TIEMME
ORIGINAL ITALIAN TRADEMARK

EN

3460W / 3460 / 3460CR / 3460DR / 1460

“COBRARING”

COMPRESSION FITTINGS WITH O-RING

FOR PE / PE-HD / PEX PIPE

DESCRIPTION

Tiemme compression fittings with O-ring seals for PE, PE-HD and PEX pipes adapt to any type of heating/cooling and sanitation sytem, with application in residential, commercial, industrial and agricultural sectors, with compressed air and, in general, with any kind of non-corrosive fluid.

The 3460CR series fittings are also suitable for use with natural gas and LPG. However, for this type of application, the use of reinforcing bushing Art. 1475 is required. For further details, see the "INSTRUCTIONS FOR CORRECT ASSEMBLY" section of this data sheet.

They are characterised by their sealing mechanism which is created by tightening the nut on the fitting body.
When the nut is tightened, the internal cut ferrule is compressed between the nut and the main body of the fitting;
The latter, via the seal-press, compresses the O-ring seal onto the body of the fitting, to guarantee sealing against the hydraulic pressure of the system.

ADVANTAGES / STRENGTHS

- Wide variety of installation applications: ideal paired with PE (PE-40), PE-HD (PE-80 and PE-100), PEX pipes (and in addition to multilayer pipe diameters 40 - 50 - 63 - 75 and 90 mm, when used in combination with reinforcement bushing Art. 1476).
- Suitable for the transport of natural gas and LPG (3460CR series)
- Wide range available, for every installation need:
  - Connection diameters from 20 to 110 mm.
  - Compact series / Standard series.
  - Series made in CW602N anti-dezincification brass: this alloy has the property of inhibiting the dissolution of the zinc contained in it, to offer greater structural reliability of the fitting over time, while preventing the distribution of external metals into the water being conveyed. **RINA certified series, also suitable for applications in ship-building.**

PRODUCTION RANGE

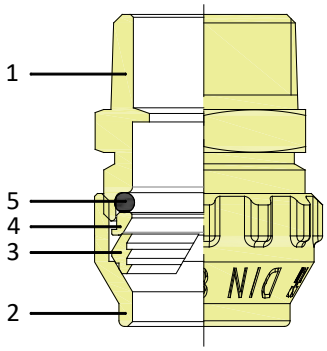
Compression fittings with O-ring seals for PE, PE-HD, PEX pipes are available in a wide range of sizes (from Ø 20 to Ø 110 mm), different configurations (straight, curved, T-shaped, etc.), with different types of connections (female threaded connections, male threaded connections, intermediate connections etc ...), and in different versions (compact version, standard version, version with ferrule in acetal resin and a version made of CW602N anti-dezincification brass), to meet all kinds of plant engineering requirements.

See the MASTER catalogue for the full range.

CONSTRUCTION SPECIFICATIONS

3460W Series (compact version)

- **(1)** Fitting body: CW617N Brass
- **(2)** Nut: CW617N Brass
- **(3)** Ferrule: CW617N Brass
- **(4)** Seal-press: CW617N Brass
- **(5)** O-ring seal: NBR
- Threads: F ISO 228
  M ISO 228



3460 Series (compact version / ferrule and seal-press in acetal resin)

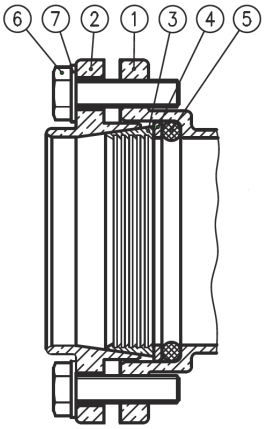
- **(1)** Fitting body: CW617N Brass
- **(2)** Nut: CW617N Brass
- **(3)** Ferrule: POM
- **(4)** Seal-press: POM
- **(5)** O-ring seal: NBR
- Threads: F ISO 228
  M ISO 228

3460CR Series (standard version / suitable for the transport of natural gas and LPG)

- **(1)** Fitting body: CW617N Brass
- **(2)** Nut: CW617N Brass
- **(3)** Ferrule: CW617N Brass
- **(4)** Seal-press: CW617N Brass
- **(5)** O-ring seal: NBR
- Threads: F ISO 7/1 (EN 10226) Cylindrical RP
  M ISO 7/1 (EN 10226) Conical R

