

# COOL-FIT 2.0

# The revolution for efficient cooling



COOL-FIT 2.0

# Your solution for chilled water

The efficiency of a cooling plant is defined by the system's Coefficient of Performance (COP), the heat transfer rate at the air cooler and the efficiency of the chilled water piping system. As a contribution to the worldwide initiative to reduce CO<sub>2</sub> emissions and their environmental impact, GF Piping Systems brings a revolution to efficient cooling.



The COOL-FIT 2.0 PE100 pipes and fittings are insulated with 22 mm of high energy efficient (HE) foam and protected with a robust jacket. COOL-FIT 2.0 is the corrosion and condensation free solution for the transport of chilled water inside residential and commercial buildings as well as data centers and for process cooling. The smooth inner surface of the PE100 pipe provides a minimum pressure loss while the low thermal conductivity of the insulation ensures reduced energy loss and running costs for a life time. The 3-in-1 construction keeps installation time to a minimum.

**50%** faster installation

**30%** better energy efficiency

**100%** corrosion free

## Take advantage of these benefits

### + Building owners

#### Minimized energy loss

Top quality insulation thickness and density throughout the entire system.

#### Light weight

Ideal for retrofitting of prestigious buildings  
30% less weight than traditional metal systems.

#### Hard external jacket

Vapour and moisture tight construction, mechanically loadable.

#### Low CO<sub>2</sub> footprint

CFC free and recyclable. Zero ODP.

### + General contractors and installers

#### Build more in less time

3-in-1: pipe, insulation and jacket in one step.

#### Reliable easy jointing

No hot works for the electrofusion jointing process.

#### Simple installation

The hard external jacket allows for simple, easy assembly with standard brackets.

#### Light weight and easy to handle

Up to d110 mm no need for lifts or special devices to handle on-site.

#### Off-site pre-fabrication

Reduced on-site labor time.

### + Planners and consultants

#### Easy and accurate planning

Planning fundamentals, CAD library, BIM compatible.

#### Complete compatible system – clearly defined interfaces

Insulated pipes, fittings, valves, clearly defined interfaces, flexible hoses – one system, one team, one producer.

#### A system for life

Corrosion and condensation free, moisture and vapour tight, low pressure loss and energy efficient.

#### State-of-the-art jointing technology

Machine controlled quality.

## Application areas



# Cooling system within the water cycle

Modern cities are constantly growing and changing. This increases the expectations of efficiency and performance of all types of devices. Their use raises enormous amounts of heat increasing the need for air conditioning.

Air conditioning also plays an important role in everyday life, as the ambient temperature affects people's well-being and productivity - whether at work or during leisure time, at home or traveling.

GF Piping Systems offers its unique and extensive COOL-FIT range for all types of cooling requirements. The COOL-FIT ABS Plus and COOL-FIT PE Plus portfolio for industrial cooling is now complemented with the new COOL-FIT 2.0 for cold water applications.



**1) Airport**

**2) Office building**

**3) Data center**

**4) Hospital**

**5) Hotel**

**6) Apartment**

**7) Shopping center**

**8) Sports center / leisure center**

**9) University**

**10) Bank / public institutions**

Air conditioning

# Comfort cooling

Apartments and office buildings, hotels, universities and schools, banks, shopping centers, airports, cinemas and theaters, sports and event facilities. Air conditioning improves the quality of life both at work, at home and at leisure venues.

The “ready-to-install” COOL-FIT 2.0 is a revolution for efficient cooling.

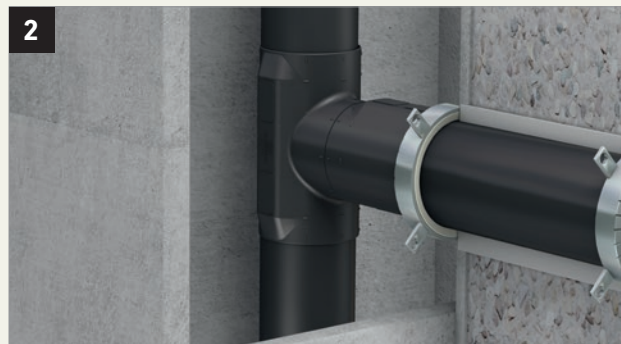




### Connection to fan coils

Pre-fabricated insulated hoses to the transition union prevent corrosion.

- Insulated valves
- Pre-insulated hoses
- Pre-insulated transitions



### Risers

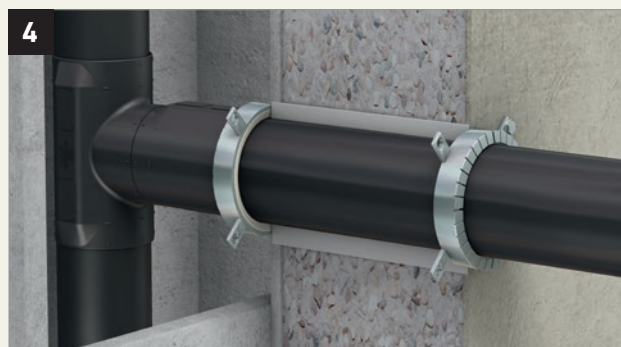
Post-insulation in vertical service channels is time-consuming and difficult.

- Pre-insulated pipes in large dimensions



### Reduced branches

- Pre-insulated reduced tees
- Pre-insulated transition fittings: ecoFIT, iFIT and traditional metal systems



### Fire wall penetrations

Safe pipe wall penetrations with tried and tested existing products.

- Proved and certified solution for COOL-FIT 2.0



### Emergency exits

Should the pipe system enter an emergency exit, pipe with A2 class insulation is available as standard.

- Certified mineral wool solutions
- Certified brackets



### Coolinglines for outdoor use

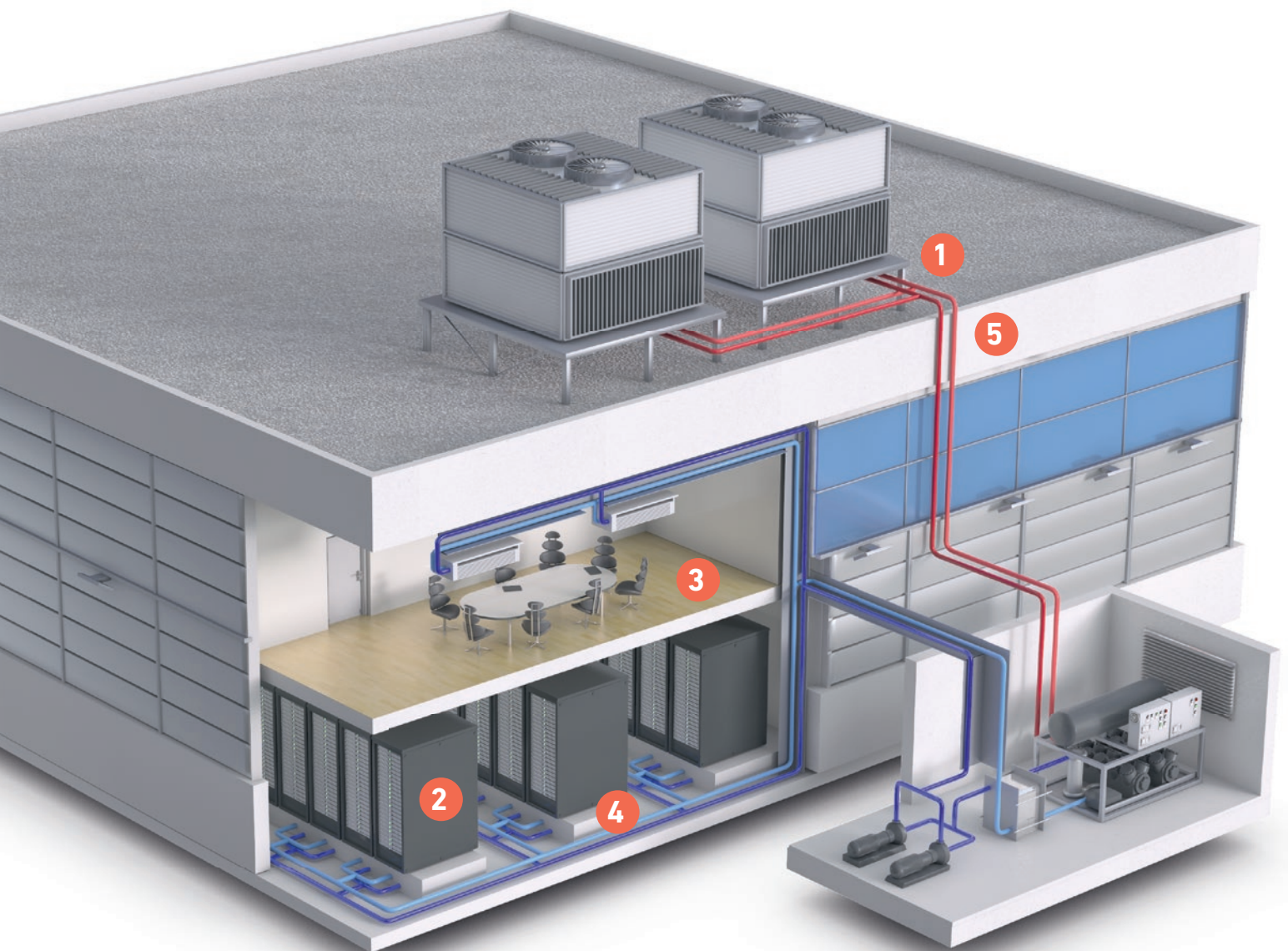
For outdoor applications GF offers alternative, pre-insulated systemsolutions.

- Please contact GF

# Safe cooling

On average, 70% of data center power is converted into heat, as announced at the annual Green Data Center Conference\*. COOL-FIT 2.0 is the safe piping solution for an effective and efficient design, supply, installation and management of the cooling systems of a data center.

The “ready-to-install” COOL-FIT 2.0 is a revolution for efficient cooling.



\* Statement at the Green Data Center Conference, 2014.



### Connection to cooling towers

Many types of transitions enable the connection to adjoining systems.

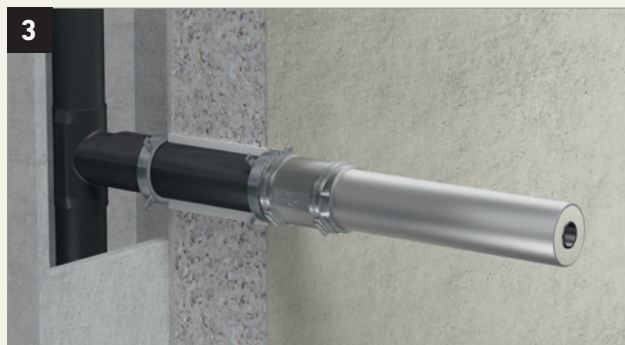
- Pre-insulated transitions to metal threaded systems and standard flanges



### Rack cooling

Simple pre-insulated connection to all computer racks.

- Pre-insulated hoses provide simple connection to cooling back panels
- Pre-insulated valves for individual circuit control
- Pre-insulated transitions
- Machine guided welding process with traceability



### Highly frequented areas

When a lower burning load or metallic finishing is required.

- COOL-FIT 2.0 M with metal jacket provides increased fire classification
- Certified brackets
- Metal jacket for aesthetics



### Electrofusion

Helps to avoid installer errors.

- Machine controlled fusion process with traceability



### Coolinglines for outdoor use

For outdoor applications GF offers alternative, pre-insulated systemsolutions.

- Please contact GF



## System overview

# More than a system

All COOL-FIT 2.0 items are pre-insulated. Products which need to be maintained, such as valves, are delivered with removable insulation.

### COOL-FIT 2.0

|                                                                                     |                     | d25 mm | d32 mm | d40 mm | d50 mm | d63 mm | d75 mm | d90 mm | d110 mm | d140 mm |
|-------------------------------------------------------------------------------------|---------------------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
|    | Pipes PN16          | –      | ●      | ●      | ●      | ●      | ●      | ●      | ●       | ●       |
|                                                                                     | Couplers            | –      | ●      | ●      | ●      | ●      | ●      | ●      | ●       | ●       |
|    | Elbows 90° / 45°    | –      | ●      | ●      | ●      | ●      | ●      | ●      | ●       | ●       |
|                                                                                     | T-90° equal         | –      | ●      | ●      | ●      | ●      | ●      | ●      | ●       | ●       |
|                                                                                     | T-90° reduced       | –      | –      | –      | –      | ●      | ●      | ●      | ●       | ●       |
|                                                                                     | Reducers            | –      | –      | ●      | ●      | ●      | ●      | ●      | ●       | ●       |
|  | Flexible hoses      | ●      | ●      | ●      | ●      | –      | –      | –      | –       | –       |
|                                                                                     | Ball valves         | –      | ●      | ●      | ●      | ●      | ●      | –      | –       | –       |
|                                                                                     | Butterfly valves    | –      | –      | –      | –      | –      | –      | ●      | ●       | ●       |
|  | Transition fittings | –      | ●      | ●      | ●      | ●      | ●      | ●      | ●       | ●       |
|                                                                                     | Fixed points        | –      | ●      | ●      | ●      | ●      | ●      | ●      | ●       | ●       |

### COOL-FIT 2.0 M

|                                                                                     |            |   |   |   |   |   |   |   |   |   |
|-------------------------------------------------------------------------------------|------------|---|---|---|---|---|---|---|---|---|
|  | Pipes      | – | ● | ● | ● | ● | ● | ● | ● | – |
|                                                                                     | Couplers   | – | ● | ● | ● | ● | ● | ● | ● | – |
|                                                                                     | Elbows 90° | – | ● | ● | ● | ● | ● | ● | ● | – |
|                                                                                     | T90° equal | – | ● | ● | ● | ● | ● | ● | ● | – |

### Tools

|                                                                                     |                |   |   |   |   |   |   |   |   |   |
|-------------------------------------------------------------------------------------|----------------|---|---|---|---|---|---|---|---|---|
|  | Tools          | – | ● | ● | ● | ● | ● | ● | ● | ● |
|                                                                                     | Fusion machine | – | ● | ● | ● | ● | ● | ● | ● | ● |

## + Compatible systems



ecoFIT PE100



iFIT

## Material properties

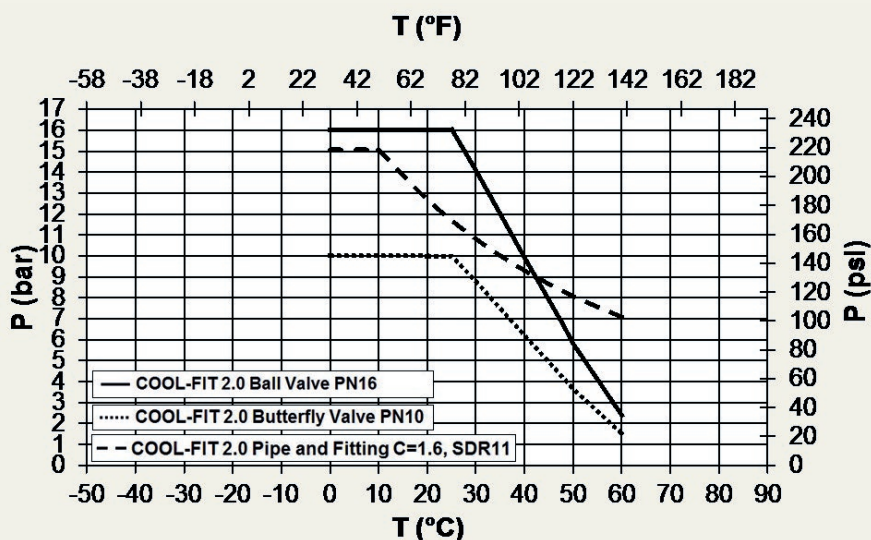
|                                   |                                        |                                                                    |
|-----------------------------------|----------------------------------------|--------------------------------------------------------------------|
| <b>Materials*</b>                 | Media pipe                             | PE100                                                              |
|                                   | Insulation                             | GF HE foam, CFC free, closed cell                                  |
|                                   | Outer jacket                           | Pipe: HDPE, fitting: GF HE Foam                                    |
| <b>Dimensions</b>                 |                                        | d32 - d140 (DN25 - DN125)                                          |
| <b>Joining technology</b>         |                                        | Electrofusion welding                                              |
| <b>Pressure rating</b>            |                                        | 16 bar, SDR11                                                      |
| <b>Insulation</b>                 | Thermal conductivity $\lambda$ at 20°C | $\leq 0.022$ W/mK                                                  |
|                                   | Density                                | $\geq 55$ kg/m <sup>3</sup>                                        |
|                                   | Foam cell size                         | max. $\varnothing$ 0.5 mm                                          |
|                                   | Thickness (Nominal)                    | 22 mm                                                              |
| <b>Temperature</b>                | Medium                                 | 0° C to +60° C                                                     |
| <b>Weight</b><br>(without liquid) | Pipe d32                               | 1.14 kg/m                                                          |
|                                   | Pipe d140                              | 9.02 kg/m                                                          |
| <b>Environment</b>                | Resistance                             | Water and vapour-tight                                             |
|                                   | Ozone depleting potential              | Zero                                                               |
| <b>Standards</b>                  | EN ISO 15494                           | Plastic piping systems for industrial applications - Metric series |
|                                   | ISO 7                                  | Threaded joints                                                    |
|                                   | EN ISO 16135, EN ISO 16138             | Industrial valves                                                  |

\* All three materials are permanently joined to each other.

