GF Piping Systems

Silenta

Sound-insulated piping for acoustic comfort

Connections for Life

GF Piping Systems is the leading flow solutions provider across the world. We enable the safe and sustainable transport of fluids. Our business is driven by maintaining industry-leading sustainability levels, innovating through digitally enabled solutions, and investing in a culture built on caring, learning, and performance.

Your partner for modern plastic piping systems

The plastic piping systems from GF Piping Systems are non-corrosive and do not need replacing throughout the system's entire service life. Therefore, they contribute to the increased reliability of the system while lowering maintenance costs and staff requirements. They are excellently suited for applications involving potable and sewage water, coolants, acids, leaches, and other chemicals, as well as abrasive compounds.

GF Piping Systems, founded more than 200 years ago in Switzerland, supports its customers both in the initial switch from metal to plastic and in retrofits – across all project phases. They benefit from more than 60 years of experience in plastic systems and application knowledge from 100 countries. With Specialized Solutions, GF Piping Systems supports the design and installation of state-of-the-art plastic piping systems, so that owners and planners can concentrate on their daily business without interruption. GF Piping Systems is present every step of the way, from the design phase all the way through to installation and maintenance.

Strong regional footprint

GF Piping Systems has been present in the Southeast Asian market since 1994, when the first office in the region was registered in Singapore. Today, with seven offices in five countries, production facilities in Malaysia and Indonesia and numerous regional partners across Southeast Asia, GF Piping Systems is committed to the region and ensures competent customer support and technical on-site training.

Sales / Representative office

Production facility

GF Piping Systems Malaysia

Silenta

Sound-insulated Piping Systems

Silenta is a three-layer sewer pipe system made of PP material with noise-insulating properties. It is specially formulated and reinforced for non-pressurized domestic drainage in accordance with standards of DIN 4109, DIN 4102, BS EN 1451-1, ISO 7671 and VDI 4100.

17 dB(A)

General Information

- Silenta achieves a sound-intensity level of 17 dB at 4L/s flow rate, officially recognized by the Fraunhofer Institute, Germany.
- Silenta is suitable for domestic soil, waste and vent (SWV) systems.
- Silenta can be used inside of buildings and for underground SWV systems.
- Silenta consists of pipes and fittings from 40mm to 200mm.
- Silenta is a GF globally registered trademark.

Benefits

- Provides excellent sound insulation to create an ideal living condition, which can then contribute to an increase in property value.
- Reduces vibrations and noises coming from the SWV systems.
- Flame-retardant according to DIN 4102 standard.
- High impact resistance.
- The coefficient of thermal expansion is only 0.06mm/mK
- Operating temperature from 0°C to 97°C.
- Corrosion-free, resistant to organic and inorganic acids.
- Suitable for pH value from 2 to 12.
- Alternative to cast iron.

Fields of Application

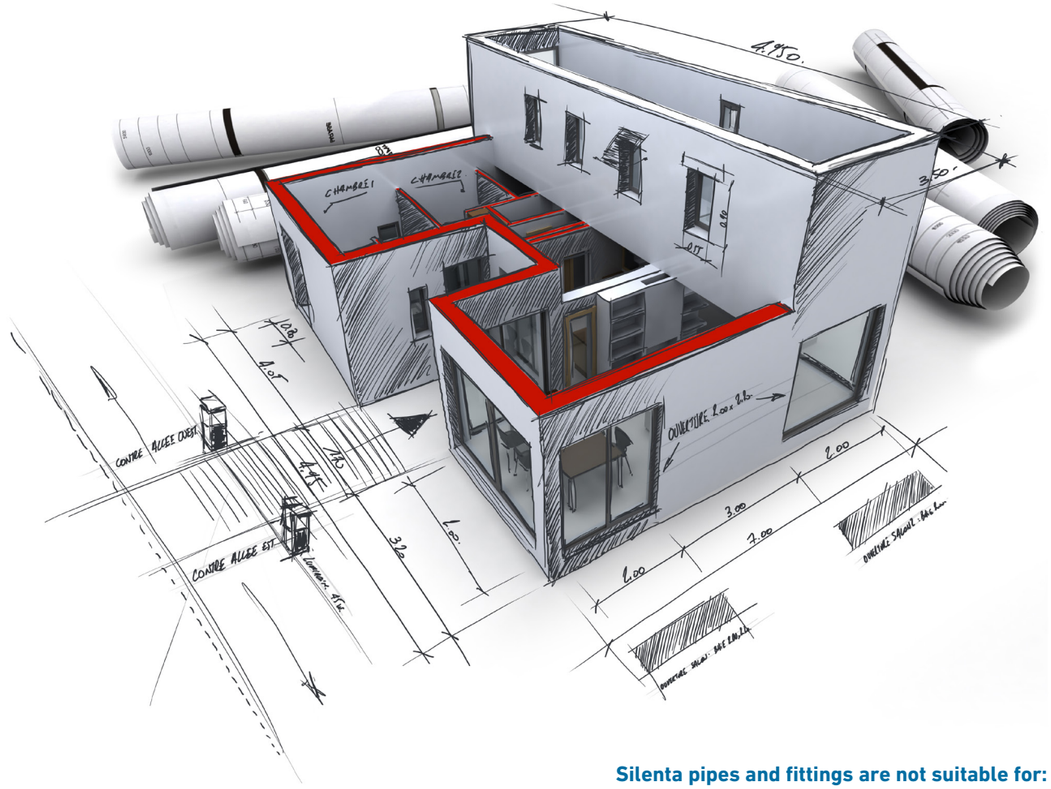
Silenta is commonly installed in areas demanding low noise, high temperature and high impact resistance environment.

Soil, Waste and Vent Systems (SWV)

- Working Areas: office buildings, conference rooms, etc.
- Studying Areas: schools, colleague, libraries, community centers, tutoriang centers, etc.
- Sleeping Areas: hospitals, house, residences, apartements, hotels, etc.
- Commercial Kitchens: restaurants, industrial kitchens
- Underground Drainage Systems: All underground SWV systems between building and sewer mains.

