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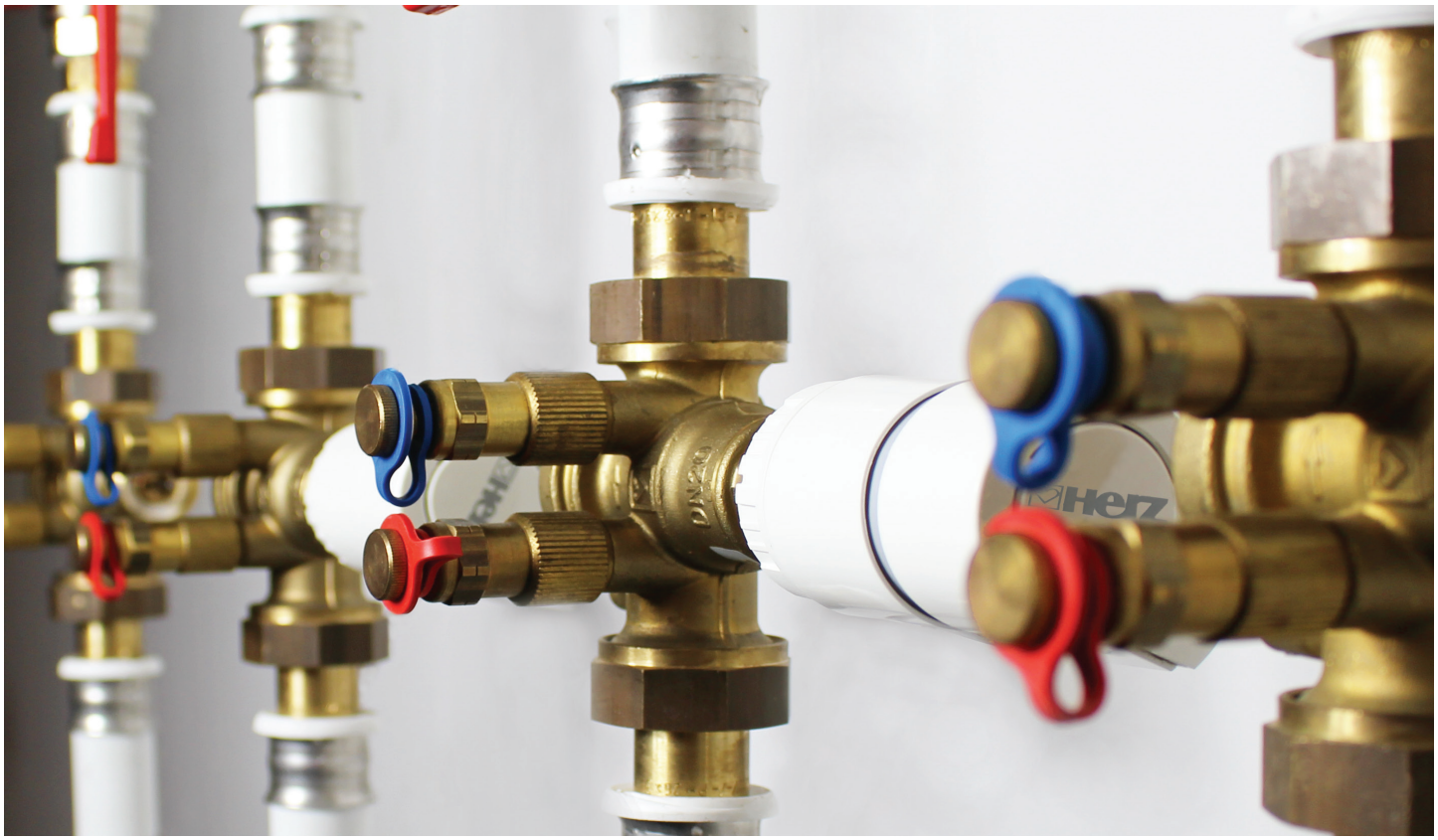
Dynamic control and regulating valves

All perfectly regulated



Dynamic control and regulating valves - All perfectly regulated

Operational safety and a high level of efficiency to provide the appropriate thermal comfort – these are the most important requirements for a system. Especially with modern regulations, the desired room temperatures can be achieved very precisely but the result are often changing flows and pressures in the system.

For installations with static valves only a single operating status can be set optimally. This is usually the condition at full-load operation. During a year of operation, however, both heating and cooling systems work only for a few days in full-load operation. The predominant amount of operating time normally occurs in the partial-load range.

Dynamic control and regulating valves are used to run systems efficiently in all load ranges. They react independently to changing flow rate and pressure conditions and supply all parts of the system with the required amount of energy at any time.

HERZ offers a wide range of dynamic control and regulating valves: HERZ differential pressure controllers are available from DN 15 to DN 150. There are models with adjustable differential pressure range, with a fixed differential pressure setpoint as well as versions with connection threads for actuator drives. A special product highlight are the HERZ pressure-independent control valves (PICV), fully pressure-independent, automatic control and regulating valves. They combine the features of a regulating valve, a control valve, an isolation valve and a differential pressure controller. Furthermore they are easy to operate because only the desired flow rate has to be set. HERZ pressure-independent control valves are available from DN 15 to DN 200 and cover a flow range from 20 l/h to 350,000 l/h.

Advantages

- Development, design and production from HERZ
- Wide product range
- Well-thought-out design
- Easy handling
- Usage of an actuator is possible for many models up to DN 50
- For the control of heating and cooling areas
- Manufactured in Europe

Table of contents

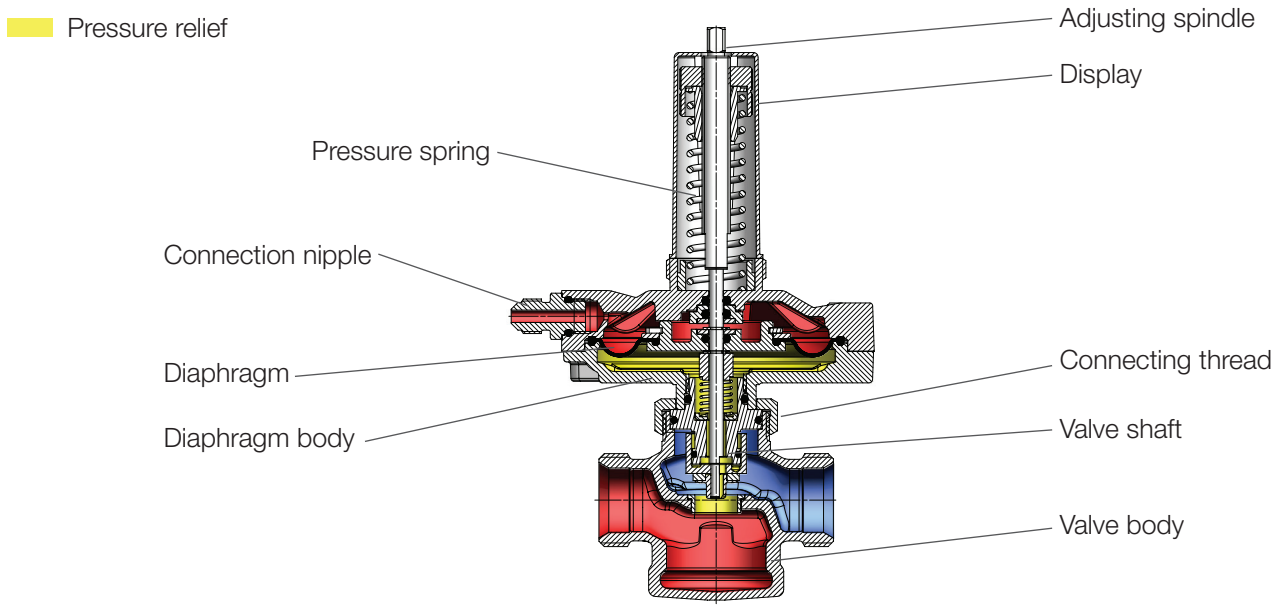
Differential pressure controller with adjustable setpoint

Series 4002/4202

Differential pressure controllers are used to stabilize the differential pressure in heating and cooling circuits and ensure the independence of the loads from dynamic pressure fluctuations in the system.

Compact shape, body of dezincification-resistant brass, incl. capillary 1000 mm. 4002: with male thread connection, DN 15 and DN 20 with cone, DN 25 to DN 50 flat sealing. 4202: with threaded connections on both sides. Max. differential pressure across the body: 4 bar; max. operating temperature: 130 °C (up to DN 32), 110 °C (DN 40 – DN 50).

Sectional view 4002 in open position



Series 4002/4202, 5 - 30 kPa

4002

HERZ-Differential pressure controller 5 – 30 kPa

4202

HERZ-Differential pressure controller 5 – 30 kPa

l/h	DN	Dim.	Order number	Dim.	Order number
50 - 1300	15	G 3/4	1 **4002** 41	Rp 1/2	1 **4202** 41
100 - 1600	20	G 1	1 **4002** 42	Rp 3/4	1 **4202** 42
150 - 2000	25	G 1 1/4	1 **4002** 43	Rp 1	1 **4202** 43
200 - 5000	32	G 1 1/2	1 **4002** 44	Rp 1 1/4	1 **4202** 44
400 - 8000	40	G 1 3/4	1 **4002** 45	Rp 1 1/2	1 **4202** 45
400 - 9000	50	G 2 3/8	1 **4002** 46	Rp 2	1 **4202** 46

HERZ-Differential pressure controller with adjustable setpoint

Series 4002/4202, 25 - 60 kPa

4002

HERZ-Differential pressure controller 25 - 60 kPa

4202

HERZ-Differential pressure controller 25 - 60 kPa

l/h	DN	Dim.	Order number	Dim.	Order number
50 - 1300	15	G 3/4	1 **4002** 61	Rp 1/2	1 **4202** 61
100 - 1600	20	G 1	1 **4002** 62	Rp 3/4	1 **4202** 62
150 - 2000	25	G 1 1/4	1 **4002** 63	Rp 1	1 **4202** 63
200 - 5000	32	G 1 1/2	1 **4002** 64	Rp 1 1/4	1 **4202** 64
400 - 8000	40	G 1 3/4	1 **4002** 65	Rp 1 1/2	1 **4202** 65
400 - 9000	50	G 2 3/8	1 **4002** 66	Rp 2	1 **4202** 66

Series 4002/4202, 45 - 80 kPa

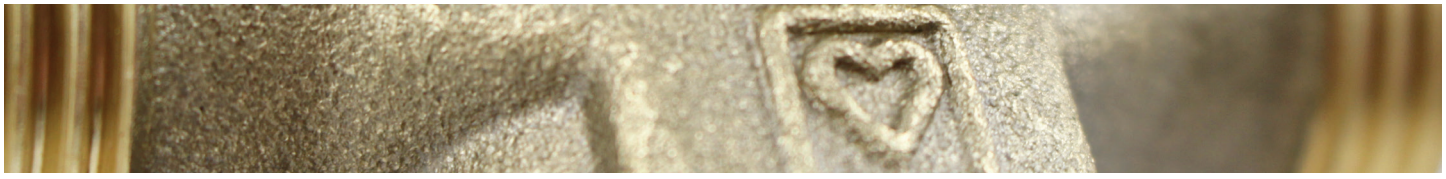
4002

HERZ-Differential pressure controller 45 - 80 kPa

4202

HERZ-Differential pressure controller 45 - 80 kPa

l/h	DN	Dim.	Order number	Dim.	Order number
50 - 1300	15	G 3/4	1 **4002** 71	Rp 1/2	1 **4202** 71
100 - 1600	20	G 1	1 **4002** 72	Rp 3/4	1 **4202** 72
150 - 2000	25	G 1 1/4	1 **4002** 73	Rp 1	1 **4202** 73
200 - 5000	32	G 1 1/2	1 **4002** 74	Rp 1 1/4	1 **4202** 74
400 - 8000	40	G 1 3/4	1 **4002** 75	Rp 1 1/2	1 **4202** 75
400 - 9000	50	G 2 3/8	1 **4002** 76	Rp 2	1 **4202** 76



HERZ-Differential pressure controller with adjustable setpoint

Series 4007, 5 - 30 kPa

For heating and cooling systems, to ensure constant differential pressure within the control range.

