



➤ **ULTRA SILENT™**

➤ **ULTRA SILENT+™**

Transportation, storage and installation

1. Loading, transport and unloading

- 1.1. It is recommended to handle the pipes and fittings in their original sales packaging to protect them and prevent damage during loading and transporting.
- 1.2. Load and transport pipes in straight, horizontal position with the full length supported (note that the sockets are unencumbered all around), avoid extreme pressure on the pipes (straps or other heavy materials).
- 1.3. Unload and handle pipes carefully and lay them in a straight, horizontal position (pay attention to positioning of the sockets), on a smooth surface.

Figure 1

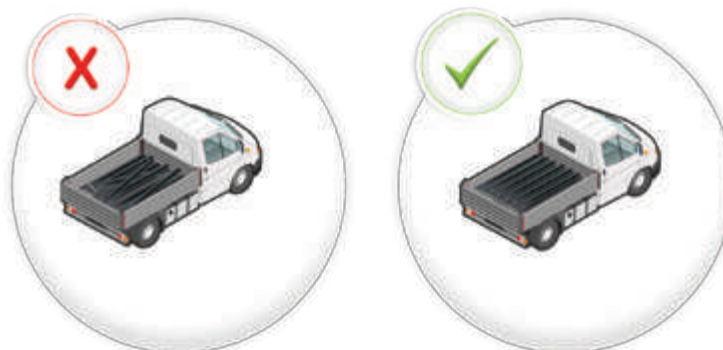


Figure 2



- 1.4. Short pipes (150/250 mm) and fittings should be packed in carton boxes. Protect them from rain and moisture and store them in a dry place.

2. Storage and protection

- 2.1. It is recommended to store the pipes and fittings in their original sales packaging and to protect them from damage.
- 2.2. ➤ **ULTRA SILENT™** pipes are UV protected and can be stored outdoors for up to 3 years (depending on geographical location). The gasket material can withstand outdoor storage for up to 3 years and after this period must be replaced before installing.
- 2.3. When using mechanical tools and machines (forklifts, cranes etc.) extra caution should be taken to prevent damage to the products.
- 2.4. Optical defects (external scratches and pigment changes etc.) have no influence on the quality and/or functionality of the system.

3. Cutting to length and assembly preparations

- 3.1. Pipes are sold in various lengths with one or two sockets and gaskets and with plain ends pre-beveled. If cutting to length is needed, use only proper cutting tools for plastic pipes (manual or mechanical) and work according to all safety rules, using proper protective equipment.
- 3.2. It is recommended to bevel the cut pipe end for easier installation (angle of approximately 15° with bevel length of 5 mm). Removing chips, shavings and sawdust is necessary before installing.

4. Push-fit connection method

- 4.1. Check the position and integrity of the lip seal in the socket gasket slot.
Clean the seal and the socket.
- 4.2. Clean the plain pipe end from sawdust and scraps - it's recommended to apply a thin layer of lubricant around the plain pipe end.
- 4.3. Push the plain end into the socket while slightly turning until the end of the socket sleeve, then pull the pipe back approximately 10 mm (Figure 1).

Figure 1

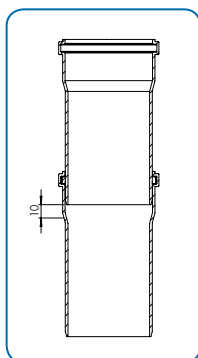
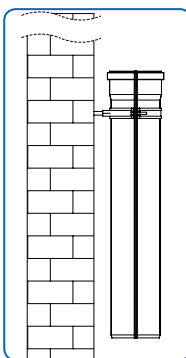


Figure 2

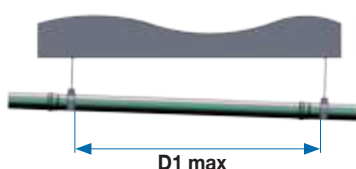


5. Mounting with clamps

- 5.1. For mounting **ULTRA SILENT™** system, use steel brackets with rubber inserts approved for acoustic insulation systems.
- 5.2. Where pipes are installed vertically, every pipe must be fastened with brackets directly under the socket, to prevent pipe movement (Figure 2).
- 5.3. Maximum distances between the brackets for horizontal and vertical installation, as below. (See table and Figure 3):

Pipe DN (external diameter)	Max. bracket distance for horizontal installation - D1 max	Max. bracket distance for vertical installation - D max
Ø 50	0.80	1.50
Ø 75	1.10	2.00
Ø 90	1.40	2.00
Ø 110	2.00	2.00
Ø 125	2.00	2.00
Ø 160	2.40	2.00