3460DR Series (version made of CW602N anti-dezincification brass)

- **(1)** Fitting body: CW602N Anti-dezincification brass
- **(2)** Nut: CW617N Brass
- **(3)** Ferrule: CW617N Brass
- **(4)** Seal-press: CW617N Brass
- **(5)** O-ring seal: NBR
- Threads: F ISO 7/1 (EN 10226) Cylindrical RP
  M ISO 7/1 (EN 10226) Conical R



1460 Series (large diameter version: ø75 - 90 – 110 mm)

- **(1)** Fitting body: CW617N Brass
- **(2)** Flange: CW617N Brass
- **(3)** Ferrule: CW617N Brass
- **(4)** Seal-press: CW617N Brass
- **(5)** O-ring seal: NBR
- **(6)** Bolts: Steel
- **(7)** Washers: Steel
- Threads: F ISO 228
  M ISO 228

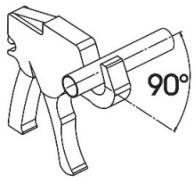
TECHNICAL SPECIFICATIONS

- Maximum working temperature: + 110 °C
- Minimum working temperature: - 20 ° C (provided that the fluid remains in the liquid phase)
- Maximum working pressure (with water): 30 bar * (3460W / 3460CR / 3460DR Series) 25 bar * (1460/3460 Series)
  (compressed air): 10 bar (3460W / 3460 / 3460CR / 3460DR Series) 7 bar (1460 Series)
  (with gas): MOP5 (Serie 3460CR)
- Compatibility: Drinking water, water and glycol solutions (maximum percentage of glycol 30%) compressed air, natural gas and LPG (3460CR Series) non corrosive fluids **

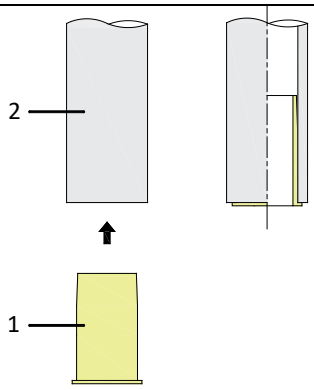
* Maximum pressure permitted in the "system" (pipe - fitting) in accordance with the characteristics of the pipe used.
** To check compatibility with fluids or other substances not listed, please contact the Tiemme Technical Dept.

INSTRUCTIONS FOR CORRECT ASSEMBLY

To obtain a perfect join between fitting/pipe, some simple but important operations must be carried out:

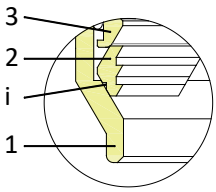


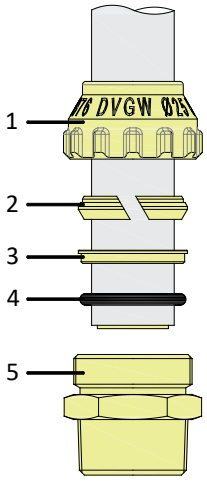
Pipe cutting and deburring:
The pipe must be cut perpendicular to its axis
The use of hacksaws or angle grinders must be avoided as they could deform the pipe.
Recommended tools: Up to Ø 32 mm **Art. 1495** - over Ø 32 mm **Art. 1683**
Deburr the pipe internally and especially externally to eliminate any residual chips and particularly accentuated edges. Use appropriate tools.



Inserting the reinforcement bushing into the pipe:
Insert the reinforcement bushing **(1) (Art. 1475** or **Art. 1476)** into the end of the pipe **(2),** up to the stop. Check that the bushing is compatible with the dimensions of the pipe (external Ø x thickness of the pipe wall).
This operation is required exclusively for certain fields of application and in combination with certain types of pipes:

Field of application	Type of pipe	"COBRARING" fittings suitable for use	Reinforcement bushing to be provided
Hot water	PE / PE-HD / PEX	All Series	Art. **1475**
Natural gas or LPG	PE-HD	**3460CR Series**	Art. **1475**
Hot or cold water	AL-COBRAPEX Multilayer	All Series	Art. **1476**





