

# HerzCON

The clever connection set for fan coils



## HerzCON - innovative direct connection for fan coils

### ☑ Perfect comfort conditions thanks to the HERZ 4006 SMART

Comfort in rooms that are air-conditioned with fan coils requires a constant flow of the cooling or heating medium through the fan convactor. This is ensured by the robust and stable volume flow control by the **HERZ 4006 SMART / 4406** valve, the heart of the HerzCON. An excellent piece of control technology, with a generously designed housing and pressure-relieved control parts, made of precisely processed dezincification-resistant brass, manufactured in-house under the strictest HERZ quality standards.

You can therefore rely on the **HERZ 4006 SMART / 4406** valve to provide precise control and energy efficiency over a long service life.

The flow rate on the **HERZ 4006 SMART / 4406** is simply set as a percentage of the maximum value by turning the presetting key and is maintained independently of pressure fluctuations in the system.



### ☑ HerzCON - compact, practical, functional

But installers and clients need even more: Ease of installation, simple commissioning, diagnostics and maintenance. The HERZ engineers have come up with a very compact, user-friendly and extremely useful device.

The footprint of the DN 15 and DN 20 versions is only 18x18 cm. It is remarkable how many functions for commissioning, control and maintenance the HerzCON integrates in such a small space.

### ☑ Flushable filter at the inlet

The heating or cooling medium enters the unit through a strainer with a drain valve. This is a full size DN 15 drain and fill valve with butterfly handle, cap and chain.

The combination of the strainer and the drain valve enable useful functionality. The strainer screen can be cleaned through the flushing process without having to remove it from the valve. A simple process that saves time.

### ☑ Accessible ball valves with flow direction indicators

The movement of the fluid through the unit is controlled by the adjustment of the T-bore ball valves. The ball valves have specially shaped handles that indicate the flow path and are long enough to reach out of the isolation shell. The ball valves can be operated at any time without dismantling the insulation shell.

### ☑ Benefits

- ☑ Allows operations such as regulation, flushing and draining
- ☑ Large bypass for flushing according to BSRIA BG29/2021
- ☑ Designs DN 15 and DN 20 with 65 mm, DN 25 with 90 mm and DN 32 with 110 mm pipe center distance
- ☑ All components made of dezincification resistant brass
- ☑ No distinction between heating and cooling systems
- ☑ Fully assembled and tested at the factory
- ☑ Reduced labour and costs on site
- ☑ High planning and assembly safety



## ☑ Application areas

HerzCON was designed for easy connection to fan convectors or other end devices. Thanks to the diffusion-tight insulating shells, HerzCON is suitable for both heating and cooling.

Eight flow ranges result in a wide range of applications. All components are made of dezincification-resistant brass, which means that operation with both heating water and chilled water is possible.

## ☑ Materials and construction

|                          |   |
|--------------------------|---|
| ☑ Housing:               | Dezincification resistant brass                       |
| ☑ Diaphragm and O-rings: | EPDM  |
| ☑ Connections:           | Primary side (AG) sleeve, secondary side flat sealing |

