temperature range: **0°C at 60°C**
- Effectiveness at low temperature (below zero): **NPD**

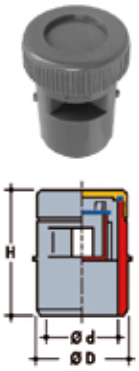
Packaging: display box (9 piece-box)

(1)



(2)

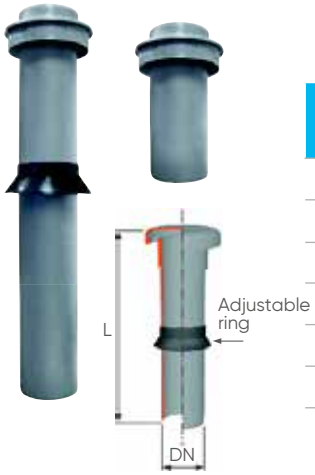
(3)



PVC Air-admittance valve (AAV)

Clapet à membrane en PVC - Aireador de membrana en PVC

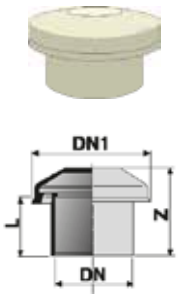
DN M - F	H (mm)	Reference			Note
40 - 32	68	WAM430M	1	2.880	
63 - 50	84	WAM650M	1	240	
80 - 75	87	WAM870M	1	1.040	
110 - 100	132	WAM110M	1	480	



PP Ventpipe

Cheminée de ventilation de colonne en PP
Sombrerete de ventilación PP

DN M - F	Reference			L (mm)	Note
50	Z7950PP	10	180	800	long version
75	Z7975PP	5	120	800	long version
110	Z7911PP	5	45	800	long version
50	Z8050PP	20	320	280	short version
110	Z8011PP	10	120	280	short version



PVC Roof ventcowl

Chapeau de ventilation en PVC - Sombrerete de ventilación PVC

DN (mm)	DN1 (mm)	Reference						L1 (mm)	Z (mm)
		Ivory RAL 1013	Orange RAL 2003	Brown RAL 8017	Grey RAL 7035				
50	137	1690503	-	-	1690502	5	900	36	120
63	137	1690603	-	-	1690602	5	850	38	64
75	-	-	-	-	1690702	20	700	-	-
80	137	1690803	-	1690807	-	-	-	46	69
82	-	1698203	-	-	-	5	500	-	-
100	162	1691003	1691009	1691007	1691002	15	360	56	84
110	178	1691103	-	-	-	10	300	61	89
125	162	1691203	-	-	-	10	300	60	165

Ventilation
Professional solution for ventilation

REDI

aliaxis

The New Air System

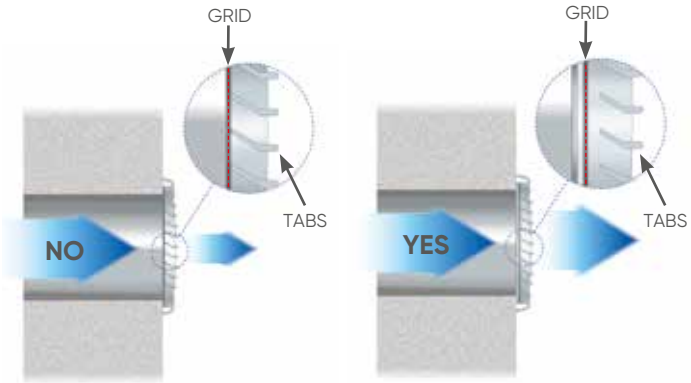
Grill with removable winged insert
All ventilation grills consist of two different parts: one is perimetrical and the other one is central (with wings) and removable in order to remove easily mosquito mesh. You have to check at least once time per year to inspect the pipe.

Round built-in grills
To remove the grill it is sufficient to rotate anticlockwise holding the wings and extracting.

Round push–in grills - PATENTED
To remove the grill it is sufficient to rotate anticlockwise holding the wings and extracting.

Square push–in grills - PATENTED
To remove the grill to insert the screwdriver in the special slit and to extract it without forcing.

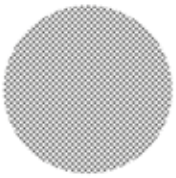
The grills have the same air flow with or without the mosquito mesh
Grills with fly mesh always permit the same air flow of the one without fly mesh. That's possible because uses a 70% open section grid that warrants an air flow always superior to the one it is linked to.
The final air flow is not reduced. Because the grid is distanced from the wings. Therefore we can affirm that all ventilation grills have the same air flow.



30° Inclined tabs
The wings of the grill have 30° inclination in order to permit the maximum air flow and to be rain proof.

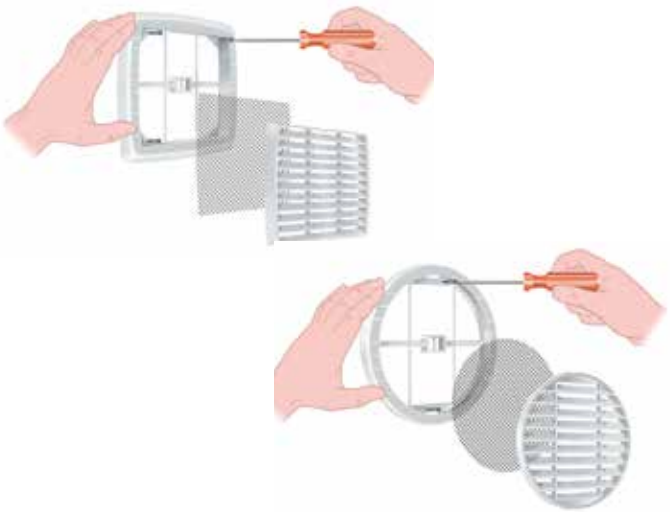
Materials and colours
Grills are made with:
- **ABS** shock resistant with additive anti UV in order to guarantee a greater resistance to sun rays.
- **Colours:** White, Copper
- **PVC** the structure and the materials are particularly resistant and it permits the use of grills in places subject to shocks.
- **Colours:** Grey, Brown

Aluminium mosquito mesh with 70% open section
In grills uses aluminium insect proof grid with 70% open section, in order to permit a high air flow, superior to the one of the grill. The mosquito mesh is not electrostatic; which means it doesn't attract dust, unlike the plastic ones that favour obstruction.



Design - Models - Dimensions - PATENTED MODELS
The round shape grills has been projected to differentiate the product and to confer to the structure a greater shock resistance.
The range of products and their dimensions have been examined to meet all customer's requirements.

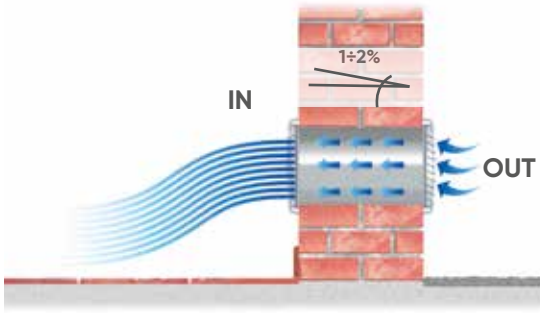
Screw fixing
All grills can be fixed with screws. Inside the perimetrical side of the grill there are some holes that can be seen only taking off the winged part.
In this case the spring support must be removed.



Spring fixing - PATENTED

For a quick installation, grills have a carriage spring fixed to a foldable support that blocks during the period of use. This kind of spring permit to apply the grill to pipes or holes with different diameters.
When the hole is too close to the floor or to the ceiling, and is not installed in central axe with the grill, only one part of the spring can bend compensating the offset.

Example of installation



Silicone fixing

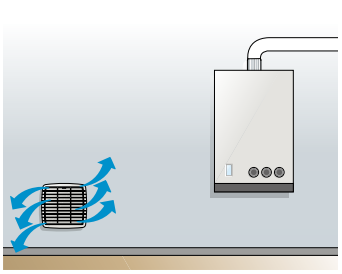
For permanent fixing or water insulation, you can seal the exterior edge of the grill with silicone without compromising the possibility of extracting the winged part and the grid.

Technical characteristics

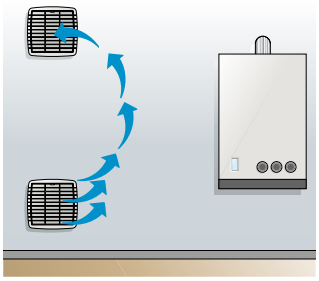
Proprietà	Test	Size	Result
Mechanical characteristics:			
Shock resistance IZOD with 3,2 mm cut	ISO R180/4A	j/m	190-250
Thermic characteristics:			
Vicat softening temperature	ISO 306/A 120 (10N)	°C	106-108
	ISO 306/B 120 (50N)	°C	98-100
HDT deflection temperature	ISO 75 1,82 N/mm²	°C	98-100
	ISO 75 0,45 N/mm²	°C	102-104
Thermal linear expansion coefficient	DIN 53752	10^{-4}/K	0,8-1,1
Flaming:	IEC 695 2-1	°C	650

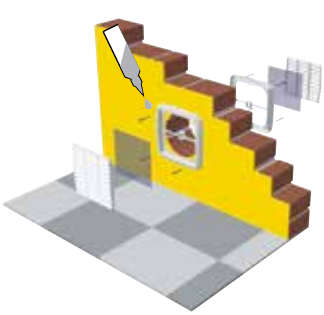
How to clean

Ventilation



Aeration





Guidelines

VENTILATION
(without presence of gas devices)

Air flow min. cm² 120

UNI CIG 7129/92

Free air cm² 14
Built-in round grilles Ø 63

Free air cm² 25
Built-in round grilles Ø 80

Free air cm² 47
Round push-in vents Ø 135

Free air cm² 42
Built-in round grilles Ø 100

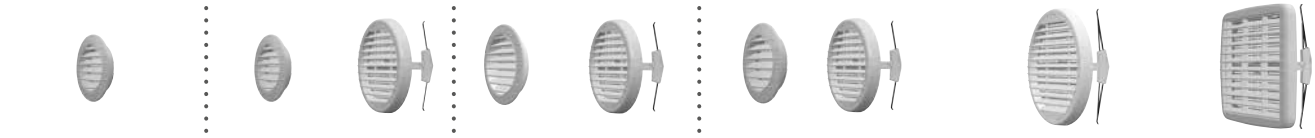
Free air cm² 60
Round push-in vents Ø 135

Free air cm² 64
Built-in round grilles Ø 125

Free air cm² 60
Round push-in vents Ø 135

Free air cm² 100
Round push-in vents Ø 160

Free air cm² 115
Square push-in vents ⊡ 175



PIPE Ø 63 Free air cm² 28
Ø 63

PIPE Ø 80 Free air cm² 47
Ø 80

PIPE Ø 100 Free air cm² 73
Ø 100

PIPE Ø 125 Free air cm² 115
Ø 125

Air flow cm² 120

Free air cm² 100

Round push-in vents
Ø 160

Free air cm² 130

Round push-in vents
Ø 186

Free air cm² 130

Square push-in vents
□ 175

PIPE
Ø 140
Free air
cm² 144

Ø 140

Air flow cm² 120

Free air cm² 130

Round push-in vents
Ø 186

Free air cm² 130

Square push-in vents
□ 175

Air flow cm² 180

Free air cm² 188

Square push-in vents
□ 210

Free air cm² 188

Rectangular surface
mounted vents
□175x270

PIPE
Ø 160
Free air
cm² 188

Ø 160

Air flow cm² 200

Free air cm² 210

Round push-in vents
Ø 230

Free air cm² 200

Square push-in vents
□ 210

PIPE
Ø 200
Free air
cm² 294

Ø 200

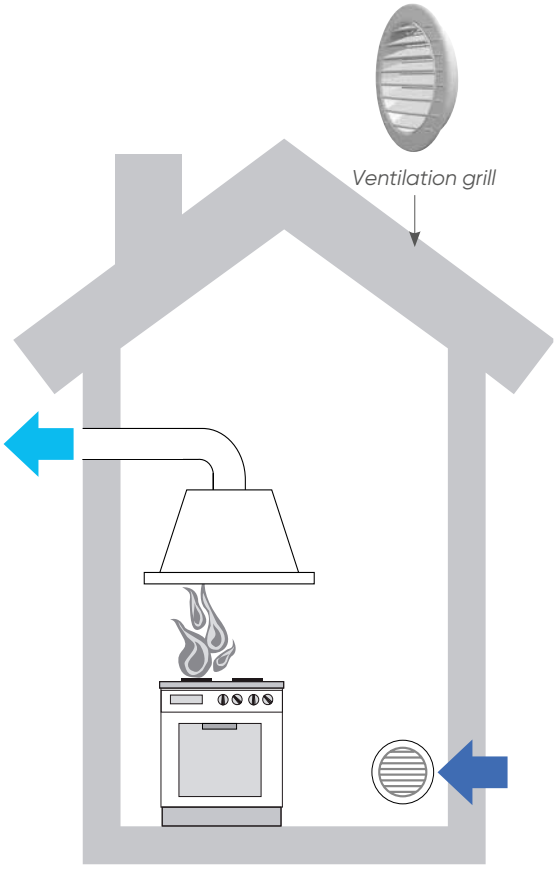
Guidelines

AIR SYSTEM:

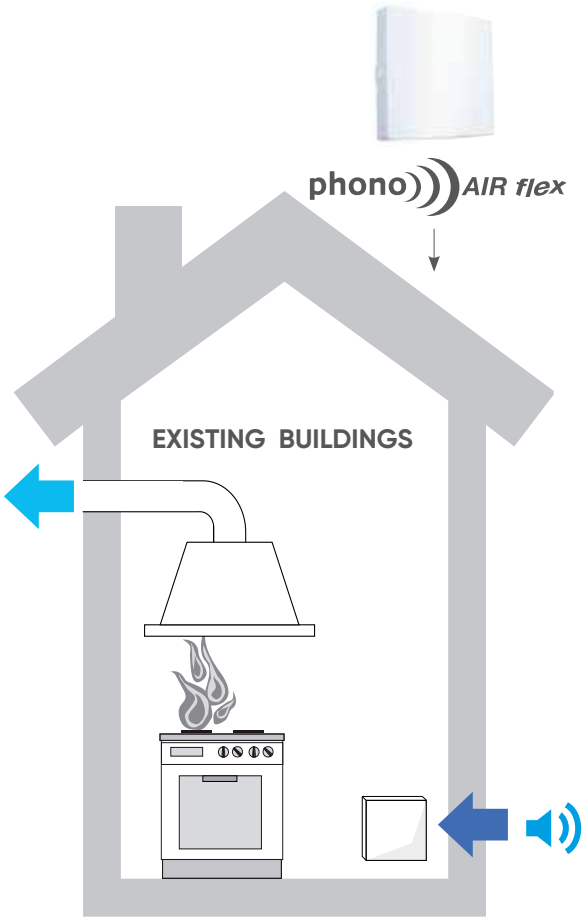
- Acoustic ventilation solution
- Ventilation grills

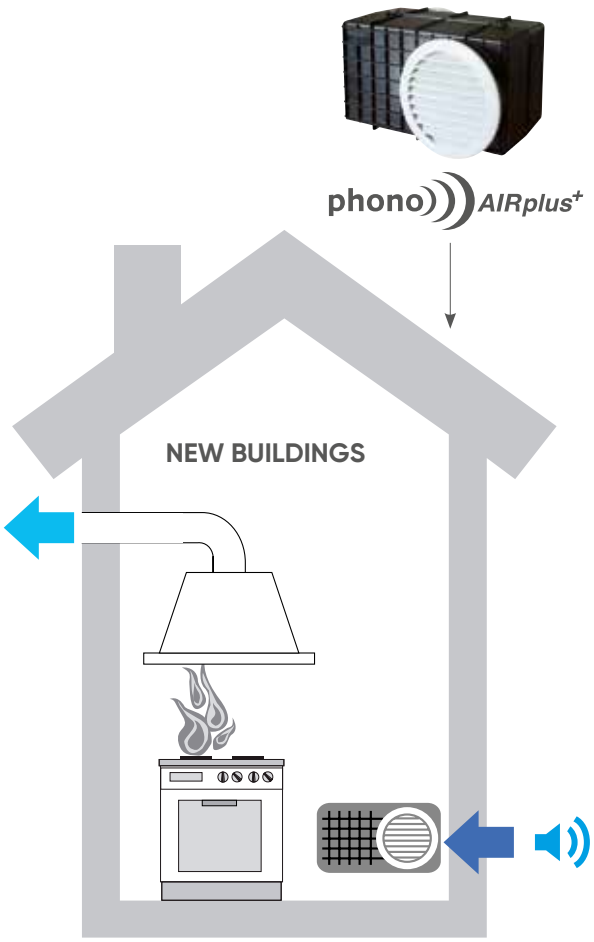
Functions:

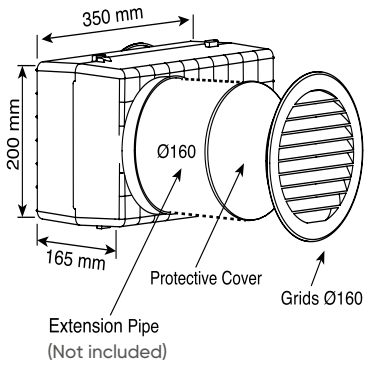
- Allow change of ambient air.
- Compling with the safety norms related to kitchens or boiler rooms.
- Compling with the norms related to ambient noise limit.



Acoustic solution for ventilations







Air Flow
100 cm²

-47 dB

phono AIRplus+

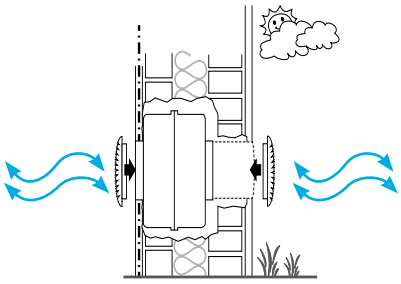
Sound-proof air kit

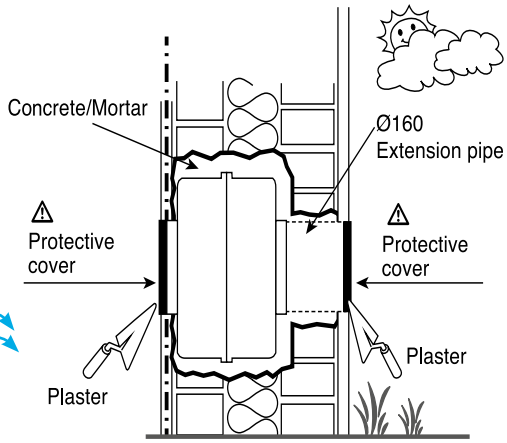
Echangeur d'air avec abattement acoustique
Intercambiador de aire con reducción acústica

Dim (mm)	Reference			Colour
350x200x165	1PA1608	1	48	Black

Included in the package:
- 2 pcs. grids Ø160 with mesh (inspectable)
- Protective cover
- Extension pipe not included

Advantages:
- Compact (10,8 LT)
- Reinforced box
- No maintenance





-42 dB

EUSTACHIO 160

Eustachio 160

Ø (mm)	L (mm)	Reference			Note
150	288	EPA0603	1	1.296	Colour white

Air flow 100 cm²

Inserted in the ventilation pipe Ø160

Ideal for renovation projects in existing buildings.

N.B.: Built-in round grille Ø160 not included

phono AIR flex

Acoustic ventilation grill

Grille de ventilation acoustique - Rejilla de ventilación acústica

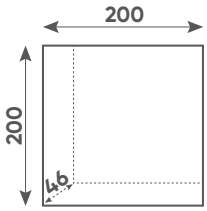
Dim (mm)	Reference			Colour	Note
200x200	EPAGF03*	1	240	White	Multidiameter Ø: 80-100-125-140 mm Supplied with screws and gasket

*upon request

Spare parts: screw

Reference			Note
EKVGF00*	30	–	

*upon request



Multidiameter 80 ÷ 140 mm

Air Flow 100 cm²

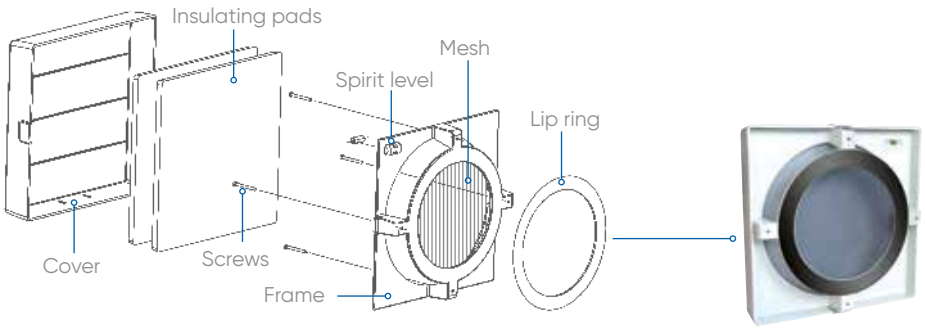
-32 dB

Technical features:

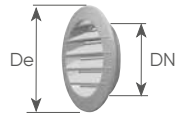
- Made of ABS (UV resistant)
- Air flow: 100 cm² (UNI CIG GAS)
- Certified acoustic performance: -32 dB
- Double density noise insulation
- Aluminium net (anti insects and dust)
- Multi diameter: (80, 100, 125, 140 mm)
- Suitable for indoor and outdoor installations
- Integrated spirit level to the right installation
- Screws included

Bathrooms & rooms with boilers

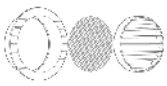
Kitchens



Installation sequence:



AIR FLOW: **14 cm²**



Easy inspection

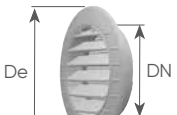
Built-in round grille Ø63

Grille ronde à sceller Ø63 - Rejilla empotrable Ø63

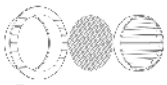
DN (mm)	De (mm)	Colour	Reference			Note
63	80	White	E06TI05	10	2.400	With removable mosquito mesh

Thermo shrinking

DN (mm)	De (mm)	Colour	Reference			Note
63	80	White	E06TIG5	10	2.160	With removable mosquito mesh



AIR FLOW: **25 cm²**



Easy inspection

Built-in round grille Ø80

Grille ronde à sceller Ø80 - Rejilla empotrable Ø80

DN (mm)	De (mm)	Colour	Reference			Note
80	100	White	E08TI05	10	2.400	With removable mosquito mesh

Thermo shrinking

DN (mm)	De (mm)	Colour	Reference			Note
80	100	White	E08TIG5	10	2.400	With removable mosquito mesh

AIR FLOW: **42 cm²**

Easy inspection

Built-in round grille Ø100

Grille ronde à sceller Ø100 - Rejilla empotrable Ø100

DN (mm)	De (mm)	Colour	Reference			Note
100	120	White	E10TI05	10	1.440	With removable mosquito mesh
100	120	Copper	E10TI0R*	10	1.440	With removable mosquito mesh

*upon request

Thermo shrinking

DN (mm)	De (mm)	Colour	Reference			Note
100	120	White	E10TIG5	10	1.440	With removable mosquito mesh

AIR FLOW: **64cm²**

Easy inspection

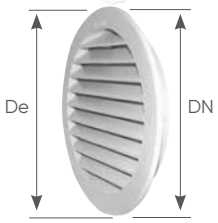
Built-in round grille Ø125

Grille ronde à sceller Ø125 - Rejilla empotrable Ø125

DN (mm)	De (mm)	Colour	Reference			Note
125	140	White	E12TI05	5	960	With removable mosquito mesh

Thermo shrinking

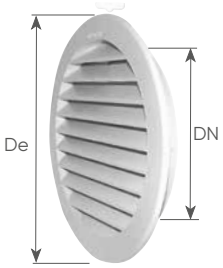
DN (mm)	De (mm)	Colour	Reference			Note
125	140	White	E12TIG5	1	960	With removable mosquito mesh



AIR FLOW: **120 cm²**

Built-in round grille Ø160
Grille ronde à sceller Ø160 - Rejilla empotrable Ø160

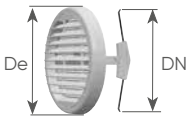
DN (mm)	De (mm)	Colour	Reference			Note
156	190	White	V16TI05	5	600	



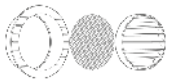
AIR FLOW: **132 cm²**

Built-in round grille Ø200
Grille ronde à sceller Ø200 - Rejilla empotrable Ø200

DN (mm)	De (mm)	Colour	Reference			Note
200	238	White	V20TI05	3	-	



AIR FLOW: **60 cm²**



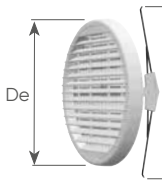
Easy inspection

Round push-in vent Ø135 (type 100)
Grille ronde avec ressort de fixation Ø135
Rejilla circular conexión a presión Ø135

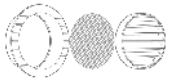
De (mm)	DN (pipe)	Colour	Reference			Note
135	63-125	White	E13TU05	5	1.200	With removable mosquito mesh
135	63-125	Copper	E13TU0R	5	1.200	With removable mosquito mesh

Thermo shrinking

De (mm)	DN (pipe)	Colour	Reference			Note
135	63-125	White	E13TUG5	5	1.200	With removable mosquito mesh
135	63-125	Copper	E13TUGR	5	1.200	With removable mosquito mesh



AIR FLOW: **100 cm²**



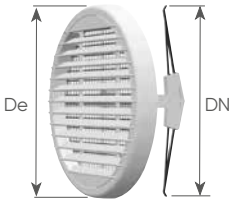
Easy inspection

Round push-in vent Ø160 (type 125)
Grille ronde avec ressort de fixation Ø160
Rejilla circular conexión a presión Ø160

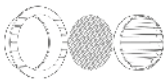
De (mm)	DN (pipe)	Colour	Reference			Note
160	80-140	White	E16TU05	5	600	With removable mosquito mesh
160	80-140	Copper	E16TU0R	5	600	With removable mosquito mesh

Thermo shrinking

De (mm)	DN (pipe)	Colour	Reference			Note
160	80-140	White	E16TUG5	5	720	With removable mosquito mesh



AIR FLOW: **130 cm²**



Easy inspection

Round push-in vent Ø186 (type 160)

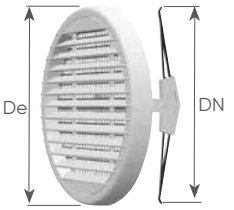
Grille ronde avec ressort de fixation Ø186

Rejilla circular conexión a presión Ø186

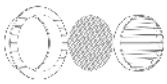
De (mm)	DN (pipe)	Colour	Reference			Note
186	100-160	White	E18TU05	5	600	With removable mosquito mesh
186	100-160	Copper	E18TU0R	5	600	With removable mosquito mesh

Thermo shrinking

De (mm)	DN (pipe)	Colour	Reference			Note
186	100-160	White	E18TUG5	5	720	With removable mosquito mesh



AIR FLOW: **210 cm²**



Easy inspection

Round push-in vent Ø230 (type 200)

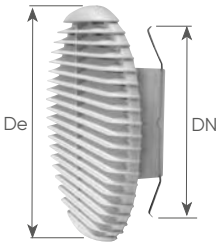
Grille ronde avec ressort de fixation Ø230

Rejilla circular conexión a presión Ø230

De (mm)	DN (pipe)	Colour	Reference			Note
230	100-200	White	E23TU05	3	288	With removable mosquito mesh

Thermo shrinking

De (mm)	DN (pipe)	Colour	Reference			Note
230	100-200	White	E23TUG5	3	240	With removable mosquito mesh
230	100-200	Copper	E23TUGR	3	240	With removable mosquito mesh



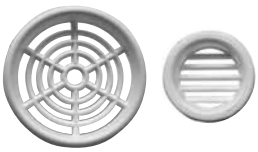
AIR FLOW: **300 cm²**

Round push-in vent Ø260 (type 250)

Grille ronde avec ressort de fixation Ø260

Rejilla circular conexión a presión Ø260

De (mm)	DN (pipe)	Colour	Reference			Note
260	160-250	White	E26TU05	2	348	

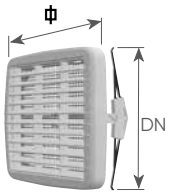


Built-in air vent Ø32 - 60 (without mosquito mesh)

Grille ronde pour caissons de volet roulant (sans moustiquaire)

Rejilla de ventilacion empotrable (sin mosquitera)

De (mm)	DN (pipe)	Colour	Reference			Note
32	39	White	VAE3205	100	–	



AIR FLOW: **130 cm²**

Easy inspection

Square push-in vent 175x175

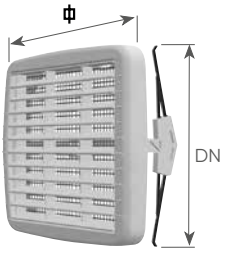
Grille carrée avec ressort de fixation 175x175

Rejilla cuadrada conexión a presión 175x175

⌀ (mm)	DN (pipe)	Colour	Reference			Note
175	100-160	White	E17QU05	5	600	With removable mosquito mesh

Thermo shrinking

⌀ (mm)	DN (pipe)	Colour	Reference			Note
175	100-160	White	E17QUG5	5	600	With removable mosquito mesh



AIR FLOW: **200 cm²**

Easy inspection

Square push-in vent 210x210

Grille carrée avec ressort de fixation 210x210

Rejilla cuadrada enchufe rápido 210x210

⌀ (mm)	DN (pipe)	Colour	Reference			Note
210	125-200	White	E21QU05	3	288	With removable mosquito mesh

Thermo shrinking

⌀ (mm)	DN (pipe)	Colour	Reference			Note
210	125-200	White	E21QUG5	3	288	With removable mosquito mesh

AIR FLOW: **130 cm²**

Easy inspection

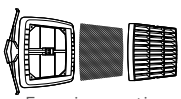
Square surface mounted vent 175x175

Grille carrée à visser 175x175

Rejilla cuadrada montaje en superficie 175x175

⌀ (mm)	DN (pipe)	Colour	Reference			Note
175	160	White	E18QS05	5	600	With removable mosquito mesh

AIR FLOW: **200 cm²**



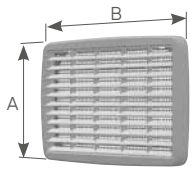
Easy inspection

Square surface mounted vent 210x210

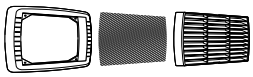
Grille carrée à visser 210x210

Rejilla cuadrada montaje en superficie 210x210

⌀ (mm)	DN (pipe)	Colour	Reference			Note
210	200	White	E22QS05	3	432	With removable mosquito mesh



AIR FLOW: **200 cm²**



Easy inspection

Rectangular surface mounted vents 175x270
Grille rectangulaire à visser 175x270
Rejilla rectangular montaje en superficie 175x270

AxB (mm)	Colour	Reference			Note
175x270	White	E172705*	2	384	ABS
175x270	Copper	E17270R	2	384	ABS

*upon request

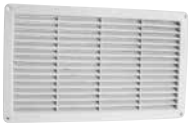
Ø160

Ø125

AIR FLOW: **170 cm²**

Rectangular built-in vents
Grille rectangulaire à visser - Rejilla rectangular para atornillar

Dim (mm)	Dim Carving	Colour	Reference			Note
370x123	335x95	White	V371205	6	1800	



AIR FLOW: **280 cm²**

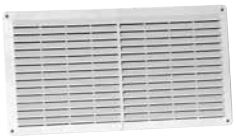
Rectangular built-in vents
Grille rectangulaire à visser - Rejilla rectangular para atornillar

Dim (mm)	Dim Carving	Colour	Reference			Note
370 x 223	335 x185	White	V372205	5	40	

AIR FLOW: **630 cm²**

Rectangular built-in vents
Grille rectangulaire à visser - Rejilla rectangular para atornillar

Dim (mm)	Colour	Reference			Note
230x630	White	VGR6305	4	-	



AIR FLOW: **300 cm²**

Rectangular built-in vents
Grille rectangulaire à visser - Rejilla rectangular para atornillar

Dim (mm)	Colour	Reference			Note
230x430	White	VGR4305	4	256	

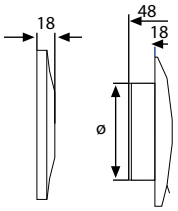
Square grill with adjustable air flow

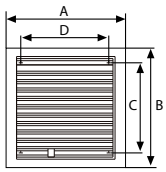
Grille carrée à fermeture règlable - Rejilla cuadrada con apertura regulable

AxB (mm)	CxD (mm)	Ø (mm)	Colour	Reference			Note
150x150	97x100	-	White	EGQ5005	1	1.360	Surface mounted
190x190	131x131	-	White	EGQ9005*	1	780	Surface mounted

*upon request

Built-in Surface mounted

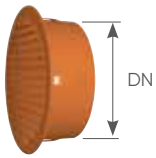




Round built-in grill with mosquito net (copper)

Grille ronde à sceller avec moustiquaire (cuivre)

Rejilla empotrable circular con filtro anti-mosquitos (cobre)



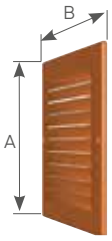
DN (mm)	Free Air	Reference			Note
80	24,5	GTI08RA	24	3.168	
100	70	GTI10RA	1	480	
120	84	GTI12RA	24	480	
140	98	GTI14RA*	24	480	
150	98	GTI15RA*	24	1.080	
160	98	GTI16RA	24	576	
200	140	GTI20RA*	12	240	

*upon request

Rectangular and square grill with mosquito net (copper)

Grille carrée à visser avec moustiquaire (cuivre)

Rejilla rectangular y cuadrada con filtro anti-mosquitos (cobre)

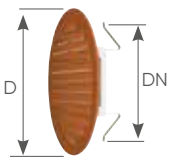


AxB (mm)	Free Air	Reference			Note
140x140	70	GRS14RA	1	1.000	
140x250	101,5	GRS25RA	1	1.000	
140x350	150,5	GRS35RA	1	500	
230x230	193	GRS23RA	1	400	

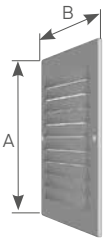
Round push-in grill with mosquito net (copper)

Grille ronde avec ressort de fixation et moustiquaire (cuivre)

Rejilla circular conexión a presión con filtro anti-mosquitos (cobre)

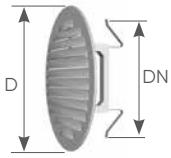


D (mm)	DN Min	Pipe	Free Air	Reference			Note
135	80	125	70	GTM13RA	1	-	
175	125	160	98	GTM17RA	1	500	
230	160	200	140	GTM23RA	20	900	



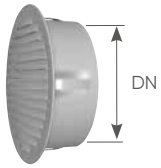
Rectangular and square grill with mosquito net (aluminium)
Grille carrée à visser avec moustiquaire (aluminium)
Rejilla rectangular y cuadrada con filtro anti-mosquitos (aluminio)

AxB (mm)	Free Air	Reference			Note
140x140	70	GRS40AL	1	1000	
140x250	101,5	GRS45AL	25	1000	
140x350	150,5	GRS50AL	25	500	
230x230	193	GRS55AL	1	400	



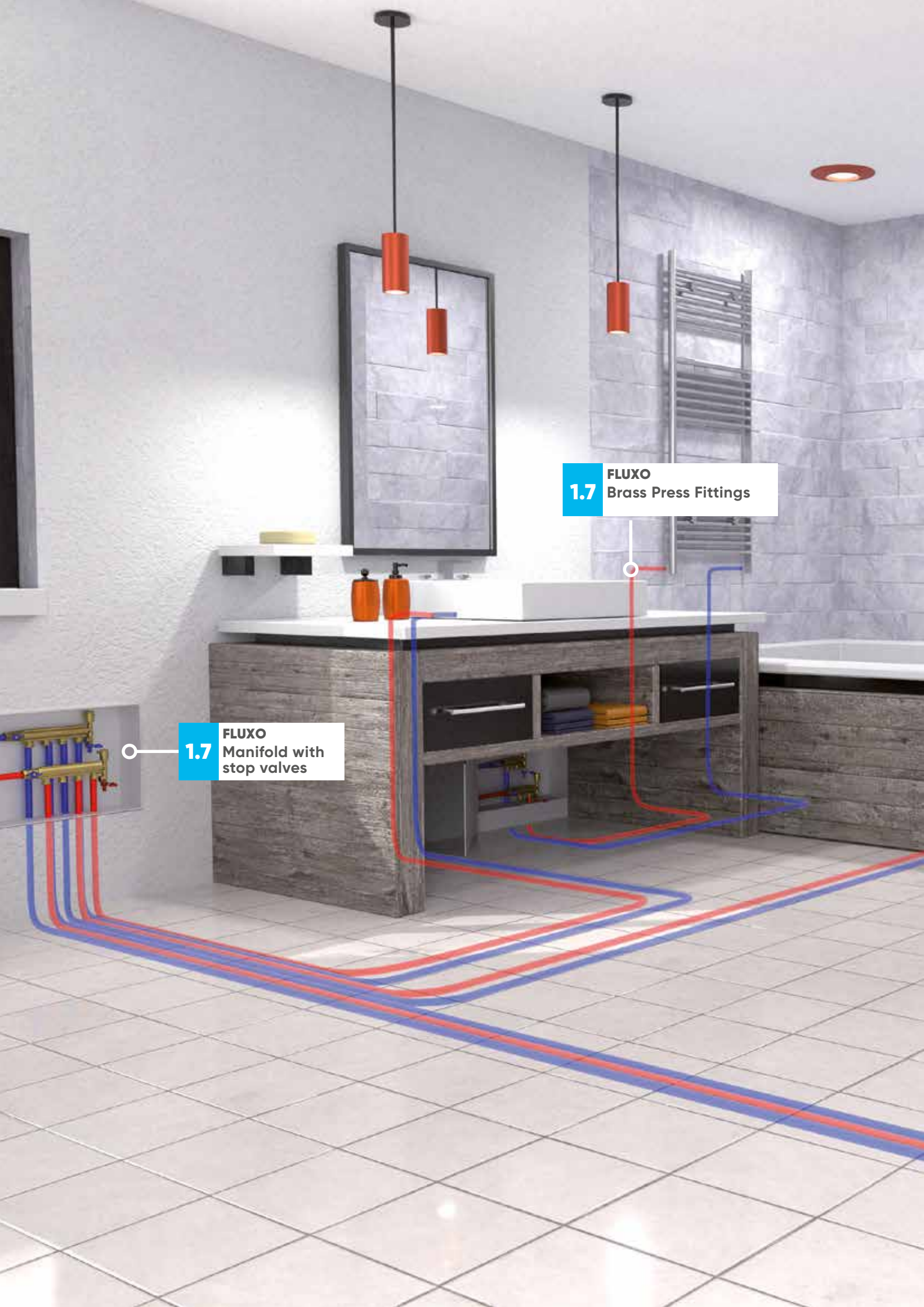
Round push-in grill with mosquito net (aluminium)
Grille ronde avec ressort de fixation et moustiquaire (aluminium)
Rejilla circular enchufe rapido con filtro anti-mosquitos (aluminio)

D (mm)	DN Min	Pipe Max	Free Air	Reference			Note
135	80	125	70	GTM30AL	25	500	
175	125	160	98	GTM35AL	25	500	
230	160	200	140	GTM40AL	25	500	



Round push-in grill with mosquito net (aluminium)
Grille ronde avec ressort de fixation et moustiquaire (aluminium)
Rejilla circular conexión a presión con filtro anti-mosquitos (aluminio)

DN (mm)	Free Air	Reference			Note
80	24,5	GTI30AL	1	960	
100	70	GTI35AL	1	-	
120	84	GTI40AL	1	-	
140	98	GTI45AL	24	480	
150	98	GTI50AL	24	1.080	
160	98	GTI55AL	12	288	
200	140	GTI65AL	12	240	


1.7
FLUXO
Brass Press Fittings
1.7
FLUXO
Manifold with
stop valves


1.7
FLUXO
PEX-Al-PEX Multi Layer Pipe

FLUXO®
Heating, Cooling, and Water Supply System

PEX-Al-PEX Multi Layer Pipe
Brass Press Fittings

aliaxis

FLUXO® is a Fully-Compliant System


Heating


Supply


Hot and cold water


Drinking water

FLUXO® Smart System to Save Time

1- Cutting the pipe

2- Chamfering the pipe

3- Placing the fitting

4- Pressing the fitting

Perfect connections in record time:
3 times faster compared to traditional systems
Creating a system using traditional materials and welding techniques requires some time. As professional installer, you know exactly what we are talking about. Thanks to the FLUXO® multilayer system, your systems will be installed three times faster, regardless of the type of application and working procedures.
Modern and simple, this system combines the benefits of hi-tech multilayer pipes with specifically-developed brass fittings. With a few operations: cutting the pipe, chamfering, inserting the fitting and pressing, and the connection is finished with the utmost ease and at top speed! With each connection you do, you will save precious minutes. But these minutes will turn into hours if you consider all the sites you work in. In a nutshell, this is the aim of the FLUXO® system: making your job easy and more profitable.

BEAR IN MIND, YOU CAN:
- Improve productivity on the job
- Reduce installation costs
- Avoid delays in delivery times

Compare costs and benefits.
FLUXO® will convince you from all points of view
If you compare the ensured benefits of the FLUXO® system with the costs of traditional installation techniques (labour time for welding, waste, slowness, etc.) you will definitely notice a significant difference in the cost of the system. All this, without taking into consideration the cost fluctuations of metal (copper) and the irregular supply on construction sites and warehouses.
The time has come, therefore, to choose the FLUXO® multilayer system. The best way to actually see all the benefits of this system is to try it yourself. Ask your local dealer.

TIME

Connection with traditional technique

TIME

Connection with FLUXO® system

Take a Closer Look at FLUXO

TECHNICAL FEATURES

FLUXO® multilayer pipe is easy to work with as it is flexible but, above all, it will firmly maintain the shape you give it. This is due to its composition: a pipe consisting of 5 layers which comes from the union between synthetic materials (PEX) and an inner layer of laser butt-welded aluminium. FLUXO® embraces the features of synthetic materials and metal materials, offering unparalleled benefits:

- **Simple installation** It is flexible, lightweight and free from "elastic memory", the FLUXO® pipe is the best solution for any water-supply system.
- **Absolute hygiene** It is suitable for drinking water and all food fluids, as certified by important external labor "Studi di Pisa".
- **Corrosion resistance** The polyethylene internal and external layers and the fittings provided with a dielectric barrier protect the aluminium against any type of chemical, electromagnetic and natural corrosion.
- **Low load losses** The internal polyethylene surface has a surface finish that can ensure significant reductions in load losses compared to classic metal pipes; furthermore, the absence of lime deposits or other scaling ensures a flow rate that remains constant over time.
- **Oxigen and light barrier** The aluminium layer blocks the passage of oxygen, water vapour and any other gas, therefore avoiding the formation of corrosion in the circuits. Aluminium is also a fully-effective barrier against UV radiation.
- **Reduced thermal expansion** Linear expansion caused by temperature variations is metal pipes. This ensures great stability as regards the size of the pipe and it is therefore subject to limited thermal stress.

Technical benefits

All the benefits of metal:
- rigidity and resistance
- low linear expansion
- versatility
- high professional quality

All the benefits of plastic materials:
- corrosion resistance
- light weight (products and equipment)
- simple and fast installation

It is perfectly compatible with most of the pressing machines on the market.

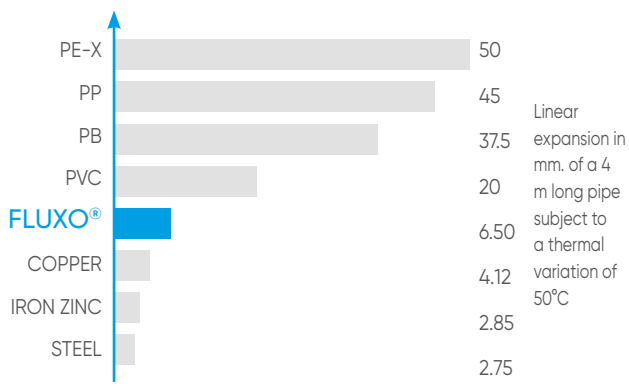
It Bends to Every Need

Create any type of installation variants with safe and suitable fittings: use FLUXO® fittings

Our attention to quality and performance is clear from all FLUXO® system components, especially in the range of fittings. The size precision of FLUXO® fittings is absolute. The positioning of the O-rings on fittings is designed to obtain the maximum adherence between the fitting nipple and the internal layer of the pipe, ensuring long-lasting sealing performance.
Your fittings will therefore be created with extreme precision and safety.
The size of our product range is also another benefit: you can create any type of installation thanks to the variety of FLUXO® fittings.
As regards pipes, the range of fittings is available for diameters between 16 mm and 63 mm. The fittings are made from brass bars of the highest quality, ensuring optimum corrosion-resistant properties.

QUALITY AND RELIABILITY

Thanks to the best technology of composite materials and the continuous improvettens, you can benefit from the extreme reliability of the multilayer FLUXO® system. Crossliniced polytheylene is abrasion resistant so it means the Fluxo pipes are durable 8 time lower than the plastic pipe and can recompared to.



Made in Italy

The multilayer FLUXO® system is made in Italy according to the EN ISO 21003 standard.
The EN ISO 21003 is the European standard providing the suitability features for the application of multilayer piping systems for hot and cold water supply inside buildings and for heating purposes.

- **Safety and reliability:** the FLUXO® system is the most advanced and professional solution for hot and cold water supply:
- **Compliance with Standards:** the FLUXO® pipes and fittings are manufactured in full compliance with regulations and prescriptions in terms of quality, hygiene and energy saving.
- **Safety:** the risk of fire on the construction site is practically eliminated, also avoiding unpleasant accidents such as burns on carpets, parquet or walls.
- **Reliability and durability:** the FLUXO® system, in addition to our ten-year warranty, is certified to last longer than 50 years.
- **Soundproofing:** the FLUXO® system significantly absorbs the vibrations and water-hammer effects which piping systems are subject to.

Application fields

Domestic water and heating
The top benefit of FLUXO® is its versatility. Regardless of the size of your construction site or the type of intervention, whether you are working in a single house or a block of flats, you will be able to install hot and cold water supply systems and heating systems with one only system.

Cooling
FLUXO® is also perfect for cooling systems which use cold water, thanks to the dedicated "POLAR" range of pipes which are specifically insulated with a particular high-density sheath characterised by a high thermal insulation coefficient.

Hygiene and drinking water
The system complies with the most important norm requirements in terms of hygiene and potabilty.

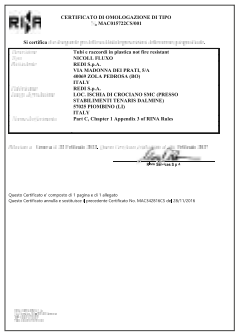
System certifications

The FLUXO® system has been tested and certified by significant certifying bodies such as: KIWA (Netherlands) and KQ (France) valid for the range included in the Avis Tecnique 14/15-1828 in compliance with the UNI EN ISO 21003 Standard ensuring duration, reliability and safety.

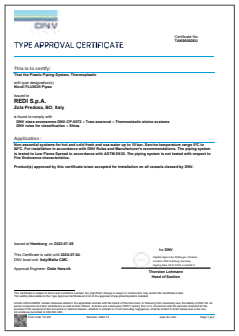
Kiwa certificate
System certification in accordance with the UNI EN ISO 21003 standard for the entire FLUXO range: pipe and press fittings.
(Certificate no. K55985/03)

Cstb certification
System certification which states the durability and suitability for the installation of heating and domestic hot and cold water supply systems. Valid for the range included in the Avis Technique 14/13 - 1828.

Health compliance
FLUXO® has the important certification on French health compliance (ACS).



Rina certification
This certificate states the conformity and suitability of the FLUXO® multilayer pipe for use in the naval sector.
(Certificate no. MAC015722CS/001)



DNV certification
Products approved by this certificate are accepted for installation on all vessels classed by DNV.
(Certificate no. TAK000028U)

Design and installation

Calculation of the load losses

In general, the load losses which may occur on a water circuit can be divided in:
1 - Continuous load losses (**YC**)
2 - Localised load losses (**YL**)
The total load loss (Ytot) is the sum of these two types of losses and is measured in mwc (metres of water column). Therefore: **Ytot = YC + YL**
Continuous load losses (YC) are caused by the friction between the fluid and the internal surface of the pipe.

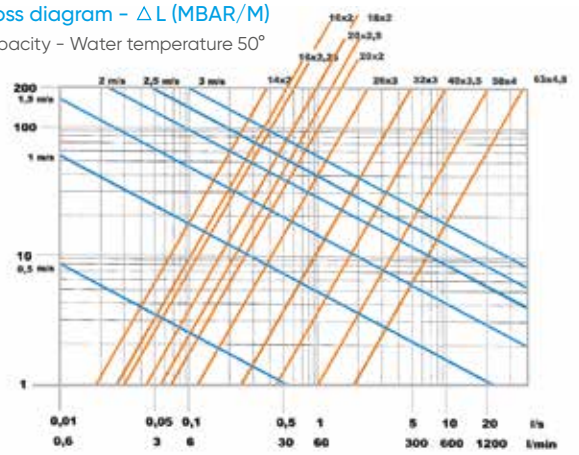
The multilayer FLUXO® pipe, in this case, shows one of its most significant benefits: its **low internal roughness** leads to very low continuous load losses with respect to traditional metal pipes.

The continuous load losses are calculated using the following formula: **YC = Ycu x pipe L**

Where:
YC = continuous load losses (mwc)
Ycu = unitary continuous load losses (mwc/m)
pipe L = length of the pipe (m)

The Ycu are the continuous load losses per metre of length and can be calculated on the basis of the flow capacity indicated in the table below.

Load loss diagram - ΔL (MBAR/M)
Flow capacity - Water temperature 50°



Load losses

Localised load losses (YL) are caused by the geometric variations of the system such as curves, elbows, valves, T-shaped fittings etc... The multilayer FLUXO® pipe offers significant benefits compared to traditional systems: the possibility of creating curves with a very small bending radius, reduces the installation of curves and elbows and therefore the load losses. Compared to PEX pipes, in addition, the presence of the aluminium layer ensures geometric stability and the circularity of the section minimising geometric variations and therefore the load losses. The geometry of the FLUXO® fittings is also designed to improve flow and therefore to reduce these types of load losses.

Localised load losses are calculated using the following formula: **YL = Ycu x eqL**

Where:
YL = localised load losses (mwc)
Ycu = unitary continuous load losses (mwc/m)
eqL = equivalent length of the pipe (m)

The equivalent lengths (eqL) depend on the type of the considered geometric discontinuity and are indicated in the figure below.

Fittings load loss

Discontinuity	Ø 14	Ø 16	Ø 18	Ø 20	Ø 26	Ø 32	Ø 40	Ø 50	Ø 63
Curve	0.7	0.6	0.55	0.5	0.4	0.3	0.3	0.2	0.2
Elbow Angle 45°	1.5	1.4	1.2	1.1	1.0	0.8	0.7	0.6	0.6
T	1.3	1.2	0.9	0.6	0.5	0.3	0.2	0.1	0.1
T	1.6	1.5	1.4	1.3	1.2	1.0	0.9	0.8	0.8
T	1.7	1.6	1.5	1.4	1.3	1.1	1.0	0.9	0.9
T	1.7	1.6	1.5	1.4	1.3	1.1	1.0	0.9	0.9
Straight fitting	1.0	0.9	0.7	0.5	0.4	0.3	0.2	0.1	0.1
Fittings for taps	1.4	1.3	1.2	1.1	/	/	/	/	/

Expansion calculation

The FLUXO® pipe has a thermal expansion similar to that of metal piping, thanks to the aluminium layer and to the adhesive which imposes the metal layer level of expansion on the PE-X layers. The table below shows the comparison between the thermal expansion coefficients of our pipe and that of other materials. The calculation formula for the thermal expansion of the pipe is the following: **L1 = α x L2 x T**
Where:
L1 = Pipe expansion in mm
L2 = Length of the pipe in m
α = Expansion coefficient of the material in mm/m°K
T = Difference between the service temperature and the temperature at the time of installation, expressed in °C
You can also calculate the pipe expansion by using the diagram on the side. By taking into consideration the horizontal axis which indicates the difference between the service temperature and that calculated at the time of installation, and intersecting the line on the diagram, you can read the expansion value (in mm) per metre of pipe on the vertical axis. To calculate the effective expansion, the latter value must be multiplied by the length of the pipe (expressed in m).

Thermal expansion coefficient of different materials

Type of piping	Expan. Coeff. α [mm/(m°k)]
FLUXO®	0.026
Galvanised steel	0.012
Stainless steel	0.017
Copper	0.017
Plastic material (PE-X PEHD PPRC)	0.19 - 0.20

Design recommendations

In order to maintain the expected performances and durability of this product range but, above all, to achieve a complete warranty coverage of the system, we recommend that you strictly follow the system design, installation and commissioning standards in order to make sure you carry out your work in a fully-professional manner.