Figure 3





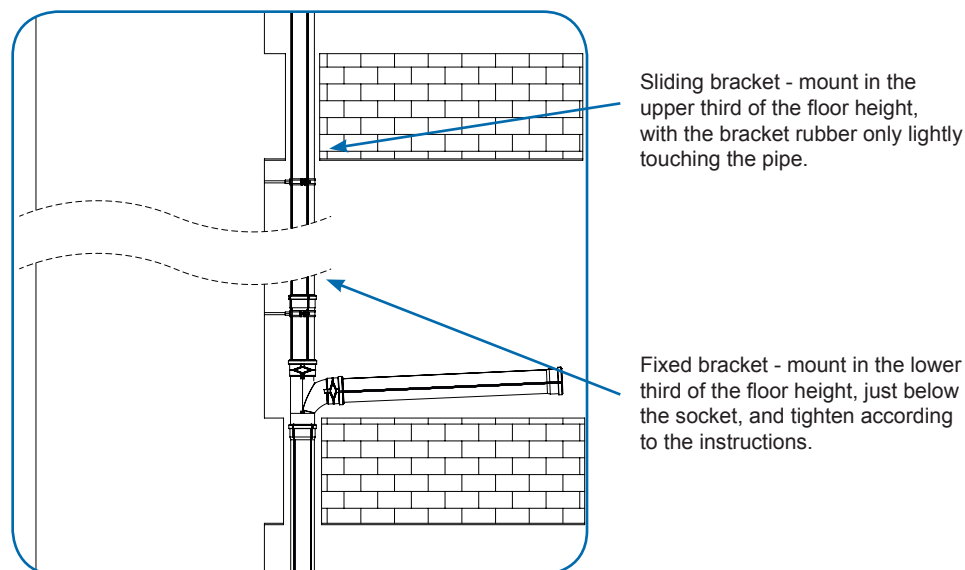
▶ **ULTRA SILENT™**

▶ **ULTRA SILENT+™**

6. Installation instructions

- 6.1. For vertical wall mounting, 2 brackets will be assembled on every floor, taking into account the specified maximum distance between brackets as per table in 5.5.3.
- 6.2. Fixed bracket: The first of the two brackets on each floor should be installed in the lower third of the floor height, just below the pipe or fitting socket, and must be tightened according to the instructions in 5.6.4, below.
- 6.3. Sliding bracket: The second of the two brackets should be mounted in the upper third of the floor height, with the bracket rubber only lightly touching the pipe to enable linear expansion of the pipe system (Figure 4).

Figure 4

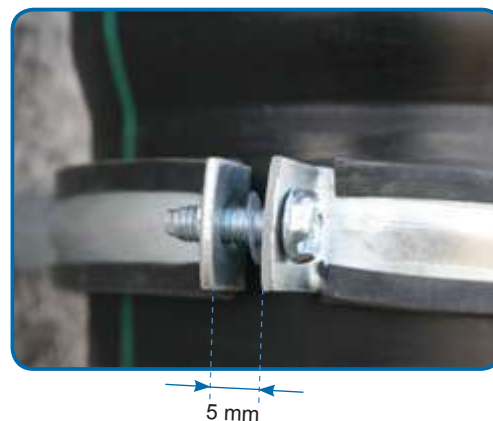


- 6.4. Bracket tightening: In order to prevent structure-borne noise transmission, use only recommended brackets with proper dimensions and leave space of 5 mm in the bracket aperture when screwing closed (Figures 5-6).

Figure 5 - **Incorrect tightening:**



Figure 6 - **Correct tightening:**



7. Installing **ULTRA SILENT™** system through ceilings, floors and walls

- 7.1. It is important in acoustic insulated systems to avoid contact between system components and rigid elements, such as walls, ceilings, floors etc., in order to prevent structure-borne noise transmission.
- 7.2. For pipes traversing walls and ceilings, a space of at least 30 mm should be maintained between the pipe and any rigid material.
- 7.3. If the spaces around the pipes traversing walls and floors must be filled, use only soft construction materials such as foam or glass fiber (Figure 7).
- 7.4. For improved hydraulic flow and reduced noise, 87° bends are not recommended to be used for changing flow direction from vertical to horizontal. It is preferable to use two 45° bends, with 250 mm minimum length of connecting pipe between them (Figure 8).

