

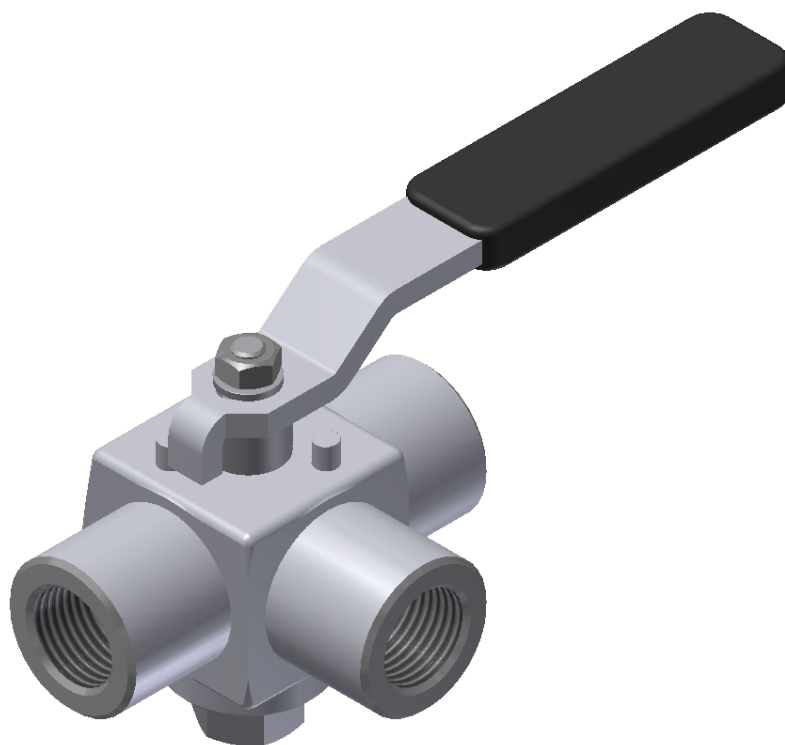
# INSTRUCTIONS

FOR INSTALLATION,  
OPERATION  
AND MAINTENANCE OF

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Pressure Gauge Cock [CPG]

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## 1. General safety information's

Instructions for installation, operation and maintenance during the period of exploitation of valves manufactured in the “Termovent SC” should be used as manual intended for all technicians directly or indirectly involved in dealing with mentioned products.

These instructions are only related to Pressure Gauge Cock (CPG).

Operators in charge of installation, operation and maintenance of Pressure Gauge Cock during the period of use, should be fully trained for the correct / optimal performance of these tasks.

Before the service or reinstallation of the CPG, the plant or installation should be taken out of operation (pressure 0 bar, temperature of cock should be the same temperature as the environment).

Because CPG in working conditions have hot parts (body, screwed plug and lever) and may cause burns, the operator has an obligation to undertake all necessary precautions to avoid such by using protective facilities.

These products are recyclable. No ecological hazard is anticipated with the disposal of these products providing due care is taken.

## 2. Product description

Pressure Gauge Cock is intended for connection with pressure gauge and relief lines. By turning the lever the proper joint of connection in all combinations, as well as the position of closed all connections can be achieved.

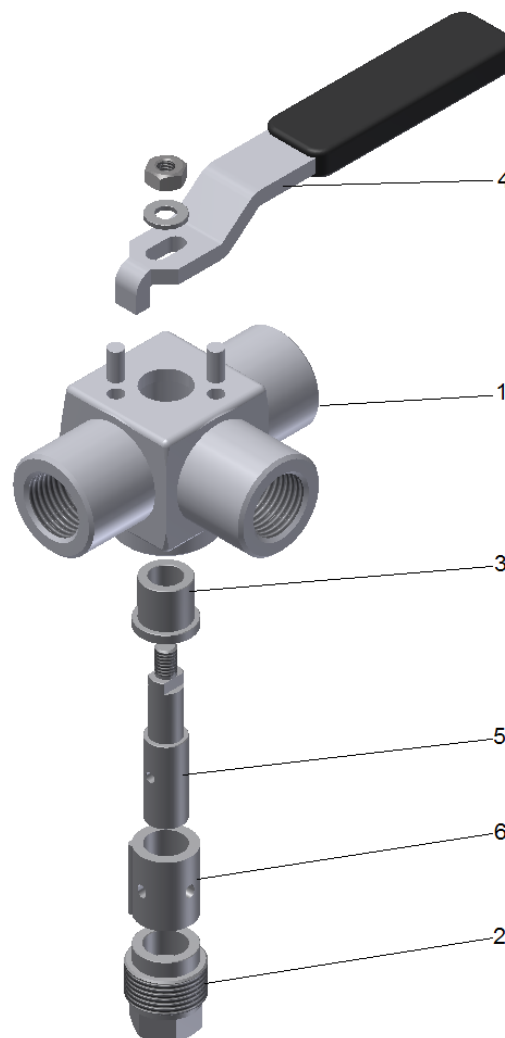
If anything is unclear at the time of installation, start-up or during use, and not covered in these instructions, the departments of the “Termovent SC” should be contacted directly in order to obtain the required support.