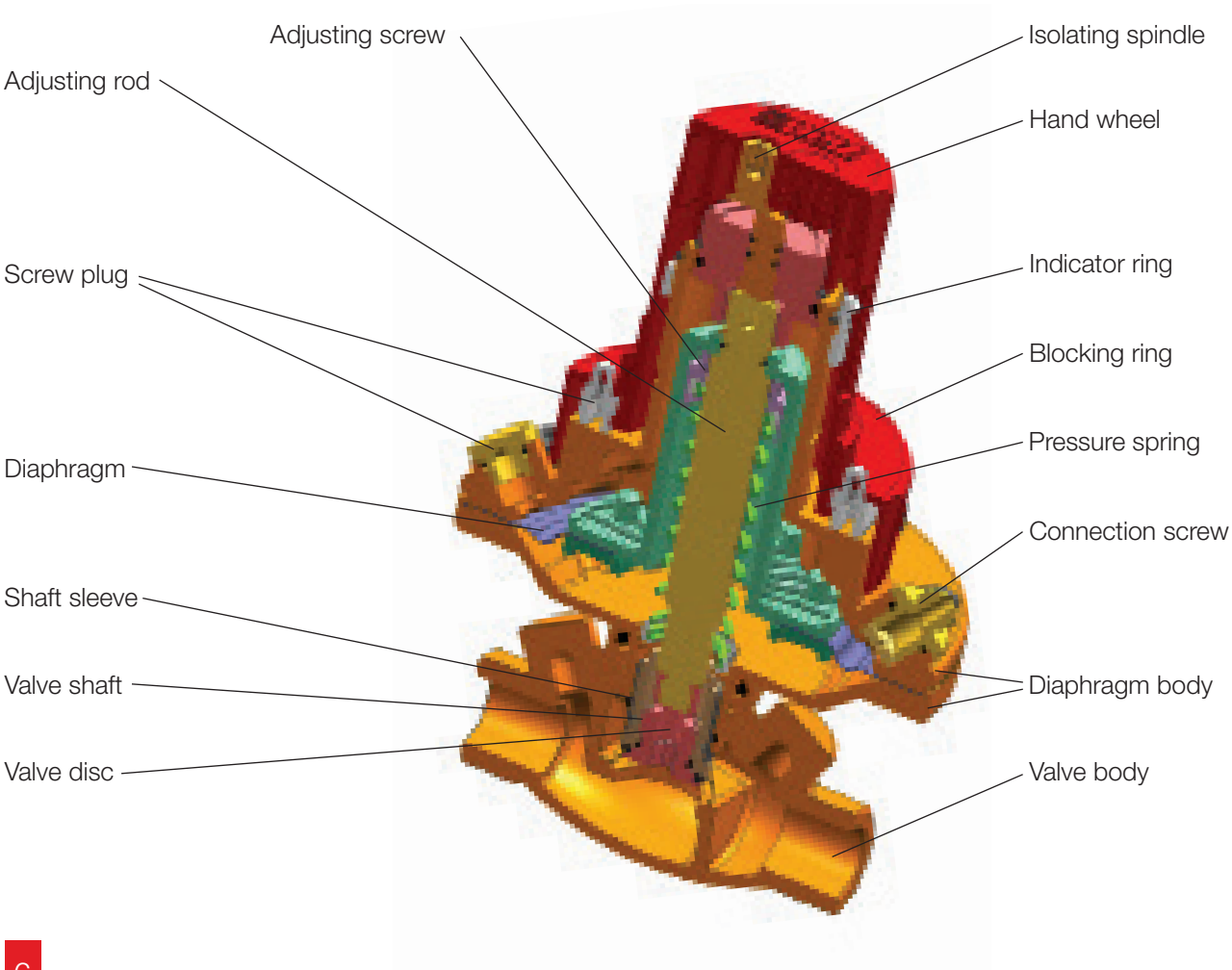
Proportional regulator with straight body without auxiliary power e.g. for two-pipe systems with thermostatic radiator valves. Differential pressure 5 – 30 kPa continuously adjustable. Body of dezincification-resistant brass, threaded connection on both sides, incl. capillary 1000 mm. Max. operating pressure: 16 bar; max. differential pressure across the body: 2 bar; max. operating temperature: 130 °C (DN 15 – DN 32), 110 °C (DN 40 – DN 80).

4007

HERZ-Differential pressure controller 4007

l/h	DN	Dim.	Order number
50 - 1200	15	Rp 1/2	1 **4007** 01
50 - 1200	20	Rp 3/4	1 **4007** 02
200 - 4000	25	Rp 1	1 **4007** 03
250 - 4250	32	Rp 1 1/4	1 **4007** 04
200 - 5750	40	Rp 1 1/2	1 **4007** 05
750 - 9000	50	Rp 2	1 **4007** 06
750 - 10000	65	Rp 2 1/2	1 **4007** 07
750 - 12000	80	Rp 3	1 **4007** 08

Sectional view 4007 in open position



HERZ-Differential pressure controller with adjustable setpoint in flanged design

☑ Series 4007 F, 5 - 30 kPa

For heating and cooling systems, to ensure constant differential pressure within the control range.

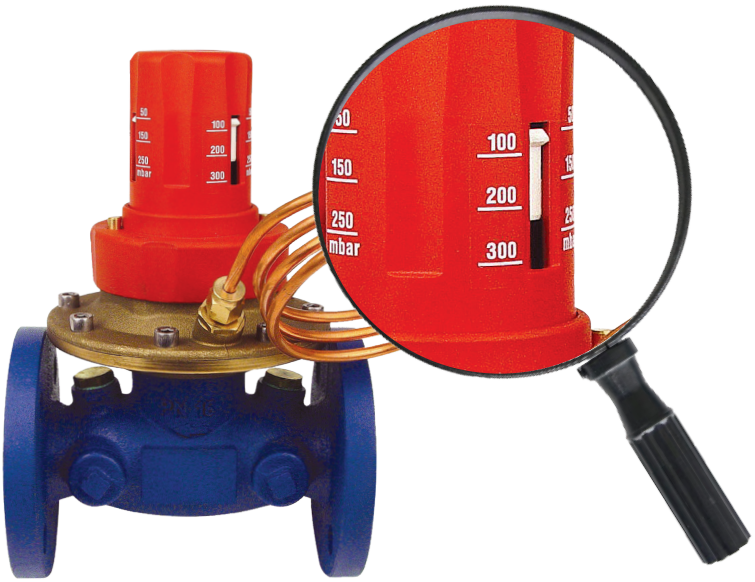
Proportional regulator with straight body without auxiliary power e.g. for two-pipe systems with thermostatic radiator valves. Differential pressure 5 – 30 kPa continuously adjustable. Body of grey cast iron GJL 250 according to EN 1561, flange according to EN 1092, PN 16, length according to EN 558-1, basic series 1, painted blue, incl. capillary 1000 mm. Max. operating pressure: 16 bar; max. operating temperature: 130 °C (DN 15 – DN 32), 110 °C (DN 40 – DN 80).

4007 F

☑ **Differential pressure controller 4007 F in flanged design**

l/h	DN	Dim.	Order number
200 - 4000	25	1	1 **4007** 13
250 - 4250	32	1 1/4	1 **4007** 14
200 - 5750	40	1 1/2	1 **4007** 15
750 - 9000	50	2	1 **4007** 16
750 - 10000	65	2 1/2	1 **4007** 17
750 - 12000	80	3	1 **4007** 18

☑ Adjustment of differential pressure setpoint



The differential pressure setpoint value is set by lifting the red safety cap cover and turning the adjusting cap. The setpoint value setting required can be read off on the scale. Afterwards the safety cap cover is slid back towards the body. This fixes the setpoint value. It is also possible to fit a wire seal at the guide pins of the safety cap cover.

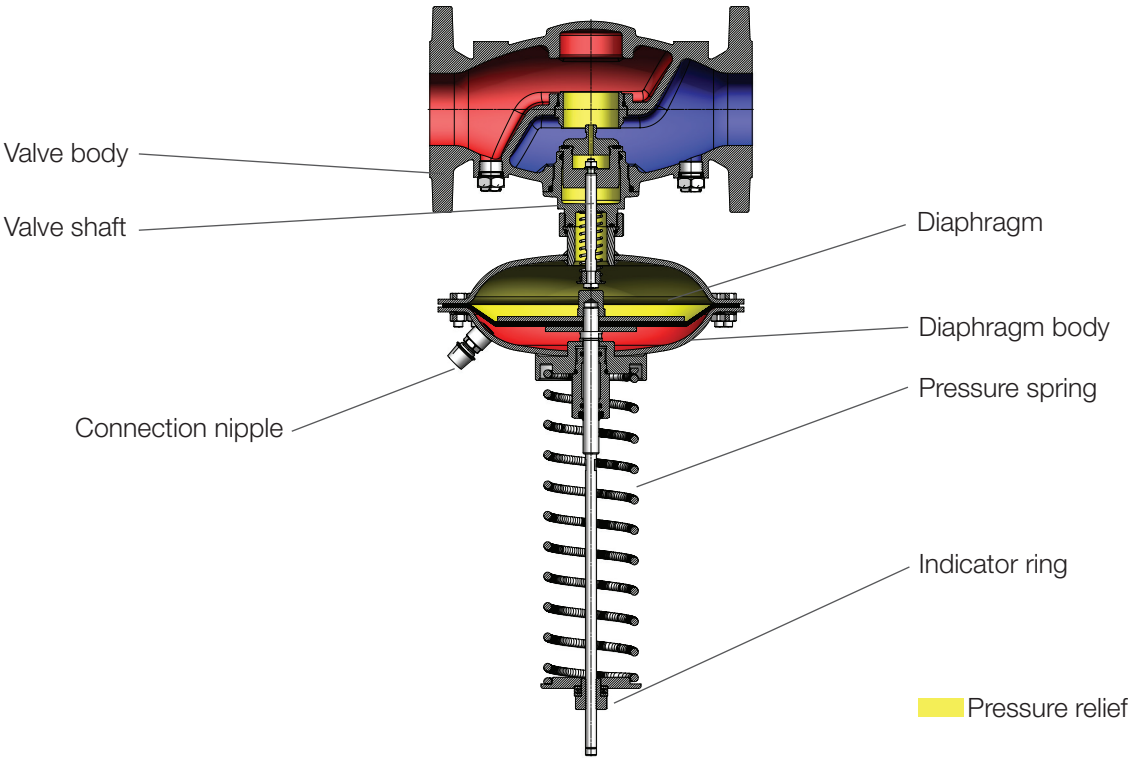
HERZ-Differential pressure controller with adjustable setpoint in flanged design

Series F 4007

For heating and cooling systems, to ensure constant differential pressure within the control range.