Connecting the pipe to the fitting:
It is not essential to disassemble the nut for a correct installation of the fitting on the pipe (in this case it is very important that the pipe be deburred correctly on the external side so as not to damage the sealing o-ring).
When disassembling the nut, slide onto the pipe all of the fitting components in the following order:
- nut **(1)**
- pipe clamp ferrule **(2)**: the small external incision on the ferrule **(i)** must be strictly directed towards the nut.
- seal-press **(3)**
- O-ring seal **(4)**

Tightening the nut:
This operation is easier if the ferrule and the seal-press ring are lubricated with silicone oil or water. For domestic water distribution applications, make sure that the silicone oil used is suitable for food application.
The use of a different lubricant could damage the fitting's seals.
Make sure that the oil used is compatible with the construction materials of the fitting.
Tighten the nut **(1)** onto the body **(5)** as far as possible by hand and then with the help of a wrench, respecting the tightening turns shown in the table:

Ø ext. pipe (mm)	20	25	32	40	50	63
no. turns (min*. - max.)	1 - 1.5	1 - 1.5	1 - 1.5	1.5 - 2	1.5 - 2	1.5 - 2

* The **min.** value refers to the pipe with reinforcing bushing.

Tools for the sealing of the nut:
The special carvings on the nut facilitate sealing operations and allow the use of different tools (for instance Stillson wrench, adjustable wrench), thereby allowing maximum installation flexibility.

Tightening the flange: In the case of the 1460 series fittings, tighten the flange one bolt after another, following the "cross-shaped" order. Tighten the nuts by hand so as to detect any defective or hard threads. In this case, replace the screws or nuts.
Turn the torque wrench clockwise. The optimal tightening torque value is **50 Nm.**

IMPORTANT: Carrying out the following operations incorrectly, may compromise the tightness of the joint.

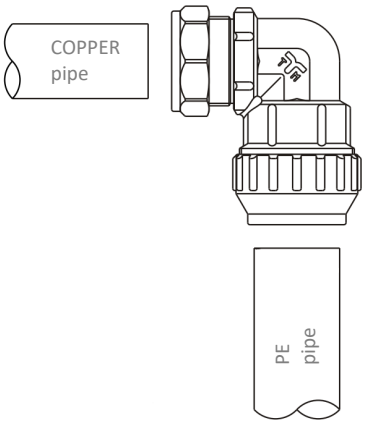
NEVER:
- Use incompatible or harmful substances.
- Use these fittings for chased installation.
- Connect plastic pipe directly to boilers, water heaters or any other source of heat: we recommended using a joint with a metal pipe for a length of at least one metre to protect the plastic pipe from any malfunction of heat generators.

SOME POSSIBLE CAUSES OF LEAKS:
- Incorrect tightening of the nut onto the fitting (comply with the indications provided by Tiemme on the number of tightening turns).
- Excessive force used when tightening the nut.
- Presence of external scratches on the pipe.
- Connection with other incompatible products.
- Incompatible fluids.
- Excessive use of sealants (e.g. hemp, PTFE tape etc...) on male/female threads could generate tension in the fittings.
- Freezing of the system or excessive internal pressure.
- Storage of materials in unsuitable environments.
- Unpredictable external causes, such as accidental impacts or inappropriate movements.

TIEMME RACCORDERIE S.p.A. will accept no responsibility for breakages and/or accidents resulting from failure to comply with these indications and from improper use of the system. The information shown does not exempt the user from scrupulously following current regulations and good technical standards.

SPECIAL VERSIONS: COMBINED FITTINGS FOR PE PIPE / COPPER PIPE

In order to provide maximum versatility in installations, Tiemme offers a range of fittings that allow for the connection of Ø40 mm PE PIPE with Ø28 mm copper pipe.
These fittings are supplied complete with reinforcement bushing Art. 1475



Nut tightening table		
Ø ext. pipe (mm)	40 (PE pipe)	28 (COPPER pipe)
no. turns (min*. - max.)	1.5 - 2	1

* The **min.** value refers to the pipe with reinforcing bushing.

Art. 3493
Curved "COMBI" fitting.

See the product catalogue for order codes / further details.
For technical specifications regarding connection on the copper pipe side, see the technical data sheet of the **1000 and 1100 Series** fittings.

ACCESSORIES

Art. 1475
Reinforcement bushing.
Suitable for application with hot water, natural gas and LPG.

