COMPRESSION FITTING ASTORE

Generale Description

The Compression fitting is a product that allows the junction of portions of pipes, a simple system made of internal components which allow the montage without any special equipment, except for the use of a special key.
The toroidal gasket (OR) ensures the hydraulic seal radially on the external part of the pipe, while the clinching ring, compressed by the ring nut, represents the mechanical part.
Astore compression fittings in PP are used for connecting PE pipes and are used for water transport installations. They are both used in the irrigation segment, both in plants for treated and untreated drinking water, **for working pressures up to PN 16 till D.63, and PN 10 from d.75 to D.110. On each single product there is the name of the manufacturer, the material, the diameter of pipe coupling and, for the threaded figures, the diameter of coupling for the thread.**
Astore fittings are packaged in bags contained in boxes, on each box there is a label where there are Astore codes, the drawing of the article, the gross and net weight and the product description.
The strongest points for the spread and the success of the compression fittings ASTORE are the availability of local stock all over the world and the wide international market presence since at least 45 years.

Legal references

The compression fitting ASTORE is made according to the requirements of ISO 3458 , ISO 3459 , ISO 3501 , ISO 3503 , ISO 14236 , ISO FDIS 17885 , DIN 8076-3 , UNI 9561 , UNI 9562 .
The compression fittings can be installed on PE pipes that follow the standards ISO 4427, DIN 8074, UNI 12201. The versions provided with thread are made according to ISO 7/1.

Technical Performances

The tests to which the body of the compression fitting ASTORE is subjected follow the norms ISO 14236 and ISO FDIS 17885 .These involve passing the duration test of 1h - at 20 °C - to 2,5xPN , and another one to 1000 h - 95 ° C - in 0,4xPN .
The tests of pull- out of the complete coupling are governed by the same ISO 14236 and ISO FDIS 17885 and must meet the strength requirements without slipping at 20°C for 1 h values of tensile strain defined in Table 11 (eg. For pipe PE 100 SDR11 external diameter of 32 mm and the load will be of 295 Kg).
In addition, another requirement by this law is the overcoming of the Bending test, which consists in subjecting the joint and a portion of a pipe connected to it at a pressure of 1,8xPN at 20 °C in special conditions of stress and with the curved pipe.

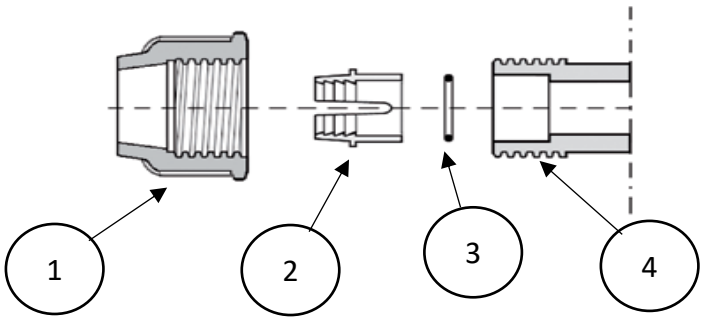
All components of the compression fittings ASTORE are in agreement with Italian Ministerial Decree 174/2004 which regulates the materials permitted to be used for drinking water.

Technical features

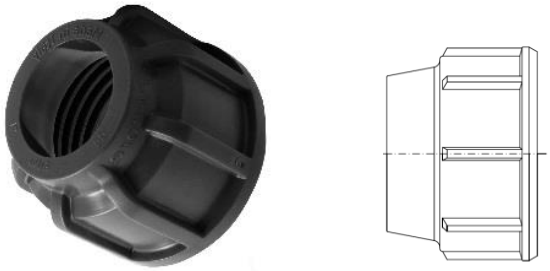
ASTORE compression fittings range provide two different models according to the coupling diameter of the pipe. This ensures the maximum reliability in all operating conditions of the product. More precisely, the first one is provided with diameters from d.16 to d.63, the other one includes diameters traditionally considered large d.75/110.

D.16 – 63: components detail

It is composed of 4 elements: nut, clinching ring, seal and body



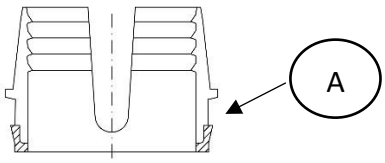
1) Nut



The compression fitting ASTORE has a highly ergonomic design, it has ribs that facilitate the grip for both hands and for any key for tightening. It is printed in PP copolymer type B and thanks to the special black pigmentation is UV-resistant.

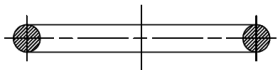
The tightening of the nut until d.32 can be done by hand without mechanical equipment, while from the d.40 onwards it is recommended the use of an appropriate key.