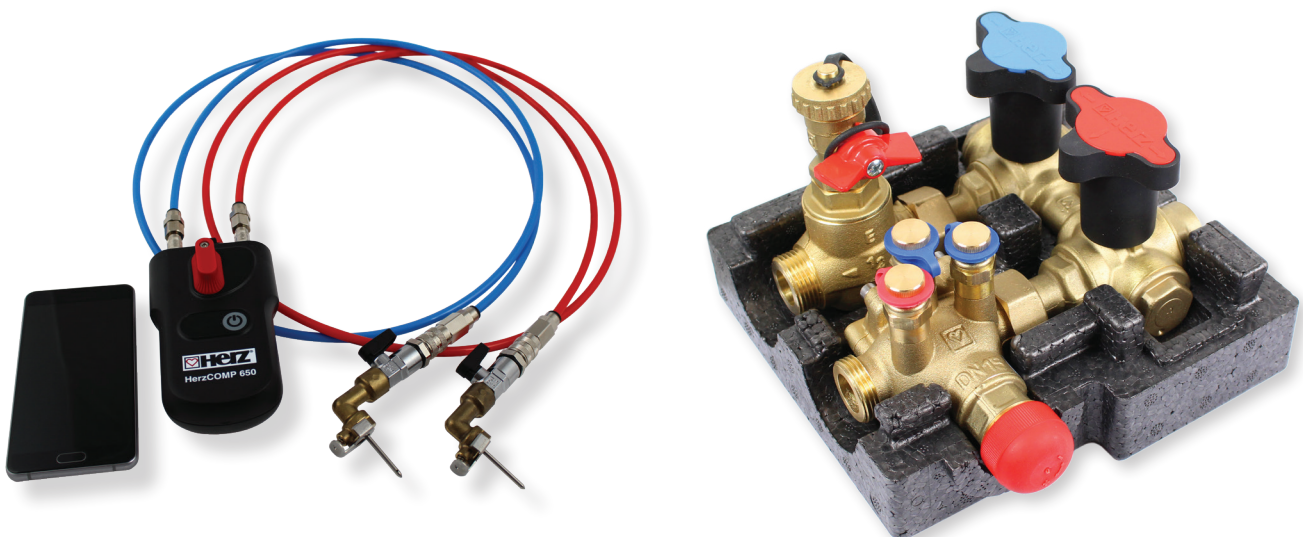
According to Article 33 of the REACH regulation (EG No. 1907/2006), we are obliged to point out that lead is on the SVHC list and that all components made of brass that are processed in our products contain more than 0.1% (w/w) lead (CAS: 7439-92-1 / EINECS: 231-100-4). Since lead is firmly bound as an alloy component, no exposure is to be expected and therefore no additional information on safe use is necessary.

## ☑ Technical data

|                               |  |
|-------------------------------|--|
| ☑ Max. working pressure:      | 25 bar   |
| ☑ Min. operating temperature: | - 20 °C  |
| ☑ Max. operating temperature: | 130 °C   |
| ☑ Hub:                        | DN 15 - DN 32: 4 mm  |
| ☑ Min. differential pressure: | DN 15 - DN 20: approx. 25 kPa; DN 25 - DN 32: approx. 35 kPa (see datasheet) |
| ☑ Max. differential pressure: | 6 bar (4 bar for DN 15 LF and DN 15 MF)                                      |

Water quality according to ÖNORM H 5195-1 and VDI 2035. When using ethylene glycol as antifreeze, a proportion of 20 - 50% and propylene glycol of 25 - 50% is permissible.

## ☑ Three measuring valves for selected dimensions





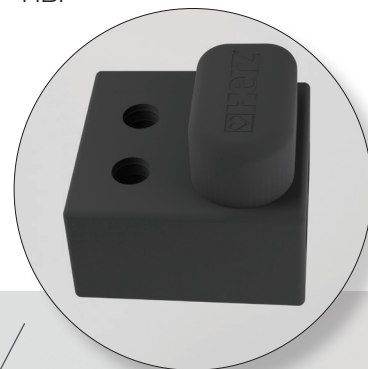
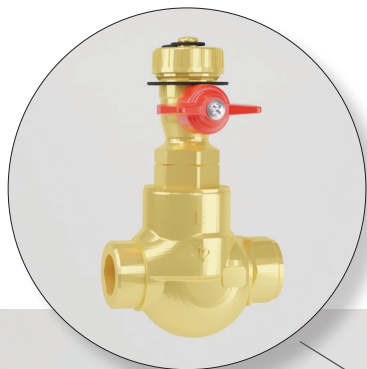
- ☑ The integrated **drain valve** in the strainer allows the system to be flushed without removing the strainer screen.

- ☑ **Insulating shell impermeable to water vapor**

Fire resistance:

