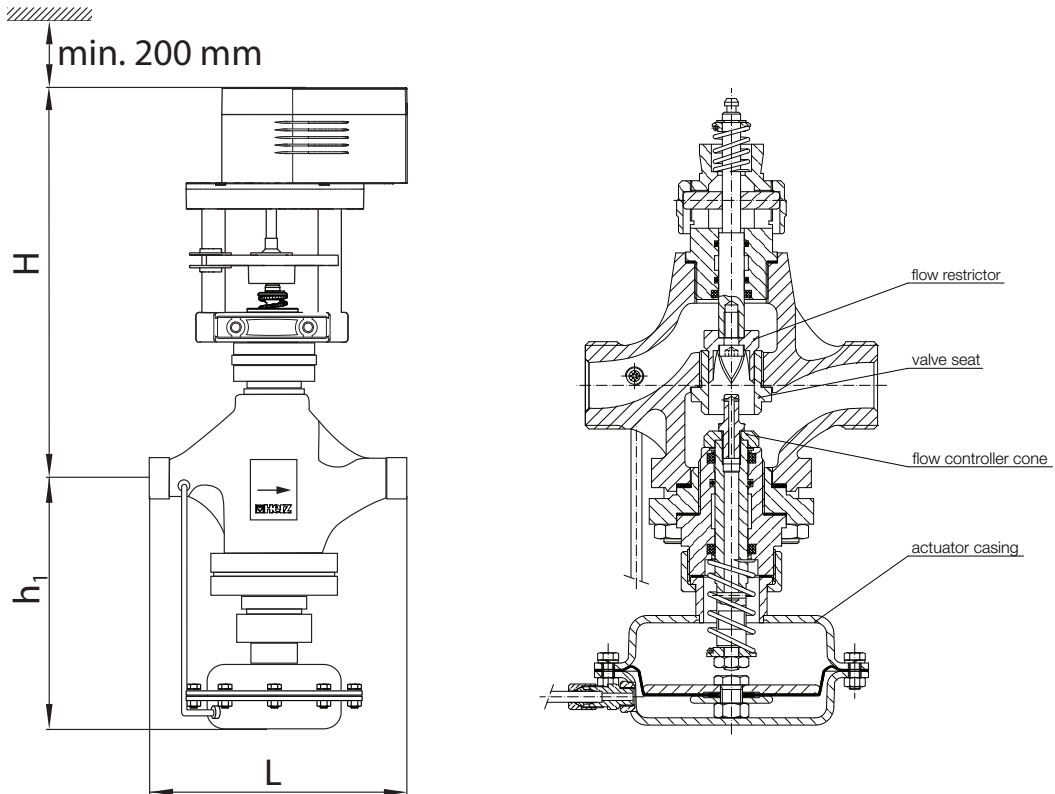


HERZ-Flow Controller with Integrated Control Valve

Data sheet for PIBCV PN16, Issue 0920

☑ Dimensions in mm



Order Nr.	DN	Connection	Stroke [mm]	kvs	min. Flowrate m ³ /h	max. Flowrate m ³ /h	Cavitation factor Z	H	h ₁	L	kg
F 4006 39	15	G 1"	10	1,6	0,1	0,8	0,6	265	175	125	6
F 4006 40	15		10	2,5	0,25	1,3					
F 4006 41	15		10	4	0,4	2,0					
F 4006 42	20	G 1 1/2"	10	6,3	0,6	3,0	0,55		190	150	6,5

☑ Technical data

Max. operating pressure	16 bar
Max. differential pressure	10 bar
Diff. pressure across the restrictor	0,2 bar
Min. operating temperature	2 °C (pure water)
Max. operating temperature	140 °C

Type of connection	Cylindrical external thread, ISO 228
Valve body material	GG 25
Gasket material	FPM (ISO1629)
Cones, spindle, seat material	1.4057, 1.4404, 1.4021
Impulse tube	1.4301
Diaphragm material	EPDM

Water purity in accordance with the ÖNORM H 5195 and VDI 2035 standards.

Ethylene and propylene glycol can be mixed to a ratio of 25 - 50 vol. [%].

Pursuant to Article 33 of the REACH Regulation (EC No. 1907/2006), we are obliged to point out that the material lead is listed on the SVHC list and that all brass components manufactured in our products exceed 0.1% (w / w) lead (CAS: 7439-92-1 / EINECS: 231-100-4). Since lead is a component part of an alloy, actual exposure is not possible and therefore no additional information on safe use is necessary.