## Pressure / temperature

Medium: water

Minimum design life-span 25 years



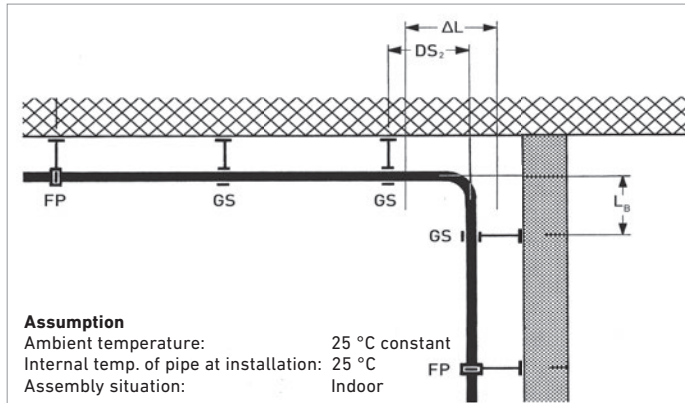
Remark: For water-glycol mixture  $\leq 50\%$ , the reduction factor for the pressure-temperature diagram is 1.1.

For PN 16, the security factor is 1.25.

P Medium pressure (bar, psi)  
T Medium temperature (°C, °F)  
C Safety factor

## Planning fundamentals COOL-FIT 2.0

### + Definition of flexible sections COOL-FIT 2.0



#### Expansion / contraction

The expansion and contraction of pipes is dependent on the cooling fluid temperature, the ambient temperature and the change of both temperatures in an application. It does not have a material expansion-/contraction factor as for standard pipes.

Use the COOL-FIT Calculation Tool to determine detailed, application specific values.

#### Length changes $\Delta L$ in [mm] at 20° C liquid temp.

| L [m]   | 25    | 50    | 100   | 150   |
|---------|-------|-------|-------|-------|
| d32 mm  | -6.0  | -12.0 | -24.0 | -36.0 |
| d40 mm  | -7.0  | -15.0 | -29.0 | -44.0 |
| d50 mm  | -10.0 | -19.0 | -38.0 | -58.0 |
| d63 mm  | -10.0 | -19.0 | -38.0 | -58.0 |
| d75 mm  | -11.0 | -21.0 | -43.0 | -64.0 |
| d90 mm  | -12.0 | -24.0 | -48.0 | -72.0 |
| d110 mm | -13.0 | -27.0 | -54.0 | -81.0 |
| d140 mm | -14.0 | -27.0 | -55.0 | -82.0 |

#### Length changes $\Delta L$ in [mm] at 15° C liquid temp.

| L [m]   | 25    | 50    | 100    | 150    |
|---------|-------|-------|--------|--------|
| d32 mm  | -12.0 | -24.0 | -49.0  | -73.0  |
| d40 mm  | -15.0 | -29.0 | -58.0  | -87.0  |
| d50 mm  | -19.0 | -38.0 | -77.0  | -115.0 |
| d63 mm  | -19.0 | -38.0 | -76.0  | -115.0 |
| d75 mm  | -21.0 | -43.0 | -85.0  | -128.0 |
| d90 mm  | -24.0 | -48.0 | -96.0  | -144.0 |
| d110 mm | -27.0 | -54.0 | -108.0 | -161.0 |
| d140 mm | -27.0 | -55.0 | -109.0 | -164.0 |

#### Length changes $\Delta L$ in [mm] at 10° C liquid temp.

| L [m]   | 25    | 50    | 100    | 150    |
|---------|-------|-------|--------|--------|
| d32 mm  | -18.0 | -36.0 | -73.0  | -109.0 |
| d40 mm  | -22.0 | -44.0 | -87.0  | -131.0 |
| d50 mm  | -29.0 | -58.0 | -115.0 | -173.0 |
| d63 mm  | -29.0 | -57.0 | -115.0 | -172.0 |
| d75 mm  | -32.0 | -64.0 | -128.0 | -191.0 |
| d90 mm  | -36.0 | -72.0 | -144.0 | -216.0 |
| d110 mm | -40.0 | -81.0 | -161.0 | -242.0 |
| d140 mm | -41.0 | -82.0 | -164.0 | -246.0 |

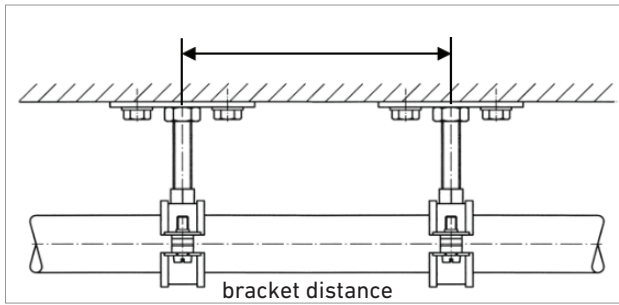
#### Length changes $\Delta L$ in [mm] at 5° C liquid temp.

| L [m]   | 25    | 50     | 100    | 150    |
|---------|-------|--------|--------|--------|
| d32 mm  | -24.0 | -49.0  | -97.0  | -146.0 |
| d40 mm  | -29.0 | -58.0  | -116.0 | -175.0 |
| d50 mm  | -39.0 | -77.0  | -154.0 | -231.0 |
| d63 mm  | -38.0 | -76.0  | -153.0 | -229.0 |
| d75 mm  | -43.0 | -85.0  | -170.0 | -255.0 |
| d90 mm  | -48.0 | -96.0  | -192.0 | -288.0 |
| d110 mm | -54.0 | -108.0 | -215.0 | -323.0 |
| d140 mm | -55.0 | -109.0 | -218.0 | -327.0 |

#### Flexible sections $L_B$ in [cm]

| $\Delta L$ [mm] | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 | 150 | 200  | 300 |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|
| d32             | 71  | 101 | 123 | 142 | 159 | 174 | 188 | 201 | 214 | 225 | 276 | 318  | 390 |
| d40             | 78  | 110 | 135 | 156 | 174 | 191 | 206 | 221 | 234 | 247 | 302 | 349  | 427 |
| d50             | 78  | 110 | 135 | 156 | 174 | 191 | 206 | 221 | 234 | 247 | 302 | 3490 | 427 |
| d63             | 86  | 122 | 149 | 173 | 193 | 211 | 228 | 244 | 259 | 273 | 334 | 386  | 472 |
| d75             | 92  | 130 | 159 | 184 | 206 | 225 | 243 | 260 | 276 | 291 | 356 | 411  | 503 |
| d90             | 97  | 138 | 169 | 195 | 218 | 238 | 257 | 275 | 292 | 308 | 377 | 435  | 533 |
| d110            | 104 | 147 | 180 | 208 | 233 | 255 | 275 | 294 | 312 | 329 | 403 | 465  | 570 |
| d140            | 116 | 164 | 200 | 233 | 260 | 285 | 308 | 329 | 349 | 368 | 450 | 520  | 637 |

## + Pipe bracket distances



|                                      | d32 | d40 | d50 | d63  | d75  | d90 | d110 | d140 |
|--------------------------------------|-----|-----|-----|------|------|-----|------|------|
| Bracket distance (m)<br>COOL-FIT 2.0 | 1.6 | 1.7 | 1.7 | 1.85 | 1.95 | 2.0 | 2.1  | 2.35 |

Values are valid independent of the ambient temperature.

## + COOL-FIT Calculation Tool

Version: 0.985 Status: Online +GF+

**Calculation Types**  
 Druckverlust  
 Kondensation  
 Wärmeverlust  
 Dimensionierung  
 Kontraktion  
 Installation  
**Sub Types**  
 Along pipe

**Temperatur**  
 Mediumtemperatur: 5 °C  
 Umgebungtemperatur: 23 °C  
 Windgeschwindigkeit: 0.5 m/s

**Spezifikation**  
 Rohrsystem: COOL-FIT 2.0  
 Fluid Typ: Wasser  
 Konzentration: -

**Systemparameter**  
 Systemparameter: German  
 Druck-Einheit: Bar  
 Einheiten: ISO

**Optionen**  
 Berechnen Save  
 Ausdrucken Open  
 Löschen

**Druckverlust - Rohr**  
 COOL-FIT 2.0 - Rohr
 

| Dimension [mm / mm] | Durchfluss [m³/h] | Länge [m] |
|---------------------|-------------------|-----------|
| 32 / 75             | 0                 | 0         |
| 40 / 90             | 0                 | 0         |
| 50 / 90             | 0                 | 0         |
| 63 / 110            | 0                 | 0         |
| 75 / 125            | 0                 | 0         |
| 90 / 140            | 0                 | 0         |
| 110 / 160           | 0                 | 0         |
| 140 / 200           | 0                 | 0         |

**COOL-FIT 2.0 - Resultate**

| Dimension [mm / mm] | Geschwindigkeit [m/s] | ΔP [Bar] |
|---------------------|-----------------------|----------|
| 32 / 75             |                       |          |
| 40 / 90             |                       |          |
| 50 / 90             |                       |          |
| 63 / 110            |                       |          |
| 75 / 125            |                       |          |
| 90 / 140            |                       |          |
| 110 / 160           |                       |          |
| 140 / 200           |                       |          |

**Gesamtresultate**

| Pipe system [-] | Total ΔP [Bar] |
|-----------------|----------------|
| COOL-FIT 2.0    | 0              |
| COOL-FIT 4.0    | 0              |
| ecoFIT SDR11    | 0              |
| ecoFIT SDR17    | 0              |
| iFIT            | 0              |
| SANIPLEX MT     | 0              |
| <b>TOTAL</b>    | <b>0</b>       |

The GF Piping Systems Cooling Calculation Tool is used to support in the dimensioning and design of cooling systems.

The Cooling Calculation Tool handles:

- Expansion, contraction
- Flexible section design
- Energy savings
- Pipe exterior temperature
- Pipe dimensioning
- Pressure loss
- Dew point/ insulation thickness
- Pipe bracket spacing
- Freezing time
- Weight comparison
- CO<sub>2</sub> footprint

# Planning fundamentals COOL-FIT 2.0

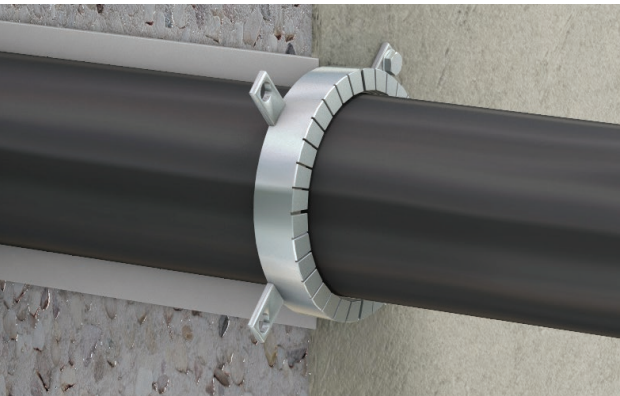
## Fire classes

|                            | COOL-FIT 2.0                                                                      | COOL-FIT 2.0 M                                                                    | COOL-FIT 2.0/Mineral Wool <sup>2)</sup>                                             |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                            |  |  |  |
| EN 13501-1                 | E                                                                                 | B s1 d0                                                                           | A2 <sub>L</sub>                                                                     |
| VKF                        | RF3 <sub>cr</sub>                                                                 | RF2                                                                               | RF1                                                                                 |
| BS 5422:2009 <sup>1)</sup> | National Class 3                                                                  | National Class 0                                                                  | National Class 0                                                                    |

<sup>1)</sup> Test method according to BS 476-6 and BS 476-7

<sup>2)</sup> Type: Rockwool 800

## Firewall penetrations



COOL-FIT 2.0 pipes are tested and certified with ROKU® System AWM II of ROLF KUHN GmbH. They withstand the impact of fire, minimum at 120 minutes according to the DIN EN 1363-1 testing procedure.

## Chemical resistance to cooling agents

COOL-FIT 2.0 can be used with various types of cooling agents, such as:

- Water
- Organic salt solutions
- Inorganic salt solutions
- Water-Glycol mixtures up to 50%
- Ice slurry

Refer to the GF Planning Fundamentals for more detailed information.



# The easy connection

The state-of-the-art electrofusion technology is perfect for on-site jointing.

## + Electrofusion with GF Piping Systems

Electrofusion is a safe and reliable way to joint plastic piping systems. The installer only needs to connect the leads to the fitting, scan the bar code and leave the fusion process to the machine.

The electrofusion fittings are equipped with integrated resistance wires, which are supplied with electricity during the fusion process. Depending on the ambient temperature, the fusion time is automatically adjusted for the correct supply of energy. A soft start is applied to minimise the load on the power generator and fusion is carried out to completion. In case of anomalies, like inadequate input current or fitting wires fault, the machine stops immediately and informs the operator with a specific error message.



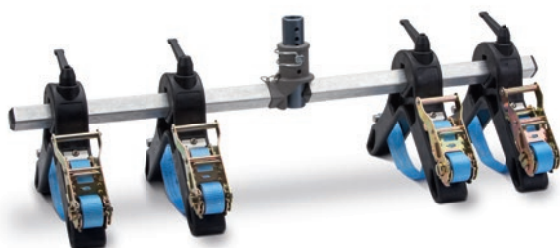
### MSA electro fusion device

The MSA fusion devices can weld COOL-FIT 2.0 electrofusion fittings up to three times faster than welded steel joints. Risks to the surroundings caused by open flames simply do not exist. Fittings recognition through bar code scanning ensures the quality of the joint and due to recorded fusion parameters a high level of quality assurance is provided. Its low weight of less than 12 kg allows simple handling.



### Foam removal tool

COOL-FIT 2.0 pipes are supplied with free ends (non-insulated), ready for assembling and fusion with fittings. If a pipe needs to be cut to the desired length, the foam removal tool helps to remove the foam and outer jacket dust-free and in less than two minutes. At the same time it peels the surface of the media pipe in order to prepare it perfectly for the subsequent fusion process.



### Pipe installation clamps

During the fusion process forces occur, causing the pipe to move out of the fitting. GF recommends to fix the assembly with COOL-FIT 2.0 installation clamps. They restrain the movement of the pipes and keep their alignment. Their reduced weights (less than 6kg) as well as their compact design allow easy overhead assemblies, even in narrow conditions.