Chemical Transfer Systems

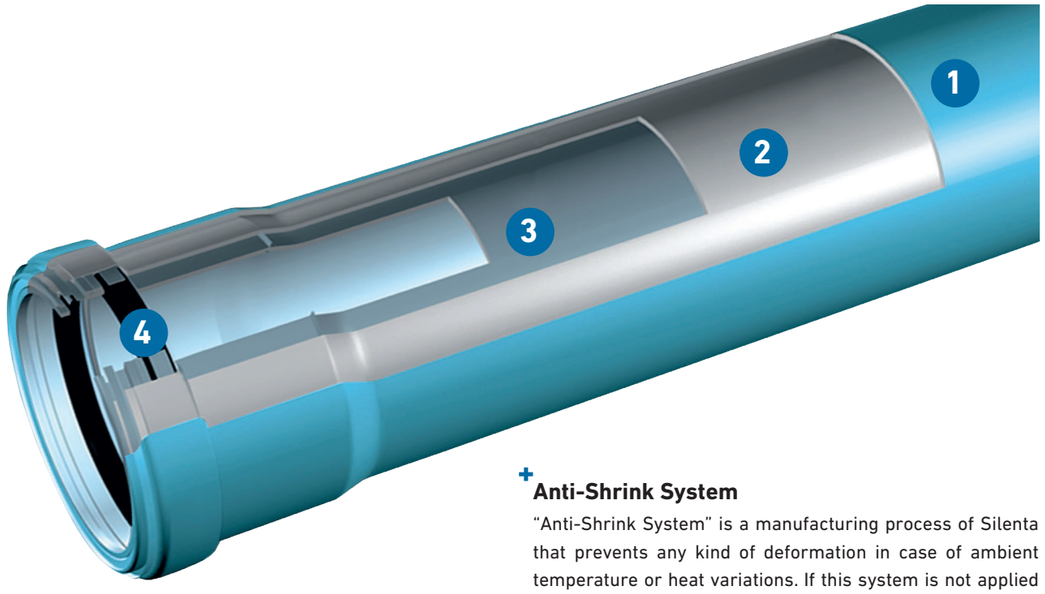
Industrial areas (short and long term usage)



Silenta pipes and fittings are not suitable for:
Transfer of waste water containing petrol or benzene and installations at temperatures below -20°C.

Characteristics of Excellence

Silenta features a three-layer wall construction. The multi-layer structure increases pipe rigidity and provides sound attenuation characteristics.



1 Outer Layer
High temperature and impact resistance.

2 Middle Layer
Special formulation of high molecular weight structure attenuates sound waves and prevents them from diffusing out.

3 Inner Layer
Provides excellent flow performance, high water temperature and chemical resistance.

4 Special Seal System
Push-fit socket with lip seal guarantees water tightness and allows movement of pipes due to thermal expansion and angular deflection. The geometric characteristics of the socket ensure fast and easy installation.

Anti-Shrink System

"Anti-Shrink System" is a manufacturing process of Silenta that prevents any kind of deformation in case of ambient temperature or heat variations. If this system is not applied during the manufacturing process, the socket may be subject to shape deformations. Silenta Anti-Shrink System prevents problems such as changes in shape, impeded flow and leakages.

Silenta Technical Properties

Raw Material	
Inner Layer	PP
Middle Layer	Mineral Reinforced PP
Outer Layer	PP

Tensile Strength	13 N/mm
Colour Code	Light Blue
Elasticity Module	2400 – 3800 MPa
Coefficient Of Thermal Expansion	0.06 mm/mK
Diameter	40 Ø-50 Ø-75 Ø-90 Ø
	110 Ø-125 Ø-160 Ø-200 Ø
Connection Type	Push-Fit System
Temperature of Operating Media	Min: 0°C Max: 97°C
Service Life	50 years

Sound Insulation Performance

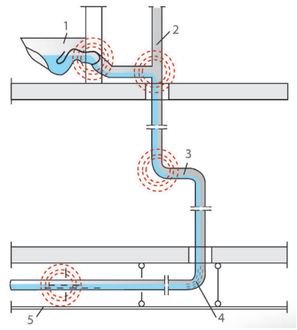
Why Sound Protection?

To minimize noise pollution in living quarters, occupants need to be shielded from disturbing air-borne and structureborne noise. Architectural sound protection measures can be applied to the buildings and their elements where people spend longer period of time (offices, flats). Disturbing noise caused by sources within the building directly (structureborne noise) or indirectly (e.g. noise deriving from SWV systems) can easily be prevented with Silenta.

Sound Reduction With Silenta

Both structure-borne and air-borne noises occur in SWV systems. The pipe vibrates due to fluid sloshing under gravity flow and change of flow direction. The type and intensity of these pipe vibrations depend on a variety of factors, such as the mass of pipe, pipe material and its damping properties. The pipe vibrations are transmitted directly from the pipe as air-borne noise and being transferred as structure-borne noise via the pipe attachments to the walls. When developing a low noise SWV systems, both types of noise sources must be taken into account.

The sources of noise in SWV systems can be listed as:



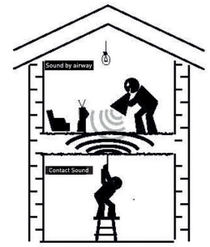
- Water sloshing
- Change of water direction
- High water velocities
- Converging flows
- Formation of cavitation
- Flushing toilets
- Excessive vibration due to insufficient pipe support

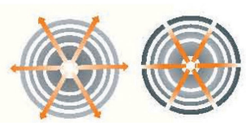
Air-Borne Noise

Air-borne noise is present when the sound source is transferred directly through the air.

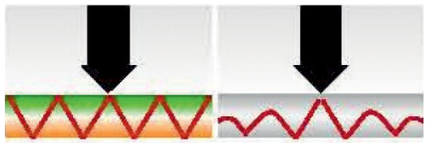
Structure-Borne Noise

With structure-borne noise, the sound transfer first occurs through a solid body. This body vibrates and the vibration is conveyed as air-borne noise.





Sound waves generated by fluid flow in the pipe forms sound pressure level (dB) on the pipe wall. Special formulation of high molecular weight structure in the middle layer of Silenta pipe absorbs and reduces this noise from diffusing out.



In the SWV systems installations, vibrations on the pipe systems occur as a result of waste water hitting the pipe surface. These vibrations are often transferred to the wall where the installation is assembled and creates noise. With Silenta low noise pipe system, this contact noise can be substantially reduced and absorbed.