Calculation of the length of the expansion bend

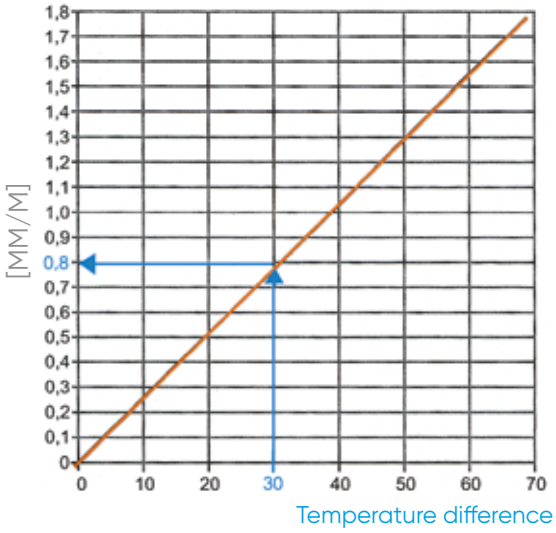
The length of the expansion bend can be deduced from the diagram below, or it can be calculated using the following formula: **b = K x (D x L) ½**

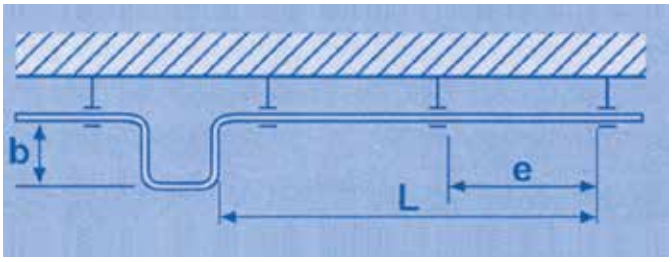
Where:
b = Bend length (in mm)
D = External diameter of the multilayer pipe (in mm)
L = Pipe expansion (calculated as shown above)
K = material constant (for the FLUXO® pipe = 33)

Example:
Calculation of an expansion bend
Calculation of the length of the expansion bend of a multilayer Fluxo pipe with Ø 26, 8 m long subject to a temperature variation of T = 60°C

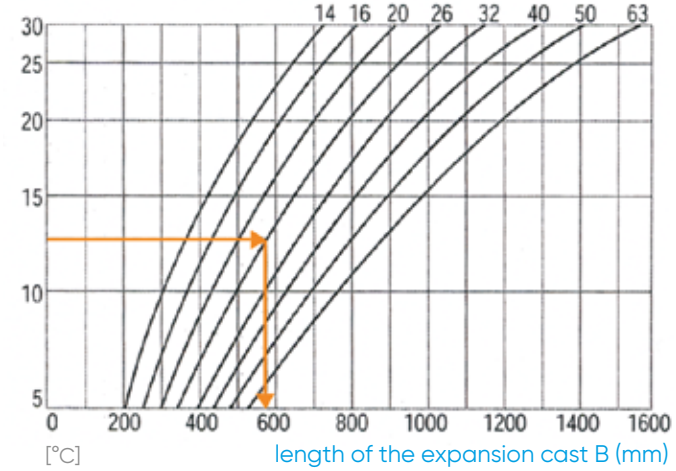
L1 = α x L2 x T =
0.026 x 8 x 60 = 12.5 mm
b = 33 x (26 x 12.5) ½ = 595 mm

Thermal expansion diagram



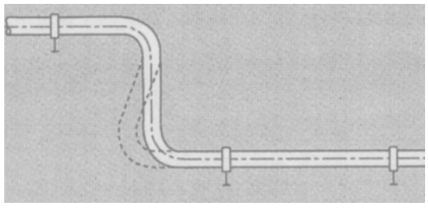


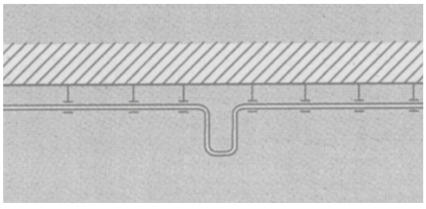
Expansion length ΔL (mm)

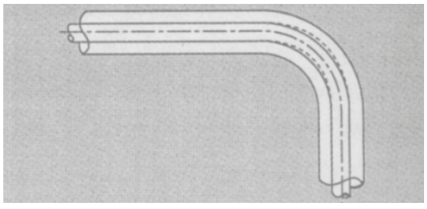


Expansion compensation

Even if the multilayer pipe has low expansion properties, heating and cooling can certainly induce the pipe to expand and contract. A compensation technique for free piping inside shafts, entails creating omega-shaped bends in the straight sections. If the piping is constrained or inside a wall, you can solve the problem by insulating the pipe.







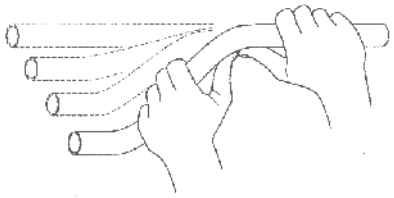
Pipe bending

One of the most significant benefits of the FLUXO® system is the ease with which it can be bent. This important result was only possible thanks to laser technology which ensures highly-resistant welds even with modest thicknesses. In this way we can also ensure an easy bending and geometric stability, in addition to the significant mechanical features of the pipe.
The methods of pipe bending are:
- manual bending
- bending using pipe-bending clamps

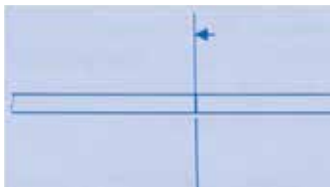
Manual bending
For pipes with a modest diameter and for wide bending radii, manual bending is the fastest and most effective method: the installer must check that the pipe shows no signs of crushing signs on the surface which may be caused by improper bending techniques.

The table below shows the minimum obtainable values of bending radii.

External diameter (mm)	Ø14	Ø16	Ø18	Ø20	Ø26	Ø32	Ø40	Ø50	Ø63
Manual bending radius (mm)	70	80	90	100	110	160	550	700	---
Bending radius with bending clamp (mm)	35	45	55	60	95	125	180	210	315



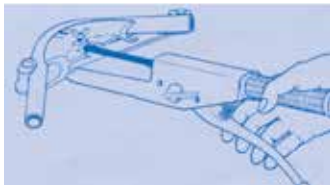
Bending using bending clamps
For smaller bending radii and/or for pipes with a larger diameter, we recommend that you use a bending clamp as shown below.

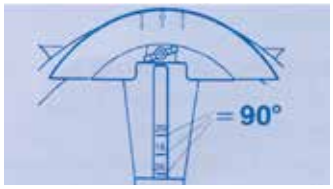


Phase 1 - Mark the middle of the bending curve.

Phase 2 - Place the pipe inside the bending clamp.

Cutting and calibration
1- Cutting the pipe
Cut the pipe perpendicularly to its axis.





Phase 3 - Use the lever of the clamp until you reach the desired bending angle.

2- Inserting the fitting
Insert the fitting in the pipe until it reaches its stop (the O-rings must not be lubricated).

Phase 4 - Loosen the clamp to release the pipe.

3- Calibrating the pipe
Calibrate and deburr the pipe, making sure you fully remove any plastic shavings.

Press Fittings Installation

Joints with press fittings
For mechanical connections with press fittings, after cutting the pipe perpendicularly to the pipe axis, and after calibration and deburring, insert the pipe into the fitting until it reaches its stop which can be accessible for inspection thanks to the openings and proceed with the pressing of the stainless steel sleeve by using the special tool as shown below.

Preparing the pressing machine
Note: use the appropriate clamp on the base for each size of fitting. Check that these measurements correspond with every application. Preparing the tool: remove the safety pin; insert the jaw; insert the safety pin fully.

1- Remove the safety pin

2- Insert the jaw

3- Insert the safety pin completely

Pressing the fitting

4- Positioning
Warning: place the fitting in the jaw correctly; the seal ring is provided with a design feature which "obliges" this positioning.

5- Pressing
Press the lever until the pressing clamp stops automatically.

6- Opening
Opening the jaw.

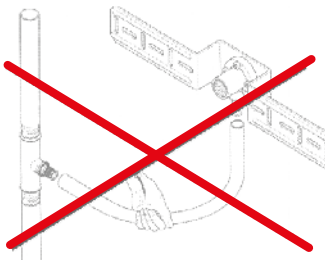
Rules for correct installation

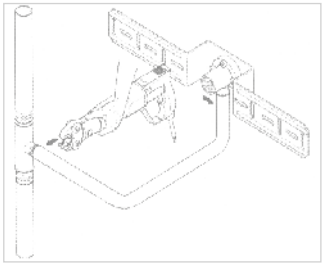
Below you will find a set of instructions for the installation of the FLUXO® system to ensure its perfect operation and long lasting performance.

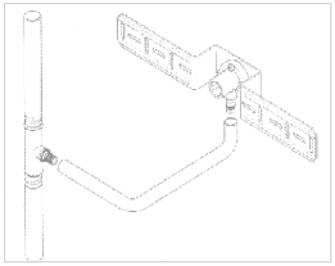
Coupling the fittings
The coupling of fittings in the FLUXO® system, male or female, with fittings of other brands and/or systems, complying with the UNI EN 10226 standard, does not require the use of additional sealing materials such as teflon, hemp, etc. The "construction" of the thread ensures the sealing of the coupling.

Pressing the fittings
The pressing must be carried out with the system completely installed in all its parts and without unnecessary stress which may compromise its correct operation over time.

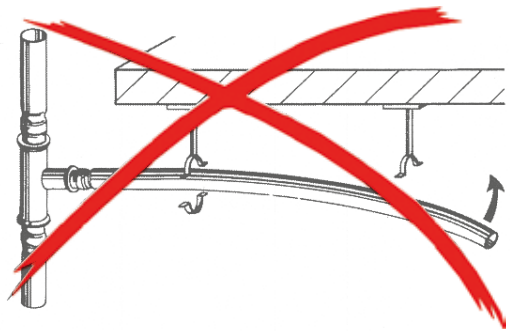
Bending the pipes
To bend the pipes correctly, without creating dangerous stresses, you must measure and mark the pipe accurately and bend it manually or using bending clamps. Pressing must only be done after the pipe has been correctly installed, as shown in the figures below.

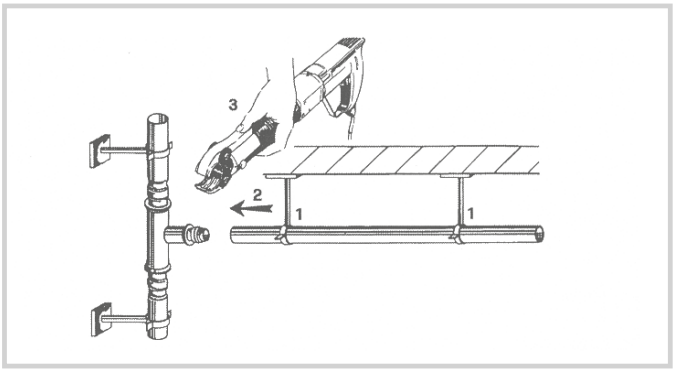




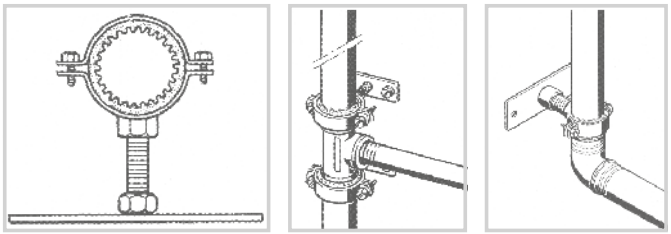


Installing "T" shaped fittings
To install "T" shaped fittings, install the pipe, secure it and then press the fittings as shown in the figure on the side.





Securing the pipes
Pipes are to be secured using soundproof collars. If the collars are not soundproof, the pipes must be secured on the external insulation of the pipes.



Distance between securing points
Correct positioning of the securing collars ensures correct pipe stability, without creating dangerous stress. The distances between the securing collars, according to the diameter of the pipes, are listed below. Pipes installed horizontally must be secured every 75 cm maximum. A securing collar must be installed 25 cm before and after each curve.

Diameter	Distance L
14 - 16	M
18 - 20	1
26	1.2
32	1.5

Testing Protocol

Testing the system

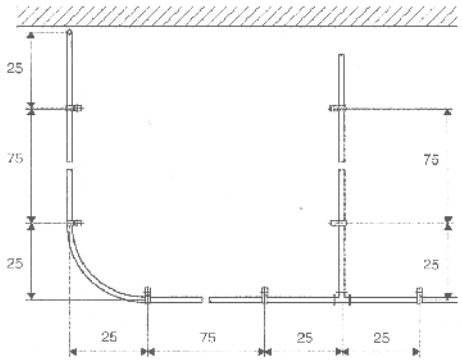
WARNING
Every system must be tested in accordance with the reference standard before concealing the system into the wall. Failing to perform this test will relieve the company of any liability arising from possible accidents, involving injury to persons or damage to property.
Civil liability regarding systems always lies with the installation company which must safeguard its work and perform tests on the systems as a standard requirement for the completion of the job.

The following is the correct procedure for testing in accordance with the DIN 1988 standards.

Pre-test. Duration 30 min.
Fill the system with fluid and bleed any air out of it via the top parts of the pipe system; then, apply a pressure of 15 bar for 15 minutes and check for any leaks in the mechanical fittings. The maximum pressure drop within the 30 minutes of the test is 0.3 bar.

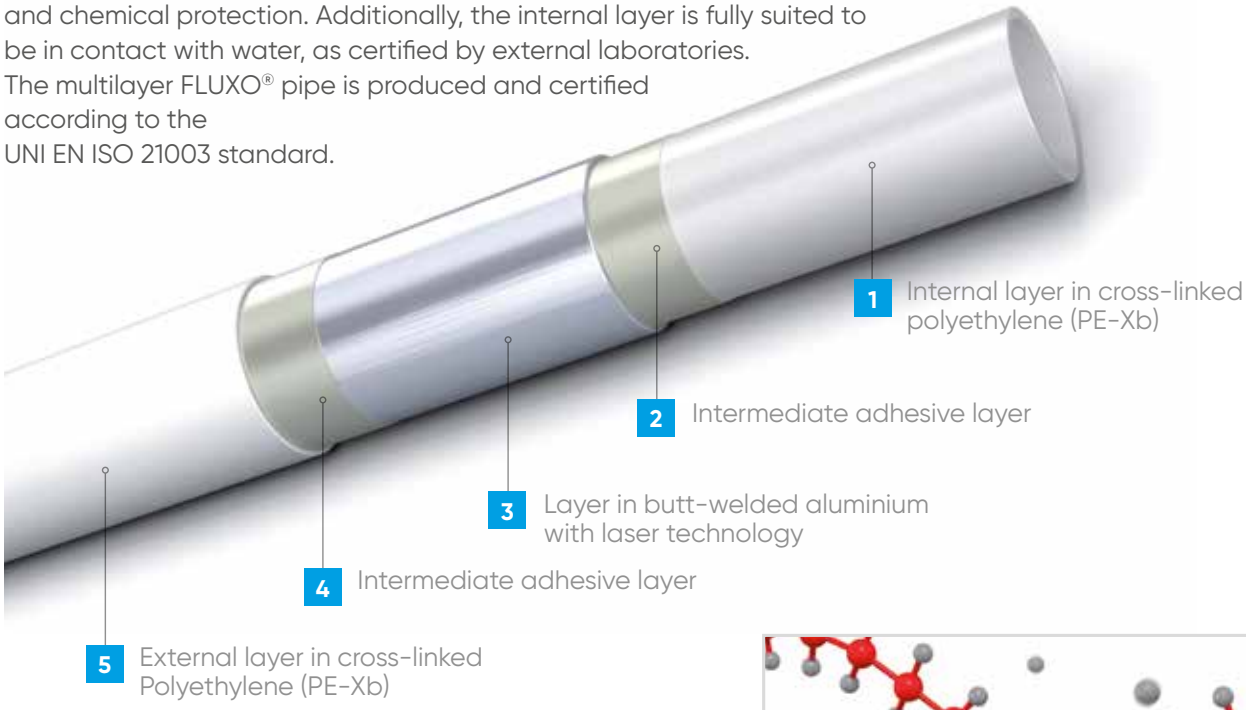
Test. Duration 2 hours
After the pre-test and after having restored the pressure, proceed with the definitive test which requires longer verification times.
Apply once again a pressure of 15 bar to the system for a minimum of two hours within which the maximum pressure drops must not exceed 0.3 bar. After the positive outcome of the test you can conceal the system inside the wall.

Testing protocol
We recommend you always draft a report of the test stating its positive outcome. For such tests we recommend you use a pump fitted with a pressure gauge with 0.1 bar precision and connect it to the lowest point of the system to be tested. The concealing of the system must always be performed with the circuits under fixed service pressure.



Multilayer FLUXO® Pipe

The FLUXO® pipe is produced through the combination of an aluminium alloy and higt quality crosslinked polyethylene. The aluminium core provides a lower thermal linear expansion compared to other plastic materials that are generally used in heating and domestic plumbing systems. The external layer protects the aluminium from potential corrosion risks providing mechanical, electrical and chemical protection. Additionally, the internal layer is fully suited to be in contact with water, as certified by external laboratories.
The multilayer FLUXO® pipe is produced and certified according to the
UNI EN ISO 21003 standard.



Inner aluminium core:
The butt-welded aluminium using 5 micron laser technology, can withstand the highest pressures. It creates an 100% impenetrable oxygen barrier and a UV-protection barrier, significantly preventing the formation of algae inside the system. Elastic memory makes the installation simple and reduces the use of pipe fittings.

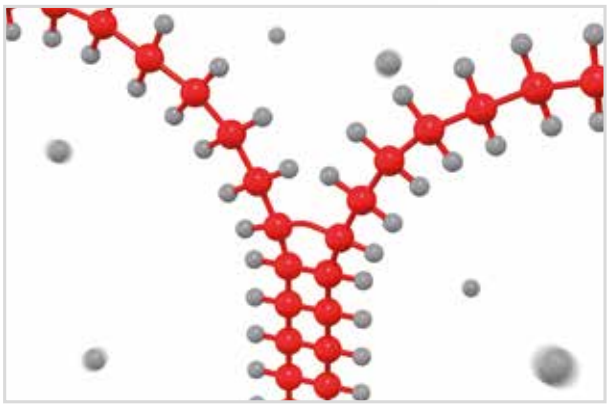
Internal and external layer in cross-linked polyethylene (PE-Xb)

Exceptional temperature resistance Thanks to cross-linking, PEX is the most long-lasting and resistant plastic material to hot and cold water cycles under pressure. This makes the FLUXO® pipe perfect for the installation of heating and domestic water-supply systems.

Anti-corrosion The internal and external PEX layers ensure total protection of the aluminium layer inside.

Soundproofing The PEX layers absorb vibrations and sounds produced by water flows and water-hammer effects.

Drinking water The PEX layer is suitable for drinking water and food fluids.



Cross-linked polyethylene (PE-Xb). Permanent link between the molecular chains thanks to crosslinking.

Insulation sheath

The multilayer Fluxo pipe is covered with a high-performance insulating sheath with the following **certified** features:

- White exterior
- Polyethylene closed-cell foam material (recyclable)
- Class 1 fire-resistance classification
- Density 35kg/m^3
- Service temperature range -45°C + 100°C
- Permeability coefficient >6000
- Thermal conductivity coefficient at 40°C 0.039 W/(m*K)
- Non-toxic
- CFC (Freon) CFC-Free

Naked pipe in coils, packed in boxes

Tube multicouche nu en couronne, emballage en boîte de carton
Tubería multicapa en rollo, embalaje en caja de cartón

Ø (mm)	Thickness pipe (mm)	Reference	(mt)	(mt)	Coil (m)	Note
16	2.0	M010566	100	2.800	100	
20	2.0	M011535	100	1.800	100	
26	3.0	M012626	50	900	50	
32	3.0	M013208	50	450	50	

Insulated pipe in coils, packed in boxes

Tube multicouche pré-isolé en couronne, emballage en boîte de carton - Tubería multicapa preaislado en rollo, embalaje en caja de cartón

Ø (mm)	Thickness pipe (mm)	Insulation thickness (mm)	Reference	(mt)	(mt)	Coil (m)	Note
16	2.0	6	M040537	50	900	50	
20	2.0	6	M041528	50	900	50	
20	2.0	10	M041524	50	500	50	
26	3.0	10	M042617	50	500	50	
32	3.0	10	M043208	25	225	25	

"Polar" insulated pipe for cooling systems, packed in boxes (for systems with fancoil units, heat pumps)

Tube multicouche pré-isolé "Polar" en couronne, emballage en boîte de carton - Tubería multicapa preaislado "Polar" en rollo, embalaje en caja de cartón

Ø (mm)	Thickness pipe (mm)	Insulation thickness (mm)	Reference	(mt)	(mt)	Coil (m)	Note
16	2.0	10	MT116PT	50	900	50	
20	2.0	10	MT120PT	50	900	50	
26	3.0	10	MT126PT	50	900	50	
32	3.0	10	MT132PT	25	225	25	

With special sheath

Straight pipes

Tube multicouche nu en barre - Tubería multicapa en barra

Ø (mm)	Thickness pipe (mm)	Reference	(mt)	(mt)	mt	Pack (no. of bars)	Note
16	2.0	M020511	100	4.800	4	25	
20	2.0	M021514	64	3.072	4	16	
26	3.0	M022612	40	1.920	4	10	
32	3.0	M023208	28	1.344	4	7	
40	3.5	M023307	25	500	5	5	
50	4.0	M023407	25	500	5	5	
63	4.5	M023507	15	300	5	3	
75	5.0	M023602	10	200	5	2	

Naked pipe in coils, toroidal packaging
Tube multicouche nu en couronne
Tubería multicapa en rollo

Ø (mm)	Thickness pipe (mm)	Reference	(mt)	(mt)	Coil (m)	Note
16	2.0	M010520	100	2.000	100	
20	2.0	M011510	100	1.300	100	
26	3.0	M012610	50	600	50	
32	3.0	M013220	50	400	50	

White Pipe System in coils, toroidal packaging
Tube multicouche “System” pré-isolé en couronne, couleur blanche - Tubería multicapa “System” en rollo, color blanco

Ø (mm)	Thickness pipe (mm)	Insulation thickness (mm)	Reference	(mt)	(mt)	Coil (m)	Note
16	2.0	6	M040511	50	700	50	
20	2.0	6	M041513	50	700	50	
20	2.0	10	M041515	50	500	50	
26	3.0	10	M042605	50	400	50	
32	3.0	10	M043206	25	225	25	

Blue Pipe System in coils, toroidal packaging
Tube multicouche “System” pré-isolé en couronne, couleur bleue - Tubería multicapa “System” en rollo, color azul

Ø (mm)	Thickness pipe (mm)	Insulation thickness (mm)	Reference	(mt)	(mt)	Coil (m)	Note
16	2.0	6	M040505	50	700	50	
20	2.0	6	M041505	50	700	50	
26	3.0	10	M042604	50	400	50	
32	3.0	10	M043209	25	225	25	

Red Pipe System in coils, toroidal packaging
Tube multicouche “System” pré-isolé en couronne, couleur rouge - Tubería multicapa “System” en rollo, color rojo

Ø (mm)	Thickness pipe (mm)	Insulation thickness (mm)	Reference	(mt)	(mt)	Coil (m)	Note
16	2.0	6	M040516	50	700	50	
20	2.0	6	M041504	50	700	50	
26	3.0	10	M042603	50	400	50	
32	3.0	10	M043207	25	225	25	

Pipe “Tech” in coils, toroidal packaging
Tube multicouche “Tech” en couronne
Tubería multicapa “Tech” en rollo

Ø (mm)	Thickness pipe (mm)	Insulation thickness (mm)	Reference	(mt)	(mt)	Coil (m)	Note
16	2.0	13	M040514	50	400	50	
20	2.0	13	M041534	50	400	50	
26	3.0	13	M042600	50	350	50	
32	3.0	13	M043221	25	225	25	

Pipe corrugated blue in coils, packed in boxes
Tube multicouche pré-fourreauté bleu en couronne, emballage en boîte de carton - Tubería multicapa corrugada color azul, embalaje en caja de cartón

Ø (mm)	Thickness pipe (mm)	Reference	(mt)	(mt)	Coil (m)	Note
16	2.0	M060534	50	900	50	Corrugated blue
16	2.0	M060508	100	1.000	100	Corrugated blue
20	2.0	M061515	50	900	50	Corrugated blue

Pipe corrugated red in coils, packed in boxes
Tube multicouche pré-fourreauté rouge, emballage en boîte de carton - Tubería multicapa corrugada color rojo, embalaje en caja de cartón

Ø (mm)	Thickness pipe (mm)	Reference	(mt)	(mt)	Coil (m)	Note)
16	2.0	M060535	50	900	50	Corrugated red
16	2.0	M060509	100	1.000	100	Corrugated red
20	2.0	M061516	50	900	50	Corrugated red

Press Fittings

The press fittings of the FLUXO® range are designed to rapidly perform any type of installation with maximum flexibility and safety: the FLUXO® fittings are made in high-quality brass are in accordance with the ACS French health compliance standard.

1 Dielectric ring: avoids any contact with the aluminium of the pipe so as to eliminate any electrical conductivity risks

2 Inspection opening to check the pipe insertion

3 Double O-ring in EPDM perox

4 Stainless steel large sleeves. Stainless steel 304 used for the sleeves ensures high-resistance to corrosion and optimum pipe pressing.

The TH pressing system

We have chosen to use the TH pressing profile as it is the most widely used in the market. Furthermore, the TH profile gives more stability to the fitting inside the pressing jaws.
The pressing system for fittings between Ø 14 and Ø 63 is made using a TH version clamp which deforms the sleeve in solubilised stainless steel (AISI 304) creating the connection between the pipe and the fitting.

Fittings with diameters of 40 - 50 - 63 - 75 mm have a plastic sleeve-holder.

Safety and health compliance

The brass alloys used to produce FLUXO® fittings, indicated as CW614N according to **UNI EN 12164** (for bar) and CW617N according to **UNI EN 12165** (for heat pressing), in terms of hygiene and drinking water, comply with the requirements provided **by the Italian Ministerial Decree 174 of 2004**.

Equipment:

If you already have a Rems, Rothenberger, Virax, Klauke or Novopress pressing machine and TH profile jaws, you can use the FLUXO® system with your equipment

If you have a pressing machine of one of the brands listed above but you do not have the TH profile jaws, all you need to do is replace the latter for use with FLUXO® fittings.

Bear in mind

- Simple installation
- Corrosion resistance
- System installation speed
- Health compliance certification
- Wide range to cover any installation requirement

Type A

Type B

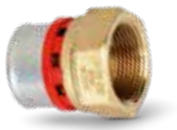
Adapter male thread

Manchons à sertir, à visser mâles fixes

Racor prensado macho

Type	Ø Fitting	Ø Thread	Reference			Note
A	16	1/2"	MM1160P	10	6.000	
A	16	3/4"	MC1161P	10	7.290	
A	20	1/2"	MM1200P	10	6.000	
A	20	3/4"	MM1210P	10	7.000	
A	26	3/4"	MM1260P	10	4.860	
A	26	1"	MM1270P	10	4.860	
A	32	1"	MM1320P	5	3.645	
B	40	1" 1/4	MM1400P	5	1.200	Plastic sleeve-holder
B	50	1" 1/2	MM1510P	2	972	Plastic sleeve-holder
B	63	2"	MM1630P	2	972	Plastic sleeve-holder
B	75	2" 1/2	MM1730P	1	8	Plastic sleeve-holder

Type A



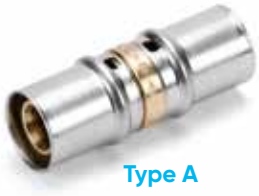
Type B

Adapter female thread

Manchons à sertir, à visser femelles fixes

Racor prensado hembra

Type	Ø Fitting	Ø Thread	Reference			Note
A	16	1/2"	MM4160P	10	6.000	
A	16	3/4"	MC1162P	10	8.000	
A	20	1/2"	MM4200P	10	6.000	
A	20	3/4"	MM4210P	10	7.290	
A	26	3/4"	MM4260P	10	4.860	
A	26	1"	MM4270P	10	800	
A	32	1"	MM4320P	5	3.645	
B	40	1" 1/4	MM4400P	5	810	Plastic sleeve-holder
B	50	1" 1/2	MM4510P	2	1.458	Plastic sleeve-holder
B	63	2"	MM4630P	2	240	Plastic sleeve-holder
B	75	2" 1/2	MM4730P	1	8	Plastic sleeve-holder



Type A

Type B

Straight coupler

Manchons à sertir égaux - Manguito prensado

Type	Ø Fitting	Reference			Note
A	16 x 16	MM2160P	10	6.000	
A	20 x 20	MM2200P	10	7.290	
A	26 x 26	MM2260P	10	4.860	
A	32 x 32	MM2320P	5	3.645	
B	40 x 40	MM2400P	5	810	Plastic sleeve-holder
B	50 x 50	MM2500P	2	972	Plastic sleeve-holder
B	63 x 63	MM2630P	2	128	Plastic sleeve-holder
B	75 x 75	MM2750P	1	8	Plastic sleeve-holder

Reducing coupling

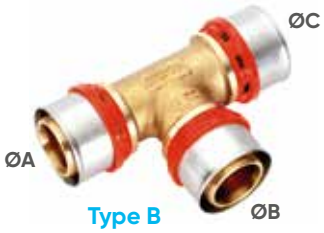
Manchons à sertir réduits- Manguito reducido prensado

Type	Ø Fitting	Reference			Note
A	20 x 16	MM3210P	10	6.000	
A	26 x 16	MM3240P	10	4.860	
A	26 x 20	MM3260P	10	4.860	
A	32 x 20	MM3310P	5	800	
A	32 x 26	MM3320P	5	3.645	
B	40 x 26	MM3390P	5	400	Plastic sleeve-holder
B	40 x 32	MM3400P	5	1.200	Plastic sleeve-holder
B	50 x 26	MM3480P	2	240	Plastic sleeve-holder
B	50 x 32	MM3490P	2	-	Plastic sleeve-holder
B	50 x 40	MM3500P	2	972	Plastic sleeve-holder
B	63 x 40	MM3620P	2	-	Plastic sleeve-holder
B	63 x 50	MM3630P	2	972	Plastic sleeve-holder
A	75 x 40	MM3640P	1	8	Plastic sleeve-holder
A	75 x 50	MM3641P	1	-	Plastic sleeve-holder
A	75 x 63	MM3642P	1	-	Plastic sleeve-holder

Equal tee 90°

Tés à sertir égaux 90° - Te prensado 90°

Type	ØA x ØB x ØC Fitting	Reference			Note
A	16 x 16 x 16	MD1160P	10	4.860	
A	20 x 20 x 20	MD1200P	10	2.400	
A	26 x 26 x 26	MD1260P	10	1.620	
A	32 x 32 x 32	MD1320P	5	810	
B	40 x 40 x 40	MD1400P	5	-	Plastic sleeve-holder
B	50 x 50 x 50	MD1500P	2	16	Plastic sleeve-holder
B	63 x 63 x 63	MD1630P	2	162	Plastic sleeve-holder
B	75 x 75 x 75	MM1631P	1	1	Plastic sleeve-holder



Reducing tee 90°

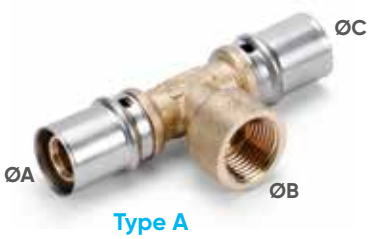
Tés à sertir réduits 90° - Te reducida prensado 90°

Type	ØA x ØB x ØC Fitting	Reference			Note
A	20 x 16 x 20	MD3150P	10	2.400	
A	20 x 26 x 20	MD2200P	10	1.620	
A	26 x 16 x 26	MD3230P	10	1.620	
A	26 x 20 x 26	MD3270P	10	1.620	
A	26 x 32 x 26	MD2310P	5	400	
A	32 x 16 x 32	MD3320P	5	400	
A	32 x 20 x 32	MD3350P	5	810	
A	32 x 26 x 32	MD3370P	5	810	
A	32 x 40 x 32	MD1261P	5	320	
B	40 x 20 x 40	MD1262P	5	-	Plastic sleeve-holder
B	40 x 26 x 40	MD3400P	5	360	Plastic sleeve-holder
B	40 x 32 x 40	MD3410P	5	320	Plastic sleeve-holder
B	50 x 26 x 50	MD3420P	2	16	Plastic sleeve-holder
B	50 x 32 x 50	MD3430P	2	16	Plastic sleeve-holder
B	50 x 40 x 50	MD3440P	2	128	Plastic sleeve-holder
B	63 x 26 x 63	MD3450P	2	128	Plastic sleeve-holder
B	63 x 32 x 63	MD3460P	2	128	Plastic sleeve-holder
B	63 x 40 x 63	MD3470P	2	-	Plastic sleeve-holder
B	63 x 50 x 63	MD3480P	2	-	Plastic sleeve-holder
B	75 x 50 x 75	MM3481P	1	162	Plastic sleeve-holder
B	75 x 63 x 75	MM3482P	1	8	Plastic sleeve-holder

Unequal Reducing tee 90°

Tés à sertir réduits double 90° - Te reducida prensado 90°

Type	ØA x ØB x ØC Fitting	Reference			Note
A	16 x 20 x 16	MD2121P	10	1.200	
A	20 x 16 x 16	MD2140P	10	4.860	
A	20 x 20 x 16	MD2180P	10	2.400	
A	26 x 26 x 16	MD2280P	10	800	
A	26 x 16 x 20	MD2220P	10	1.620	
A	26 x 20 x 16	MD2250P	10	800	
A	26 x 26 x 20	MD2300P	10	800	
A	26 x 20 x 20	MD2122P	10	800	
A	32 x 20 x 26	MD2340P	5	-	
A	32 x 32 x 26	MD2380P	5	-	
A	32 x 26 x 26	MD2360P	5	810	
B	40 x 32 x 32	MD2124P	5	-	Plastic sleeve-holder



Type A

Type B

Tee 90° female thread

Tés à sertir, femelles à visser 90° - Te rosca hembra 90°

Type	ØA x ØB x ØC Fitting	Reference			Note
A	16 x 1/2"x 16	MD5160P	10	4.860	
A	20 x 1/2" x 20	MD5200P	10	2.400	
A	20 x 3/4" x 20	MD5210P	10	800	
A	26 x 3/4" x 26	MD5260P	10	1.620	
A	26 x 1" x 26	MD5142P	10	800	
A	32 x 1" x 32	MD5320P	5	810	
B	40 x 1" x 40	MD5143P	5	320	Plastic sleeve-holder
B	40 x 1"1/4 x 40	MD5400P	5	360	Plastic sleeve-holder
B	50 x 1"1/2 x 50	MD5500P	2	324	Plastic sleeve-holder
B	50 x 3/4" x 50	MD5144P	2	128	Plastic sleeve-holder
B	50 x 1" x 50	MD5145P	15	120	Plastic sleeve-holder
B	63 x 1" x 63	MD5630P	2	128	Plastic sleeve-holder
B	63 x 2" x 63	MD5640P	2	128	Plastic sleeve-holder

Type A

Type B

Tee 90° male thread

Tés à sertir, mâles à visser 90° - Te rosca macho 90°

Type	ØA x ØB x ØC Fitting	Reference			Note
A	16 x 1/2" x 16	MD4160P	10	4.860	
A	20 x 1/2" x 20	MD4200P	10	-	
A	20 x 3/4" x 20	MD4210P	10	-	
A	26 x 3/4" x 26	MD4260P	10	800	
A	26 x 1" x 26	MD4161P	10	800	
A	32 x 1" x 32	MD4320P	5	-	
B	40 x 1 1/4" x 40	MD4400P	5	-	Plastic sleeve-holder
B	50 x 1 1/2" x 50	MD4500P	2	-	Plastic sleeve-holder
B	63 x 2" x 63	MD4630P	2	128	Plastic sleeve-holder


Type A


Type B

Elbow female thread

Coudes à sertir, femelles à visser - Codo rosca hembra

Type	Ø Fitting	Ø Thread	Reference			Note
A	16	1/2"	MC3160P	10	7.290	
A	16	3/4"	MC3131P	10	1.600	
A	20	1/2"	MC3200P	10	7.290	
A	20	3/4"	MC3210P	10	4.860	
A	26	3/4"	MC3260P	10	2.400	
A	26	1"	MC3133P	10	800	
A	32	1"	MC3320P	5	2.430	
B	40	1" 1/4	MC3400P	5	320	Plastic sleeve-holder
B	50	1" 1/2	MC3510P	2	480	Plastic sleeve-holder
B	63	2"	MC3630P	2	128	Plastic sleeve-holder

Elbow male thread

Coudes à sertir, mâles à visser - Codo rosca macho

Type A

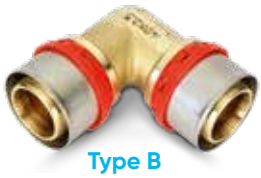
Type B

Type	Ø Fitting	Ø Thread	Reference			Note
A	16	1/2"	MC2160P	10	7.290	
A	16	3/4"	MC2201P	10	1.600	
A	20	1/2"	MC2200P	10	7.290	
A	20	3/4"	MC2210P	10	4.860	
A	26	3/4"	MC2260P	10	2.400	
A	26	1"	MC2203P	10	800	
A	32	1"	MC2320P	5	2.430	
B	40	1" 1/4	MC2400P	5	-	Plastic sleeve-holder
B	50	1" 1/2	MC2510P	2	-	Plastic sleeve-holder
B	63	2"	MC2630P	2	128	Plastic sleeve-holder

Elbow 90°

Coudes à sertir à 90° - Codo 90°

Type A



Type B

Type	Ø Fitting	Reference			Note
A	16 x 16	MC1160P	10	7.290	
A	20 x 20	MC1200P	10	4.860	
A	26 x 26	MC1260P	10	2.400	
A	32 x 32	MC1320P	5	2.430	
B	40 x 40	MC1400P	5	360	Plastic sleeve-holder
B	50 x 50	MC1500P	2	324	Plastic sleeve-holder
B	63 x 63	MC1630P	2	324	Plastic sleeve-holder
A	75 x 75	MC1650P	1	8	Plastic sleeve-holder

Elbow 45°

Coudes à sertir à 45° - Codo 45°

Size	Reference			Note
40 x 40	MG1140P	5	-	
50 x 50	MG1160P	2	-	
63 x 63	MG1200P	2	324	
75 x 75	MG1210P	1	32	

Wall-threaded-bracket female elbow
Coudes appliques à sertir, femelles à visser
Codo fijación rosca hembra

Ø Fitting	Ø Thread	Reference	Length (mm)			Note
16	1/2"	MF3160P	53	10	2.400	
20	1/2"	MF3200P	53	10	2.400	

Long Wall-Threaded-Bracket Female Elbow
Coudes appliques à sertir, femelle à visser hauteur
Codo fijacion largo rosca hembra

Ø Fitting	Ø Thread	Reference	Length (mm)			Note
16	1/2"	MF5160P	81	10	800	Long version
20	1/2"	MF3182P	81	10	800	Long version

Double wall-threaded-bracket female elbow
Coudes appliques double à sertir, femelles à visser
Codo fijacion doble rosca hembra

Ø Fitting	Ø Thread	Reference			Note
16 x 16	1/2"	MF3138P	10	800	
20 x 20	1/2"	MF3184P	10	800	

Swivel adaptor for manifolds
Manchons à sertir, à visser écrous tournants siège plat
Manguito tuerca loca

Ø Fitting	Ø Thread	Reference			Note
16	1/2"	MM4131P	5	480	
20	1/2"	MM4132P	10	6.000	
20	3/4"	MM4133P	10	7.290	
26	3/4"	MM4134P	5	400	
26	1"	MM4135P	5	400	
32	1"	MM4136P	5	400	
32	1" 1/4	MM4137P	5	400	
40	1" 1/4	MM4138P	5	400	
50	1" 1/2	MM4139P	2	160	
63	2"	MM4140P	2	128	
75	2" 1/2	MM4141P	1	8	

Adaptor for copper
Manchons à sertir, de transition FLUXO® cuivre
Manguito de transición para cobre

Ø Fitting	Reference			Note
16 MLP X 14 COPPER	MM5135P	10	800	
16 MLP X 16 COPPER	MM5136P	10	800	
20 MLP X 22 COPPER	MM5138P	10	800	

Sleeve stainless steel
Bague de sertissage laiton inox
Injerto acero inoxidable

Ø x Thickness (mm)	Reference			Note
16 x 2.0	MB1160P	10	80	
20 x 2.0	MB1200P	10	80	
26 x 3.0	MB1260P	10	800	
32 x 3.0	MB1320P	10	80	
40 x 3.5	MB1400P	5	40	
50 x 4.0	MB1500P	5	40	
63 x 4.5	MB1630P	2	16	
75 x 5.0	MB1750P	1	8	

In-wall ball valve (Chrome Cover Included)
Robinet avec cartouche à encastrer
Válvula de esfera para empotrar

Ø Fitting	Reference			Note
16 x 16	MV1160P	4	-	
20 x 20	MV1200P	4	-	

Extension kit for in wall ball valve
Jeu rallonge pour robinet - Alargadera grifo

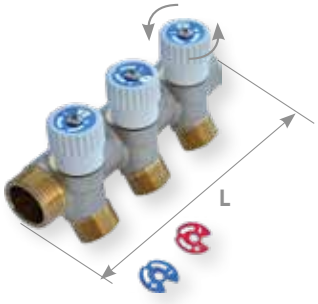
Reference			Note
MPR010P	1	-	

Chromed cover for in wall ball valve
Capuchon et rosette pour robinets encastrés
Plafón embellecedor cromado

Reference			Note
MCA010P	4	-	

Threaded Manifolds Adapter
Raccords à compression pour collecteur
Adaptador para colectores

Ø Pipe	Ø Thread	Reference			Note
16 x 2.0	1/2"	MA1160P	2	12.000	
16 x 2.0	3/4"	MA1170P	10	2.000	
20 x 2.0	3/4"	MA1210P	10	-	



Manifold with stop valves
Collecteurs de distribution avec robinet d'arrêt
Colcetor de distribución con válvulas de cierre

Ways	Ø Inlet	Ø Outlets	Reference			L (mm)	Spacing (mm)	Note
2	¾"	½"	MA3172C	6	1.440	98	40	
2	1"	½"	MA3162C	1	96	98	40	
3	¾"	½"	MA3173C	1	80	138	40	
3	1"	½"	MA3163C	2	324	138	40	
4	¾"	½"	MA3174C	4	960	178	40	
4	1"	½"	MA3164C	2	324	178	40	

End cap for manifolds
Bouchons pour collecteurs - Tapón final para colectores

Ø Threads	Type of thread	Reference			Note
¾"	Male	MT1340C	1	-	
1"	Male	MT1100C	1	-	
½"	Female	MT2120C	1	-	
¾"	Female	MT2340C	1	-	
1"	Female	MT2100C	1	-	

Multilayer accessories

Internal pipe-bending spring
Ressorts de cintrage intérieurs - Muelle de flexión interior

Ø (mm)	Reference			Thickness	Note
16	MMC160A	1	8	2.0	
20	MMC200A	1	8	2.0	
26	MMC260A	1	8	2.0	

Pipe calibrator
Calibreur chanfreineur manuel à poignée 4 diamètres
Calibrador de tubo

Ø (mm)	Reference			Note
14 - 16 - 18 - 20	MCT200A	1	-	
20 - 26 - 32 - 40	MCT400A	1	-	

Countersink calibrator
Calibreur chanfreineur - Calibrador achaflanador

Ø (mm)	Reference			Note
50	MSB200A	1	8	
63	MSB400A	1	8	

Pipe cutter shears
Coupe-tube multicouche - Cizalla cortatubo

Ø (mm)	Reference			Note
from 14 to 26	MCT260A	100	800	

Pipe cutter
Coupe tube automatique Avec ébavureur interne rétractable
Cortador de tubo

Ø (mm)	Reference			Note
from 10 to 40	MS1600C	1	8	
from 50 to 110	MS1610C	1	8	

Bending KIT 16-18-20-25/26-32
Swing 16-18-20-25/26-32 cintreuse arbalète set multicouche
Set doblador de ballesta para tubo multicapa 16-18-20-25/26-32

Reference			Note
MMC132A	1	8	

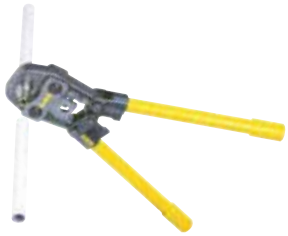
Battery-powered pressing machine “Rems” (without jaws)
Sertisseuse sur batterie (sans pince)
Engarzadora a batería (sin mordaza)

Model	Ø (mm)	Reference			Note
AKKU-PRESS ACC	10-108	MK3260A	1	8	With automatic return
AKKU-PRESS	10-108	MK3PB0A	1	8	

Electric pressing machine “Rems” (without jaws)
Sertisseuse filaire (sans pince)
Engarzadora eléctrica (sin mordaza)

Model	Ø (mm)	Reference			Note
POWER-PRESS 2000*	10-108	MK2260A	1	8	
POWER-PRESS E	10-108	MK2PE0A	1	8	

* Electrical limit switch

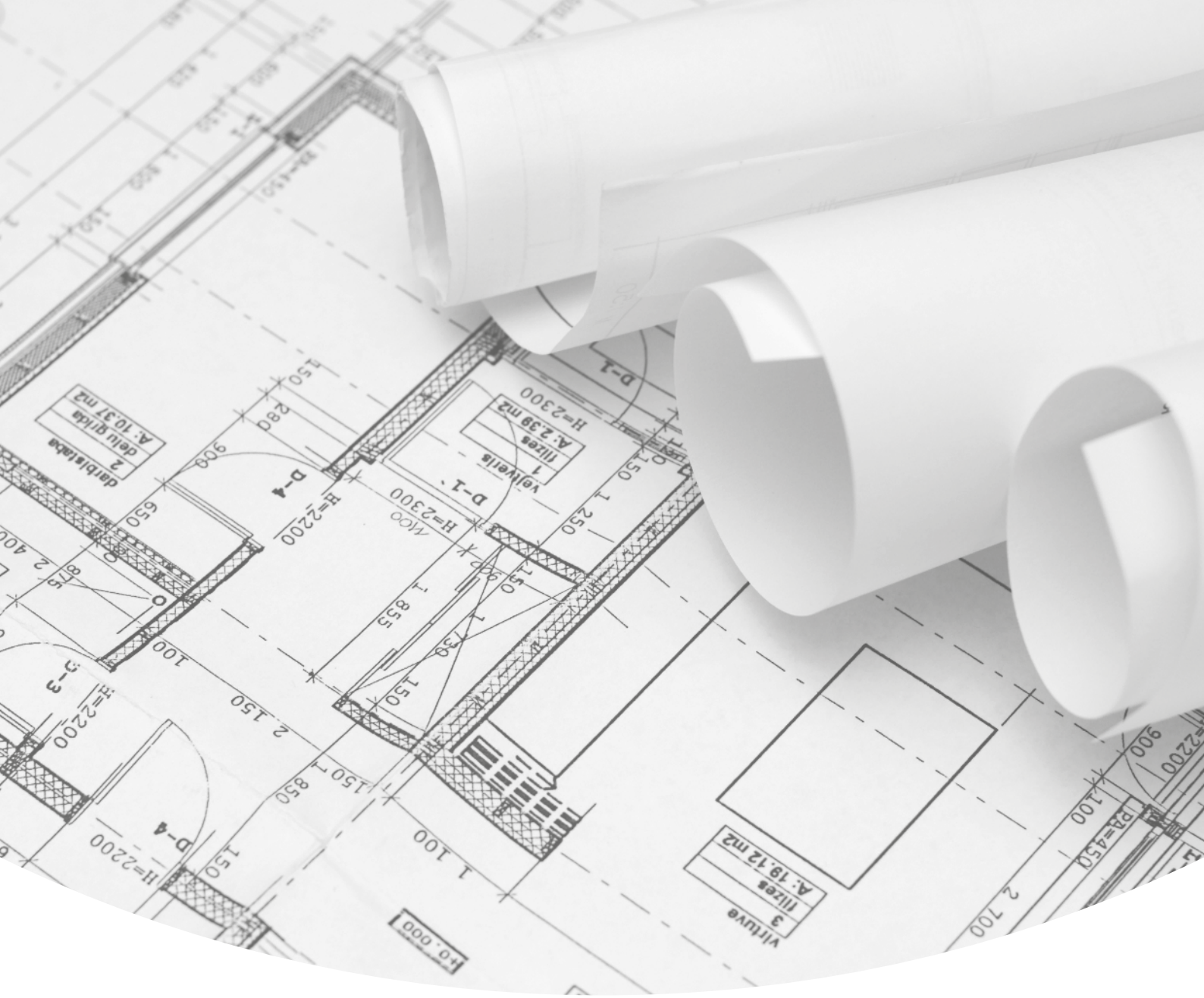


Manual pressing machine “Rems” (without jaws)
Sertisseuses manuel
Engarzadora manual (sin mordaza)

Model	Ø (mm)	Reference			Note
ECO-PRESS	10-26	MK2100A	1	8	

Pressing jaw
Pinces à sertir pour sertisseuses universelles
Mordaza para engarzadora universal

Ø (mm)	Reference			Note
TH 16	MG1160A	1	8	
TH 20	MG1200A	1	8	
TH 26	MG1260A	1	8	
TH 32	MG1320A	1	8	
TH 40	MG1400A	1	8	
TH 50	MG1500A	1	8	
TH 63	MG1630A	1	8	
INTERMEDIATE CLAMP TH 75	MG1750A	1	8	
PRESS RING TH 75	MG1751A	1	8	



Surface & Floor Drainage System

REDI

aliaxis

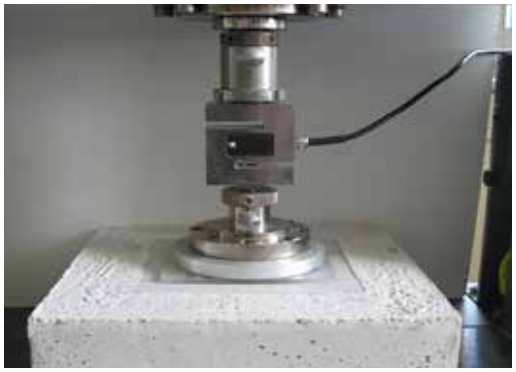
Regulations & Tests

UV RAYS RESISTANCE TESTS

Coverings EN4892

FLOW TESTS

Gullies for buildings EN1253



LOAD RESISTANCE TESTS

Drainage channels EN1433

Floor drains EN1253

Covers and Grills EN124

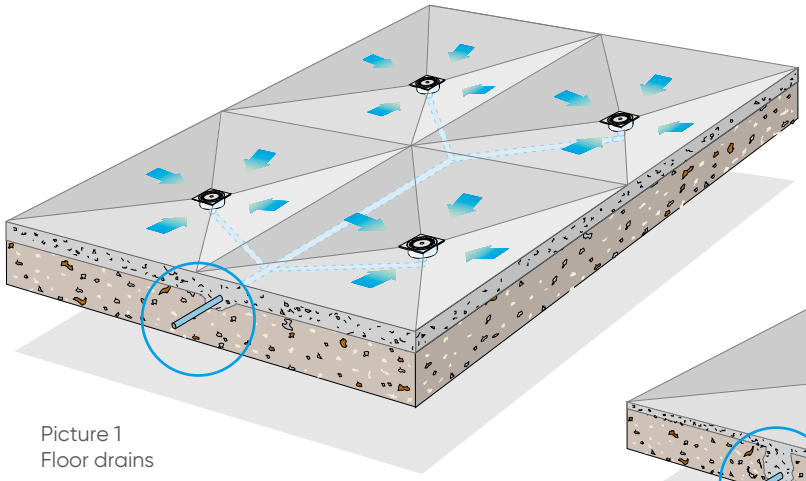
MECHANICAL RESISTANCE

Voluntary Tests

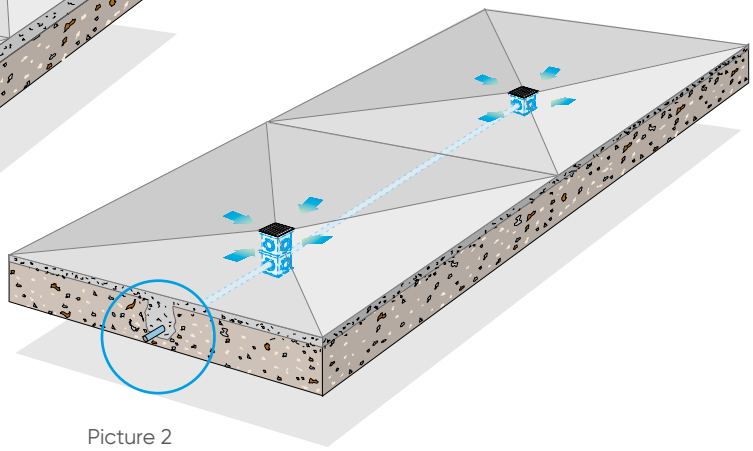
INGRESS PROTECTION TESTS

Electrical catch basin EN-CEI 60529

Technical Specifications



Picture 1
Floor drains



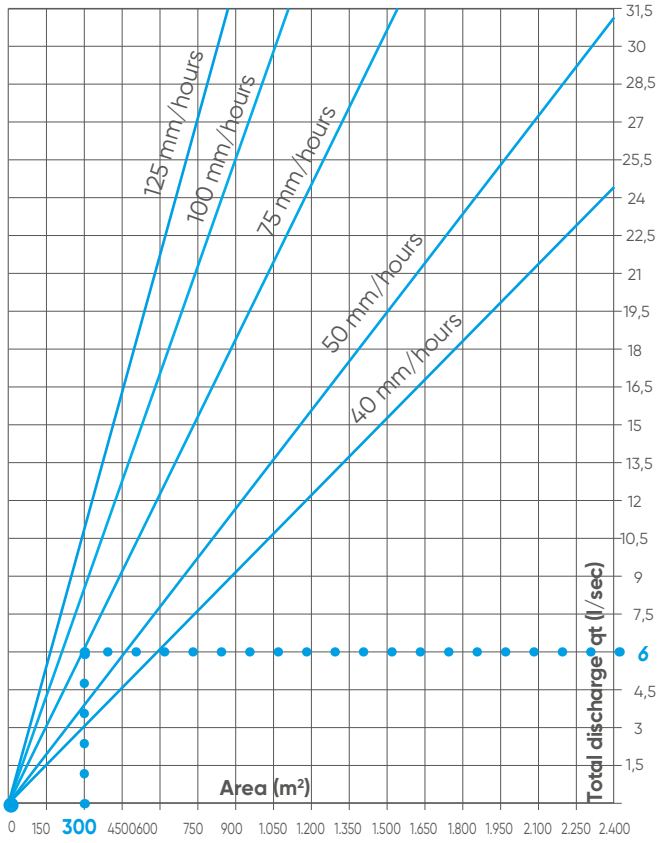
Picture 2
Catch basins and grills

Localized evacuation

This kind of evacuation is mainly considered when it is necessary to gather water trapping every single evacuation point.
In this way, using small drainage accessories called floor drains (see picture 1), a small excavation will be enough to convoy water, especially in low excavation width areas like garages, terraces, etc.