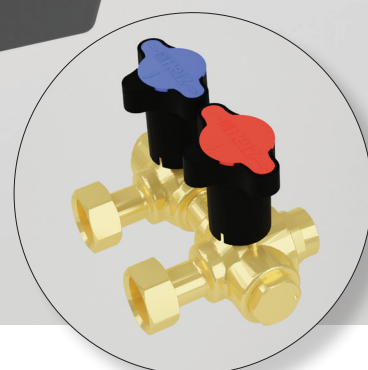
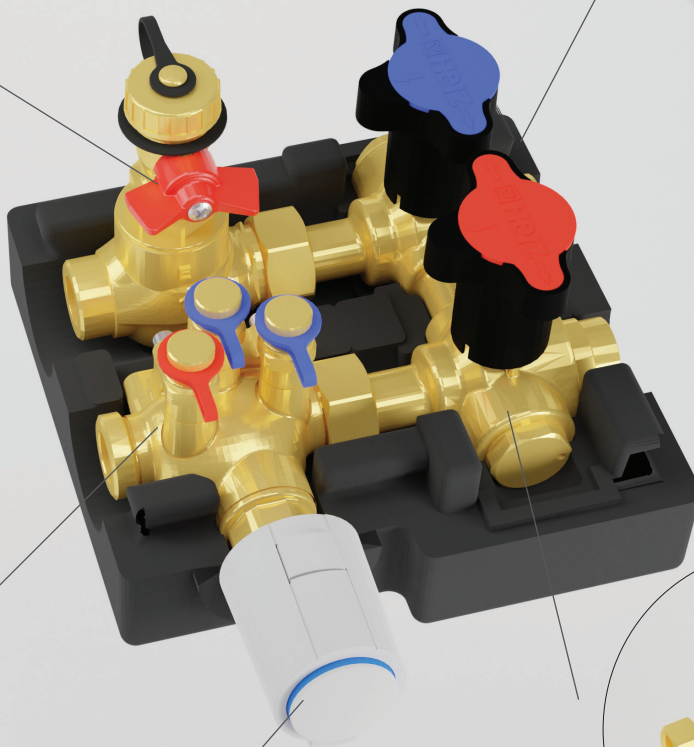
| Method                          | Class |
|---------------------------------|-------|
| DIN EN ISO 11925-2 <sup>1</sup> | E     |
| DIN 4102-1                      | E     |
| UL 94                           | HBF   |

<sup>1</sup> Edge exposure, classification according to EN 13501-1



- ☑ **Pressure-independent control valve (PICV)**

One valve for four requirements: differential pressure controller, adjustment, control, shut off. No valve authority calculation and verification necessary.






- ☑ **Actuator** (thermal or geared motor)



- ☑ **HERZ multifunction ball valve block** with red and blue handle, ball with T-bore. T-bore of the ball with full passage allows draining or filling of complete system or a partial system in case of maintenance. The position of the ball valves is indicated by the ball valve handles.

## ☑ Product overview

The insulating shell is a compact and solid part made of diffusion-tight EPS, with standard or increased fire resistance. The shell has been designed for easy assembly and convenient service access. Simply snap out a segment of the shell and you have good access to the bleed valve and gauge ports. The setting dial and actuator connection of the combi valve PICV is located on the same side and allows the actuator to be mounted outside the thermally insulated room. With just a few turns of the handles it is possible to shut off the fan coil and to fill, drain or flush various parts of the system. The HERZ **4006** Pressure-independent control valve can be flushed clean in back flush mode while the strainer screen is cleaned at the same time.

|             |       |                      |  |  |  |
|-------------|-------|----------------------|---|--|---|
| I/h         | DN    | Pipe center distance | HerzCON incl. insulating box  | HerzCON without insulating box   | HerzCON incl. insulating box  |
| 20 - 120    | 15 LF | 65 mm                | 1 <b>4600</b> 50  | -  | -   |
| 40 - 190    | 15 MF | 65 mm                | 1 <b>4600</b> 59  | -  | -   |
| 160 - 800   | 15 SF | 65 mm                | 1 <b>4600</b> 76  | -  | -   |
| 240 - 1200  | 15 HF | 65 mm                | 1 <b>4600</b> 56  | -  | -   |
| 240 - 1200  | 20 SF | 65 mm                | 1 <b>4600</b> 77  | -  | -   |
| 400 - 2000  | 20 HF | 65 mm                | 1 <b>4600</b> 57  | -  | -   |
| 700 - 3300  | 25    | 90 mm                | -   | 1 <b>4600</b> 78   | -   |
| 1200 - 6000 | 32    | 110 mm               | -   | 1 <b>4600</b> 79   | -   |
| 160 - 800   | 15 SF | 80 mm                | -   | -  | 1 <b>4800</b> 76  |
| 240 - 1200  | 15 HF | 80 mm                | -   | -  | 1 <b>4800</b> 56  |
| 240 - 1200  | 20 SF | 80 mm                | -   | -  | 1 <b>4800</b> 77  |
| 400 - 2000  | 20 HF | 80 mm                | -   | -  | 1 <b>4800</b> 57  |