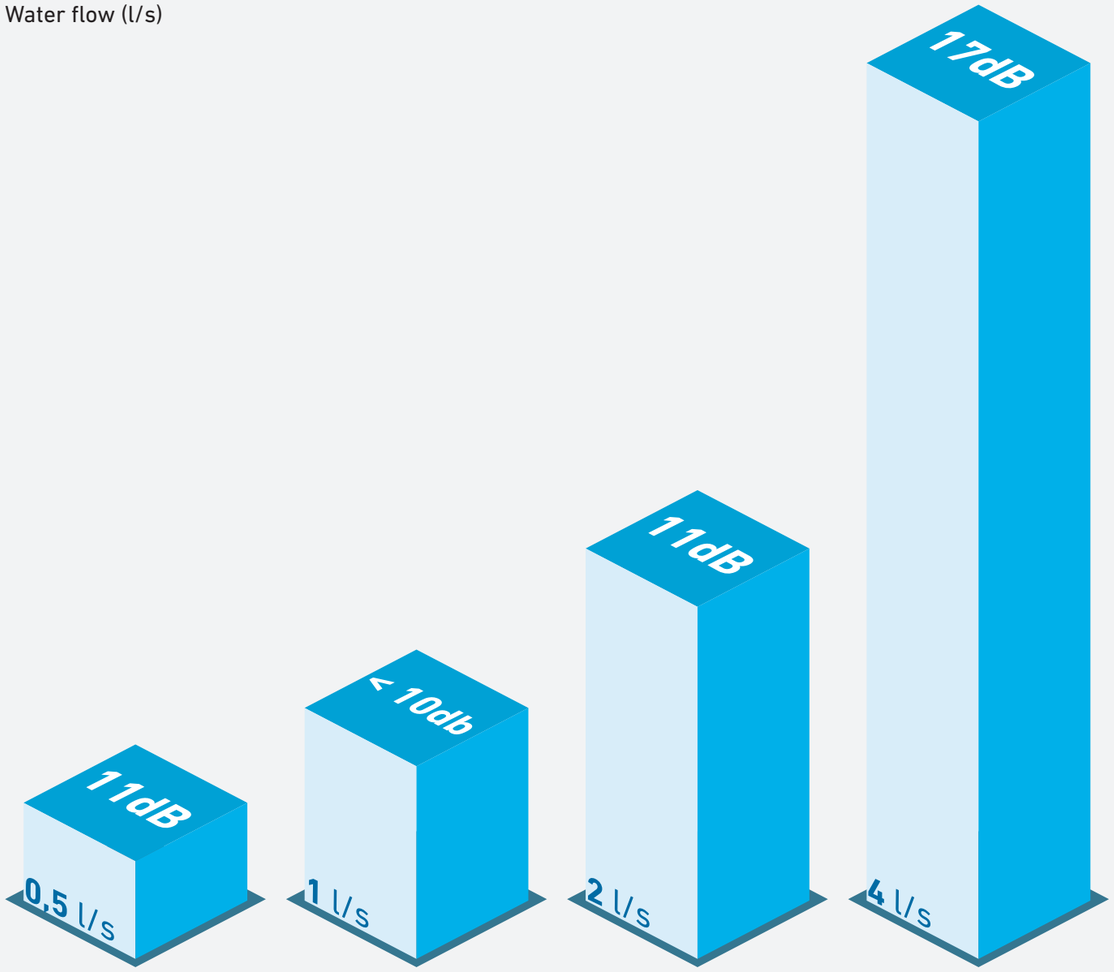
Superior Sound Proof Performance

Sound-insulated soil and waste piping system Silenta. Guarantees quality, peace of mind and living comfort.

In the sound measurement test carried out by Fraunhofer Institute for Building Physics in Stuttgart, Germany, Silenta achieved a sound-intensity level of only 17dB when measuring flow at flow rate of 4L/s according to VDI 4100.

Silenta
Acoustic Performance (dB)

Water flow (l/s)



Comprehensive Range of Pipes and Fittings

The comprehensive range of Silenta pipes and fittings allows construction of the entire SWV systems.

Pipe lengths are from 250mm to 5500mm, with diameters ranging from 40 mm to 200 mm, complemented by wide choice of fittings.

These pipe sizes are designed to cater for the needs of different internal bores and flow conditions. Special connection and transition fittings of Silenta make it possible to connect to other SWV systems made of different materials.

The range is completed with rubber insulated pipe clamps to reduce the vibrations that are transferred to installation walls while in operation.

Fast & Easy Installation

Shortening and Chamfering the Pipes

1. Make sure that your products are clean. If necessary, wipe the jointing points with a dry cloth.

2. When interval measurements are required, mark the pipe with the desired length.

3. Cut the pipe at 90° angle from the axis with a rotary pipe cutter.

4. Chamfer the squared pipe end by using a chamfering tool

Installing the Pipes

1. Measure insertion depth of the fitting.

2. Mark the insertion depth on the pipe. The mark must remain visible after jointing.

3. Apply a thin layer of lubricant on both pipe and fittings jointing surface.

** Use only recommended silicone lubricant*

4. Insert the pipe completely into the fitting until it stops.

Bracketing and clamping of the Pipes

1. Drill the marked points with a power drill and place wall anchor into the hole.

2. Mark the pipe clamp distances properly with 1% inclination on the wall or ceiling where they will be installed.

3. After the pipe and fittings are jointed, place them and tighten the clamps.

4. In horizontally laid pipework, retract the push-fit connection in the socket by 10mm after every 4 meters of laid pipe length.

** It is not necessary to retract the push-fit connections between fittings, they can remain fully inserted*

Precaution Steps

Rubber Ring (Push Fit) Jointing

1. Mouth of the pipe should be absolutely chamfered. If the mouth of the pipe was cut, it should be chamfered.
2. Check if the sealing gasket is accurately placed on the pipe or fitting socket groove.
3. All installation parts should be dry and clean. There should be no deformation, notches or similar scratches on the pipes or fittings.
4. Apply a proper silicone-based lubricating liquid on the spigot end of the pipe or fitting. Do not use liquid soap, grease or similar petroleum derivatives.
5. Parts to be jointed should be levelled.
6. Push the spigot end of the pipe or fitting into the socket completely. If the application is longer than 2 m, pull the spigot end 10 mm back after placing it into the socket completely, to prevent the effects of thermal expansion.
7. Finally, check again if the gap left for thermal expansion still exists or not.

Pipe Hanging and Clamping

Always use GF Hakan silent pipe clamp to minimize the sound caused by vibration. Maximum clamping distances of the pipes should always comply with the values provided in the following table.

8. While fixing the pipe with clamps, pay special attention to not cause any tension and stress on pipes.
9. Pipe cannot move after tightening the screws of the fixed clamps. For sliding clamps, pipe will continue to move inside the clamp even after tightening the screws.
10. For each line longer than 2 m, use 1 fixed clamp immediately after the muff part.
11. In vertical lines, always place the fixed clamp on the top point of the pipe and below the socket part.
12. While fitting the fixed clamp, pay attention to keep 10 mm distance left on the flat end for expansion.
13. Use a fixed clamp after each fitting or fitting group.
14. All clamps to be added to the system apart from the fixed clamps in the horizontal or vertical line should be sliding clamp that allows for thermal expansion caused by temperature changes.
15. Pipes and fittings should be fixed in short distances so that they do not slide and release.