Figure 7

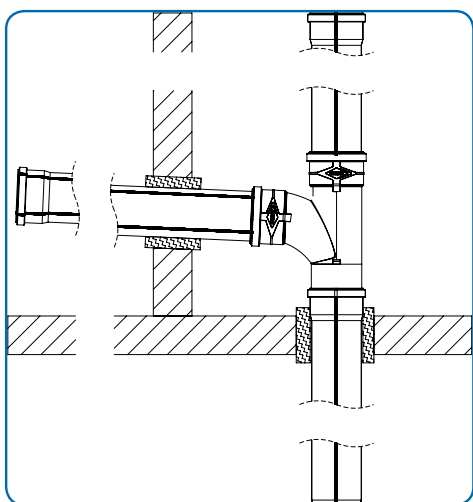
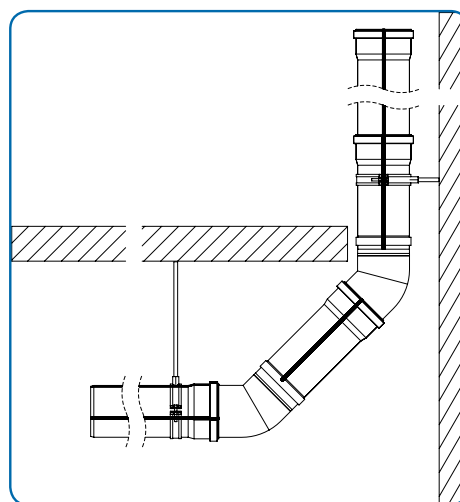
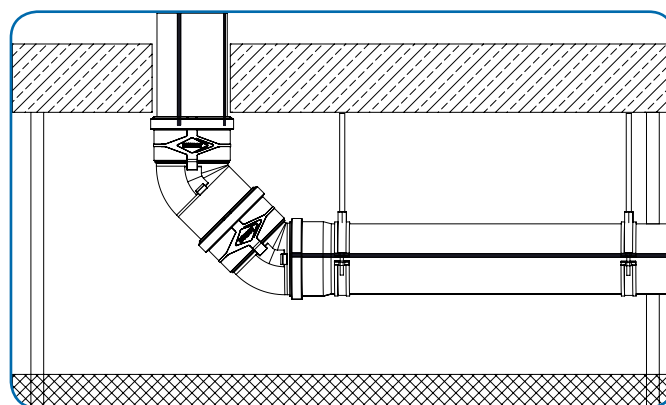


Figure 8



- 7.5. When installing pipes in open spaces (such as basements, parking garages etc.), above suspended ceilings or behind screen walls, prevent any contact of other material (such as suspended ceiling, electrical, water, ventilation and air conditioning systems etc.) with the pipes (Figure 9).

Figure 9





ULTRA SILENT™

ULTRA SILENT+™

8. Repairs and irregular installation

- 8.1. To add a branch (USEA) to an existing pipe with long socket (USTL) and sleeve (USU), insert the long socket plain end into the branch socket, cut the equivalent of the socket length from the existing pipe piece. Insert the long socket into the upper pipe all the way. Fix the sleeve on the lower pipe and slide the branch and long socket down into the sleeve (Figure 10). An alternative possibility is to use two sleeves and plain pipe (the minimum plain pipe length must be more than double that of the external pipe diameter DN, as in Figure 11).
- 8.2. To fix punctured or damaged pipe, the same methods can apply with one socket pipe (USEM) instead of the branch and for adding inspection pipe (USRE) or double branch (USDA).

