



TECHNICAL DATA SHEET AND USER MANUAL



PRODUCT
CODE

PF WCV 590

FLOAT VALVE

1. PURPOSE AND SCOPE

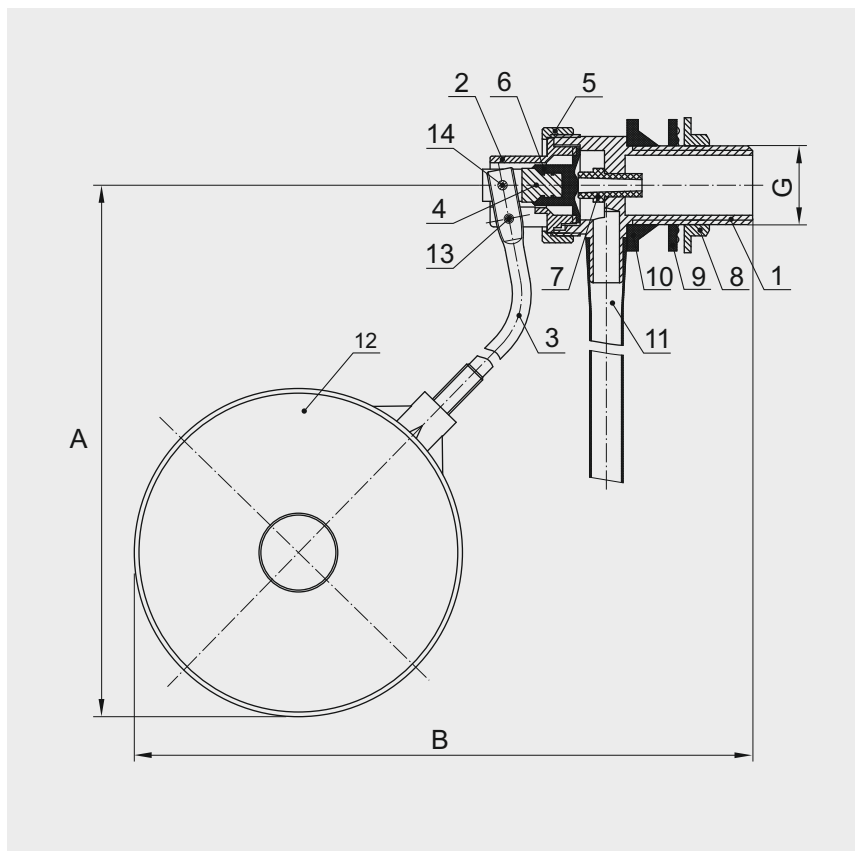
The float valve is designed for installation in a toilet cistern with side water inlet.

It serves to open the water supply after flushing and to shut off the water supply when the water reaches a predetermined level in the cistern. The float valve for the toilet cistern operates automatically.

2. TECHNICAL SPECIFICATIONS

Product Code	PF WCV	590
Nominal size	DN	15
	G	1/2"
Maximum working pressure	bar	10
Maximum water temperature	°C	95°C
Float diameter	mm	90
A	mm	160 (float raised) 315 (float lowered)
B	mm	310 (float raised) 195 (float lowered)
Weight	g	210
Average service life	years	20

3. DESIGN



- | | |
|---------------------------|-------------------|
| 1 – Body | 8 – Fastening nut |
| 2 – Lever support bushing | 9 – Outer gasket |
| 3 – Lever | 10 – Inner gasket |
| 4 – Piston | 11 – Hose |
| 5 – Union nut | 12 – Float |
| 6 – Diaphragm | 13 – Cotter pin |
| 7 – Seat | 14 – Pin |

The valve body (1) is a fitting with holes of different diameters and a side outlet for water inflow into the cistern. It has a 1/2" external cylindrical thread on one end for connection to the pipeline and an external metric thread on the other end for the union nut (5).

The lever (3) has a bent flat end on which the piston (4) is mounted using the pin (14), and a metric thread on the opposite end for fastening the float (12). The holes in the piston for the pin are larger than the pin diameter, so the pin and lever are fixed rigidly together, while the piston can rotate around the pin axis.

The piston (4) is made of high-strength thermoplastic (polyphenylene oxide, PPE). The lever support bushing (2) is attached to the body by the union nut (5) and has a slot for installing the lever. The lever is fastened in the slot of the support bushing with a split stainless steel cotter pin (13).

A specially shaped diaphragm (6) is fitted onto the end of the piston, ensuring hermetic sealing of the water flow and preventing water from entering the cistern through the hole in the support bushing. Inside the valve body, a seat (7) in the shape of a flanged tube is press-fitted; it is made of impact-resistant engineering thermoplastic resin (acrylonitrile butadiene styrene, ABS).

The mounting nut (8) is used to fasten the valve to the cistern wall. To ensure a tight seal between the valve and the cistern wall, outer and inner gaskets (9 and 10) are provided.

The body (1), support bushing (2), lever (3), and union and mounting nuts (5 and 8) are made of brass CW614N (according to DIN EN 12165:2011), with nickel-plated surfaces. The pin (14) is also made of brass CW614N. The diaphragm (6) and sealing gaskets (9 and 10) are made of wear-resistant butadiene-nitrile rubber (NBR).