Maximum distances between the clamps

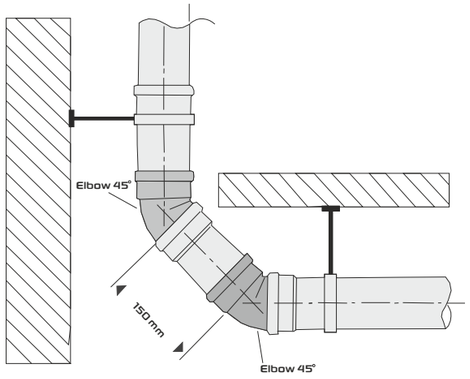
Nominal External Diameter DN [mm]	Clamp Distance	
	For Horizontal Pipe Directions* Dmax m (max. 15 x da)	For Vertical Pipe Directions* Dmax. m
50	0,75	1,50
75	1,10	2,00
110	1,65	2,00
160	2,40	2,00
200	3,00	2,00

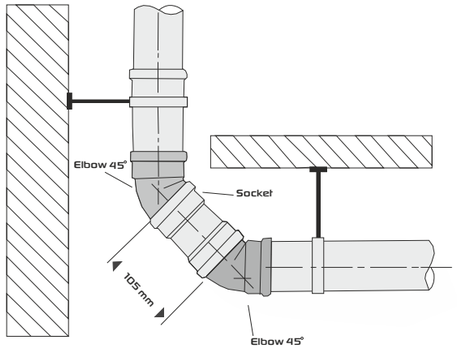
Pipe laying

Pipe arrangement has a significant impact on noise reduction as well as the development of sound. Appropriate measures must be taken to reduce flow and impact sounds in areas of directional change.

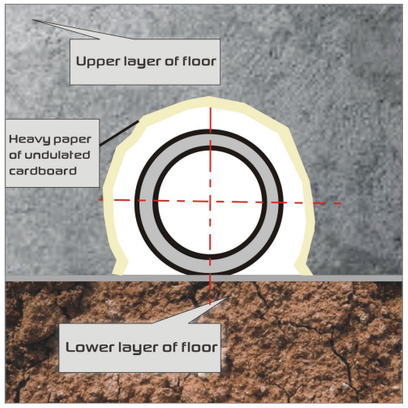
Example: In the case of bending of vertical down pipes in the intermediate ceiling area. For any 90-degree change of direction where the down pipe enters the horizontal main, a steadying section consisting of two 45° bends and a 250mm long pipe must be used for hydraulic and acoustic reasons. 87.5° bends must not be fitted in the transition area leading from a vertical to horizontal arrangement.

2 Options of Pipe Laying





Installing Pipes In Concrete and Brickwork



Silenta 3A pipes and fittings can be set directly into concrete. The linear expansion of pipe must be taken into account. In case of high temperature liquid transfers, it is advisable to cover the pipes with undulated cardboard in a way to allow thermal expansion

In order to prevent the concrete mixture from seeping into the socket gap, it should be sealed with adhesive tape. Open piping components must be closed. The piping must be installed in such a manner that it is prevented from moving during the cementing process. No acoustic bridge for structure-borne sound should be allowed to develop between the piping and the plaster support. In order to prevent this, the pipe can be covered with sound insulation material.

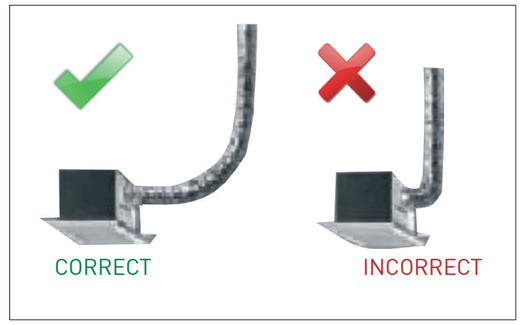
Installation of ventilation elbow

Important for successful result

For the ventilation and the elimination of odours, reduction of moisture and humidity, ventilation fans are used. A correct assembly of ventilation systems is important for successful results.

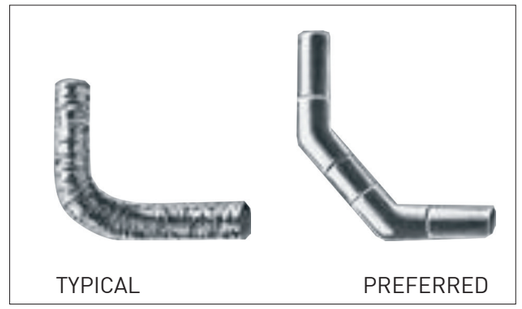
Elbows

Allow a 2-3 foots straight run out of the fan before the first elbow. This allows airflow momentum to build before passing through the first elbow. An installation that has a 90° elbow immediately after the fan exhaust port will cause air to flow back into the fan. This will reduce fan performance and increase noise.



Long Radius Angle

Use a long radius angle to ensure optimum airflow and minimum airflow noise. The shortest smooth, inner surface duct with the least number of elbows will provide optimum fan performance.

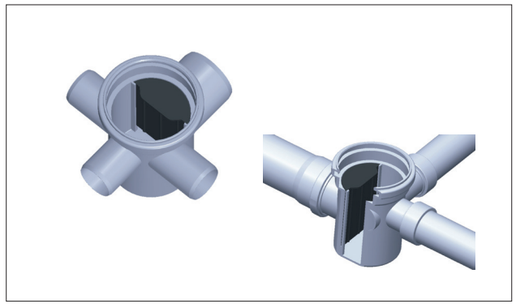


Floor trap

The highly functional product completes GF Silenta 3A low noise soil and waste system, noise inside buildings can be reduced to an absolute minimum.

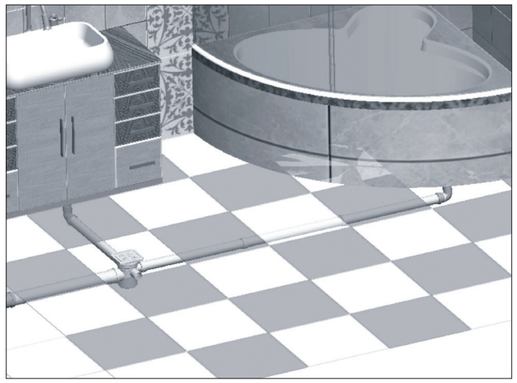
The floor trap has unique features such as an air tight baffle construction, it can be directly applied in a soil and waste system design. Several important aspects in the designing process were:

- Knockout prevention
- High tolerance to installation mistakes
- Durability
- Resistance to installation constraints circumstances



Inner separator functions:

- Provides a proper water flow and avoids reflux.
- Prevents diffusion of bad odours from the installation to the building.
- Avoids dropping of wastes into the assembly and prevents clogging to the pipeline.