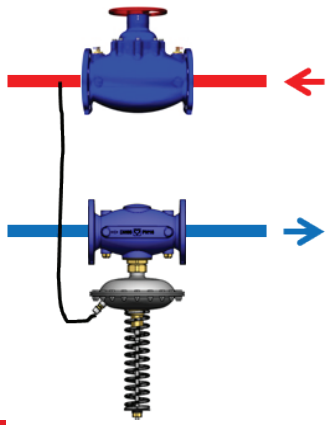
Proportional regulator with straight body without auxiliary power. Differential pressure 10 – 40 kPa, 20 – 80 kPa or 50 – 150 kPa continuously adjustable. Body of grey cast iron GJL 250 according to EN 1561, flange according to EN 1092, PN 16, length according to EN 558-1, basic series 1, painted blue, incl. capillary 1600 mm. Max. operating pressure: 16 bar; max. operating temperature: 130 °C (DN 15 – DN 32), 110 °C (DN 40 – DN 80).

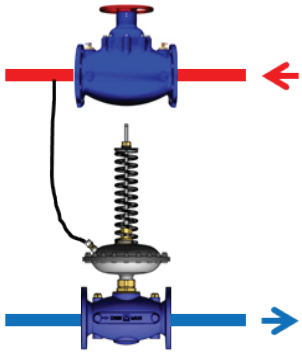
Sectional view 4007 in open position

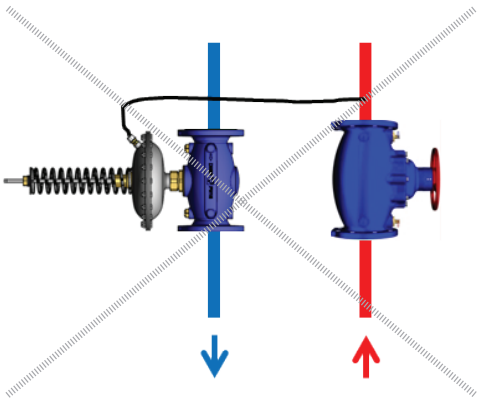


Installation

Installation is carried out in the return flow and it should be hanging or standing. The direction of the flow is in the direction of the arrow shown on the body. The impulse pipe should be connected to a commissioning valve in the supply side. Installation of a shut-off valve both in front and behind the differential pressure controller is recommended. Also the onsite use of a ball valve in the impulse line is recommended in order to prevent pressure shocks on the diaphragm when filling the device.







HERZ-Differential pressure controller with adjustable setpoint in flanged design

Series F 4007, 10 - 40 kPa

Differential pressure controller F 4007 in flanged design

Kvs	DN	Order number
50	65	F **4007** 07
84	80	F **4007** 08
96	100	F **4007** 09

Series F 4007, 20 - 80 kPa

Differential pressure controller F 4007 in flanged design

Kvs	DN	Order number
50	65	F **4007** 17
84	80	F **4007** 18
84	80 HF	F **4007** 38
96	100	F **4007** 19
190	125	F **4007** 20
270	150	F **4007** 21

Series F 4007, 50 - 150 kPa

Differential pressure controller F 4007 in flanged design

Kvs	DN	Order number
39	50	F **4007** 26
50	65	F **4007** 27
84	80	F **4007** 28
96	100	F **4007** 29
190	125	F **4007** 30
270	150	F **4007** 31

HERZ-Differential pressure controller up to 150 °C with adjustable setpoint in flanged design

Series F 4007/150, 50 - 150 kPa

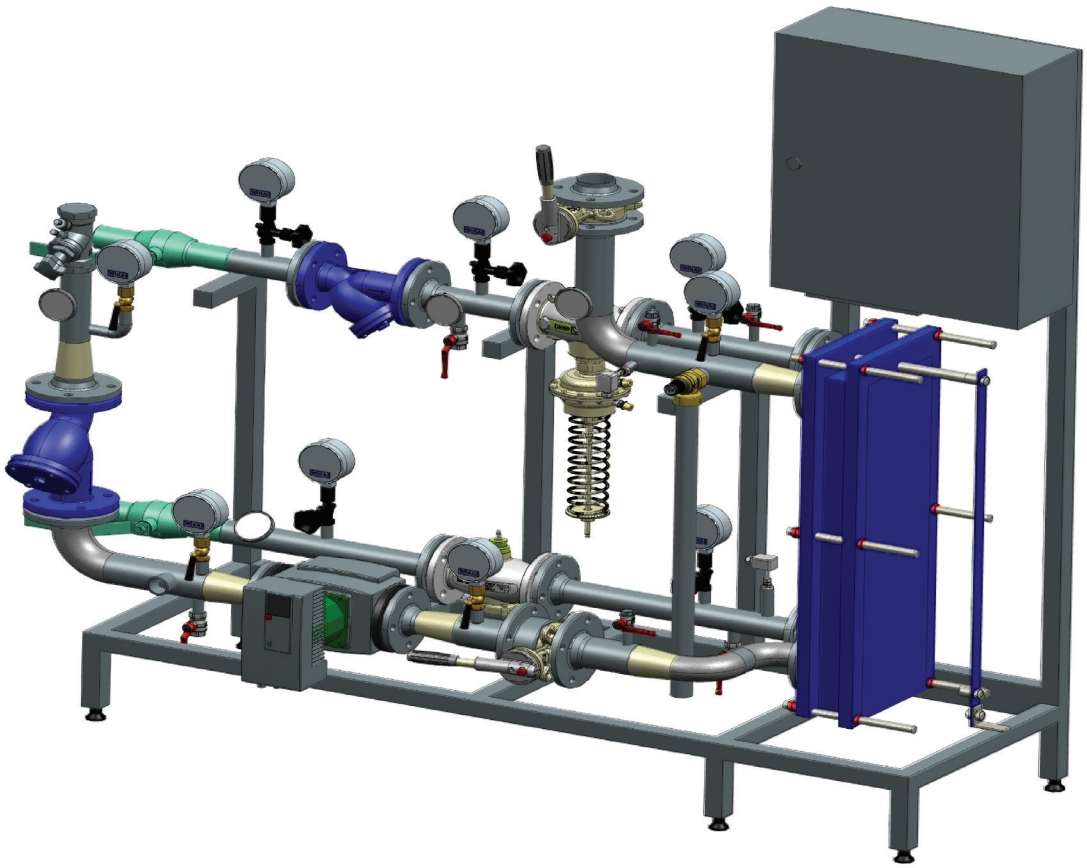
For heating and cooling systems, to ensure constant differential pressure within the control range.

Proportional regulator with straight body without auxiliary power. Differential pressure 50 – 150 kPa continuously adjustable. Body of grey cast iron GJL 250 according to EN 1561, flange according to EN 1092, PN 16, length according to EN 558-1, basic series 1, painted blue, incl. capillary 1600 mm. Max. operating pressure: 16 bar; max. operating temperature: 150 °C.

Differential pressure controller F 4007/150 in flanged design

Kvs	DN	Order number
39	DN 50	F **4007** 56
50	DN 65	F **4007** 57

Installation example



HERZ-Differential pressure controller with fixed setpoint

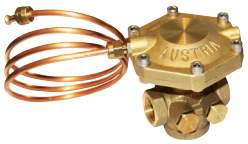
☑ Series 4002/4202 FIX, 23 kPa

Differential pressure 23 kPa set permanently. Compact shape, body of dezincification-resistant brass, incl. capillary 1000 mm; **4002**: with male thread connection, DN 15 und DN 20 with cone, DN 25 to DN 50 flat sealing. **4202**: threaded connections on both sides. Max. differential pressure across the body: 4 bar; max. operating temperature: 130 °C (up to DN 32), 110 °C (DN 40 – DN 50).

4002-FIX

☑ **HERZ-Differential pressure controller 4002-FIX**

4202-FIX



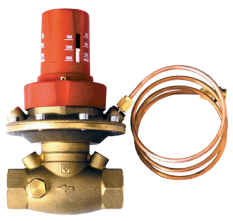
☑ **HERZ-Differential pressure controller 4202-FIX**

l/h	DN	Dim.	Order number	Dim.	Order number
50 - 900	15	G 3/4	1 **4002** 21	Rp 1/2	1 **4202** 21
100 - 1200	20	G 1	1 **4002** 22	Rp 3/4	1 **4202** 22
150 - 1800	25	G 1 1/4	1 **4002** 23	Rp 1	1 **4202** 23
200 - 4000	32	G 1 1/2	1 **4002** 24	Rp 1 1/4	1 **4202** 24
400 - 6500	40	G 1 3/4	1 **4002** 25	Rp 1 1/2	1 **4202** 25
400 - 7000	50	G 2 3/8	1 **4002** 26	Rp 2	1 **4202** 26

☑ Series 4007 FIX WE, 23 kPa (approval “Class A” Vienna Energy)

Proportional regulator with straight body without auxiliary power e.g. for two-pipe systems with radiator thermostatic valves. Differential pressure 23 kPa set permanently. Incl. capillary 1000 mm; body of dezincification-resistant brass; threaded sockets on both sides; Max. operating pressure: 10 bar; max. operating temperature: 95 °C. DN 15 – DN 50 approval „Class A“ Vienna Energy.