The localized evacuation is often adopted for aesthetical reasons too, because it is possible to place drains in hidden or definite site. In this way catch basins with walkway and light traffic grills are the best solution for areas with no trucks or industrial vehicles passage, because they are designed to optimize transport and installation of the whole drainage system (see pictures 1 - 2).

To get the best performance in a localized evacuation system it is important to:
- calculate number of accessories to be used considering pluviometric intensity, hydraulic discharge of chosen item and roughness of the area to be drained
- divide the whole area into several squares as the number of localized evacuation points
- install the catch basin at the centre of the mentioned drainage points
- keep all the 4 levels of each square with a slight slope inward.



Picture 3
Flow rate calculation

Drainage networks calculation

To establish the correct size of drainage networks it is important to consider the following parameters:
- rain flow to be evacuated Qt (l/sec)
- area to be drained (m^2)
- rain intensity (mm/hour)
- ground morphology and slope
- Flow rate of the selected itemQt (l/sec)

In the picture 3 it is possible to link together area to be drained, pluviometric intensity and rain discharge to be evacuated.

For example: Rain intensity = 75 mm/hour
A Lenght of area to be drained = 20 m
B Breadth of area to be drained = 15 m

Selected item for drainage
Floor drain internal
outlet E193004
(250x250, outlet Ø100 3,0 l/s
certified flow rate)
N° of floor drains to be installed = ?

1) Total area calculation:
Area = AxB = 20x15 = 300 m^2

2) Research in picture 3 of correspondence between area, pluviometric intensity line and related total hydraulic discharge of rain to be evacuated:
about 6 l/s

3) Divide the total hydraulic discharge by single chosen item hydraulic discharge and you will find the total number of floor drains to be placed in the area:
N° floor drains = Qt : Qe = 6 : 3 = 2

Estimate of the total rainwater quantity in the area is the key issue in measuring drainage networks. Data in picture 5 are average results and they are not influenced by external factors (slope and surface characteristics) which can have a relevant impact on these results.

During installation of catch basins and grills it is important to consider the following 2 parameters:

4) **hydraulic discharge of pipelines connecting catch basins and sewage network (litres/second)**

5) **hydraulic discharge of grills placed on catch basins (litres/seconds)**

Hydraulic discharge of pipelines depends on pipe diameter, slope and roughness. Roughness in particular can influence the hydraulic discharge, because pipelines dirtied by using slow down flow, especially with small slopes.

In this way it is important to link the right pipeline (see table A) with the suitable hydraulic discharge grill (see table B) to obtain a balanced evacuation.

Linear evacuation is more complex. For grill evacuation you can consider table A hydraulic discharge multiplied by the number of grills.

It is important to link the suitable hydraulic discharge grill (table B) with the right pipeline (see table A) to obtain a balanced evacuation. In case hydraulic discharge is higher than pipeline one it will be necessary to connect several different evacuation points.

Picture 4
Pluviometer

Weather station

RAINFALL IN THE WORLD

State	City	Rainy months* (mm)	Rainy days*	Month*
ARGENTINA	Buenos Aires	120	8	March
BOLIVIA	La Paz	90	21	January
CANADA	Calgary	90	13	June
CHILE	Santiago	85	6	June
CHINA	Lanzhou	29	16	July
CUBA	Havana	170	11	October
DANIMARK	Copenhagen	70	11	July
PHILIPPINES	Manila	480	22	August
FRANCH	Perpignan	85	7	December
JORDAN	Al Aqaba	8	1	December
UNITED KINGDOM	Edimburgh	85	12	July
GREECE	Athens	70	9	December
INDIA	New Delhi	210	12	July
IRAN	Teheran	44	4	January
IRELAND	Dublin	75	14	December
ICELAND	Reykjavik	95	14	October
KENYA	Nairobi	190	18	May
MOROCCO	Marrakech	35	8	December
MEXICO	Mexico City	160	17	July
NEPAL	Kathmandu	375	21	July
NORWAY	Troms	115	16	October
PERU	Lima	2	1	July
POLAND	Warsaw	90	11	July
SPAIN	Granada	70	10	December
USA	Los Angeles	75	4	February
USA	Phoenix	25	3	February
SOUTH AFRICA	Durban	130	9	February
THAILAND	Chiang Mai	290	18	September
TURKEY	Ankara	50	7	May
RUSSIA	Taskent	80	9	March
VENEZUELA	Caracas	110	13	July
VIETNAM	Hanoi	355	16	August

*Data referred to highest monthly rainfall registered during the year

Picture 5
Rainfall data

TABLE A - PIPES FLOW RATE (l/s) WITH DIFFERENT SLOPES

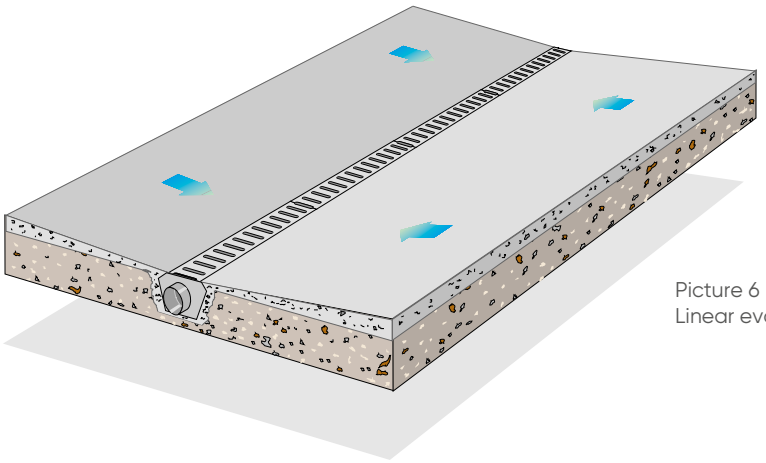
PVC pipe Ø (mm)	0,5%	1%	1,5%	2%	3%	5%	10%
40	0,15	0,26	0,30	0,35	0,43	0,57	0,80
50	0,37	0,52	0,60	0,73	0,89	1,14	1,61
63	0,73	1,04	1,28	1,47	1,77	2,28	3,16
75	1,21	1,63	2,10	2,41	2,94	3,80	5,35
80	1,44	2,05	2,51	2,88	3,54	4,56	6,44
100	2,78	3,91	4,78	5,57	6,78	8,75	12,34
125	5,20	7,36	8,99	10,40	13,00	16,41	23,19
140	6,91	9,78	11,96	13,80	16,90	21,81	30,93
160	9,80	13,74	16,86	19,46	23,86	30,76	43,57
200	16,94	24,01	29,40	33,96	41,61	53,70	75,78
250	30,09	42,54	52,06	60,15	73,64	95,10	134,60
315	54,48	77,11	94,32	108,90	133,40	172,00	244,50

TABLE B - GRILL FLOW RATE (l/s)

Grill		100 x 500		130 x 500		130 x 500 hight drainage		130 x 500 swimming pool		130 x 500 slot		200 x 500
Flow rate (l/s)		**2,3 (l/s)**		**1,9 (l/s)**		**3,6 (l/s)**		**1,2 (l/s)**		**0,4 (l/s)**		**2,8 (l/s)**
Grill		130 x 1000 PP		130 x 1000 galvanized steel grill load class A15		130 x 1000 galvanized steel grill load class B125 square mesh 33 x 33		130 x 1000 galvanized steel grill load class C250 square mesh 33 x 33				
Flow rate (l/s)		**3,5 (l/s)**		**2,3 (l/s)**		**7,9 (l/s)**		**7,5 (l/s)**				
Grill Flow rate (l/s)		100 x 500 "Laser" **0,8 (l/s)**		100 x 500 "Circle" **1,1 (l/s)**								

CHANNEL FLOW RATE (l/s) WITH DIFFERENT SLOPES

Description	H int. (mm)	Roughness PVC - PP	0,5%	1,0%	1,5%	2,0%	3,0%	4,0%	5,0%	10%
	52 130 x 1000	0,02	1,4	2,0	2,5	2,9	3,5	4,1	4,6	6,5
	70 130 x 1000	0,02	2,3	3,3	4,0	4,6	5,7	6,6	7,3	10,4
	90 130 x 1000	0,02	3,1	4,4	5,4	6,3	7,7	8,8	9,9	14,0
	130 130 x 1000	0,02	4,8	6,8	8,3	9,6	11,7	13,5	15,1	21,4
	50 100 x 500	0,02	0,5	0,7	0,9	1,0	1,3	1,4	1,6	2,3
	70 130 x 500	0,02	1,0	1,4	1,7	1,9	2,4	2,8	3,1	4,4
	134 130 x 500	0,02	3,3	4,7	5,7	6,6	8,1	9,4	10,5	14,8
	94 200 x 500	0,02	3,5	5,0	6,1	7,0	8,6	9,9	11,1	15,7
	170 200 x 500	0,02	9,6	13,6	16,6	19,2	23,5	27,2	30,4	43,0



Picture 6
Linear evacuation

TABLE C - ROUGHNESS COEFFICIENT OF INTERNAL CHANNEL SURFACE

Channel description	Bazin ϒ (m1/2)
Channel made of PVC, PP, PE	0,02
Channels made of concrete	0,10
Channels made of concrete (low level of maintenance)	0,23 ÷ 0,36
Channels made of stone	0,46
Channels made of concrete with grass on the bottom	1,30
Abandoned channels with vegetation	2,0 ÷ 2,3

Linear evacuation

All the underground connectors for rain gathering can be partially substituted by superficial drainage channels with grills. These channels can be placed in flat open areas without digging limitations. Linear drainage system permits an easier installation than localized one, because it is less difficult to project the drainage plane.
All ground drained in this way are flatter and more suitable for vehicular traffic. Both evacuation systems are efficient in case of meteoric water gathering.
There are particular cases, when water reaches drainage area with high speed (like for example in a swimming pool border or between underground garages and ramps or along borders with slope changes), in which it is necessary to gather water for a wide area set at 90° of the flow direction.
REDI proposes its range of channels with walkway and light traffic grills (A15, B125, C250 load classes) to get an efficient linear evacuation.
In case of linear evacuation drainage channels are chosen both for granted load resistance and for water quantity to be drained.

Estimate of quantity of water to be drained

Qt = quantity of water to be drained
A = area to be drained
P = average quantity of rainfall
Qt = A x P
For example considering daily highest rainfall tables it is possible to determine the quantity of water to be drained over an area 10x5 mt characterized by a daily highest rainfall value between 90 mm/day - 120 mm/day (minimum-maximum):
Area = 10 x 5 m = 50 m^2
Hypothetical average rainfall estimated = 105 mm/hour
Qt = 50 x 105 = 5.250 mm/hour
5.250 mm/hour corresponding to 1,46 mm/second (1,46 l/s).

Estimate of channels hydraulic discharge

Channels hydraulic discharge have been calculated supposing hydraulic discharge (Q) has uniform motion. Chézy's formula permits to calcolate respectively Speed (V) and Hydraulic discharge (Q):

$Q = AxV$
$V = C\sqrt{(Rxi)}$

Coefficient C can be calculated with Bazin's formula $C = 87 / (1+\gamma/\sqrt{R})$ where A is the section, R is the average radius of the channel and ϒ is the roughness coefficient of the internal channel surface. As indicated in the table on the side the roughness coefficient of plastics (PVC and PP) is much lower if compared with other materials.
Grills flow discharge has to be linked with channels flow discharge in table below. If hydraulic discharge is higher than channels one other vertical or lateral pipes can be connected to the channels, improving the hydraulic discharge of the all system.

Materials

The surface drainage system products are made by moulding the following plastics:

- Polyvinyl chloride (PVC), thermoplastic polymer obtained from polymerization of vynil chloride. PVC is nowadays more and more largely used in buildings, thanks to its resistance to external atmospheric agents and to mechanical solicitations.
- Polypropylene (PP), thermoplastic polymer obtained from polymerization of propylene. PP, thanks to its versatility, is largely used in buildings, mainly when product doesn't require specific resistance performances.
- Acrylonitrile - Butadiene - Stirene (ABS), thermoplastic copolymer obtained from polymerization of Acrylonitrile, Butadiene and Stirene. ABS, thanks to its characteristics is particularly used for shock resistant items which satisfy aesthetical requirements.

Raw materials used to realize surface DRAINAGE SYSTEM products are subjected to periodical controls in chemical laboratories. Their formulation has been carefully studied to optimize their chemical and mechanical resistances. The following tables are the result of several laboratory tests. It is important to check the real behaviour during practical use.

TECHNICAL CHARACTERISTICS

PVC mechanical features (23°C)

Characteristcs	Test	Size	Result*
Yeld point	ISO 527	Kg/cm2	530
Breaking load	ISO 527	Kg/cm2	430
Enlongation at break	ISO 527	%	70/80
Traction stretch	ISO 527	Kg/cm2	34.000

PVC physical features

Characteristcs	Test	Size	Result*
Mass volume	ISO 1183	Kg/dm3	1,43
Vicat softening temperature	ISO 306-B	°C	80
Thermal linear expansion coefficient	/	mm/m°C	0,07

* = Data obtained from tests effected: • Test tube type ISO 2 • Traction speed = 5 mm/min
** = Temperature: • min. -10° • max. 60°

PP mechanical features (23°C)

Characteristcs	Test	Size	Result*
Yeld point	ISO 527	Kg/cm2	260
Breaking load	ISO 527	Kg/cm2	200
Enlongation at break	ISO 527	%	20/30
Traction stretch	ISO 527	Kg/cm2	17.000

PP physical features

Characteristcs	Test	Size	Result*
Mass volume	ISO 1183	Kg/dm3	0,92
Vicat softening temperature	ISO 306-B	°C	94
Thermal linear expansion coefficient	/	mm/m°C	0,15

* = Data obtained from tests effected: • Test tube type ISO 1 • Traction speed = 50 mm/min
** = Temperature: • min. 0° • max. 60°

PP - Chemical resistance

Product	Conc. %	Temp. 20 °C	Temp. 60 °C
Acetic Acid	60	S	L
Acetic Acid Monochloride	SOL.	S	L
Acetic Aldehyde	33	L	NS
Acetic Anhydride	100	L	NS
Acetone	100	S	S
Adipic Acid	-	-	-
Allyl Alcohol	96	S	S
Aluminum Chloride	SOL. SAT.	S	S
Aluminum Sulphate	SOL. SAT.	S	S
Ammonia (gas)	100	S	S
Ammonia (liquid)	100	S	L
Ammonia (solution)	SOL. DIL.	S	L
Ammonium Chloride	SOL. SAT.	S	S
Ammonium Fluoride	-	-	-
Ammonium Nitrate	SOL. SAT.	S	S
Ammonium Sulphate	SOL. SAT.	S	S
Amyl Acetate	100	NS	NS
Amyl Alcohol	100	S	L
Aniline	100	S	L
Aniline	SOL. SAT.	S	L
Aniline Hydrochloride	SOL. SAT.	-	-
Antimony Chloride	90	S	S
Arsenic Acid	SOL. DIL.	S	-
Beer		S	S
Benzaldehyde	100	S	-
Benzene	100	NS	NS
Benzoic Acid	SOL. SAT.	S	L
Borax	SOL. SAT.	S	L
Boric Acid	SOL. DIL.	S	L
Bromine (liquid)	100	NS	NS
Bromine Acid	10	S	-
Butadiene	100	S	S
Butane	100	S	-
Butyl Acetate	100	NS	NS
Butyl Phenol	100	NS	NS
Butylene	100	S	L
Butyric Acid	20	S	L
Butyric Acid	98	NS	NS
Calcium Chloride	SOL. SAT.	S	S
Calcium Nitrate	50	S	S
Carbon Dioxide	100	S	S
Carbon Sulphide	100	S	-
Carbon tetrachloride	100	NS	NS
Chlorine (dry gas)	100	NS	NS
Chlorine (liquid)	SOL. SAT.	NS	NS
Chlorosulphonic Acid	100	NS	NS
Chromic Acid		-	-
Citric Acid	SOL. SAT.	S	S
Copper Chloride	SOL. SAT.	S	S
Copper Fluoride	2	S	S
Creosol	100	L	NS
Cresol Acid	SOL. SAT.	NS	NS
Crotonic Aldehyde	100	NS	NS
Cyclohexanol	100	L	NS
Cyclohexanone	100	L	NS
Developing Bath		S	S
Dextrine	SOL. SAT.	-	-
Dibutyl Phthalate	100	NS	L
Dichloroethylene	100	NS	NS
Diglycolic Acid	18	S	L
Dimethylammine	30	S	-
Ethyl Acetate	100	NS	NS
Ethyl Alcohol	95	S	L
Ethyl Benzene	100	NS	NS
Ethyl Ether	100	S	-
Ethylene Glycol	CONC.	S	S
Fluorine	100	NS	NS
Formaldehyde	SOL. DIL.	S	S
Formaldehyde	40	S	S
Formic Acid	1~50	L	NS
Furfural Alcohol	100	NS	NS
Glucose	SOL. SAT.	S	L
Glycerin	100	S	S
Glycolic Acid	30	S	S
Golden Syrup	SOL.	S	L
Hydrobromic Acid	50	-	-
Hydrochloric Acid	30	L	NS
Hydrofluoric Acid	60	L	NS

Product	Conc. %	Temp. 20 °C	Temp. 60 °C
Hydrogen	100	S	S
Hydrogen Dioxide	30	S	L
Hydrogen Sulphide	100	S	S
Isooctane	100	L	S
Lactic Acid	10	S	L
Lactic Acid	10~90	L	L
Lead Tetraethyl	100	S	-
Magnesium Sulphide	SOL. SAT.	S	S
Maleic Acid	SOL. SAT.	S	L
Methyl Alcohol	100	S	L
Methyl Methacrylate	100	NS	NS
Methylene Chloride	100	NS	NS
Milk		S	S
Mineral Oil	100	L	L
N-Heptane	100	L	NS
Nickel Sulphide	SOL. SAT.	S	S
Nicotinic Acid	CONC.	S	S
Nitric Acid	<25	L	NS
Nitric Acid	50	NS	NS
Oleic Acid	100	L	L
Oleum	10% of SO^3	NS	NS
Oxalic Acid	25	S	L
Oxalic Acid	SOL. SAT.	L	L
Oxigen	SOL. SAT.	L	L
Petrol	80/20	NS	NS
Petroleum	100	L	NS
Phenol	SOL. SAT.	S	S
Phosphine	100	S	L
Phosphor Oxichloride	100	L	L
Phosphoric Acid	30	S	L
Potassium Bichromate	SOL. 20	S	S
Potassium Bromide	SOL. SAT.	S	S
Potassium Chloride	SOL. SAT.	S	S
Potassium Chromate	40	S	S
Potassium Cyanide	SOL.	S	S
Potassium Ferricyanide	SOL. SAT.	S	S
Potassium Ferrocyanide	SOL. SAT.	S	S
Potassium Hydroxide	SOL.	S	S
Potassium Nitrate	SOL. SAT.	S	L
Potassium Permanganate	20	S	S
Potassium Persulfate	SOL. SAT.	S	L
Propane (gas liquid)	100	S	-
Propionic Acid	50	S	S
Pyridine	100	NS	NS
Sea Water		S	L
Silver Nitrate	SOL. SAT.	S	L
Soap	SOL.	S	S
Sodium Bisulphite	SOL. SAT.	S	S
Sodium Chlorate	SOL. SAT.	S	S
Sodium Chloride	SOL. SAT.	S	S
Sodium Ferricyanide	SOL. SAT.	S	S
Sodium Hydroxide	SOL.	S	S
Sodium Hypochlorite	25	L	NS
Sodium Hypochlorite	100 (13% Cl.)	S	L
Sodium Silicate	SOL.	S	S
Sodium Sulphite	SOL. SAT.	S	L
Sulphur Acid	SOL.	S	S
Sulphur Anhydride	100 (liquid)	S	L
Sulphur Anhydride	100 (dry)	L	NS
Sulphuric Acid	40~90	L	L
Sulphuric Acid	96	NS	NS
Sulphuric Chloride	100	NS	NS
Sulphuryl Chloride	100	NS	NS
Tannic Acid	SOL.	S	S
Tartaric Acid	SOL.	S	S
Tetrachloroethene	100	NS	NS
Thiophene	100	L	L
Tin Chloride	SOL. SAT.	S	S
Toluene	100	NS	NS
Trichloroethylene	100	NS	NS
Turpentine (oil)	100	NS	NS
Urea	10	S	L
Vaseline		L	L
Vinagre		S	S
Vinyl Acetate	100	NS	NS
Wine		S	S
Xylene	100	NS	NS
Yeast	SOL.	S	L

TS = Without corrosion L = Limitaded corrosion NS = Corrosion

For any special application, please contact the REDI Technical Service beforehand.

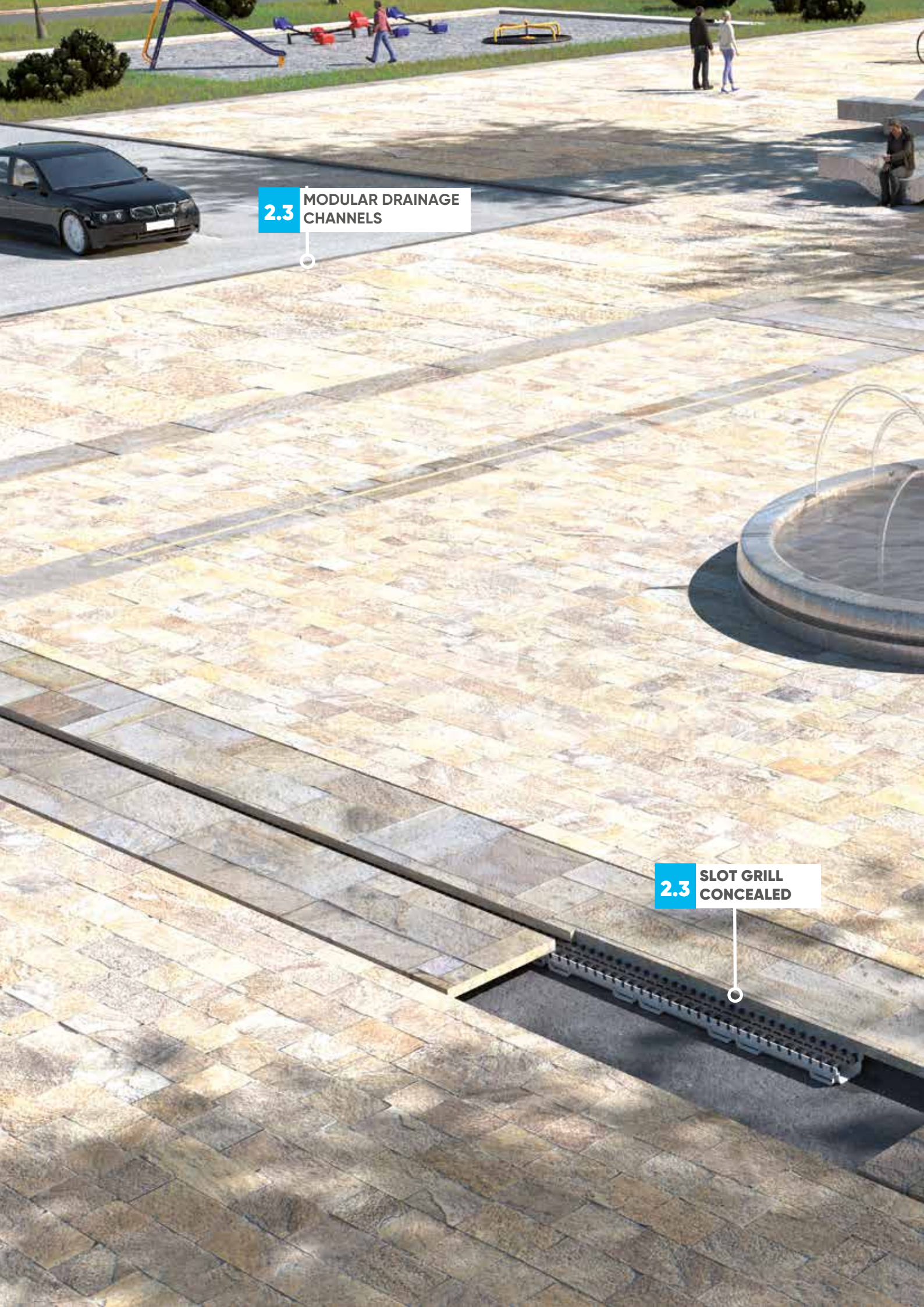
PVC - Chemical resistance

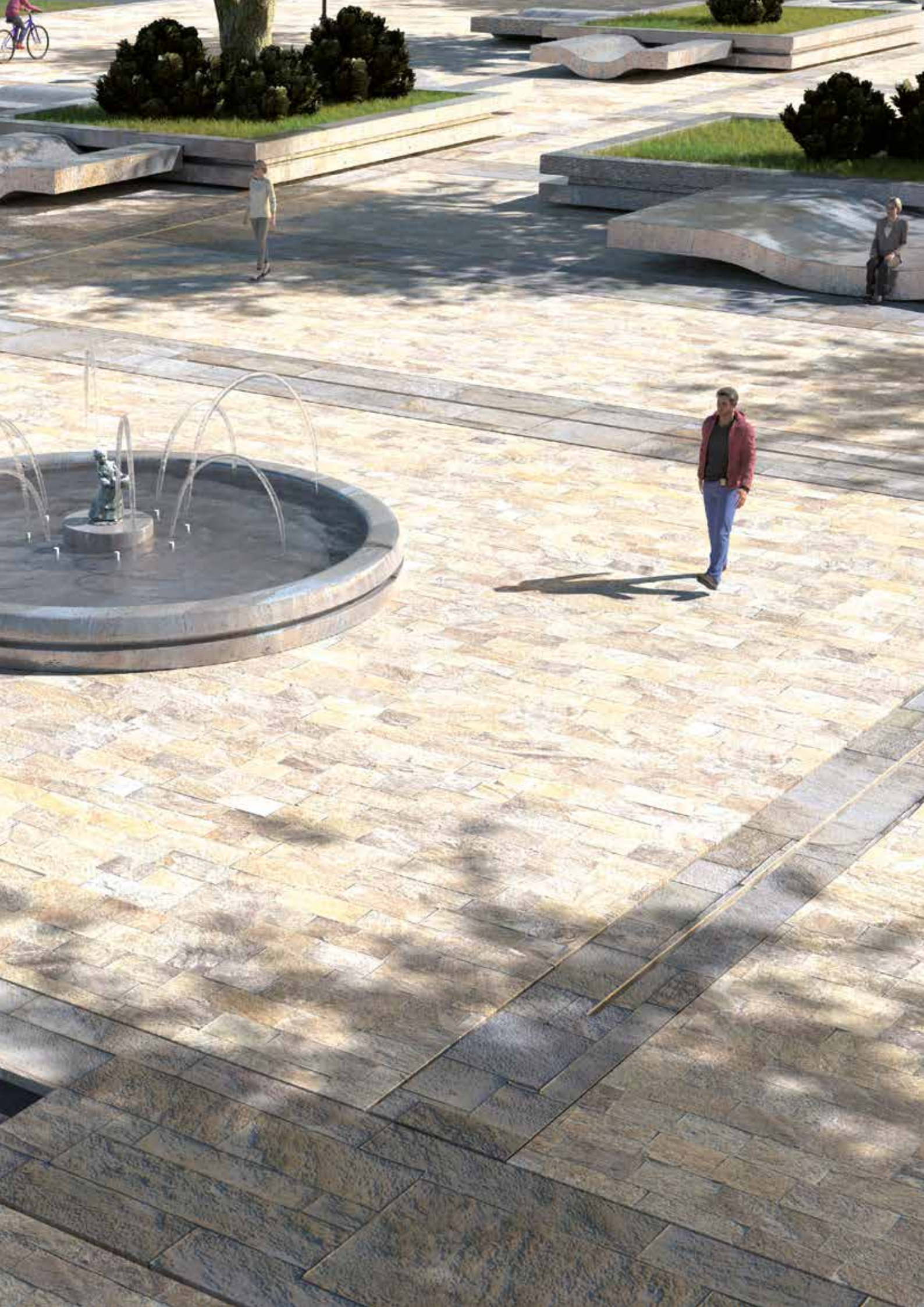
Product	Conc. %	Temp. 20 °C	Temp. 60 °C
Acetic Acid	60	S	L
Acetic Acid Monochloride	SOL.	S	L
Acetic Aldehyde	100	NS	-
Acetic Anhydride	100	NS	NS
Acetone	100	NS	NS
Adipic Acid	SOL.SAT.	S	L
Allyl Alcohol	90	L	S
Aluminum Chloride	SOL. SAT.	S	S
Aluminum Sulphate	SOL. SAT.	S	S
Ammonia (aqueous)	100	L	NS
Ammonia (gas)	100	S	S
Ammonia (solution)	SOL. DIL.	S	L
Ammonium Chloride	SOL. SAT.	S	S
Ammonium Fluoride	20	S	L
Ammonium Nitrate	SOL. SAT.	S	S
Ammonium Sulphate	SOL. SAT.	S	S
Amyl Acetate	100	NS	NS
Amyl Alcohol	100	S	L
Aniline	100	NS	NS
Aniline	SOL. SAT.	NS	NS
Aniline Hydrochloride	SOL. SAT.	NS	NS
Antimony Chloride	90	S	S
Arsenic Acid	SOL. DIL.	S	-
Beer		S	S
Benzaldehyde	0,1	NS	NS
Benzene	100	NS	NS
Benzoic Acid	SOL. SAT.	L	NS
Borax	SOL. SAT.	S	L
Boric Acid	SOL. DIL.	S	L
Bromine (liquid)	100	NS	NS
Bromine Acid	10	S	-
Butadiene	100	S	S
Butane	100	S	-
Butyl Acetate	100	NS	NS
Butyl Phenol	100	NS	NS
Butylene	100	S	L
Butyric Acid	20	S	L
Butyric Acid	98	NS	NS
Calcium Chloride	SOL. SAT.	S	S
Calcium Nitrate	50	S	S
Carbon Dioxide	100	S	S
Carbon Sulphide	100	NS	NS
Carbon tetrachloride	100	NS	NS
Cetyl Acid	100	S	S
Chlorine (dry gas)	100	L	NS
Chlorine (liquid)	SOL. SAT.	L	NS
Chlorosulphonic Acid	100	L	NS
Chromic Acid	1~50	S	L
Citric Acid	SOL. SAT.	S	S
Copper Chloride	SOL. SAT.	S	S
Copper Fluoride	2	S	S
Creosol	SOL. SAT.	-	NS
Cresol Acid	SOL. SAT.	NS	NS
Crotonic Aldehyde	100	NS	NS
Cyclohexanol	100	NS	NS
Cyclohexanone	100	NS	NS
Developing Bath		S	S
Dextrine	SOL. SAT.	S	L
Dichloroethylene	100	NS	NS
Diglycolic Acid	18	S	L
Dimethylammine	30	S	-
Ethyl Acetate	100	NS	NS
Ethyl Acrylate	100	NS	NS
Ethyl Alcohol	95	S	L
Ethyl Ether	100	NS	L
Ethylene Glycol	CONC.	L	L
Fluosilicic Acid	32	S	S
Formaldehyde	SOL.	S	S
Formaldehyde	40	S	S
Formic Acid	1~50	S	L
Furfural Alcohol	100	NS	NS
Glucose	SOL. SAT.	S	L
Glycerin	100	S	S
Glycolic Acid	30	S	S
Golden Syrup	SOL.	S	L
Hydrazine Benzene	100	NS	NS
Hydrazine Benzene Cloric	97	NS	NS
Hydrobromic Acid	50	S	L
Hydrochloric Acid	>30	S	S

Product	Conc. %	Temp. 20 °C	Temp. 60 °C
Hydrofluoric Acid	60	L	NS
Hydrogen	100	S	S
Hydrogen Dioxide	30	S	S
Hydrogen Sulphide	100	S	S
Iron Chloride	SOL. SAT.	S	S
Lactic Acid	10	S	L
Lactic Acid	10~90	L	NS
Lead Acetate	SOL. SAT.	S	S
Lead Tetraethyl	100	S	-
Magnesium Chloride	SOL. SAT.	S	S
Magnesium Sulphide	SOL. SAT.	S	S
Maleic Acid	SOL. SAT.	S	L
Methyl Alcohol	100	S	L
Methyl Methacrylate	100	NS	NS
Methylene Chloride	100	NS	NS
Milk		S	S
Nickel Sulphide	SOL. SAT.	S	S
Nicotinic Acid	CONC.	S	S
Nitric Acid	<46	S	L
Nitric Acid	46~98	NS	NS
Oils		S	S
Oleic Acid	100	S	S
Oleum	10% of SO	NS	NS
Oxalic Acid	SOL. DIL.	S	L
Oxalic Acid	SOL. SAT.	S	S
Oxigen	100	S	S
Ozone	100	NS	NS
Perchloric Acid	10	S	L
Perchloric Acid	70	L	NS
Petrol	80/20	NS	NS
Phenol	90	NS	NS
Phosphine	100	S	S
Phosphor Trichloride	100	NS	-
Phosphoric Acid	30	S	L
Picric Acid	SOL. SAT.	S	S
Potassium Bichromate	40	S	S
Potassium Bromide	SOL. SAT.	S	S
Potassium Chloride	SOL. SAT.	S	S
Potassium Chromate	40	S	S
Potassium Cyanide	SOL.	S	S
Potassium Ferricyanide	SOL. SAT.	S	S
Potassium Ferrocyanide	SOL. SAT.	S	S
Potassium Hydroxide	SOL.	S	S
Potassium Nitrate	SOL. SAT.	S	S
Potassium Permanganate	20	S	S
Potassium Persulfate	SOL. SAT.	S	L
Propane (gas liquid)	100	S	-
Pyridine	100	NS	-
Sea Water		S	L
Silver Nitrate	SOL. SAT.	S	L
Soap	SOL.	S	L
Sodium Benzoate	35	S	L
Sodium Bisulphite	SOL. SAT.	S	S
Sodium Chlorate	SOL. SAT.	S	S
Sodium Ferricyanide	SOL. SAT.	S	S
Sodium Hydroxide	SOL.	S	L
Sodium Hypochlorite	100 (13% Cl.)	S	L
Sodium Sulphite	SOL. SAT.	S	L
Sugar	SOL. SAT.	S	S
Sulphur Acid	SOL.	S	S
Sulphur Anhydride	100 (liquid)	L	NS
Sulphur Anhydride	100 (dry)	L	NS
Sulphuric Acid	40~90	S	L
Sulphuric Acid	96	L	NS
Tannic Acid	SOL.	S	S
Tartaric Acid	SOL.	S	S
Tin Chloride	SOL. SAT.	S	S
Toluene	100	NS	NS
Trichloroethylene	100	NS	NS
Trimethyl Propane	<10	S	L
Urea	10	S	L
Urine		S	L
Vinagre		S	S
Vinyl Acetate	100	NS	NS
Wine		S	S
Xylene	100	NS	NS
Yeast	SOL.	S	L
Zinc Chloride	SOL. SAT.	S	S

TS = Without corrosion L = Limitaded corrosion NS = Corrosion

For special applications it is recommended to contact the REDI Technical Department.


2.3
MODULAR DRAINAGE CHANNELS
2.3
SLOT GRILL CONCEALED



Catch Basins, Covers and Grills

REDI

aliaxis

Catch Basins, Covers and Grills

Test methods

REDI brand products performances are tested in accordance to EN regulations.

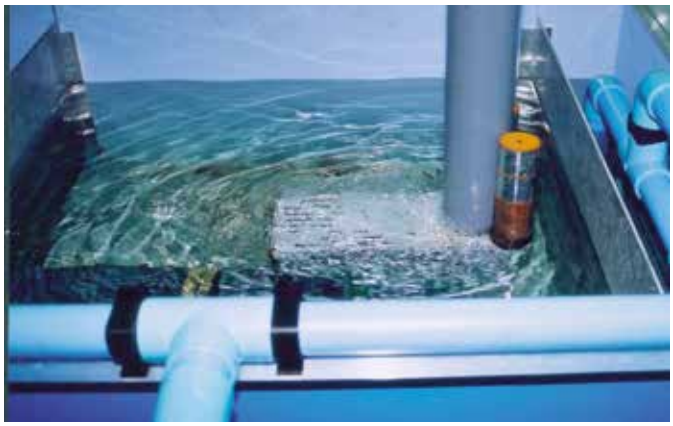
Two tests are carried out in particular:
- waterflow control (discharge test)
- mechanical resistance (breaking test).

Discharge test

This test is carried out in compliance with EN1253-1 cap. 8.11. The discharge capacity (lt/sec) is indicated with the symbol:

Test on mechanical stress resistance

This test is carried out in compliance with EN124 Standard. All certificates are available on request.
The breaking force (in KN) is indicated with the symbol:



Discharge Test on a rainwater collector.

Breacking test on a light duty traffic grill.

Plastics
Light solution

Polypropylene catch basin with PVC Grill

Easy to open

Light solution

Technical accessories

No leakage

Easy to open

Long time resistance of the junctions

Adaptable riser

Concrete
Heavy solution

Concrete catch basin with concrete cover

Difficult to open

Heavy solution

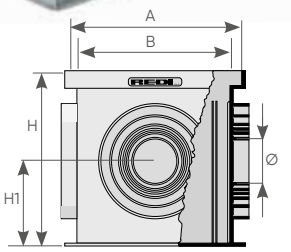
No accessories

Leakage (in the long term)

Difficult to open

Short time resistance of the junctions

No extension



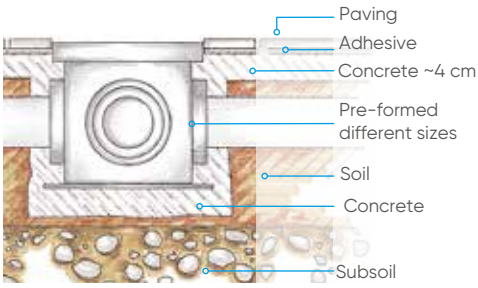
PP Catch basin

Regard de branchement en PP - Arqueta de registro PP

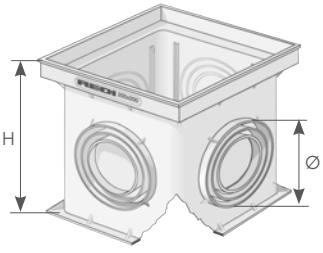
Dim (mm)	Reference Grey Ral 7035	Reference Green Ral 6005			A (mm)	B (mm)	H (mm)	H1 (mm)	Ø outlet (mm)
200x200	Y222004	Y22200V	1	120	189	161	200	100	63; 82; 100
200x200	Y212104	-	1	120	189	161	200	100	75; 90; 110 (export)
300x300	Y223004	Y22300V	1	48	286	253	297	140	82; 100; 125; 140
300x300	Y213104	-	1	48	286	253	297	140	75; 90; 110; 125; 160 (export)
400x400	Y224004	Y22400V	1	18	384	355	397	200	100; 125; 140; 160; 200; 250
550x550	Y225504	Y22550V	1	8	535	500	520	250	160; 200; 250; 315

Material: Polypropylene
Use: inspection chamber for rain and waste waters.
Benefits:
- light-weight
- easier to install than concrete chambers
- fully injection moulding
- high durability
- preformed cutouts for insertion of pipes in various sizes on all sides
- smooth rounded angles for a higher shock resistance
- it may be used as a connector block for electric systems.

Note: a concrete floor seating is recommended to prevent subsidence.



Baffle removal



PP Bottomless extension

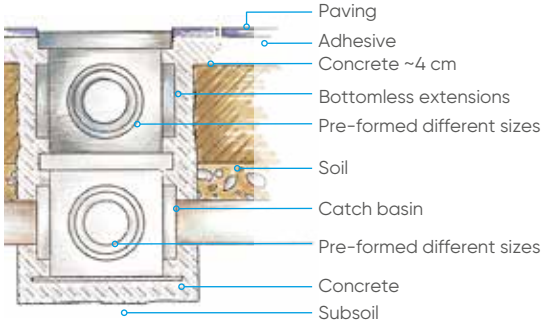
Rehausse sans fond en PP - Alargadera arqueta PP

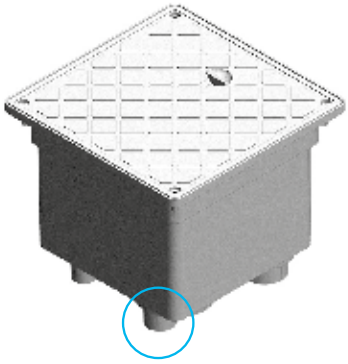
Dim (mm)	Reference Grey Ral 7035	Reference Green Ral 6005			H (mm)	Ø outlet (mm)
200x200	Y332004	Y33200V*	1	120	200	63; 82; 100
200x200	Y312104	✶	1	120	200	75; 90; 110 (export)
300x300	Y333004	Y33300V*	1	48	297	82; 100; 125; 140
300x300	Y313104	✶	1	48	297	75; 90; 110; 125; 160 (export)
400x400	Y334004	Y33400V*	1	18	397	100; 125; 140; 160; 200; 250
550x550	Y335504	Y33550V*	1	8	520	160; 200; 250; 315

*upon request

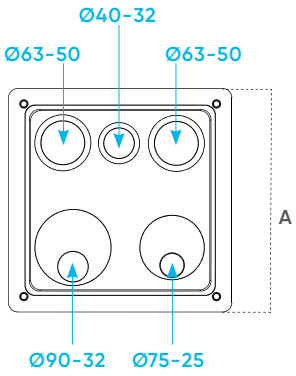
✶ For a minimum quantity available in the green color.

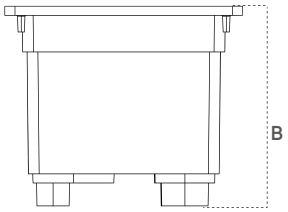
Material: Polypropylene
Colour: Grey RAL 7035
Use:
- extension
- leaking chamber for undergroung disposal of rain water
- inspection chamber for irrigation plants
- it may be used as a connector block for electric systems.

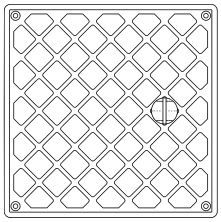




VERTICAL INLET/OUTLET







PP Catch basin for electric cables with watertight lid

Regard d'interface pour câbles electriques avec tampon étanche en PP

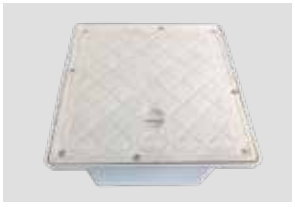
Arqueta de registro en PP con cierre estanco para cables eléctricos

Dim (mm)	A (mm)	B (mm)	Ø (mm)	Reference			Weight (gr)	Colour	Material
250x250	283	235	1 x Ø 25 2 x Ø 32 1 x Ø 40 2 x Ø 50 2 x Ø 63 1 x Ø 75 1 x Ø 90	E802504	4	240	1.340	Grey Ral 7035	PP

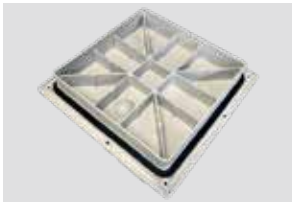
The electric inspection chamber is manufactured by injection moulding in shock resistant polypropilene material and used for housing and protect the electrical cables.

- 10 possible inlet/outlet: Ø 25 - 32 - 40- 50 - 63 - 75 - 90
- Equipped with its own assembly kit (screws and black water-repellent EPDM rubber seal)

IP67 certification for watertightness performance.



Lid with non-slip surface



Airtight seal thanks to the lid with gasket and screw

Preformed cutouts for insertion of pipes in various sizes

Certificate

I P 6 7 according to CEI EN 60529

Protection against temporary immersion in water for 30 minutes at a depth of 1 m

Total protection against the penetration of solid bodies and dust

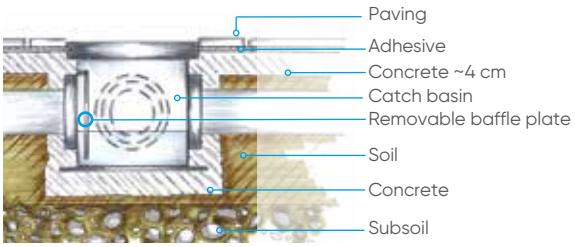
Tested by ISTITUTO GIORDANO

PP Removable baffle plate

Plaque-siphon pour regard en PP - Placa para sifón PP

Dim (mm)	Reference Grey Ral 7035			Note
200x200	Y112004	10	1200	
300x300	Y113004	8	768	
400x400	Y114004	5	120	
550x550	Y115504	1	90	

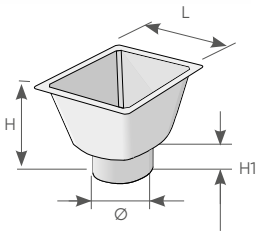
Material: Polypropylene
Use: to trap inlet pipe



Installation: the REDI catch basin is provided with special slots for the baffle to be fitted in.

PP Trap bell for catch basin

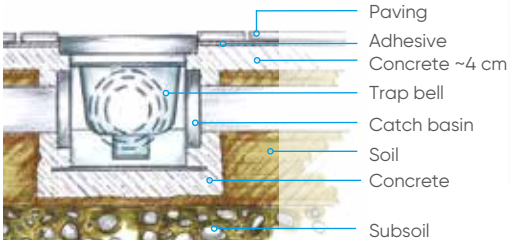
Cloche siphoide siphon de sol en PP
Campana sifónica para arqueta registro PP



Dim (mm)	Reference Grey Ral 7035			H	H1	L	Ø	Note
300x300	E273304*	1	156	210	58	251	125	
400x400	E274404*	1	54	300	75	350	160	

*upon request

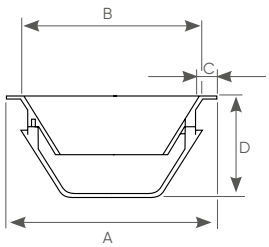
Material: Polypropylene
Use: To trap inspection catch basin.



Installation: the trap bell should be placed into the bottomless catch pit on the specially provided site stops.

PP Trap bell for catch basin

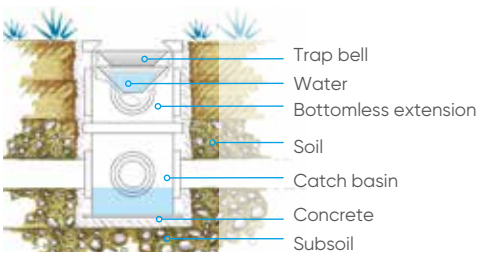
Cloche siphoide siphon de sol en PP
Campana sifónica para alargadera de arqueta



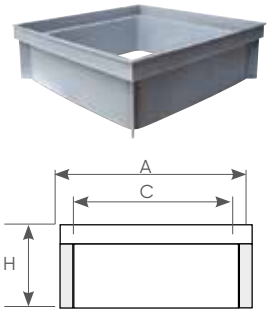
Dim (mm)	Reference Grey Ral 7035			A (mm)	B (mm)	C (mm)	D (mm)	Note
300 x 300	E275504*	1	180	249	238	5	160	
400 x 400	E276604	4	72	348	308	15	210	

*upon request

Material: Polypropylene
Use: to trap bottomless extension



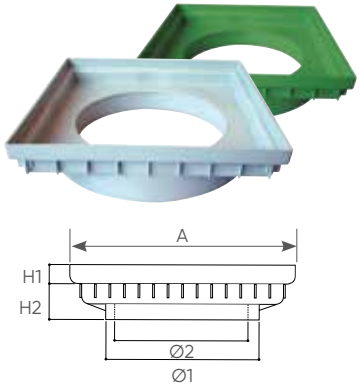
Installation: the trap bell should be placed into the bottomless catch pit on the specially provided site stops.



PP Short riser

Rehausse en PP (court) - Alargadera modular PP

Dim (mm)	Ref. Grey Ral 7035			H (mm)	A (mm)	C (mm)	Note
200x200	Y332204	1	240	100	189	161	
300x300	Y333204	1	168	100	286	253	
400x400	Y334204	1	90	100	384	355	
550x550	Y335204	1	16	315	532	500	

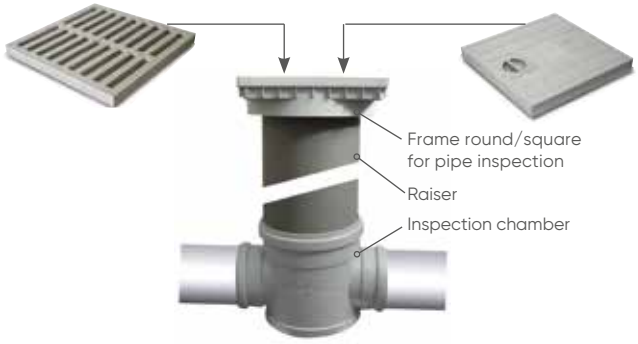


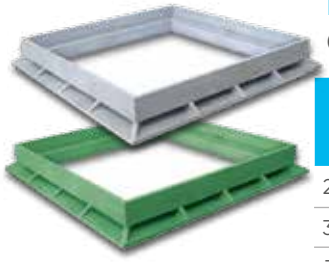
PP frame for pipe inspection

Cadre Carré/Rond en PP - Cerco para tubo de extensión PVC

Dim A (mm)	Ref.			Ø1 (mm)	Ø1 (mm)	H1 (mm)	H2 (mm)	Colour	Note
450x450	ETTQ304	1	40	400	315	50	65	Grey RAL 7035	Compatible with pedestrian and light traffic 450x450 covers and grills
450x450	ETTQ30V*	1	40	400	315	50	65	Green RAL 6005	Compatible with pedestrian and light traffic 450x450 covers and grills

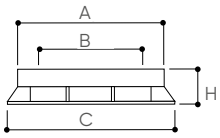
*upon request





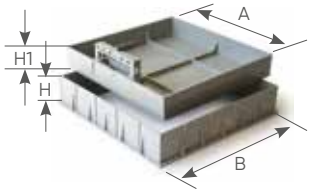
Frame
Cadre - Cerco

Dim (mm)	Reference Grey Ral 7035	Reference Green Ral 6005			A (mm)	B (mm)	C (mm)	H (mm)	Material
200x200	E202004	E20200V	10	400	200	160	209	40	PVC
300x300	E203004	E20300V	5	165	300	250	328	42	PVC
350x350	E203504	E20350V	5	120	350	300	352	42	PVC
400x400	E204004	E20400V	2	64	400	350	428	45	PVC
450x450	E204504	E20450V	2	64	450	400	448	45	PVC
550x550*	E205604	E20560V	1	40	550	500	583	55	*PP



Material: PVC
Use: to house covers, grates and formworks for closing concrete or masonry catch basins or for other special applications.
Installation: thanks to its special side slits, the REDI frame perfectly fits concrete.