All Pressure Gauge Cock manufactured in “Termovent SC” are marked with following marks:

- Identification of manufacturer (“Termovent SC” logo);
- Nominal diameter of valve DN (mm) or NPS (inch);
- Nominal pressure PN or Class rating (#);
- Material designation of body;
- Body heat identification number;



- Trim identification- material grade for plug and packing sleeve;
- Unique serial number;
- Arrow mark for allowable direction of flow;
- Date of manufacture (month and year) ;
- Maximum allowable pressure at maximal temperature (EN 12561 or ANSI B16.34)
- Cock ends flanges grooved with ring joints corresponding ring number;
- Other marks in accordance with customer request or product standard.



**Fig. 1 Parts names**

Table 1

Pos.	Part Name	Quantity	Spare Parts
1	Body	1	
2	Screwed Plug	1	
3	Bushes	1	
4	Lever	1	
5	Plug	1	
6	Packing Sleeve	1	YES

### 3. Transport and storage

Transport and storage of cock should be performed at a temperature between  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  and should be protected against outer and atmospheric influences, as well as protecting painted surfaces against damage. The purpose of painted surfaces is to protect valves against corrosion during transport and storage.

The basic version of cock are protected with particular/special paints applied to the outer parts and protective preservatives inside. As such, any corrosion is prevented for a period of 6 months. Protection for special conditions is applied only with prior agreement.

It is recommended to store the cock in closed, dry and ventilated storage facilities and to protect cock against any atmospheric influence. In order to avoid the appearance of corrosion before the expiry of protection it is necessary to store the cock on a pallet/crate or other appropriate place.

#### **WARNING !!!**

- You must not remove the protection covers from the cock connection ends;
- Store the cock in the 'closed' position.

### 4. Installation and start-up

Before installation and start-up it is necessary to check if Pressure Gauge Cock meet conditions given for material product is made of, working pressure and temperature. Information about working condition limits are given in the identification plate.



CPG are delivered with their plug in the closed position and they are ready for use. After the removal of the protection covers it is necessary to thoroughly clean inside the Pressure Gauge Cock with compressed air without first opening the cock.

Closure of a cock is performed by turning the lever in a clockwise direction. On the cock is an arrow and the letter "C" indicating the closing direction, and another arrow and the letter "O" indicating the opening direction.

When installing cock with threaded ends it is necessary to take into consideration the selection of adequate sealing compound (for threads which are not sealing on the thread) depending on the type of working fluid, pressure and temperature.

When installing cock with flanged ends it is necessary to take into consideration the selection of adequate bolt material and the appropriate type of gasket depending on the type of working fluid, pressure, temperature, and the type of flange facing. It is necessary to install gaskets strictly in accordance with instructions given from the manufacturer of the gaskets.

Cock with welding ends should be welded onto the pipeline in the closed position by an expert and with appropriate WPS. After welding, if necessary, local normalization should be performed and the inside of the pipeline should be cleaned to remove possible welding remains.

At the moment of installation the influence of the load of the pipeline on the cock should be reduced. The same also applies for temperature oscillation, hydraulic impact and similar. The cock should not be used as a support for a pipeline.

After assembling every single product is hydraulically tested which may cause swelling of the packing sleeve. This appearance could affect harder manipulation with lever before products installation. Subsequently installation of the product on pipeline and after operating conditions are achieved, lever manipulation became regular. This kind of appearing does not affect the functionality of the product.

It is possible after the installation, start-up and operating parameters are set to detect a leakage on the packing sleeve. In this case it is necessary to tighten the screwed plug. The tightness should not exceed more than necessary to allow comfortable manipulation of the cock (opening / closing).





**Figure 2. Position of installation**

### **WARNING !!!**

- Before installation and start-up it is necessary to check if Pressure Gauge Cock meet conditions given for material product is made of.
- After assembling every single product is hydraulically tested which may cause swelling of the packing sleeve. This appearance could affect harder manipulation with lever before products installation. Subsequently installation of the product on pipeline and after operating conditions are achieved, lever manipulation became regular. This kind of appearing does not affect the functionality of the product;
- Before installation the impurities should be removed from the pipeline or from the appliance;
- Remove protecting covers from the cock ends, degrease and clean the inside of the cock, and in case of a flanged connection, carefully clean the sealing surfaces;
- During the installation check if there is enough space for normal and safe manipulation;
- **The cock should not be used as a support for a pipeline.**

## **5. Usage and maintenance**

It is convention during usage of the cock that all minor defects, if operating conditions allow, should be repaired on the spot. If not, the cock should be dismantled from the site in order to perform a full repair. If the cock is severely damaged it should be replaced with a new one. Such repairs protect cock against further deterioration, being



permanently out of work and being the cause of severe accidents in the plant.