4007



☑ **HERZ-Differential pressure controller 4007 FIX WE**

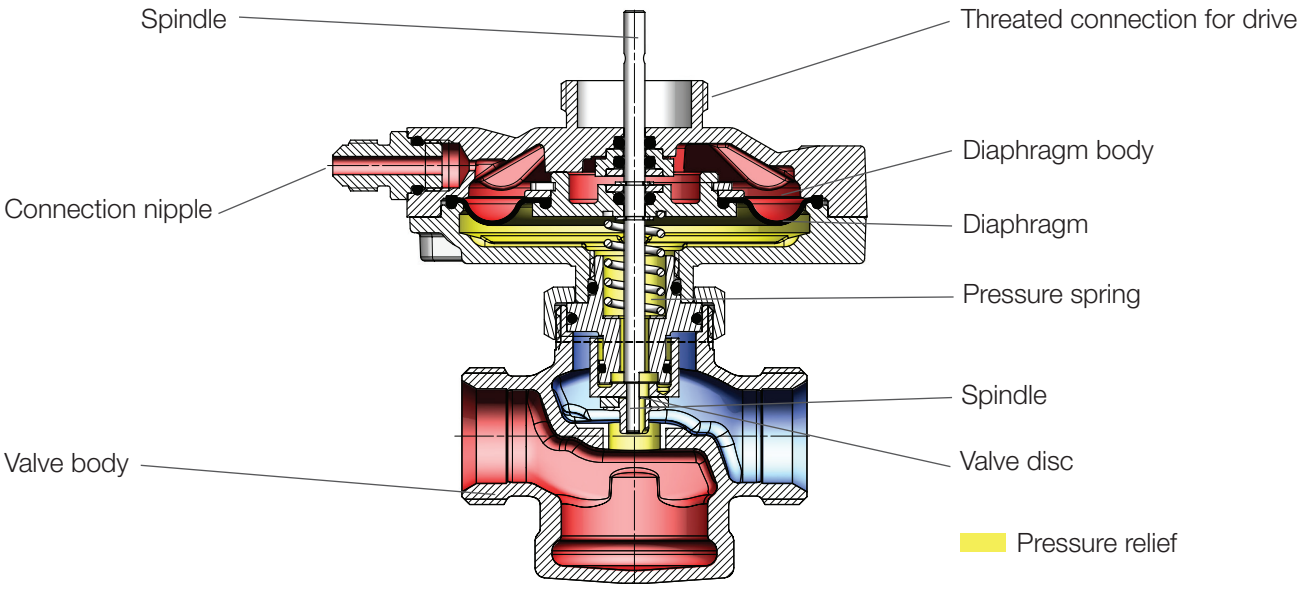
l/h	DN	Dim.	Order number
100 - 600	15	Rp 1/2	1 **4007** 51
150 - 780	20	Rp 3/4	1 **4007** 52
200 - 1500	25	Rp 1	1 **4007** 53
300 - 2500	32	Rp 1 1/4	1 **4007** 54
400 - 4700	40	Rp 1 1/2	1 **4007** 55
600 - 6100	50	Rp 2	1 **4007** 56
750 - 10000	65	Rp 2 1/2	1 **4007** 57
750 - 12000	80	Rp 3	1 **4007** 58

HERZ-Differential pressure controller with fixed setpoint and threaded connections for actuating drives

Series 4002/4202 FIX TS

Compact shape, body of dezincification-resistant brass, incl. capillary 1000 mm; threated connection for drive M 28 x 1.5; **4002**: with male thread connection, DN 15 and DN 20 with cone, DN 25 to DN 50 flat sealing. **4202**: threaded connections on both sides. Max. differential pressure across the body: 4 bar; max. operating temperature: 130 °C (up to DN 32), 110 °C (DN 40 – DN 50).

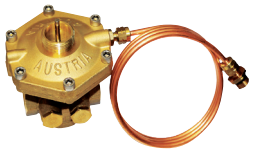
Sectional view 4002 FIX TS in open position



Series 4002/4202 FIX TS, 23 kPa

4002-FIX-TS

4202-FIX-TS



HERZ-Differential pressure controller 4002-FIX-TS

HERZ-Differential pressure controller 4202-FIX-TS

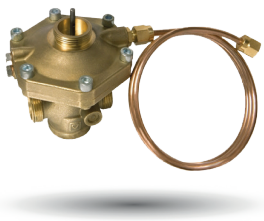
l/h	DN	Dim.	Order number	Dim.	Order number
50 - 900	15	G 3/4	1 **4002** 81	Rp 1/2	1 **4202** 81
100 - 1200	20	G 1	1 **4002** 82	Rp 3/4	1 **4202** 82
150 - 1800	25	G 1 1/4	1 **4002** 83	Rp 1	1 **4202** 83
200 - 4000	32	G 1 1/2	1 **4002** 84	Rp 1 1/4	1 **4202** 84
400 - 6500	40	G 1 3/4	1 **4002** 85	Rp 1 1/2	-
400 - 7000	50	G 2 3/8	1 **4002** 86	Rp 2	-

Please note: suitable matching actuators see page 24 - 25

HERZ-Differential pressure controller with fixed setpoint and threaded connections for actuating drives

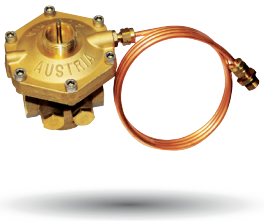
Series 4002/4202 FIX TS, 50 kPa

4002-FIX-TS



HERZ-Differential pressure controller 4002-FIX-TS

4202-FIX-TS



HERZ-Differential pressure controller 4202-FIX-TS

l/h	DN	Dim.	Order number	Dim.	Order number
50 - 900	15	G 3/4	1 **4002** 91	Rp 1/2	1 **4202** 91
100 - 1200	20	G 1	1 **4002** 92	Rp 3/4	1 **4202** 92
150 - 1800	25	G 1 1/4	1 **4002** 93	Rp 1	1 **4202** 93
200 - 4000	32	G 1 1/2	1 **4002** 94	Rp 1 1/4	1 **4202** 94
400 - 6500	40	G 1 3/4	1 **4002** 95	Rp 1 1/2	1 **4202** 95
400 - 7000	50	G 2 3/8	1 **4002** 96	Rp 2	1 **4202** 96

HERZ-Differential pressure controller with fixed setpoint in flanged design

Series 4007 F FIX, 23 kPa

For heating and cooling systems, to ensure constant differential pressure within the control range.

Proportional regulator with straight body without auxiliary power e.g. for two-pipe systems with radiator thermostatic valves. Differential pressure 23 kPa set permanently. Body of grey cast iron GJL 250 according to EN 1561, flange according to EN 1092, PN 16, length according to EN 558-1, basic series 1, painted blue, incl. capillary 1000 mm. Max. operating pressure: 16 bar; max. operating temperature: 130 °C (DN 15 – DN 32), 110 °C (DN 40 – DN 80).

4007

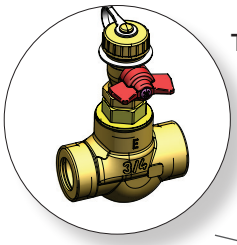
Differential pressure controller 4007 F in flanged design

l/h	DN	Dim.	Order number
200 - 1500	25	1	1 **4007** 63
300 - 2500	32	1 1/4	1 **4007** 64
400 - 4700	40	1 1/2	1 **4007** 65
600 - 6100	50	2	1 **4007** 66
750 - 10000	65	2 1/2	1 **4007** 67
750 - 12000	80	3	1 **4007** 68

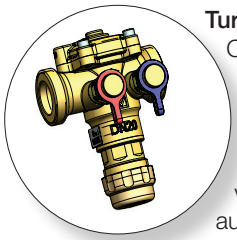
HerzCON – direct connection for fan coils and other heating and cooling units

HerzCON was designed for easy connection to fan coil units or other terminal devices and uses the HERZ 4006 SMART PICV with multifunctional HERZ ball valves and a HERZ strainer with HERZ drain valve 2512. Optionally, 2-point, 3-point or modulating 0 - 10 V. DC actuators or motorized drives installed and integrated into a GLT if required. The insulating box (DN 15 - DN 25) is designed water vapour permeable.

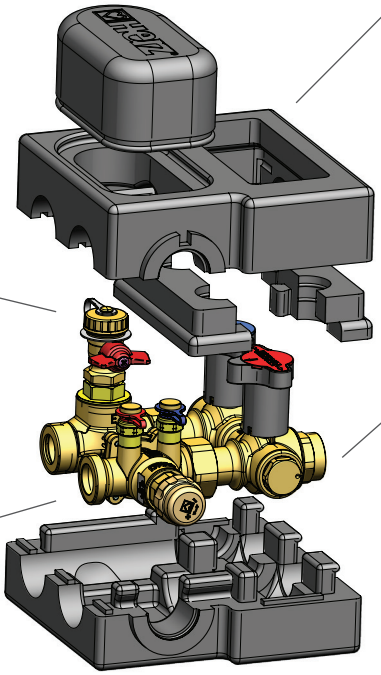
All components made of dezincification-resistant brass. Max. operating pressure: 25 bar; max. operating temperatur: 130 °C; min. operating temperature: -20 °C, stroke: 4 mm.



The integrated drain valve in the strainer allows for flushing the system without removing the strainer basket.



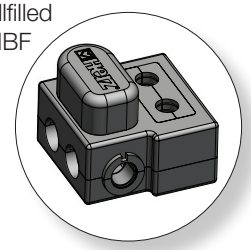
Turn 3 into 1: One valve for three requirements: DPCV, balancing, regulation. No calculation and verification of valve authority required.



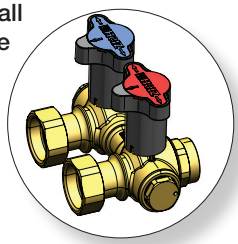
Isolation box (fire resistance)

Methode	Class
DIN EN ISO 11925-2 [1]	E
DIN 4102-1	E
FMVSS 302	fullfilled
UL 94	HBF

[1] edge exposure, classification according to EN 13501-1



HERZ multifunctional ball valves with red and blue handle, ball with T-bore. Full bore ball valve allows the drainage or filling of complete systems or a subsystem in case of maintenance.