Art. 1476
Reinforcement bushing.
Suitable for application with multilayer pipe.

See the product catalogue for order codes / further details.

ITEM SPECIFICATIONS

3460W Series

Compact compression fitting with O-ring for PE, PE-HD and PEX multilayer pipe, made up of: body in CW617N brass, nut in CW617N brass, ferrule in CW617N brass, seal-press in CW617N brass, O-ring in NBR, ISO 228 threads. Maximum working temperature: + 110 °C. Minimum working temperature: - 20 °C (provided that the fluid remains in the liquid phase). Maximum working pressure: 30 bar (with water), 10 bar (with compressed air).
Compatibility: Drinking water, water and glycol solutions (maximum percentage of glycol 30%), compressed air.
Production range: from Ø 20 to Ø 63 mm, different configurations (straight, curved, T-shaped etc.) and with different types of connections (Female threaded connections, Male threaded connections, intermediate compression connections).

3460 Series

Compact compression fitting with O-ring for PE, PE-HD and PEX multilayer pipe, made up of: CW617N brass body, CW617N brass nut, POM ferrule, POM seal-press, NBR O-ring seal, ISO 228 threads.
Maximum working temperature: + 110 °C. Minimum working temperature: - 20 °C (provided that the fluid remains in the liquid phase). Maximum working pressure: 25 bar (with water), 10 bar (with compressed air).
Compatibility: Drinking water, water and glycol solutions (maximum percentage of glycol 30%), compressed air.
Production range: from Ø 20 to Ø 63 mm, different configurations (straight, curved, T-shaped etc.) and with different types of connections (Female threaded connections, Male threaded connections, intermediate compression connections).

3460CR Series

Compact compression fitting with O-ring for PE, PE-HD and PEX multilayer pipe, made up of: body in CW617N brass, nut in CW617N brass, ferrule in CW617N brass, seal-press in CW617N brass, O-ring in NBR, ISO 7/1 (EN 10226) threads.
Maximum working temperature: + 110 °C. Minimum working temperature: - 20 °C (provided that the fluid remains in the liquid phase). Maximum working pressure: 30 bar (with water), 10 bar (with compressed air). MOP 5 (with natural gas or LPG).
Compatibility: Drinking water, water and glycol solutions (maximum percentage of glycol 30%), compressed air, natural gas and LPG.
Production range: from Ø 20 to Ø 63 mm, different configurations (straight, curved, T-shaped etc.) and with different types of connections (Female threaded connections, Male threaded connections, intermediate compression connections).

3460DR Series

Compression fitting with O-ring for PE, PE-HD and PEX multilayer pipe, made up of: body in CW602N anti-dezincification brass, nut in CW617N brass, ferrule in CW617N brass, seal-press in CW617N brass, sealing O-ring in NBR, ISO 7/1 (EN 10226) threads.
Maximum working temperature: + 110 °C. Minimum working temperature: - 20 °C (provided that the fluid remains in the liquid phase). Maximum working pressure: 30 bar (with water), 10 bar (with compressed air).
Compatibility: Drinking water, water and glycol solutions (maximum percentage of glycol 30%), compressed air.
Production range: from Ø 20 to Ø 63 mm, different configurations (straight, curved, T-shaped etc.) and with different types of connections (Female threaded connections, Male threaded connections, intermediate compression connections).

1460 Series

Compression fitting with O-ring for PE, PE-HD and PEX multilayer pipe, made of: body in CW617N brass, flange in CW617N brass, ferrule in CW617N brass, seal-press in CW617N brass, sealing O-ring in NBR, steel bolts and washers, ISO 228 threads.
Maximum working temperature: + 110 °C. Minimum working temperature: - 20 °C (provided that the fluid remains in the liquid phase). Maximum working pressure: 25 bar (with water), 7 bar (with compressed air).
Compatibility: Drinking water, water and glycol solutions (maximum percentage of glycol 30%), compressed air.
Production range: from Ø 75 to Ø 110 mm, different configurations (straight, curved, T-shaped etc.) and with different types of connections (Female threaded connections, Male threaded connections, intermediate compression connections).

CERTIFICATIONS

3460W - 3460 - 1460 series

3460CR series

3460DR series