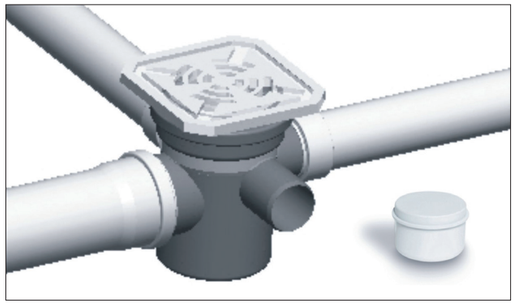
Installation

- Before installation, all the input and output channels of the floor trap should be checked.
- The channels of the floor trap should be opened using a metal tool.
- Make sure that the surface where the floor trap will be installed is flat.

In order to prevent the entrance of solid waste into the assembly, a filter must be installed onto the 110mm output of the floor trap. In case not all the inlets are to be used, blind caps should be applied. These blind caps are easy to mount to the inlets of the floor trap and secure a leakage-free sealing of unused inlet connections.

Some Application Areas

Commercial kitchens, bathroom & toilets, car parks, healthcare facilities, shopping centres, high rise apartments.



Fastening with clamps

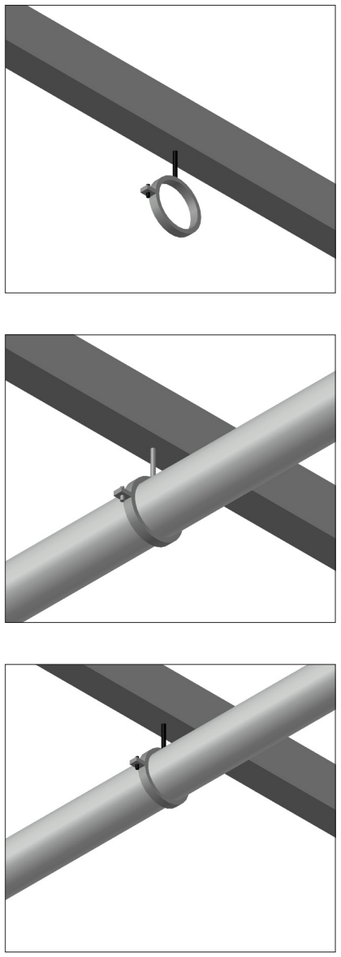
Types of clamps for Silenta 3A

By using EPDM insulated pipe clamps, it is possible to reduce noise and prevent the abrasions on surface which are caused by the vibrations generated by the fluids flow.

Applications areas & features:

Clamp with screw

- It is used as pipe fixing element on horizontal and vertical surfaces.
- It is fixed with wall insert nylon plug
- Its screw with cruciform slot provides more easy and practical mounting.
- Falling of screws is prevented by washer on it.
- It is coated with 8 – 12 zinc against corrosion.
- With its EPDM insulating rubber it absorbs vibration and accommodates to thermal movements

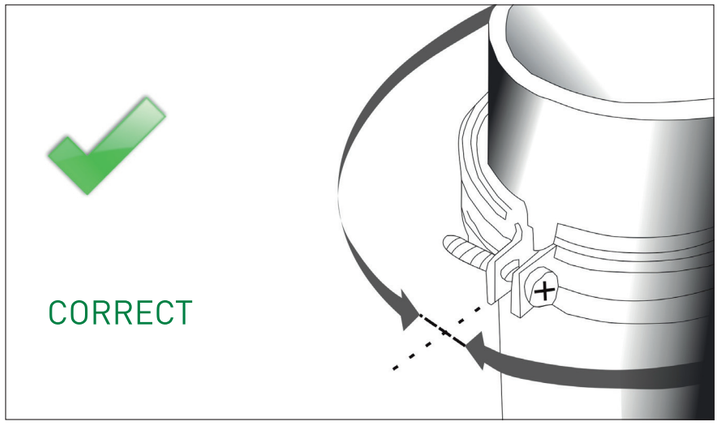


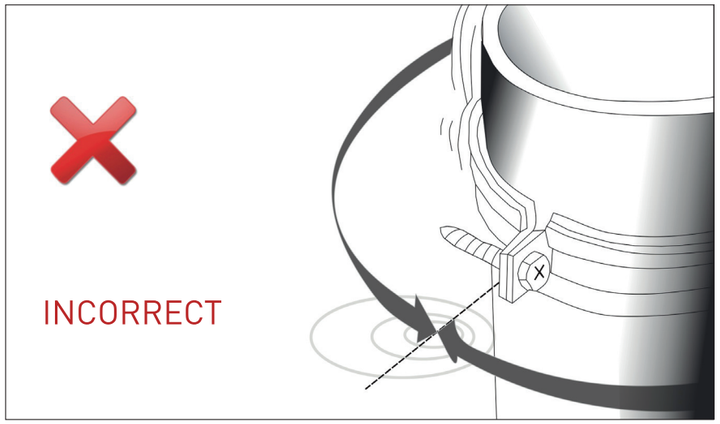
Clamp with nut

- It is used as pipe fixing element on horizontal and vertical surfaces.
- It is fixed with steel anchor.
- Its screw with cruciform slot provides more easy and practical mounting.
- Falling of screw is prevented by washer on it.
- It is coated with 8 – 12 zinc against corrosion.
- With its EPDM insulating rubber it absorbs vibration and accommodates to thermal movements.

When mounting a pipe system with a sound insulating steel brackets with rubber insert on the wall, make sure to observe the correct distances when tightening the screws.

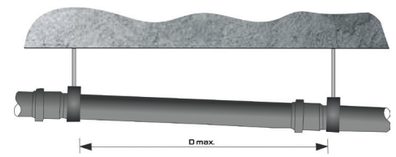
The fixed brackets must not be fully tightened in order to observe the span tolerances and to avoid increased structure-borne noise





Fastening with clamps

- The clamps should be mounted near the points where vibration of noise can be generated. For example in proximity of reductions and bends.
- It is recommended to use vibrations-damping rubber-clad steel clips.
- On principle, 2 brackets are fitted for each storey.
- One fixed and one sliding bracket must be fitted on each storey.



The fixed brackets must be positioned below a socket in the lower third of the storey. The bracket has to be tightened to the required extent. The sliding bracket must be fitted on the plain pipe in the upper third of the storey as it is intended to allow linear expansion of the pipe due to the changes in the temperature, but prevent lateral yielding.

Ensure that the sliding bracket only slightly touches the pipe to avoid unnecessary transmission of structure-born sound into the room that needs to be protected by many steel bracket for plastic pipe dimensions DN/OD 110mm have a span range from 108mm to 114mm, a fully tightened bracket would press the rubber insert too heavily. Consequentially, this strong pressing would give rise to avoidable structure-borne noise transmissions and eventually, the plumbing noise level would increase.

The insertion of spacers between the locking clips can also ensure the expert quality laying of the pipe.