Product Overview

HerzCON incl. insulation box, 65 mm pipe centre

HerzCON without insulation box, 90 mm pipe centre

HerzCON incl. insulation box, 90 mm pipe centre

HerzCON without insulation box, 120 mm pipe centre

l/h	DN	Order number	Order number	Order number	Order number
20 - 100	15 LF	1 **4600** 50	-	-	-
40 - 200	15 MF	1 **4600** 59	-	-	-
80 - 400	15	1 **4600** 51	-	-	-
200 - 800	20	1 **4600** 52	-	-	-
100 - 1900	25	-	1 **4600** 53	1 **4600** 58	-
200 - 2500	32	-	-	-	1 **4600** 54

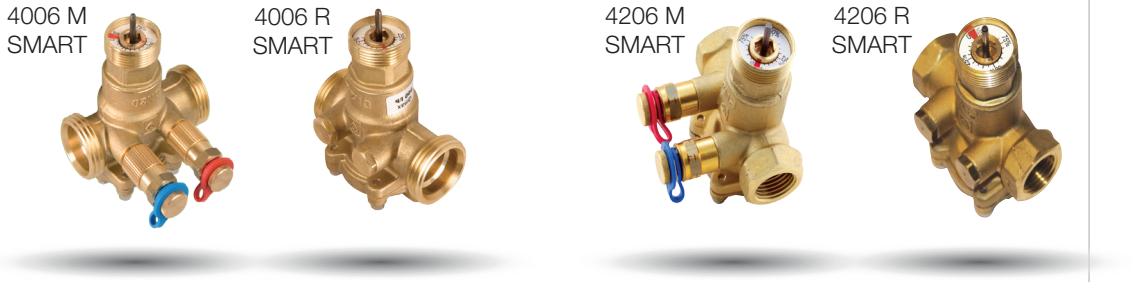
Please note: suitable matching actuators see page 24 - 25

HERZ SMART valve – pressure-independent control valve

☑ Series 4006/4206 M SMART and series 4006/4206 R SMART

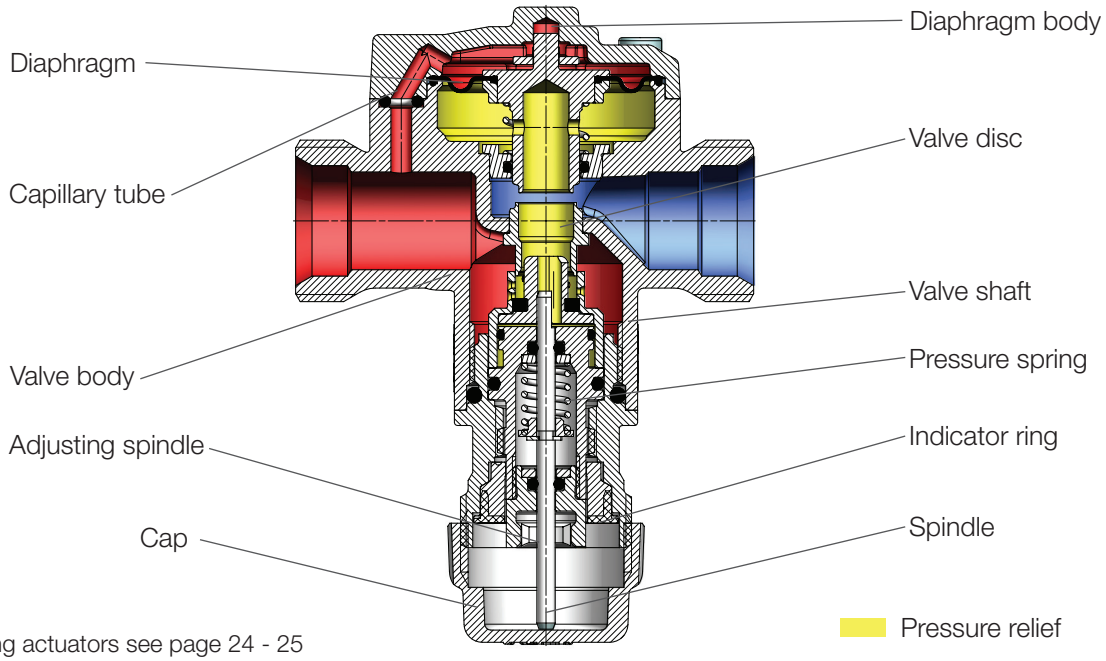
The Pressure Independent Balancing Control Valve (PIBCV) is used in all heating and cooling systems with circulation pumps. The valve automatically maintains flow to the required part of the system at the set rate by measuring and immediately adjusting to any variation in pressure. No additional measurements are necessary and the correct flow rate is achieved at all operating conditions.

Compact shape, body of dezincification-resistant brass, with male thread connection, threaded connection for drive M 28 x 1.5. **4006**: with male thread connection, DN 15 and DN 20 with cone, DN 25 to DN 50 flat sealing. **4206**: threaded connections on both sides. Max. operating pressure: 16 bar; max. differential pressure across the body: 4 bar; max. operating temperature: 130 °C



			☑ HERZ SMART valve – pressure-independent control valve with testpoints	☑ HERZ SMART valve – pressure-independent control valve without testpoints		☑ HERZ SMART valve – pressure-independent control valve with testpoints	☑ HERZ SMART valve – pressure-independent control valve without testpoints
l/h	**DN**	**Dim.**	**Order number**	**Order number**	**Dim.**	**Order number**	**Order number**
20 - 100	15 LF	G 3/4	1 **4006** 20	1 **4006** 60	Rp 1/2	1 **4206** 20	1 **4206** 60
40 - 200	15 MF	G 3/4	1 **4006** 29	1 **4006** 69	Rp 1/2	1 **4206** 29	1 **4206** 69
80 - 400	15	G 3/4	1 **4006** 21	1 **4006** 61	Rp 1/2	1 **4206** 21	1 **4206** 61
200 - 800	20	G1	1 **4006** 22	1 **4006** 62	Rp 3/4	1 **4206** 22	1 **4206** 62

☑ Sectional view SMART in open position



Please note:
suitable matching actuators see page 24 - 25

HERZ-Pressure-independent control valve

☑ Series 4006/4206 M and series 4006/4206 R

The Pressure Independent Balancing Control Valve (PIBCV) is used in all heating and cooling systems with circulation pumps. The valve automatically maintains flow to the required part of the system at the set rate by measuring and immediately adjusting to any variation in pressure. No additional measurements are necessary and the correct flow rate is achieved at all operating conditions.

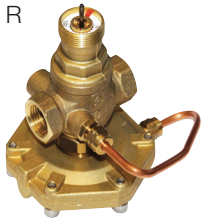
Compact shape, body of dezincification-resistant brass, with male thread connection, threaded connection for drive M 28 x 1.5. **4006**: with male thread connection, DN 15 and DN 20 with cone, DN 25 to DN 50 flat sealing. **4206**: threaded connections on both sides. Max. operating pressure: 16 bar; max. differential pressure across the body: 4 bar; max. operating temperature: 130 °C (up to DN 32) or rather 110 °C (from DN 40)

4006 M

4006 R

4206 M

4206 R



			☑ HERZ-combi valve – pressure-independent control valve with testpoints	☑ HERZ-combi valve – pressure-independent control valve without testpoints		☑ HERZ-combi valve – pressure-independent control valve with testpoints	☑ HERZ-combi valve – pressure-independent control valve without testpoints
l/h	**DN**	**Dim.**	**Order number**	**Order number**	**Dim.**	**Order number**	**Order number**
40 - 400	15	G 3/4	1 **4006** 11	1 **4006** 41	Rp 1/2	1 **4206** 11	1 **4206** 41
80 - 900	20	G 1	1 **4006** 12	1 **4006** 42	Rp 3/4	1 **4206** 12	1 **4206** 42
100 - 1900	25	G 1 1/4	1 **4006** 13	1 **4006** 43	Rp 1	1 **4206** 13	1 **4206** 43
200 - 2500	32	G 1 1/2	1 **4006** 14	1 **4006** 44	Rp 1 1/4	1 **4206** 14	1 **4206** 44
400 - 5000	40	G 1 3/4	1 **4006** 15	1 **4006** 45	Rp 1 1/2	1 **4206** 15	1 **4206** 45
500 - 5000	50	G 2 3/8	1 **4006** 16	1 **4006** 46	2	1 **4206** 16	1 **4206** 46

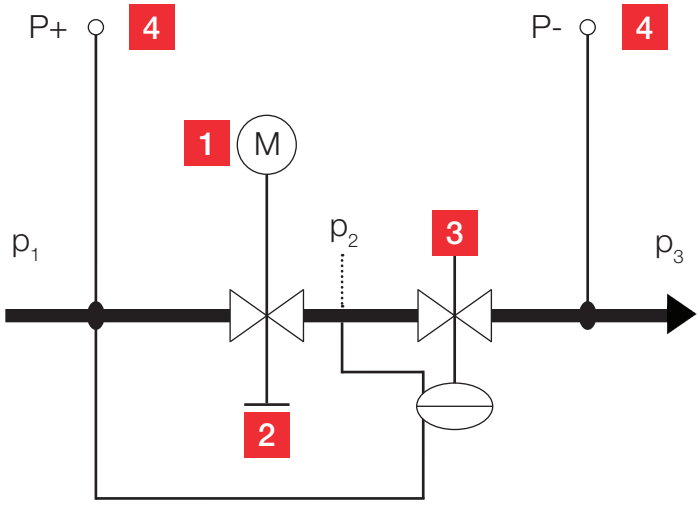
Diagram of a PICV (4006/4206, 4006/4206 SMART)

1 Actuating drive for regulation valves

2 Continuous pre-setting for maximal required flow rate

3 Embedded differential pressure controller

4 Pressure measuring points



Please note:
suitable matching actuators see page 24 - 25

HERZ-Combi valve – Pressure-independent control valve

☑ Series F 4006 for increased flow rates

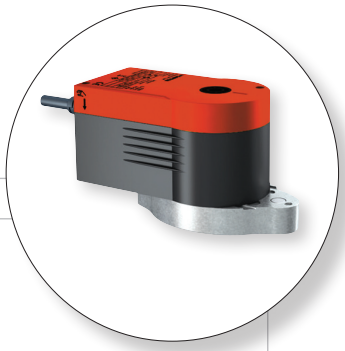
The combi valve is mainly used for district heating, heating, ventilation and air conditioning (HVAC) purposes and limits automatically the flow in the selected part of the system to the preset value by measuring and correcting all pressure fluctuations. The flow regulator is operated by an electric actuator and controlled by a microprocessor control device.

Body of grey cast iron GG 25 with external thread flat-sealing, PN 16, suitable for regulating the flow rate, in heating and cold water systems, max. differential pressure: 10 bar, max. differential pressure via flow restrictor: 0.2 bar; max. operating pressure: 16 bar; max. operating temperature: 130 °C

☑ **HERZ-Combi valve - Pressure-independent control valve**

kvs	DN	Order number
1.6	15	F **4006** 39
2.5	15	F **4006** 40
4	15	F **4006** 41
6.3	20	F **4006** 42

☑ Actuator for control valves series F 4006



Maintenance-free gearbox. Connection with the valve spindle is semi-automatic after applying the control voltage. Actuating force: 500 N; Stroke: 8-20 mm; Protection class IP 54; Operating time: 7.5 s / mm; Mount in vertical or horizontal position, not hanging.

Supply voltage:	230 V AC	24 V AC/DC
Control:	2-point or 3-point	2-point, 3-point or continuous (operating range 0-10 V with actuation feedback signal)
Further features:	-	• Direction of action selectable directly on the cable • Automatic adaptation to the stroke of the valve
Order number:	1 **7712** 28	1 **7712** 29

☑ Adapter set for mounting

of HERZ actuators 1 **7712** 28/29 on HERZ control valves F **4006** xx, F **4035** xx und F **4037** xx.