2) Clinching ring



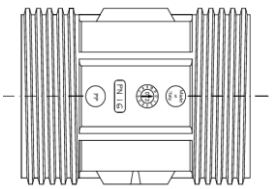
Printed in POM (polyoxymethylene) white. The raw material is particularly rigid and therefore suitable for the grafting on the pipe in PE. **The special " flower " shape of the ring allows 4 grip points on four rows of teeth , a seal ring and therefore safer and integral with the pipe . The ring is also provided with a tooth (A) retaining the body: this allows the connection to the body at the moment of the removal of the ring, avoiding unpleasant "fall" of the ring.**

3) O-ring



Made of elastomer NBR (Nitrile-Butadiene-Rubber) toroidal shaped, completely smooth and not deformable, this allows a better durability than other types.

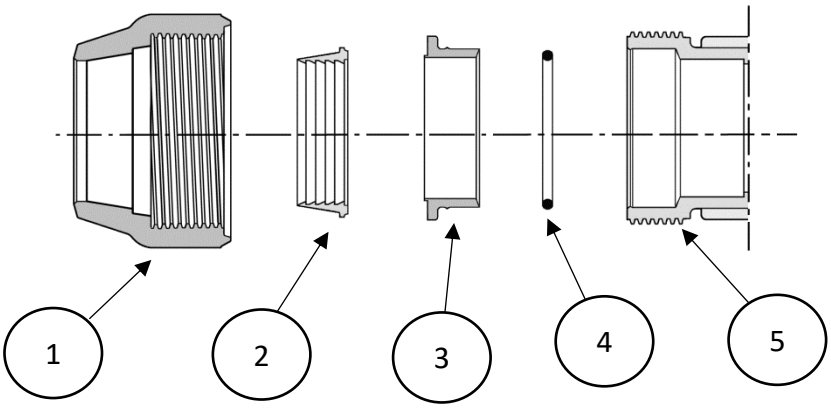
4) The body



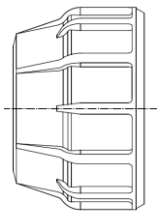
Printed in PP copolymer type B, UV-resistant thanks to the special black pigmentation. Strong design, it is provided with a large range of products (tee, couplings, elbows, etc.) designed to meet the different needs of the installer.
The threaded bodies provide, starting from r.1 1/4 ", a metal reinforcement on the external part of the thread made of steel AISI 430: this is to make it stronger and secure the threaded joint.

D.75 – 110: components detail

In these diameters there are 5 components, the mechanical stresses to which they are subjected d.75-90-110 suggest a different design for performance improvement: nut, clinching ring, presser bush and seal body

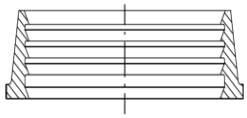


1) Nut



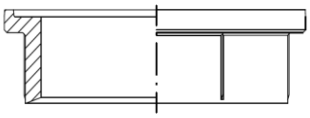
Even in large diameters the rings are strong and the ribs are even more marked to facilitate the use of the key for tightening. Moulded in PP copolymer type B, UV-resistant thanks to the black pigmentation.

2) Clinching ring



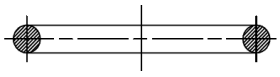
Also printed in this POM (polyoxymethylene) white. In this case the ring is open with five rows of teeth. The traditional shape, in these diameters, offers greater guarantees, especially in the use in curved pipes and in case it were necessary to re-use the same joint.

3) Presser bush



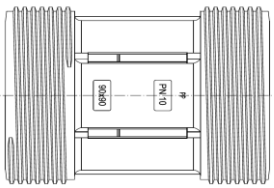
Printed in black PP, as body and nut, this is positioned between clinching ring and seal, ensuring the connection between the two components and the mechanical and hydraulic sealing.

4) O-ring



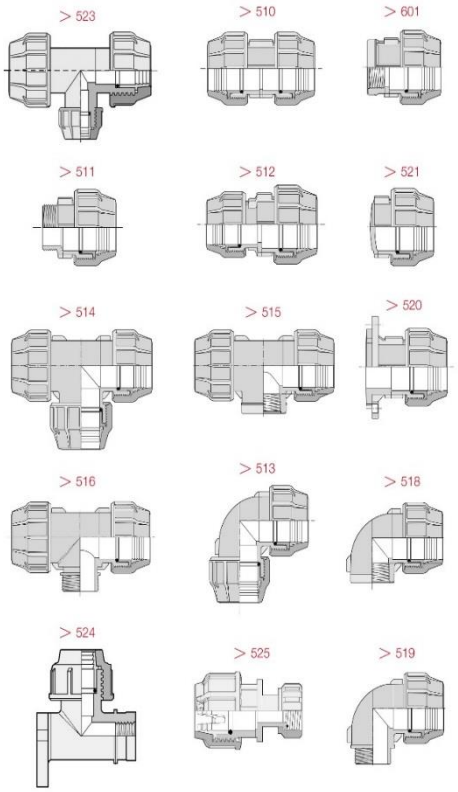
Made of elastomer NBR (Nitrile- Butadiene- Rubber) in a toroidal shape, completely smooth and not deformable, this allows a better durability than other types of sealing.