## Installation

# Insert – Clamp – Weld – Done!

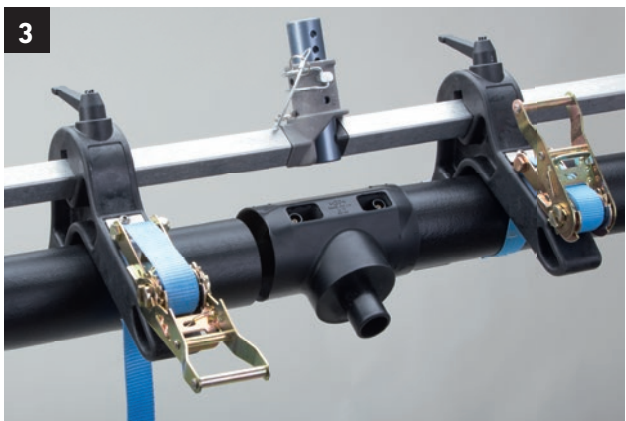
The jointing of COOL-FIT 2.0 pipes fittings and valves is very easy. The procedure takes just a few minutes and the GF Piping Systems MSA fusion devices ensure the quality of the joints.



The GF foam removal tool helps to remove the foam and peel the pipe efficiently.



Clean pipe and fitting, then simply push pipe and fitting together.



Use the pipe installation clamps in order to avoid tensions during installation.



MSA welding devices ensure high quality jointings.



Check the system with a pressure test.

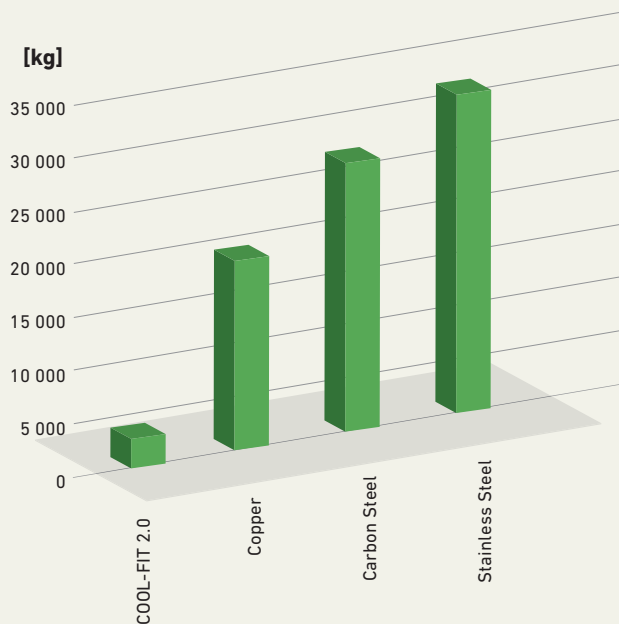


Seal the welding connectors with the attached insulation plugs - done!

# Environmental efficiency

The use of COOL-FIT 2.0 has significant advantages compared to traditional post-insulated metal systems, particularly when it comes to CO<sub>2</sub> emissions or energy loss.

## + CO<sub>2</sub> emissions



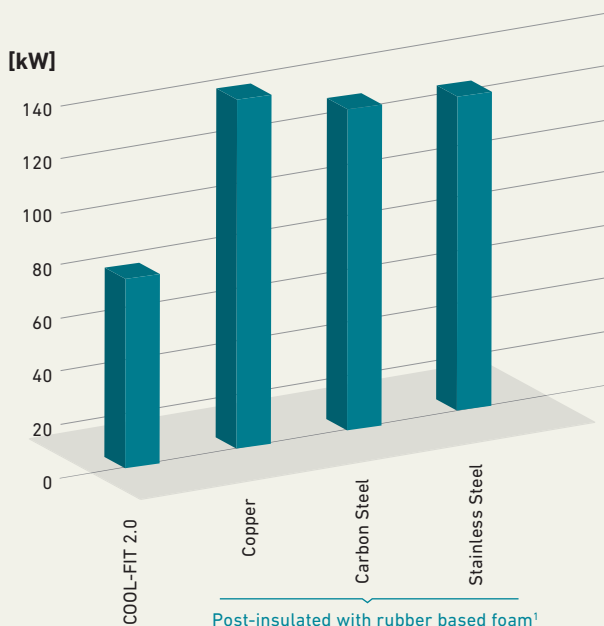
A three story building with e.g. 123 offices would need a piping system of nearly 3000 metres for chilled water for the air conditioning.

The use of copper for the piping system equates to 17,5 tons of CO<sub>2</sub> equivalent, which would be reduced to nearly 5 tons by using COOL-FIT 2.0. This saving is equivalent to a 78 000 km journey with an average car.



**12,5 tons**  
CO<sub>2</sub> saved

## + Total energy loss



Analyzing the energy loss on this same installation, COOL-FIT 2.0 is on average 35% more efficient compared to metal piping systems post-insulated with rubber based foam.

<sup>1</sup> "Life Cycle Analysis", conducted by the company ESU-services GmbH, Uster/ Switzerland ([www.esu-services.ch](http://www.esu-services.ch)) on behalf of Georg Fischer Piping Systems in 2008. Report available on [www.gfps.com](http://www.gfps.com) (Pioneering Green Solutions, GF Piping Systems)

# The best choice for you

## Corrosion and chemical resistant system solutions

### + Georg Fischer

Georg Fischer focuses on three core businesses: GF Piping Systems, GF Automotive and GF Machining Solutions. The industrial corporation, founded in 1802, headquarters in Switzerland and operates approximately 120 companies with more than 14 500 employees in 32 countries. GF Piping Systems is a leading supplier of plastic and metal piping systems with global market presence. We offer corresponding pipes, fittings, valves, automation products and jointing technology for the treatment of water and chemicals, as well as for the safe distribution of liquids and gases.

### + Our market segments

Being a strong implementation partner, GF Piping Systems supports its customers in every phase of the project. No matter which processes and applications are planned in the following market segments:

- Automation
- Building Technology
- Chemical Process Industry
- Energy
- Food and Beverage / Cooling
- Microelectronics
- Marine
- Water and Gas Utilities
- Water Treatment

### + Global presence

Our global presence ensures customer proximity worldwide. Sales companies in 26 countries and representatives in another 80 countries provide customer service around the clock. With 32 production sites in Europe, Asia and the USA we are close to our customers and comply with local standards. A modern logistics concept with local distribution centers ensures highest product availability and short delivery times. GF Piping Systems' specialists are always close by.

### + Complete solutions provider

Our extensive product range represents a unique form of product and competence bundling. With over 70 000 products, allied with a broad range of services, we offer individual and comprehensive system solutions for a variety of industrial applications. Having the profitability of the projects of our customers in focus, we optimize processes and applications that are integrated into the whole system. Continually setting standards in the market, we directly provide our customers with technological advantages. Due to our worldwide network customers benefit directly from our 50 years+ experience in plastics.

From start to finish, we support our customers as a competent, reliable and experienced partner.

COOL-FIT 2.0

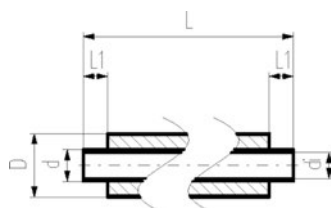
# Product range



## Product range

# COOL-FIT 2.0

## COOL-FIT 2.0 Pipes



### COOL-FIT 2.0 Pipe

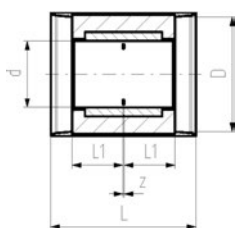
#### Model:

- Pre-insulated PE100 SDR11, metric
- Insulation made from GF HE foam
- Impact resistant. Color: black
- With free end for electrofusion

| d/D<br>(mm) | DN<br>(mm) | PN<br>(bar) | Code               | Weight<br>(kg/m) | di<br>(mm) | L<br>(mm) | L1<br>(mm) | closest inch<br>(inch) |
|-------------|------------|-------------|--------------------|------------------|------------|-----------|------------|------------------------|
| 32/75       | 25         | 16          | <b>738 174 108</b> | 1.140            | 26.2       | 5000      | 36         | 1                      |
| 40/90       | 32         | 16          | <b>738 174 109</b> | 1.534            | 32.6       | 5000      | 40         | 1 ¼                    |
| 50/90       | 40         | 16          | <b>738 174 110</b> | 1.722            | 40.8       | 5000      | 44         | 1 ½                    |
| 63/110      | 50         | 16          | <b>738 174 111</b> | 2.711            | 51.4       | 5000      | 48         | 2                      |
| 75/125      | 65         | 16          | <b>738 174 112</b> | 3.405            | 61.4       | 5000      | 55         | 2 ½                    |
| 90/140      | 80         | 16          | <b>738 174 113</b> | 4.320            | 73.5       | 5000      | 62         | 3                      |
| 110/160     | 100        | 16          | <b>738 174 114</b> | 5.692            | 90.0       | 5000      | 72         | 4                      |
| 140/200     | 125        | 16          | <b>738 174 116</b> | 9.021            | 114.6      | 5000      | 84         | 5                      |

## Product range

### COOL-FIT 2.0 Fittings



#### COOL-FIT 2.0 Coupler

##### Model:

- Pre-insulated PE100 SDR11, metric
- Insulation made from GF HE foam
- Impact resistant. Color: black
- Integrated sealing lip, for a moisture-proof and vapour tight sealing

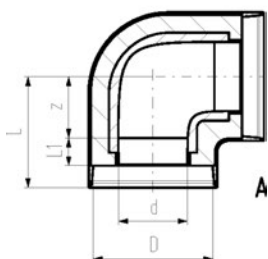
| d/D<br>(mm) | PN<br>(bar) | Code               | Weight<br>(kg) | L<br>(mm) | L1<br>(mm) | z<br>(mm) | closest inch<br>(inch) |
|-------------|-------------|--------------------|----------------|-----------|------------|-----------|------------------------|
| 32/75       | 16          | <b>738 914 108</b> | 0.092          | 113       | 36         | 5         | 1                      |
| 40/90       | 16          | <b>738 914 109</b> | 0.126          | 121       | 40         | 3         | 1 ¼                    |
| 50/90       | 16          | <b>738 914 110</b> | 0.160          | 129       | 44         | 3         | 1 ½                    |
| 63/110      | 16          | <b>738 914 111</b> | 0.237          | 137       | 48         | 3         | 2                      |
| 75/125      | 16          | <b>738 914 112</b> | 0.339          | 152       | 55         | 3         | 2 ½                    |
| 90/140      | 16          | <b>738 914 113</b> | 0.476          | 166       | 62         | 4         | 3                      |
| 110/160     | 16          | <b>738 914 114</b> | 0.778          | 188       | 72         | 4         | 4                      |
| 140/200     | 16          | <b>738 914 116</b> | 1.097          | 210       | 84         | 3         | 5                      |



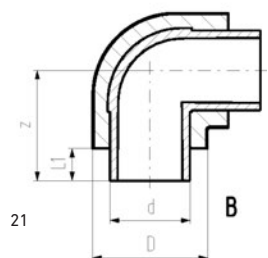
A



B



A



B

#### COOL-FIT 2.0 Elbow 90°

##### Model:

- Pre-insulated PE100 SDR11, metric
- Insulation made from GF HE foam
- Impact resistant. Color: black
- A: Electrofusion Fitting with integrated sealing lip, for a moisture-proof and vapour tight sealing
- B: Spigot Fitting with free end (separate electrofusion fitting needed for joining)

| d/D<br>(mm) | PN<br>(bar) | Code               | Weight<br>(kg) | L<br>(mm) | L1<br>(mm) | z<br>(mm) | closest inch<br>(inch) | Type |
|-------------|-------------|--------------------|----------------|-----------|------------|-----------|------------------------|------|
| 32/75       | 16          | <b>738 104 108</b> | 0.127          | 75        | 36         | 20        | 1                      | A    |
| 40/90       | 16          | <b>738 104 109</b> | 0.185          | 82        | 40         | 23        | 1 ¼                    | A    |
| 50/90       | 16          | <b>738 104 110</b> | 0.242          | 93        | 44         | 30        | 1 ½                    | A    |
| 63/110      | 16          | <b>738 104 111</b> | 0.384          | 101       | 48         | 34        | 2                      | A    |
| 75/125      | 16          | <b>738 104 112</b> | 0.510          | 114       | 55         | 40        | 2 ½                    | A    |
| 90/140      | 16          | <b>738 104 113</b> | 0.960          | 144       | 62         | 63        | 3                      | A    |
| 110/160     | 16          | <b>738 104 114</b> | 1.406          | 168       | 72         | 77        | 4                      | A    |
| 140/200     | 16          | <b>738 104 116</b> | 2.690          |           | 84         | 221       | 5                      | B    |

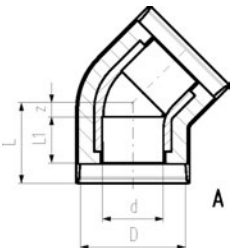
# Product range



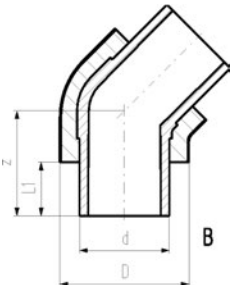
A



B



A



B

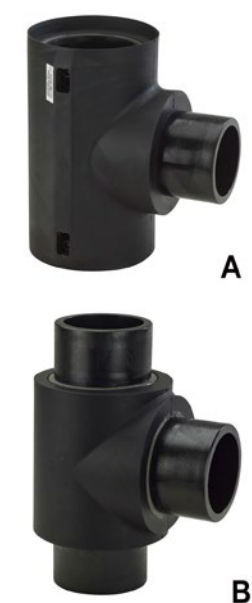
## COOL-FIT 2.0 Elbow 45°

**Model:**

- Pre-insulated PE100 SDR11, metric
- Insulation made from GF HE foam
- Impact resistant. Color: black
- A: Electrofusion Fitting with integrated sealing lip, for a moisture-proof and vapour tight sealing
- B: Spigot Fitting with free end (separate electrofusion fitting needed for joining)

| d/D<br>(mm) | PN<br>(bar) | Code        | Weight<br>(kg) | L<br>(mm) | L1<br>(mm) | z<br>(mm) | closest inch<br>(inch) | Type |
|-------------|-------------|-------------|----------------|-----------|------------|-----------|------------------------|------|
| 32/75       | 16          | 738 154 108 | 0.101          | 66        | 36         | 11        | 1                      | A    |
| 40/90       | 16          | 738 154 109 | 0.143          | 70        | 40         | 11        | 1 ¼                    | A    |
| 50/90       | 16          | 738 154 110 | 0.206          | 76        | 44         | 13        | 1 ½                    | A    |
| 63/110      | 16          | 738 154 111 | 0.307          | 83        | 48         | 16        | 2                      | A    |
| 75/125      | 16          | 738 154 112 | 0.407          | 92        | 55         | 18        | 2 ½                    | A    |
| 90/140      | 16          | 738 154 113 | 0.686          | 111       | 62         | 30        | 3                      | A    |
| 110/160     | 16          | 738 154 114 | 1.123          | 132       | 72         | 41        | 4                      | A    |
| 140/200     | 16          | 738 154 116 | 1.967          |           | 84         | 164       | 5                      | B    |