A PVC (polyvinyl chloride) hose is fitted on the side outlet of the body for reducing noise during water inflow into the cistern. The float, like the valve seat, is made of impact-resistant engineering thermoplastic (acrylonitrile butadiene styrene, ABS).

All cylindrical pipe threads are in an accordance with ISO 228-1:2000, DIN 259, and all metric threads are in an accordance with ISO 261:1998.

4. PRINCIPLE OF OPERATION

As the cistern fills, the water raises the float (12), which in turn lifts the lower end of the lever (3). The lever pivots around the cotter pin (13), and the flat end of the lever with the piston (4) and diaphragm (6) moves toward the valve seat (7), gradually reducing the flow passage for water entering the cistern until the piston presses the diaphragm tightly against the seat, completely closing the valve and stopping the water supply.

During flushing, as the water level drops, the float descends, pulling the lever downward. The lever pivots around the cotter pin, pulling the piston with the diaphragm away from the seat, opening the passage for water and allowing the cistern to fill again.

5. HYDRAULIC CHARACTERISTICS

Dependence of water flow through the valve on pressure at 20°C

Pressure	bar	1	2	3	4	5	6	7	8	9	10
Water flow rate	m³/h	2,64	3,74	4,58	5,29	5,64	6,35	7,39	7,46	7,93	8,35

6. INSTALLATION INSTRUCTIONS

The valve is supplied to the customer fully assembled and ready for operation, requiring no additional adjustment.

Before installing the valve, the pipeline must be cleaned of rust, dirt, scale, sand, and other foreign particles that could affect the performance of the product. Upon completion of installation, water supply systems must be flushed with clean water until the water runs clear, without mechanical impurities.

The valve must be installed horizontally into the side wall of the toilet cistern, with the float positioned inside the cistern. To install the valve, unscrew the mounting nut (8), remove the outer gasket (9), insert the valve into the cistern's water inlet hole with the float facing inward, then fit the gasket (9) on the outside and tighten the mounting nut securely.

The valve must be securely fastened to the pipeline; leakage of the working fluid through the threaded connection is not permitted. Connection of the valve to the pipeline must be made using PTFE-tape (polytetrafluoroethylene), polyamide thread with silicone, or flax as the sealing material.

If the water is heavily contaminated, it is recommended to install a coarse water filter on the inlet pipeline to prevent rapid wear of the diaphragm and extend the service life of the valve.

7. OPERATION AND MAINTENANCE

The float valve must be operated without exceeding the temperature and pressure values specified in the Technical Specifications table. Installation, removal, and any repair operations must be carried out only when the system is not under pressure.

The valve design is simple and durable, requiring no maintenance for many years. In case of malfunction, the valve can be easily replaced; however, in some situations, it is sufficient to replace only specific parts. If water does not stop flowing and continuously enters the cistern, remove the cistern cover and inspect the valve.

If the float does not rise, it most likely has lost its airtightness. Replace it or turn it upside down with the hole facing upward. If the float rises properly, the valve diaphragm must be replaced. To do this, shut off the water supply, drain the cistern, unscrew the union nut (5), remove the lever assembly, remove the diaphragm (6) from the piston (4), replace it with a new identical one, and then reassemble the lever unit.

If the piston does not seat properly or the lever sticks, the lever axis (cotter pin 13) must be replaced. To do this, shut off the water supply, drain the cistern, unscrew the union nut (5), remove the lever assembly, pull the cotter pin (13) out of the holes in the support bushing (2) using pliers, replace it with a new one, bend its end to secure it, and reinstall the lever assembly. For other malfunctions, it is recommended to replace the entire valve.

8. WARRANTY OBLIGATIONS

The warranty period is 24 months from the date of sale to the end user. During the entire warranty period, the manufacturer guarantees the proper operation of the product and its compliance with safety requirements, provided that the consumer complies with the rules for storage, transportation, installation, operation, and maintenance of the product. The warranty covers all defects resulting from the manufacturer's fault.

The warranty does not cover defects resulting from:

- Violation of storage, transportation, installation, operation, or maintenance conditions;
- Exposure to substances aggressive to the materials of the product;
- Mechanical damage;
- Damage caused by fire, natural disasters, or other force majeure circumstances;
- Damage caused by improper handling by the user;
- Evidence of unauthorized interference with the product design.

The product described in this technical passport is a technically complex device that must be installed by a specialist with appropriate qualifications and experience in handling such equipment.

Installation and commissioning must be carried out by an authorized and certified company.

Profactor Armaturen GmbH reserves the right to make design modifications that do not affect the technical specifications or functional characteristics of the device.



INTERNATIONAL WARRANTY CARD

NAME OF THE PRODUCT

PRODUCT CODE, SIZE

QUANTITY

SELLER NAME AND ADDRESS

DATE OF PURCHASE

SELLER STAMP

SELLER SIGNATURE

For the warranty term refer to the Warranty obligation clause in the technical manual

FOLD LINE

FOLD LINE

In case of any claims to the product quality the following documents should be submitted:

1. Application with customer and product details:

- Name of the customer, actual address and phone number
- Article of the product
- Reason for the claim and photo
- Plumbing system where installed (name, address, phone number)

2. Invoice copy and receipt

3. Warranty card

RETURN/EXCHANGE COMMENTS

DATE

SIGNATURE



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