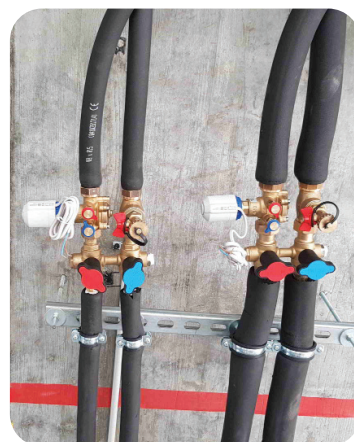
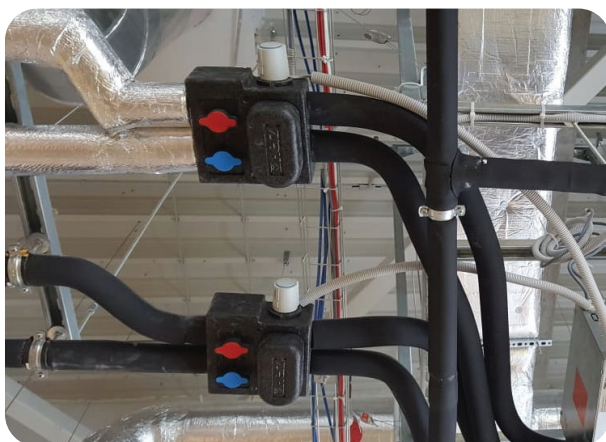
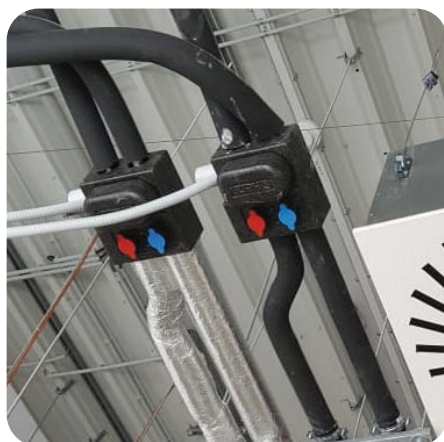
## ☑ Actuators and controllers

The 4006 SMART valve integrated in the HerzCON can be equipped with various drives that make it possible to control the HerzCON from a room thermostat or to integrate it into the building management system. The choice of drive depends on the application requirements. Modern control systems achieve the best comfort and high energy efficiency through continuous control. HERZ drives can be seamlessly integrated into the building management system in order to take over the necessary continuous control of the flow. Drives with valve travel detection enable even more precise control of the valve by adapting the control voltage range to the actual valve travel and preventing the drive from running empty.