PVC Formwork with handle
Tampon de coffrage avec poignée et cadre en PVC
Tapa rellenable con asa y cerco PVC

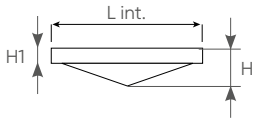


Dim (mm)	Reference Grey Ral 7035			A (mm)	H (mm)	B (mm)	H1 internal	Dim. Concrete catch basin	kg
350x350	ECM3504	1	78	350x350	70	370x370	50	300x300	2,5
450x450	ECM4504	1	32	450x450	70	470x470	50	400x400	3,5
550x550	ECM5004	1	26	550x550	70	570x570	50	500x500	4,8

Material: PVC
Use: as an alternative to the normal cover for catch basin when the surface appearance has to be kept unaltered.
The cover's cavity has to be filled with the proper material (as shown in the pictures).
Once installed, it can be easily lifted off by the handle.
Application field: light duty traffic areas such as garage fronts, private driveways,parkings pedestrian areas.
Durability: PVC specifications and structure design give this product a great resistance against atmospheric agents and ageing, and ensure dimensional stability in time.

Benefits:
- Handle tested to resist (certified traction resistance of 220 kg)*
- Handle easily extractable (handle fixed with screws on the bottom of the formwork)
- Manageable and practical
- Handle fixed with screws on the bottom of the formwork so that it can be easily dismantled for cleaning
- Iron mesh can be placed inside to improve load resistance
- Designed to support heavy loads
- Thicker section to avoid lateral bendings
- Resistant to acids and atmospheric agents
- Certified load resistance (more than 203 kn = 20,3t)*

* Test have been carried out by Istituto Giordano. Data and specifications are available on request



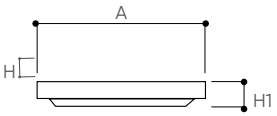
PP Formwork

Tampon de coffrage en PP - Tapa rellenable PP

Dim (mm)	Reference Grey Ral 7035			L. int (mm)	H (mm)	H1 (mm)	Note
200 x 200	E292204	10	400	182	29	16	
300 x 300	E293304	5	165	278	41	19	
400 x 400	E294404	2	64	375	42	20	

Material: Polypropylene
Use: as an alternative cover for catch basin when the surface appearance has to be kept unaltered. The cover's cavity has to be filled with the proper material (as shown in the pictures).
Installation: the recessed cover perfectly fits the REDI catch basin. Always use a frame when closing concrete catch basins or in case of special applications.
Once installed, it can be easily lifted off by the central pin.
Application field: pedestrian area, bicycle paths.
Durability: as Polypropylene is a plastic corrosion proof material, the REDI recessed cover is the best alternative to metal products subject to deformation due to atmospheric agents and ageing.

Filling suggestions

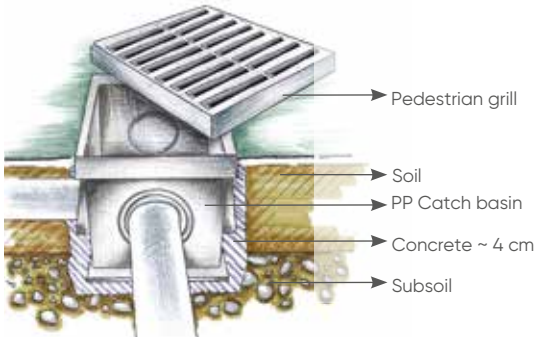


Pedestrian PVC grill (A15 load class)
Grille piétonnière en PVC - Rejilla peatonal PVC

Dim (mm)	Reference Grey Ral 7035			A (mm)	H (mm)	H1 (mm)	KN	L/S	Note
200x200	E722004	10	950	187	20	25	25	1,7	
300x300	E723004	5	300	284	20	30	18	2,8	
400x400	E724004	2	156	383	25	35	19	3,8	
450x450	E724504*	2	64	432	25	40	22	4,1	
550x550	E725504	1	50	534	34	45	38	4,6	

*upon request

Material: PVC
Colour: GREY RAL 7035
Use: to cover rain or waste water drainage catch basin.
Installation: the grate perfectly fits the REDI catch pit.
Always use a frame when covering concrete catch basin or in case of special applications.
Application field: pedestrian, cycle or motorcycle areas.
Durability: PVC specifications and structure design give this product a great resistance against atmospheric agents and ageing and ensure dimensional stability in time.



Heavy duty PVC grill (A15 load class)
Grille renforcée en PVC
Rejilla reforzada de PVC

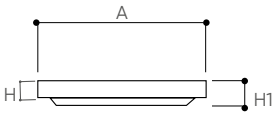
Dim (mm)	Reference Grey Ral 7035			A (mm)	H (mm)	H1 (mm)	KN	L/S	Note
200x200	E256704	10	400	187	20	35	49	1,7	
300x300	E256904	5	165	284	20	45	53	2,8	
350x350	E257004	5	120	331	22	45	84	3,3	
400x400	E257404	2	64	383	25	55	32	3,8	
450x450	E257504	2	64	432	25	55	63	4,1	
550x550	E257604	1	38	534	34	65	88	4,6	

Tested by ISTITUTO GIORDANO

Material: PVC
Colour: GREY RAL 7035
Use: to cover for rain or waste water drainage catch basin.
Installation: the grate perfectly fits the REDI catch pit.
Application field: light duty traffic areas, such as grarage fronts, private driveways, pedestrian areas.
Durability: PVC specifications and structure design give this product a great resistance against atmospheric agents and ageing and ensure dimensional stability in time.

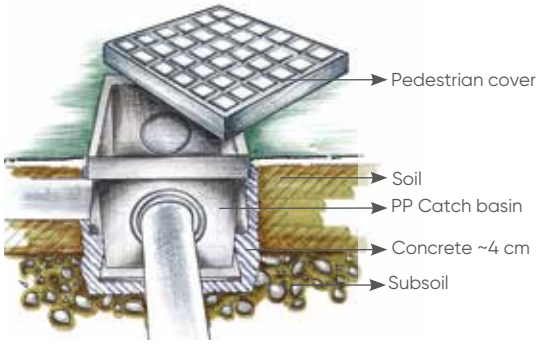
Pedestrian PVC cover (A15 load class)

Tampon piétonnier en PVC - Tapa peatonal PVC



Dim (mm)	Reference Grey Ral 7035			A (mm)	H (mm)	H (mm)	KN	Note
200x200	E682004	10	950	187	20	25	14	
300x300	E683004	5	300	284	20	30	20	
400x400	E684004	2	156	383	25	35	25	
450x450	E684504	2	64	432	25	40	29	
550x550	E685504	1	50	539	34	45	26	

Material: PVC
Colour : GREY RAL 7035
Use: Catch pit covering.
Installation: the cover perfectly fits the REDI catch pit.
Application field: pedestrian, cycle or motorcycle areas. Durability: PVC specifications and structure design give this product a great resistance against atmospheric agents and ageing and ensure dimensional stability in time.



Heavy duty PVC cover (A15 load class)

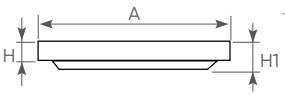
Tampon renforcée en PVC

Tapa reforzada de PVC

Dim (mm)	Reference Grey Ral 7035			A (mm)	H (mm)	H1 (mm)	KN	Note
200x200	E255704	10	400	187	20	35	57	
300x300	E255904	5	165	284	20	45	35	
350x350	E256004	5	120	331	22	45	94	
400x400	E256404	2	64	383	25	55	31	
450x450	E256504	2	64	432	25	55	111	
550x550	E256604	1	38	534	34	65	56	

Material: PVC
Colour : GREY RAL 7035
Use: Catch pit covering.
Installation: the cover perfectly fits the REDI catch pit.
Application field: light duty traffic areas, such as grarage fronts, private driveways, pedestrian areas.
Durability: PVC specifications and structure design give this product a great resistance against atmospheric agents and ageing and ensure dimensional stability in time.

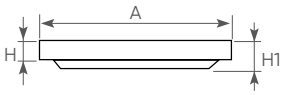
Pedestrian green PVC grill (A15 load class)
Grille piétonnière en PVC - Rejilla peatonal PVC



Dim (mm)	Reference Green Ral 6005			A (mm)	H (mm)	H1 (mm)	KN	L/S	Note
200x200	E72200V	10	950	187	20	25	1,7	23	
300x300	E72300V	5	300	284	20	30	2,8	18	
350x350**	E25700V*	5	120	331	22	45	3,3	85	**Light traffic
400x400	E72400V	2	156	383	25	35	3,8	19	
450x450	E72450V*	2	64	432	25	40	4,1	22	
550x550	E72550V*	1	50	534	34	45	4,6	38	

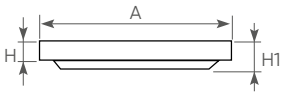
*upon request

Pedestrian green PVC cover (A15 load class)
Tampon piétonnier en PVC - Tapa peatonal PVC



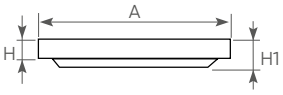
Dim (mm)	Reference Green Ral 6005			A (mm)	H (mm)	H1 (mm)	KN	Note
200x200	E68200V	5	950	187	20	25	32	
300x300	E68300V	5	300	284	20	30	20	
350x350**	E25600V	2	120	284	22	30	85	**Light traffic
400x400	E68400V	2	156	383	25	35	26	
450x450	E68450V	1	64	432	25	40	27	
550x550	E68550V	1	50	534	34	45	21	

Pedestrian PVC cover with handle (A15 load class)
Tampon piétonnier avec poignée en PVC
Tapa peatonal con asa PVC

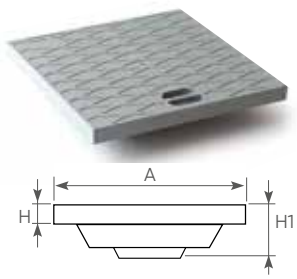


Dim (mm)	Reference Grey Ral 7035			A (mm)	H (mm)	H1 (mm)	H2 (mm)	KN	Note
300x300	E255804	5	300	284	20	30	20	20	
400x400	E256304	2	156	383	25	35	26	26	
550x550	E257804	1	56	534	34	45	21	21	

Pedestrian green PVC cover with handle (A15 load class)
Tampon piétonnier avec poignée en PVC
Tapa peatonal con asa PVC



Dim (mm)	Reference Green Ral 6005			A (mm)	H (mm)	H1 (mm)	KN	Note
300x300	E25580V	5	300	284	20	30	20	
400x400	E25630V	2	156	383	25	35	26	
550x550	E25780V	1	56	534	34	45	21	

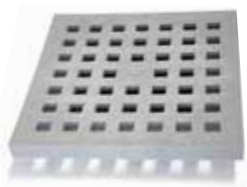


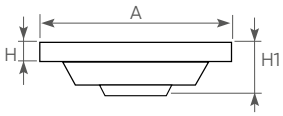
Light traffic PVC cover (B125 load class)
Tampon renforcé classe en PVC
Tapa reforzada de PVC

Dim (mm)	Reference Grey Ral 7035			A (mm)	H (mm)	H1 (mm)	KN	Note
300x300	ECR3004	2	120	284	20	67	>125	
400x400	ECR4004	2	64	383	25	62	>125	

Tested by ISTITUTO GIORDANO

LIGHT DUTY TRAFFIC
Load Class B125 in according with regulation EN 124



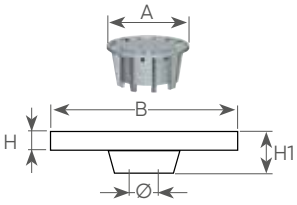


Light traffic PVC grill (B125 load class)
Grille renforcée en PVC
Rejilla reforzada de PVC

Dim (mm)	Reference Grey Ral 7035			A (mm)	H (mm)	H1 (mm)	KN	L/S	Note
300x300	EGR3004	2	120	284	20	67	>125	1,4	
400x400	EGR4004	2	64	383	25	62	>125	2,9	

Tested by ISTITUTO GIORDANO

LIGHT DUTY TRAFFIC
Load Class B125 in according with regulation EN 124

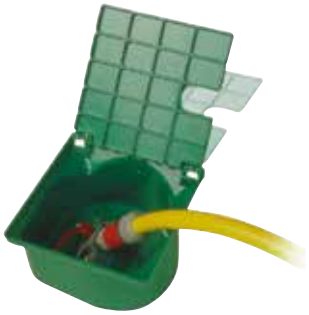


Pedestrian PVCcover with siphon
Tampon piétonnier avec siphon en PVC
Tapa peatonal con sifón PVC

Dim (mm)	Reference Grey Ral 7035			A (mm)	B (mm)	H (mm)	H1 (mm)	Ø (mm)	L/S	Note
300x300	ECN3004*	2	120	130	284	20	60	50	0,9	
400x400	ECN4004	1	32	180	383	25	83	75	1,4	

Use: to close inspection catch basins. Provided with a trap for rain or waste water drainage.

*upon request



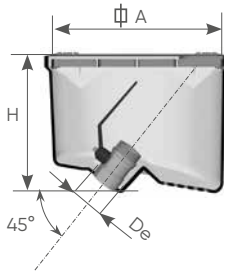
PVC Valve box for irrigation

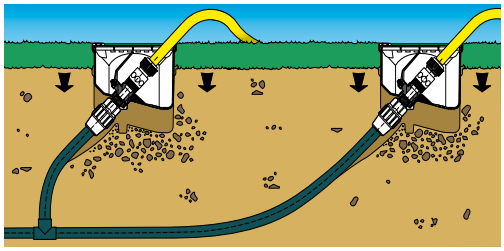
Bouche d'arrosage en PVC - Arqueta de riego con válvula PVC

Dim (mm)	H (mm)	Ø	Reference			Note
200x200	147	3/4"	W949400	1	100	

Material: PVC
Use: to connect irrigation hoses in gardens and pedestrian areas.
Features:
- easy-to-use built-in brass valve
- high resistance to mechanical stress
- high UV resistance
- hinged cover
- the box can be closed even if the hose is connected.

Note: it may be laid underground or fixed with concrete.





PP Bottomless valve box (round version)

Regard irrigation rond sans fond en PP
Arqueta de riego redonda PP

Ø1 (mm)	Ø2 (mm)	H (mm)	Reference			Note
160	212	230	POZ160V	1	320	
240	300	250	POZ240V	1	144	

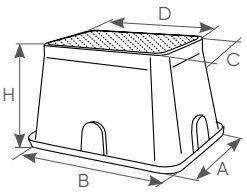
PP Bottomless valve box (square version)

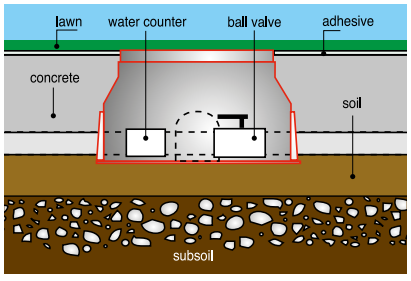
Regard irrigation rectangulaire sans fond en PP
Arqueta de riego rectangular PP

AxB (mm)	CxD (mm)	H (mm)	Reference			Note
380x510	260x385	300	POZ260V	1	32	
500x640	350x500	300	POZ500V	1	40	

Material: Polypropylene
Colour: Green cover and Black body
Use: this valve box allows irrigation systems connection and inspection in pedestrian areas.
Features:
- cover with screw fixing
- pierced walls for pipes to pass through.

Note: this valve box is self supporting. It may be laid underground or fixed with concrete.





Rainwater Gullies

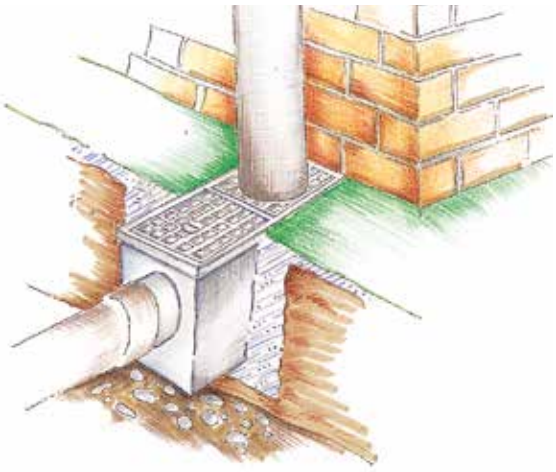
REDI

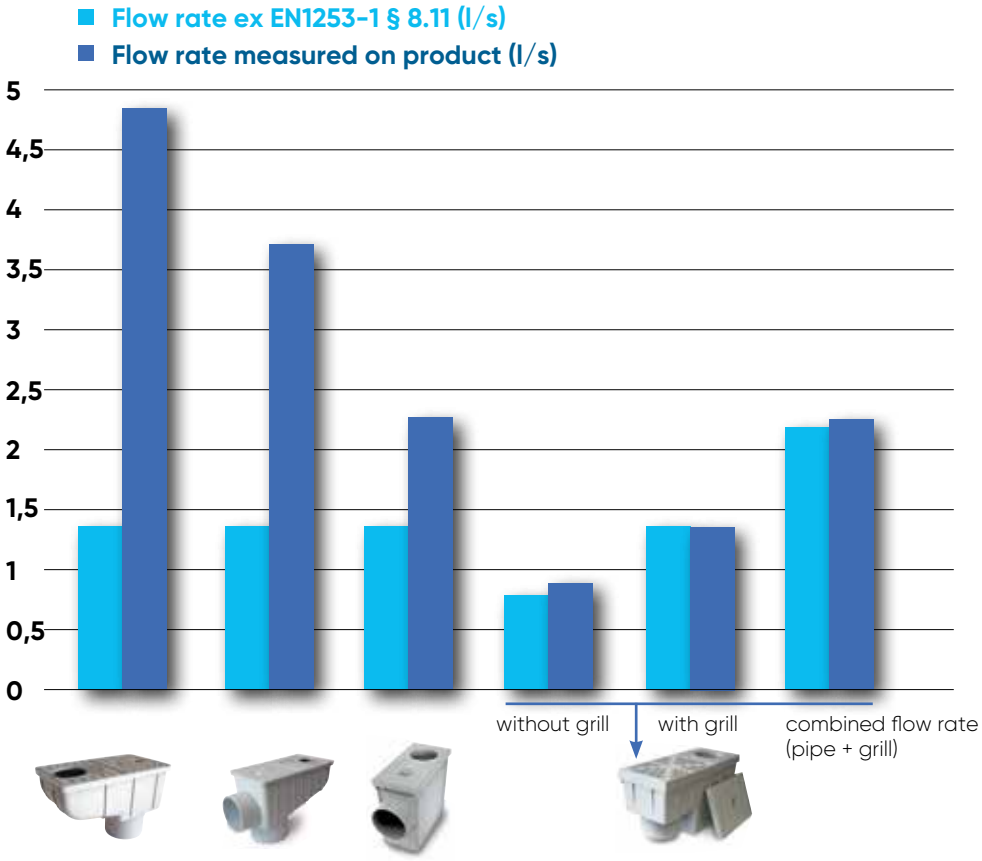
aliaxis

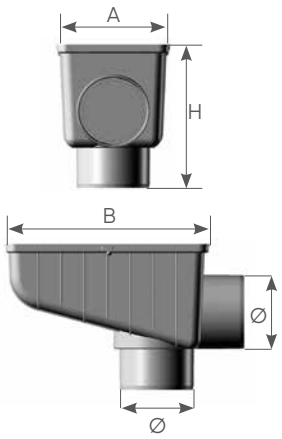
Rainwater Gullies

Installation example

Installation example







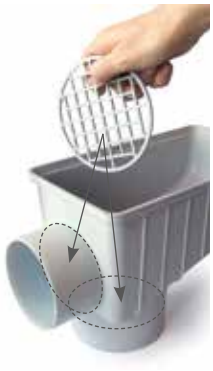
Untrapped rainwater gully with vertical/horizontal outlet

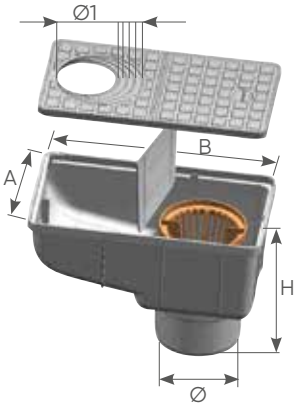
Regard de descente pour eaux pluviales sortie verticale/horizontale sans siphon - Arqueta para bajante de aguas pluviales, no sifónica, salida vertical/horizontal

Dim AxB (mm)	Reference Grey Ral 7035			Ø (mm)	Ø1 (inlets) (mm)	H (mm)	L/S	Material
166x300	Y891004	3	42	100/110	50/75/80/90/100/110/125	215	3,7	PP

Material: Polypropylene
Use: inspection chamber for rainwater flowing from gutter downpipes to the sewage.

Benefits:
ICE PREVENTION; light-weight; easier installation than concrete version; fully injection moulded; leaf guard to be positioned in horizontal or vertical direction; high durability in the long term; internal removable baffle plate; cover fasten to the gully or grill; available with round inlet Ø: 50/75/80/90/100/110/125; vertical and horizontal outlet Ø100 (internaland) Ø110 (external); internal removable baffle plate; cover or grill fasten to the gully
Installation: a concrete floor seating is recommended.
Application field: pavements, grass or paved walkways.





Untrapped rainwater gully with vertical outlet

Regard de descente pour eaux pluviales sortie verticale sans siphon - Arqueta para bajante de aguas pluviales, no sifónica, salida vertical

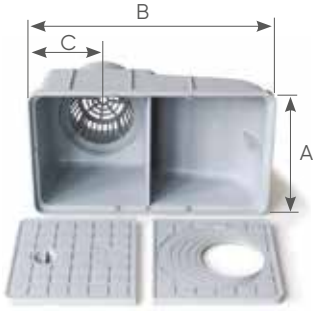
Dim AxB (mm)	Reference Grey Ral 7035			Ø (mm)	Ø1 (inlets) (mm)	H (mm)	C (mm)	L/S	Mat.
166x300	Y881004 ✦	6	84	100	50/75/80/90/100/110	195	80	4,9	PP
166x300	Y881104 ✦	6	84	110	50/75/80/90/100/110	195	80	4,9	PP

Tested by CSTB

✦ Available in BLACK and BROWN colours on request

Material: Polypropylene
Use: inspection chamber for rainwater
flowing from gutter downpipes to the sewage.

Benefits:
ICE PREVENTION; light-weight; easier installation than concrete version; fully injection moulded; high durability in the long term; access cover with handle; leaves basket (except in model with Ø125 mm); internal removable baffle plate; available with round inlet Ø: 75/80/90/100/110; vertical outlet Ø100, Ø110 and Ø125
Installation: a concrete floor seating is recommended.
Application field: pavements, grass or paved walkways.




Easy to adapt


Supplied with basket

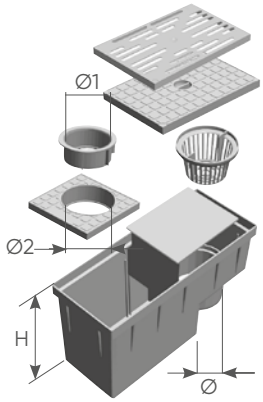
Trapped rainwater gully round inlet vertical outlet
Regard de descente avec siphon sortie verticale
Arqueta sífónica para bajante de aguas pluviales, salida vertical

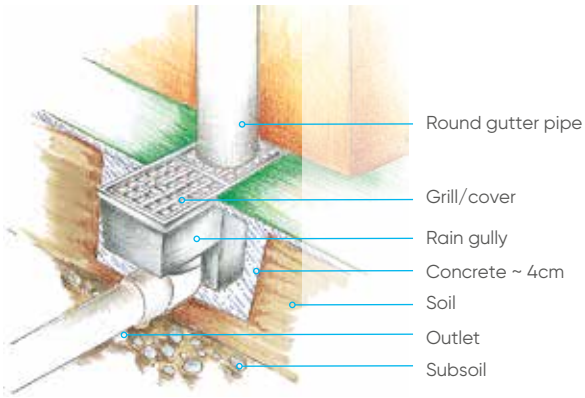
Dim AxB (mm)	Reference Grey Ral 7035			Ø (mm)	Ø1 (mm)	Ø2 (mm)	H (mm)	L/S	Material
380x156	Y661304 ✦	3	42	100	80	100	197	* 0,9 - 1,4	PP
380x156	Y662204 ✦	3	42	110	75/90	110	197	* 0,8 - 1,4	PP
380x156	Y663304 ✦	3	42	110	80	100	197	* 0,9 - 1,4	PP

Tested by CSTB

* Flow rate in accordance with regulation EN 1253-1 §8.11 (measured with and without grill)

✦ Available in BLACK colour on request





Material: Polypropylene
Use: trapped inspection chamber for rainwater flowing from gutter downpipes to the sewage.

Benefits: - light-weight
- easier installation than concrete version
- fully injection moulded
- high durability
- leaves basket
- Internal removable baffle plate
- available with round inlet Ø: 80/100 or Ø 75/90/110
- vertical outlet Ø 100 and Ø 110.

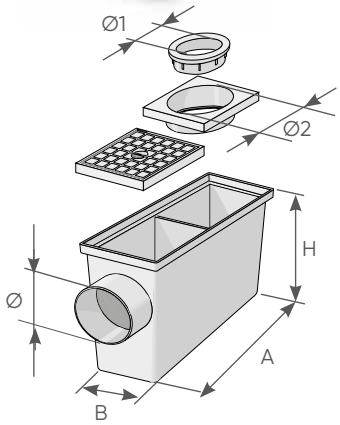
Installation: a concrete floor seating is recommended.
Application field: pavements, grass or paved walkways.

Rainwater gully: the right solution

Existing solutions





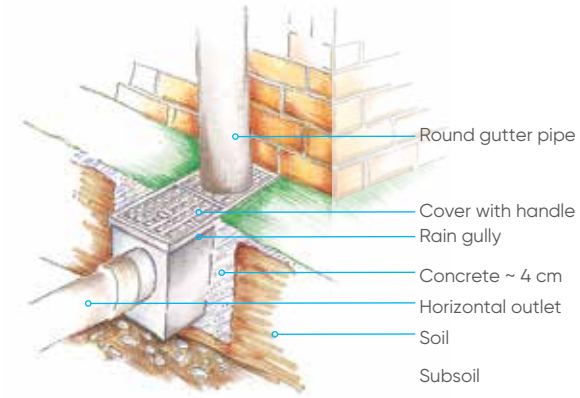
Trapped rainwater gully with round inlet and horizontal outlet

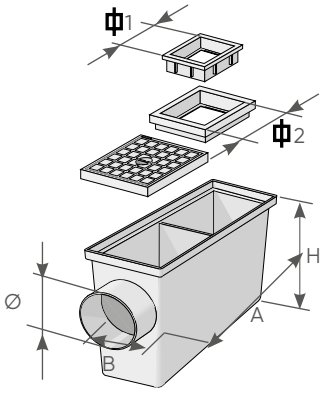
Regard de descente avec siphon pour eaux pluviales entrée ronde sortie horizontale - Arqueta sífónica para bajante de aguas pluviales, salida horizontal

Dim AxB (mm)	Reference Grey Ral 7035			Ø (mm)	Ø1 (mm)	Ø2 (mm)	H (mm)	L/S	Material
240x128	Y661504	16	128	100	80	100	215	* 2,3	PP
240x128	Y662004	16	128	110	80	100	215	* 2,3	PP
240x128	Y661904	16	128	110	75	110	215	* 2,3	PP

Tested by CSTB

* Flow rate in accordance with regulation EN 1253-1 §8.11 (measured with and without grill)





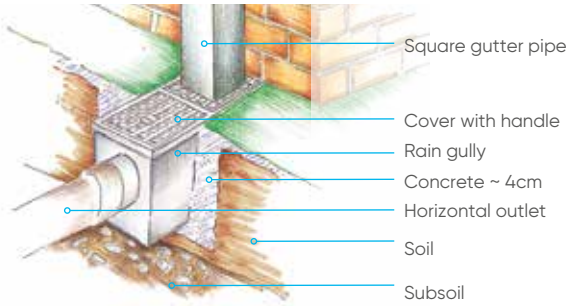
Trapped rainwater gully with square inlet and horizontal outlet

Regard de descente avec siphon pour eaux pluviales, entrée carrée sortie horizontale - Arqueta sífónica para bajante de aguas pluviales, salida horizontal

Dim AxB (mm)	Reference Grey Ral 7035			Ø (mm)	⧾1 (mm)	⧾2 (mm)	H (mm)	L/S	Material
240x128	Y771504	16	128	100	80	100	215	* 2,3	PP
240x128	Y772004	16	128	110	80	100	215	* 2,3	PP

Tested by CSTB

* Flow rate in accordance with regulation EN 1253-1 §8.11 (measured with and without grill)

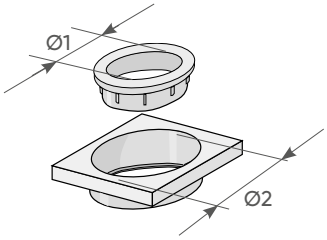


Material: Polypropylene
Use: inspection chamber for rainwater flowing from gutter downpipes to the sewage.

Benefits: - light-weight
- easier installation than concrete version
- fully injection moulded
- high durability
- access cover with handle
- internal removable baffle plate
- available with either square or round inlet
  ROUND Ø 80/100 or Ø 75/110
  SQUARE ⧾ 80/100
- horizontal outlet Ø 100 and Ø 110.

Installation: a concrete floor seating is recommended.
Application field: pavements, grass or paved walkways.

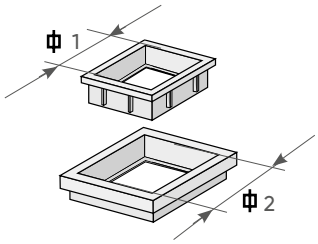
Spare Parts - Pièces de rechang - Repuestos



Round adaptor (horizontal outlet)
Adapteur rond - Adaptador redondo

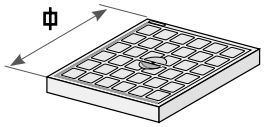
Ø1 (mm)	Ø2 (mm)	Reference Grey Ral 7035			Note
80	100	Y6688PO	20	1200	Two components
75	110	Y6677PO*	31	1.860	Two components

*upon request



Square adaptor (horizontal outlet)
Adapteur carré - Adaptador cuadrado

中1 (mm)	中2 (mm)	Reference Grey Ral 7035			Note
80	100	Y6666PQ	25	1.500	Two components



Cover
Tampon - Tapa

中 (mm)	Reference Grey Ral 7035			Note
118	Y665504	50	6.400	

Spare parts for untrapped rainwater gully
Pièces de rechange pour eaux pluviales
Repuestos para arqueta de aguas pluviales

Dim (mm)	Reference Grey Ral 7035			Note
146x160	NW29104*	1	3.456	Cover
146x160	NW73304	3	-	Cover with round inlet Ø: 50/75/80/90/100/110/125

*upon request

Modular Drainage Channels

REDI

aliaxis

Drainage channel installation instructions

In compliance with CE marking statement (Ex Reg. EN1433), it is compulsory to match a galvanized steel grill to the channel.

Excavate a trench 10 cms larger and 5 cms deeper than the channels you need to accomodate.

Butter the concrete on the bottom of the trench (as deep as the channel). No slope.

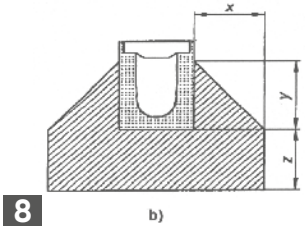
Use standard silicone glue for pasting the channels

Slot in the channel

Put the grills on the channels

Set down the channels and check that grill level and ground level are equal to each other

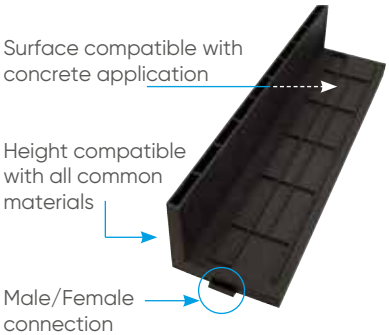
Pack. with cement in order to eliminate air pockets.
The channels must be set down with the grills. Put some shims between the grills and the edge of the channels: this will facilitate inspection by removing the grills, once installation is completed.



Use concrete class RCK 45. Load class according to the rule EN1433. The observance of the CE marking, according to EN1433, bind the grill 130 x 1000 to the channels 130 x 1000/52-70-90-130 internal height

			Concrete RCK 450 (mm)			Trench dimensions (to be added to channel sizes mm)		
Grill description	Channel dimensions*	Channel height*	X	Y	Z	Additional Side Dx	Additional Side Sx	Additional Depth
Swimming pool	130 x 500	70	33	68	42	100	100	50
High drainage	130 x 500	70	33	68	42	100	100	50
B125 grill	130 x 500	70	33	68	42	100	100	50
B125 cover	130 x 500	70	33	68	42	100	100	50
Swimming pool	130 x 500	134	33	134	42	100	100	50
High drainage	130 x 500	134	33	134	42	100	100	50
B125 grill	130 x 500	134	33	134	42	100	100	50
B125 cover	130 x 500	134	33	134	42	100	100	50
B125 grill	200 x 500	94	33	93	26	100	100	50
B125 cover	200 x 500	94	33	93	26	100	100	50
B125 grill	200 x 500	170	33	165	63	100	100	50
B125 cover	200 x 500	170	33	165	63	100	100	50
Galv. steel A15	130 x 1000	52	20	50	22	100	100	50
Galv. Steel B125 33*33	130 x 1000	52	50	60	50	100	100	50
Galv. Steel C250 33*33	130 x 1000	52	50	60	50	150	150	80
PP pedestrian grill	130 x 1000	70	33	74	66	100	100	50
Galv. steel A15	130 x 1000	70	33	74	36	100	100	50
Galv. Steel B125 33*33	130 x 1000	70	33	74	36	100	100	50
Galv. Steel C250 33*33	130 x 1000	70	70	74	70	150	150	80
Slot grill h. 85mm	130 x 1000	70	33	74	66	100	100	50
Galv. steel A15	130 x 1000	90	60	115	100	100	100	50
Galv. Steel B125 33*33	130 x 1000	90	60	115	100	100	100	50
Galv. Steel C250 33*33	130 x 1000	90	60	115	100	100	100	50
PP pedestrian grill	130 x 1000	130	33	136	40	100	100	50
Galv. steel A15	130 x 1000	130	33	136	40	100	100	50
Galv. Steel B125 33*33	130 x 1000	130	33	136	40	100	100	50
Galv. Steel C250 33*33	130 x 1000	130	70	136	70	150	150	80
Slot grill h. 85mm	130 x 1000	130	33	136	40	100	100	50

Slot Grill concealed drainage channel



Marking: CE

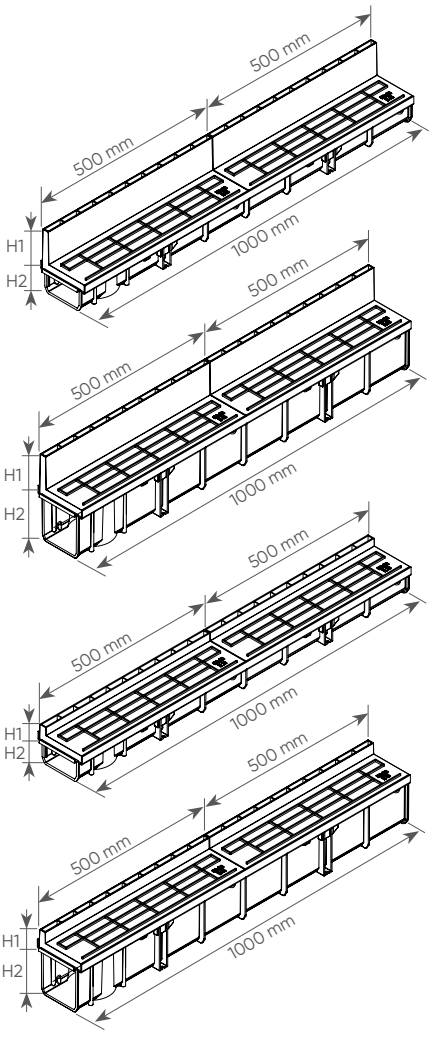
Tested by ISTITUTO GIORDANO

PP Slot grill 130x500

Grille fente 130x500 en PP - Rejilla ranurada 130x500 en PP

Dim (mm)	H int. (mm)	Dim slot (mm)	Reference			L/S	Note
130x500	85	8x49	EGF10PP	10	140	0,4	**HIGH**
130x500	20	8x49	EGFBAPP	10	360	0,4	**LOW**

Material: PP - Black colour
Slot grill can be installed in all drainage channels 130 with "C" section grate



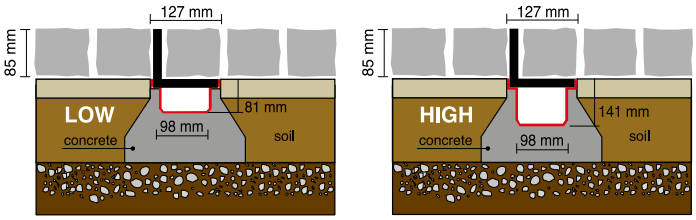
KIT: 2 high slot grills with 1 PP channel 130x1000

Kit: 2 grilles fente hautes avec 1 caniveau en PP 130x1000

Kit: 2 Rejillas ranuradas altas con canaleta 130x1000 en PP

Dim (mm)	H1 (mm)	H2 (mm)	Dim. Slot (mm)	Reference			Note
130x1000	85	70	8x49	EGF15PP	1	55	2 slot grill 1 channel **LOW**
130x1000	85	130	8x49	EGF20PP	1	30	2 slot grill 1 channel **HIGH**

Material: PP - Black colour



KIT: 2 LOW slot grills with 1 PP channel 130x1000

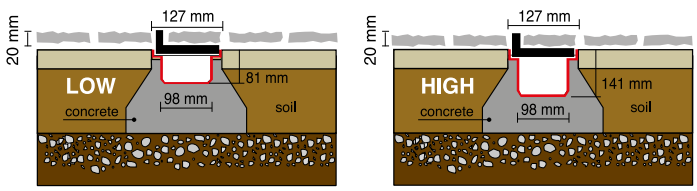
Kit: 2 grilles fente basses avec 1 caniveau en PP 130x1000

Kit: 2 Rejillas ranuradas bajas con canaleta 130x1000 en PP

Dim (mm)	H1 (mm)	H2 (mm)	Dim. Slot (mm)	Reference			Note
130x1000	20	70	8x49	EGFB5PP	1	56	2 slot grill 1 channel **LOW**
130x1000	20	130	8x49	EGFB0PP*	1	36	2 slot grill 1 channel **HIGH**

Material: PP - Black colour

*upon request



H130 "C" shaped profile

Note:
1 x vertical outlet predisposition (pag. 198)

Grate locking device applicable (pag. 198)

PP channel 130x1000 with "C" section grate
Caniveau 130x1000 section "C" en PP avec grille
Canal 130x1000 sección "C" en PP con rejilla

Type	Dim (mm)	H (mm)	Reference			Characteristic	Lock system
A	130x1000	**130**	ECAZNPP	1	60	Galvanized steel grill **A15 EN1433**	Lock system
B	130x1000	**130**	ECAIXPP*	1	60	Stainless steel grill	Lock system
C	130x1000	**130**	ECCZNPP	1	60	Galvanized steel grill, square mesh 33 x 33 mm **B125 EN1433**	Lock system
D	130x1000	**130**	ECCIXPP	1	60	PP black heel proof grill **A15 EN1433**	Predispose for locking system
E	130x1000	**130**	ECCPP0V*	1	30	Green RAL 6005 heel proof grill **A15 EN1433**	Predispose for locking system

Tested by "MASINI Research and Testing Institute"
Marking: CE
Grating: class A15 EN1433. Use rain water drainage in pedestrian areas and light traffic areas.
Grate locking device applicable.
Grating: class B125 EN1433. Use rain water drainage. Especially designed for light duty traffic areas, such as garage fronts, private driverways, pedestrian areas. Grate locking device applicable.

*upon request

E1712PP

E1714PP

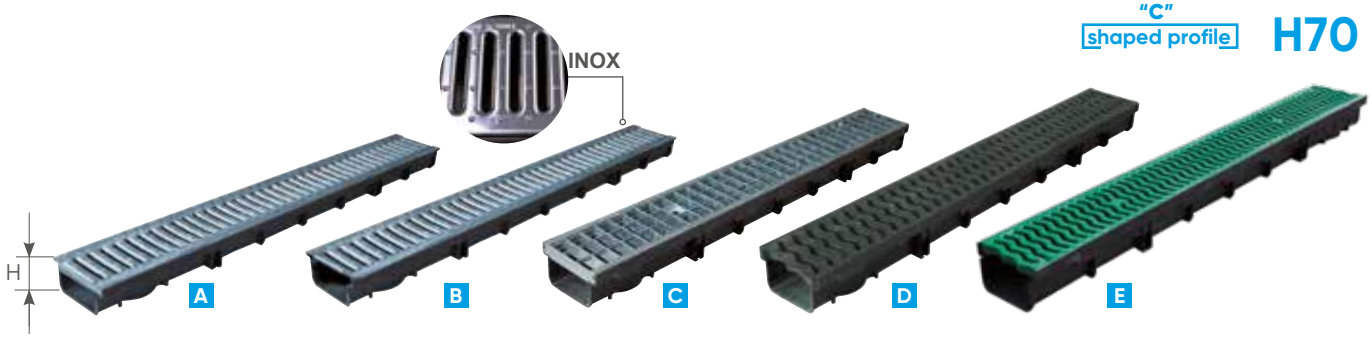
PVC end cap outlet 130
Fond/naissance 130 en PVC - Tapón 130 con salida en PVC

Dim (mm)	H (mm	Ø Outlet	Reference			Note
130	**130**	100	E1712PP*	10	600	
130	**130**	110*	E1714PP	10	600	*Offset

Material: PVC - Black colour
Use: end cap for 130 mm high channel. Easy-to-open outlet.

*upon request

Easy to open



"C" shaped profile **H70**

Note:
1 x vertical outlet predisposition (pag. 198)

Grate locking device applicable (pag. 198)

PP channel 130x1000 with "C" section grate
Caniveau 130x1000 section "C" en PP avec grille
Canal 130x1000 sección "C" en PP con rejilla

Type	Dim (mm)	H (mm)	Reference			Characteristic	Lock system
A	130x1000	**70**	ECBZNPP	1	105	Galvanized steel grill **A15 EN1433**	Lock system
B	130x1000	**70**	ECBIXPP	1	105	Stainless steel grill	Lock system
C	130x1000	**70**	ECDZNPP*	1	105	Galvanized steel grill, square mesh 33 x 33 mm **B125 EN1433**	Lock system
D	130x1000	**70**	ECDIXPP	1	105	PP Black heel proof grill **A15 EN1433**	Predispose for locking system
E	130x1000	**70**	ECDPP0V*	1	105	PP Green RAL 6005 heel proof grill **A15 EN1433**	Predispose for locking system

*upon request

Tested by "MASINI Research and Testing Institute"
Marking: CE
Grating: class A15 EN1433
Use: rain water drainage in pedestrian areas and light traffic areas. Grate locking device applicable.
Grating: class B125 EN1433
Use: rain water drainage. Especially designed for light duty traffic areas, such as garage fronts, private driverways, pedestrian areas. Grate locking device applicable.

PVC end cap outlet 130
Fond/naissance 130 en PVC - Tapón 130 con salida en PVC

Dim (mm)	H (mm)	Ø Outlet	Reference			Note
130	**70**	50	E1718PP	10	1.280	

Material: PVC - Black colour
Use: end cap for 130 mm high channel. Easy-to-open outlet.

"T" shaped profile **H52**

Note:
1 x vertical outlet predisposition (pag. 198)

PP channel 130x1000 with "T" section grate

Caniveau bas 130x1000 section "T" en PP avec grille en acier galvanisé

Canal bajo 130x1000 sección "T" en PP con rejilla de acero galvanizado

Type	Dim (mm)	H (mm)	Reference			Characteristic	Lock system
A	130x1000	**52**	WCB13PP	1	105	Galvanized steel grill **A15 EN1433**	Interlock
B	130x1000	**52**	WCD13PP	1	105	Galvanized steel grill, square mesh 33 x 33 mm **B125 EN1433**	Free

Tested by "MASINI Research and Testing Institute"
Marking: : CE
Grating: class A15 EN1433
Use: rain water drainage in pedestrian areas.
Grating: class B125 EN1433
Use: rain water drainage. Especially designed for light duty traffic areas, such as garage fronts, private driverways, pedestrian areas. Grate locking device not applicable.

*upon request

PVC end cap outlet 130

Fond/naissance 130 en PVC - Tapón 130 con salida en PVC

Dim (mm)	H (mm)	Ø Outlet	Reference			Note
130	**52**	40	W6817PP	10	950	

Material: PVC - Black colour
Use: end cap for 130 mm high channel. Easy-to-open outlet.

H90 "T" shaped profile

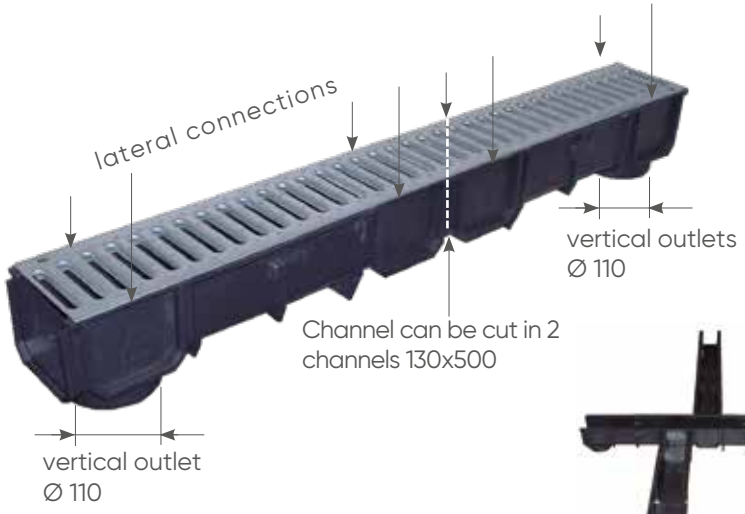
PP channel 130x1000 with "T" section grate (vertical outlet)

Caniveau 130x1000 section "T" en PP avec grille

Canal 130x1000 sección "T" en PP con rejilla (con salida vertical)

Type	Dim (mm)	H (mm)	Reference			Characteristic	Lock system
A	130x1000	**90**	WCA13PP	1	60	Galvanized steel grill **A15 EN1433**	Interlock

Tested by "MASINI Research and Testing Institute"
Marking: CE
Grating: class A15 - B125 - C250, EN1433
Use: rain water drainage. Especially designed for light duty traffic areas, such as garage fronts, private driver ways, pedestrian areas. Grate locking device not applicable.



PVC end cap outlet 130

Fond/naissance 130 en PVC - Tapón 130 con salida en PVC

Dim (mm)	H (mm)	Ø Outlet (mm)	Reference			Characteristic
130	**90**	110*	W6816PP	10	-	*Offset

Material: PVC - Black colour
Use: end cap for 130 mm high channel. Easy-to-open outlet Ø110.

PVC Connector for vertical outlet 130

Piquages sortie verticale 130 en PVC - Conector para salida vertical

Dim (mm)	Ø (mm)	Reference			Note
130	100	EBU1008*	10	480	
130	110	EBU1108	10	520	

Material: PVC - Black colour
Use: Connector for vertical outlet Ø100 -110. With 4 fixing screw.
This item can be installed in all channels 130x1000.

*upon request

Grate locking device (with screw)

Fixation pour grilles - Bloqueo para rejilla (con tornillo)

Dim (mm)	Reference			Note
130x1000	W6820FX*	10	25.600	

Universal leaf-guard

Crapaudine - Filtro atrapa hojas

*upon request

Ø (mm)	Reference			Note
100-110	WGPAF00*	10	9.000	

*upon request

Spare parts - Pièces de rechange - Repuestos

A15 Grill "C"- shaped profile

A15 Grille profil "C" - A15 rejilla sección "C"

Dim (mm)	H (mm)	Reference			Material	Note
130x1000	20	EGRZA15	1	100	Galvanized steel	"C" shaped profile
130x1000	20	EGRAA15	1	500	Stainless steel	"C" shaped profile

Note: The length of the metal grille is 997 ± 1m to avoid problems of linear expansion.

B125 Galvanized steel grill "C"- shaped profile

B125 Grille galvanisée profil "C"

B125 Rejilla acero galvanizado perfil "C"

Dim (mm)	H (mm)	Reference			Note
130x1000	20	EGRB125	1	-	Square mesh 33 x 33 mm
200x1000	20	EG2B125*	1	-	Square mesh 33 x 33 mm

Note: The length of the metal grille is 997 ± 1m to avoid problems of linear expansion.

*upon request

C250 Galvanized steel grill "C" shaped profile

C250 Grille galvanisée profil "C"

C250 Rejilla acero galvanizado perfil "C"

Dim (mm)	H (mm)	Reference			Note
130x1000	20	EGRC250*	1	260	Square mesh 33 x 33 mm

Note: The length of the metal grille is 997 ± 1m to avoid problems of linear expansion.

*upon request

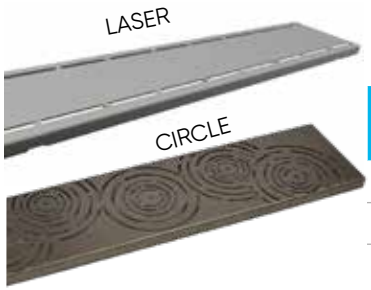
ATTENTION: The channels must be set down with the grills. Put some shims between the grills and the edge of the channels: this will facilitate inspection by removing the grills, once installation is completed.

"Design" is a new range of non-trapped modular channels, with grates and channel rails made of stainless steel.
Ideal for long stretches of drainage channel systems for white waters.
Thanks to the peculiar patterns engraved on the grills (laser technology), this product is particularly suitable for public showers, changing-rooms, gymnasiums and spas.

Characteristic:
- Modular PVC channel 100x500 mm.
- Height 50 mm.
- PVC outlet Ø 40 mm.
- PVC Universal corner 100x250 mm.
- Community design

Use solvent cement for PVC to weld the channels pag. 125

The "Design" grilles can be classified in load class K3 in accordance with regulation **EN1253-2** (resistance >300 kg). All tests have been carried out at Aliaxis laboratories.

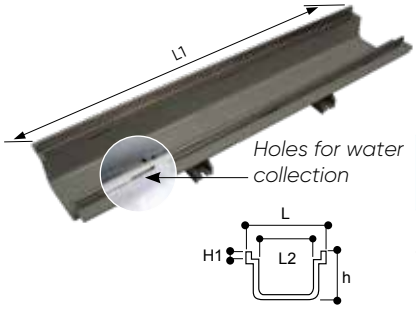


Grills 100 "Design" (stainless steel AISI 304)
Grille "Design" 100 (acier inoxydable AISI 304)
Rejilla "Design" 100 (acero inoxidable cromado AISI 304)

Dim (mm)	L/S	Reference			Design Type	Note
100x500	0,8	EZ10GLA*	1	100	LASER	
100x500	1,1	EZ10GCI	1	12	CIRCLE	

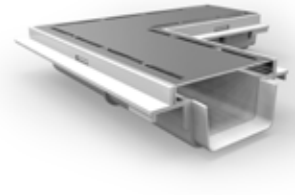
Material: Stainless steel AISI 304

*upon request



Low modular channel 100 (rails made of stainless steel AISI 304)
Corps de caniveau 100 (profilés en acier inoxydable AISI 304)
Canaleta baja 100 (rieles de acero inoxidable AISI 304)

L (mm)	L1 (mm)	L2 (mm)	H (mm)	H1 (mm)	Reference Grey Ral 7035			Note
100	500	96	50	12	EZ10CAI	12	168	Screwed stainless steel rails



Universal corner 100 with "Laser" design grill
Angle universel 100 avec grille design "Laser"
Ángulo canaleta 100 con rejilla de diseño "Laser"

Dim (mm)	Reference Grey Ral 7035			Note
100x250	EZ10ALA*	1	120	Stainless steel AISI 304 grill

*upon request

Universal corner 100 with "Circle" design grill
Angle universel 100 avec grille design "Circle"
Ángulo canaleta 100 con rejilla de diseño "Circle"

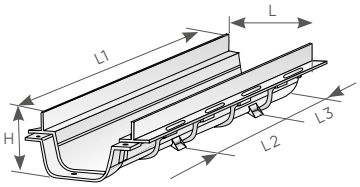
Dim (mm)	Reference Grey Ral 7035			Note
100x250	EZ10ACI*	1	120	Stainless steel AISI 304 grill

*upon request

PVC Low modular channel 100

Corps de caniveau modulaire 100 bas en PVC

Canaleta 100 de altura reducida en PVC



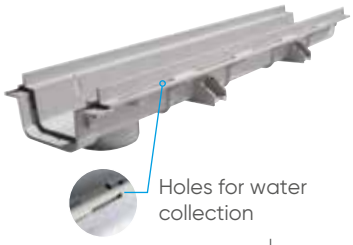
L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	H (mm)	Reference Grey Ral 7035			Note
100	500	200	150	50	E1810B4	10	360	

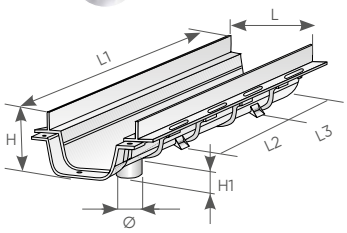
Material: PVC
Use: rain water drainage in garages, terraces and balconies, multi-storeyed car parks in all cases of low concrete slab.
Features:
- Fixing brackets (preset for nails or screw fastening)
- Side slots for better anchorage to concrete
- Modular couplings by pins
- Preset for cover screw fastening
- Vertical outlet Ø 63 (easy perforation)
- End cap (outlet diameter 50)
- Possibility to glue the components to ensure water tightness.
- **Use solvent cement for PVC to weld the channels pag. 125**

Low modular channel 100 with vertical outlet Ø63

Corps de caniveau modulaire 100 bas (sortie verticale Ø63)

Canaleta 100 de altura reducida en PVC (salida vertical Ø63)





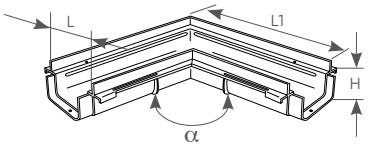
L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	H (mm)	H1 (mm)	Ø (mm)	Reference Grey Ral 7035			Note
100	500	200	150	50	15	63	E1811B4	10	240	

Material: PVC
Use: rain water drainage in garages, terraces and balconies, multi-storeyed car parks in all cases of low concrete slab.
Features:
- Fixing brackets (preset for nails or screw fastening)
- Side slots for better anchorage to concrete
- Modular couplings by pins
- Preset for cover screw fastening
- Vertical outlet Ø 63 male (easy perforation)
- End cap (outlet diameter 50)
- Possibility to glue the components to ensure water tightness.
- **Use solvent cement for PVC to weld the channels pag. 125**

PVC Low universal corner channel 100

Angle universel corp de caniveau 100 bas en PVC

Ángulo canaleta 100 de altura reducida en PVC



L (mm)	L1 (mm)	H (mm)	α	Reference Grey Ral 7035			Note
100	250	50	90°	E162504*	5	150	Universal - one piece moulded

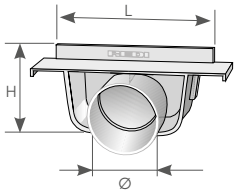
Material: PVC
Use: rain water drainage in garages, terraces and balconies, multi-storeyed car parks in all cases of low concrete slab.