5) The body



Printed in PP copolymer type B UV-resistant due to the special black pigmentation. Strong design, provides many handy shapes (tee, couplings, elbows, etc.) designed to meet the different needs of the installer.
The threaded bodies provide from r.1 1/4 " a metal reinforcement on the external part of the thread made of steel AISI 430: this is to secure the threaded junction.

The range



The range includes numerous figures, tees, elbows, couplings, wallbrackets, etc, all products for troubleshooting connection that can help the installer to solve daily problems.

Installation procedures

For each group of diameters Astore suggests a different installation. This is a good rule to follow with special care.

INSTALLATION D 16÷40

1. Cut the pipe at 90 ° with respect to its axis by using a pipe cutter (Figure 1).
2. Any burrs and chips resulting from the cutting must be removed from the pipe
A small chamfering at the end of the pipe will make the assembly easier
3. Loosen the coupling nut to the last thread in the socket (it is not necessary to remove the joint).
4. Insert the pipe into the joint up to the stop (Figure 2).
5. Screw the nut tightly. Until D.32 the nut can be screwed manually; from D.40 it is suggested to use the appropriate key (Figure 3)

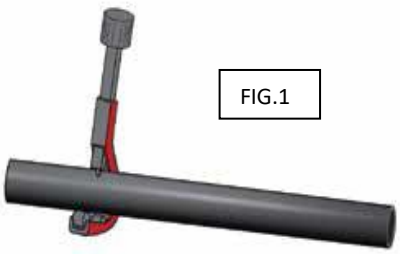
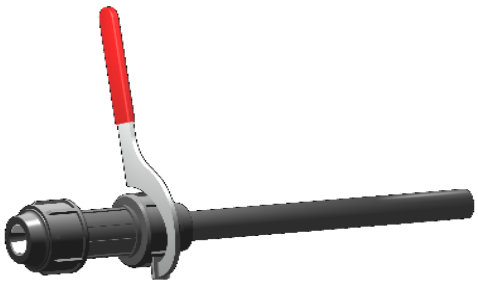


FIG.1

FIG.2

FIG.3



INSTALLATION D 50÷90

1. Cut the pipe at 90 ° to its axis using a pipe cutter.
2. Any burrs and chips resulting from the cutting must be removed from the pipe.
3. Insert these items on the pipe in the following order: the ring, the clinching ring, the presser bush (for D.75 and D.90) and put the o'ring onto the pipe inlet. Before this operation for D.75 and D.90 lubricate the pipe and the gasket for an easier insertion (Figure 1).
4. Insert the joint body until the seal beats in the body itself (Figure 2).
5. Slide the presser bush and the clinching ring on the pipe (Figure 3).
6. Tighten the nut on the bottom with the aid of a key appropriate key.


FIG.1


FIG.2


FIG.3

INSTALLATION D 110

1. Cut the pipe at 90 ° to its axis by using a pipe cutter.
2. Insert the pipe in order: the ring, the presser bush seal and the body of the joint. Before this operation, lubricate both the pipe and the seal to make the insertion easier (figure 1).
3. Tighten the nut to allow the introduction of the seal until it beats in the body (Figure 2).
4. Unscrew the ring nut, open the clinching ring and insert it into the pipe. Then tightly screw the ring nut with the help of appropriate tightening key. (Figure 3).


FIG.1

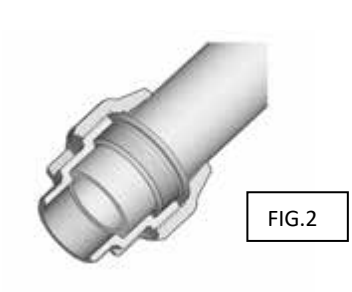


FIG.2


FIG.3

TIGHTENING KEY

As mentioned above, from d.40 onward, it is suggested the use of an appropriate key for tightening the nut. The range ASTORE is provided with two types of keys: the smallest is to be used for smaller from d.40 till d. 63, while the second one is dedicated to bigger diameters till D.110. The presence of teeth in the curved part of the tool (A), is perfectly coupled with the ribs of the nuts of the joint.