Order number:	1 **7712** 20

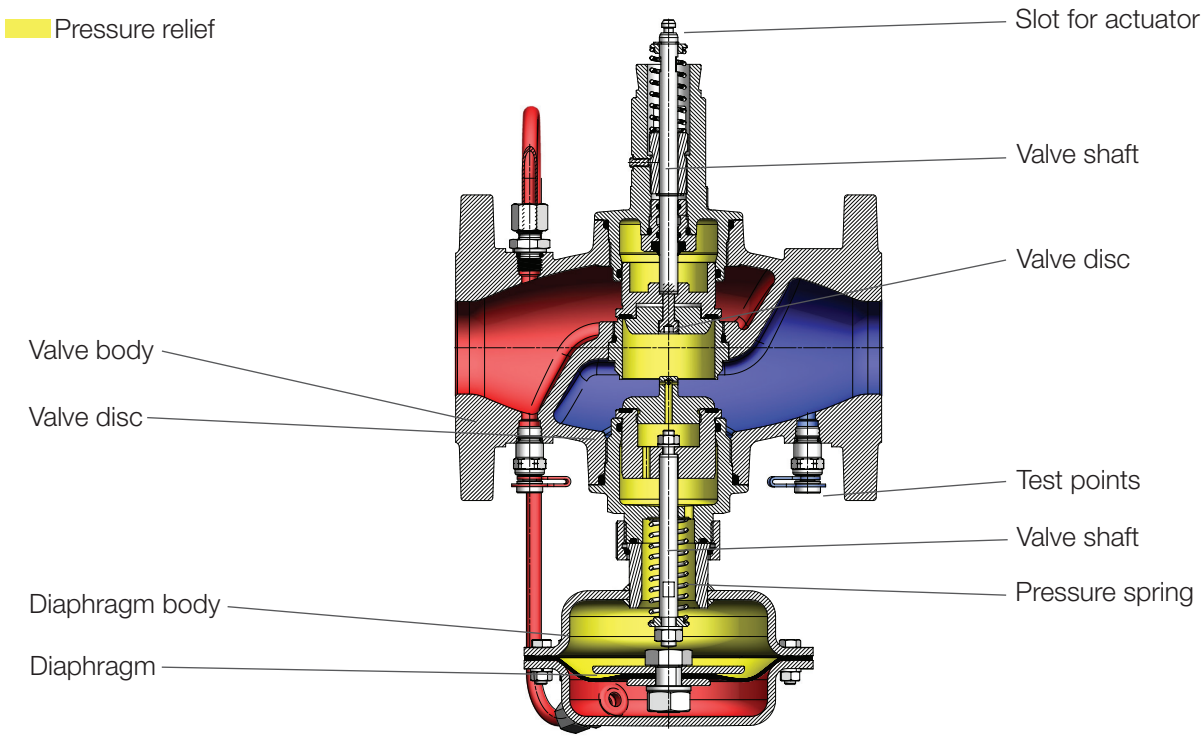
HERZ-Combi valve - Pressure-independent control valve in flanged design

☑ Series F 4006, DN 50 and DN 65

The combi valve is mainly used for district heating, heating, ventilation and air conditioning systems (HVAC) and limits automatically the flow in the selected system part to the preset value by detecting and correcting all pressure fluctuations.

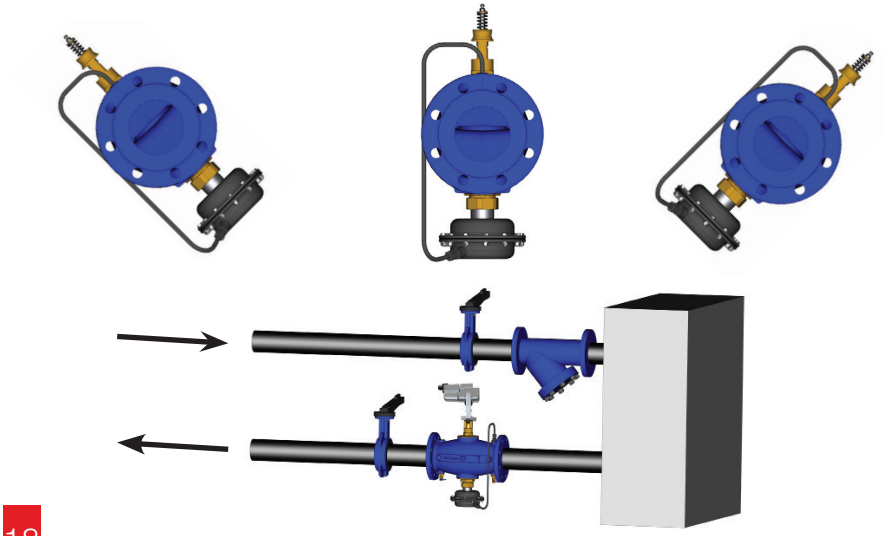
Body of grey cast iron GJL 250 according to EN 1561, flanges according to EN 1092, PN 16. Overall length according to EN 558-1, basic series 1. Max. operating pressure: 16 bar; max. differential pressure: 4 bar; max. differential pressure over the flow limiter: 0.2 bar; max. operating temperature: 110 °C.

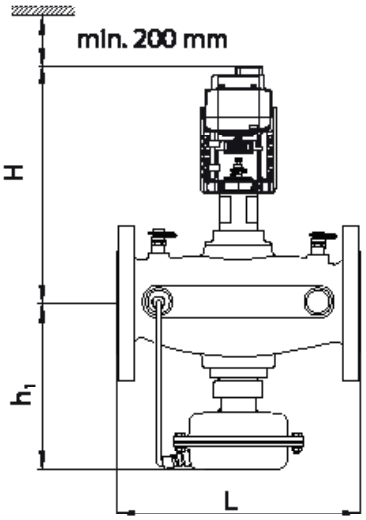
☑ Sectional view of Herz-Combi valve - Pressure-independent control valve in open position



☑ Installation instructions

Recommended installation: Valve position in the return of the system. The actuator should be mounted in an upright position, ± 45 ° to the vertical pipe axis. Permitted installation: The valve can also be installed in the supply of the system.



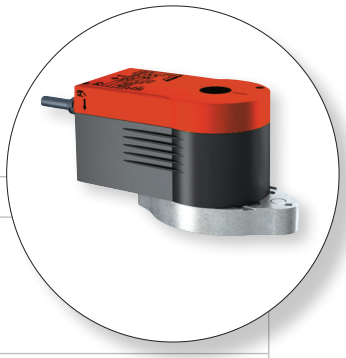


HERZ-Combi valve - Pressure-independent control valve in flanged design

☑ HERZ-Combi valve - Pressure-independent control valve F 4006, DN 50 and DN 65

	m^3/h	DN	Order number
F 4006  ☑ **HERZ-Pressure independent control valve**	3.75 - 15	50	F **4006** 62
	5 - 20	65	F **4006** 63

☑ Actuator for control valves F 4006, DN 50 and DN 65



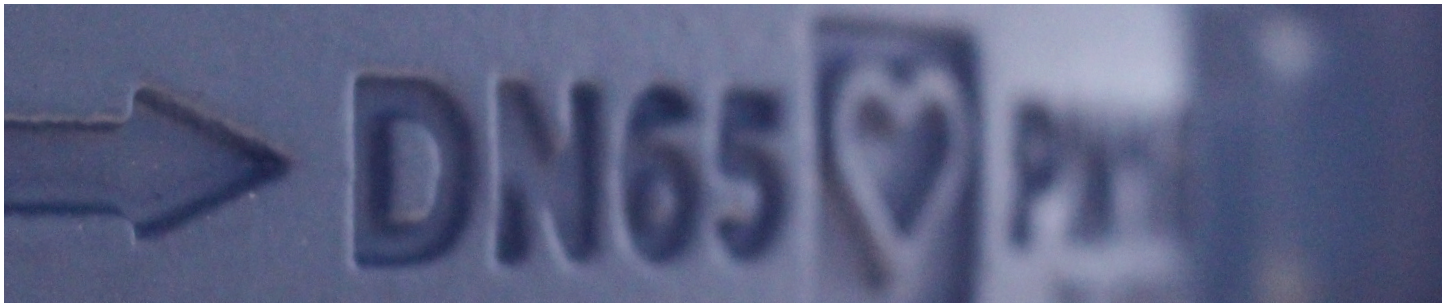
Maintenance-free gearbox. Connection with the valve spindle is semi-automatic after applying the control voltage. Actuating force: 500 N; Stroke: 8-20 mm; protection class IP 54; Operating time: 7.5 s / mm; Mount in vertical or horizontal position, not hanging.

Supply voltage:	230 V AC	24 V AC/DC
Control:	2-point or 3-point	2-point, 3-point or continuous (operating range 0-10 V with actuation feedback signal)
Further features:	-	• Direction of action selectable directly on the cable • Automatic adaptation to the stroke of the valve
Order number:	1 **7712** 28	1 **7712** 29

☑ Adapter set for mounting

of HERZ actuators 1 **7712** 28/29 on HERZ control valves F **4006** xx, F **4035** xx und F **4037** xx.

Oder number	1 **7712** 20



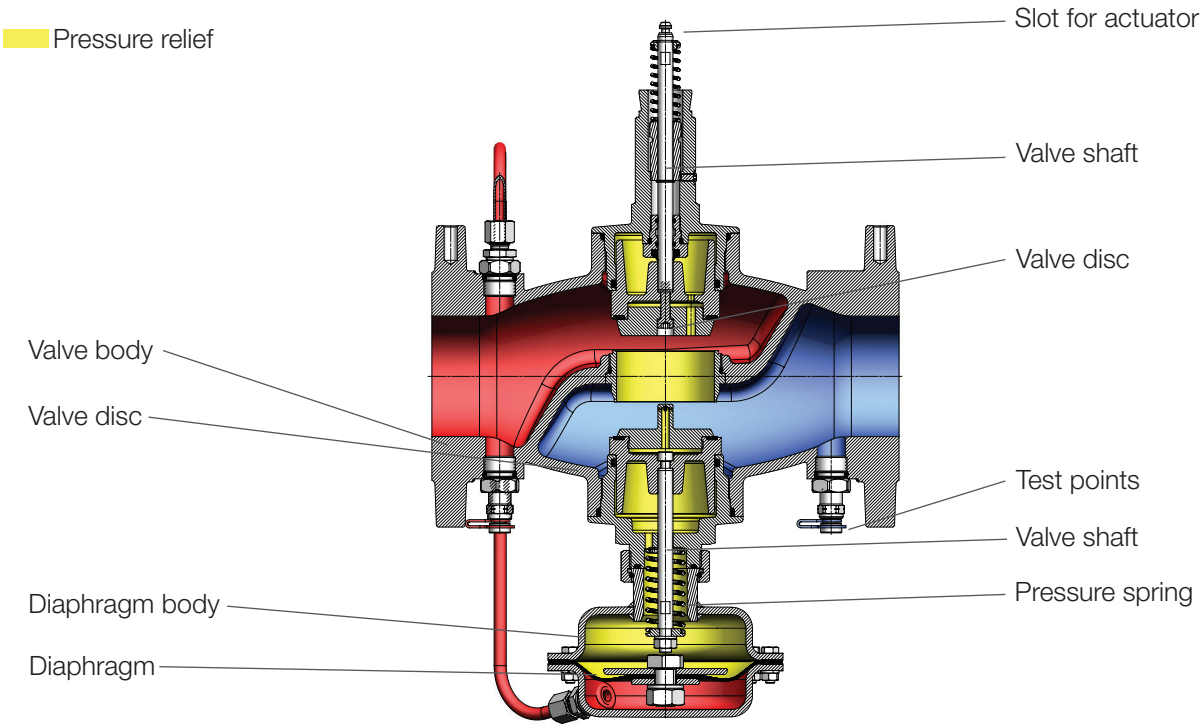
HERZ-Combi valve - Pressure-independent control valve in flange design

Series F 4006, DN 80 and DN 100

The combi valve is mainly used for district heating, heating, ventilation and air conditioning systems (HVAC) and limits automatically the flow in the selected system part to the preset value by detecting and correcting all pressure fluctuations.