*upon request

PVC Low end cap-outlet 100

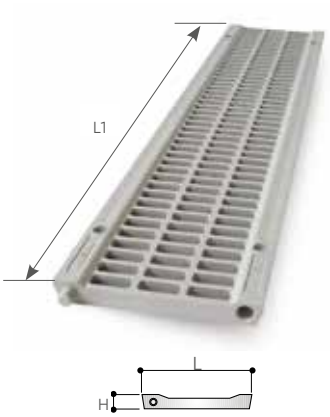
Fond/naissance 100 bas en PVC

Tapón 100 de altura reducida con salida en PVC



L (mm)	L1 (mm)	Ø (mm)	Reference Grey Ral 7035			Note
100	50	50*	E1710B4	10	1.280	*Offset

Material: PVC
Use: end cap for channel 100 (easy-to-open outlet).

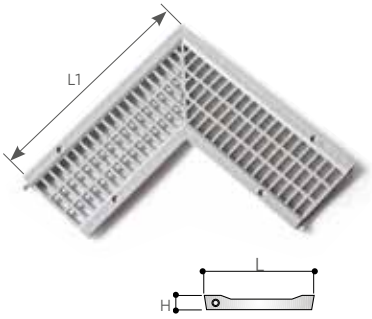


PVC Universal pedestrian "heel-proof" grill 100
Grille piétonnière "anti-talon" 100 en PVC
Rejilla peatonal 100 en PVC

L (mm)	L1 (mm)	H (mm)	L/S	KN	Reference Grey Ral 7035			Note
100	500	12	2,3	>15	E2510B4	10	1.040	

Material: PVC
Use: pedestrian draining grating for 100 channels.
Features:
- heel proof for a safer tread
- antislip knurled surface and chamfered draining section to avoid backwater and icing
- provided with coupling pins
- preset for screw fastening to the channel.

Durability: PVC specifications and structure design give this product a great resistance against atmospheric agents and ageing and ensure dimensional stability in time.



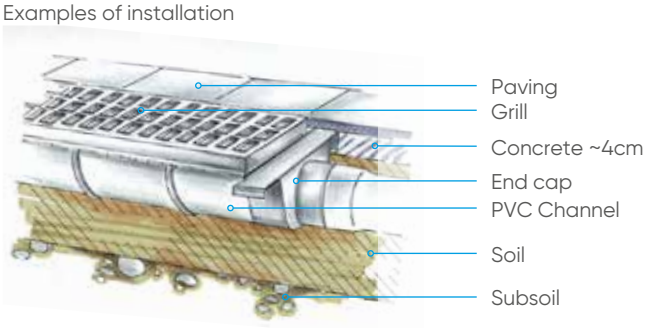
PVC Universal pedestrian "heel-proof" corner grating 100
Angle universel grille piétonnière "anti-talon" 100 en PVC
Ángulo rejilla peatonal 100 en PVC

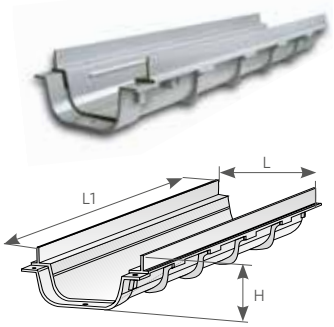
L (mm)	L1 (mm)	H (mm)	α	Reference Grey Ral 7035			Note
100	250	12	90°	E721004*	5	300	Universal - one piece moulded

Material: PVC
Use: pedestrian draining grating for corner channels.

*upon request

Examples of installation

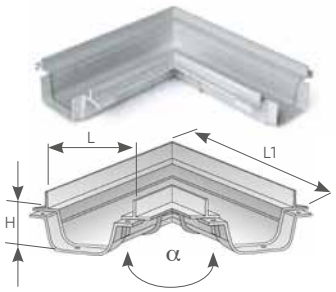




PVC Low modular channel 130
Corp de caniveau modulaire 130 bas en PVC
Canaleta 130 de altura reducida en PVC

L (mm)	L1 (mm)	H (mm)	Reference Grey Ral 7035			Note
130	500	70	E1813B4	10	140	

Material: PVC
Marking: CE
Use: rain water drainage in garages, yards, terraces, balconies, multistoreyed parkings, and in all cases of low concrete slab.
Features:
- modular joint by pins
- preset for cover screw fastening
- possibility to glue the components to ensure water tightness.
- **Use solvent cement for PVC to weld the channels pag. 125**

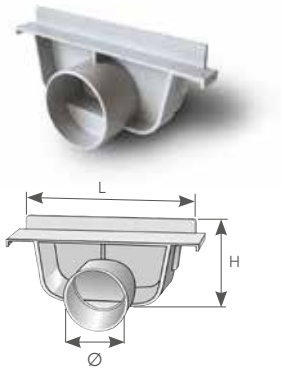


PVC Low universal corner channel 130

Angle universel corp de caniveau 130 bas en PVC
Ángulo canaleta 130 de altura reducida en PVC

L (mm)	L1 (mm)	H (mm)	α	Reference Grey Ral 7035			Note
130	250	70	90°	E731404	5	160	Universal - one piece moulded

Material: PVC

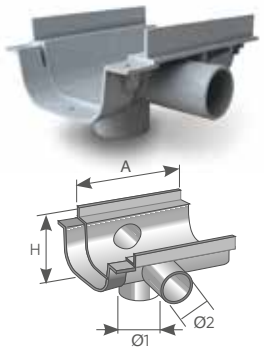


PVC Low end cap-outlet 130

Fond/naissance 130 bas en PVC
Tapón 130 de altura reducida con salida de PVC

L (mm)	L1 (mm)	Ø (mm)	Reference Grey Ral 7035			Note
130	67	40	E1713B4	10	950	

Material: PVC
Use: end cap for channel 130 (easy-to-open outlet).

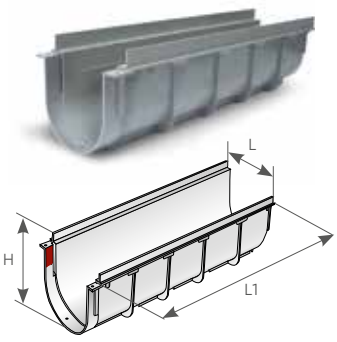


PVC Low junction channel 130

Naissance centrale 130 basse en PVC - Unión canaleta 130 de altura reducida y salida lateral/vertical en PVC

Ø1 (mm)	Ø2 (mm)	H (mm)	A (mm)	Reference Grey Ral 7035			Note
50	40	70	147	E1613B4	10	330	

Material: PVC
Use: Junction and drainage component for low channels 130 mm (easy-to-open outlet).

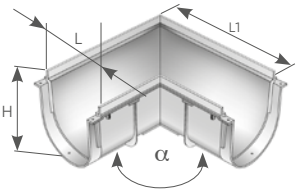


PVC High modular channel 130

Corps de caniveau modulaire 130 haut en PVC
Canaleta 130 alta en PVC

L (mm)	L1 (mm)	H (mm)	Reference Grey Ral 7035			Note
130	500	134	E1813A4	10	120	

Material: PVC
Marking: CE
Use: rain and waste water drainage in garages, yards, terraces, outdoor areas and public bathrooms and lavatories (gymnasium, etc).
Features:
- self supporting
- modular joint by pins
- possibility to glue the components to ensure water tightness
- a cover can be fastened by means of self-threading screw (pre-set holes).
- **Use solvent cement for PVC to weld the channels pag. 125**



PVC Universal high corner channel 130

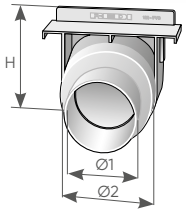
Angle universel de caniveau 130 haut en PVC

Ángulo canaleta 130 alta en PVC

L (mm)	L1 (mm)	H (mm)	α	Reference Grey Ral 7035			Note
130	250	134	90°	E731704*	5	80	Universal - one piece moulded

Material: PVC

*upon request



PVC high end cap-outlet 130

Fond/naissance 130 haut en PVC

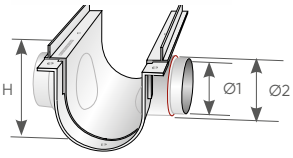
Tapón 130 alto con salida en PVC

H (mm)	Ø1 (mm)	Ø2 (mm)	Reference Grey Ral 7035			Note
131	80	100	E1713A4	15	495	
131	75	110	E1711A4*	15	360	

Material: PVC

*upon request

Use: end cap for high channel 130 (easy-to-open outlet).



PVC High junction channel 130

Naissance centrale 130 haute en PVC

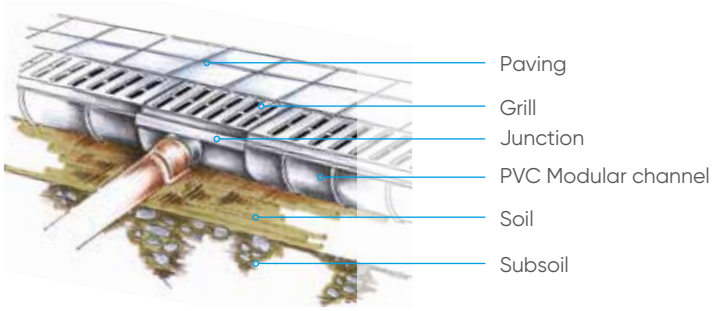
Unión canaleta con salida lateral 130 alta en PVC

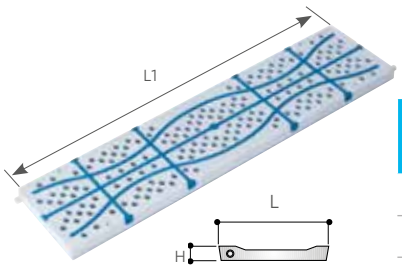
H (mm)	Ø1 (mm)	Ø2 (mm)	Reference Grey Ral 7035			Note
134	75	80	E1613A4	10	120	

Material : PVC

Use: Junction and drainage component for high channels 130 mm (easy-to-open outlet).

Examples of installation





PVC Anti slip grill 130

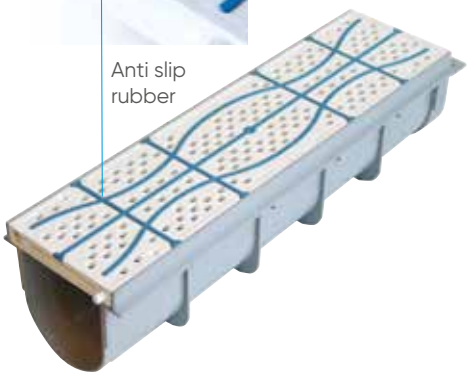
Grilles pour piscine antidérapant 130 en PVC

Rejilla peatonal antideslizante 130 en PVC

L (mm)	L1 (mm)	H (mm)	Reference			Colour	Note
130	500	20	0219503	10	420	White	
130	500	20	0219504	10	420	Grey	

Material: PVC
Colour: White RAL 9016 - Grey RAL 7035
Use: pedestrian draining cover for channels alongside swimming pools.
Excellent solution to prevent accidents due to slippery surface (also in laundries and other wet areas).

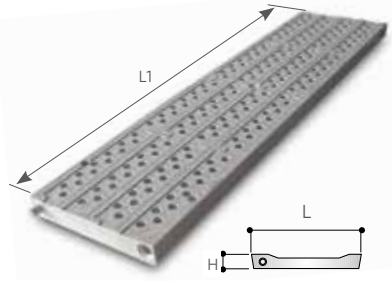
safeSTEP by REDI



Italian design.
Corrosion-proof, maintenance-free reliable and lightweight.
No coating or extra treatment needed.
Safe Step grilles can be securely fixed onto Redi modular channels.

SAFESTEP means safety and design!

Examples of installation



PVC Walkaway grill standardized for swimming pools 130

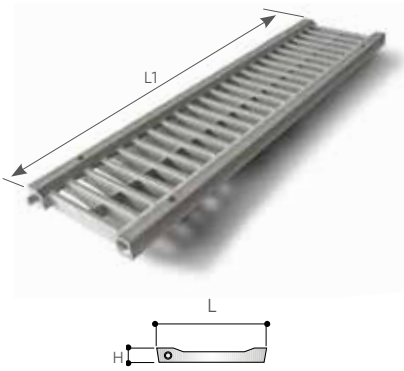
Grilles pour piscine 130 en PVC

Rejilla para piscina 130 en PVC

L (mm)	L1 (mm)	H (mm)	Reference			L/S	Colour	Note
130	500	20	W721503	10	420	1,2	White	
130	500	20	W721504	10	420	1,2	Grey	

Material: PVC - Colour: White RAL 9016 / Grey RAL 7035
Marking: CE
Regulation: **EN124 A15** Load class
Use: pedestrian draining cover for channels alongside swimming pools.
Features:
- Barefoot-friendly
- Antiskid knurled surface
- Provided with coupling pins
- Preset for screw fastening to the channel

Application field: pedestrian areas.
Durability: PVC specifications and structure design give this product a great resistance against atmospheric agents and ageing, and ensure dimensional stability in time.

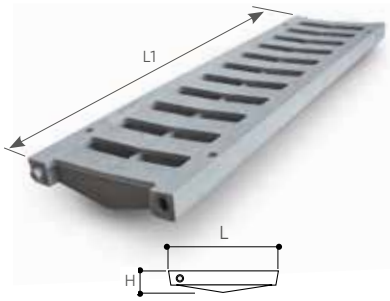


PVC High drainage grill 130
Grille piétonnière 130 en PVC
Rejilla peatonal 130 en PVC

L (mm)	L1 (mm)	H (mm)	Reference Grey Ral 7035			L/S	Note
130	500	20	E257704	10	420	3,6	

Material: PVC
Marking: CE
Regulation: **EN124 A15** Load class
Use: draining grate for 130 channels.
Features
- antiskid as the knurled surface and the chamfered draining profile avoid water stagnation and ice
- provided with coupling pins
- preset for screw fastening to the channel
- provided with a central stiffening rib.

Application field:
light duty traffic areas, such as garage fronts, private driveways, yards, pedestrian areas.

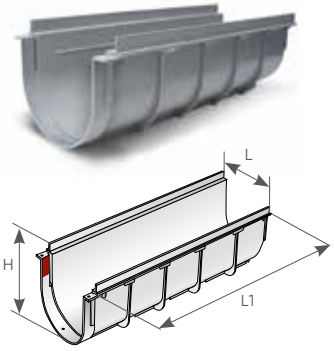


PVC Light traffic grill 130
Grille renforcée 130 en PVC - Rejilla reforzada 130 en PVC

L (mm)	L1 (mm)	H (mm)	Reference Grey Ral 7035			L/S	KN	Note
130	500	20	W672004	10	360	1,9	50	Class A15

Material: PVC
Marking: CE
Regulation: **EN124 A15** Load class
Use: draining light traffic cover for 130 channels.
Features:
- antiskid thanks to the knurled surface
- provided with coupling pins
- preset for screw fastening to the channel
- provided with a central stiffening rib.

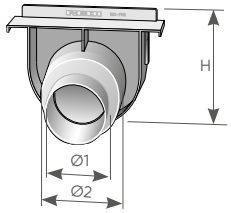
Application field:
light duty traffic areas, such as garage fronts, private driveways, yards, pedestrian areas.
Important: in the planning stage, the grating breaking load must be scaled down by using a correct safety factor.



PVC High modular channel 200
Corps de caniveau modulaire 200 haut en PVC
Canaleta 200 alta en PVC

L (mm)	L1 (mm)	H (mm)	Reference Grey Ral 7035			Note
200	500	170	E1820A4	10	80	Class A15

Material: PVC
Marking: CE
Regulation: **EN124 A15** Load class
Use: rain and waste water drainage in garages, yards, terraces, balconies, other outdoor areas, public bathrooms and lavatories (gymnasiums, etc.).
Features:
- self-supporting
- modular coupling by pins
- possibility to glue the components to ensure a higher water tightness
- a cover can be fastened by means of self-threading screws (preset holes)
- **Use solvent cement for PVC to weld the channels pag. 125**



PVC High version end cap-outlet 200

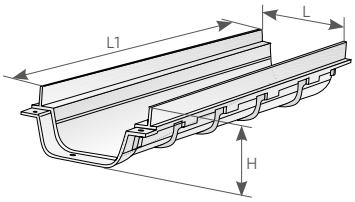
Fond naissance 200 haut en PVC

Tapón 200 alto con salida en PVC

L (mm)	H (mm)	Ø1 (mm)	Ø2 (mm)	Reference Grey Ral 7035			Note
200	170	80	100	E1720A4*	10	330	
200	170	75	110	E1722A4*	10	330	

Material: PVC
Use: end cap for high channels 200 (easy-to-open outlet).

*upon request



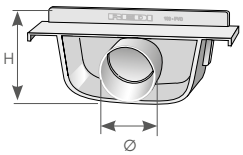
PVC Low modular channel 200

Caniveau 200 bas en PVC

Canaleta 200 de altura reducida en PVC

L (mm)	L1 (mm)	H (mm)	Reference Grey Ral 7035			Note
200	500	94	E1821B4	10	120	Class A15

Material: PVC
Marking: CE
Use: rain water drainage in garages, yards, terraces, balconies, multi-storeyed car parks.
Features:
- self supporting
- modular coupling by pins
- possibility to glue the components to ensure a higher water tightness
- a cover can be fastened by means of self-threading screws (preset holes).
- **Use solvent cement for PVC to weld the channels pag. 125**



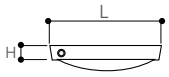
PVC Low modular channel 200

Caniveau 200 bas en PVC - Tapón 200 bajo con salida en PVC

L (mm)	L1 (mm)	Ø	Reference Grey Ral 7035			Note
200	97	75	E1719B4*	10	300	
200	97	80	E1721B4*	10	300	

Material: PVC
Use: end cap for low channel 200 (easy-to-open outlet).

*upon request



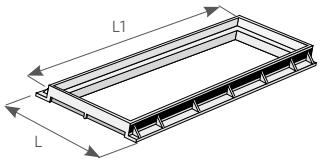
PVC Light traffic grill 200

Grille renforcée 200 en PVC - Rejilla reforzada 200 en PVC

L (mm)	L1 (mm)	H (mm)	Reference Grey Ral 7035			L/S	KN	Colour	Note
200	500	20	0219004	10	140	2,8	61	Grey	Class **A15**

Material: PVC - Colour: White RAL 9016 - Grey RAL 7035
Marking: CE
Regulation: **EN124 A15** Load class
Use: light duty traffic draining grate for 200 channels
Characteristic:
- antiskid as the knurled surface and the chamfered draining profile avoid water stagnation and ice
- provided with coupling pins
- provided with a central stiffening rib.

Application field:
light duty traffic areas, such as garage fronts, private driveways, yards, pedestrian areas.
IMPORTANT: in the planning stage, the grate breaking load must be scaled down by using a correct safety factor.



PVC Frame for light traffic covers and grates 200

Cadre modulaire pour caniveau 200 en PVC

Cerco para canaleta 200 en PVC

L (mm)	L1 (mm)	Reference Grey Ral 7035			Note
200	500	E250504	10	120	Modular

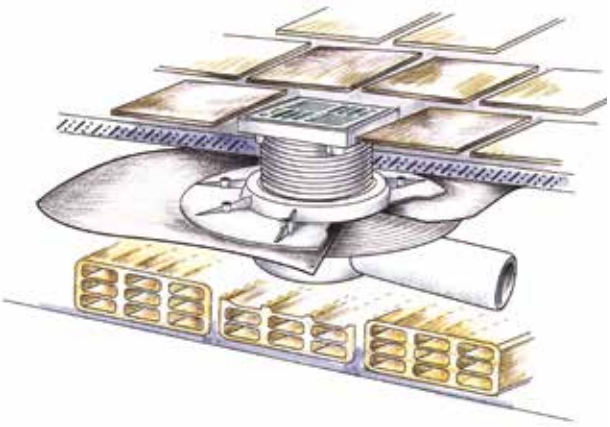
Materiale: PVC
Use: to house grates or covers for closing concrete channels or other special applications.

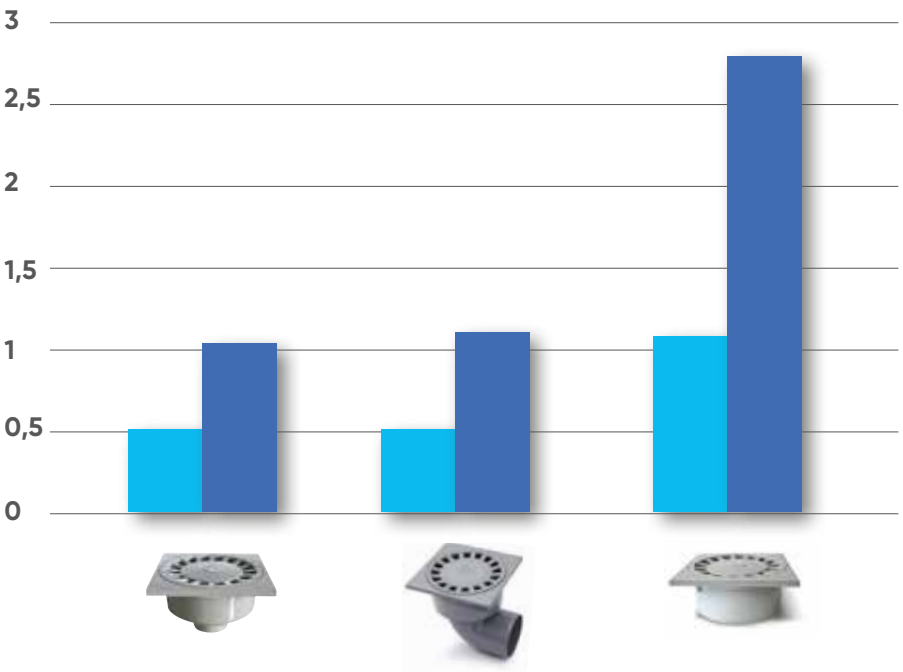
Floor Drains

REDI

aliaxis

Floor Drains:
the best solution for all drainage applications





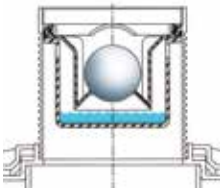
REDI products performances are proved and certified by strict laboratory tests.

Tests for defining the drainage flow rate: carried out in compliance to EN 1253-1 norm, par. 8.11.
In this catalogue's "Products" section, the drainage flow rate is expressed in liters per second the simbol:

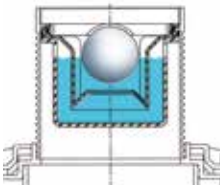
Discharge capacity test

IT WORKS EVEN WITHOUT WATER!

The dry trap prevents any bad smell even without water seal. For rain and waste water collection. Especiallly designed for balconies, terraces and in all cases of low concrete slabs.



Without water



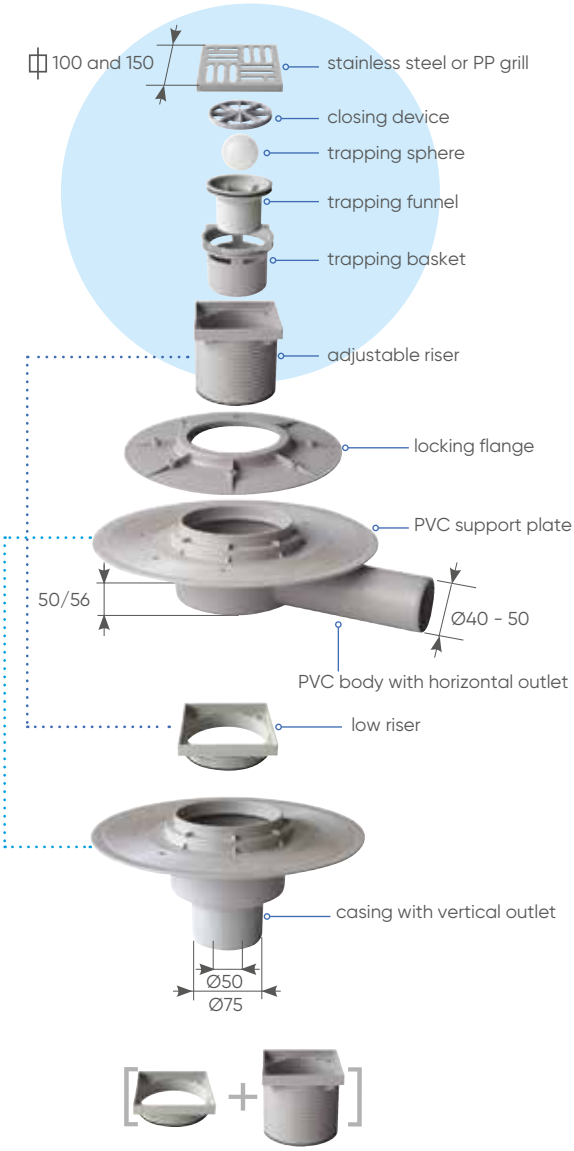
With water

Advantages:

- Low casing to fit small spaces.
- Round plate and flange to lock the insulating membrane.
- 360° adjustable riser and PVC body.
- Easy inspection.
- Vertical outlet.
- Slotted PP or stainless steel grill dims.100x100, 150x150 available.
- Fastening screws are supplied with all stainless steel grilles (included in the package).

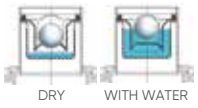
The trap may be easily removed for cleaning

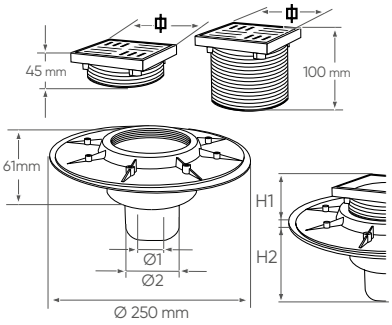
Example of installation with insulating membrane



Singly packaged
High and low risers included

Dry floor trap with horizontal outlet can be connected by gluing or by push fit.

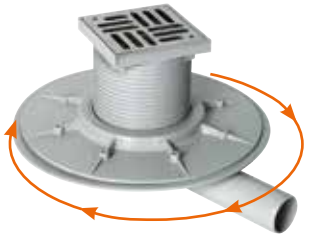


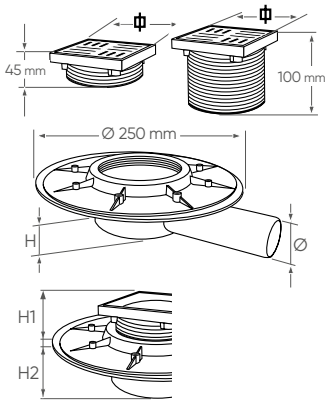


PVC Dry floor trap with vertical outlet
Siphon en PVC de cour-sortie verticale
Sumidero sifónico seco en PVC, salida vertical

⌀	Reference Grey Ral 7035			Ø1 (mm)	Ø2 (mm)	H (mm)	H1 min. (mm)	H2 (mm)	l/s	Note
100	EAS35AI	1	60	50	75	61	45	115	< 0,6	Stainless steel AISI 304 grill
150	EAS45AI	1	60	50	75	61	61	115	< 0,6	Stainless steel AISI 304 grill

All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories. Supplied with protection to permit easy installation.





PVC Dry floor trap with horizontal outlet
Siphon de cour-sortie horizontale
Sumidero sifónico seco en PVC, salida horizontal

⌀	Reference Grey Ral 7035			Ø1 (mm)	H (mm)	H1 min. (mm)	H2 (mm)	l/s	Note
100	EAS14AI	1	60	40	50	45	47	< 0,6	Stainless steel AISI 304 grill
100	EAS14PP	1	60	40	50	45	47	< 0,6	PP Grill
150	EAS24AI	1	60	40	50	45	47	< 0,6	Stainless steel AISI304 grill
150	EAS24PP	1	60	40	50	45	47	< 0,6	PP Grill
100	EAS15AI	1	60	50	56	45	60	< 0,6	Stainless steel AISI304 grill
100	EAS15PP	1	60	50	56	45	60	< 0,6	PP Grill
150	EAS25AI	1	60	50	56	45	60	< 0,6	Stainless steel AISI304 grill
150	EAS25PP	1	60	50	56	45	60	< 0,6	PP Grill

All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories. Supplied with protection to permit easy installation.

PP Flexible floor drain

Siphon de cour flexible en PP - Sumidero encastrable en tuberías de bajantes pluviales, cuerpo en PP

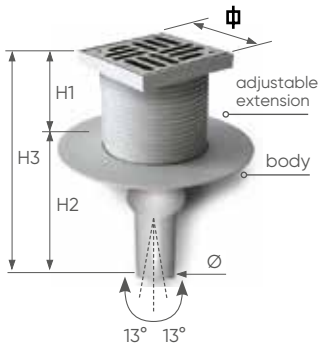
⌀	Reference			Ø (mm)	H (mm)	K (mm)	l/s	Note
100	EFS10AI	1	162	100÷125	45÷110	13	0,4	Stainless steel AISI 304 grill "Dry trapping"
150	EFS15AI	1	162	100÷125	45÷110	13	0,4	Stainless steel AISI 304 grill "Dry trapping"

All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories. Supplied with protection to permit easy installation.

PP Vertical outlet floor drain without trap

Receveur vertical non siphonné en PP

Sumidero en PP, no sifónico, salida vertical orientable



⌀	Reference Grey Ral 7035			H1 (mm)	H2 (mm)	H3 min./max.	Ø (mm)	l/s	Note
100	E7810AI	6	138	100	165	179÷254	50	1,9	Stainless steel AISI 304 grill
150	E7815AI	6	96	100	165	179÷254	50	2,6	Stainless steel AISI 304 grill
100	E7810PP	6	138	100	165	179÷254	50	2,3	PP Grill
150	E7815PP	6	138	100	165	179÷254	50	2,5	PP Grill

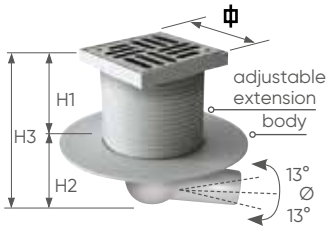
All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories. Supplied with protection to permit easy installation.

Tested by **CSTB**.fr
Use: to collect rain and waste water. Especially designed for public premises, balconies, industrial kitchens, public lavatories and in all cases a trapping action is required.
Advantages: very low casing; round plate for membrane's heat sealing; 360° adjustable riser; easy inspection.

PP Horizontal outlet floor drain without trap

Receveur horizontal non siphonné en PP

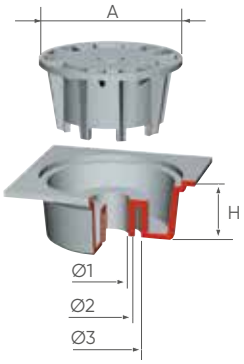
Sumidero en PP, no sifónico, salida horizontal orientable



⌀	Reference Grey Ral 7035			H1 (mm)	H2 (mm)	H3 min./max.	Ø (mm)	l/s	Note
100	E7910AI	6	138	100	95	128÷183	50	1,4	Stainless steel AISI 304 grill
150	E7915AI	6	138	100	95	128÷183	50	1,9	Stainless steel AISI 304 grill
100	E7910PP	6	138	100	95	128÷183	50	1,7	PP Grill
150	E7915PP	6	138	100	95	128÷183	50	1,8	PP Grill

All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories. Supplied with protection to permit easy installation.

Tested by **MPA**.de



PVC Floor drain (internal outlet)

Siphon de cour à emboîture incorporée en PVC

Sumidero sifónico de PVC con salida vertical interna

⌀	Reference Grey Ral 7035			A (mm)	H (mm)	Ø1 (mm)	Ø2 (mm)	Ø3 (mm)	Ø1	Ø1	Ø1	Note
100	E191004	12	1.536	92	50	32	40	-	0,4	0,6	-	
150	E191504	12	360	138	63	40	50	63	0,7	0,8	0,8	
200	E192004	6	180	182	92	63	75	90	1,9	1,7	1,6	
200	E192504	6	180	182	92	63	75	100	1,9	1,6	1,6	
250	E192604	6	96	228	95	-	-	100	3,0	-	-	
300	E193004*	6	72	228	95	-	-	100	3,0	-	-	

All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories.

Tested by **CSTB**.fr

*upon request

PVC Floor drain (external outlet)

Siphon de cour à sortie externe vertical en PVC

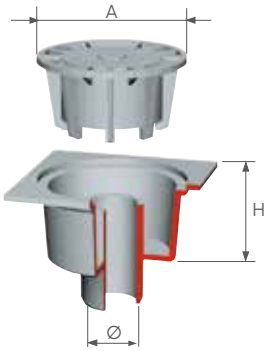
Sumidero sifónico de PVC con salida vertical externa

⌀	Reference Grey Ral 7035			A (mm)	H (mm)	Ø1 (mm)	Ø2 (mm)	l/s	Note
100	0210804	18	936	92	50	32	40	0,89	
100	0210504*	18	936	92	50	-	50	1,0	
150	0211104	8	416	138	55	40	50	1,07	
200	0212204	8	192	177	65	63	75	1,34	
200	0212304	8	192	177	65	-	80	1,34	
200	0212404*	8	192	177	65	90	100	1,34	
200	0212504	8	192	177	65	100	110	1,34	
250	E220504*	6	96	177	83	-	110	1,6	
250	C221004*	6	96	177	83	-	100	1,6	
300	E222504	6	96	177	83	-	75	1,6	
300	E223004*	6	96	177	83	-	100	1,6	
300	E223504	6	96	177	83	-	110	1,6	

All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories.

Tested by **CSTB**.fr

*upon request



PP Floor drain (external outlet)

Siphon de cour à sortie externe vertical en PP

Sumidero sifónico de PP con salida vertical externa

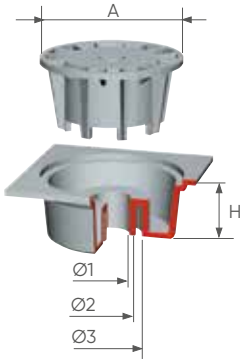
⌀	Reference Grey Ral 7035			A (mm)	H (mm)	Ø (mm)	l/s	Note
100	EP95604	12	720	92	61	50	0,8	
150	EP75804	12	384	92	59	50	-	
200	EP75904	12	276	92	65	50	-	
200	EP76004	6	138	177	83	75	1,6	
200	EP75104*	6	138	177	83	80	1,5	
200	EP76404	6	138	177	83	110	1,6	
250	EP76904	6	96	177	83	110	1,5	
300	EP77404*	6	96	177	83	110	1,5	

All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories.

Tested by **CSTB**.fr

*upon request

Material: Polypropylene
Use: to collect rain and waste water. Especially designed for public premises, balconies, industrial kitchens, public lavatories and in all cases a trapping action is required.
Advantages:
- easy inspection and cleaning
- internal, external and horizontal outlet versions available



PP Floor drain (internal outlet)

Siphon de cour à emboîture incorporée en PP

Sumidero sifónico de PP con salida vertical interna

⌀	Reference Grey Ral 7035			A (mm)	H (mm)	Ø1 (mm)	Ø2 (mm)	Ø3 (mm)	Ø1	Ø1	Ø1	Note
100	E195004	12	1.536	92	50	32	40	-	0,4	0,6	-	
150	E195504	12	360	138	63	40	50	-	0,7	0,8	0,8	
200	E196004	6	180	182	92	-	80	100	1,4	-	-	
250	E196204	6	96	228	95	-	100	-	3,0	-	-	
250	E196104	6	96	228	95	-	110	-	3,0	-	-	
300	E196304*	6	72	228	95	-	100	-	3,0	-	-	
300	E196404*	6	96	228	9	-	110	-	3,0	-	-	

All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories.

Tested by **CSTB**.fr

*upon request

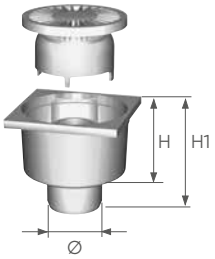
PVC Floor drain 100 (horizontal outlet)

Siphonette 100 (sortie horizontale) en PVC

Sumidero sifónico, salida horizontal hembra de PVC

⌀	Reference			H (mm)	Øi (mm)	Øe (mm)	l/s	Note
100	0210304	16	832	82	32	40	-	
100	0210404	16	832	82	40	-	0,3	

Material: PVC
Use: to collect waste water especially designed for public premises, kitchens, pubblic lavatories.
Application field: pedestrian areas.
Advantages:
- Easy cleaning and inspection thanks to the removable grill and trapping device.
- The square components may be rotated to fit floor's geometry.



ABS Chromium plated floor drain with vertical outlet

Siphon de cour chromé sortie verticale en ABS

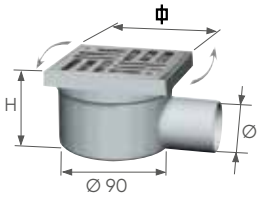
Caldereta de piso cromada de ABS con salida vertical

⌀	Reference			H (mm)	Ø (mm)	Ø1 (mm)	l/s	Note
100	E2222CR	12	720	60	50	95	0,6	
150	E2233CR	12	384	60	50	95	<0,7	

All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories.

Tested by **CSTB**.fr

Material: ABS - Colour: Chromium plated
Use: to collect waste water.
Especially designed for public premises, lavatories, and in all cases a trapping action is required.
The chromium plated material meets with the aesthetical requirements while granting the same water flowability of plastics materials. We suggested not to use aggressive chemical cleaners because in long term could damage chromium plating.
Advantages: easy inspection thanks to the removable trapping bell.



PP Trapped balcony floor drain with adjustable, horizontal outlet

Siphon de cour sortie horizontale et orientable en PP - Caldereta para terrazas y/o balcones con salida ajustable horizontal de PP

⌀	Reference Grey Ral 7035			H (mm)	Ø (mm)	l/s	Note
100	E224004	12	624	80	40	<0,6	PP Grill
100	E224504	12	624	80	50	<0,6	PP Grill
100	E2240AI	12	624	80	40	<0,6	Stainless steel AISI 304 grill
100	E2245AI	12	624	80	50	<0,6	Stainless steel AISI 304 grill

All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories.

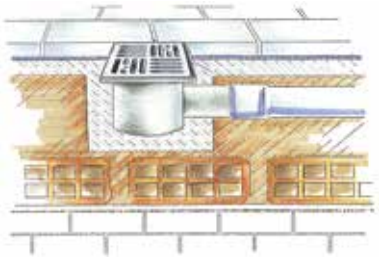
PP Trapped balcony floor drain with horizontal outlet, low version

Siphon de cour sortie horizontale et orientable en PP, version basse - Caldereta para terrazas y/o balcones con salida ajustable horizontal, versión baja

⌀	Reference Grey Ral 7035			H (mm)	Ø (mm)	l/s	Note
150	E224204	12	384	75	40	<0,6	PP Grill
150	E2242AI	12	384	75	40	<0,6	Stainless steel AISI 304 grill
150	E225004	12	384	75	50	<0,6	PP Grill
150	E2250AI	12	384	75	50	<0,6	Stainless steel AISI 304 grill

All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories.

Material: Polypropylene
Use: to collect rain and waste water. Especially designed for balcony floor drain
Advantages:
- low casing
- rotating grill
- easy inspection



PP High capacity floor drain 1 outlet, low version

Siphon grand débit en PP, version bas
Caldereta de suelo gran caudal en PP, versión baja

⌀	Reference Grey Ral 7035			Ø (mm)	H (mm)	l/s	Note
150	EBA22AI	6	84	75	168	>1,05	Stainless steel AISI 304 gril
150	EBA44AI	6	84	110	168	>1,40	Stainless steel AISI 304 gril
150	EBA11PP	6	84	75	168	>1,14	PP Grill
150	EBA33PP	6	84	110	168	>1,41	PP Grill

All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories.

Double flap anti-backflow device

Tested by LGA

PP High capacity floor drain 1 outlet, high version

Siphon de terrasse grand débit en PP, version haut

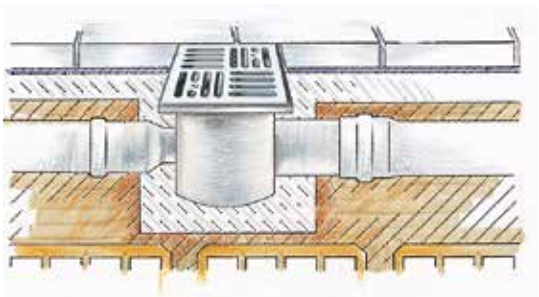
Caldereta de suelo gran caudal en PP con altura ajustable, versión alta

⌀	Reference Grey Ral 7035			Ø (mm)	H1 (mm)	H2 (mm)	H min./max.	l/s	Note
150	EAL22AI	6	72	75	90	155	170÷245	>1,05	Stainless steel AISI 304 gril
150	EAL44AI	6	72	110	90	155	170÷245	>1,40	Stainless steel AISI 304 gril
150	EAL33PP	6	72	110	90	155	170÷245	>1,41	PP Grill

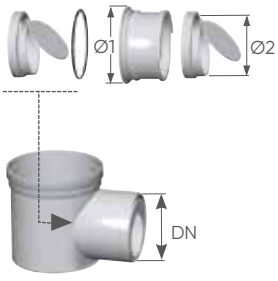
All products can be classified in load class K3 in accordance with regulation **EN1253** (resistance >300 kg).
All tests have been carried out at Aliaxis laboratories.

Double flap
anti-backflow device

Material: Polypropylene
Use: to collect rain or waste water in yards, garages cellars and any areas where a high drainage capacity is required.
Advantages:
- inspection basket
- 360° adjustable riser
- easy inspection
- an anti-backflow device can be fitted in to prevent back flooding.



Example of assembly



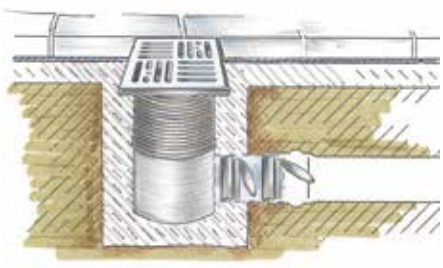
Double flap anti-backflow device

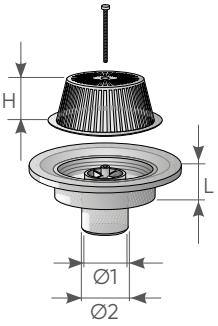
Clapet anti-retour double - Valvula doble clapeta anti-retorno

DN (mm)	Reference Grey Ral 7035			Ø1 (mm)	Ø2 (mm)	Note
110	EDP1104*	6	768	70	103	

Material: Polypropylene
It may be fit in to high capacity floor drains to prevent back flooding.

*upon request





PVC roof outlet

Naissance pour eaux pluviales en PVC
Sumidero de PVC con rejilla alta

Ø1 (mm)	Ø2 (mm)	Reference Grey			l/s	H (mm)	L (mm)	Note
63	75	1992204	1	120	1,8	74	62	
	80	1992404*	1	120	1,8	74	62	
100	110	1992504	1	120	1,8	74	62	

*upon request

PVC Flat roof outlet

Naissance pour eaux pluviales en PVC
Sumidero de PVC con rejilla

Ø (mm)	Reference Grey			l/s	Note
160	H991604	7	56	4,0	

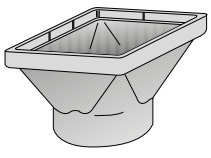
Universal leaf guard

Crapaudine - Filtro atrapa hojas

Ø (mm)	Reference			Note
60÷120	G456000	60	1.440	

Outlet union

Ø	Reference			A (mm)	B (mm)	C (mm)	D (mm)	H (mm)	Note
80	G400800	10	60	310	69	64	76	225	Material: Rubber Colour: Black
100	G401000	10	-	315	89	84	96	225	
125	G401200	8	-	319	114	109	121	225	



PVC Square hopper

Regard d'accès pluvial en PVC
Colector de agua pluvial en PVC

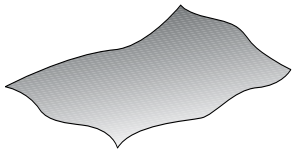
Ø	⌑	Reference Grey Ral 7035			l/s	Note
110	150	0076501	15	360	* 3,9	Red RAL 8023

* Flow measured using the grid Reference 7302800

Grill for square hopper
Grille pour regard d'accès pluvial
Rejilla para colector de agua pluvial

DN (mm)	Reference			Note
150	7302800	50	3.200	

Spare parts - Pièces de rechang - Repuestos



PVC insulating membrane
Membrane d'étanchéité - Lámina de PVC, impermeabilizante

DN (mm)	Reference			Note
1500 x 1500 x 0,8 mm	J022087	1	36	1 single sheet

Material: PVC plasticized - Colour: Grey - Use: waterproofing sheet

Stainless steel Grill
Grille en acier inox - Rejilla inoxidable

DN (mm)	Reference			Note
100	E9910AI	5	4.050	Stainless steel AISI 304
150	E9915AI	5	1.920	Stainless steel AISI 304
150	E9914AI*	1	1	Stainless steel AISI 316L (On request)

*upon request

PP Grill
Grille en PP - Rejilla PP

DN (mm)	Reference Grey Ral 7035			Note
150	E9915PP	5	1.920	Spare part for Ref. E224204 - E225504
100	E9910PP	5	4.050	Spare part for Ref. E224004 - E224504

Grill frame
Cadre pour grille - Cerco para rejilla

DN (mm)	Reference Grey Ral 7035			Note
150	E97BG00	20	1.620	Spare part for Ref. E224204 - E225504
100	E97BG10	50	4.050	Spare part for Ref. E224004 - E224504

Trapping funnel
Entonnoir de siphonnement - Campana para sifón

Ø1 (mm)	Ø2 (mm)	Reference Grey Ral 7035			Note
85	35	E97IM00	5	2.600	Spare part for Ref. E224004 - E224504 Spare part for Ref. E224004 - E224504

PP Trapped balcony floor drain with adjustable horizontal outlet
Siphon de cour en PP sortie horizontale et orientable
Reference: E225004 - E224204

PP Trapped balcony floor drain low with horizontal outlet
Siphon de cour en PP sortie horizontale et orientable bas
Reference: E224004 - E224504

Risers
Rallonges - Extensible con junta

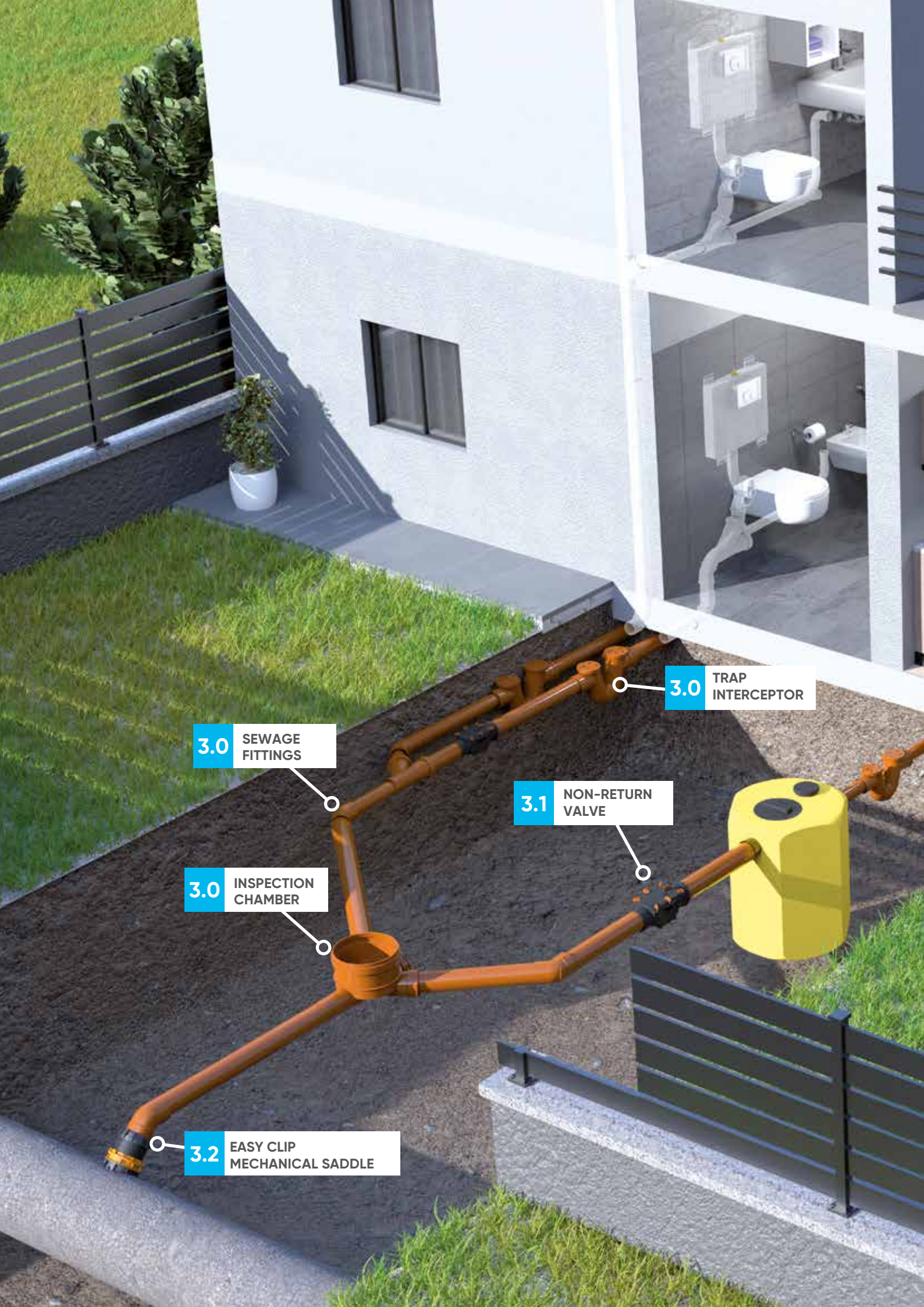
DN (mm)	Reference Grey Ral 7035			Note
100	E98PRB0	1	-	Low riser
150	E99PRB0*	1	-	Low riser
100	E98PRA0	1	416	High riser
150	E99PRA0	5	360	High riser

*Available on demand, after feasibility check

Dry trap
Syphon à sec - Sifón seca

Reference			Note
KITC500*	1	1.200	Assembled trap (closing device + trapping+ trapping funnel + trapping basket)

*upon request


3.0 TRAP INTERCEPTOR
3.0 SEWAGE FITTINGS
3.1 NON-RETURN VALVE
3.0 INSPECTION CHAMBER
3.2 EASY CLIP MECHANICAL SADDLE

Underground Drainage and Sewage System

REDI

3.0 UGD & SEWAGE

EN 1401 Push-Fit PVC-U Fittings
PVC-U and PP Inspection Chambers
PVC-U Trap Interceptors

aliaxis

A complete range of fittings for underground drainage

Aliaxis offers a complete set of waste water drainage solutions starting from Phonoblack soundproof soil and waste system within the building structure (above ground drainage) up to the building-around system for non-pressure underground drainage and main public sewerage connections.

Aliaxis fittings and accessory equipments are completely certified by several European standards institutes, allowing the project design of drainage systems compliant to the local building regulations.

Aliaxis provides easy-to-install, strength and reliable solutions focused on building long-lasting systems installations.