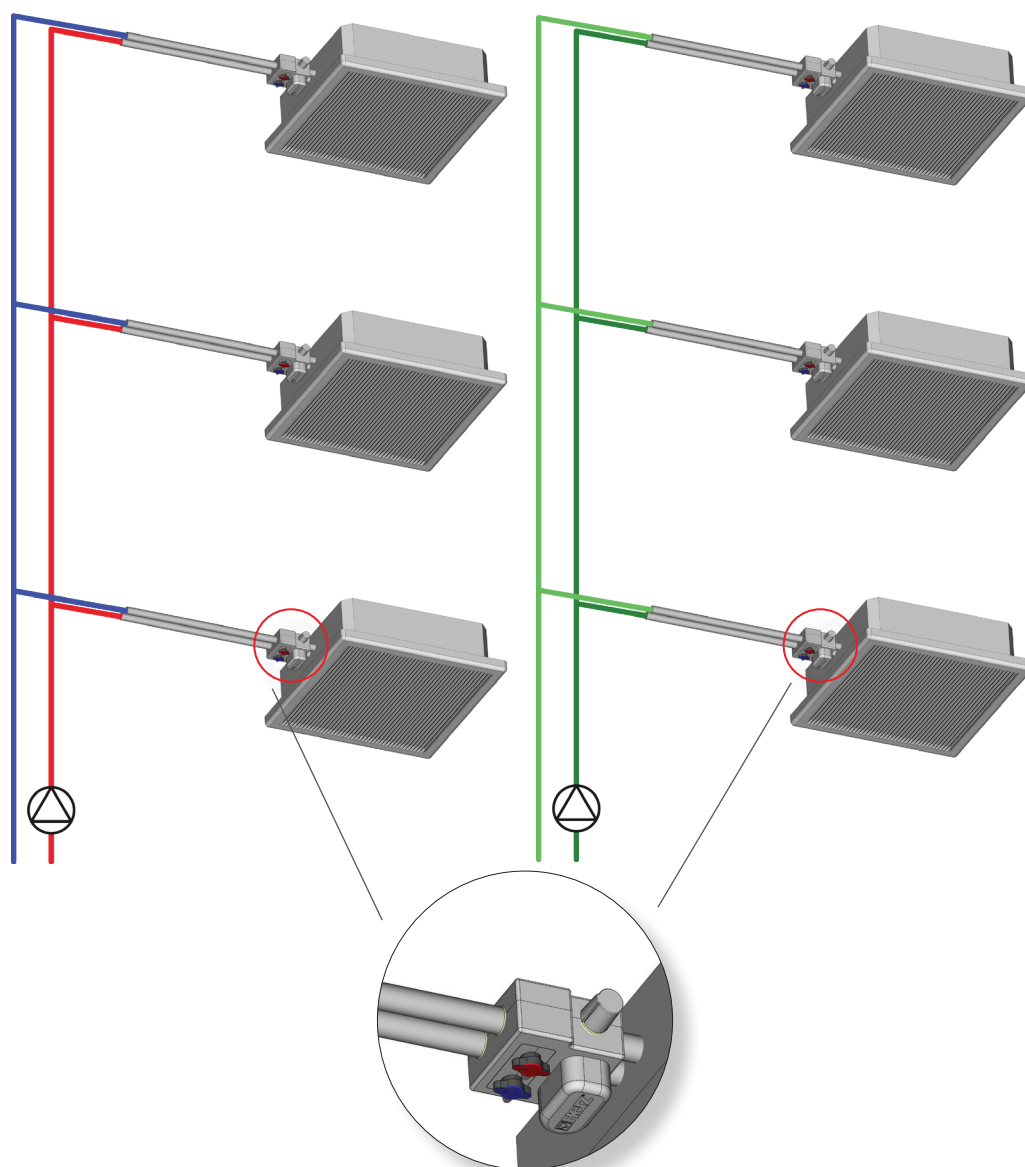
For some applications, simple on/off control of the valve is sufficient. In this case, 2-point drives can be deployed. Drives with an integrated limit switch can be used to switch a pump or fan control directly.

The dimensions DN15SF, DN15HF, DN20SF and DN20HF have an additional measuring valve P2, i.e. a total of 3 measuring valves P1, P2 and P3. The measurement between P1-P3 is used to check the minimum differential pressure and the setting of the PICV, as is the case with PICV with 2 measuring valves. The flow can be determined directly by measuring the differential pressure between P1-P2.

## ☑ Installation example



## ☑ Application example for heating and cooling



## ❑ Operation types

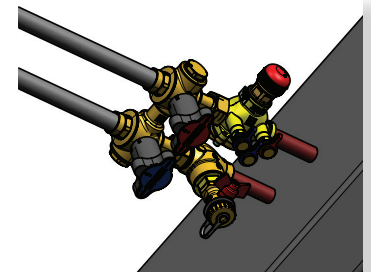
### ❑ Normal operation

In normal operation, the bypass is closed, the drain valve on the strainer is closed, the ball valves are in the position shown in the picture. The flow rate is preset on the PICV 4006 SMART.



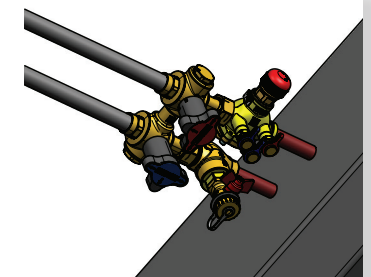
### ❑ Bypass operation

For the normal flushing process, the bypass is open and the PICV is closed. The drain valve on the strainer is also closed, the ball valves are in the position shown in the picture.



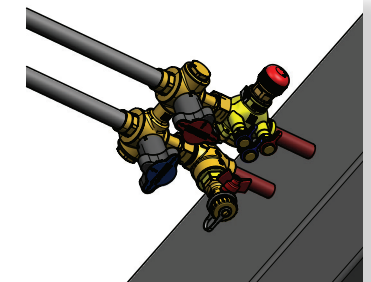
### ❑ Flushing

The bypass is closed for flushing, the ball valve in the supply line and the drain valve on the dirt trap are open. The ball valves are in the position shown in the picture. The system is drained through the strainer.