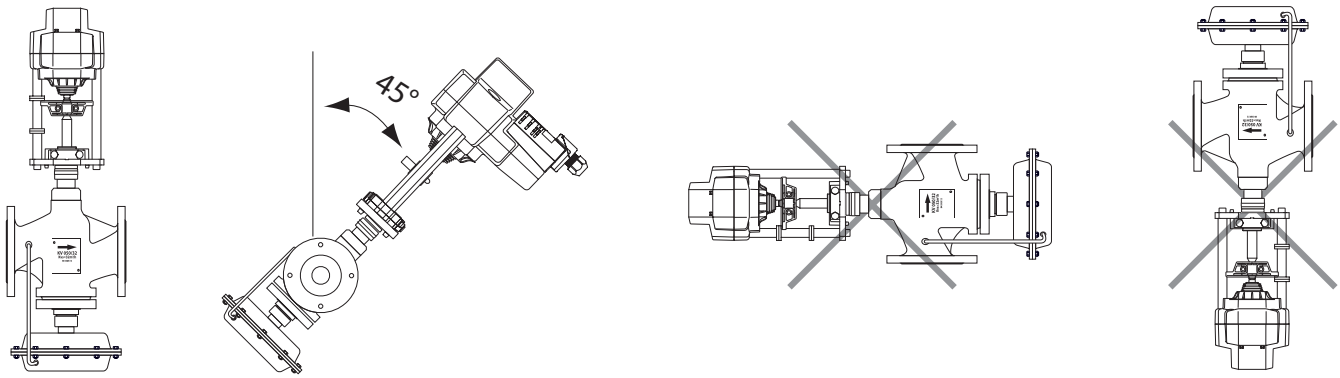
Body of grey cast iron GJL 250 according to EN 1561, flanges according to EN 1092, PN 16. Overall length according to EN 558-1, basic series 1. max. Operating pressure: 16 bar; Max. differential pressure: 4 bar; max. differential pressure over the flow restrictor: 0.2 bar; Max. operating temperature: 110 ° C.

Sectional view of Herz-Combi valve - Pressure-independent control valve in open position



Installation instructions

Recommended installation: Valve position in the return of the system. The actuator should be mounted in an upright position, ± 45 ° to the vertical pipe axis. Permitted installation: The valve can also be installed in the supply of the system.



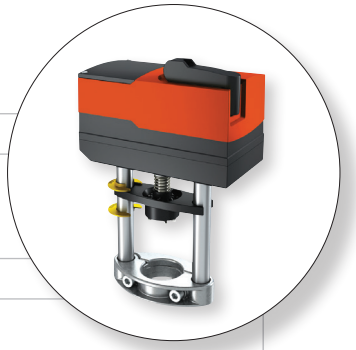
HERZ-Combi valve - Pressure-independent control valve in flanged design

☑ HERZ-Combi valve - Pressure-independent control valve F 4006, DN 80 and DN 100

	m^3/h	DN	Order number
F 4006  ☑ **HERZ-Combi valve – Pressure independent control valve**	9 - 36	80	F **4006** 64
	10.75 - 43	100	F **4006** 65

☑ Actuator for control valves F 4006, DN 80 and DN 100

Maintenance-free gearbox. Connection with the valve spindle is semi-automatic after applying the control voltage. Actuating force: 1000 N; Stroke: 20 mm; Protection class IP 66; Two-colored LED-Display; Mount in vertical or horizontal position, not hanging.



Supply voltage:	230 V AC	24 V AC/DC
Control:	2-point or 3-point	2-point, 3-point or continuous (operating range 0-10 V with actuation feedback signal)
Operating time:	6 (12) s/mm	6 (4) s/mm
Further features:	-	• Direction of action selectable directly on the cable • Automatic adaptation to the stroke of the valve
Order number:	1 **7712** 30	1 **7712** 31

☑ Adapter set for mounting

of HERZ actuators 1 **7712** 30/31 on HERZ control valves F **4006** xx, F **4035** xx und F **4037** xx.

Order number:	1 **7712** 17

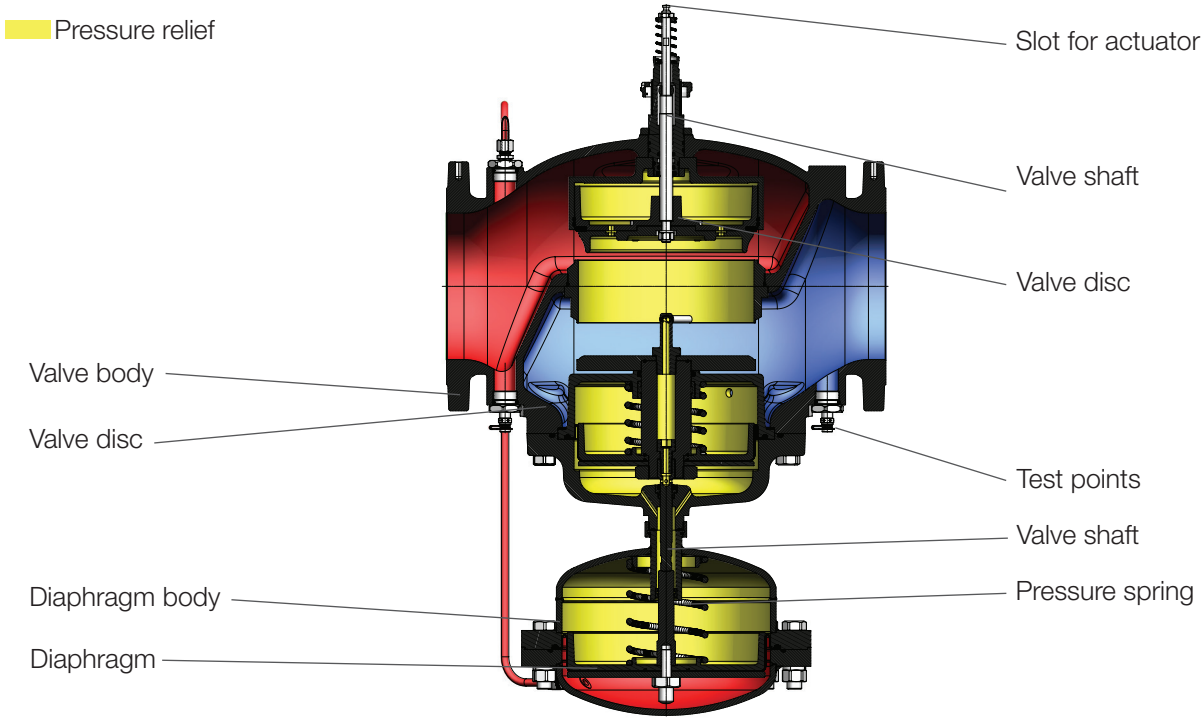
HERZ-Combi valve - Pressure-independent control valve in flange design

☑ Series F 4006, DN 125 to DN 200

The combi valve is mainly used for district heating, heating, ventilation and air conditioning systems (HVAC) and limits automatically the flow in the selected system part to the preset value by detecting and correcting all pressure fluctuations.

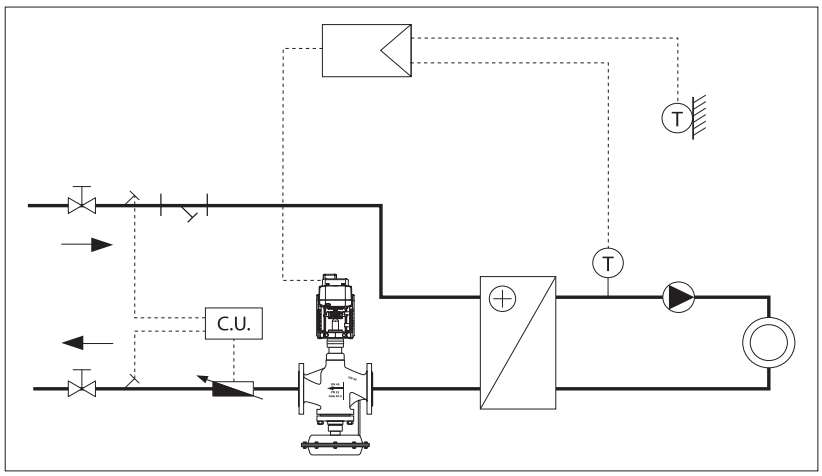
Body of grey cast iron GJL 250 according to EN 1561, flanges according to EN 1092, PN 16. Overall length according to EN 558-1, basic series 1. Max. Operating pressure: 16 bar; Max. differential pressure: 4 bar; Max. differential pressure over the flow restrictor: 0.2 bar; Max. operating temperature: 110 ° C.

☑ Sectional view of Herz-Combi valve - Pressure-independent control valve in open position



☑ Installation instructions

Recommended installation: Valve position in the return of the system. The actuator should be mounted in an upright position, ± 45 ° to the vertical pipe axis. Permitted installation: The valve can also be installed in the supply of the system.



HERZ-Combi valve - Pressure-independent control valve in flange design

☑ HERZ-Combi valve - Pressure-independent control valve F 4006, DN 125 to DN 200

F 4006

☑ HERZ-Combi valve – Pressure independent control valve

m³/h	DN	Order number
25 - 100	125	F **4006** 66
37.50 - 150	125 HF	F **4006** 56
36.25 - 145	150	F **4006** 67
50 - 200	150 HF	F **4006** 57
52.50 - 210	200	F **4006** 68
75 - 300	200 HF	F **4006** 58
87.5 - 350	200 UHF	F **4006** 48

☑ Actuator for control valves F 4006, DN 125 to DN 200

Maintenance-free gearbox. Connection with the valve spindle is semi-automatic after applying the control voltage. Actuating force: 2500 N; Stroke: 49 mm; protection class IP 66; Two-colored LED-Display; Automatic adaption to the stroke of the valve. Operating voltage 230 V with 230 V module 1 **7712** 22 possible. Mount in vertical or horizontal position, not hanging.

Supply voltage:	24 V AC/DC
Control:	2-point, 3-point or continuous (operating range 0-10 V / 4-20 mA with actuation feedback signal)
Operating time:	2/4/6 s/mm
Order number:	1 **7712** 21

☑ HERZ 230 V-module

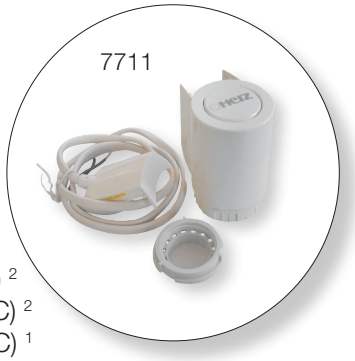
pluggable; for HERZ actuators 1 **7712** 21/32. Operating voltage: 230 V / AC.