# Product range

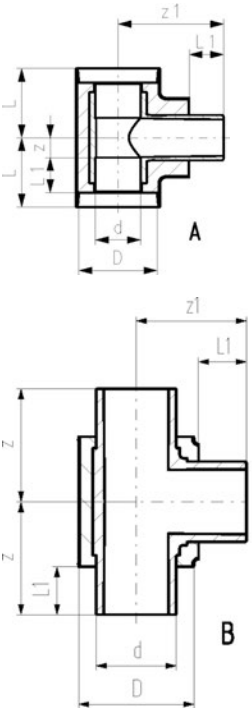


## COOL-FIT 2.0 Tee 90° equal

### Model:

- Pre-insulated PE100 SDR11, metric
- Insulation made from GF HE foam
- Impact resistant. Color: black
- A: Electrofusion Fitting with integrated sealing lip, for a moisture-proof and vapour tight sealing
- B: Spigot Fitting with free end (separate electrofusion fitting needed for joining)

| d/D<br>(mm) | PN<br>(bar) | Code        | Weight<br>(kg) | L<br>(mm) | L1<br>(mm) | z<br>(mm) | z1<br>(mm) | closest inch<br>(inch) | Type |
|-------------|-------------|-------------|----------------|-----------|------------|-----------|------------|------------------------|------|
| 32/75       | 16          | 738 204 108 | 0.154          | 73        | 36         | 18        | 98         | 1                      | A    |
| 40/90       | 16          | 738 204 109 | 0.230          | 81        | 40         | 22        | 112        | 1 ¼                    | A    |
| 50/90       | 16          | 738 204 110 | 0.306          | 88        | 44         | 25        | 125        | 1 ½                    | A    |
| 63/110      | 16          | 738 204 111 | 0.492          | 97        | 48         | 30        | 147        | 2                      | A    |
| 75/125      | 16          | 738 204 112 | 0.673          | 110       | 55         | 36        | 140        | 2 ½                    | A    |
| 90/140      | 16          | 738 204 113 | 1.022          | 124       | 62         | 43        | 161        | 3                      | A    |
| 110/160     | 16          | 738 204 114 | 1.751          | 148       | 72         | 57        | 184        | 4                      | A    |
| 140/200     | 16          | 738 204 116 | 3.317          |           | 84         | 198       | 193        | 5                      | B    |



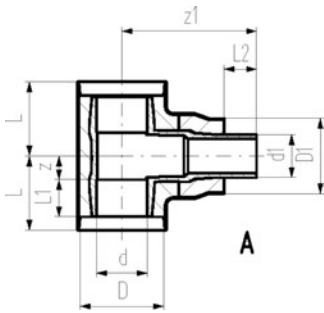
## Product range



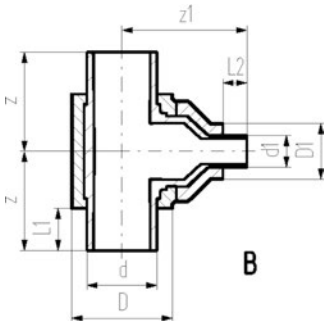
A



B



A



B

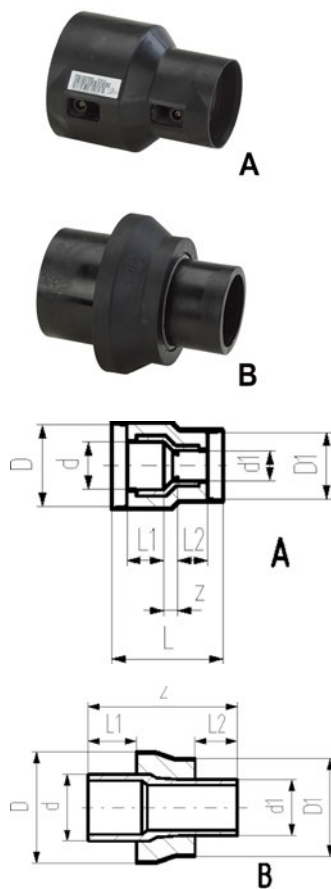
### COOL-FIT 2.0 Tee 90° reduced

#### Model:

- Pre-insulated PE100 SDR11, metric
- Insulation made from GF HE foam
- Impact resistant. Color: black
- A: Electrofusion Fitting with integrated sealing lip, for a moisture-proof and vapour tight sealing. Branch with free pipe end.
- B: Spigot Fitting with free end (separate electrofusion fitting needed for joining)

| d/D<br>(mm) | d1/D1<br>(mm) | PN<br>(bar) | Code               | Weight<br>(kg) | L<br>(mm) | L1<br>(mm) | L2<br>(mm) | z<br>(mm) | z1<br>(mm) | Closest inch<br>(inch) | Type |
|-------------|---------------|-------------|--------------------|----------------|-----------|------------|------------|-----------|------------|------------------------|------|
| 75/125      | 63/110        | 16          | <b>738 204 218</b> | 0.746          | 110       | 55         | 48         | 36        | 200        | 2 ½ - 2                | A    |
| 90/140      | 63/110        | 16          | <b>738 204 222</b> | 1.096          | 124       | 62         | 48         | 42        | 227        | 3 - 2                  | A    |
| 90/140      | 75/125        | 16          | <b>738 204 223</b> | 1.133          | 124       | 62         | 55         | 42        | 227        | 3 - 2 ½                | A    |
| 110/160     | 63/110        | 16          | <b>738 204 227</b> | 1.746          | 148       | 72         | 48         | 57        | 245        | 4 - 2                  | A    |
| 110/160     | 75/125        | 16          | <b>738 204 228</b> | 1.782          | 148       | 72         | 55         | 57        | 245        | 4 - 2 ½                | A    |
| 110/160     | 90/140        | 16          | <b>738 204 229</b> | 1.848          | 148       | 72         | 62         | 57        | 245        | 4 - 3                  | A    |
| 140/200     | 63/110        | 16          | <b>738 204 340</b> | 3.441          |           | 84         | 48         | 198       | 250        | 5 - 2                  | B    |
| 140/200     | 75/125        | 16          | <b>738 204 341</b> | 3.504          |           | 84         | 55         | 198       | 262        | 5 - 2 ½                | B    |
| 140/200     | 90/140        | 16          | <b>738 204 342</b> | 3.569          |           | 84         | 62         | 198       | 263        | 5 - 3                  | B    |
| 140/200     | 110/160       | 16          | <b>738 204 343</b> | 3.620          |           | 84         | 72         | 198       | 258        | 5 - 4                  | B    |

## Product range



### COOL-FIT 2.0 Reducer

#### Model:

- Pre-insulated PE100 SDR11, metric
- Insulation made from GF HE foam
- Impact resistant. Color: black
- A: Electrofusion Fitting with integrated sealing lip, for a moisture-proof and vapour tight sealing
- B: Spigot Fitting with free end (separate electrofusion fitting needed for joining)

| d/D<br>(mm) | d1/D1<br>(mm) | PN<br>(bar) | Code               | Weight<br>(kg) | L<br>(mm) | L1<br>(mm) | L2<br>(mm) | z<br>(mm) | Closest inch<br>(inch) | Type |
|-------------|---------------|-------------|--------------------|----------------|-----------|------------|------------|-----------|------------------------|------|
| 40/90       | 32/75         | 16          | <b>738 904 206</b> | 0.125          | 131       | 40         | 36         | 17        | 1 ¼ - 1                | A    |
| 50/90       | 32/75         | 16          | <b>738 904 209</b> | 0.154          | 139       | 44         | 36         | 21        | 1 ½ - 1                | A    |
| 50/90       | 40/90         | 16          | <b>738 904 210</b> | 0.153          | 137       | 44         | 40         | 15        | 1 ½ - 1 ¼              | A    |
| 63/110      | 32/75         | 16          | <b>738 904 212</b> | 0.198          | 148       | 48         | 36         | 26        | 2 - 1                  | A    |
| 63/110      | 40/90         | 16          | <b>738 904 213</b> | 0.221          | 147       | 48         | 40         | 21        | 2 - 1 ¼                | A    |
| 63/110      | 50/90         | 16          | <b>738 904 214</b> | 0.219          | 147       | 48         | 44         | 17        | 2 - 1 ½                | A    |
| 90/140      | 63/110        | 16          | <b>738 904 222</b> | 0.464          | 187       | 62         | 48         | 39        | 3 - 2                  | A    |
| 110/160     | 90/140        | 16          | <b>738 904 229</b> | 0.799          | 214       | 72         | 62         | 42        | 4 - 3                  | A    |
| 75/125      | 63/110        | 16          | <b>738 904 318</b> | 0.244          |           | 55         | 48         | 170       | 2 ½ - 2                | B    |
| 90/140      | 63/110        | 16          | <b>738 904 322</b> | 0.360          |           | 62         | 48         | 190       | 3 - 2                  | B    |
| 90/140      | 75/125        | 16          | <b>738 904 323</b> | 0.395          |           | 62         | 55         | 190       | 3 - 2 ½                | B    |
| 110/160     | 63/110        | 16          | <b>738 904 327</b> | 0.523          |           | 72         | 48         | 205       | 4 - 2                  | B    |
| 110/160     | 75/125        | 16          | <b>738 904 328</b> | 0.553          |           | 72         | 55         | 205       | 4 - 2 ½                | B    |
| 110/160     | 90/140        | 16          | <b>738 904 329</b> | 0.599          |           | 84         | 62         | 205       | 4 - 3                  | B    |
| 140/200     | 63/110        | 16          | <b>738 904 340</b> | 0.917          |           | 84         | 48         | 225       | 5 - 2                  | B    |
| 140/200     | 75/125        | 16          | <b>738 904 341</b> | 0.997          |           | 84         | 55         | 237       | 5 - 2 ½                | B    |
| 140/200     | 90/140        | 16          | <b>738 904 342</b> | 1.039          |           | 84         | 62         | 238       | 5 - 3                  | B    |
| 140/200     | 110/160       | 16          | <b>738 904 343</b> | 1.051          |           | 84         | 72         | 233       | 5 - 4                  | B    |

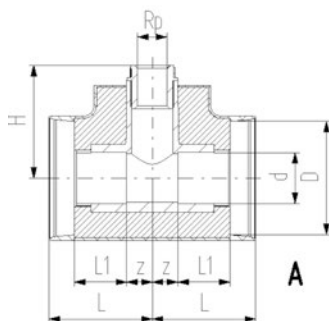
## Product range



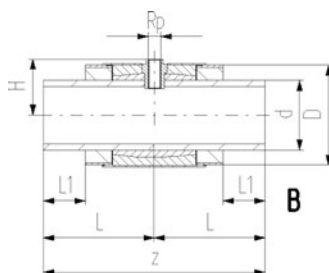
A



B



A



B

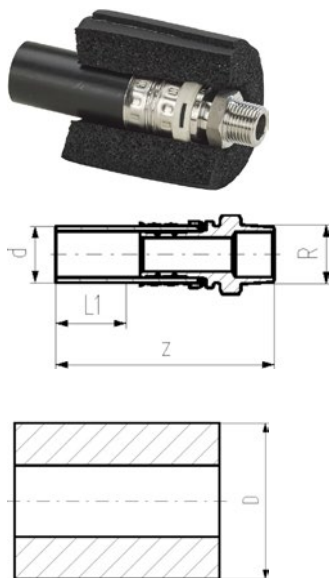
### COOL-FIT 2.0 Installation fitting type 313

#### Model:

- Pre-insulated PE100 SDR11, metric
- Insulation made from GF HE foam
- Impact resistant. Color: black
- With threaded branch for sensors (i.e temperature, pressure)
- A: Electrofusion Fitting with integrated sealing lip, for a moisture-proof and vapour tight sealing
- B: Spigot Fitting with free end (separate electrofusion fitting needed for joining)

| d/D<br>(mm) | Rp<br>(inch) | PN<br>(bar) | Code               | Weight<br>(kg) | L<br>(mm) | L1<br>(mm) | z<br>(mm) | H<br>(mm) | Closest inch<br>(inch) | Type |
|-------------|--------------|-------------|--------------------|----------------|-----------|------------|-----------|-----------|------------------------|------|
| 32/75       | ½            | 16          | <b>738 313 408</b> | 0.138          | 73        | 36         | 16        | 75        | 1                      | A    |
| 40/90       | ½            | 16          | <b>738 313 409</b> | 0.216          | 81        | 40         | 21        | 85        | 1 ¼                    | A    |
| 40/90       | ¾            | 16          | <b>738 313 459</b> | 0.216          | 81        | 40         | 21        | 88        | 1 ¼                    | A    |
| 50/90       | ½            | 16          | <b>738 313 410</b> | 0.308          | 88        | 44         | 24        | 94        | 1 ½                    | A    |
| 50/90       | ¾            | 16          | <b>738 313 460</b> | 0.307          | 88        | 44         | 24        | 97        | 1 ½                    | A    |
| 63/110      | ½            | 16          | <b>738 313 411</b> | 0.493          | 97        | 48         | 29        | 113       | 2                      | A    |
| 63/110      | ¾            | 16          | <b>738 313 461</b> | 0.492          | 97        | 48         | 29        | 116       | 2                      | A    |
| 75/125      | ½            | 16          | <b>738 313 412</b> | 0.678          | 110       | 55         | 35        | 99        | 2 ½                    | A    |
| 75/125      | ¾            | 16          | <b>738 313 462</b> | 0.677          | 110       | 55         | 35        | 102       | 2 ½                    | A    |
| 90/140      | ½            | 16          | <b>738 313 413</b> | 1.025          | 123       | 62         | 42        | 113       | 3                      | A    |
| 90/140      | ¾            | 16          | <b>738 313 463</b> | 1.023          | 123       | 62         | 42        | 116       | 3                      | A    |
| 110/160     | ½            | 16          | <b>738 313 414</b> | 1.765          | 148       | 72         | 56        | 128       | 4                      | A    |
| 110/160     | ¾            | 16          | <b>738 313 464</b> | 1.763          | 148       | 72         | 56        | 131       | 4                      | A    |
| 140/200     | ½            | 16          | <b>738 313 416</b> | 3.406          | 224       | 84         | 447       | 110       | 5                      | B    |
| 140/200     | ¾            | 16          | <b>738 313 466</b> | 3.401          | 224       | 84         | 447       | 113       | 5                      | B    |

# COOL-FIT 2.0 Transition Fittings

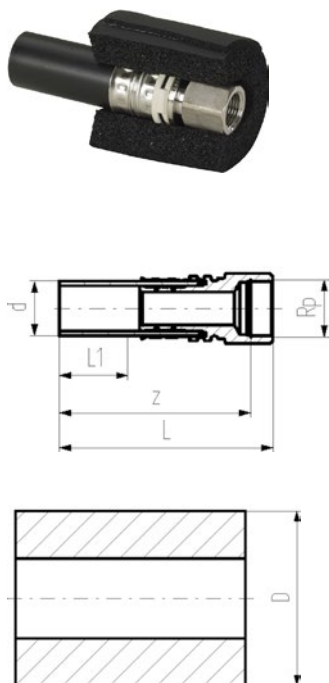


COOL-FIT 2.0 Adaptor fitting PE/stainless steel with male thread R

Model:

- Spigot fitting PE100 SDR11, metric with free end
- Stainless steel 1.4404 / 316L with male thread R
- Gasket: O-ring EPDM
- Including Insulation made from NBR foam

| d    | R      | PN    | Code        | Weight | D    | L1   | z    |
|------|--------|-------|-------------|--------|------|------|------|
| (mm) | (inch) | (bar) |             | (kg)   | (mm) | (mm) | (mm) |
| 32   | ½      | 16    | 738 944 508 | 0.194  | 70   | 36   | 130  |
| 32   | ¾      | 16    | 738 944 518 | 0.202  | 70   | 36   | 134  |
| 32   | 1      | 16    | 738 944 528 | 0.211  | 70   | 36   | 134  |
| 40   | 1 ¼    | 16    | 738 944 509 | 0.595  | 78   | 40   | 156  |
| 50   | 1 ½    | 16    | 738 944 510 | 0.954  | 88   | 44   | 168  |
| 63   | 2      | 16    | 738 944 511 | 1.381  | 101  | 48   | 179  |



COOL-FIT 2.0 Adaptor fitting PE/stainless steel with female thread Rp

Model:

- Spigot fitting PE100 SDR11, metric with free end
- Stainless steel 1.4404 / 316L with femal thread Rp
- Gasket: O-ring EPDM
- Including Insulation made from NBR foam

| d    | Rp     | PN    | Code        | Weight | D    | L    | L1   | z    |
|------|--------|-------|-------------|--------|------|------|------|------|
| (mm) | (inch) | (bar) |             | (kg)   | (mm) | (mm) | (mm) | (mm) |
| 32   | ½      | 16    | 738 944 008 | 0.201  | 70   | 132  | 36   | 118  |
| 32   | ¾      | 16    | 738 944 018 | 0.226  | 70   | 132  | 36   | 116  |
| 32   | 1      | 16    | 738 944 028 | 0.251  | 70   | 132  | 36   | 115  |
| 40   | 1 ¼    | 16    | 738 944 009 | 0.626  | 78   | 157  | 40   | 141  |
| 50   | 1 ½    | 16    | 738 944 010 | 0.670  | 88   | 150  | 44   | 128  |
| 63   | 2      | 16    | 738 944 011 | 1.170  | 101  | 164  | 48   | 140  |