Maximum distances between the clamps

Nominal Outer Diameter DN / OD	Bracket Distance	
	For Horizontal pipe routing* D max. m (max. 15 x da)	For Vertical pipe routing* D max. m
50	0,75	1,50
75	1,10	2,00
110	1,65	2,00
160	2,40	2,00
200	3,00	2,00

In horizontal pipelines, the distance between the clamps should be approximately
10 x Dn (ex: Dn = 110mm clamp distance: 10 x 110mm = 1,110mm)

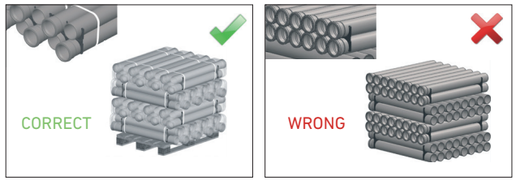
In vertical pipelines, the distance between the clamps should not exceed 1 – 1.5 meters.

Packaging, Storage and Transporation

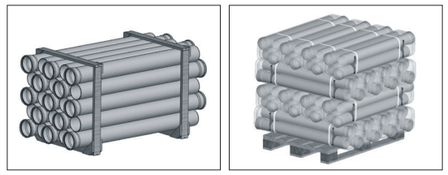
Packaging

Silenta 3A pipes and fittings are packed ready for transport in a customer friendly way. The packing guarantees optimal security, efficient storage and easy handling. Pipes with sockets are placed in a way that the socket spigot will not stack and rest on top of each other.

Pipes are packed with plastic holding clamps to hold the pipes together and are covered with plastic film to keep the products from dust and dirt. Short lengths pipes are packed in cartons.



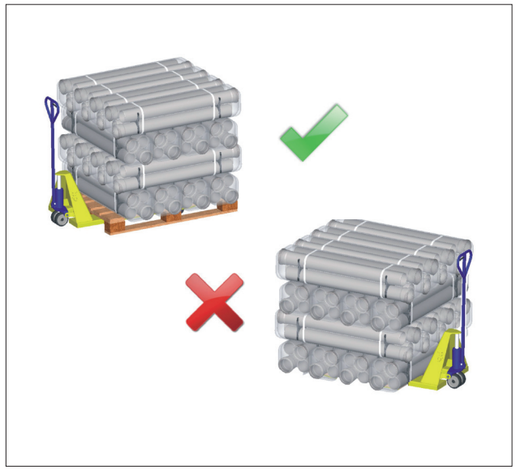
Waste water pipes are shipped on wooden frames or pallets according to the demands of customers.



Storage

The manner of storage must not cause permanent sagging or damage to the pipes. If well stored, no lasting deformations or damage to pipes and fittings will occur. The stack should never be higher than 1.5m. Pipe stacks must be secured against rolling apart.

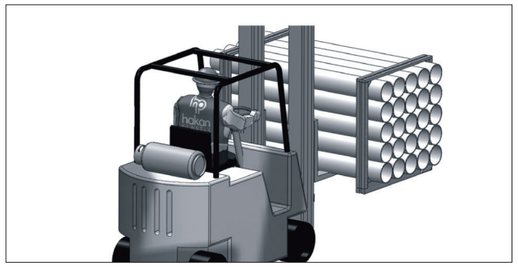
Carton-packed pipes and fittings must be protected from moisture, excessive heat and direct UV exposure.

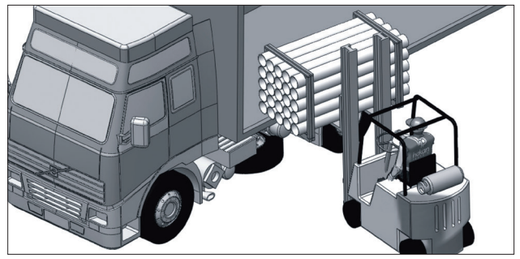


Products that are not resistant to UV should not be stored outdoors and should be protected against sunlight.

Transportation

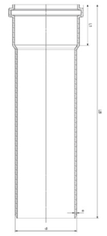
Pipes should be carefully transported to prevent any damages, avoid sudden and hard pressures on pipes and fittings. Ensure that pipes are not sliding onto one another, dropping of pipes on the floor should be prevented. Loading and unloading in a palletized bundle should be carried out by means of forklifts or crane.





Silenta

Product Name

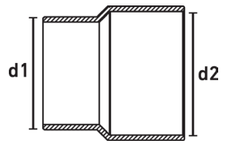


Silenta Pipe with Single Socket

Model:

- Material: PP (Polypropylene) + Mineral Reinforced PP
- Pipe series: S 16
- Colour: light blue
- Compliance to BS EN 1451-1: 2017 & ISO 7671: 2003
- SIRIM and IKRAM certified
- Push-fit with integral elastometric ring seal socket

d (mm)	e (mm)	Code	LB (mm)	L1 (mm)
50	2.2	**300 204 121**	250	28
50	2.2	**300 204 123**	1000	28
50	2.2	**300 204 125**	3000	28
75	2.8	**300 204 131**	250	33
75	2.8	**300 204 133**	1000	33
75	2.8	**300 204 135**	3000	33
110	4.0	**300 204 151**	250	36
110	4.0	**300 204 153**	1000	36
110	4.0	**300 204 155**	3000	36
160	5.6	**300 204 175**	3000	41
200	7.1	**300 204 185**	3000	45



Silenta Adaptor

Model:

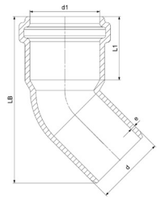
- Material: UPVC (Unplasticized polyvinyl chloride)
- Colour: white
- Accordance to Standard BS 4514
- Transition adaptor for UPVC soil and ventilating pipes push-fit into Silenta 3A pipe end with elastomeric ring seal socket

d1-d2 (mm)	Code	Packing
50 - 56	**300 203 107**	72
75 - 82	**300 203 108**	72

Standard Clamp

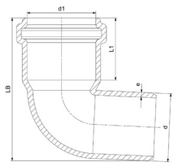
DN (mm)	Code	SP	Clamping Range (mm)	Nut Dimension
50	**4701905002022**	100	45 - 52	M8
75	**4501757526682**	40	66 - 75	M8
110	**4501911020282**	40	110 - 119	M10
125	**1300912530212**	25	119 - 129	M10
160	**4501916020482**	40	155 - 163	M10
200	**4501920020582**	25	195 - 200	M12
250	**4501925020582**	15	250 - 260	M12