☑ Description

Flow controller with integrated control valve - combi-valve, is primarily designed to control the flow of circulation water in district heating and HVAC systems. The flow controller is operated by an electric actuator and is controlled by a microprocessor controller. The limitation and flow regulation is realized by means of the pressure actuator with a diaphragm and integrated control valve. Control valve cone is controlled by the electric actuator and limited by the adjustable nut. The flow rate of the combi valve is adjusted by turning the nut counterclockwise from the lowest position to the required number of nut turns N_0 (see diagram on the page 3). The pressure actuator with a diaphragm is connected to the valve entry. Pressure difference acts through the impulse tube on the control diaphragm and flow controller cone. Each pressure change on the valve entry, causes the movement of the control diaphragm and flow controller cone and causes increase or decrease of the valve orifice. Differential pressure across the restrictor is kept constant, $\Delta p_w = 0,2 \text{ bar}$.

Pressure drop across the valve:

$$\Delta p_v = \Delta p_w + (Q/K_{vs})^2$$

Maximal pressure drop across the valve:

$$\Delta p_{v_{\max}} = \Delta p_w + (Q_{\max}/K_{vs})^2$$

To ensure correct control function, minimal required differential pressure across the valve must be:

$$\Delta p_v = 0,5 \text{ bar.}$$

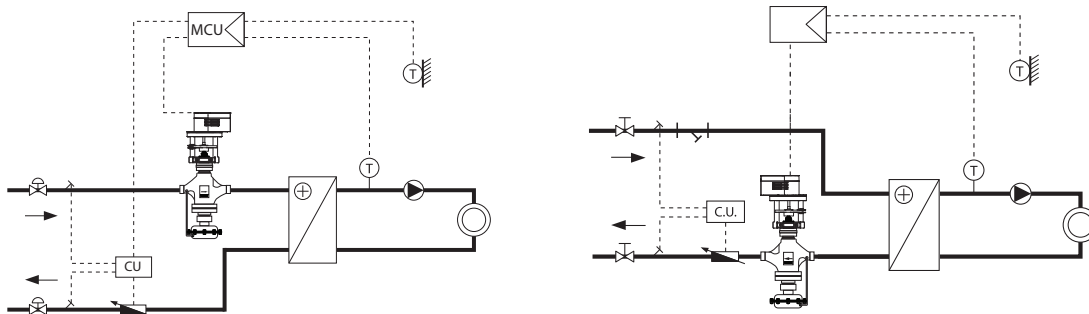
Q – fluid flow, Q_{\max} – max. fluid flow

☑ Electric actuators

The flow controller can be operated by the electric actuators 1 7712 29 and 1 7712 28.

☑ Installation

Install the valve in the flow or return flow pipe of the system. Electric actuator should be placed in upward position. Permissible installation: The valve may be installed in horizontal supply flow pipes of the system. Metal particles must not be in the circulation water for the valve correct function. A HERZ strainer (4111) should be fitted to prevent impurities. For installation, the local and international rules and standards have to be followed.



Flow mounting in indirectly connected heating system Return mounting in indirectly connected heating system