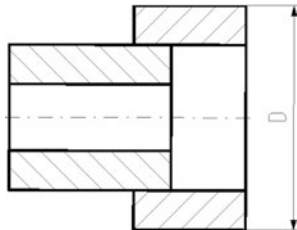
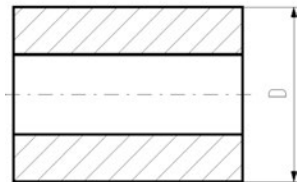
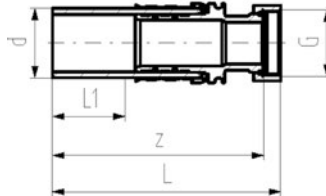
## Product range



### COOL-FIT 2.0 Adaptor fitting PE/stainless steel with loose union nut G

#### Model:

- Spigot fitting PE100 SDR11, metric with free end
- Stainless steel 1.4404 / 316L with female thread G
- Including flat seal EPDM
- Including Insulation made from NBR foam

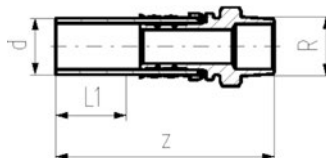


| d<br>(mm) | G<br>(inch) | PN | Code        | Weight<br>(kg) | D<br>(mm) | L<br>(mm) | L1<br>(mm) | z<br>(mm) |
|-----------|-------------|----|-------------|----------------|-----------|-----------|------------|-----------|
| 32        | 1           | 16 | 738 944 328 | 0.317          | 70        | 135       | 36         | 127       |
| 32        | 1 ¼         | 16 | 738 944 338 | 0.317          | 108       | 137       | 36         | 128       |
| 40        | 1 ¼         | 16 | 738 944 309 | 0.538          | 78        | 155       | 40         | 145       |
| 40        | 1 ½         | 16 | 738 944 319 | 0.615          | 116       | 157       | 40         | 145       |
| 40        | 2           | 16 | 738 944 329 | 0.815          | 116       | 166       | 40         | 147       |
| 50        | 1 ½         | 16 | 738 944 310 | 0.758          | 88        | 164       | 44         | 152       |
| 50        | 1 ¾         | 16 | 738 944 320 | 0.827          | 88        | 164       | 44         | 152       |
| 50        | 2           | 16 | 738 944 330 | 1.048          | 126       | 178       | 44         | 159       |
| 50        | 2 ¼         | 16 | 738 944 340 | 0.866          | 126       | 148       | 44         | 131       |
| 63        | 2           | 16 | 738 944 311 | 1.237          | 101       | 186       | 48         | 167       |
| 63        | 2 ¾         | 16 | 738 944 321 | 1.344          | 139       | 178       | 48         | 165       |
| 63        | 2 ¾         | 16 | 738 944 331 | 1.230          | 139       | 157       | 48         | 138       |

### COOL-FIT 2.0 Adaptor fitting PE/Brass with male thread R

#### Model:

- Spigot fitting PE100 SDR11, metric with free end
- Brass CuZn40Pb2 with male thread R
- Gasket: O-ring EPDM
- Including Insulation made from NBR foam



| d<br>(mm) | R<br>(inch) | PN | Code        | Weight<br>(kg) | D<br>(mm) | L<br>(mm) | L1<br>(mm) | z<br>(mm) |
|-----------|-------------|----|-------------|----------------|-----------|-----------|------------|-----------|
| 32        | ½           | 16 | 738 954 508 | 0.203          | 70        | 36        | 130        |           |
| 32        | ¾           | 16 | 738 954 518 | 0.211          | 70        | 36        | 134        |           |
| 32        | 1           | 16 | 738 954 528 | 0.221          | 70        | 36        | 134        |           |
| 40        | 1 ¼         | 16 | 738 954 509 | 0.631          | 78        | 40        | 156        |           |
| 50        | 1 ½         | 16 | 738 954 510 | 1.013          | 88        | 44        | 168        |           |
| 63        | 2           | 16 | 738 954 511 | 1.467          | 101       | 48        | 179        |           |

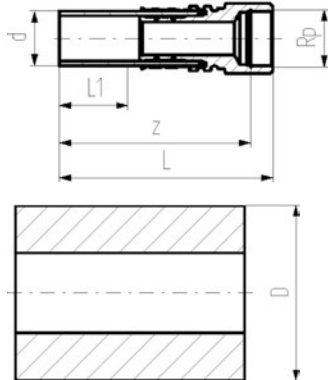
## Product range



### COOL-FIT 2.0 Adaptor fitting PE/Brass with female thread Rp

#### Model:

- Spigot fitting PE100 SDR11, metric with free end
- Brass CuZn40Pb2 with female tread Rp
- Gasket: O-ring EPDM
- Including Insulation made from NBR foam



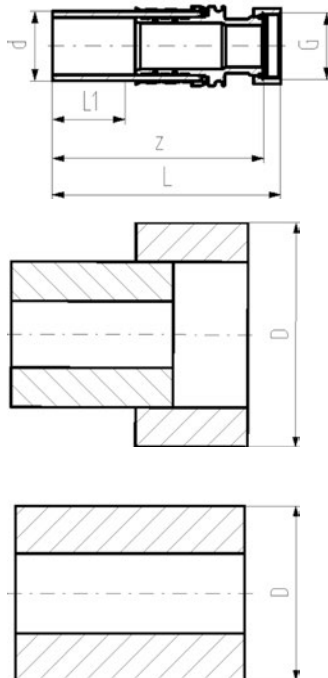
| d    | Rp     | PN    | Code        | Weight | D    | L    | L1   | z    |
|------|--------|-------|-------------|--------|------|------|------|------|
| (mm) | (inch) | (bar) |             | (kg)   | (mm) | (mm) | (mm) | (mm) |
| 32   | 1/2    | 16    | 738 954 008 | 0.210  | 70   | 132  | 36   | 118  |
| 32   | 3/4    | 16    | 738 954 018 | 0.237  | 70   | 132  | 36   | 116  |
| 32   | 1      | 16    | 738 954 028 | 0.264  | 70   | 132  | 36   | 115  |
| 40   | 1 1/4  | 16    | 738 954 009 | 0.667  | 78   | 157  | 40   | 141  |
| 50   | 1 1/2  | 16    | 738 954 010 | 0.713  | 88   | 150  | 44   | 128  |
| 63   | 2      | 16    | 738 954 011 | 1.246  | 101  | 164  | 48   | 140  |



### COOL-FIT 2.0 Adaptor fitting PE/Brass with loose union nut G

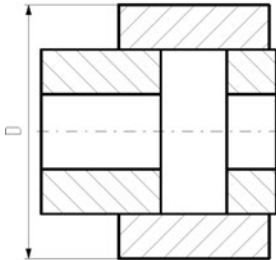
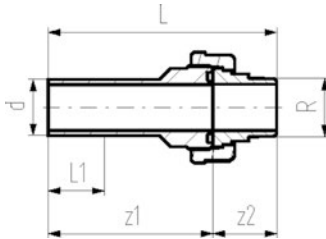
#### Model:

- Spigot fitting PE100 SDR11, metric with free end
- Brass CuZn40Pb2 with female thread G
- Including flat seal EPDM
- Including Insulation made from NBR foam



| d    | G      | PN | Code        | Weight | D    | L    | L1   | z    |
|------|--------|----|-------------|--------|------|------|------|------|
| (mm) | (inch) |    |             | (kg)   | (mm) | (mm) | (mm) | (mm) |
| 32   | 1      | 16 | 738 954 328 | 0.263  | 70   | 135  | 36   | 127  |
| 32   | 1 1/4  | 16 | 738 954 338 | 0.335  | 108  | 137  | 36   | 128  |
| 40   | 1 1/4  | 16 | 738 954 309 | 0.569  | 78   | 155  | 40   | 145  |
| 40   | 1 1/2  | 16 | 738 954 319 | 0.650  | 116  | 157  | 40   | 145  |
| 40   | 2      | 16 | 738 954 329 | 0.864  | 116  | 166  | 40   | 147  |
| 50   | 1 1/2  | 16 | 738 954 310 | 0.801  | 88   | 164  | 44   | 152  |
| 50   | 1 3/4  | 16 | 738 954 320 | 0.874  | 88   | 164  | 44   | 152  |
| 50   | 2      | 16 | 738 954 330 | 1.111  | 126  | 178  | 44   | 159  |
| 50   | 2 1/4  | 16 | 738 954 340 | 0.915  | 126  | 148  | 44   | 131  |
| 63   | 2      | 16 | 738 954 311 | 1.310  | 101  | 186  | 48   | 167  |
| 63   | 2 1/2  | 16 | 738 954 321 | 1.422  | 139  | 178  | 48   | 165  |
| 63   | 2 3/4  | 16 | 738 954 331 | 1.300  | 139  | 157  | 48   | 138  |

## Product range

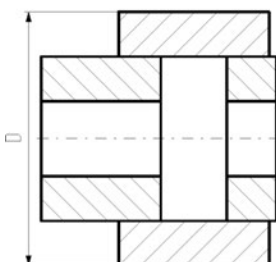
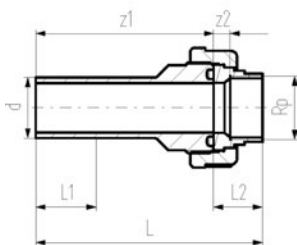


### COOL-FIT 2.0 Adaptor Union PE/Stainless steel with male thread R

#### Model:

- Union bush: Spigot fitting PE100 SDR11, metric with free end
- Union End: Stainless steel 1.4404 / 316L with male thread R
- Gasket: O-ring EPDM No. 748 410 008-011
- Union Nut: PEGF25
- Including Insulation made from NBR foam

| d    | R      | PN | Code               | Weight | D    | L    | L1   | z1   | z2   |
|------|--------|----|--------------------|--------|------|------|------|------|------|
| (mm) | (inch) |    |                    | (kg)   | (mm) | (mm) | (mm) | (mm) | (mm) |
| 32   | 1      | 16 | <b>738 544 708</b> | 0.310  | 108  | 147  | 36   | 107  | 40   |
| 40   | 1 ¼    | 16 | <b>738 544 709</b> | 0.538  | 116  | 163  | 40   | 117  | 46   |
| 50   | 1 ½    | 16 | <b>738 544 710</b> | 0.660  | 126  | 172  | 44   | 124  | 48   |
| 63   | 2      | 16 | <b>738 544 711</b> | 1.073  | 139  | 191  | 48   | 136  | 55   |



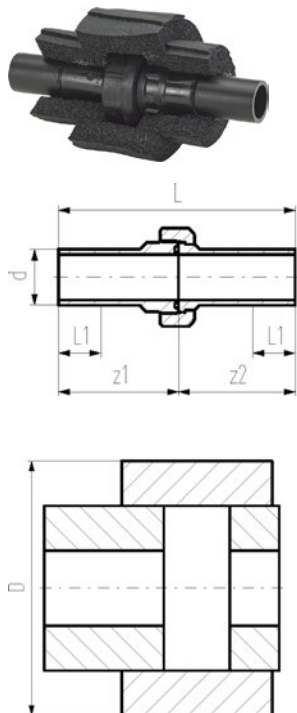
### COOL-FIT 2.0 Adaptor Union PE/Stainless steel with female thread Rp

#### Model:

- Union bush: Spigot fitting PE100 SDR11, metric with free end
- Union End: Stainless steel 1.4404 / 316L with female thread Rp
- Gasket: O-ring EPDM No. 748 410 008-011
- Union Nut: PEGF25
- Including Insulation made from NBR foam

| d    | Rp     | PN | Code               | Weight | D    | L    | L1   | L2   | z1   | z2   |
|------|--------|----|--------------------|--------|------|------|------|------|------|------|
| (mm) | (inch) |    |                    | (kg)   | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |
| 32   | 1      | 16 | <b>738 544 208</b> | 0.270  | 108  | 136  | 36   | 29   | 107  | 10   |
| 40   | 1 ¼    | 16 | <b>738 544 209</b> | 0.433  | 116  | 150  | 40   | 33   | 118  | 11   |
| 50   | 1 ½    | 16 | <b>738 544 210</b> | 0.587  | 126  | 158  | 44   | 34   | 124  | 13   |
| 63   | 2      | 16 | <b>738 544 211</b> | 0.883  | 139  | 175  | 48   | 39   | 136  | 14   |

## Product range

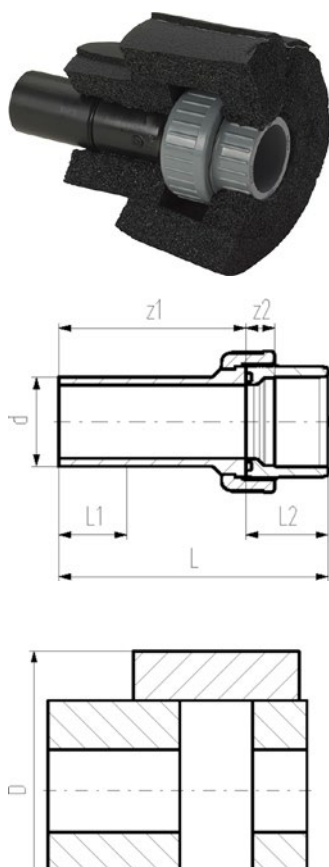


### COOL-FIT 2.0 Union PE/PE

#### Model:

- Union bush: Spigot fitting PE100 SDR11, metric with free end
- Union End: Spigot fitting PE100 SDR11, metric with free end
- Gasket: O-ring EPDM No. 748 410 008-014
- Union Nut: PEGF25
- Including Insulation made from NBR foam

| d    | PN | Code               | D    | L    | L1   | z1   | z2   |
|------|----|--------------------|------|------|------|------|------|
| (mm) |    |                    | (mm) | (mm) | (mm) | (mm) | (mm) |
| 32   | 16 | <b>738 514 608</b> | 108  | 211  | 36   | 107  | 104  |
| 40   | 16 | <b>738 514 609</b> | 116  | 234  | 40   | 118  | 117  |
| 50   | 16 | <b>738 514 610</b> | 126  | 247  | 44   | 124  | 123  |
| 63   | 16 | <b>738 514 611</b> | 139  | 268  | 48   | 136  | 132  |
| 75   | 10 | <b>738 514 612</b> | 151  | 303  | 55   | 154  | 149  |
| 90   | 10 | <b>738 514 613</b> | 166  | 293  | 62   | 149  | 144  |
| 110  | 10 | <b>738 514 614</b> | 186  | 321  | 72   | 162  | 159  |



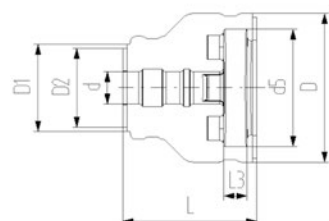
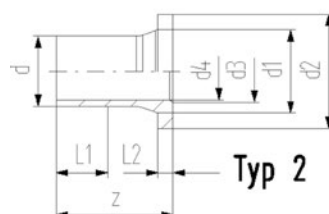
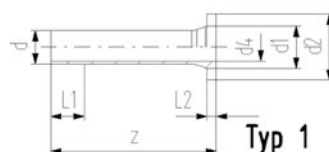
### COOL-FIT 2.0 Adaptor Union PE/ABS