Bends and Elbows



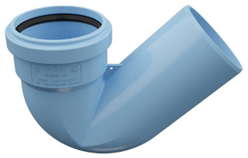
Silenta 3A® PP Elbow 45°

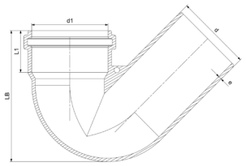
DN (mm)	Code	SP	S	d/d1 (mm)	e (mm)	L1 (mm)	LB (mm)
50	**4704105000321**	300	16	50	1.8	46	118.9
75	**4704107500921**	50	16	75	2.3	51	147.8
110	**4704111001321**	50	16	110	3.4	58	190.8
125	**4704112501621**	15	16	125	3.9	64	198.3
160	**4704116001821**	6	16	160	4.9	73	258.1
200	**4704120002021**	10	16	200	6.2	85	310.9



Silenta 3A® PP Elbow 87,5°

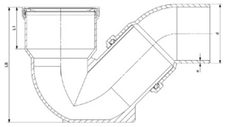
DN (mm)	Code	SP	S	d/d1 (mm)	e (mm)	L1 (mm)	LB (mm)
50	**4704105000521**	300	16	50	1.8	46	101.3
75	**4704107501021**	100	16	75	2.3	51	131.0
110	**4704111001521**	40	16	110	3.4	58	174.2
125	**4704112501721**	10	16	125	3.9	64	192.7
160	**4704116001921**	6	16	160	4.9	73	244.8
200	**4704120002121**	6	16	200	6.2	85	304.0





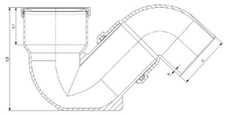
Silenta 3A® PP P-Trap

DN (mm)	Code	SP	S	d/d1 (mm)	e (mm)	L1 (mm)	LB (mm)
110	**4704611000521**	25	16	110	3.4	58	188.7



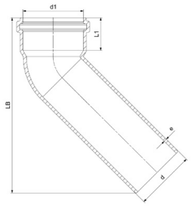
Silenta 3A® PP Siphon 45°

DN (mm)	Code	SP	S	d (mm)	e (mm)	L1 (mm)	LB (mm)
75	**300 204 001**	50	16	75	2.3	48.2	148.5
110	**300 204 004**	6	16	110	3.4	72.0	208.5



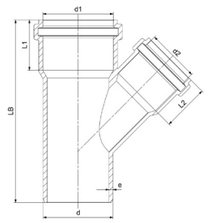
Silenta 3A® PP Siphon 87,5°

DN (mm)	Code	SP	S	d (mm)	e (mm)	L1 (mm)	LB (mm)
75	**300 204 002**	50	16	75	2.3	48.2	148.5
110	**300 204 005**	5	16	110	3.4	72.0	208.5



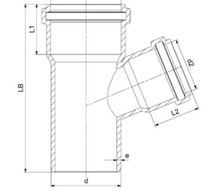
Silenta 3A® PP Long Elbow 45°

DN (mm)	Code	SP	S	d/d1 (mm)	e (mm)	L1 (mm)	LB (mm)
110	**4704111004521**	8	16	110	3.4	58	320



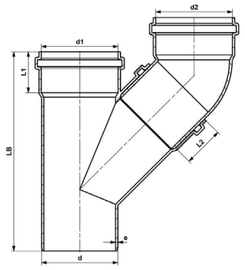
Silenta 3A® PP Single Branch 45°

DN (mm)	Code	SP	S	d/d1 (mm)	d2 (mm)	e (mm)	L1 (mm)	L2 (mm)	LB (mm)
50-50	**4704205000121**	50	16	50	50	1.8	46	46	175.0
75-50	**4704207500221**	20	16	75	50	2.3	51	46	180.0
75-75	**4704207500321**	10	16	75	75	2.3	51	51	216.0
110-50	**4704211000421**	40	16	110	50	3.4	58	46	202.0
110-75	**4704211000521**	30	16	110	75	3.4	58	51	237.0
110-110	**4704211000621**	20	16	110	110	3.4	58	58	288.0
125-50	**4704212500721**	15	20	125	50	3.1	64	46	210.0
125-75	**4704212500821**	10	20	125	75	3.1	64	51	290.0
125-110	**4704212500921**	20	16	125	110	3.9	64	58	297.0
125-125	**4704212501021**	6	20	125	125	3.1	64	64	320.0
160-110	**4704216001121**	10	16	160	110	4.9	73	58	326.0
160-125	**4704216001221**	10	20	160	125	3.1	73	64	377.0
160-160	**4704216001321**	8	16	160	160	4.9	73	73	398.0
200-110	**4704220001421**	4	20	200	110	6.2	85	58	482.0
200-125	**4704220001521**	4	20	200	125	6.2	85	64	482.0
200-160	**4704220001621**	4	20	200	160	6.2	85	73	482.0
200-200	**4704220001721**	4	20	200	200	6.2	85	85	482.0



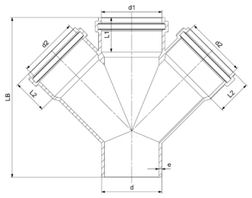
Silenta 3A® PP Single Branch 87,5°

DN (mm)	Code	SP	S	d/d1 (mm)	d2 (mm)	e (mm)	L1 (mm)	L2 (mm)	LB (mm)
50-50	**4704205001821**	30	16	50	50	1.8	46	46	155
75-50	**4704207501921**	10	16	75	50	2.3	51	46	180
75-75	**4704207502021**	15	20	75	75	1.9	51	51	216
110-50	**4704211002121**	50	16	110	50	3.4	58	46	183
110-75	**4704211002221**	15	16	110	75	3.4	58	51	243
110-110	**4704211002321**	10	16	110	110	3.4	58	58	245
125-125	**4704212503921**	20	20	125	125	3.1	64	64	280
160-110	**4704216002621**	14	16	160	110	4.9	73	58	325
160-160	**4704216001421**	10	16	160	160	4.9	73	73	325



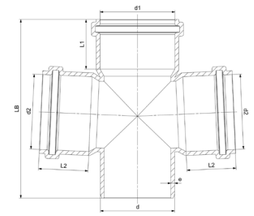
Silenta 3A® PP Single Parallel Branch

DN (mm)	Code	SP	S	d/d1 (mm)	d2 (mm)	e (mm)	L1 (mm)	L2 (mm)	LB (mm)
110-110	**4704211001121**	4	16	110	110	3.4	58	58	288.0



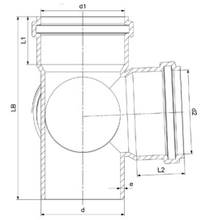
Silenta 3A® PP Double Branch 45°

DN (mm)	Code	SP	S	d/d1 (mm)	d2 (mm)	e (mm)	L1 (mm)	L2 (mm)	LB (mm)
50-50	**4704205003021**	15	16	50	50	1.8	46	46	175
75-50	**4704207503121**	15	20	75	50	1.9	51	46	180
110-50	**4704211003221**	7	20	110	50	2.7	58	46	202
110-110	**4704211003421**	16	16	110	110	3.4	58	58	290
160-110	**4704216003621**	8	20	160	110	3.1	73	58	326