☑ Safety instructions and disposal

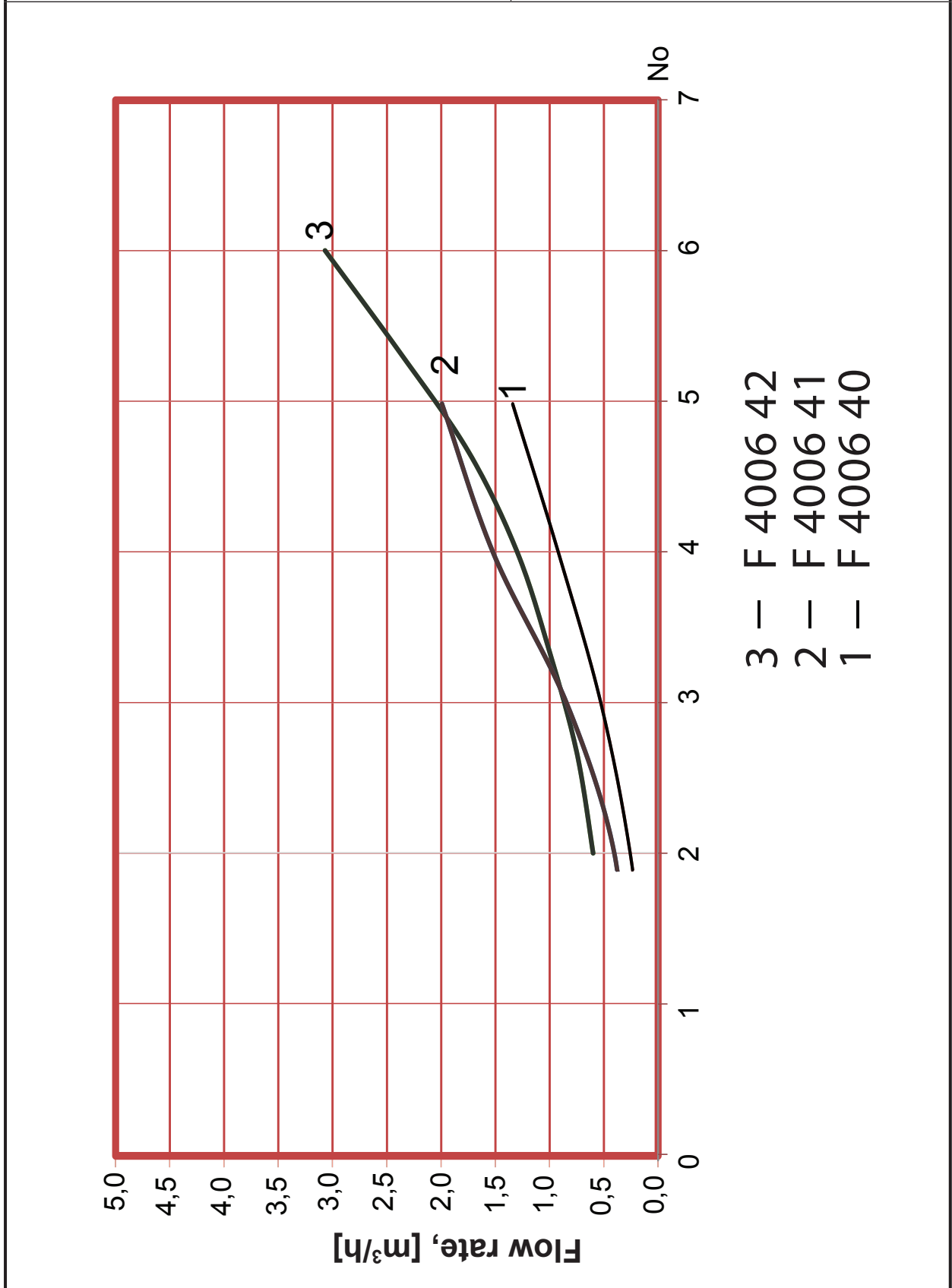
Prior to the assembly, maintenance and disassembly, the system must be depressurized, cooled down and emptied. Only authorized, trained and qualified personnel may perform activities of assembly, start-up, operation and disassembly of the equipment. Before disposal the valve must be dismantled into groups of structural components and delivered to authorized waste recycling organizations in order to preserve the environment. Local legislations must be obeyed when disposing of the components.

☑ Selection table for drives

Order number	DN	Stroke [mm]	1 7712 29 24 V continuous, 2-3 point, 500 N, 20mm		1 7712 28 230 V, 2-3 point, 500 N, 20mm	
			+ Adapter 1 7712 20	+ Adapter 1 7712 20	+ Adapter 1 7712 20	+ Adapter 1 7712 20
F 4006 39	15	10	+ Adapter 1 7712 20	+ Adapter 1 7712 20	+ Adapter 1 7712 20	+ Adapter 1 7712 20
F 4006 40	15	10	+ Adapter 1 7712 20	+ Adapter 1 7712 20	+ Adapter 1 7712 20	+ Adapter 1 7712 20
F 4006 41	15	10	+ Adapter 1 7712 20	+ Adapter 1 7712 20	+ Adapter 1 7712 20	+ Adapter 1 7712 20
F 4006 42	20	10	+ Adapter 1 7712 20	+ Adapter 1 7712 20	+ Adapter 1 7712 20	+ Adapter 1 7712 20

Please note: all diagrams are indicative in nature and do not claim to be complete. All specifications and statements within this brochure are according to information available at the time of printing and meant for informational purpose only. Herz Armaturen reserves the right to modify and change products as well as its technical specifications and/or its functioning according to technological progress and requirements. It is understood that all images of Herz products are symbolic representations and therefore may visually differ from the actual product. Colours may differ due to printing technology used. In case of any further questions don't hesitate to contact your closest HERZ Branch-office.

HERZ - Diagram	HERZ - PICV
F 4006 4X	DN 15, DN 20



3 — F 4006 42
 2 — F 4006 41
 1 — F 4006 40