### ❑ Back flushing


The bypass is closed for back flushing, the drain valve on the strainer and the PICVs are open. The ball valves are in the position shown in the picture. The system is flushed through ball valve, 4006 SMART, fan coil and strainer.





**Note:** All information contained in this document corresponds to the information available at the time of printing and is for information only. We reserve the right to make changes in line with technical progress. All schemes are symbolic in nature and do not claim to be complete. The illustrations are to be understood as symbolic representations and can therefore differ optically from the actual products. Possible color deviations are due to the printing process. Country-specific product deviations are possible. Technical specifications and function are subject to change. If you have any questions, please contact the nearest HERZ branch.




## Actuators for HerzCON


| Image   | Description   | Operating voltage                                 | Order number |
|---|---|---|--------------|
|  | <b>HERZ geared motor 3-point</b><br>Adapter M 28 x 1.5 colour red integrated, 230 V, stroke distance max. 8.5 mm, max. actuation force 200 N.   | 24 V / AC / DC<br>Control signal<br>0 - 10 V / DC | 1 7708 40    |
|   | <b>HERZ geared motor 3-point</b><br>Adapter M 28 x 1.5 colour red integrated, 230 V, stroke distance max. 8.5 mm, max. actuation force 200 N.   | 24 V / AC / DC<br>Control signal<br>0 - 10 V / DC | 1 7708 41    |
|   | <b>HERZ geared motor DDC 0-10 V</b><br>Adapter M 28 x 1.5 colour red integrated, 24 V, stroke distance max. 8.5 mm, max. actuation force 200 N.   | 24 V / AC / DC<br>Control signal<br>0 - 10 V / DC | 1 7708 42    |
|   | <b>HERZ geared motor DDC 0-10 V</b><br>Adapter M 28 x 1.5 colour red integrated, 24 V, stroke distance max. 8.5 mm, max. actuation force 200 N. With valve port detection and feedback channel. | 24 V / AC / DC<br>Control signal<br>0 - 10 V / DC | 1 7708 46    |

|  |   |    |            |           |
|--|---|----|------------|-----------|
|  | <b>HERZ actuating drive for 2-point control for floor heating circuit distributors and valves</b><br>M 28 x 1.5, 2-point, also suitable for pulse-pause operation, 6.5 mm stroke, adapter M 28 x 1.5 colour blue integrated, cable fixed, without limit switch. | NC | 230 V / AC | 1 7708 27 |
|  |   | NC | 24 V / AC  | 1 7708 48 |

|   |   |    |            |           |
|---|---|----|------------|-----------|
|  | <b>HERZ actuating drive for 2-point control for floor heating circuit distributors and valves</b><br>M 28 x 1.5, 2-point, also suitable for pulse-pause operation, 5 mm stroke, adapter M 28 x 1.5 colour red integrated, cable fixed, without limit switch. Closing force 100 N. Power consumption 1 watt. | NC | 24 V / AC  | 1 7708 52 |
|   |   | NC | 230 V / AC | 1 7708 53 |

|   |  |    |  |           |
|---|--|----|--|-----------|
|  | <b>HERZ actuating drive for continuous control</b><br>M 28 x 1.5, 0..10 V, 6.5 mm stroke, adapter M 28 x 1.5 colour blue integrated, male connector, cable loose, without limit switch. Closing force 125 N, 1.2 watt with valve stroke detection. | NC | 24 V / AC<br>Control signal<br>0 - 10 V / DC | 1 7990 32 |
|   | <b>HERZ actuating drive for continuous control</b><br>M 28 x 1.5, 0..10 V, 5 mm stroke, adapter M 28 x 1.5 colour blue integrated, male connector, cable loose, without limit switch. Closing force 100 N, 1.2 watt.                               | NC | 24 V / AC<br>Control signal<br>0 - 10 V / DC | 1 7990 31 |

## Accessories

|   |  |           |
|---|--|-----------|
|  | <b>HERZ Test point</b><br>brass version, red cap (supply) for pressure transducer, with the adapter FT 1/4" x FT G 3/4". | 1 0284 30 |
|---|--|-----------|