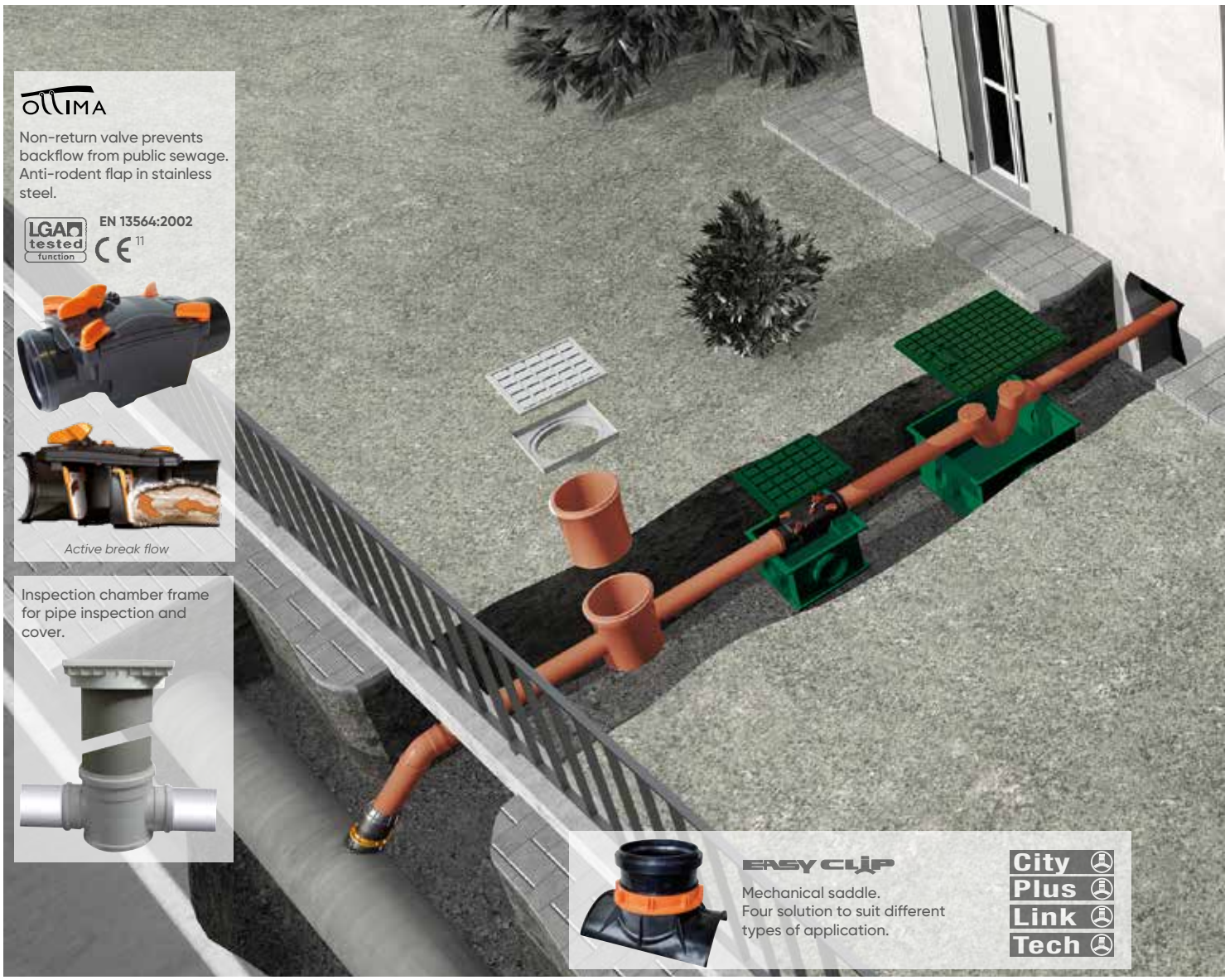
Product specifications, technical data sheets, CAD drawings and updated certifications, technical are available on our website www.aliaxis.it

Certifications

- Sizes	**EN1401**
- Shock resistance	**EN12061**
- Mechanical stress resistance (Fabricated or thermoformed fittings)	**EN12256**
- Vicat softening temperature	**EN727**
- Heating effects	**EN580**
- Water tightness (Fabricated or thermoformed fittings)	**EN1053**
- Elastomeric sealing tightness* * (With diametrical elastic failure and angular bending under the following conditions +0,05 bar, +0,5 bar, -0,3 bar)	**EN1277**
- High temperature cycle	**EN1055**
- Pressure Strength	**EN1167**
- Lip Ring	**EN 681**

Installation tips

t is suggested to always chamfer the previously cut pipe and lubricate all plain ended spigots for an easily push-fit insert. All Ø110 fittings are SN8 - SDR34



Certification: Underground sewage fittings

IIP: EN1401

BSI: EN1401

Ö Norm: EN1401

BENOR: EN1401

MPA: EN1401

AFNOR-CSTB: ANF EN1401

KIWA-KOMO: EN1401

Certification: Lip Ring

MPS NRW
Standard nr.
220000032 04-02-1b
DIN 4060

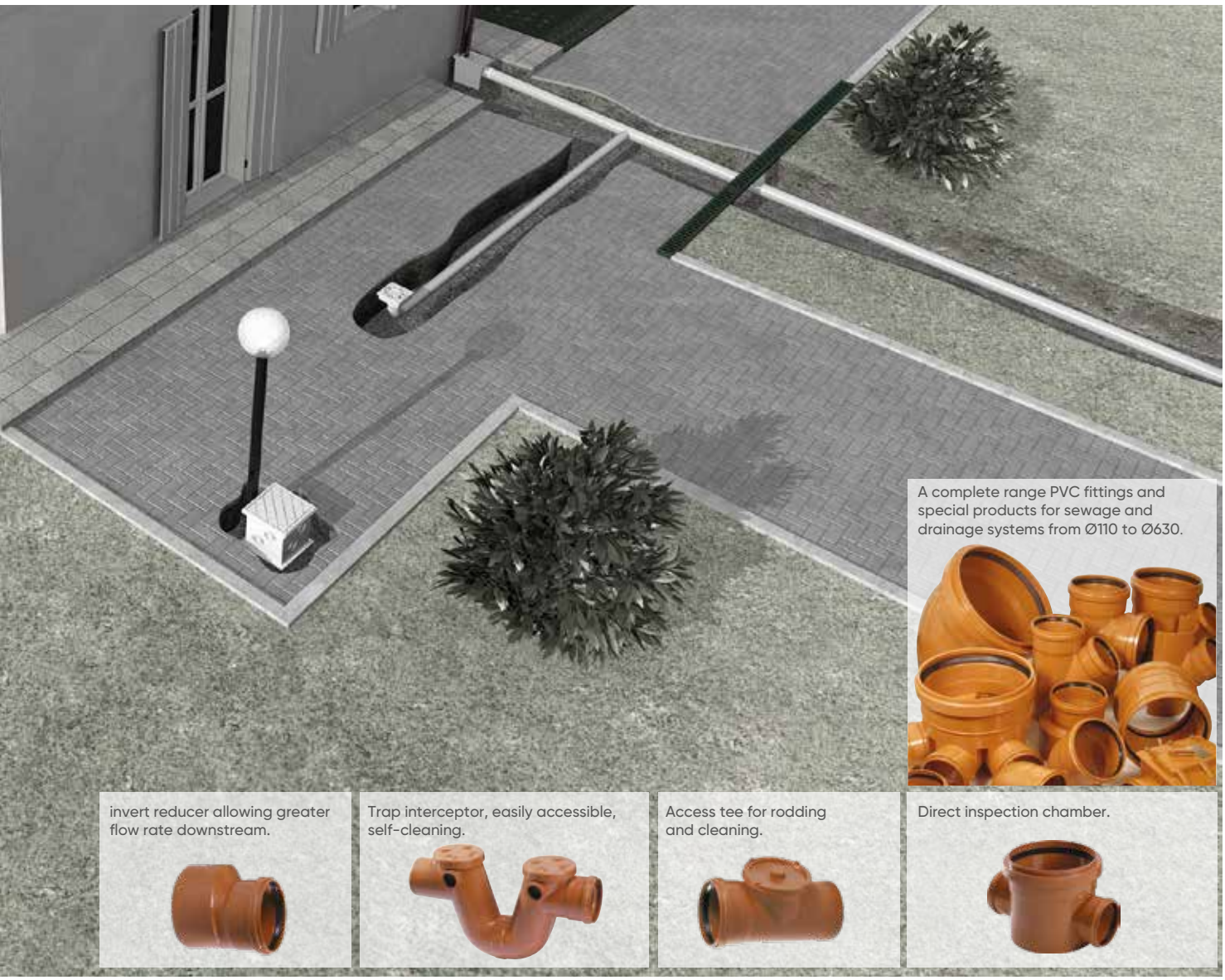
BSI
Standard nr. KM 51718
BS EN 681-1

KIWA KOMO
Standard nr. K4195/06
Type rubbe SBR ss-p-60-00

DNV Det Norske Veritas Certification Licence

Standard n.
112.929.01-01E SS-EN 681-1
Type test report:
SP report No. 98K12514
A-C, 98K 12558, 99K12583, 99K12604, F020847C, F101033

The list of the correspondence between these Certificates of Conformity and the complete range of products described is available upon request.



A complete range PVC fittings and special products for sewage and drainage systems from Ø110 to Ø630.

invert reducer allowing greater flow rate downstream.

Trap interceptor, easily accessible, self-cleaning.

Access tee for rodding and cleaning.

Direct inspection chamber.

Product Specifications

Underground Drainage and Sewage Fittings

REDI fittings are made of PVC-U for non-pressure underground drainage and sewage applications. Nominal ring Stiffness (SN) and Standard Dimension Ratio (SDR) are specified in this technical handbook according and compliant to the EN1401 and certified by several qualified standards institutes. Product range starts from Ø110 up to Ø630 push-fit jointing fittings (Socket/Spigot) with lip-sealing rings. The gaskets are compliant to the EN681-1 and certified by a standards institute.
The standard type marking for fittings :
- Manufacturer's name
- Quality Mark by third part certification (IIP, MPA etc.)
- EN1401 product norm
- Application area code ("U" or "UD")
- Nominal size
- Nominal angle
- SN or SDR

Inspection Chambers

Injected molded inspection chambers made of PVC-U or PP are designed to fit with piping systems connections according to EN1401 product norm. Elastomer lip seal ring jointing type is compliant to EN681-1 and DIN4060 standards.
The semi-circular smooth chamber base allows the stream continuity and prevents solid sediments even in low flow rate conditions. The chamber may be connected to a riser stack up to the surface ground level. The telescopic part admit the ground subsidences that might occur after installation or later height of the chamber adjustments.
The cover must be according to the specifications (material, loading class, locking devices).

Trap interceptors

Injected molded inspection sewage traps made of PVC-U are designed to fit with piping systems connections according to EN1329 and EN1401 product norm.
The gaskets are compliant to the EN681-1 and certified by a standards institute.

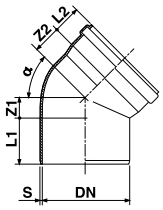
This trap interceptor must have the following technical features:
- No hand welding, only solvent welded or push-fit lip seal gasket jointing type
- Optimal hydraulic sealing (3/10 minimum diameter ratio) to avoid the passage of bad gas and smells
- 1 or 2 access screwed plugs
- Vent inlets for sewage gases relief, oxygen admittance to let the aerobic sewage digestion and trap water seal maintenance.

The environmental system of suppliers has been certified according to ISO 14001 international standard as purchases condition.

The quality system of suppliers has been certified according to ISO 9001 international standard

SN8 SDR34

SN8 - SDR34

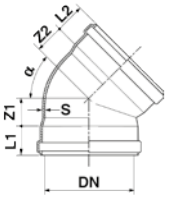


Bend S/S
Coude M/F - Codo M/H

DN	α	S	Z1	Z2	L1	L2	Reference RAL 7037 Grey			Note
125	45°	3,7	29	40	68	56	0702242*	25	200	**SN8 SDR34**
160	15°	4,7	14	28	82	72	0101742	15	120	**SN8 SDR34**
160	45°	4,7	37	51	80	66	0701542	10	80	**SN8 SDR34**

*upon request Fixed Ring

SN8 - SDR34

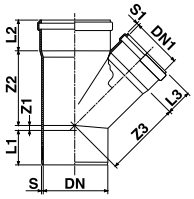


Bend D/S
Coude F/F - Codo H/H

DN (mm)	α	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey			Note
125	45°	3,7	43	43	62	62	0232242	20	160	**SN8 SDR34**
160	15°	4,7	28	28	73	73	0211742	12	96	**SN8 SDR34**
160	45°	4,7	49	49	73	73	0231542	10	80	**SN8 SDR34**

Fixed Ring

SN8 - SDR34

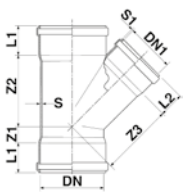


Branch 45° S/S
Culotte 45° M/F - Derivación 45° M/H

DN (mm)	DN1 (mm)	S (mm)	S1 (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Reference RAL 7037 Grey			Note
160	125	4,7	3,7	12	180	185	83	74	62	0313442*	6	48	**SN8 SDR34**

*upon request Fixed Ring

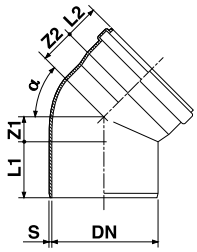
SN8 - SDR34



Branch 45° D/S
Culotte 45° F/F - Derivación 45° H/H

DN (mm)	DN1 (mm)	S (mm)	S1 (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L3 (mm)	Reference RAL 7037 Grey			Note
160	125	4,7	3,7	41	180	185	74	62	0311932	6	48	**SN8 SDR34**
200	125	5,9	3,7	54	228	232	86	74	0313932	4	32	**SN8 SDR34**
200	160	5,9	3,7	54	228	232	86	74	0312232	1	25	**SN8 SDR34**

Fixed Ring

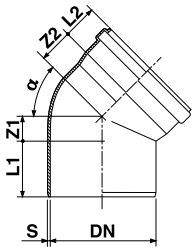


Bend 15° S/S
Coude 15° M/F - Codo 15° M/H

DN (mm)	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red			Note
◗ 110	3.2	9	22	62	50	0101142 •	010115E	40	320	
125	3.2	10	22	68	63	0101242 •	010125E	25	200	
160	4.0	14	28	82	72	0101642 •	010165E	13	104	
200	4.9	18	35	100	86	0102042 •	010205E	8	64	
250	6.2	19	40	134	103	0102552	0102591	1	36	
315	7.7	23	52	144	120	0103052	0103091	1	18	
400	9.8	83	80	175	175	1104052	1104091	1	10	
500	12.2	150	160	160	250	-	N105091* ✦	1	3	
630	-	-	-	-	-	-	N106391* ✦	1	1	

*upon request

•Fixed Ring Lip Ring ✦ Fabricated ◗ **SN8 SDR34**

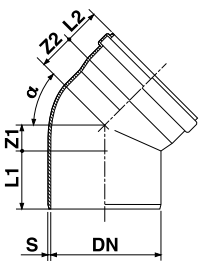


Bend 30° S/S
Coude 30° M/F - Codo 30° M/H

DN (mm)	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red			Note
◗ 110	3.2	17	29	61	50	0111142 •	011115E	40	320	
125	3.2	19	29	68	62	0111242 •	011125E	25	200	
160	4.0	25	40	82	72	0111642 •	011165E	13	104	
200	4.9	30	49	100	86	0112042 •	011205E	1	60	
250	6.2	37	59	134	103	0112552	0112591	1	33	
315	7.7	47	74	144	118	0113052	0113091	1	18	
400	9.8	65	98	165	140	1114052	1114091	1	8	
500	12.2	165	230	160	250	-	N115091* ✦	1	3	
630	-	-	-	-	-	-	N116391* ✦	1	1	

*upon request

•Fixed Ring Lip Ring ✦ Fabricated ◗ **SN8 SDR34**

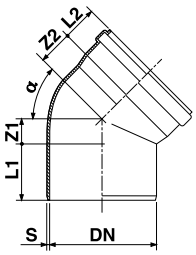


Bend 45° S/S
Coude 45° M/F - Codo 45° M/H

DN (mm)	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red			Note
◗ 110	3.2	27	36	58	50	0121142 •	012115E	35	280	
125	3.2	29	40	68	56	0701242 •	070125E	23	184	
160	4.0	37	51	80	66	0701642 •	070165E	10	80	
200	4.9	46	64	100	84	0702042 •	070205E	5	40	
250	6.2	58	79	125	96	0122552	0122591	1	27	
315	7.7	73	100	144	118	0123052	0123091	1	14	
400	9.8	91	126	165	140	1124052	1124091	1	7	
500	9.8	103	152	160	150	1125052	1125091	1	4	
630	-	-	-	-	-	-	N126391* ✦	1	1	

*upon request

•Fixed Ring Lip Ring ✦ Fabricated ◗ **SN8 SDR34**

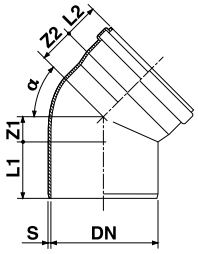


Bend 67°30′ S/S

Coude 67°30′ M/F - Codo 67°30′ M/H

DN (mm)	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red			Note
◗ 110	3.2	41	53	62	56	0131142	013115E	30	240	
125	3.2	46	60	69	62	0131242	013125E	20	160	
160	4.0	60	74	82	74	0131642	013165E	10	80	
200	4.9	73	88	100	86	0132042	013205E	5	40	

Fixed Ring Lip Ring ◗ **SN8 SDR34**



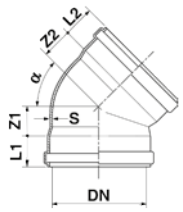
Bend 87°30′ S/S

Coude 87°30′ M/F - Codo 87°30′ M/H

DN (mm)	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey (•)	Reference RAL 8023 Red			Note
◗ 110	3.2	59	69	58	50	0711142 •	071115E	25	200	
125	3.2	65	77	67	56	0711242 •	071125E	20	160	
160	4.0	84	96	80	66	0711642 •	071165E	10	80	
200	4.9	105	122	100	85	0712042 •	071205E	1	40	
250	6.2	132	154	136	103	0142552	0142591	1	20	
315	7.7	166	192	144	114	0143052	0143091	1	10	
400	9.8	211	244	160	140	1144052	1144091	1	6	
500	9.8	380	430	160	150	1145052 ✦	1145091* ✦	1	2	
630	-	-	-	-	-	-	N146391* ✦	1	1	

*upon request

•Fixed Ring Lip Ring ✦ Fabricated ◗ **SN8 SDR34**



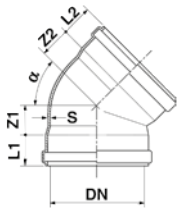
Bend 15° D/S

Coude 15° F/F - Codo 15° H/H

DN (mm)	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
◗ 110	3.2	20	20	56	56	0211342	0211341	35	280
160	4.0	28	28	73	73	0211642	0211641	12	96
200	4.9	33	33	82	86	1102142	1102141*	6	48
250	6.2	64	42	101	101	1102242*	1102241*	1	33
315	7.7	73	52	116	116	1103342*	1103341*	1	16
400	9.8	52	70	133	142	1104452*	-	1	8

*upon request

Fixed Ring ◗ **SN8 SDR34**

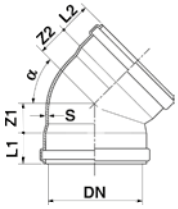


Bend 30° D/S
Coude 30° F/F - Codo 30° H/H

DN (mm)	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
◗ 110	3.2	27	27	56	56	0221342	0221341	30	240
160	4.0	40	40	74	74	0221642	0221641	10	80
200	4.9	48	48	82	86	1112142	1112141*	5	40
250	6.2	81	61	101	101	1112242	-	1	27
315	7.7	88	75	116	116	1113342	-	1	12
400	9.8	80	100	133	142	1114452*	-	1	6

*upon request

Fixed Ring ◗ **SN8 SDR34**

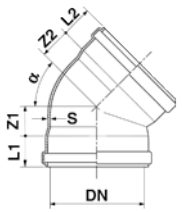


Bend 45° D/S
Coude 45° F/F - Codo 45° H/H

DN (mm)	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
◗ 110	3.2	37	37	50	50	0231142	023115E	30	240
125	3.7	43	43	62	62	0231242	-	20	160
160	4.0	49	49	73	73	0231642	0231641	10	80
200	4.9	65	65	85	85	0232042	0232041	5	40
250	6.2	79	79	101	101	1232542	1232541	1	27
315	7.7	100	100	116	116	1233042	1233041	1	12
400	9.8	110	125	133	142	1234052	1234051*	1	6

*upon request

Fixed Ring ◗ **SN8 SDR34**



Bend 87°30' D/S
Coude 87°30' F/F - Codo 87°30' H/H

DN (mm)	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
◗ 110	3.2	70	70	50	50	0241342	024135E	25	200
125	3.2	77	77	57	57	0241242	-	18	144
160	4.0	124	124	78	78	0241642	0241641	8	64
200	4.9	124	124	85	85	0242142	0242141	4	32
250	6.2	154	154	101	101	1242542	1242541	1	20
315	7.7	192	192	116	116	1243042	1243041	1	10
400	9.8	220	245	133	142	1244052	1244051	1	5

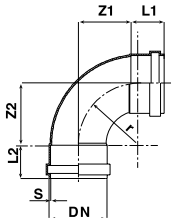
Fixed Ring ◗ **SN8 SDR34**

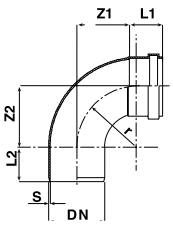
Long radius bend 87°30′

Coude grand rayon 87°30′ - Codo largo radio 87°30′

DN (mm)	α	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	r (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
◗ 110	M/F	3.2	106	115	58	65	142	-	074115E	20	160
◗ 110	F/F	3.2	106	106	58	58	142	-	024115E	20	160

Lip Ring ◗ SN8 SDR34



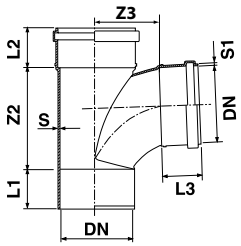


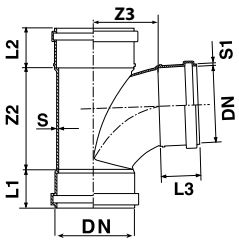
Long radius Branch 87°30′

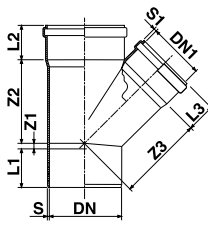
Culotte grand rayon 87°30′ - Derivación de largo radio 87° 30′

DN (mm)	Type	S (mm)	S1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
◗ 110	F/F	3.2	2.9	146	62	57.5	57.5	0451342	045135E	15	120
◗ 110	M/F	3.2	2.9	146	62	57.5	57.5	-	089135E	15	120

Fixed Ring Lip Ring ◗ SN8 SDR34







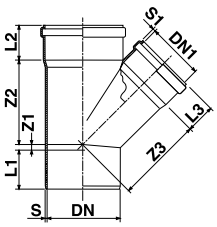
Branch 45° D/S

Culotte 45° M/F - Derivación 45° M/H

DN (mm)	DN1 (mm)	S (mm)	S1 (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Reference RAL 7037 Grey (•)	Reference RAL 8023 Red		
◗ 110	110	3.2	-	25	140	140	60	50	50	0301142 •	030115E	15	120
125	125	3.2	-	25	160	160	70	64	64	0801242 •	080125E	10	80
160	160	4.1	-	37	201	201	81	67	67	0301642 •	030165E	4	32
200	200	4.9	-	45	256	256	100	81	81	0302042 •	0302051	1	20
250	250	6.2	-	57	311	311	134	101	101	0302552	0302591	1	12
315	315	7.7	-	73	392	392	144	114	114	1303052	1303091	1	5
400	400	9.8	-	170	510	535	165	175	170	-	N304091 ✦	1	2
500	500	12.3	-	240	665	675	200	250	255	-	N305091 * ✦	1	1
630	630	–	–	–	–	–	–	–	–	-	N306391 * ✦	1	1

*upon request

•Fixed Ring Lip Ring ✦ Fabricated ◗ SN8 SDR34



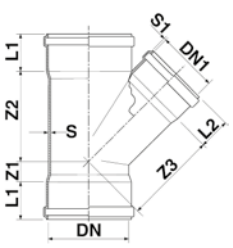
Reduced branch 45° D/S

Culotte embranchement 45° M/F - Derivación reducida 45° M/H

DN (mm)	DN1 (mm)	S (mm)	S1 (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Reference RAL 7037 Grey (•)	Reference RAL 8023 Red		
125	110	3.2	3.2	19	147	152	69	62	56	0319242 •	031925E	10	80
160	110	4.0	3.2	2	168	176	82	74	56	0311642 •	031165E	7	56
160	125	4.0	3.2	12	180	185	83	74	62	0313642 •	031365E	6	48
200	110	4.9	3.2	17	191	200	100	86	56	0313542	031355E	4	32
200	125	4.9	3.2	7	201	212	100	86	62	0313742 •	031375E	4	32
200	160	4.9	4.0	18	228	232	100	86	74	0312042 •	031205E	3	24
250	110	6.2	3.2	47	251	271	175	103	56	0313352* ✦	0313391 ✦	1	20
250	125	6.2	3.2	27	217	236	196	98	56	-	D313491 ✦	1	16
250	160	6.2	4.0	3	250	261	131	103	74	0314052 ✦	0314091 ✦	1	20
250	200	6.2	4.9	24	275	280	134	103	86	0314152 ✦	0314191 ✦	1	14
315	160	7.7	4.0	33	289	306	144	114	75	0314252 ✦	0314291 ✦	1	12
315	200	7.7	4.9	5	317	337	144	114	85	0314352 ✦	0314391 ✦	1	10
315	250	7.7	6.2	28	335	344	156	114	99	D314452 ✦	D314491 ✦	1	5
400	110	9.8	3.2	130	450	435	165	170	65	-	1314451 ▲	1	4
400	160	9.8	4.0	69	319	385	165	170	95	-	1316651 ▲	1	4
400	200	9.8	4.9	50	355	435	165	180	105	-	1317751 ▲	1	4
400	250	9.8	6.2	35	440	445	165	180	130	-	D314691 ✦	1	3
400	315	9.8	6.9	73	480	530	160	170	135	-	D314791 ✦	1	3
500	160	10.5	4.0	65	450	680	200	250	90	-	1315351* ▲	-	-
500	200	10.5	4.9	87	400	575	200	250	110	-	1315451* ▲	-	-
500	250	12.3	6.2	10	510	530	200	250	110	-	D314991* ✦	1	3
500	315	12.3	6.9	45	475	503	200	250	135	-	D315091* ✦	1	2
500	400	12.3	9.8	115	615	640	200	250	180	-	D315191* ✦	1	1

*upon request

•Fixed Ring Lip Ring ✦ Fabricated ▲ Thermoformed



Branch 45° T/S

Culotte 45° F/F - Derivación 45° H/H

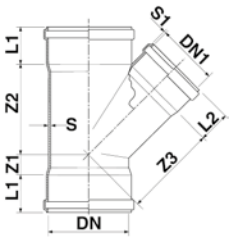
DN (mm)	DN1 (mm)	S (mm)	S1 (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L3 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
◗ 110	110	3.2	3.2	37	137	137	60	60	0441142	0441141	12	96
125	125	3.2	3.2	44	160	160	64	64	0441242	0441241*	8	64
160	160	4.0	-	52	203	203	72	72	0441642	0441641	4	32
200	200	4.9	4.9	66	256	256	181	81	1442042	1442041	1	20
250	250	6.2	6.2	101	311	311	101	101	1442542	1442551	1	10
315	315	7.7	7.7	113	392	392	117	117	1443042	1443041	1	4

*upon request

Fixed Ring ◗ **SN8 SDR34**

Reduced branch 45° T/S

Culotte embranchement 45° F/F - Derivación reducida 45° H/H



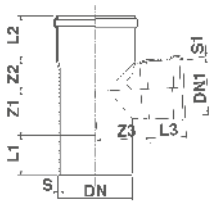
DN (mm)	DN1 (mm)	S (mm)	S1 (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L3 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
160	110	4.0	3.2	19	169	176	73	56	0311742	0311741	6	48
160	125	4.0	3.2	41	180	185	74	62	0311832	-	6	48
200	110	4.9	3.2	5	179	195	86	62	1443142	1443141*	8	32
200	125	5.9	3.7	54	228	232	86	74	0313832	-	4	32
200	160	5.9	4.7	54	228	232	86	74	0312132	0312151	1	25
250	160	6.2	4.0	41	251	262	101	74	1444042	1444041	1	16
250	200	6.2	4.9	68	278	302	101	86	1444142	-	1	12
315	110	7.7	3.2	7	287	315	117	55	1443442*	1443451	1	10
315	125	7.7	3.2	7	287	310	117	68	1443542 ▲	-	1	10
315	160	7.7	4.0	7	287	305	117	74	1444242	1444241	1	10
315	200	7.7	4.9	35	317	338	117	86	1444342	-	1	8
315	250	-	-	-	-	-	-	-	-	1444551*	1	6
400	110	9.8	3.2	30	450	380	145	60	1444442*▲	-	1	5
400	160	9.8	3.2	30	450	410	145	90	1446642 ▲	-	1	5
400	200	9.8	3.2	30	450	430	145	100	1447742 ▲	1447741* ▲	1	4
500	110	10.5	3.2	185	360	420	180	250	* ▲	* ▲	-	-
500	125	10.5	3.2	55	510	475	165	170	* ▲	* ▲	-	-
500	160	10.5	4.0	65	450	680	200	250	* ▲	* ▲	-	-
500	200	10.5	4.9	87	400	575	200	250	* ▲	* ▲	-	-

*upon request

Fixed Ring ▲ Thermoformed

Branch 87°30' D/S

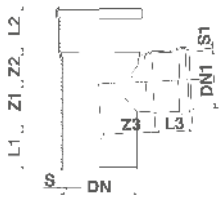
Culotte 87°30' M/F - Derivación 87°30' M/H



DN (mm)	DN1 (mm)	S (mm)	S1 (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Reference RAL 7037 Grey (•)	Reference RAL 8023 Red		
◗110	110	3.2	3.2	55	69	69	60	50	50	0341142 •	034115E	20	160
125	125	3.2	3.2	66	70	78	62	62	62	0811242 •	081125E	12	96
160	160	4.0	-	76	98	98	88	74	74	0811642 •	081165E	5	40
200	200	4.9	-	105	119	119	100	86	86	0812042 •	081205E	1	30
250	250	6.2	-	120	152	152	135	101	101	0342552	0342591	1	18
315	315	7.7	7.7	166	185	174	146	114	114	1343052	1343091	1	8
400	400	9.8	9.8	250	270	230	215	175	175	1344052 ▲	1344051 ▲	1	2
500	500	12.3	12.3	265	355	345	295	245	245	-	N345091 ✦	1	2

*upon request

•Fixed Ring Lip Ring ✦ Fabricated ▲ Thermoformed ◗ **SN8 SDR34**



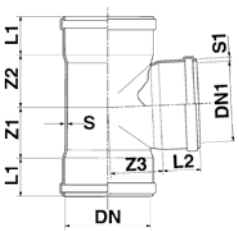
Reduced branch 87°30′ D/S

Culotte embranchement 87°30′ M/F - Derivación reducida 87°30′ M/H

DN (mm)	DN1 (mm)	S (mm)	S1 (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Reference RAL 7037 Grey (•)	Reference RAL 8023 Red		
125	110	3.2	3.0	84	58	92	78	77	67	-	0357251	12	96
160	110	4.0	3.2	59	69	87	81	74	57	-	035165E	10	80
160	125	4.0	3.2	60	81	94	88	71	62	0353642 •	0353651	1	70
200	110	4.9	3.2	50	110	120	135	86	59	0350142*	035015E	4	32
200	125	4.9	3.2	58	110	120	125	86	62	0350242	035025E	4	32
200	160	4.9	4.0	75	110	132	110	86	74	0352042 ✦	035205E ✦	4	32
250	110	6.2	3.2	90	100	132	144	99	51	-	0353551 ✦	1	20
250	160	6.2	4.0	90	100	134	117	126	85	0354042* ✦	0354051 ✦	1	18
250	200	6.2	4.9	132	143	136	123	120	116	-	0353851 ✦	1	18
315	110	7.7	3.2	50	150	176	180	116	56	-	1352251 ✦	1	10
315	160	7.7	4.0	75	150	180	155	116	73	-	1354451 ✦	1	12
315	200	7.7	4.9	95	150	185	135	116	87	-	1355551 ✦	1	12
315	250	7.7	6.2	166	178	174	128	140	110	D354652 ✦	D354691 ✦	1	6
400	110	9.8	3.2	153	183	240	180	145	60	-	1354151* ▲	1	5
400	160	9.8	4.0	120	205	135	215	160	87	-	1356651* ▲	1	4
400	200	9.8	4.9	145	240	145	215	175	104	-	1357751 ▲	1	4
400	250	9.8	6.2	186	227	270	180	145	105	-	1358851 ▲	1	4
400	315	9.8	6,9	186	227	260	180	145	125	1359952* ▲	1359951 ▲	1	4
500	110	10.5	3.2	163	205	290	210	170	60	-	1355051* ▲	-	-
500	250	10.5	6.2	-	-	-	210	170	105	-	D354991* ✦	1	3
500	315	10.5	6,9	-	-	-	210	170	125	-	D355091* ✦	1	2
500	400	10.5	9.8	-	-	-	210	170	145	-	D355191* ✦	1	1

*upon request

• Fixed Ring Lip Ring ✦ Fabricated ▲ Thermoformed

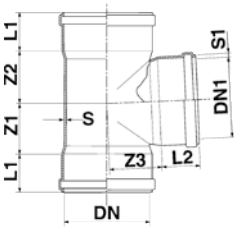


Branch 87°30′ T/S

Culotte 87°30′ F/F - Derivación 87°30′ H/H

DN (mm)	DN1 (mm)	S (mm)	S1 (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L3 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
125	125	3.2	3.2	83	78	78	62	62	0451242	-	10	80
160	160	4.0	4.0	95	99	99	72	72	0451642	0451641	5	40
200	200	4.9	4.9	120	120	120	86	86	1452042	1452041	1	28
250	250	6.2	6.2	165	152	152	101	101	1452542	1452541*	1	15
315	315	7.7	7.7	211	185	185	117	117	1453042	1453041	1	6
400	400	9.8	9.8	250	270	230	175	175	1454052 ▲	1454051 ▲	1	2

*upon request Fixed Ring



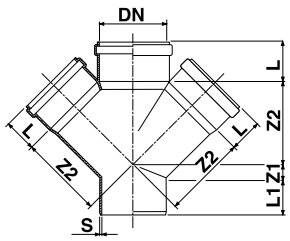
Reduced branch 87°30' T/S

Culotte embranchement 87°30' F/F - Derivación reducida 87°30' H/H

DN (mm)	DN1 (mm)	S (mm)	S1 (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L3 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
160	110	4.0	3.2	70	75	95	72	56	-	0351741	8	64
160	125	4.0	3.2	85	81	94	72	62	0463642	-	6	48
200	110	4.9	3.2	108	110	120	86	60	-	0460141	1	33
200	125	4.9	3.2	108	110	120	86	62	0460242	-	4	32
200	160	4.9	4.0	108	110	132	86	74	0460642	0460641	1	30
250	125	6.2	3.2	100	100	132	103	130	1461242	-	1	18
250	160	6.2	4.0	100	100	134	107	126	1461642	1461651*	1	18
250	200	6.2	4.9	100	143	136	113	120	1462042*	1462051*	1	15
315	110	7.7	3.2	150	150	176	116	56	1464142*	1464141*	1	9
315	125	7.7	3.2	150	150	176	116	65	1464342	-	1	10
315	160	7.7	4.0	150	150	180	116	73	1464242	-	1	10
315	200	7.7	4.9	150	150	185	116	87	1464442	1464451	1	10
400	125	9.8	3.2	192	192	240	145	65	1463342*▲	-	-	-
400	200	9.8	4.9	192	192	250	145	95	-	1467741 ▲	1	4
400	250	9.8	6.2	227	227	270	145	105	1468842 ▲	-	1	4
400	315	9.8	7.7	227	227	260	145	125	1469942 ▲	-	1	3
500	110	10.5	3.2	163	205	290	210	170	* ▲	* ▲	-	-
500	125	10.5	3.2	163	205	290	210	170	* ▲	* ▲	-	-
500	160	10.5	4.0	163	205	300	210	170	* ▲	* ▲	-	-
500	200	10.5	4.9	163	205	300	210	170	* ▲	* ▲	-	-

*upon request

Fixed Ring ▲ Thermoformed



Double branch 45°

Culotte double 45° - Derivación doble 45°

DN (mm)	S (mm)	Z1 (mm)	Z2 (mm)	L (mm)	L1 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red			Note
◗ 110	3.2	30	141	57	60	0361142	0361141	8	64	
125	3.2	30	157	64	65	0361242	-	5	40	
160	4.0	51	204	85	88	0361642	-	1	30	

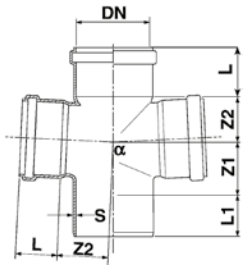
Fixed Ring ◗ **SN8 SDR34**

Double branch 87°30'

Culotte double 87°30' - Derivación doble 87°30'

DN (mm)	α	S (mm)	Z1 (mm)	Z2 (mm)	L (mm)	L1 (mm)	Reference RAL 7037 Grey		
◗ 110	87°30'	3.2	62	70	70	80	0381142	10	80

Fixed Ring ◗ **SN8 SDR34**



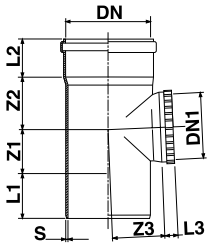
Access pipe

Té de visite - Té de registro

DN (mm)	DN1 (mm)	S (mm)	Z1 (mm)	Z2 (mm)	Z3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Reference RAL 7037 Grey (•)	Reference RAL 8023 Red		
110	110	3.0	59	69	69	60	55	36	1821142 •	182115E	20	160
125	125	3.2	66	70	78	62	62	22	1821242* •	182125E	15	120
160	160	4.0	83	99	99	85	72	24	1821642* •	182165E	1	65
200	200	4.9	105	119	119	100	86	28	1822042 •	182205E	1	30
250	250	6.2	120	152	152	135	101	70	1402552	1402591	1	16
315	315	7.7	166	185	185	146	114	90	-	1403091	1	8
400	315	9.8	227	227	260	180	145	30	1404352* ▲	1404351 ▲	1	4

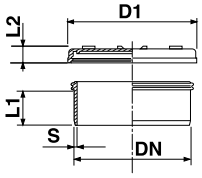
*upon request

•Fixed Ring Lip Ring ▲ Thermoformed



DN110 and DN125

DN160 and DN200

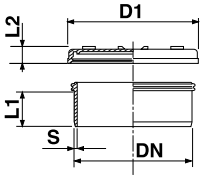


Access plug

Tampon de visite - Tapón de registro

DN (mm)	D1 (mm)	S (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
110	125	3.4	62	19	0651102	0651101	70	560
125	141	3.0	60	25	0651202	0651201	50	400
160	176	3.1	60	23	1651602	1651601	30	240
200	216	3.4	80	23	1652002	1652001	15	120

Lip Ring

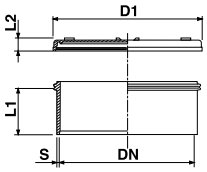


Access plug

Tampon à baïonette male - Tapón de registro

DN (mm)	D1 (mm)	S (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
250	262	6.1	90	18	1652502	1652501	10	100
315	354	7.7	93	22	1653002	1653001	5	50

Lip Ring

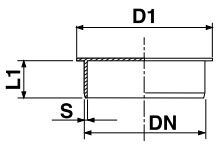


Access end cap Female

Tampon à baïonnette femelle - Tapón de registro hembra

DN (mm)	D1 (mm)	S (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey		
250	262	5.5	86	18	16525F2	10	100
315	330	6.9	89	22	16530F2	6	48

Lip Ring

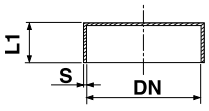


Socket plug

Bouchon de fermeture - Tapón macho

DN (mm)	D1 (mm)	S (mm)	L1 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
110	126	3.2	38	0661102	066110E	150	1200
125	142	3.2	42	0661202	066120E	100	800
160	180	4.0	49	0661602	066160E	55	440
200	223	4.9	59	0662002	066200E	25	200
250	282	6.2	90	0662502	0662501	1	144
315	350	7.7	93	0663002	0663001	1	67
400	440	9.8	95	06640M2	06640M1	1	50
500	558	12.3	120	-	D665001 ✦	1	12

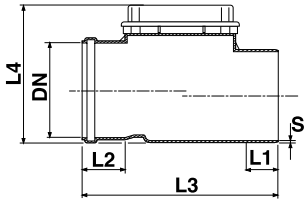
✦ Fabricated



End cap

Bouchon femelle - Tapón hembra

DN (mm)	S (mm)	L1 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
110	2.0	32	06613F2	06613F1	30	1560
125	2.5	32	06615F2	06615F1	20	1040
160	2.7	35	06617F2	06617F1	30	720
200	2.9	35	06621F2	06621F1	60	480
250	3.5	40	06628F2	06628F1	30	240
315	4.0	52	06634F2	06634F1	15	120
400	6.0	95	06640F2	06640F1	1	50

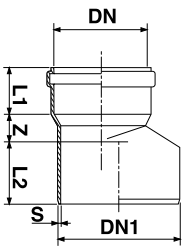


Access chamber

Inspection linéaire - Inspección en línea

DN (mm)	S (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	Reference RAL 8023 Red		
110	4.0	61	61	307	192	1475551*	9	72
125	4.0	68	65	318	192	1476051*	8	64
160	4.0	74	74	334	220	1471691*	6	48
200	4.5	100	86	451	280	1472091*	2	16

*upon request Lip Ring



Invert reducer

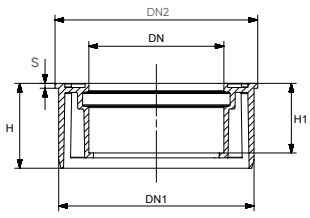
Réduction excentrée - Ampliación excéntrica

DN (mm)	DN1 (mm)	S (mm)	Z (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey (•)	Reference RAL 8023 Red		
110	125	3.2	22	56	63	0513242 •	051325E	35	280
110	160	4.0	43	56	82	0511642 •	051165E	30	240
125	160	4.0	36	62	82	0513642 •	051365E	30	240
125	200	4.9	53	62	100	0512042 •	051205E	15	120
160	200	4.9	39	74	100	0514042 •	051405E	15	120
160	250	6,2	66	73	125	0514642	0514651	1	85
200	250	6.2	39	96	134	0512542 •	051255E	5	60
200	315	7.7	85	86	145	0513342 •	051335E	4	32
250	315	7.7	64	103	144	0513052	0513091	1	32
315	400	9.8	88	118	156	0519252	0519291	1	18
400	500	-	-	-	-	-	D519491 ** ✦	1	4

**Centrée / Escentrée / Concéntrico

NB: other larger diameters available upon request / diamètres supérieurs disponibles sur demande.

• Fixed Ring Lip Ring ✦ Fabricated



Compact inverter reducer

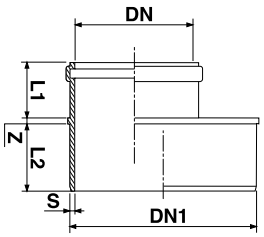
Tampon de réduction avec joint - Reducción concéntrica

DN (mm)	DN1 (mm)	DN2 (mm)	H (mm)	H1 (mm)	S (mm)	Reference Black		
110	160	166	69.5	57	4	0686348	16	384

Recommended for installation on Easyclip City, Link and Tech

Flat invert reducer

Réduction excentrée - Ampliación excéntrica



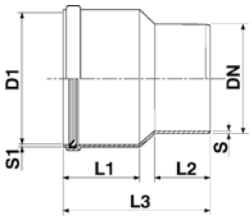
DN (mm)	DN1 (mm)	S (mm)	Z (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red			Note
110	200	4,6	40	60	59	1533542 ✦	1533551 ✦	15	120	
110	250	6.1	7	56	90	0534142	0534151	10	80	
110	315	7.7	40	60	93	-	1534051* ✦	5	40	
110	400	6.0	40	60	95	1535042* ✦	-	7	28	
125	250	6.1	7	62	90	0534242 ✦	0534251	10	80	
125	315	7.7	40	65	93	1534342 ✦	1534351* ✦	5	40	
125	400	6.0	40	65	95	1535542 ✦	1535551* ✦	-	-	
160	315	7.7	7	74	93	0534842	0534851	5	40	
160	400	6.0	50	85	95	1536042* ✦	1536051* ✦	1	26	
200	400	6.0	50	95	95	1536542* ✦	1536551 ✦	1	26	
250	400	6.0	50	105	95	1537052 ✦	1537091 ✦	1	24	

*upon request

Fixed Ring Lip Ring ✦ Fabricated

Clay/PVC adaptor

Manchon d'adaptation Grès/PVC - Enlace mixto Gres/PVC

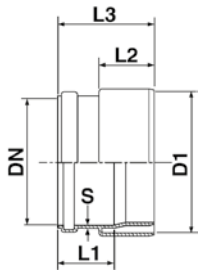


DN (mm)	DN1 (mm)	S (mm)	S1 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
110	136	3.0	3.0	89	60	170	0621192	0621191	30	240
125	160	3.4	3.0	98	67	190	0621292	0621291	18	144
160	190	4.0	3.6	112	81	215	0621692	0621691	10	80
200	242	5.5	4.5	125	100	255	-	0622091	1	60

Lip Ring

PVC/Clay adaptor

Manchon d'adaptation PVC/Grès - Enlace mixto PVC/Gres



DN (mm)	DN1 (mm)	S (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Reference RAL 8023 Red		
110	136	3.0	56	70	114	0621091	50	400
160	190	3.6	72	70	123	0621791	20	160

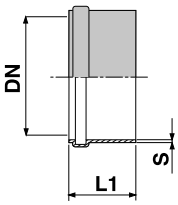
Lip Ring

Sanded protection sleeve

Accès de regard sablé court - Manguito pasamuros

DN (mm)	S (mm)	L1 (mm)	Reference Sandblasted	Reference RAL 7037 Grey			Note
160	3.6	74	–	0641642	12	168	

Lip Ring

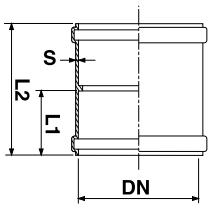


Double socket with central stop

Manchon avec butée - Manguito de unión con tope

DN (mm)	S (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey (*)	Reference RAL 8023 Red		
110	2.9	60	122	0631142 •	063115E	45	360
125	2.9	68	141	0631242 •	063125E	30	240
160	3.6	75	151	0631642 •	063165E	18	144
200	4.4	106	217	0632042 •	063205E	8	64
250	5.5	123	254	0632552	0632591	1	36
315	6.9	144	297	0633052	0633091	1	20
400	8.8	160	325	0634052	0634091	1	12
500	9.8	170	440	1635052 ▲	1635051 ▲	1	4

*Fixed Ring Lip Ring ▲ Thermoformed

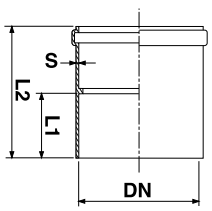


Single socket with central stop

Manchon mixte avec butée - Unión mixta con tope

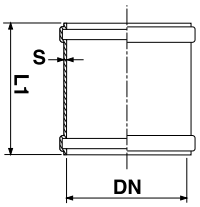
DN (mm)	S (mm)	L1 (mm)	L2 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
110	2.9	60	122	0631182*	0631181	20	360
125	2.9	68	141	-	0631281*	16	256
160	3.6	75	154	-	0631681*	10	120
200	4.4	106	217	-	0632081*	5	60
250	5.5	123	254	-	0632581*	4	32
315	6.9	144	297	-	0633081*	4	20

*upon request Lip Ring



Repair/Slip coupler

Manchon coulissant - Manguito deslizante



DN (mm)	S (mm)	L1 (mm)	Reference RAL 7037 Grey (•)	Reference RAL 8023 Red		
110	2.9	122	0611142 •	061115E	45	360
125	2.9	141	0611242 •	061125E	30	240
160	3.6	151	0611642 •	061165E	18	144
200	4.4	217	0612042 •	061205E	8	64
250	5.5	254	0612552	0612591	1	36
315	6.9	297	0613052	0613091	1	20
400	8.8	325	0614052	0614091	1	12
500	9.8	440	1615052 ▲	1615051 ▲	1	4
630	-	-	-	D616391 ✦	1	3

•Fixed Ring Lip Ring ✦ Fabricated ▲ Thermoformed

Universal Gully trap

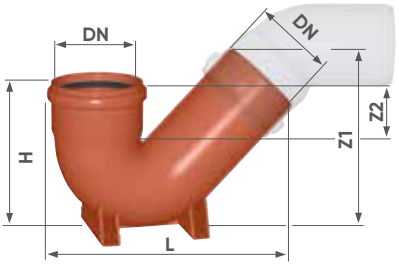
Siphon pour siége à la turque en PP

Sifón placa turca en PP con junta labiada

DN (mm)	H (mm)	L (mm)	Z1 (mm)	Z2 (mm)	Material	Reference RAL 8023 Red		
110	142	310	225	50**	PP	Z7713PP	10	80

** Siphon 50 mm (when fitted with 45° bend)

Fixed Ring Lip Ring

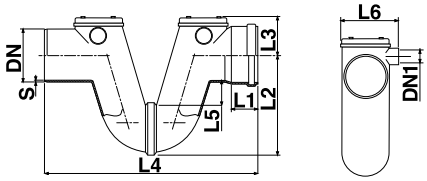


REDI trap interceptor

Siphon à joint male/femelle - Sifón en línea con registros

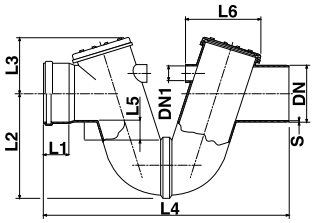
DN (mm)	DN1	S	L1	L2	L3	L4	L5	L6	Reference RAL 7037 Grey	Reference RAL 8023 Red		
110	40	3.0	61	202	88	495	35	153	1750052	1750091	5	35
125	40	3.0	62	235	92	490	38	175	1751352	1751391	1	34

Fixed Ring Lip Ring



REDI trap interceptor

Siphon à joint male/femelle - Sifón en línea con registros

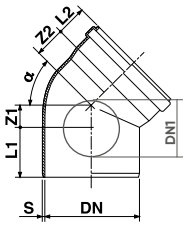


DN (mm)	DN1 (mm)	S (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	L6 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
160	63	3.0	72	295	158	655	50	210	1751652	1751691	1	18
200	63	4.0	84	345	198	795	50	270	1752052	1752091	1	9

Fixed Ring Lip Ring

Bend 45° with access plug

Coude de visite 45° - Codo 45° con registro



DN (mm)	DN1 (mm)	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Reference (SX) RAL 7037 Grey	Reference (DX) RAL 8023 Red		
110	63	3,2	27	36	58	50	N1C88E1 ✦	N1C87E1* ✦	5	–
125	80	3,2	29	40	68	56	11912S1* ✦	11912D1 *✦	5	–
160	100	4,0	37	51	80	66	11916S1 ✦	11916D1 ✦	5	–

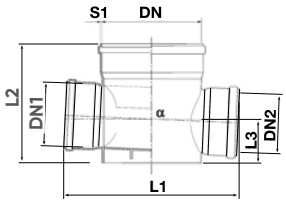
*upon request Lip Ring ✦ Fabricated

Branch 45° with access plus

Culotte 45° avec accès latéral - Derivación 45° con registro lateral

DN (mm)	Reference (SX) RAL 7037 Grey	Reference (DX) RAL 8023 Red			Note
110	N1C86E1 ✦	N1C85E1 *✦	5	100	
125	1854451 ✦	1853351 ✦	5	50	
160	1856651 ✦	1855551 ✦	5	25	
200	1858851 ✦	1857751* ✦	1	18	

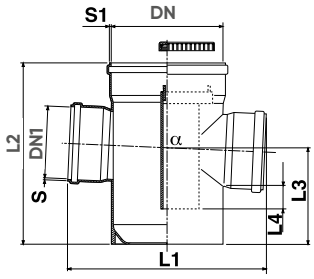
*upon request Lip Ring ✦ Fabricated



Inspection chamber
Boîte de branchement direct - Colector de registro

DN (mm)	DN1 (mm)	DN2 (mm)	S1 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	α	Reference RAL 7037 Grey		
250	125	125	4.0	406	300	110	2°	1943042 ≈	1	37
315	125	125	5.0	459	320	115	2°	1953042 ≈	1	26
250	160	160	4.0	436	300	110	2°	1943242 ≈	1	34
315	160	160	5.0	491	320	115	2°	1953242 ≈	1	23
400	160	160	7	570	412	148	2°	1962942* ≈	1	10