The cock packing sleeve should be the subject of particular attention as it is important for the qualitative maintenance of tightness and should be periodically checked. If leakage at the packing sleeve is detected, the screwed gland should be tightened slowly.

### **WARNING !!!**

- During usage cock must be completely in an open or closed position;
- If, when a cock is overhauled, a decrease of wall thickness of more than 30% is detected at any of the ports (due to erosion) the cock should stop being used;
- Any time when a cock is dismantled or reinstalled the gaskets should be replaced with new ones with the appropriate quality;
- Cock opening and closing by lever, should be done without use of auxiliary means such as a rod or similar;
- Cock maintenance and manipulation during use should be done only by experts and persons well trained for such purpose;
- **During packing sleeve tightening it is recommended to secure body on the pipeline**
- At the moment of installation of the plant sudden and extreme change of pressure and temperature should be avoided;
- A Strainer being installed before the valve will increase its reliability and proper working.

## **6. Service and repair**

Only authorized persons should perform service and repair with appropriate tools and, if it is possible, using original spare parts. Personal protection should be applied in accordance with valid regulations and legalizations.

Attention should always be paid to the reliability of the cock and parameters of the working implementation / plant, and only materials which can successfully replace those originally installed should be used.

For highly reliable cocks (products which work with high temperatures, high pressures or with dangerous fluids) any service, repair or replacement should be done professionally and responsibly in





accordance with valid regulations for safe working conditions at the plant.

Before the service or reinstallation of the cock, the plant or installation should be taken out of operation (pressure 0 bar, temperature of cock should be the same temperature as the environment).

Every Cock serviced or repaired should be subject to all necessary tests usually performed for a newly produced Pressure Gauge Cock.

## 7. Possible malfunctions and solutions

During operation of installed Cocks for Pressure Gauges some irregularities should appear. Only competent personal of the user or very manufacturer should resolve such irregularities. Most common irregularities which may appear and actions in such situation are listed in Table 2.

**Table 2**

<b>Failure</b>	<b>Possible cause</b>	<b>Troubleshooting</b>
Completely absence of overpressure on the gauge.	Protection covers are not removed	Remove protective caps off connection ends.
	Pipeline is completely covered with deposits.	Check and clean pipeline, remove deposits.
Leakage thru cock is closed.	Appearance of damages on plug.	After dismantling cock grinding and lapping sealing surface on the plug (Pos. 5) should be performed. In the case of severe damages plug and packing should be replaced with new one.
Leakage on plug packing.	Plug packing insufficiently fastened.	Fasten with torque wrench plug packing nut (Pos. 4).
Leakage on connection ends.	Threated connection between Pressure Gauge Cock and pipeline insufficiently fastened.	Fasten with torque wrench body of Pressure Gauge Cock on pipeline with appropriate fastening tools.
	Fault in welded connection between body of Pressure Gauge Cock and pipeline.	Depending on type and value of the fault undertake reparation in accordance with verified WPS or replace Pressure Gauge Cock.



## 8. Guarantee

The Guarantee issued by “Termovent SC” confirms the safe working of its products under conditions when these products are properly installed in accordance with the instructions in the documentation given to the customer, and usage is in accordance with approved technical conditions and working parameters.

The Guarantee is void if inappropriate parts from other manufacturers are implemented, if the user changes construction, or if there is any decline in function or malfunction due to natural wear and tear.

### **Guarantee conditions:**

The Guarantee is valid for defective parts or defective products, when any such defect is confirmed by an expert engaged by the customer and approved by experts from our company. In such a situation “Termovent SC” will replace the defective part(s) or defective product(s).

Replacement of defective part(s) or defective product(s) with new one(s) should be done only by an expert engaged by the customer upon approval or by instruction of our experts and in accordance with the instructions for installation.

The Guarantee period is not valid if installation and manipulation of the valves isn't in accordance with these instructions. The Guarantee period for all replaced parts or product(s) starts from the moment the replacement(s) is/are done.

### **Guarantee is valid only for following storage and maintenance conditions:**

Crate and pallets with valves should be stored indoors in a building with access limited to authorized personnel only. In the case of an inappropriate storage place crates (or pallets) should be stored under an awning and should be protected against rain and moisture with an appropriate waterproof cover, again with access limited to authorized personnel only.

Valves should only be taken out of a crate or removed from the covering of a pallet just before installation and only quantity to be installed should be taken out / removed. After the valves for installation are taken out of a crate (or pallet) the crate/pallet should be closed/covered again.

Do not remove the protector covers from valves until installation.

Valves prepared for installation should be manipulated and transported in a careful manner to prevent possible mechanical damage.



**WARNING !!!**

- After detection of mistakes “Termovent SC” should be informed immediately.
- Claims must be made in writing.