Silenta 3A® PP Double Branch 87,5°

DN (mm)	Code	SP	S	d/d1 (mm)	d2 (mm)	e (mm)	L1 (mm)	L2 (mm)	LB (mm)
110-110	**4704211002521**	20	16	110	110	3.4	58	58	241

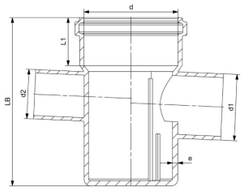


Silenta 3A® PP Corner Double Branch 87,5°

DN (mm)	Code	SP	S	d/d1 (mm)	d2 (mm)	e (mm)	L1 (mm)	L2 (mm)	LB (mm)
110-110	**4704211002621**	20	16	110	110	3.4	58	58	288

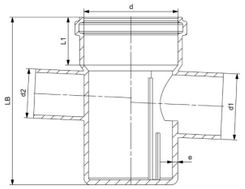
Silenta 3A® PP Collector

DN (mm)	Code	SP	S	d (mm)	d2 (mm)	d3 (mm)	e (mm)	L1 (mm)	LB (mm)
110-75-50-50	**4704911002022**	12	16	110	75	50	3.4	58	162.2



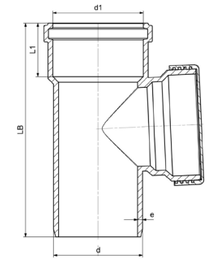
Silenta 3A® PP Long Collector

DN (mm)	Code	SP	S	d (mm)	d2 (mm)	d3 (mm)	e (mm)	L1 (mm)	LB (mm)
110-75-50-50	**4704911002122**	12	16	110	75	50	3.4	58	182.6



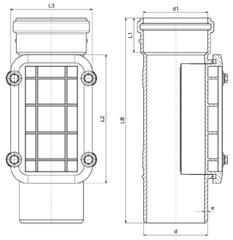
Silenta 3A® PP Clean-Out (Circular)

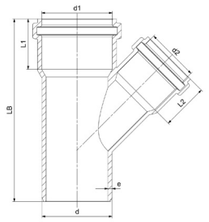
DN (mm)	Code	SP	S	d/d1 (mm)	e (mm)	L1 (mm)
75	**4704311000421**	15	20	75	1.9	216
110	**4704311000121**	6	16	110	3.4	245



Silenta 3A® PP Clean-Out (Rectangular)

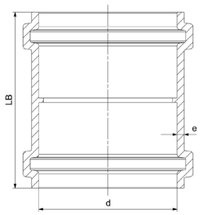
DN (mm)	Code	SP	S	d/d1 (mm)	e (mm)	L1 (mm)	L2 (mm)	L3 (mm)	LB (mm)
160	**4704316000221**	8	16	160	4.9	73	275	195	412.1





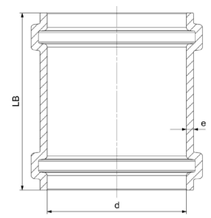
Silenta 3A® PP Single Branch 67,5°

DN (mm)	Code	SP	S	d/d1 (mm)	d2 (mm)	e (mm)	L1 (mm)	L2 (mm)	LB (mm)
110-110	**4704211000721**	25	16	110	110	3.4	58	58	245.0



Silenta 3A® PP Socket

DN (mm)	Code	SP	S	d (mm)	e (mm)	LB (mm)
50	**4704505000121**	400	16	50	1.8	92
75	**4704507500221**	200	20	75	1.9	100
110	**4704511000321**	80	16	110	3.4	120
125	**4704512506022**	40	16	125	4.3	128
160	**4704516000421**	30	16	160	4.9	141
200	**4704520000521**	12	20	200	4.9	205

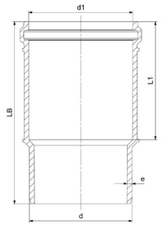


Silenta 3A® PP Sleeve Socket

DN (mm)	Code	SP	S	d (mm)	e (mm)	LB (mm)
50	**4704505000221**	400	16	50	1.8	92
75	**4704507500321**	35	20	75	1.9	100
110	**4704511000421**	18	16	110	3.4	120
125	**4704512506122**	60	16	125	3.4	128
160	**4704516000621**	6	16	160	4.9	141
200	**4704520000721**	12	20	200	4.9	205

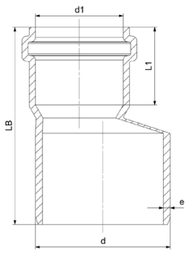
Silenta 3A® PP Repair Pipe

DN (mm)	Code	SP	S	d/d1 (mm)	e (mm)	L1 (mm)	LB (mm)
110	**4704911002221**	15	16	110	3.4	126.7	195.5



Silenta 3A® PP Reducer

DN (mm)	Code	SP	S	d (mm)	d1 (mm)	e (mm)	L1 (mm)	LB (mm)
50-32	**4704405000021**	500	16	50	32	1.8	46	111
50-40	**4704405000121**	30	16	50	40	1.8	46	116
75-50	**4704407500121**	100	16	75	50	2.3	51	124
110-50	**4704411000221**	50	16	110	50	3.4	58	155
110-75	**4704411000321**	40	16	110	75	3.4	58	143
125-110	**4704412500421**	25	20	125	110	3.1	64	145
160-110	**4704416000521**	40	16	160	110	4.9	73	180
160-125	**4704416000721**	20	20	160	125	3.9	73	182
200-160	**4704420000621**	20	20	200	160	4.9	85	220



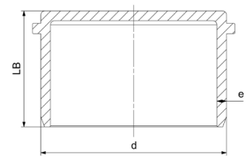
Tools

Silenta Gasket

d (mm)	Code	Packing (mm)
40	**14109 0400 1292**	POA
50	**14109 0500 1292**	POA
75	**14109 0750 1292**	POA
90	**14109 0900 0492**	POA
110	**14109 1100 1392**	POA
125	**14109 1250 1492**	POA
160	**14109 1600 1592**	POA
200	**14109 2000 0792**	POA

Silenta 3A® PP Blind Cap

DN (mm)	Code	SP	S	d (mm)	e (mm)	LB (mm)
50	**4704905000421**	125	16	50	1.8	46
75	**4704907500121**	50	20	75	1.9	50
110	**4704911000221**	25	20	110	2.7	55
125	**4704912508122**	100	16	125	3.4	64
160	**4704916000321**	12	16	160	4.9	88



Chamfering Tool

Model:

- Colour: blue
- Material: cast iron/alloys
- Adjustable and adaptable to pipe range: 40 – 200mm
- Working pipe thickness range: up to 10mm
- Angle of beveling: 15°

Code	Weight (kg)
300 203 322	0.8

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