Figure 10

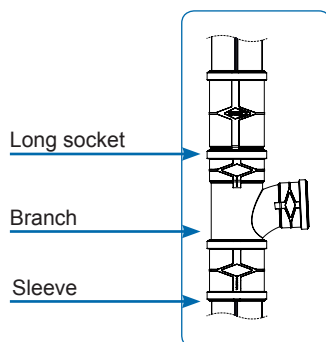
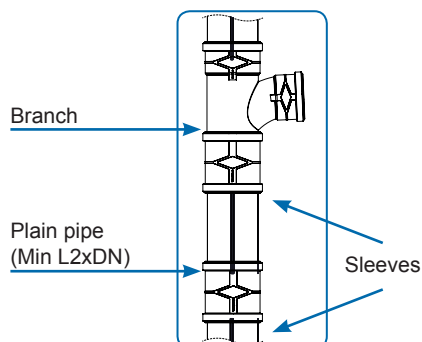
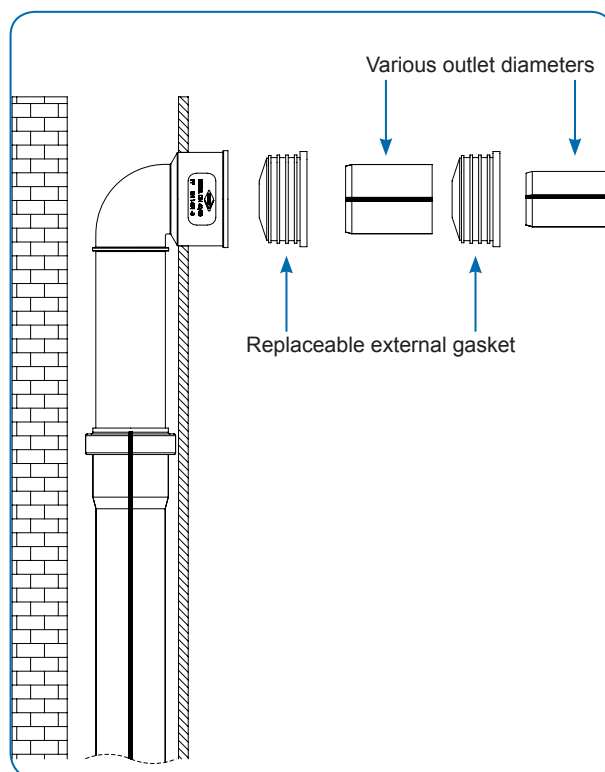


Figure 11



- 8.3. Installing technical bends/siphon connectors can facilitate connection to various types of siphons or drainage outlets (air conditioning condensation water, washing machine etc.), by replacing only the external gasket (provided separately). See Figure 12.

Figure 12





9. LOCKSEAL™ and installing in concrete

9.1. LOCKSEAL™ Applications

- Installing pipes in concrete (locking): Use of  LOCKSEAL™ prevents the concrete lift force and vibrations from separating the pipes.
- Installing pipes in concrete (sealing): Use of  LOCKSEAL™ prevents the concrete slurry from infiltrating to the gasket and negatively impacting sealing.
- Installing pipes with long-span suspension: Use of  LOCKSEAL™ creates a firmer connection between the pipes providing additional safety for the system, especially for horizontal configuration in open spaces with vehicle traffic (e.g. parking garages, warehouses, plants, airports etc.)



9.2. LOCKSEAL™ Advantages

- Easy and fast assembly
- Can replace welded connection methods
- Increased safety margin
- Tool-free installation

9.3. Installing ULTRA SILENT™ system in concrete

The  ULTRA SILENT™ system can be installed in concrete walls, columns and floors, when carried out in strict accordance with the installation instructions, as they appear in this chapter. It is essential to insulate the entire system, inclusive of all components, with suitable noise reduction materials that prevent any direct contact between rigid construction elements and the  ULTRA SILENT™ system.



➤ **ULTRA SILENT™**

➤ **ULTRA SILENT+™**

9.4. ➤ LOCKSEAL™ Assembly instructions

- Push the wide opening of the ➤ LOCKSEAL™ onto the fitting or pipe socket and push lightly but firmly until the locking grips pass the socket and you hear a "click".
- Insert the plain end of the fitting or pipe into the socket through the narrow part of the ➤ LOCKSEAL™ (normal push-fit connection method) and tighten the metal clamp by turning the key all the way until it stops.
- For disassembling - open the clamp and pull the pipe, while simultaneously pulling the ➤ LOCKSEAL™ from the socket and with flat end tool (e.g. screwdriver). Release the grips one at a time, until dismantled.



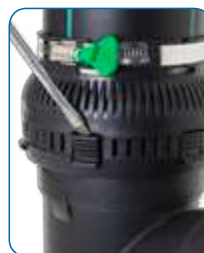
1
Assemble the narrow part of the Lockseal™ socket to the extremity of the pipe or the socket.



4
Tighten the metal band until the key is released.



2
Insert the plain end of the fitting or pipe into the socket (normal push-fit connection method).



5
For disassembly, release the band and open the clips to pull off the Lockseal™.



3
Insert the plain end of the fitting or pipe into the socket (normal push-fit connection method).



6
To facilitate the assembly, it is recommended to use Huliot's pipe lubricant.

- Lockseal™ is designed for use with PP pipes whose resilience to hydrostatic pressure and annular strength are suitable for concrete casting. **Ultra Silent™ is currently the only piping system that meets these conditions.**