#### Model:

- Union bush: ABS Solvent cement socket
- Union End: Spigot fitting PE100 SDR11, metric with free end
- Gasket: O-ring EPDM No. 748 410 008-014
- Union Nut: ABS
- Including Insulation made from NBR foam

| d    | PN | Code               | Weight | D    | L    | L1   | L2   | z1   | z2   |
|------|----|--------------------|--------|------|------|------|------|------|------|
| (mm) |    |                    | (kg)   | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |
| 32   | 10 | <b>738 514 708</b> | 0.117  | 108  | 137  | 36   | 33   | 104  | 11   |
| 40   | 10 | <b>738 514 709</b> | 0.196  | 116  | 156  | 40   | 39   | 117  | 13   |
| 50   | 10 | <b>738 514 710</b> | 0.268  | 126  | 169  | 44   | 46   | 123  | 15   |
| 63   | 10 | <b>738 514 711</b> | 0.427  | 139  | 190  | 48   | 58   | 132  | 21   |
| 75   | 10 | <b>738 514 712</b> | 0.730  | 151  | 211  | 55   | 62   | 149  | 18   |
| 90   | 10 | <b>738 514 713</b> | 0.974  | 166  | 215  | 62   | 69   | 146  | 19   |
| 110  | 10 | <b>738 514 714</b> | 1.478  | 186  | 235  | 72   | 72   | 163  | 11   |

## Product range



### COOL-FIT 2.0/4.0 Flange adaptor

#### Model:

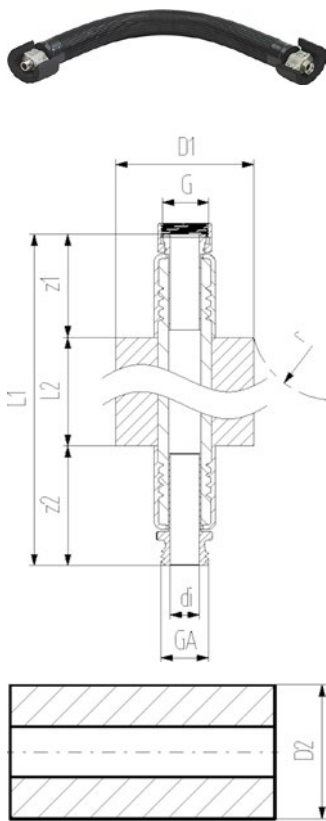
- Spigot fitting PE100 SDR11, metric with free end
- Suitable for flange connections to metric (from d110 also to ANSI/ASME B16.5)
- Gasket: Profile flange gasket NBR No. 45 44 07, EPDM No. 48 44 07
- Type 1 without chamfer, Type 2 with chamfer
- Including insulation half shells

| d    | DN   | PN | Code               | Weight |
|------|------|----|--------------------|--------|
| (mm) | (mm) |    |                    | (kg)   |
| 32   | 25   | 16 | <b>738 710 008</b> | 0.051  |
| 40   | 32   | 16 | <b>738 710 009</b> | 0.075  |
| 50   | 40   | 16 | <b>738 710 010</b> | 0.110  |
| 63   | 50   | 16 | <b>738 710 011</b> | 0.173  |
| 75   | 65   | 16 | <b>738 710 012</b> | 1.210  |
| 90   | 80   | 16 | <b>738 710 013</b> | 1.193  |
| 110  | 100  | 16 | <b>738 710 014</b> | 1.574  |
| 140  | 125  | 16 | <b>738 710 016</b> | 2.412  |

| d    | DN   | D    | D1   | D2   | L    | L1   | L2   | L3   | z    | d1   | d2   | d3   | d4   | d5   | Type |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |      |
| 32   | 25   | 135  | 90   | 75   | 154  | 36   | 10   | 26   | 190  | 40   | 68   |      | 26   | 121  | 1    |
| 40   | 32   | 170  | 110  | 90   | 157  | 40   | 11   | 28   | 197  | 50   | 78   |      | 32   | 146  | 1    |
| 50   | 40   | 180  | 110  | 90   | 170  | 44   | 12   | 30   | 214  | 61   | 88   |      | 40   | 156  | 1    |
| 63   | 50   | 200  | 125  | 110  | 222  | 48   | 14   | 32   | 270  | 75   | 102  |      | 51   | 171  | 1    |
| 75   | 65   | 220  | 140  | 125  | 224  | 55   | 16   | 34   | 279  | 89   | 122  |      | 61   | 191  | 1    |
| 90   | 80   | 240  | 160  | 140  | 237  | 62   | 17   | 35   | 299  | 105  | 138  | 78   | 73   | 206  | 2    |
| 110  | 100  | 270  | 180  | 160  | 248  | 72   | 18   | 36   | 320  | 125  | 158  | 100  | 90   | 235  | 2    |
| 140  | 125  | 300  | 225  | 200  | 299  | 84   | 25   | 38   | 383  | 155  | 188  | 127  | 127  | 256  | 2    |

Product range

COOL-FIT 2.0 Flexible Hoses



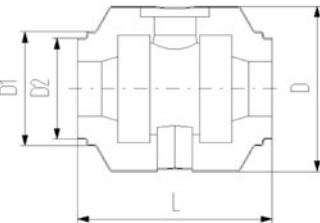
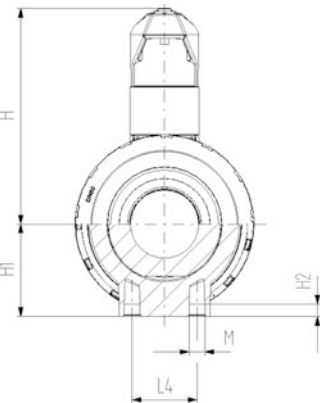
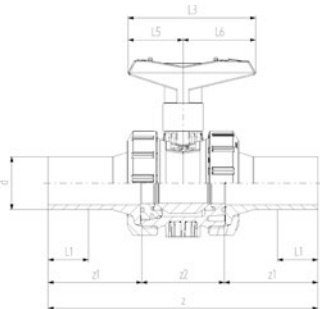
COOL-FIT 2.0 Flexible hose, EPDM with stainless steel adaptors and male/female threads G

Model:

- Pre-insulated EPDM
- Insulation made from NBR foam
- Outer jacket impact resistant and tearproof
- With loose union nut G on one end and male thread GA on the other

| DN   | G/GA   | PN    | Code        | di   | D1   | D2   | L1   | L2   | z1   | z2   | r    | closest inch |
|------|--------|-------|-------------|------|------|------|------|------|------|------|------|--------------|
| (mm) | (inch) | (bar) |             | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (inch)       |
| 20   | 3/4"   | 16    | 738 924 307 | 19   | 75   | 70   | 1000 | 877  | 57   | 67   | 65   | ¾            |
| 25   | 1"     | 16    | 738 924 308 | 25   | 82   | 76   | 1000 | 876  | 56   | 68   | 90   | 1            |
| 32   | 1 1/4" | 16    | 738 924 309 | 32   | 87   | 83   | 1000 | 874  | 57   | 69   | 120  | 1 ¼          |
| 40   | 1 1/2" | 16    | 738 924 310 | 48   | 90   | 89   | 1500 | 1369 | 57   | 74   | 155  | 1 ½          |

COOL-FIT 2.0 Valves



COOL-FIT 2.0 Ball valve type 546 hand-operated

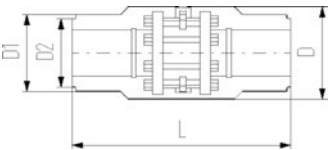
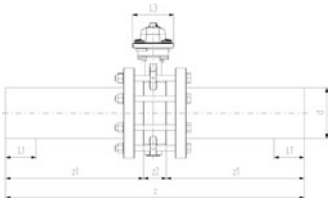
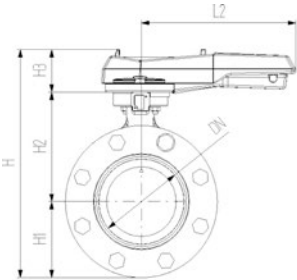
- Model:
- Material: PVC-U with spigot PE100 SDR11, metric
  - Ball seals PTFE
  - Integrated stainless steel mounting inserts
  - Including insulation half shells

| d<br>(mm) | PN | kv-value<br>(dp=1 bar) | Code        | Weight<br>(kg) |
|-----------|----|------------------------|-------------|----------------|
| 32        | 16 | 700                    | 138 546 308 | 0.560          |
| 40        | 16 | 1000                   | 138 546 309 | 0.900          |
| 50        | 16 | 1600                   | 138 546 310 | 1.190          |
| 63        | 16 | 3100                   | 138 546 311 | 2.100          |
| 75        | 16 | 5000                   | 138 546 312 | 5.550          |
| 90        | 16 | 7000                   | 138 546 313 | 8.150          |

| d<br>(mm) | DN<br>(mm) | D<br>(mm) | D1<br>(mm) | D2<br>(mm) | L<br>(mm) | L1<br>(mm) | L3<br>(mm) | L4<br>(mm) | H<br>(mm) | H1<br>(mm) | H2<br>(mm) | z<br>(mm) | z1<br>(mm) | z2<br>(mm) | M  |
|-----------|------------|-----------|------------|------------|-----------|------------|------------|------------|-----------|------------|------------|-----------|------------|------------|----|
| 32        | 25         | 135       | 97         | 82         | 152       | 36         | 97         | 25         | 98        | 36         | 12         | 223       | 76         | 71         | M6 |
| 40        | 32         | 157       | 117        | 97         | 170       | 40         | 128        | 45         | 119       | 44         | 15         | 249       | 82         | 85         | M8 |
| 50        | 40         | 169       | 117        | 97         | 184       | 44         | 128        | 45         | 125       | 51         | 15         | 271       | 91         | 89         | M8 |
| 63        | 50         | 204       | 132        | 117        | 227       | 48         | 152        | 45         | 150       | 64         | 15         | 321       | 110        | 101        | M8 |
| 75        | 65         | 235       | 147        | 132        | 276       | 55         | 270        | 70         | 194       | 85         | 15         | 386       | 125        | 136        | M8 |
| 90        | 80         | 255       | 168        | 147        | 297       | 62         | 270        | 70         | 200       | 105        | 15         | 421       | 140        | 141        | M8 |

| d<br>(mm) | Closest inch<br>(inch) |
|-----------|------------------------|
| 32        | 1                      |
| 40        | 1 ¼                    |
| 50        | 1 ½                    |
| 63        | 2                      |
| 75        | 2 ½                    |
| 90        | 3                      |

# Product range



## COOL-FIT 2.0 Butterfly valve kit type 567 hand-operated

### Model:

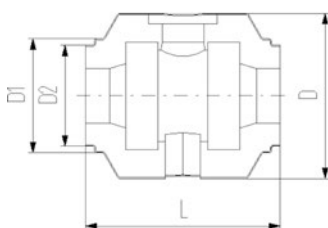
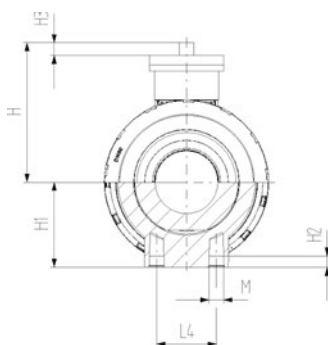
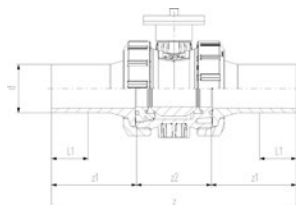
- Material: PVC-U with spigot PE100 SDR11, metric
- Including flange adaptors, backing flanges PP-Steel, bolts and insulation half shells

| d    | DN   | PN | kv-value  | EPDM        | Weight |
|------|------|----|-----------|-------------|--------|
| (mm) | (mm) |    | (dp=1bar) | Code        | (kg)   |
| 110  | 100  | 16 | 6500      | 138 567 314 | 3.500  |
| 140  | 125  | 16 | 11500     | 138 567 316 | 4.500  |

| d    | DN   | D    | D1   | D2   | L    | L1   | L2   | L3   | z    | z1   | z2   | H    | H1   | H2   | H3   |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |
| 110  | 100  | 260  | 188  | 168  | 552  | 72   | 255  | 106  | 696  | 320  | 56   | 325  | 104  | 167  | 55   |
| 140  | 125  | 287  | 233  | 208  | 662  | 84   | 255  | 106  | 830  | 383  | 64   | 352  | 117  | 181  | 55   |

| d    | DN   | closest inch |
|------|------|--------------|
| (mm) | (mm) | (inch)       |
| 110  | 100  | 4            |
| 140  | 125  | 5            |

## Product range



### COOL-FIT 2.0 Ball valve type 546 PVC-U bare shaft

#### Model:

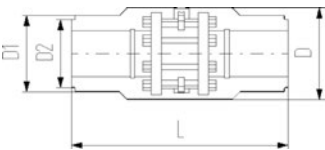
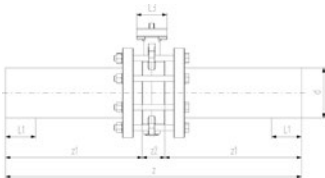
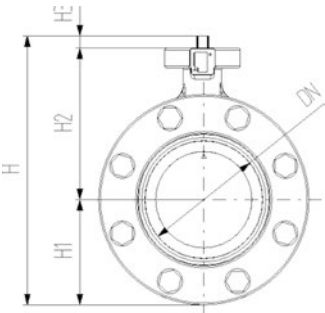
- Material: PVC-U with spigot PE100 SDR11, metric
- Ball seals PTFE
- Integrated stainless steel mounting inserts
- Interface according to DIN/ISO 5211
- Including insulation half shells

| d<br>(mm) | DN<br>(mm) | PN | kv-value<br>(dp=1bar) | EPDM<br>Code       | Weight<br>(kg) |
|-----------|------------|----|-----------------------|--------------------|----------------|
| 32        | 25         | 16 | 700                   | <b>138 546 408</b> | 0.560          |
| 40        | 32         | 16 | 1000                  | <b>138 546 409</b> | 0.900          |
| 50        | 40         | 16 | 1600                  | <b>138 546 410</b> | 1.190          |
| 63        | 50         | 16 | 3100                  | <b>138 546 411</b> | 0.100          |
| 75        | 65         | 16 | 5000                  | <b>138 546 412</b> | 5.550          |
| 90        | 80         | 16 | 7000                  | <b>138 546 413</b> | 8.150          |

| d<br>(mm) | DN<br>(mm) | D<br>(mm) | D1<br>(mm) | D2<br>(mm) | L<br>(mm) | L1<br>(mm) | H<br>(mm) | H1<br>(mm) | H2<br>(mm) | H3<br>(mm) | z<br>(mm) | z1<br>(mm) | z2<br>(mm) | M  |
|-----------|------------|-----------|------------|------------|-----------|------------|-----------|------------|------------|------------|-----------|------------|------------|----|
| 32        | 25         | 135       | 97         | 82         | 152       | 36         | 72        | 36         | 12         | 11         | 223       | 76         | 71         | M6 |
| 40        | 32         | 157       | 117        | 97         | 170       | 40         | 84        | 44         | 15         | 11         | 249       | 82         | 85         | M8 |
| 50        | 40         | 169       | 117        | 97         | 184       | 44         | 90        | 51         | 15         | 11         | 271       | 91         | 89         | M8 |
| 63        | 50         | 204       | 132        | 117        | 227       | 48         | 105       | 64         | 15         | 10         | 321       | 110        | 101        | M8 |
| 75        | 65         | 235       | 147        | 132        | 276       | 55         | 177       | 85         | 15         | 21         | 386       | 125        | 136        | M8 |
| 90        | 80         | 235       | 168        | 147        | 297       | 62         | 189       | 105        | 15         | 21         | 421       | 140        | 141        | M8 |

| d<br>(mm) | DN<br>(mm) | Closest inch<br>(inch) | Hole pattern |
|-----------|------------|------------------------|--------------|
| 32        | 25         | 1                      | F05/F03      |
| 40        | 32         | 1 ¼                    | F05/F03      |
| 50        | 40         | 1 ½                    | F05/F03      |
| 63        | 50         | 2                      | F05/F03      |
| 75        | 65         | 2 ½                    | F07          |
| 90        | 80         | 3                      | F07          |