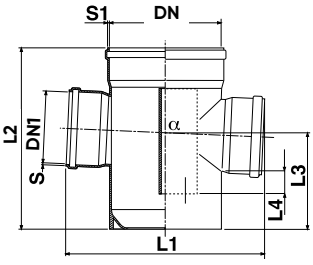
*upon request
≈ RAL 8023 Red available on request
Lip Ring



Trapped inspection chamber
Boîte de branchement siphoïde
Colector sifónico en línea

DN (mm)	DN1 (mm)	S1 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	α	Reference RAL 7037 Grey		
250	125	4.0	406	405	215	67.5	2°	1944642	1	19
315	125	5.0	459	422	217	67.5	2°	1954642	1	12
250	160	4.0	436	405	215	50	2°	1944842	1	17
315	160	5.0	491	422	217	50	2°	1954842	1	10

Lip Ring



Inspection chamber with c. baffle
Boîte de branchement disconnectrice
Colector de inspección desconector

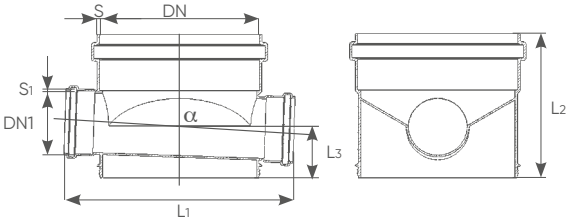
DN (mm)	DN1 (mm)	S1 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	α	Reference RAL 7037 Grey		
250	125	4.0	406	405	215	67.5	2°	1943842	1	19
315	125	5.0	459	422	217	67.5	2°	1953842	1	12
250	160	4.0	436	405	215	50	2°	1944042	1	17
315	160	5.0	491	422	217	50	2°	1954042	1	10

Lip Ring

Heavy inspection chamber
Tabouret lesté passage direct
Colector de inspección resistente a carga

DN (mm)	DN1 (mm)	S (mm)	S1 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	α	Kg	Material	Reference RAL 7037 Grey		
315	125	4,9	3,0	459	283,5	103	2°	7,50	PP	1951242	1	18
315	160	4,9	3,6	480	316,5	119	2°	7,70	PP	1951642	1	21
315	200	4,9	4,5	505	356,5	139	2°	8,20	PP	1952042	1	18

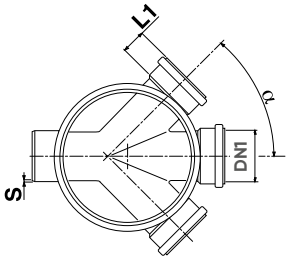
Lip Ring

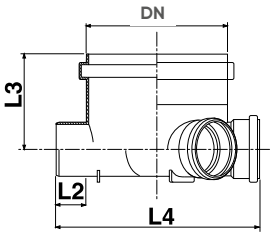


Access junction basis
Regard à 3 entrées - Colector de inspección 3 entradas

DN (mm)	DN1 (mm)	S (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	α	Reference RAL 8023 Red			Note
400	160	5	74	85	275	605	45°	196435X	1	6	3E.M/F - RML

Lip Ring

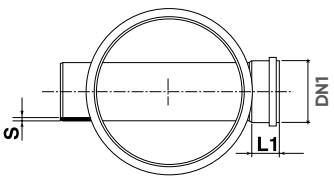


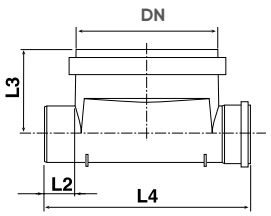


Access junction basis
Regard à 2 entrées - Colector de inspección 2 entradas

DN (mm)	DN1 (mm)	S (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	α	Reference RAL 8023 Red			Note
400	160	5	74	85	275	605	0°	196495X	1	8	MF PD - G

Lip Ring



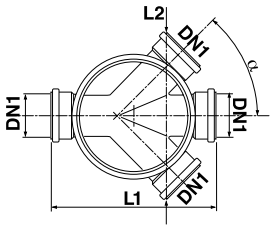


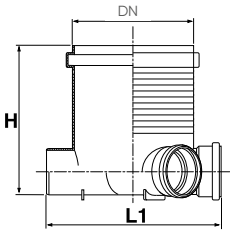
Access junction basis 400x200 Schachtboden

Regard à 3 entrées - Colector de inspección 3 entradas

DN (mm)	DN1 (mm)	α	H (mm)	L1 (mm)	Material	Reference Black			Note
400	200	45°	475	630	PP	POZ4208	1	8	

Lip Ring



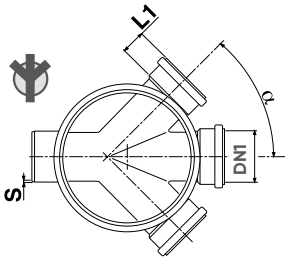


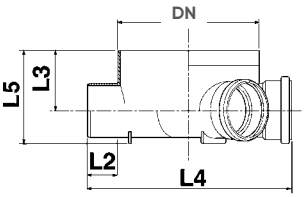
Access junction basis

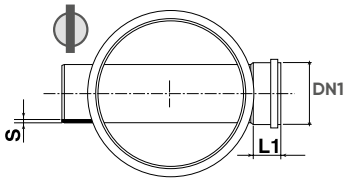
Regard à 3 entrées - Colector de inspección 3 entradas

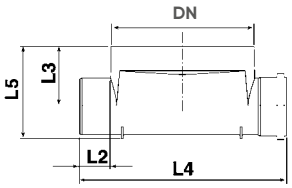
DN (mm)	DN1 (mm)	S (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	L5 (mm)	α	Reference RAL 8023 Red			Note
400	160	5	74	85	130	605	230	45°	096435X	1	12	3E.M/F - RML
400	160	5	74	85	130	605	230	0°	096495X*	1	16	MF PD - G

*upon request Lip Ring



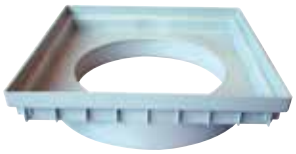




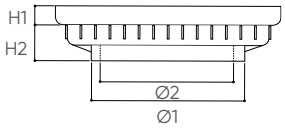


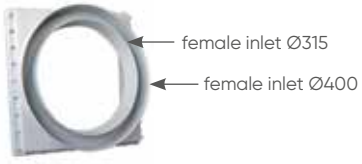
Round/Square frame for pipe inspection

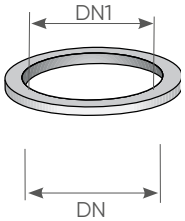
Cadre Carré/Rond - Cerco cuadrado con para colector de inspección



DN (mm)	Ø1 (mm)	Ø2 (mm)	H1 (mm)	H2 (mm)	Reference RAL 7037 Grey			Note
450x450	400	315	50	65	ETTQ304	1	40	





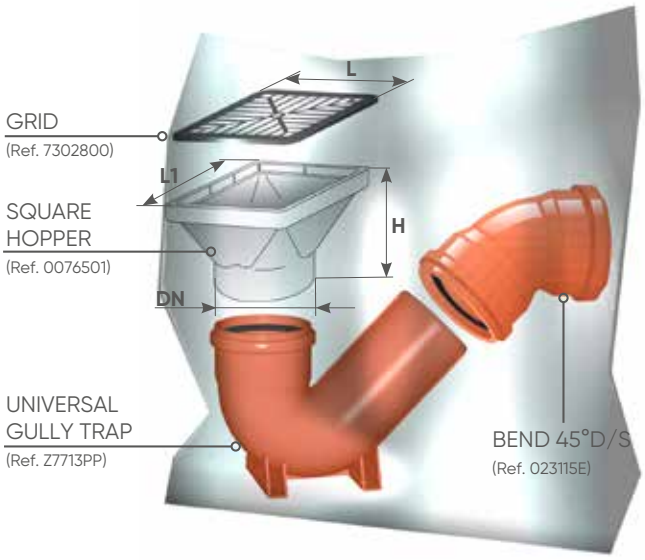


Telescopic gasket

Joint télescopique - Junta telescópica

DN (mm)	DN1 (mm)	Reference RAL 7037 Grey			Note
315	400	6834300*	1	66	

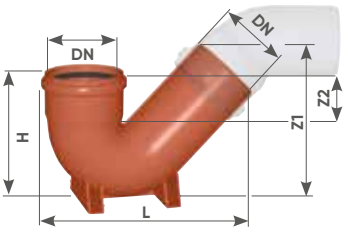
*upon request



Gully Kit

Reference RAL 8023 Red			Note
1KIT15E	6	48	

Reference RAL 8023 Red	Note	DN (mm)	H (mm)	L (mm)	L1 (mm)
7302800	Grid			150	
0076501	Square Hopper	110	99		160
023115E	Bend 45° D/S	110			
Z7713PP	PP Universal Gully Trap	110			



Universal Gully trap

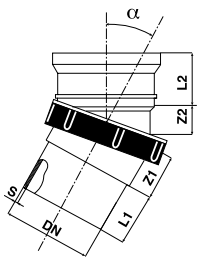
Siphon pour siége à la turque en PP

Sifón placa turca en PP con junta labiada

DN (mm)	H (mm)	L (mm)	Z1 (mm)	Z2 (mm)	Material	Reference RAL 8023 Red		
110	142	310	225	50**	PP	Z7713PP	10	80

**Siphon 50mm (when fitted with 45° bend)

Lip Ring

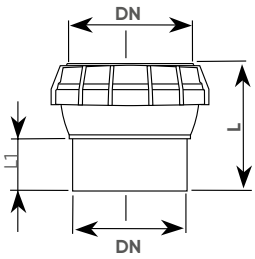


Adjustable bend

Coude orientable - Codo orientable

DN (mm)	α	S (mm)	Z1 (mm)	Z2 (mm)	L1 (mm)	L2 (mm)	Reference RAL 8023 Red		
110	5°÷ 30°	3.2	26	36	62	59	H999941	6	144

Lip Ring



Swivel 160
Rotule 160 - Rótula 160

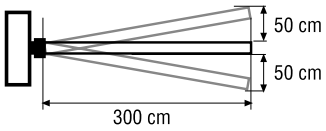
DN (mm)	α	L (mm)	L1 (mm)	Reference Black		
160	+/-10°	180	85	1991658	1	96

Lip Ring

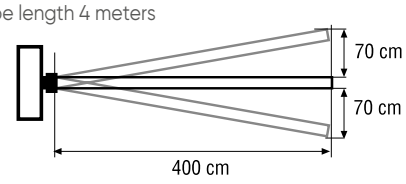
Patent: EP 040298754

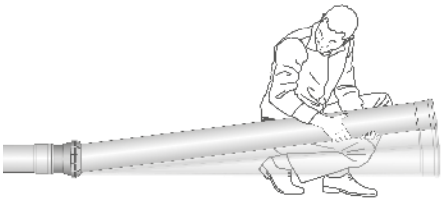
Swivel DN 160 mm.
Pre-lubricated and ready-to-install. Rotation up to 10° to facilitate house connections and balance ground settlement.

Pipe length 3 meters



Pipe length 4 meters

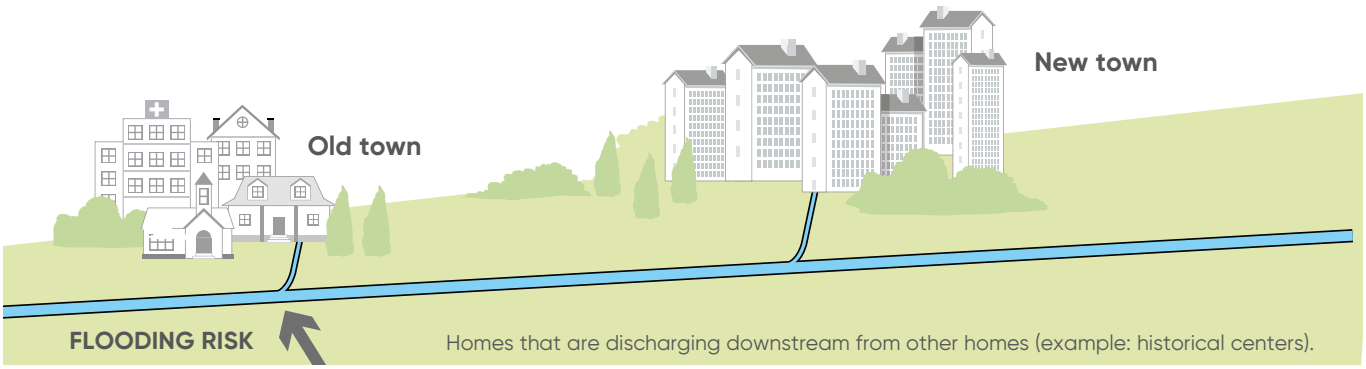




OTTIMA and CLASSICA Non Return & Flap Valves

EN 13564 Type 0, 1, 2 Models Solvent Welded and Push-Fit Connections

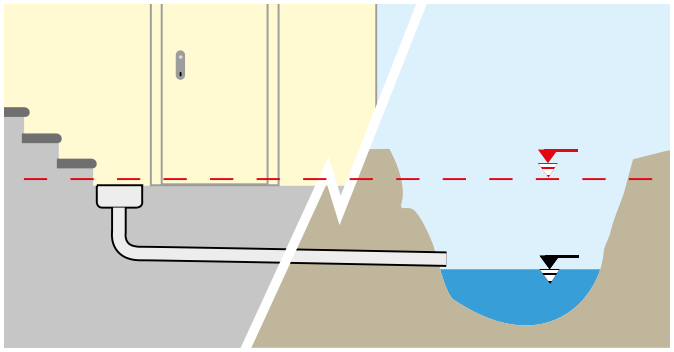
Reasons to install backflow prevention device

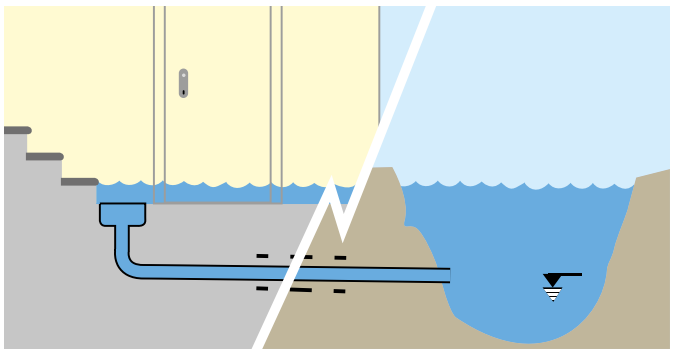


The causes of backflow

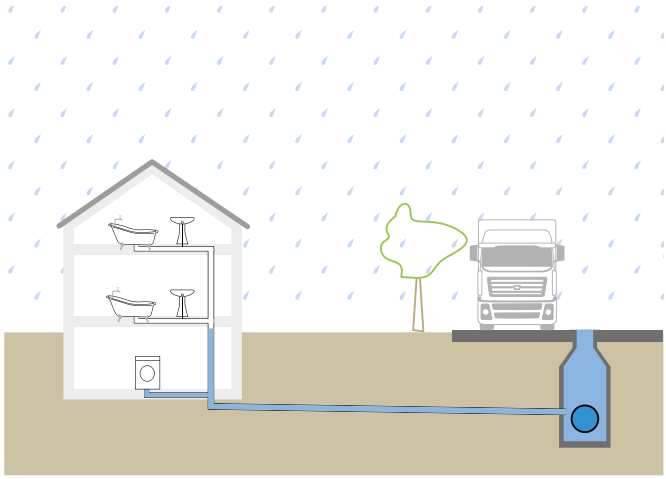
Back flow from the public sewer system is mainly caused by:
- overall under-sizing of the public sewers
- high peak flows in stormwater sewers or combined sewers due to short but intense rainfall (climatic trend throughout the world)
- increase of surface water runoff due to new construction (growing territorial urbanization), causing greater volume of flow
- overflow due to peaks of simultaneous flow in built up areas
- malfunctions or blockages downstream from the grid.

The typical situations that may lead to this problem are various and are related to the urban area involved. Several examples:





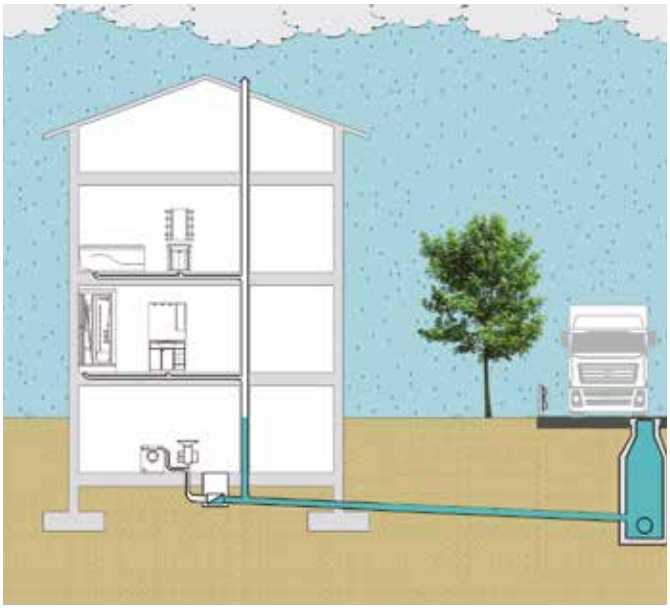
Riverside areas



Combined sewers that also collect road drainange

Basements

These are only some of the many cases in which sewer overflow risk is high and installation of a backflow prevention device is recommended.



Hydraulic principles: reflux level

On the grounds of the "Communicating Vessels Principle", water tends to settle at even levels in all branches of the sewer network.
Hence, it is possible to define the concept of "backflow level" as the maximum level in a sewer system before water reflux occurs from the system itself. All of the utilities below the backflow level of a sewer system (usually basements, cellars and garages, as well as living quarters below street level, face flood risk as grid flows exceed maximum tolerance levels with greater frequency.
Let's schematically examine the consequences of main sewer backflow.

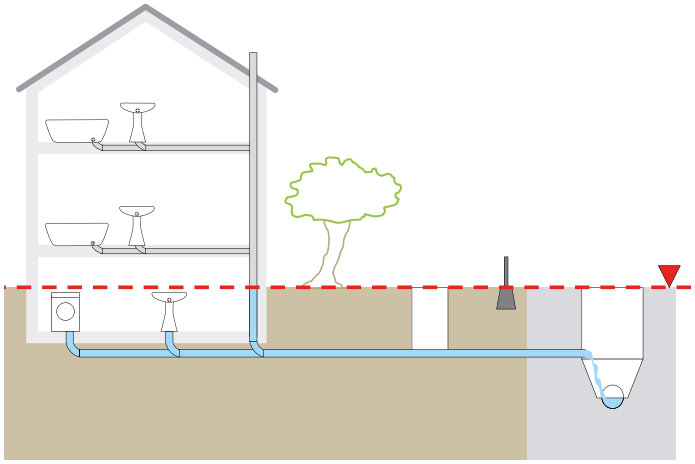
1. Standard use: The main sewer is receptive; the pipes within the home utilities are under safe hydraulic measures.

2. Overlflow use – even temporarily: given that the backflow level in this scheme corresponds with street level (over maximum level, which corresponds to manhole height in this case, fluid may seep from the system), any grid overflow shall lead to the distribution of water in all branches communicating with the main sewer, until reaching a back flow level marked with the red dotted line.

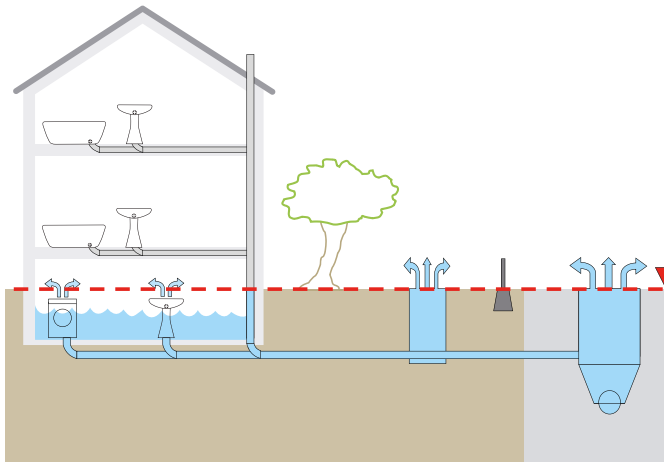
Home risk floods following main sewer overflow.
The non-return valve is active.
In this case the house is protected against flood risk.
This diagram represents a typical scenario that may occur in any home with areas prone to flood risk in regards to the backflow level line.
Unwanted events may take place if the sewer manifold overflows.

Backflow protection may be necessary in separate sewers, where foul and stormwater flow into separate systems, and in cases of combined sewers because backflow typically indirectly involves foul water circuits due to storm water overflow.
This problem is normal in areas that do not have separate systems, which concerns the majority of cases. Discharge water backflow risk is simple to solve by installing a fundamental component in new drainage systems and in modernization of existing grids - the non-return Valve. Its working principle is extremely simple but also very effective.

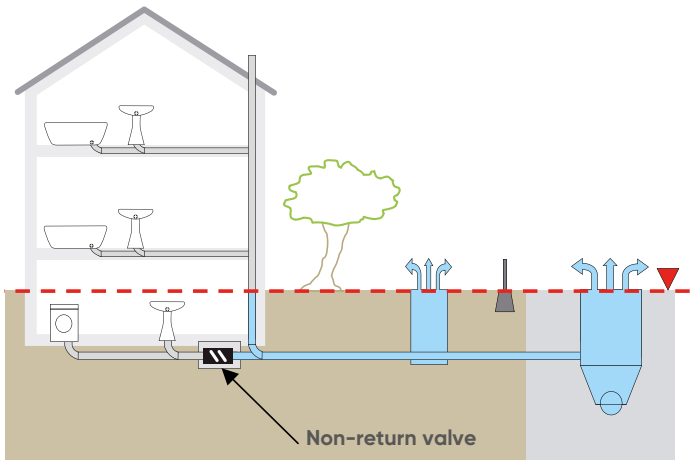
NORMAL FUNCTION



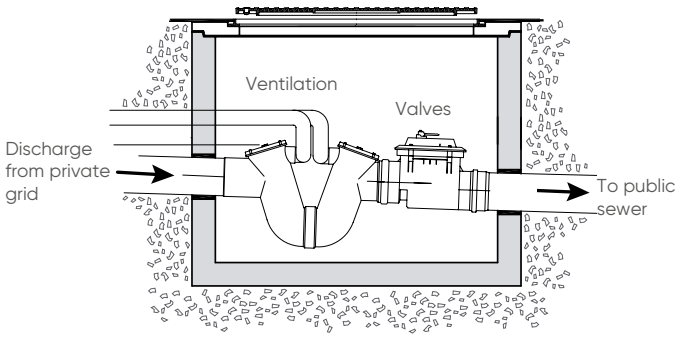
NON PROTECTED **Back flow event: without non-return valve**



PROTECTED **Back flow event: with non-return valve**



Legislative aspects of water grid construction and management



integrated water utility management

In Italy, as throughout Europe, water grid management has been delegated to Integrated Water Services since the start of the 90s. Water grid management passed from the hands of Municipality Management to subjects referred to as Water Companies, which ensure a benchmark level of quality in return for an utility fee, as by the stipulated utility contract. The various Water Companies in Italy are responsible for service provision and system maintenance and good operating conditions.

Hence, these utilities have introduced a series of technical guidelines concerning various aspects on design and construction of water grids that serve as condition for public and private subjects that intend to benefit from such systems under Contract.

The technical guidelines include the manner of connection to the sewers by private and public users.

Guidelines

These guidelines must be respected both by enterprises and private citizens alike.

The contractor that executes works for the Utility Company must strictly follow the execution guidelines received. Likewise, the citizen that requires, for example, connection of a new utility must follow these prescriptions according to established procedures.

Duties

In case of not comply with foregoing prescriptions, the Utility Company is free to decline Contract stipulation for use of public sewer systems; and may press for compensation of any damages caused by the infringing party. Currently, many local Water Companies already expect the installation of a backflow prevention valves when connecting a utility to the public sewers to prevent back flow risk. The image above is an example of prescription. It represents the connection before the public sewage.

OTTIMA non-return valve with stainless steel flap AISI 304

The new OTTIMA non-return valve was designed to meet the highest technological standards on the market. OTTIMA is manufactured with modern technology that ensures high-product standards and reliability.

Innovative

The innovation that is expressed through its design:

- increased safety
- search for functionality
- improvement of product features
- new technical requirements

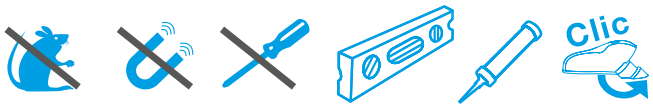
OTTIMA contains a series of new features that make it a new reference product.

OTTIMA M/F Ø 100 - 110 mm

OTTIMA M/F Ø125 - 160 mm

Opens in extremely reduced spaces OTTIMA's cover can be removed without any tools, screwdrivers or wrenches by directly acting on the sealing levers.

The figure shows valve opening in the vicinity of walls of sewer trap edges. They are manufactured in high-stability nylon polymer for excellent resistance in time, though all parts may be replaced.



Standard inox flap: OTTIMA is fitted with a series of anti-rodent devices in stainless steel; therefore making it impossible for rodents to travel upwards through water pipelines... Additional protective features!

No metal parts: no metal parts ensure resistance to the test of time given the lack of corrosion. All components such as screws, bolts and pins have been eliminated to ensure greater time resistance. The only metal part is the stainless steel anti-rodent device.

No equipment needed: OTTIMA poses a definitive solution to tools required for maintenance. It is designed for full inspection, disassembly and re-assembly without using special tools. Thanks to the lever seal replacing screws and to its internal design, every part can be easily removed and repositioned without the use of special tools.

Co-injected gaskets: OTTIMA is manufactured on a production line that employs management and technology criteria market leading. All seals, spring sheets, lids and couplings are manufactured through direct co-injection. This means that the seals are moulded directly onto the specific part. Therefore, numerous parts are eliminated, water-tightness is increased, maintenance and installation are eased (no gaskets must be removed and remounted, thus eliminating assembly errors).

Stable base: OTTIMA rests on a stable base that facilitates installation and level check operations. But also helps in maintenance, allowing for a stable support.

Detachable locking lever: the locking lever is detachable. This is an important feature for installation in public-accessible areas to avoid unauthorized tampering or unwanted actuation. Should the lever be lost, the valve can be locked with a monkey wrench thanks to the hexagonal shape of the mechanism rotational axis. Setting the locking lever in sealed position is fundamental during emergencies that require line cut-off. E.g. downstream maintenance, accidental spillage into sewers. Actuation is confirmed by the "click" sound when locked into place.

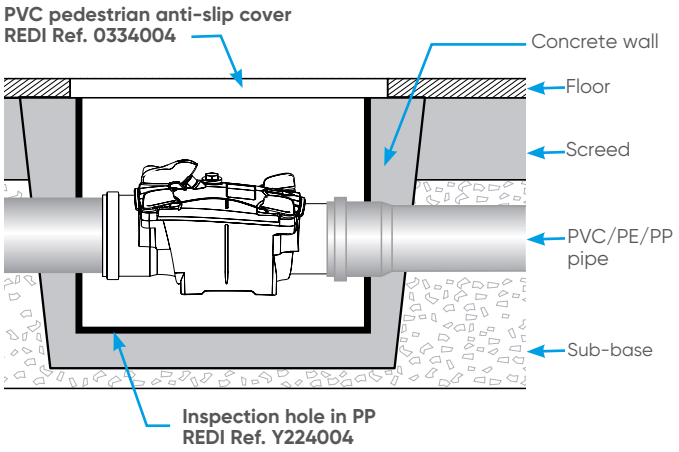
Minimum offset (7mm) thanks to the low off-set, pipe slope remains unchanged, both before and after installation.

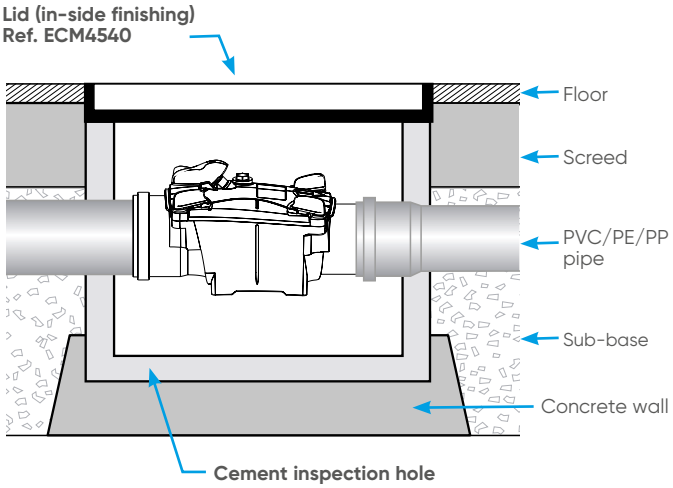
Double flaps

OTTIMA is a Type 2 non-return valve (definition according to standard EN13564), meaning that it is fitted with two automatic protection devices against backflow and with a command seal device. This means double protection in case of backflow and greater guarantee of water-tightness.

Advice on installation

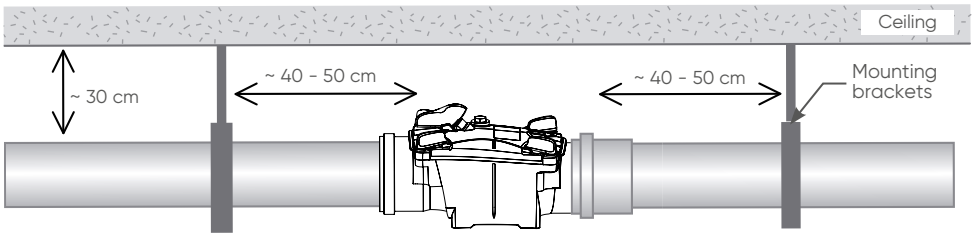
The non-return valve can be installed both indoors and outside; the installation that allows easy inspection, inside an accessible recess, an inspection pit, or in sight installation on a pipeline with support brackets, is always recommended. Example of indoor installation: in areas such as cellars, washrooms and basements.





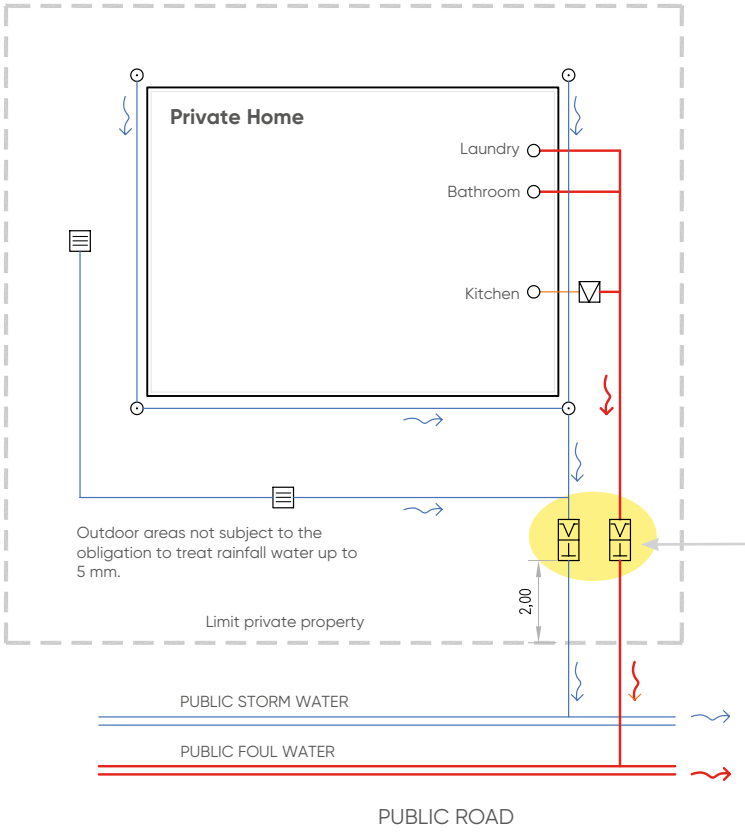
Examples of installation on an overhead pipeline.

The quota in the examples refer to applications with OTTIMA Ø100-110, which are greater for Ø125-160.



INSTALLATION TYPE

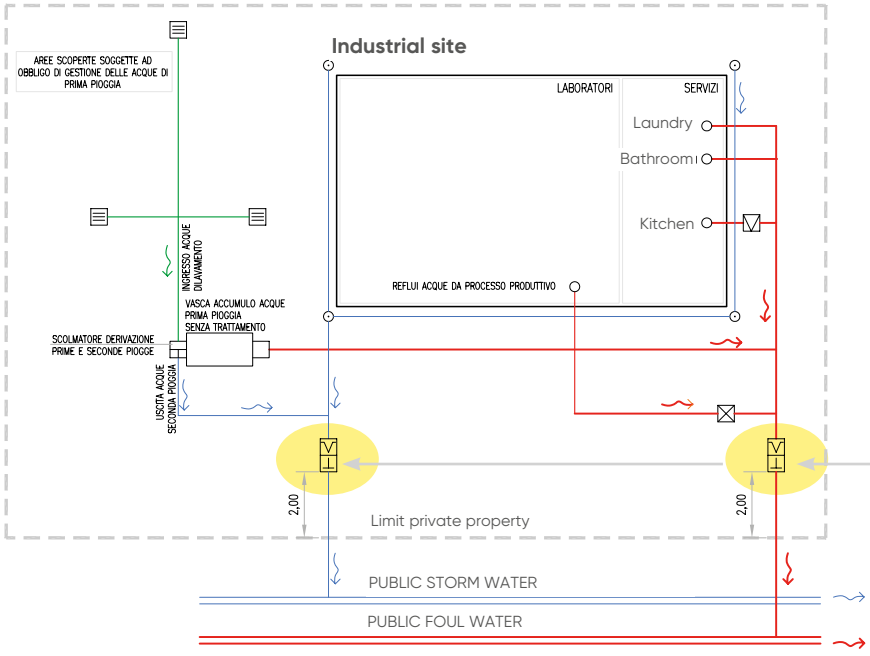
Case 1: **Home**



Two examples of non-return valve installation are provided according to Italian laws in force. The first on shows installation in a private home, the second on a production site.
The non-return valve must be installed both on the storm and foul water circuits.

The drawings shown give example of installation in compliance with the most common european standard norms. Regulations may vary according to State and local areas.

Case 2: **Industrial site**



Certification

Redi anti-flooding valves DN 100 ÷ 200 are certified by the German Institute LGA (LGA Kitemark).

Certified anti-flooding valves guarantee the following performance levels:
- Regular flow granted by the opening of the flap, even in presence of minimum pressure rates (0.005 bar).
- Non-deformability and tightness of the product after 600 test cycles at variable temperature (60 seconds at 75° / 60 seconds at 15°).
- Effectiveness of Redi anti-flooding device after 35 cycles of backflow of variable duration from 5 up to 10 minutes and pressure rate from 0,01 up to 0.5 bar.
- Water tightness of the entire valve's body, subject to a pressure rate of 0.5 bar.
- Inlet and outlet of the valves are complying with EN1401 and EN1329.

CE 11 **EN13564: 2002**
Antiflooding device made of PVC-U

Tested features:
- ☑ Air proof
- ☑ Water proof
- ☑ Effectiveness test
- ☑ Thermal resistance
- ☑ Mechanical resistance
- ☑ Durability


LGA - Tested - Certifikat
LGA-Tested-Certificate
Genehmigungsinhaber
License Holder
REDI S.p.a.
Via Madonna dei Prati 5/A
40069 Zola Predosa BO
Italy
Zertifiziertes Produkt (umseitig näher bezeichnet)
Certified Product (specified overleaf)
Rückstauverschlüsse für Gebäude, Serie "OTTIMA" / Anti-Flooding devices for buildings, series "OTTIMA"
Prüfzeichen Test Mark
LGA tested
LGA-Tested-Zertifikats-Nr.: GU 60169710 0001
Untersuchungsbericht-Nr.: 21165962 005
Dieses Zertifikat ist gültig bis: 27.04.2028
Geprüft nach Tested acc. to
EN 13564-1:2002
EN 13564-2:2002
Datum Date 28.04.2023
Zertifizierungsstelle Certification Body
Dipl.-Ing. (FH) M. Walter
TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

OTTIMA


LGA - Tested - Certifikat
LGA-Tested-Certificate
Genehmigungsinhaber
License Holder
REDI S.p.a.
Via Madonna dei Prati 5/A
40069 Zola Predosa BO
Italy
Zertifiziertes Produkt (umseitig näher bezeichnet)
Certified Product (specified overleaf)
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Prüfzeichen Test Mark
LGA tested
LGA-Tested-Zertifikats-Nr.: GU 60169709 0001
Untersuchungsbericht-Nr.: 21165962 004
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TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

CLASSICA

The certificates shown on this catalogue may be subject to revisions and updates. Updated certificates for each product are available on website www.aliaxis.it

Product specifications

OTTIMA - Non-return valve Type 2 - (Type 1)

Twin flaps (or single flap) self-closing non-return valve provided with an emergency locking lever.
The device is CE marked, according to the norm EN13564-1 (LGA). Structure and body of the valve are injected in PVC-U.
Joint dimensions are in compliance with EN1401 and EN1329 norms.
The connection to the main can be effected as follows:
- solvent cement
- push-fit with rubber ring
- spigot/spigot with multi-material connectors.

Rubber seals are certified in accordance with the European norm EN681.
By removing the cover of the valve, the structure can be completely inspected. The co-injected seals on the cover (not removable) guarantee the leakage-tightness.
The valve can be assembled and disassembled without using any tool (such as screwdrivers or spanners).
The valve is manufactured to be installed as recommended in EN12056 norm (Installation and testing, instructions for operation, maintenance and use of Waste-water drainage systems).

Recommended maintenance
According to EN12056, the valve shall be inspected every 6 months by following the inspection procedure:
- remove the cover
- check gaskets conditions
- remove any sludge or debris which could hinder the correct functioning of the device by obstructing the flaps
- lock and unlock the flaps using the locking lever
- assemble and lock the cover again.

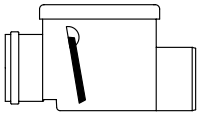
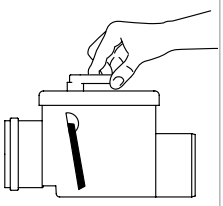
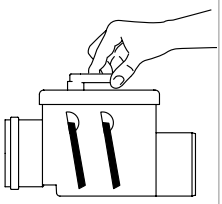
Spare parts available on request.

CLASSICA - Non-return valve

Injection-molded non-return valve made of PVC-U, designed for connections to piping systems conform to EN1329 and EN1401.
- One-flap device with locking lever certified EN13564 Type 1.
- SCJ or RRJ jointing type (Sealing lip-rings conform to EN681-1 and DIN4060).
- Moving parts shall either be detachable or capable of being dismantled on site.
- Airtight and watertight sealed cover.
- CE marking.
- German certification LGA EN13564-1 (DN100 up to DN200)

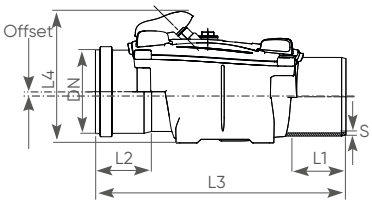
Suppliers will have to attest that they hold a ISO9001 approved quality system in place as a condition for purchase.

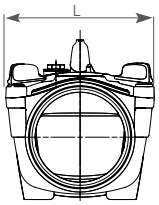
NON-RETURN VALVE EN13564-1

	N° flaps	Emergency closing	Free	Max Temp.	Tightness	Installation	Features
Type 0 	1	NO	90%	75 C°	0,5 bar	horizzontal pipe	Equipped with one automatic closing device. Single flap.
Type 1 	1	SI	90%	75 C°	0,5 bar	horizzontal pipe	Equipped with one automatic closing device. Single flap. Furthermore it has an emergency closing handle, that can be combined to the flap.
Type 2 	2	SI	90%	75 C°	0,5 bar	horizzontal pipe	Equipped with two automatic closing devices. Twin flaps. The emergency closing handle, can be combined with one of both flaps.

OTTIMA TECHNICAL REQUIREMENTS

OTTIMA	Ø100	Ø110	Ø125	Ø160
Valve Type	TYPE 1 TYPE 2	TYPE 1 TYPE 2	TYPE 1 TYPE 2	TYPE 1 TYPE 2
Material	U-PVC	U-PVC	U-PVC	U-PVC
EN1401-1329 compliance	OK	OK	OK	OK
Connection type	Glue - M/F - F/F	Glue - M/F - F/F	Glue - M/F - F/F	Glue - M/F - F/F
Fully inspectable	OK	OK	OK	OK
Cover tigthness	OK	OK	OK	OK
Removable flap	OK	OK	OK	OK
EN681-1 Seal	OK	OK	OK	OK
EN13564-1	OK	OK	OK	OK
Hot/cold test	OK	OK	OK	OK
Flap tightness	OK	OK	OK	OK
LGA TEST	OK	OK	OK	OK
CE Mark	OK	OK	OK	OK





TYPE 2

Single Socket - RRJ - All plastic smooth materials ØOD

Clapet anti-retour en PVC injecté M/F à joint, 2 clapets

Válvula anti-retorno M/H con junta labiada, clapeta doble

DN (mm)	Reference Black			S (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4. (mm)	Offset (mm)	Note
100	12R1048	1	60	3,0	171	60	57	338	184	7	
110	12R1148	1	60	3,2	171	65	63	350	184	7	
125	12R1248	1	24	3,2	255	73	69	458	226	9	
160	12R1648	1	24	4,0	255	83	82	491	226	9	

Stainless steel flap AISI 304 Lip Ring CE LGA tested

TYPE 1

Single Socket - RRJ - All plastic smooth materials ØOD

Clapet anti-retour en PVC injecté M/F à joint, 1 clapet

Válvula anti-retorno M/H con junta labiada, clapeta única

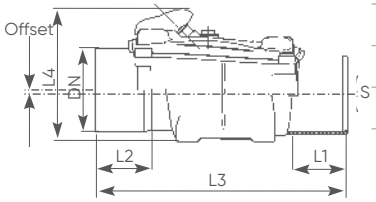
DN (mm)	Reference Black			S (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4. (mm)	Offset (mm)	Note
100	11R1048	1	60	3,0	171	60	57	338	184	7	
110	11R1148	1	60	3,2	171	65	63	350	184	7	
125	11R1248	1	24	3,2	255	73	69	458	226	9	
160	11R1648	1	24	4,0	255	83	82	491	226	9	

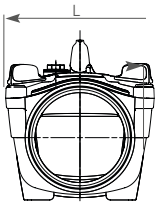
Stainless steel flap AISI 304 Lip Ring CE LGA tested

Lip seal version, we recommend to lubricate the gasket to make installation easier

SOLVENT CEMENT transition fitting

TYPE 2





Single Socket - SCJ - PVC

Clapet anti-retour en PVC injecté M/F à coller, 2 clapets
Válvula anti-retorno M/H para encolar, clapeta doble

DN (mm)	Reference Black			S (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4. (mm)	Offset (mm)	Note
100	12S1008	1	60	3,0	171	60	53	334	184	7	
110	12S1108*	1	60	3,2	171	65	63	350	184	7	
125	12S1208	1	24	3,2	255	73	69	458	226	9	
160	12S1608	1	24	4,0	255	83	82	491	226	9	

*upon request

Stainless steel flap AISI 304

TYPE 1

Single Socket - SCJ - PVC

Clapet anti-retour en PVC injecté M/F à coller, 1 clapet
Válvula anti-retorno M/H para encolar, clapeta única

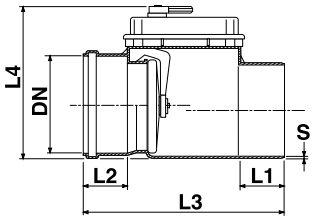
DN (mm)	Reference Black			S (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4. (mm)	Offset (mm)	Note
100	11S1008	1	60	3,0	171	60	53	334	184	7	
110	11S1108*	1	60	3,2	171	65	63	350	184	7	
125	11S1208	1	24	3,2	255	73	69	458	226	9	
160	11S1608	1	24	4,0	255	83	82	491	226	9	

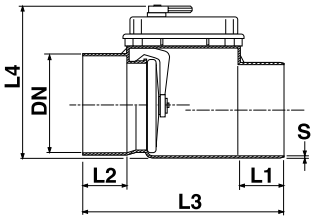
*upon request

Stainless steel flap AISI 304

Solvent cement - Colle - Adhesivo

Pack	Gr.	Reference
Tube	125	COLLA12
Jar	250	COLLA25
Jar	500	COLLA50
Jar	1.000	COLLA00





TYPE 1

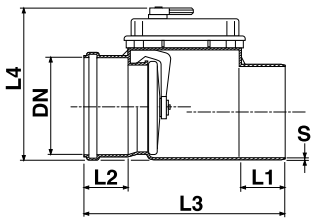
Non-return valve

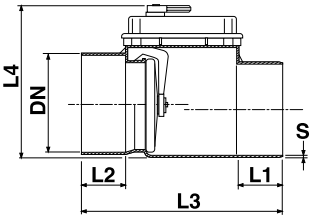
Clapet anti-retour - Válvula anti-retorno

DN (mm)	S (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	Reference RAL 8023 Red			Note
100	4.0	58	56	300	230	1555052*	1	56	With Lip-ring
110	4.0	61	61	307	230	1555551	1	56	With Lip-ring
125	4.0	68	65	318	230	1556051	1	56	With Lip-ring
160	4.0	74	74	337	255	1551691	1	30	With Lip-ring
200	4.5	100	86	451	300	1552091	1	24	With Lip-ring
100	4.0	58	56	300	230	1555001	1	56	Solvent cement socket
110	4.0	61	61	307	230	1555501	1	56	Solvent cement socket
125	4.0	68	65	318	230	1556001	1	56	Solvent cement socket
140	4.0	69	65	325	255	1551401	1	30	Solvent cement socket
160	4.0	74	74	337	255	1551601	1	30	Solvent cement socket
200	4.5	100	86	451	300	1552001	1	24	Solvent cement socket

* Grey colour Lip Ring CE LGA tested

Stainless stel flap
AISI 304





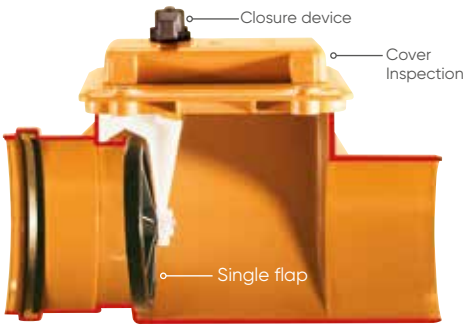
TYPE 1

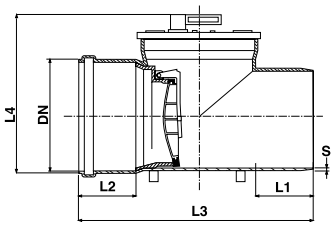
Non-return valve stainless steel flap

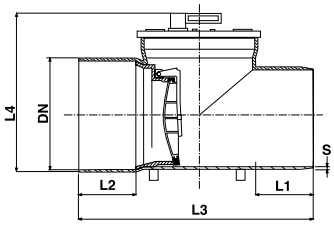
Clapet anti-retour - Válvula anti-retorno con clapeta de acero inox

DN (mm)	S (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	Reference RAL 8023 Red			Note
110	4.0	61	61	307	230	1555651	1	56	With Lip-ring
125	4.0	68	65	318	230	1556151	1	56	With Lip-ring
160	4.0	74	74	337	255	1551791	1	30	With Lip-ring
100	4.0	61	57	300	230	1555101	1	56	Solvent cement socket
110	4.0	61	61	307	230	1555601	1	56	Solvent cement socket
140	4.0	69	65	325	255	1551501	1	30	Solvent cement socket
160	4.0	74	74	337	255	1551701	1	30	Solvent cement socket

Stainless steel flap AISI 304 Lip Ring CE LGA tested





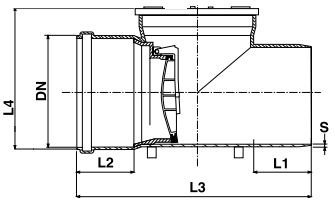


Non-return valve

Clapet anti-retour - Válvula anti-retorno

DN (mm)	S (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	Reference RAL 8023 Red			Note
250	6.2	130	102	520	374	1552591	1	12	With Lip-ring
315	7.7	160	125	615	440	1553091	1	8	With Lip-ring
250	6.2	130	102	520	374	1552501	1	12	Solvent cement socket
315	7.7	160	125	615	440	1553001*	1	8	Solvent cement socket

*upon request Lip Ring **DOP** available CE



Non-return valve without emergency closure device

Clapet anti-retour sans levier de verouillage
Válvula anti-retorno sin palanca de cierre

DN (mm)	S (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)	Reference RAL 8023 Red			Note
400	9.8	245	140	800	480	1554091	1	4	With Lip-ring

Lip Ring **DOP** available CE

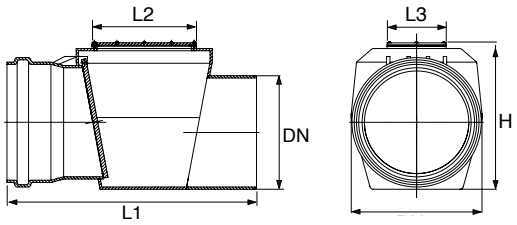
Non-return valve senza leva di blocco
Clapet anti-retour without emergency closure device
Válvula anti-retorno sin palanca de cierre

DN (mm)	H (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Reference RAL 8023 Red + black	SN			Note
500	645	1100	460	260	T555191	SN4*	1	1	With Lip-ring
630	775	1300	460	260	T556391	SN4*	1	1	With Lip-ring

* the article is fabricated by using PVC pipe SN4 conform to EN1401

Male/Male version available on request

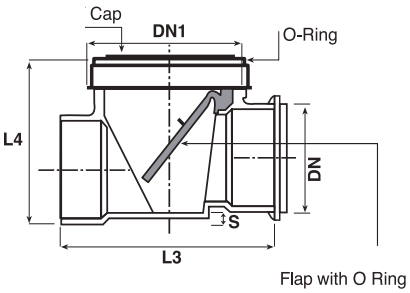
Lip Ring

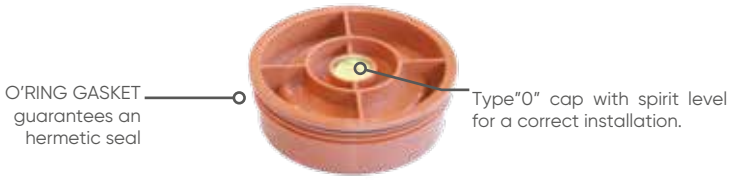


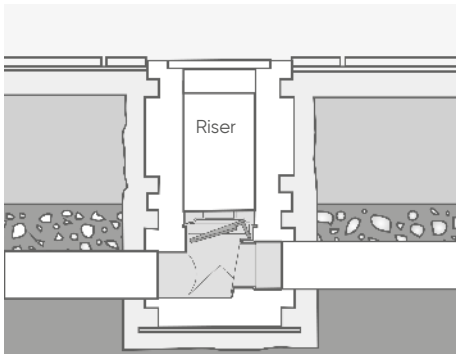
TYPE 0
Non-return valve without emergency closure device
Clapet anti-retour - Válvula anti-retorno

DN (mm)	L3 (mm)	L4 (mm)	CN1 (mm)	L3S (mm)	Reference RAL 8023 Red			Riser	Note
110	280	170	154	20	NC879E1*	1	90	PVC pipe Ø160 SN2 EN1401	Plastic flap
125	290	170	154	20	NC887E1*	1	90	PVC pipe Ø160 SN2 EN1401	Plastic flap
160	396	257	236	25	NC919E1*	1	24	PVC pipe Ø200 SN2 EN1401	Plastic flap

*upon request Lip Ring CE



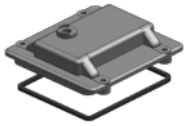




Spare parts - Pièces de rechang - Repuestos

Valve flap
Clapet - Clapeta

DN (mm)	Reference			Note
100	1572206	1	960	PVC
110				PVC
125				PVC
100	15722IX	1	1.200	INOX
110				INOX
125				INOX
140	1573306	1	480	PVC
140	15722IX	1	1.200	INOX
160	1573306	1	480	PVC
160	15716IX	1	960	INOX
200	1574406	1	500	PVC
250				PVC
315	1576606	1	-	PVC
400	1577708	1	-	PVC



Inspection cover
Couverture - Tapa

DN (mm)	Reference			Note
100	1562201*	1	720	
110				
125				
140	1563301*	1	400	
160				
200	1564401*	1	200	
250	1565501	1	96	
315	1566601	1	-	
400	16530T1*	1	-	*upon request

Locking lever
Levier - Maneta

DN (mm)	Reference			Note
100	1582208	1	-	
110				
125				
140	1583308*	1	15.600	
160				
200	1582208	1	-	
250	1585501*	1	810	
315				

*upon request

Flap + support
Kit clapet - Kit clapeta

DN (mm)	Reference			Note
100-110	1SP1100	1	1.040	
125-160	1SP1600	1	360	

Inspection cover with lever
Couverture avec levier
Tapa registro con bloqueo

DN (mm)	Reference			Note
100-110	1CO1100	1	-	
125-160	1CO1600	1	100	

Kit with locking levers
Kit de levier de verouillage
Maneta + 4 bloqueos

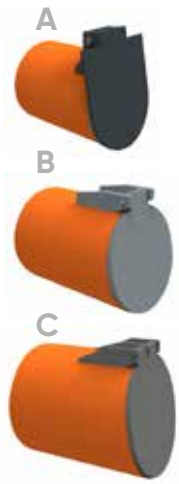
Reference			Note
1KLMA00*	1	810	

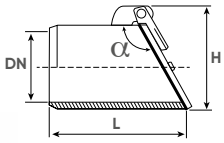
*upon request

FLAP VALVE

Type A INOX FLAP

The flap valves allow the waste water to flow out from a pipe to either a ditch or a pond, preventing back flooding at the same time. The flap is opened by waste water's thrust. Flap's weight and 11° slant keep the device closed when not working.
- Material: PVC-U complying to EN1401.
- Colour: Red RAL 8023 (body) Grey (flap).
- Flap seal, EPDM + CR closed cell expanded rubber.
- Hinge: stainless steel AISI 304 with self locking nut.
- Flap closure tilt 11°.
- Up Ø 200 supplied in carton box.

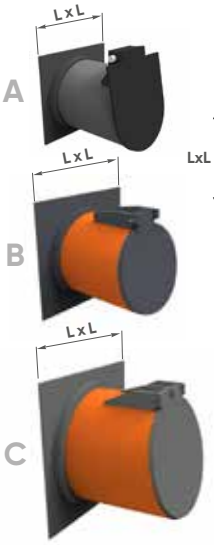


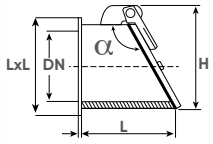


Flap valve, spigot connection
Clapet de nez - Válvula de clapeta macho

DN (mm)	Reference			L (mm)	H (mm)	α	Type	RAL Body	Flap
110	P5510M1	1	210	145	140	11°	A	RAL 8023	INOX
125	P5512M1	1	96	165	155	11°	A	RAL 8023	INOX
160	P5516M1	1	84	180	190	11°	A	RAL 8023	INOX
200	P5520M1	1	48	205	230	11°	A	RAL 8023	INOX
250	P5525M1	1	24	260	280	11°	B	RAL 8023	
315	P5530M1	1	8	300	350	11°	B	RAL 8023	
400	P5540M1	1	8	350	430	11°	C	RAL 8023	
500	P5550M1*	1	4	400	530	11°	C	RAL 8023	
630	P5563M1*	1	-	500	660	11°	C	RAL 8023	

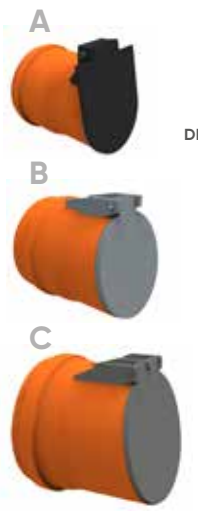
*upon request

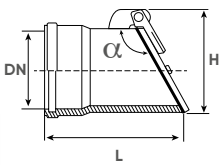




Flap valve, flanged connection
Clapet de nez - Válvula de clapeta brida

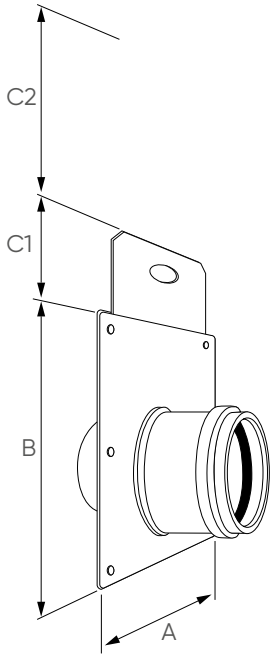
DN (mm)	LxL (mm)	Reference			L (mm)	H (mm)	S (mm)	α	Type	RAL Body	Flap
110	160	P551002	1	175	145	140	5	11°	A	RAL 7037	INOX
125	160	P551202	1	100	165	155	5	11°	A	RAL 7037	INOX
160	199	P551602	1	96	180	190	5	11°	A	RAL 7037	INOX
200	250	P552002	1	36	205	230	5	11°	A	RAL 7037	INOX
250	320	P552501	1	24	260	280	5	11°	B	RAL 8023	
315	370	P553001	1	18	300	350	6	11°	B	RAL 8023	
400	480	P554001	1	1	350	430	8	11°	C	RAL 8023	
500	600	P555001	1	10	400	530	10	11°	C	RAL 8023	
630	730	P556301	1	-	500	660	12	11°	C	RAL 8023	





Flap valve, socket connection
Clapet de nez - Válvula de clapeta hembra

DN (mm)	Reference			L (mm)	H (mm)	α	Type	RAL Body	Flap
110	P5510F1	1	210	145	140	11°	A	RAL 8023	INOX
125	P5512F1	1	96	165	155	11°	A	RAL 8023	INOX
160	P5516F1	1	84	180	190	11°	A	RAL 8023	INOX
200	P5520F1	1	48	205	230	11°	A	RAL 8023	INOX
250	P5525F1	1	33	260	280	11°	B	RAL 8023	
315	P5530F1	1	20	300	350	11°	B	RAL 8023	
400	P5540F1	1	8	350	430	11°	C	RAL 8023	
500	P5550F1	1	4	400	530	11°	C	RAL 8023	
630	P5563F1	1	2	500	660	11°	C	RAL 8023	

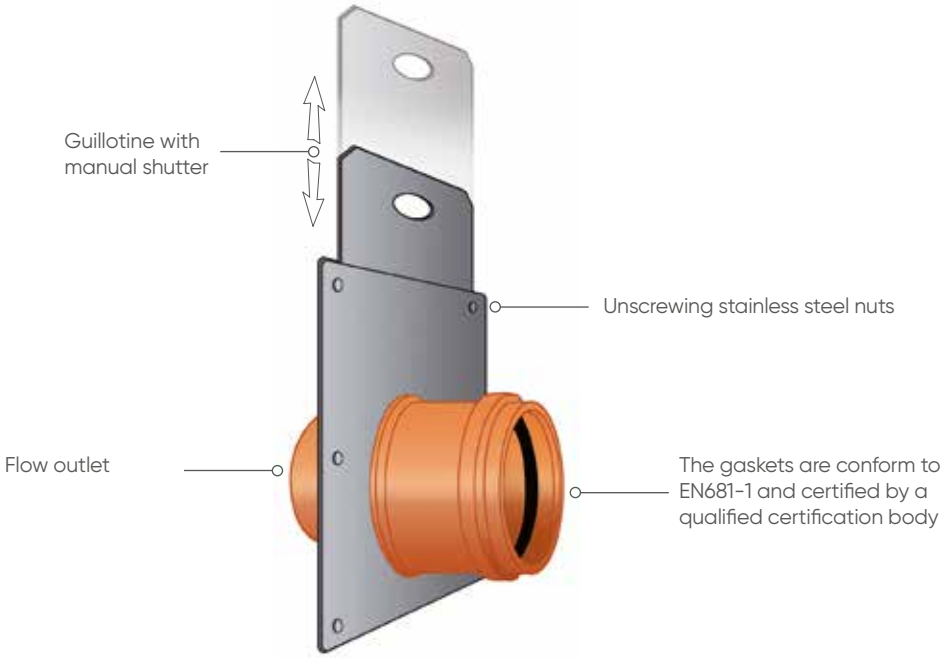


Guillotine valve

Clapet guillotine - Válvula de guillotina

DN (mm)	Reference			A (mm)	B (mm)	C1 (mm)	C2 (mm)	Note
110	P5510G1	1	-	172	300	74	110	
125	P5512G1	1	-	194	311	82	142	
160	P5516G1	1	-	225	335	95	180	
200	P5520G1	1	-	264	374	100	219	
250	P5525G1	1	-	330	430	110	250	
315	P5530G1	1	-	425	540	115	340	
400	P5540G1	1	-	510	583	110	450	

Material: PVC-U

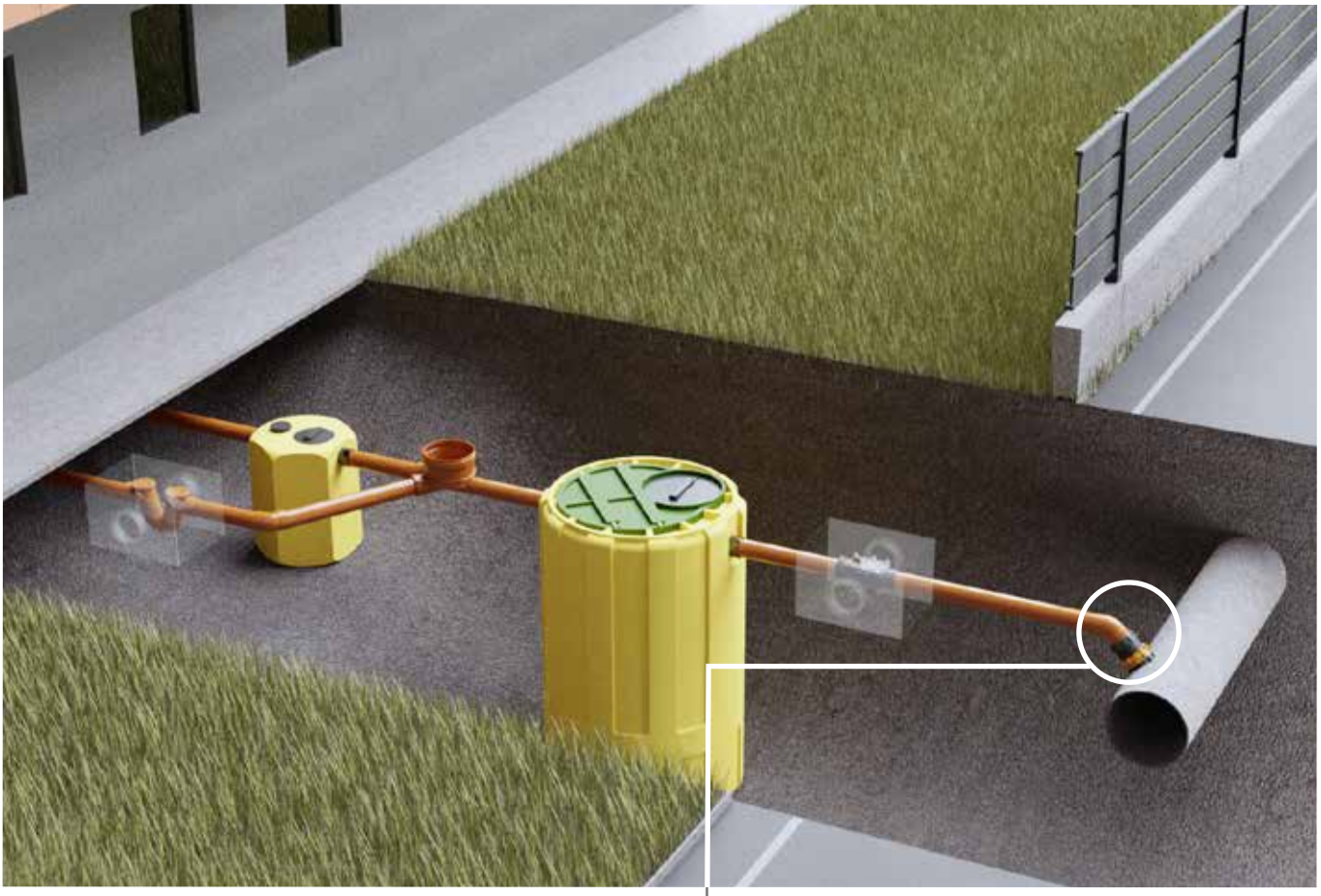


EASY CLIP Special Mechanical Saddle Connections

Full Special Saddle Range for Pipe-Connection Applications PVC-U Solvent Welded Clamp Saddle Fittings

aliaxis

EASY CLIP



City

Ø160

OD 200÷400

DN ID 250*

DN 200÷250

For pipes with small diameters

*≥SN8 complying with EN 13476

Plus

Ø160

Spherical joint

OD 315÷1000

DN 300÷1200

DN 300÷1200

For all materials, large diameters, absorbs the soil movements

Link

Ø160
Ø200

OD 315÷1000

DN 300÷1200

DN 300÷1200

For all materials, large diameters

Tech

Ø160

DN 250-300-350

DN 250-300

For Concrete and Clay pipes, for hard cleaning

Special Mechanical Connections

Easy Clip special mechanical saddles are products that provide the pipeline connection, without using any type of adhesives or solvent cements. They are particularly suitable for:

New Installations:
They carry out a lateral connection to the new-set-up drain or sewer system.
Preexisting Pipelines:
They allow the creation of a new connection to a preexisting drain or sewer system.

Easy Clip range is suitable for both waste and surface water.
The 4 different product models is designed to suit different types of installation.

City

For smaller diameter pipes

Designed for Plastic compact solid wall pipes PVC/PP/PE Ø200-250-315-400.
Vitrified Clay pipes Ø200, Ø250.
Structured wall (smooth inside) pipes ID 250.
Hole saw Ø152 mm.
Socket rubber ring Ø160 mm.

Plus

For large diameter pipes

Suitable for any material pipe (plastic compact solid wall, plastic structured wall and smooth inside, concrete).
From Ø300 up to Ø1200.
Spherical joint (swivel) compensates ground movements.
Socket Ø160 rubber ring.

Link

For large diameter pipes

Suitable for any material pipe (compact solid wall, structured wall smooth inside, concrete).
From Ø300 up to Ø1200.
Either Ø160 or Ø200 socket rubber ring.

Tech

Thick walled concrete & clay pipes

Designed for thick walled concrete and clay pipes Ø250-350.
No internal gaps and resistant to "hard cleaning cycles" (e.g. chains, blades, or high pressure water jetting).

An alternative working method

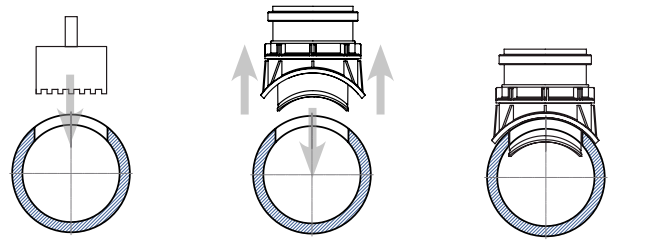
With traditional collar-type systems, the main difficulty lies in removing the material beneath the existing pipeline. The Easy Clip Connections provide for a completely different and more professional working methodology.

The main advantages of using a mechanical connection can be summarized in the following points:

- Major reduction of the time required for excavating and backfilling existing pipelines
- Speed of installation
- Installation without the use of sealants
- Ease of installation
- Low overall installation costs
- Guaranteed joint security
- Flexible solutions

Obviously, the pipeline does not have to be "supported", as is the case with traditional collar-type alternatives. The device's mechanical anchoring system simplifies the operation and drastically reduces the installation time.

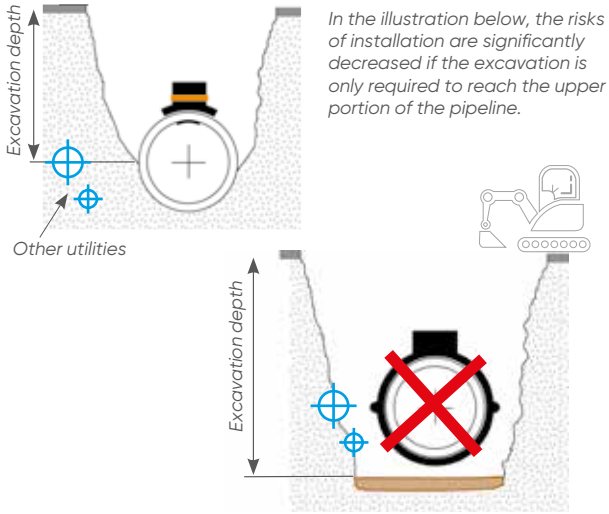
Safety: curing times are not required (as there is no use of cement or adhesives) and the excavation can be immediately backfilled once the intervention has been completed. For this reason, there is no need to leave the excavation open on roads, pathways or residential areas. Therefore there is no need for the work site to be monitored or cordoned off in order to prevent any potential accidents, thus providing significant savings.



1 - Drill the pipe

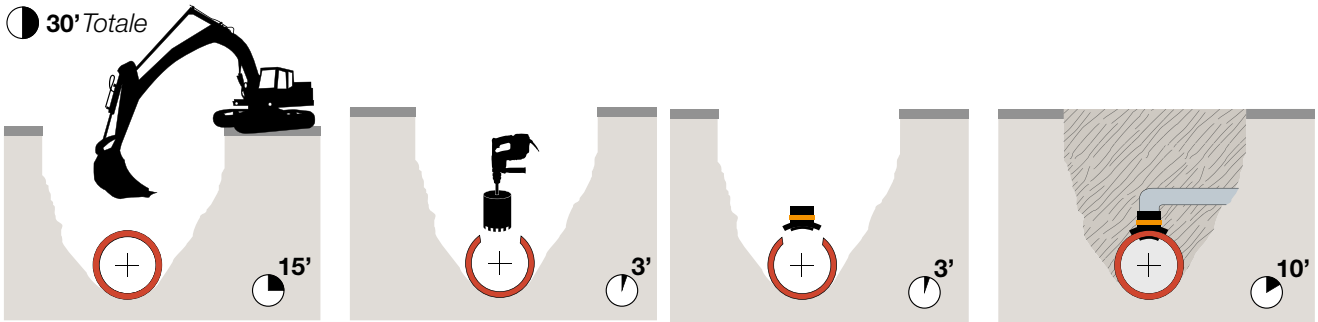
2 - Place the spigot of the saddle in the hole so that the base fits onto the pipe.

3 - Tighten the ring nut using the spanner until the joint is tight



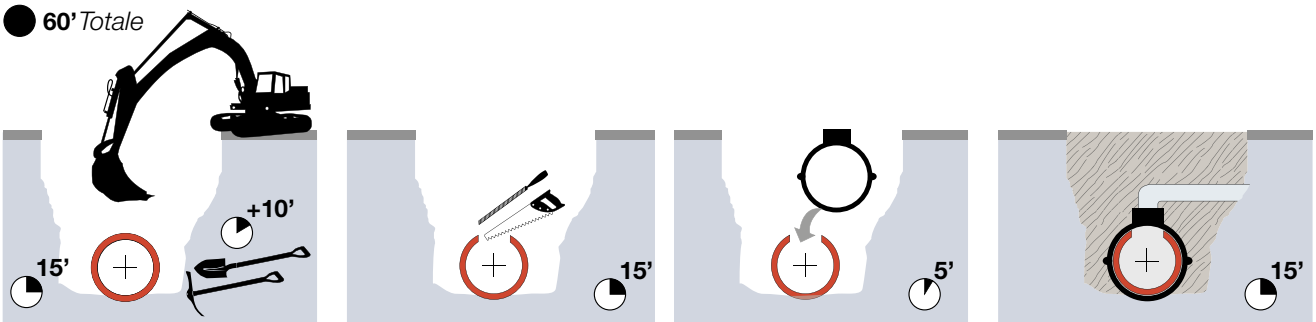
In the illustration below, the risks of installation are significantly decreased if the excavation is only required to reach the upper portion of the pipeline.

With mechanical saddle



1- Excavation | 2- Drilling | 3- Connection | 4-Backfill ground

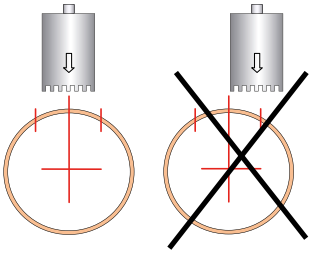
Without mechanical saddle



1- Excavation | 2- Drilling | 3- Connection | 4-Backfill ground

Installation tips:

1. Identify the point at which the connection is required and clean away any debris that may be present.
2. Drill the hole perpendicular to the axis of the main pipe

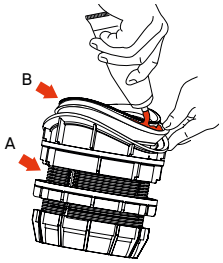


Note:
The use of appropriate equipment for centering the pipe will help to prevent errors during this phase.
The installation procedure will not be successful if the hole is performed in a decentralized manner.
In the case of non-plastic materials (i.e. ceramic or concrete) it is recommended to drill a guide hole (1) initially before completing the hole using a milling tool with a centring drill bit (2). The drilling procedure should always be carried out using water.
In the case of plastic materials, it is best to use a milling tool with an incorporated centring drill bit.

If more than one connection needs to be performed on the same tract of pipe, be sure to leave at least 1 meter between each hole.

The installation conditions must always be assessed on a case by case basis: loads, compactness of the terrain, presence of foundations, vehicular traffic, groundwater, etc.

3. Deburr the edges of the hole using a suitable tool, this is especially important for holes made in plastic materials.
4. Lubricate the seal.
5. Insert the Clip and tighten the ring nut.

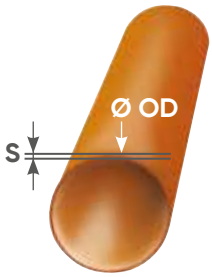


The packaging Easy Clip LINK CITY PLUS include one tube of lubricant gr 150 Art. 6741500

Installation Easy Clip TECH:

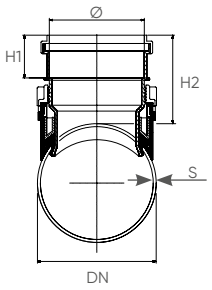
Easy Clip tech is supplied with one or two adaptors and a spanner. Choose the right adaptor depending on the installation type. For detailed information concerning installation, please see the "installation sheet" contained in the box.
Fix the right adaptor using the supplied screws.
Easy Clip Tech is ready to be installed.
i.e. on a concrete pipe.

City



Compact solid wall wall/multilayer smooth plastic pipes OD
Installation tube PVC PP PE lisse epaisseur OD
Instalación tubo liso de pared compacta OD

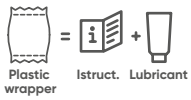
Pipe Ø OD	200	250	315	400
Easy Clip City Ø160	1431158	1432258	1433358	1434458
S (mm)	3÷9	3÷15	3÷15	3÷18

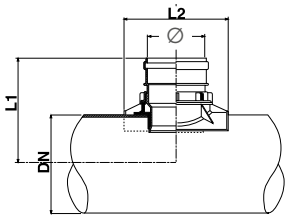


Installation on PVC/PP/PE compact solid wall pipe OD
Installation tube PVC/PP/PE epaisseur OD
Instalación tubo PVC/PP/PE de espesor compacto OD

DN (mm)	Ø (mm)	S Max Pipe	L1 (mm)	L2 (mm)	Reference	**		Hole saw
200	160	9 mm	255	195	1431158	1	80	AD1513P

** Every clip is individually packed in a plastic wrapper, along with a tube of lubricant and assembly instructions. (lubricant included Art.6741500 gr. 150)
1 spanner included in each box of 6 pcs.

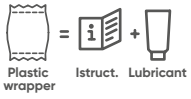




Installation on PVC/PP/PE compact solid wall pipe OD
Installation tube PVC/PP/PE epaisseur OD
Instalación tubo PVC/PP/PE de espesor compacto OD

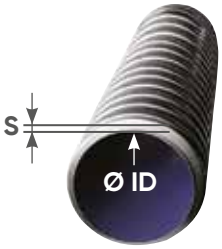
DN (mm)	Ø (mm)	S Max Pipe	L1 (mm)	L2 (mm)	Reference	**		Hole saw
250	160	15 mm	285	290	1432258	1	48	AD1513P
315	160	15 mm	315	290	1433358	6	48	AD1513P
400	160	18 mm	360	290	1434458	1	48	AD1513P

** Every clip is individually packed in a plastic wrapper, along with a tube of lubricant and assembly instructions. (lubricant included Art.6741500 gr. 150)
1 spanner included in each box of 6 pcs.



ID = Internal Diameter **OD** = Outside Diameter **S** = Wall thickness **DN** = Nominal Diameter

City

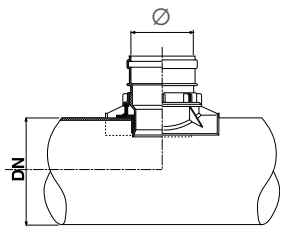


Twin/structured wall plastic pipe ID
Installation tube annelé ID
Instalación tubo corrugado ID

Pipe Ø ID	Ø ID 250
Easy Clip City Ø160	1432658
S (mm)	20÷30

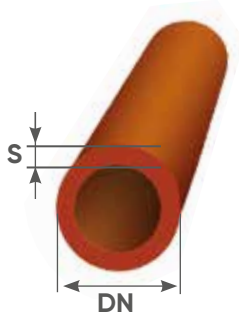
Installation on corrugated pipe ≥SN8 (EN13476)
Installation tube annelé ≥SN8 (EN13476)
Instalación tubo corrugado ≥SN8 (EN13476)

DN ID	Ø	S Max Pipe	L1	L2	L3	Ref.	**		Hole saw
250	160	20÷35	182	290	236	1432658	1	48	AD1513P



** Every clip is individually packed in a plastic wrapper, along with a tube of lubricant and assembly instructions. (lubricant included Art.6741500 gr. 150)
1 spanner included in each box of 6 pcs.

Plastic wrapper = Istruct. + Lubricant

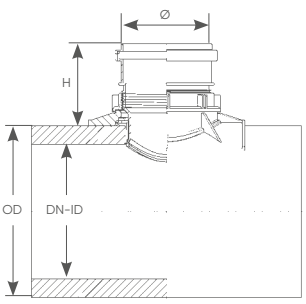


Clay pipe (nominal diameter)
Installation tube grès (diamètre nominal)
Instalación tubo gres (diámetro nominal)

Pipe DN	DN 200	DN 250
Easy Clip City Ø160	1431658	1432658
Thickness Class According to EN 295-1	Class 160 / 240	Class 160 / 240
S (mm)	15÷28	20÷37

Installation on clay pipe (UNI EN 295-1)
Installation tube grès (UNI EN 295-1)
Instalación tubo gres (UNI EN 295-1)

	DN ID	OD	Class	Ø KN/M²	H (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Ref.	**		Hole saw
Pipe standard	200	242	160	160	158	194	290	219	1431658	1	48	AC1KSDZ
Pipe standard	200	254	240	160	152							
Pipe standard	250	299	160	160	161	182	290	236	1432658	1	48	AC1KSDZ
Pipe extra	250	318	240	160	151							

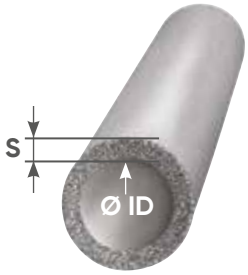


**Every clip is individually packed in a plastic wrapper, along with a tube of lubricant and assembly instructions. (lubricant included Art.6741500 gr. 150)
1 spanner included in each box of 6 pcs.

Plastic wrapper = Istruct. + Lubricant

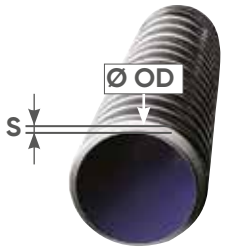
ID = Internal Diameter **OD** = Outside Diameter **S** = Wall thickness **DN** = Nominal Diameter

Plus



Reinforced concrete pipe ID
Installation tube en béton ID
Instalación tubo hormigón ID

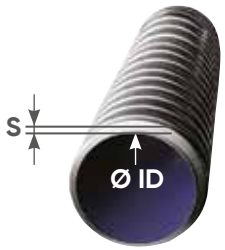
Pipe Ø ID	300	400	500	600	700÷1200
Easy Clip Plus Ø160 with swivel	1C16058	1E16058	1H16058	1H16058	1K16058
S (mm)	30÷80	30÷80	40÷100	40÷100	40÷100



Pipe conform to EN13476 ≥ SN8

Twin/structured wall plastic pipe OD
Installation tube annelé epaisseur OD
Instalación tubo corrugado de espesor OD

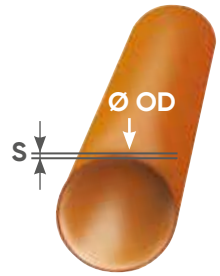
Pipe Ø OD	315	400	500	630	800÷1000
Easy Clip Plus Ø160 with swivel	1A16058	1D16058	1G16058	1K16058	1K16058
S (mm)	5÷30	6÷35	9÷50	9÷50	20÷100
Easy Clip Plus shorter version Ø160 with swivel	1Y16058	1X16058	Shorter version		
S (mm)	5÷30	6÷35			



Pipe congorm to EN13476 ≥ SN8

Twin/structured wall plastic pipe ID
Installation tube annelé ID
Instalación tubo corrugado ID

Tubo / Pipe Ø ID	300	400	500	600	700÷1200
Easy Clip Plus Ø160 with swivel	1A16058	1E16058	1G16058	1H16058	1K16058
S (mm)	5÷30	30-80	20-65	40÷100	40÷100
Easy Clip Plus Ø160 Shorter version with swivel	1Y16058	1Z16058	Shorter version		
S (mm)	5÷30	30÷55			



GRP compact solid wall wall/multilayer smooth plastic pipe OD
Installation tube PVC PP PE PRV lisse epaisseur OD
Instalación tubo liso de pared compacta OD

Tubo / Pipe Ø OD	315	400	500÷630	710÷1000
Easy Clip Plus Ø160 with swivel	1A16058	1D16058	1G16058	1J16058
S (mm)	5÷30	6÷35	9÷50	10÷60
Easy Clip Plus Ø160 Shorter version with swivel	1Y16058	1Z16058	Shorter version	
S (mm)	5÷30	30÷55		

ID = Internal Diameter **OD** = Outside Diameter **S** = Wall thickness **DN** = Nominal Diameter

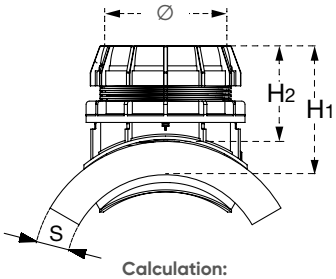
Plus

Installation on structured, compact solid wall, clay, concrete and GRP pipe

Installation tube en béton, annelé, lisse

Instalación tubo de hormigón, corrugado, liso de pared compacta

Easy Clip Plus Ø 160 mm



Calculation:
H2 = H1 - S (± 0,5 cm)
S= wall thickness

Ø (mm)	H1 (mm)	Reference	Certif.	**		Hole saw
160	255	1A16058		1	38	AD2013P (for plastic)
160	255	1C16058		1	38	AC2CSDZ (for non plastic)
160	255	1D16058		1	38	AD2013P
160	255	1E16058		1	38	AC2CSDZ
160	255	1G16058		1	38	AD2013P
160	255	1H16058		1	38	AD2013P / AC2CSDZ
160	255	1J16058		1	38	AD2013P
160	255	1K16058		1	38	AD2013P / AC2CSDZ
160	205	1X16058*		1	38	AD2013P
160	205	1Y16058		1	38	AD2013P
160	205	1Z16058*		1	38	AD2013P

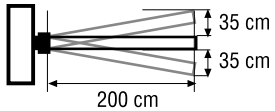
*upon request

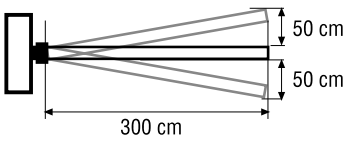
**Every clip is individually packed in a carboard box, along with a specific spanner, a tube of lubricant and assembly instructions. (lubricant included Art.6741500 gr.150)

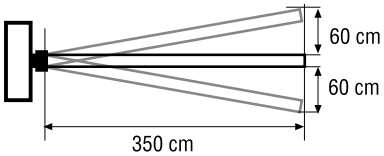
AFNOR-CSTB: ANF EN 1401

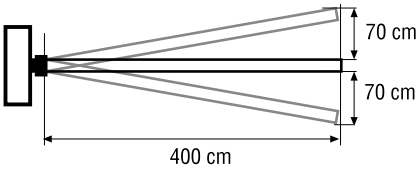
MPA: DIN EN 13598-1

European Patent EP1548349

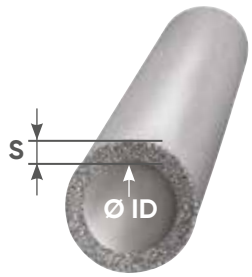






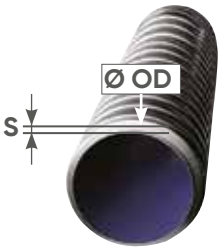


Link



Reinforced concrete and clay pipe ID
Installation tube en béton et gres ID
Instalación tubo de hormigón o gres ID

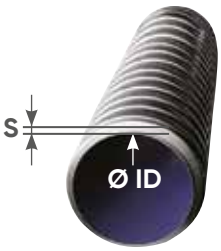
Pipe Ø ID	300	400	500	600	700÷1200
Easy Clip Link Ø160	1C16L58	1E16L58	1H16L58	1H16L58	1K16L58
S (mm)	30÷80	30÷80	40÷120	40÷120	40÷120
Easy Clip Link Ø200	1C20058	1E20058	1H20058	1H20058	1K20058
S (mm)	30÷80	30÷80	40÷100	40÷100	40÷100



Pipe congorm to EN13476 ≥ SN8

Twin/structured wall plastic pipe OD
Installation tube annelé epaisseur OD
Instalación tubo corrugado de espesor OD

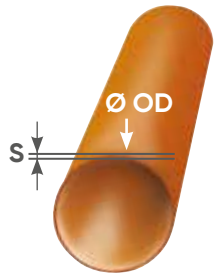
Pipe Ø OD	315	400	500÷630	800÷1000
Easy Clip Link Ø160	1A16L58	1D16L58	1G16L58	1K16L58
S (mm)	5÷30	6÷35	9÷50	20÷100
Easy Clip Link Ø200	1A20058	1D20058	1G20058	1K20058
S (mm)	5÷30	6÷35	9÷50	20÷100
Easy Clip Link Ø160	1Y16L58	1X16L58	Shorter version	
S (mm)	5÷30	6÷35		
Easy Clip Link Ø200	1Y20058	1X20058	Shorter version	
S (mm)	5÷30	6÷35		



Pipe congorm to EN13476 ≥ SN8

Twin/structured wall plastic pipe ID
Installation tube annelé ID
Instalación tubo corrugado ID

Pipe Ø ID	300	400	500	600	700÷1200
Easy Clip Link Ø160	1A16L58	1E16L58	1G16L58	1H16L58	1K16L58
S (mm)	15÷30	30÷80	20÷80	40÷120	40÷120
Easy Clip Link Ø200	1A20058	1E20058	1G20058	1H20058	1K20058
S (mm)	15÷30	30÷80	20÷65	40÷100	40÷100
Easy Clip Link Ø160	1Y16L58	1Z16L58	Shorter version		
S (mm)	15÷30	30÷70			
Easy Clip Link Ø200	1Y20058	1Z20058	Shorter version		
S (mm)	15÷30	30÷55			



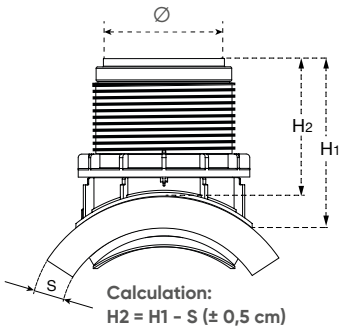
Compact solid wall wall/multilayer smooth plastic pipe OD
Installation tube PVC PP PE lisse epaisseur OD
Instalación tubo liso de pared compacta OD

Pipe Ø OD	315	400	500÷630	710÷1000
Easy Clip Link Ø160	1A16L58	1D16L58	1G16L58	1J16L58
S (mm)	5÷30	6÷35	9÷50	10÷80
Easy Clip Link Ø200	1A20058	1D20058	1G20058	1J20058
S (mm)	5÷30	6÷35	9÷50	10÷60
Easy Clip Link Ø160	1Y16L58	Shorter version		
S (mm)	5÷30			
Easy Clip Link Ø200	1Y20058	Shorter version		
S (mm)	5÷30			

ID = Internal Diameter **OD** = Outside Diameter **S** = Wall thickness **DN** = Nominal Diameter

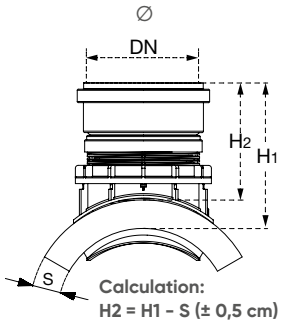
Link

Link 160



Calculation:
H2 = H1 - S (± 0,5 cm)
S= wall thickness

Link 200



Calculation:
H2 = H1 - S (± 0,5 cm)
S= wall thickness

Installation on structured, compact solid wall, clay, concrete and GRP pipe

Installation tube en béton, annelé, lisse

Instalación tubo de hormigón, corrugado, liso de pared compacta

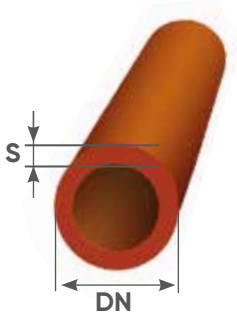
Ø (mm)	H1 (mm)	Reference	Cert.	**		Hole saw
160	255	1A16L58		1	38	AD2013P (for plastic)
160	255	1C16L58		1	38	AC2CSDZ (for non plastic)
160	255	1D16L58		1	38	AD2013P
160	255	1E16L58		1	38	AC2CSDZ
160	255	1G16L58		1	38	AD2013P
160	255	1H16L58		1	38	AD2013P / AC2CSDZ
160	255	1J16058		1	38	AD2013P
160	255	1K16L58		1	38	AD2013P / AC2CSDZ
160	205	1X16L58		1	38	AD2013P
160	205	1Y16L58		1	38	AD2013P
160	205	1Z16L58		1	38	AD2013P
200	315	1A20058		1	38	AD2013P (for plastic)
200	315	1C20058		1	38	AC2CSDZ (for non plastic)
200	315	1D20058		1	38	AD2013P
200	315	1E20058		1	38	AC2CSDZ
200	315	1G20058		1	38	AD2013P
200	315	1H20058		1	38	AD2013P / AC2CSDZ
200	315	1J20058		1	38	AD2013P
200	315	1K20058		1	38	AD2013P / AC2CSDZ
200	265	1X20058*		1	38	AD2013P
200	265	1Y20058		1	38	AD2013P
200	265	1Z20058		1	38	AD2013P

*upon request

**Every clip is individually packed in a carboard box, along with a specific spanner, a tube of lubricant and assembly instructions. (lubricant included Art.6741500 gr. 150)

AFNOR-CSTB: ANF EN 1401 MPA: DIN EN 13598-1

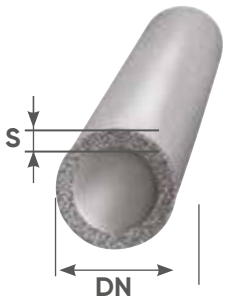
Tech



Clay pipe (nominal diameter)
Installation tube grès (diamètre nominal)
Instalación tubo gres (diámetro nominal)

Pipe DN	250	300	350
Clay*	1T21658	1T11658	1T11658
S (mm)	Min. 23	Min. 23	Min. 23

* Dimensions according to the EN295-1



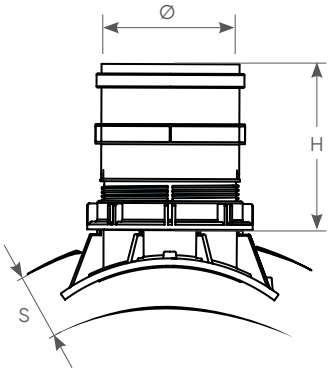
Reinforced concrete pipe (nominal diameter)
Installation tube en béton (diamètre nominal)
Instalación tubo hormigón (diámetro nominal)

Pipe DN	250	300
Concrete	1T11658	1T11658
S (mm)	Min. 23	Min. 23

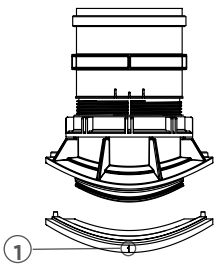
Installation on Concrete and clay pipe
Installation tube en béton ou grès
Instalación tubo de hormigón o gres

Ø (mm)	H (mm)	Reference			Note
160	260	1T11658*	1	24	
160	260	1T21658*	1	24	

H = Ledge Easy Clip installed on tube
*upon request
Every clip is individually packed in a carboard box, along with a specific spanner and assembly instructions.

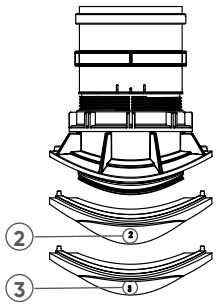


Adaptors



Cod. 1T11658

Clay Grés	DN 300	N - Class 160* H - Class 240*	①
	DN 350	N - Class 160* H - Class 240*	NO
Concrete Beton	DN 250		①
	DN 300		NO



Cod. 1T21658

Clay Grés	DN 250	N - Class 160*	②
	DN 250	H - Class 240*	③

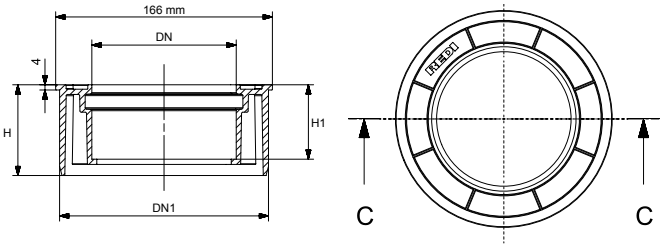
Note:
Designed for concrete and clay pipes DN 250, 300, 350.
With high thicknesses.
Without internal gaps.
Resistant to the sewage "hard cleaning cycles" (e.g. chains, blades, or hi pressur waterjet).

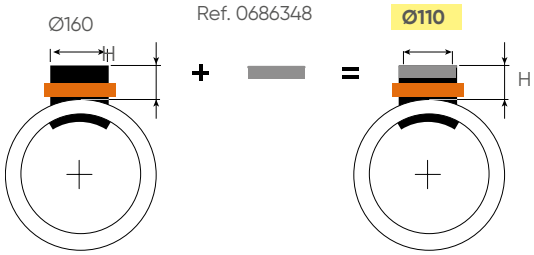
ID = Internal Diameter **OD** = Outside Diameter **S** = Wall thickness **DN** = Nominal Diameter

Compact inverter reducer
Tampon de réduction avec joint
Reducción concéntrica

DN (mm)	DN1 (mm)	DN2 (mm)	H (mm)	H1 (mm)	S (mm)	Reference Black			Note
110	160	166	69.5	57	4	0686348	16	384	

Material: PVC-U
Gasket: locked premonted EN681
Dimensions complying EN1401/EN1329





Recommended for installation on Easy Clip City, Link and Tech

City

Reference
143ID58
1432658
1431658

Link 160

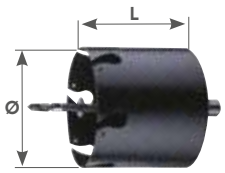
Reference
1A16L58
1C16L58
1D16L58
1E16L58
1G16L58
1H16L58
1J16L58
1K16L58
1X16L58
1Y16L58
1Z16L58

Tech

Reference
1T11658
1T21658

Not for installation on Easy Clip Plus

Plus

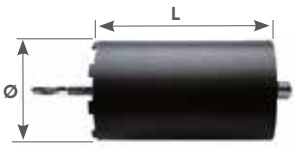


DUSS made in Germany

Hole saw for plastic pipes
Scie cloches pour tubes plastiques PP PE PVC
Corona de corte para tubo de material PLÁSTICO

Ø (mm)	L (mm)	Mandren	Pilot bit	Long endurance	Reference			Note
200	163	13mm	✔	✔	AD2013P	1	52	Pipes from Ø250
152(6")	163	13mm	✔	✔	AD1513P	1	-	Pipes from Ø200

Suitable for drilling materials:
PVC / PP / PE / GRP (sand free)



DUSS made in Germany

Hole saw for NON plastic pipes
Scie cloches pour tubes béton ou grès
Corona de corte para tubo de material NO PLÁSTICO

Ø (mm)	L (mm)	Mandren	Pilot bit	Long endurance	Reference			Note
202	300	SDS max	✔	✔	AC2CSDZ	1	8	Pipes from Ø250
152(6")	300	SDS max	✔	✔	AC1KSDZ*	1	-	

Suitable for drilling materials:
Reinforced concrete / Reinforced corrugated steel / Fiber glass filled with sand / Clay

*upon request

Spare parts - Pièces de rechang - Repuestos

Spanner for CITY and TECH
Clé de serrage pour CITY ou TECH
Llave para CITY o TECH

DN (mm)	Reference			Note
160	0996606	1	720	Open

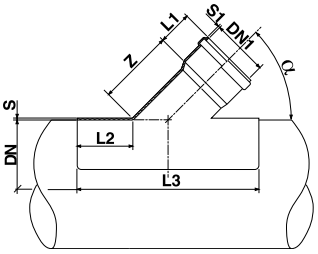
closed

Spanner for PLUS and LINK 160
Clé de serrage pour PLUS ou LINK 160
Llave para PLUS o LINK 160

DN (mm)	Reference			Note
160	0995508	1	400	Closed

Spanner for LINK 200
Clé de serrage pour LINK 200
Llave para LINK 200

DN (mm)	Reference			Note
200	0996008	1	400	Open



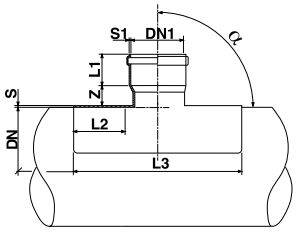
Saddle SCJ 45°

Clip à coller 45° - Injerto 45° con junta labiada

DN (mm)	DN1 (mm)	α	S (mm)	S1 (mm)	Z (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
160	125	45°	3.2	3.0	128	62	65	300	0438042	0438091	15	120
200	125	45°	4.1	3.0	128	62	85	340	0438242	0438291	10	80
200	160	45°	4.1	3.6	165	73	85	390	0438442	0438491	10	60
250	125	45°	5.5	3.0	128	62	92	350	0438642	0438691	10	70
250	160	45°	5.5	3.6	165	73	92	400	0438842	0438891	6	48
315	125	45°	5.5	3.0	128	62	92	350	-	1439091	5	40
315	160	45°	6.9	3.6	165	73	110	432	0439442	0439491	5	30
315	200	45°	6	4.4	236	95	86	513	1433242*	-	-	-
400	125	45°	5.5	3.0	128	62	92	350	-	1439191	5	40
400	160	45°	5.5	3.6	165	73	92	400	-	1439591	3	24
500	125	45°	5.5	3.0	128	62	92	350	1439242*	1439291	-	-
500	160	45°	5.5	3.6	165	73	92	400	-	1439691	3	24

*upon request

Fixed Ring Lip Ring



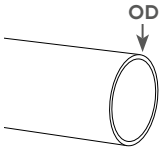
Saddle SCJ 90°

Clip à coller 90° - Injerto 90° con junta labiada

DN (mm)	DN1 (mm)	α	S (mm)	S1 (mm)	Z (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Reference RAL 7037 Grey	Reference RAL 8023 Red		
200	160	90°	4.4	3.6	34	58.5	77	322	-	0434351	10	80
250	160	90°	4.4	3.6	34	58.5	77	322	-	1424251	8	64
315	160	90°	-	-	-	-	-	-	-	142525E	8	64
400	160	90°	-	-	-	-	-	-	-	142625E	7	56

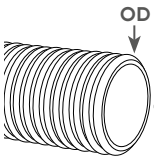
Fixed Ring Lip Ring

Guide to choose the right mechanical saddle



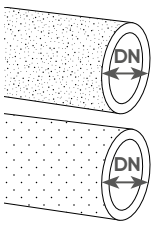
Installation on compact or multilayer smooth plastic pipes OD
Installation tube PVC PP PE lisse epaisseur OD - Instalación tubo liso de pared compacta OD

Pipe Ø 200	Pipe Ø 250	Pipe Ø 300	Pipe Ø 315	Pipe Ø 400	Pipe Ø 500	Pipe Ø 600	Pipe Ø 630	Pipe Ø 700	Pipe Ø 710	Pipe Ø 800	Pipe Ø 1000	Pipe Ø 1200	Diam. inlet Easy Clip
1431158 City	1432258 City		1433358 City	1434458 City									Ø 160
			1A16058 Plus	1D16058 Plus	1G16058 Plus				1J16058 Plus				Ø 160
			1Y16058 Plus	1X16058 Plus									Ø 160 Shorter
			1A16L58 Link	1D16L58 Link	1G16L58 Link				1J16L58 Link				Ø 160
			1A20058 Link	1D20058 Link	1G20058 Link				1J20058 Link				Ø 200
			1Y16L58 Link	1X16L58 Link									Ø 160 Shorter
			1Y20058 Link	1X20058 Link									Ø 200 Shorter



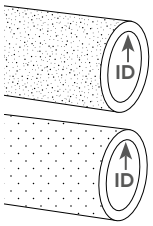
Twin/structured wall plastic pipe OD
Installation tube annelé epaisseur OD - Instalación tubo corrugado de espesor OD

Pipe Ø 200	Pipe Ø 250	Pipe Ø 300	Pipe Ø 315	Pipe Ø 400	Pipe Ø 500	Pipe Ø 600	Pipe Ø 630	Pipe Ø 700	Pipe Ø 710	Pipe Ø 800	Pipe Ø 1000	Pipe Ø 1200	Diam. inlet Easy Clip
			1A16058 Plus	1D16058 Plus	1G16058 Plus		1K16058 Plus			1K16058 Plus			Ø 160
			1A16L58 Link	1D16L58 Link	1G16L58 Link					1K16L58 Link			Ø 160
			1A20058 Link	1D20058 Link	1G20058 Link					1K20058 Link			Ø 200
			1Y16L58 Link	1X16L58 Link									Ø 160 Shorter
			1Y20058 Link	1X20058 Link									Ø 200 Shorter



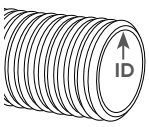
Reinforced concrete and clay pipe DN
Installation tube en béton et grès DN - Instalación tubo de hormigón o gres DN

Pipe Ø 200	Pipe Ø 250	Pipe Ø 300	Pipe Ø 315	Pipe Ø 400	Pipe Ø 500	Pipe Ø 600	Pipe Ø 630	Pipe Ø 700	Pipe Ø 710	Pipe Ø 800	Pipe Ø 1000	Pipe Ø 1200	Diam. inlet Easy Clip
1431658 City	1432658 City												Ø 160
	1T21658 Tech	1T11658 Tech											Ø 160
	1T11658 Tech												Ø 160



Reinforced concrete and clay pipe ID
Installation tube en béton et grès ID - Instalación tubo de hormigón o gres ID

Pipe Ø 200	Pipe Ø 250	Pipe Ø 300	Pipe Ø 315	Pipe Ø 400	Pipe Ø 500	Pipe Ø 600	Pipe Ø 630	Pipe Ø 700	Pipe Ø 710	Pipe Ø 800	Pipe Ø 1000	Pipe Ø 1200	Diam. inlet Easy Clip
		1C16058 Plus		1E16058 Plus	1H16058 Plus			1K16058 Plus					Ø 160
		1C16L58 Link		1E16L58 Link	1H16L58 Link			1K16L58 Plus					Ø 160
		1C20058 Link		1E20058 Link	1H20058 Link			1K20058 Link					Ø 200



Twin/structured wall plastic pipe ID
Installation tube annelé ID - Instalación tubo corrugado ID

Pipe Ø 200	Pipe Ø 250	Pipe Ø 300	Pipe Ø 315	Pipe Ø 400	Pipe Ø 500	Pipe Ø 600	Pipe Ø 630	Pipe Ø 700	Pipe Ø 710	Pipe Ø 800	Pipe Ø 1000	Pipe Ø 1200	Diam. Innesto Easy Clip
	1432658 City												Ø 160
		1A16058 Plus		1E16058 Plus	1G16058 Plus	1H16058 Plus		1K16058 Plus					Ø 160
		1A16L58 Link		1E16L58 Link	1G16L58 Link	1H16L58 Link		1K16L58 Link					Ø 160
		1A20058 Link		1E20058 Link	1G20058 Link	1H20058 Link		1K20058 Link					Ø 200
		1Y16L58 Link		1Z16L58 Link									Ø 160 Shorter
		1Y20058 Link		1Z20058 Link									Ø 200 Shorter

on-line Easy Clip CONFIGUATOR https://configuratore.redi.it/

REFERENCE LIST: reference – page

0480903	102
0481003	52
0481003	91
0481003	102
0481103	52
0481103	91
0481103	102
0503102	54
0503311	73
0503312	103
05033P8	27
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REDI S.p.A.
Via Madonna dei Prati 5/A
40069 ZOLA PREDOSA (Bologna - Italy)
Tel. +39 051 6175111

info.redi@aliaxis.com
www.aliaxis.it

Export Sales Office
Tel. +39 051 6175240 - Fax +39 051 757173
salesredi@aliaxis.com