# Product range



## COOL-FIT 2.0 Butterfly valve kit type 567 bare shaft

### Model:

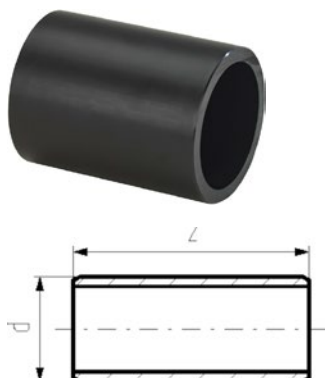
- Material: PVC-U with spigot PE100 SDR11, metric
- Interface F07 according to DIN/ISO 5211
- Including flange adaptors, backing flanges PP-Steel, bolts and insulation half shells

| d    | DN   | PN | EPDM        |
|------|------|----|-------------|
| (mm) | (mm) |    | Code        |
| 110  | 100  | 16 | 138 567 414 |
| 140  | 125  | 16 | 138 567 416 |

| d    | DN   | D    | D1   | D2   | L    | L1   | L3   | z    | z1   | z2   | H1   | H2   | H3   | closest inch |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------|
| (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (inch)       |
| 110  | 100  | 260  | 188  | 168  | 552  | 72   | 106  | 696  | 320  | 56   | 104  | 167  | 55   | 4            |
| 140  | 125  | 287  | 233  | 208  | 662  | 84   | 106  | 830  | 383  | 64   | 117  | 181  | 55   | 5            |

## Product range

### COOL-FIT 2.0 Accessories



#### COOL-FIT 2.0/4.0 Barrel nipple

**Model:**

- PE100, SDR11, metric
- For the shortest possible connection between fittings

| d<br>(mm) | PN | Code               | Weight<br>(kg) | z<br>(mm) | closest inch<br>(inch) |
|-----------|----|--------------------|----------------|-----------|------------------------|
| 32        | 10 | <b>738 910 408</b> | 0.020          | 72        | 1                      |
| 40        | 10 | <b>738 910 409</b> | 0.034          | 80        | 1 ¼                    |
| 50        | 10 | <b>738 910 410</b> | 0.059          | 88        | 1 ½                    |
| 63        | 10 | <b>738 910 411</b> | 0.101          | 96        | 2                      |
| 75        | 10 | <b>738 910 412</b> | 0.162          | 110       | 2 ½                    |
| 90        | 10 | <b>738 910 413</b> | 0.264          | 124       | 3                      |
| 110       | 10 | <b>738 910 414</b> | 0.454          | 144       | 4                      |
| 140       | 10 | <b>738 910 416</b> | 0.855          | 168       | 5                      |



#### COOL-FIT 2.0 adhesive ring

**Model:**

- Double sided, for sealing connections of fittings with barrel nipple

| d<br>(mm)  | D<br>(mm) | Code               | Weight<br>(kg) |
|------------|-----------|--------------------|----------------|
| 32         | 75        | <b>738 010 012</b> | 0.002          |
| 32, 40, 50 | 90        | <b>738 010 013</b> | 0.002          |
| 40, 50, 63 | 110       | <b>738 010 014</b> | 0.003          |
| 63, 75     | 125       | <b>738 010 015</b> | 0.003          |
| 75, 90     | 140       | <b>738 010 016</b> | 0.003          |
| 90, 110    | 160       | <b>738 010 017</b> | 0.005          |
| 140        | 200       | <b>738 010 019</b> | 0.006          |



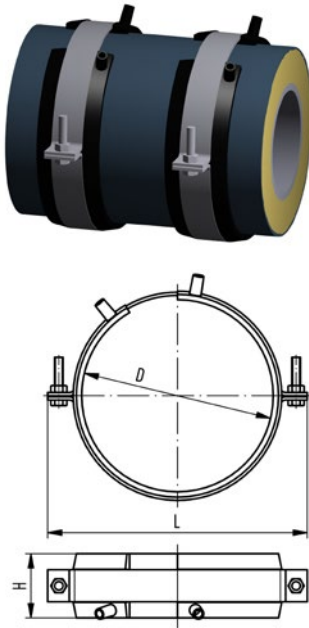
#### COOL-FIT 2.0 Insulation for welding indicator

**Model:**

- Sales unit: Bag with 20 pieces

| Code               | Weight<br>(kg) |
|--------------------|----------------|
| <b>738 010 051</b> | 0.000          |

## Product range



### COOL-FIT 2.0 fixed point

#### Model:

- The product consists of two components namely a welding band and a pipe bracket.
- Electro-fusion welded band as permanent connection to transmit the forces that occur in the pipe to the fixed point.
- The delivered pipe brackets are needed to deliver welding pressure during installation and give stability during operation.
- For welding, use an MSA2.x, MSA4.x, MSA 250, 300, 350, 400 or commercially available 220 V fusion machines.
- If you use an MSA fusion machine from GF Piping Systems, use the 799 350 339 adaptor or the 790 156 032 y-cable set.
- Please take note of the maximum allowed forces for this version in the table below.
- **Fixed point brackets and cross braces have to be calculated and obtained by the installer. They are not included in the fixed point set from GF.**

| D<br>(mm) | d<br>(mm) | Code        | Weight<br>(kg) | L<br>(mm) | H<br>(mm) | max. Force<br>(kN) | closest inch<br>(inch) |
|-----------|-----------|-------------|----------------|-----------|-----------|--------------------|------------------------|
| 75        | 32        | 738 912 012 | 0.750          | 150       | 60        | 2.0                | 1                      |
| 90        | 40 - 50   | 738 912 013 | 0.895          | 170       | 60        | 3.0 / 5.0          | 1 ¼ / 1 ½              |
| 110       | 63        | 738 912 014 | 0.904          | 180       | 60        | 8.0                | 2                      |
| 125       | 75        | 738 912 015 | 1.103          | 215       | 60        | 10.0               | 2 1/2                  |
| 140       | 90        | 738 912 016 | 1.188          | 220       | 60        | 10.0               | 3                      |
| 160       | 110       | 738 912 017 | 1.177          | 255       | 60        | 10.0               | 4                      |
| 200       | 140       | 738 912 019 | 1.600          | 310       | 60        | 10.0               | 5                      |



### Adaptor

- MSA electrofusion adaptor for COOL-FIT Fixed point

| Code        | Weight<br>(kg) |
|-------------|----------------|
| 799 350 339 | 0.021          |



### COOL-FIT Y cables kit

- The COOL-fit Y cables are used to speed up the installation of the Fixed Points Electro-Fusion Tapes. The Y cables allow the welding in parallel of 2 E-Tapes, halving the total duration of the fusion process.
- Compatible with all MSA Units

| Type                                   | Code        | Weight<br>(kg) |
|----------------------------------------|-------------|----------------|
| 4 leads cable with 2mm plugs in output | 790 156 032 | 0.385          |



### COOL-FIT 2.0/4.0 Adhesive cement

#### Model:

- For the jointing of NBR foam insulations of flexible hoses and transition fittings

| Code        | Weight<br>(kg) |
|-------------|----------------|
| 738 010 060 | 0.500          |

# Product range



## COOL-FIT 2.0/4.0 Adhesive tape

**Model:**

- For the jointing of NBR foam insulations of flexible hoses and transition fittings
- 20m on a roll

| Code        | Weight |
|-------------|--------|
|             | (kg)   |
| 738 010 065 | 0.400  |



## Tangit KS Cleaner

- Special cleaner for plastic fusion connections in the material of PP, PE, PVDF and PB
- Suitable for Tangit Rapid. Must not be used for solvent cementing
- DVGW approved
- DW 5290 BR 0464

| Size    | Code        | Weight |
|---------|-------------|--------|
|         |             | (kg)   |
| 1 liter | 799 298 023 | 0.872  |

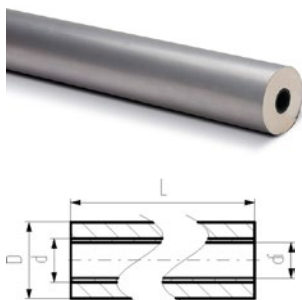


## Marker

| Type   | Code        | Weight |
|--------|-------------|--------|
|        |             | (kg)   |
| silver | 799 350 364 | 0.010  |

# COOL-FIT 2.0M

## COOL-FIT 2.0M Pipes



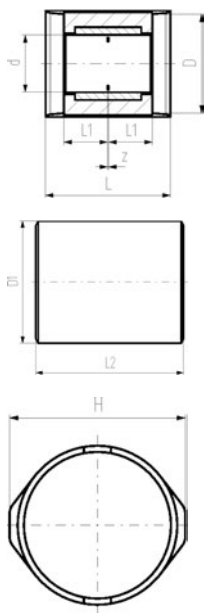
### COOL-FIT 2.0M Pipe

**Model:**

- Pre-insulated PE100 SDR11, metric
- Insulation made from PIR
- Outer jacket metal for increased fire classification

| d/D<br>(mm) | DN<br>(mm) | PN<br>(bar) | Code        | Weight<br>(kg/m) | di<br>(mm) | L<br>(mm) | closest inch<br>(inch) |
|-------------|------------|-------------|-------------|------------------|------------|-----------|------------------------|
| 32/75       | 25         | 16          | 738 174 208 | 1.312            | 26.2       | 5000      | 1                      |
| 40/90       | 32         | 16          | 738 174 209 | 1.706            | 32.6       | 5000      | 1 ¼                    |
| 50/90       | 40         | 16          | 738 174 210 | 1.894            | 40.8       | 5000      | 1 ½                    |
| 63/110      | 50         | 16          | 738 174 211 | 2.588            | 51.4       | 5000      | 2                      |
| 75/125      | 65         | 16          | 738 174 212 | 3.518            | 61.4       | 5000      | 2 ½                    |
| 90/140      | 80         | 16          | 738 174 213 | 4.396            | 73.6       | 5000      | 3                      |
| 110/160     | 100        | 16          | 738 174 214 | 5.724            | 90.0       | 5000      | 4                      |

COOL-FIT 2.0M Fittings



COOL-FIT 2.0M Coupler

Model:

- Pre-insulated PE100 SDR11, metric
- Insulation made from GF HE foam
- Integrated sealing lip for a water and steam tight sealing
- Including metal half shells and clamps for increased fire classification

| d/D<br>(mm) | PN<br>(bar) | Code        | Weight<br>(kg) | D1<br>(mm) | L<br>(mm) | L1<br>(mm) | z<br>(mm) | L2<br>(mm) | H<br>(mm) | closest inch<br>(inch) |
|-------------|-------------|-------------|----------------|------------|-----------|------------|-----------|------------|-----------|------------------------|
| 32/75       | 16          | 738 914 208 | 0.236          | 83         | 115       | 36         | 5         | 120        | 92        | 1                      |
| 40/90       | 16          | 738 914 209 | 0.297          | 99         | 121       | 40         | 3         | 126        | 101       | 1 ¼                    |
| 50/90       | 16          | 738 914 210 | 0.340          | 99         | 129       | 44         | 3         | 135        | 113       | 1 ½                    |
| 63/110      | 16          | 738 914 211 | 0.457          | 119        | 137       | 48         | 3         | 142        | 130       | 2                      |
| 75/125      | 16          | 738 914 212 | 0.599          | 134        | 151       | 55         | 3         | 157        | 146       | 2 ½                    |
| 90/140      | 16          | 738 914 213 | 0.776          | 150        | 166       | 62         | 4         | 171        | 161       | 3                      |
| 110/160     | 16          | 738 914 214 | 1.139          | 169        | 186       | 72         | 4         | 191        | 187       | 4                      |

# Product range

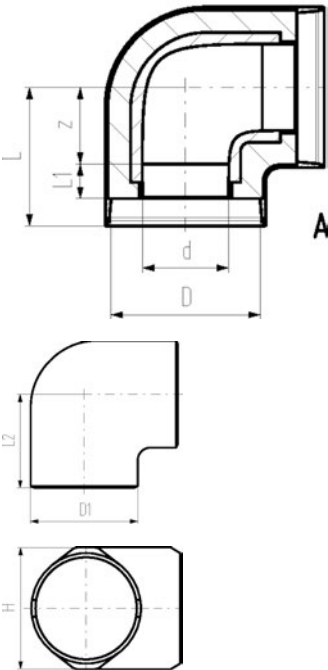


COOL-FIT 2.0M Elbow 90°

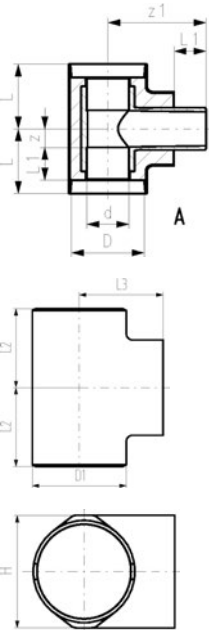
**Model:**

- Pre-insulated PE100 SDR11, metric
- Insulation made from GF HE foam
- Integrated sealing lip for a water and steam tight sealing
- Including metal half shells and clamps for increased fire classification

| d/D<br>(mm) | PN<br>(bar) | Code        | Weight<br>(kg) | D1<br>(mm) | L<br>(mm) | L1<br>(mm) | L2<br>(mm) | z<br>(mm) | H<br>(mm) | closest inch<br>(inch) |
|-------------|-------------|-------------|----------------|------------|-----------|------------|------------|-----------|-----------|------------------------|
| 32/75       | 16          | 738 104 208 | 0.284          | 83         | 75        | 36         | 78         | 20        | 92        | 1                      |
| 40/90       | 16          | 738 104 209 | 0.371          | 99         | 82        | 40         | 84         | 23        | 101       | 1 ¼                    |
| 50/90       | 16          | 738 104 210 | 0.442          | 99         | 93        | 44         | 95         | 30        | 113       | 1 ½                    |
| 63/110      | 16          | 738 104 211 | 0.634          | 119        | 101       | 48         | 104        | 34        | 130       | 2                      |
| 75/125      | 16          | 738 104 212 | 0.808          | 134        | 114       | 55         | 117        | 40        | 146       | 2 ½                    |
| 90/140      | 16          | 738 104 213 | 1.337          | 150        | 144       | 62         | 147        | 63        | 161       | 3                      |
| 110/160     | 16          | 738 104 214 | 1.789          | 169        | 168       | 72         | 171        | 77        | 187       | 4                      |



# Product range



## COOL-FIT 2.0M Tee 90° equal

### Model:

- Pre-insulated PE100 SDR11, metric
- Insulation made from GF HE foam
- Integrated sealing lip for a water and steam tight sealing
- Including metal half shells and clamps for increased fire classification

| d/D<br>(mm) | PN<br>(bar) | Code        | Weight<br>(kg) |
|-------------|-------------|-------------|----------------|
| 32/75       | 16          | 738 204 408 | 0.319          |
| 40/90       | 16          | 738 204 409 | 0.430          |
| 50/90       | 16          | 738 204 410 | 0.525          |
| 63/110      | 16          | 738 204 411 | 0.767          |
| 75/125      | 16          | 738 204 412 | 0.990          |
| 90/140      | 16          | 738 204 413 | 1.400          |
| 110/160     | 16          | 738 204 414 | 2.235          |

| d/D<br>(mm) | D1<br>(mm) | L<br>(mm) | L1<br>(mm) | L3<br>(mm) | z<br>(mm) | z1<br>(mm) | L2<br>(mm) | H<br>(mm) | closest inch<br>(inch) |
|-------------|------------|-----------|------------|------------|-----------|------------|------------|-----------|------------------------|
| 32/75       | 83         | 73        | 36         | 69         | 18        | 98         | 75         | 92        | 1                      |
| 40/90       | 99         | 81        | 40         | 79         | 22        | 112        | 83         | 101       | 1 ¼                    |
| 50/90       | 99         | 88        | 44         | 88         | 25        | 125        | 90         | 113       | 1 ½                    |
| 63/110      | 119        | 97        | 48         | 106        | 30        | 147        | 99         | 130       | 2                      |
| 75/125      | 134        | 110       | 55         | 92         | 36        | 140        | 112        | 146       | 2 ½                    |
| 90/140      | 150        | 124       | 62         | 106        | 48        | 161        | 126        | 161       | 3                      |
| 110/160     | 169        | 148       | 72         | 119        | 57        | 184        | 150        | 187       | 4                      |

# COOL-FIT 2.0/2.0M Tools

## COOL-FIT 2.0/2.0M Tools



### COOL-FIT 2.0/4.0 Foam removal and peeling tool

**Model:**

- Tool for foam removal and peeling of COOL-FIT 2.0 and 4.0 pipes

| d<br>(mm) | Code               | Weight<br>(kg) |
|-----------|--------------------|----------------|
| 32-90     | <b>799 738 001</b> | 10.500         |
| 110-225   | <b>799 738 002</b> | 16.500         |



### MSA 2.1

#### Automatic Electrofusion Unit with protocols retrieval

The MSA 2.1 automatic electro fusion unit combines light weight and high efficiency, thanks to its inverter technology and furthermore provides fusion documentation in PDF. The unit is extremely fast and simple, with three basic operations required to operator: connect, scan, start the fusion. It is robust, safe and ergonomic.

All is meant to simplify the job: the barcode scanner, for long distance reading, the cooling system to joint in series, the icon system, to keep the interaction between user and machine intuitive. The entire welding process is controlled and regulated with energy output compensation depending on ambient temperature and the indication of cooling time.

The unit has 1000 protocols permanently stored in the internal memory. The user can copy the fusion reports in an USB stick to print them out in PDF format.

Scope of delivery includes: transport box, 1 pair of angle adapter clips 4.0 mm, 1 pair of angle adapter clips 4.7 mm, operating instructions, START/STOP badge and USB memory stick. The mini Welding Book is available as option.

**Technical Data:**

- Operating temperature: -20°C to +50°C
- Fusion data input mode: bar code, manual
- Mains voltage: 230V (190V - 265V)
- Mains frequency: 50-60 Hz
- Welding technique: Voltage controlled
- Fusion voltage: 8-42 V (48 V)
- Fusion current: 90 A (max)
- Suggested power generators: 3.5 kVA
- Internal memory capacity: 1000 protocols
- Fittings range: d20-1200 mm
- Protocols format: PDF and binary (compatible with mini Welding Book)
- USB Port: Type A
- Protection factor: Class 1 / IP 65
- Mains cable: 4 m
- Fusion cable: 4 m
- Weight: ca. 11.9 kg
- Display: Graphical LCD, adjustable contrast
- Languages support: all

| Type                                                                  | Code               | Weight<br>(kg) |
|-----------------------------------------------------------------------|--------------------|----------------|
| Barcode scanner, transport case, mini Welding Book                    | <b>790 156 003</b> | 20.000         |
| Barcode scanner, transport case, mini Welding Book, Swiss plug        | <b>790 156 006</b> | 13.000         |
| Barcode scanner, transport case, mini Welding Book, 8m welding cables | <b>790 156 010</b> | 21.000         |

## Product range



### Double clamp with universal link

- Recommended for the installation of fittings COOL-FIT and ELGEF Plus
- The clamping allows installation without tension and avoids movement during fusion and cooling time
- The centrally located adjustable universal link allows installation of electrofusion couplers, elbows and reducers
- Works above, below and alongside the joint
- Adaptor for use with Tee-pieces available (see accessories)

| d<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description                                                                                       | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|-----------|------------|--------------------|----------------|---------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| 40        | 200        | <b>799 301 490</b> | 4.200          | Scope of delivery: 2 x V-block, 2 x Straight bar, 1 x Universal link, Transport bag (600x380x250) | 960       | 290       | 230       |
| 160       | 630        | <b>799 301 496</b> | 14.100         | Scope of delivery: 2 x V-block, 2 x Straight bar, 1 x Universal link, Transport bag (780x780x580) | 1300      | 670       | 550       |



### Quadruple clamp with universal link

- Recommended for the installation of fittings COOL-FIT and ELGEF Plus
- The clamping allows installation without tension and avoids movement during fusion and cooling time
- The centrally located adjustable universal link allows installation of electrofusion couplers, elbows and reducers
- Universal use; works above, below and alongside the joint
- Adaptor for use with Tee-pieces available (see accessories)

| d<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description                                                                                       | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|-----------|------------|--------------------|----------------|---------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
| 40        | 200        | <b>799 301 489</b> | 8.300          | Scope of delivery: 4 x V-block, 2 x Straight bar, 1 x Universal link, Transport bag (600x380x250) | 960       | 290       | 230       |
| 160       | 630        | <b>799 301 495</b> | 23.300         | Scope of delivery: 4 x V-block, 2 x Straight bar, 1 x Universal link, Transport bag (780x780x580) | 1300      | 670       | 550       |



### Tee adaptor

- Suitable for clamping tool (799301489 - 495)

| d<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|-----------|------------|--------------------|----------------|-------------|-----------|-----------|-----------|
| 40        | 200        | <b>799 301 491</b> | 0.610          | Tee adaptor | 600       | 50        | 40        |
| 160       | 630        | <b>799 301 497</b> | 3.500          | Tee adaptor | 1070      | 75        | 60        |



### V-block

- Suitable for clamping tool (799301489 - 495)

| d<br>(mm) | d1<br>(mm) | Code               | Weight<br>(kg) | Description      | L<br>(mm) | B<br>(mm) | H<br>(mm) |
|-----------|------------|--------------------|----------------|------------------|-----------|-----------|-----------|
| 40        | 200        | <b>799 301 492</b> | 1.000          | V-block complete | 290       | 230       | 65        |
| 160       | 630        | <b>799 301 498</b> | 3.200          | V-block complete | 660       | 430       | 90        |

# Product range



## Bar extension

- Suitable for clamping tool (799301489 - 495)

| d    | d1   | Code        | Weight | Description   | L    | B    | H    |
|------|------|-------------|--------|---------------|------|------|------|
| (mm) | (mm) |             | (kg)   |               | (mm) | (mm) | (mm) |
| 160  | 630  | 799 301 499 | 1.000  | Bar extension | 1000 | 40   | 40   |

# Worldwide at home

Our sales companies and representatives ensure local customer support in over 100 countries

[www.gfps.com](http://www.gfps.com)

## Argentina / Southern South America

Georg Fischer Central Plastics Sudamérica S.R.L.  
Buenos Aires, Argentina  
Phone +54 11 4512 02 90  
[gfccentral.ps.ar@georgfischer.com](mailto:gfccentral.ps.ar@georgfischer.com)  
[www.gfps.com/ar](http://www.gfps.com/ar)

## Australia

George Fischer Pty Ltd  
Riverwood NSW 2210 Australia  
Phone +61 (0) 2 9502 8000  
[australia.ps@georgfischer.com](mailto:australia.ps@georgfischer.com)  
[www.gfps.com/au](http://www.gfps.com/au)

## Austria

Georg Fischer Rohrleitungssysteme GmbH  
3130 Herzogenburg  
Phone +43 (0) 2782 856 43-0  
[austria.ps@georgfischer.com](mailto:austria.ps@georgfischer.com)  
[www.gfps.com/at](http://www.gfps.com/at)

## Belgium / Luxembourg

Georg Fischer NV/SA  
1600 Sint-Pieters-Leeuw / Belgium  
Phone +32 (0) 2 556 40 20  
Fax +32 (0) 2 524 34 26  
[be.ps@georgfischer.com](mailto:be.ps@georgfischer.com)  
[www.gfps.com/be](http://www.gfps.com/be)

## Brazil

Georg Fischer Sist. de Tub. Ltda.  
04571-020 São Paulo/SP  
Phone +55 (0) 11 5525 1311  
[br.ps@georgfischer.com](mailto:br.ps@georgfischer.com)  
[www.gfps.com/br](http://www.gfps.com/br)

## Canada

Georg Fischer Piping Systems Ltd  
Mississauga, ON L5T 2B2  
Phone +1 (905) 670 8005  
Fax +1 (905) 670 8513  
[ca.ps@georgfischer.com](mailto:ca.ps@georgfischer.com)  
[www.gfps.com/ca](http://www.gfps.com/ca)

## China

Georg Fischer Piping Systems Ltd  
Shanghai 201319  
Phone +86 21 3899 3899  
[china.ps@georgfischer.com](mailto:china.ps@georgfischer.com)  
[www.gfps.com/cn](http://www.gfps.com/cn)

## Denmark / Iceland

Georg Fischer A/S  
2630 Taastrup  
Phone +45 (0) 70 22 19 75  
[info.dk.ps@georgfischer.com](mailto:info.dk.ps@georgfischer.com)  
[www.gfps.com/dk](http://www.gfps.com/dk)

## Finland

Georg Fischer AB  
01510 VANTAA  
Phone +358 (0) 9 586 58 25  
Fax +358 (0) 9 586 58 29  
[info.fi.ps@georgfischer.com](mailto:info.fi.ps@georgfischer.com)  
[www.gfps.com/fi](http://www.gfps.com/fi)

## France

Georg Fischer SAS  
95932 Roissy Charles de Gaulle Cedex  
Phone +33 (0) 1 41 84 68 84  
[fr.ps@georgfischer.com](mailto:fr.ps@georgfischer.com)  
[www.gfps.com/fr](http://www.gfps.com/fr)

## Germany

Georg Fischer GmbH  
73095 Albershausen  
Phone +49 (0) 7161 302 0  
[info.de.ps@georgfischer.com](mailto:info.de.ps@georgfischer.com)  
[www.gfps.com/de](http://www.gfps.com/de)

## India

Georg Fischer Piping Systems Pvt. Ltd  
400 083 Mumbai  
Phone +91 22 4007 2000  
Fax +91 22 4007 2020  
[branchoffice@georgfischer.com](mailto:branchoffice@georgfischer.com)  
[www.gfps.com/in](http://www.gfps.com/in)

## Indonesia

George Fischer Pte Ltd  
41371 Jawa Barat  
Phone +62 267 432 044  
Fax +62 267 431 857  
[indonesia.ps@georgfischer.com](mailto:indonesia.ps@georgfischer.com)  
[www.gfps.com/id](http://www.gfps.com/id)

## Italy

Georg Fischer S.p.A.  
20063 Cernusco S/N (MI)  
Phone +39 02 921 861  
[it.ps@georgfischer.com](mailto:it.ps@georgfischer.com)  
[www.gfps.com/it](http://www.gfps.com/it)

## Japan

Georg Fischer Ltd  
530-0003 Osaka  
Phone +81 (0) 6 6341 2451  
[jp.ps@georgfischer.com](mailto:jp.ps@georgfischer.com)  
[www.gfps.com/jp](http://www.gfps.com/jp)

## Korea

Georg Fischer Korea Co. Ltd  
Unit 2501, U-Tower  
120 HeungdeokJungang-ro  
(Yeongdeok-dong)  
Giheung-gu, Yongin-si, Gyeonggi-do  
Phone +82 31 8017 1450  
Fax +82 31 217 1454  
[kor.ps@georgfischer.com](mailto:kor.ps@georgfischer.com)  
[www.gfps.com/kr](http://www.gfps.com/kr)

## Malaysia

George Fischer (M) Sdn. Bhd.  
40460 Shah Alam, Selangor Darul Ehsan  
Phone +60 (0) 3 5122 5585  
Fax +60 (0) 3 5122 5575  
[my.ps@georgfischer.com](mailto:my.ps@georgfischer.com)  
[www.gfps.com/my](http://www.gfps.com/my)

## Mexico / Northern Latin America

Georg Fischer S.A. de C.V.  
Apodaca, Nuevo Leon  
CP66636 Mexico  
Phone +52 (81) 1340 8586  
Fax +52 (81) 1522 8906  
[mx.ps@georgfischer.com](mailto:mx.ps@georgfischer.com)  
[www.gfps.com/mx](http://www.gfps.com/mx)

## Middle East

Georg Fischer Piping Systems (Switzerland) Ltd  
Dubai, United Arab Emirates  
Phone +971 4 289 49 60  
[gcc.ps@georgfischer.com](mailto:gcc.ps@georgfischer.com)  
[www.gfps.com/int](http://www.gfps.com/int)

## Netherlands

Georg Fischer N.V.  
8161 PA Epe  
Phone +31 (0) 578 678 222  
[nL.ps@georgfischer.com](mailto:nL.ps@georgfischer.com)  
[www.gfps.com/nl](http://www.gfps.com/nl)

## Norway

Georg Fischer AS  
1351 Rud  
Phone +47 67 18 29 00  
[no.ps@georgfischer.com](mailto:no.ps@georgfischer.com)  
[www.gfps.com/no](http://www.gfps.com/no)

## Philippines

Georg Fischer Pte Ltd  
Representative Office  
Phone +632 571 2365  
Fax +632 571 2368  
[sgp.ps@georgfischer.com](mailto:sgp.ps@georgfischer.com)  
[www.gfps.com/sg](http://www.gfps.com/sg)

## Poland

Georg Fischer Sp. z o.o.  
05-090 Sekocin Nowy  
Phone +48 (0) 22 31 31 0 50  
[poland.ps@georgfischer.com](mailto:poland.ps@georgfischer.com)  
[www.gfps.com/pl](http://www.gfps.com/pl)

## Romania

Georg Fischer Piping Systems (Switzerland) Ltd  
020257 Bucharest - Sector 2  
Phone +40 (0) 21 230 53 80  
[ro.ps@georgfischer.com](mailto:ro.ps@georgfischer.com)  
[www.gfps.com/int](http://www.gfps.com/int)

## Russia

Georg Fischer Piping Systems (Switzerland) Ltd  
Moscow 125040  
Phone +7 495 748 11 44  
[ru.ps@georgfischer.com](mailto:ru.ps@georgfischer.com)  
[www.gfps.com/ru](http://www.gfps.com/ru)

## Singapore

Georg Fischer Pte Ltd  
11 Tampines Street 92, #04-01/07  
528 872 Singapore  
Phone +65 6747 0611  
Fax +65 6747 0577  
[sgp.ps@georgfischer.com](mailto:sgp.ps@georgfischer.com)  
[www.gfps.com/sg](http://www.gfps.com/sg)

## Spain / Portugal

Georg Fischer S.A.  
28046 Madrid  
Phone +34 (0) 91 781 98 90  
[es.ps@georgfischer.com](mailto:es.ps@georgfischer.com)  
[www.gfps.com/es](http://www.gfps.com/es)

## Sweden

Georg Fischer AB  
117 43 Stockholm  
Phone +46 (0) 8 506 775 00  
[info.se.ps@georgfischer.com](mailto:info.se.ps@georgfischer.com)  
[www.gfps.com/se](http://www.gfps.com/se)

## Switzerland

Georg Fischer Rohrleitungssysteme (Schweiz) AG  
8201 Schaffhausen  
Phone +41 (0) 52 631 3026  
[ch.ps@georgfischer.com](mailto:ch.ps@georgfischer.com)  
[www.gfps.com/ch](http://www.gfps.com/ch)

## Taiwan

Georg Fischer Co. Ltd  
San Chung Dist., New Taipei City  
Phone +886 2 8512 2822  
Fax +886 2 8512 2823  
[www.gfps.com/tw](http://www.gfps.com/tw)

## United Kingdom / Ireland

Georg Fischer Sales Limited  
Coventry, CV2 2ST  
Phone +44 (0) 2476 535 535  
[uk.ps@georgfischer.com](mailto:uk.ps@georgfischer.com)  
[www.gfps.com/uk](http://www.gfps.com/uk)

## USA / Caribbean

Georg Fischer LLC  
9271 Jeronimo Road  
92618 Irvine, CA  
Phone +1 714 731 8800  
Fax +1 714 731 6201  
[us.ps@georgfischer.com](mailto:us.ps@georgfischer.com)  
[www.gfps.com/us](http://www.gfps.com/us)

## International

Georg Fischer Piping Systems (Switzerland) Ltd  
8201 Schaffhausen/Switzerland  
Phone +41 (0) 52 631 3003  
Fax +41 (0) 52 631 2893  
[info.export@georgfischer.com](mailto:info.export@georgfischer.com)  
[www.gfps.com/int](http://www.gfps.com/int)

The technical data are not binding. They neither constitute expressly warranted characteristics nor guaranteed properties nor a guaranteed durability. They are subject to modification. Our General Terms of Sale apply.