Order number:	1 **7712** 22

Actuators for 2-point control

☑ HERZ actuating drive for 2-point control for floor heating circuit distributors and valves – without limit switch

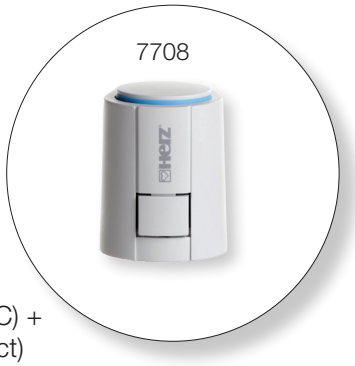
Thermo-electric actuator for opening and closing small valves and valves on heating circuit distributors of surface heating and cooling systems. Main application area is energy-efficient individual room control in the field of building services and building automation. The control of the HERZ drive 230 V / 24 V is provided by a 230 V / 24 V room thermostat with 2-point output or pulse width modulation.



Connection:	M 28 x 1.5 *	M 28 x 1.5 **
Stroke:	5 mm	4,5 mm
Closing force:	100 N	110 N [1], 115 N [2]
Dimensions in mm (W x H x D):	48.4 x 44.3 x 52.2	66 x 44 x 61
Order number:	1 **7708** 52 (NC, 24 V / AC) 1 **7708** 53 (NC, 230 V / AC) 1 **7708** 24 (NO, 230 V / AC)	1 **7711** 12 (NC, 24 V / AC) [2] 1 **7711** 10 (NC, 230 V / AC) [2] 1 **7711** 11 (NO, 230 V / AC) [1] 1 **7711** 13 (NO, 24 V / AC / DC) [1]

☑ HERZ actuating drive for 2-point control for floor heating circuit distributors and valves – with limit switch

Thermoelectric actuator for opening and closing small valves and valves which are used in heating, ventilation and air conditioning. The integrated micro switch with potential-free contact allows to switch a pump or fan control directly. The HERZ drive 230 V with limit switch is controlled by a 230 V room thermostat with 2-point output or pulse width modulation.



Connection:	M 28 x 1.5 *	M 28 x 1.5 **
Stroke:	5 mm	4,5 mm
Closing force:	100 N	115 N
Dimensions in mm (W x H x D):	56 x 44.3 x 52.2	66 x 44 x 61
Order number:	1 **7708** 87 (NC, 230 V / AC)	1 **7711** 10 (NC, 230 V / AC) + 1 **7711** 24 (auxiliary contact)

Actuators for continuous control

☑ HERZ actuating drive for 2-point control for floor heating circuit distributors and valves – with limit switch

Thermo-electric actuator for continuous control of heating and cooling systems in direct proportion to the applied control voltage. The actuators are controlled by a 0-10 V DC signal via a central DDC system or a room temperature controller. In variant 1 **7990** 32 with valve path recognition, the valve path is also automatically detected for optimum use of the active control voltage range.

Connection:	M 28 x 1.5
Operating voltage:	24 V / AC
Dimensions in mm (W x H x D):	63.5 x 44.1 x 61.8 [A] | 66 x 44 x 61 [B]
Order number:	1 **7990** 31 (NC, 5 mm Hub, 100 N closing force) */A 1 **7990** 32 (NC, 6,5 mm Hub, 125 N closing force, incl. valve path recognition) */A 1 **7711** 12 (NC, 4,5 mm Hub, 115 N closing force) + 1 **7711** 25 (connector) **/B

* In combination with M 30 x 1,5 valves, adapter 1 **7708** 86 or 1 **7708** 98 must be ordered separately. | ** Also available as M 30 version.

Actuating drives and geared motors

☑ HERZ geared motors

HERZ gear motors are electromotive actuators for opening and closing valves for heating and cooling systems. The common application of geared motors is the energy-efficient control of hydraulic valves in the field of building services and building automation.

	3-point	DDC 0-10 V
Connection:	M 28 x 1.5	M 28 x 1.5
Stroke:	8.5 mm	8.5 mm
Closing force:	200 N	200 N
Dimensions in mm (W x H x D):	45 x 65 x 90	45 x 65 x 90
Order number:	1 **7708** 40 (24 V / AC) 1 **7708** 41 (230 V / AC)	1 **7708** 42 (24 V / AC) 1 **7708** 46 (24 V / AC) - with valve stroke detection and feedback channel

☑ Selection table for actuating drives with adapter

			valve types	
Adapter and actuator	Adapter		**4002** **4202** (M28 x 1.5)	**4006** **4206** (M28 x 1.5)
	red	2-point control 1 **7708** 24 1 **7708** 52 1 **7708** 53 1 **7708** 87	☑	☑
	blue	Continuous control 1 **7990** 31 1 **7990** 32	☑	☑

Selection table for drives and adapters

			1 **7712** 29 24 V continuous, 2-3-point 500 N, 20 mm	1 **7712** 31 24 V continuous, 2-3-point 1000 N, 20 mm	1 **7712** 32 24 V continuous, 2-3-point 2500 N, 40 mm	1 **7712** 21 24 V continuous, 2-3-point 2500 N, 40 mm	1 **7712** 28 230 V 2, 3-point 500 N, 20 mm
Combi valve	DN	max. m³/h					
F **4006** 71	15	2,5	1 **7712** 20 *				1 **7712** 20 *
F **4006** 90			1 **7712** 20 *				1 **7712** 20 *
F **4006** 72	15	4	1 **7712** 20 *				1 **7712** 20 *
F **4006** 91			1 **7712** 20 *				1 **7712** 20 *
F **4006** 73	25	6,3	1 **7712** 20 *				1 **7712** 20 *
F **4006** 92			1 **7712** 20 *				1 **7712** 20 *
F **4006** 93	25	8	1 **7712** 20 *				1 **7712** 20 *
F **4006** 53			1 **7712** 20 *				1 **7712** 20 *
F **4006** 74	32	12	1 **7712** 20 *				1 **7712** 20 *
F **4006** 94			1 **7712** 20 *				1 **7712** 20 *
F **4006** 75	40	20	1 **7712** 20 *				1 **7712** 20 *
F **4006** 95			1 **7712** 20 *				1 **7712** 20 *
F **4006** 61			1 **7712** 20 *				1 **7712** 20 *
F **4006** 80	50	32	1 **7712** 20 *				1 **7712** 20 *
F **4006** 96			1 **7712** 20 *				1 **7712** 20 *
F **4006** 62			1 **7712** 20 *				1 **7712** 20 *
F **4006** 81	65	50		1 **7712** 18 *			
F **4006** 97				1 **7712** 18 *			
F **4006** 63			1 **7712** 20 *				1 **7712** 20 *
F **4006** 82	80	80		1 **7712** 18 *			
F **4006** 98				1 **7712** 18 *			
F **4006** 64				1 **7712** 17 *			
F **4006** 83	100	125				direkte Montage	
F **4006** 99						direkte Montage	
F **4006** 65				1 **7712** 17 *			
F **4006** 84	125	180				direkte Montage	
F **4006** 10						direkte Montage	
F **4006** 66						direkte Montage	
F **4006** 56	125					direkte Montage	
F **4006** 67	150					direkte Montage	
F **4006** 57	150					direkte Montage	
F **4006** 68	200					direkte Montage	
F **4006** 69	250					direkte Montage	
F **4006** 85	150					direkte Montage	
F **4006** 11	150					direkte Montage	
F **4006** 39	15	1,6	1 **7712** 20 *				1 **7712** 20 *
F **4006** 40	15	2,5	1 **7712** 20 *				1 **7712** 20 *
F **4006** 41	15	4	1 **7712** 20 *				1 **7712** 20 *
F **4006** 42	20	6,3	1 **7712** 20 *				1 **7712** 20 *
2-port valves	DN	kvs					
F **4035** 01	15	1	1 **7712** 20 *				1 **7712** 20 *
F **4035** 40			1 **7712** 20 *				1 **7712** 20 *
F **4035** 11	15	1,6	1 **7712** 20 *				1 **7712** 20 *
F **4035** 51			1 **7712** 20 *				1 **7712** 20 *
F **4035** 21	15	2,5	1 **7712** 20 *				1 **7712** 20 *
F **4035** 61			1 **7712** 20 *				1 **7712** 20 *
F **4035** 31	15	4	1 **7712** 20 *				1 **7712** 20 *
F **4035** 71			1 **7712** 20 *				1 **7712** 20 *
F **4035** 03	25	6,3	1 **7712** 20 *				1 **7712** 20 *
F **4035** 43			1 **7712** 20 *				1 **7712** 20 *
F **4035** 13	25	10	1 **7712** 20 *				1 **7712** 20 *
F **4035** 53			1 **7712** 20 *				1 **7712** 20 *
F **4035** 04	32	16		1 **7712** 17			
F **4035** 44				1 **7712** 17			
F **4035** 05	40	25		1 **7712** 17			
F **4035** 45				1 **7712** 17			
F **4035** 16	50	40		1 **7712** 17			
F **4035** 56				1 **7712** 17			
F **4035** 07	65	63		1 **7712** 17			
F **4035** 47				1 **7712** 17			
F **4035** 08	80	100		1 **7712** 17			
F **4035** 48				1 **7712** 17			
F **4035** 09	100	160			Direct installation		
F **4035** 49					Direct installation		
F **4035** 10	125	250			Direct installation		
F **4035** 50					Direct installation		
F **4035** 41	150	330			Direct installation		
F **4035** 52					Direct installation		
3-port valves	DN	kvs					
F **4037** 01	15	1	1 **7712** 20				1 **7712** 20 *
F **4037** 11	15	1,6	1 **7712** 20				1 **7712** 20 *
F **4037** 21	15	2,5	1 **7712** 20				1 **7712** 20 *
F **4037** 31	15	4	1 **7712** 20				1 **7712** 20 *
F **4037** 03	25	6,3	1 **7712** 20				1 **7712** 20 *
F **4037** 13	25	10	1 **7712** 20				1 **7712** 20 *
F **4037** 04	32	16		1 **7712** 17			
F **4037** 05	40	25		1 **7712** 17			
F **4037** 16	50	40		1 **7712** 17			
F **4037** 07	65	63		1 **7712** 17			
F **4037** 08	80	100		1 **7712** 17			
F **4037** 09	100	160			Direct installation		
F **4037** 10	125	250			Direct installation		
F **4037** 41	150	330			Direct installation		
Mixers	DN						
1 **2137** 11	15						
1 **2137** 12	20						
1 **2137** 13	25						
1 **2137** 14	32						
1 **2137** 15	40						
1 **2137** 16	50						
Ball valves	DN						
1 **2117** 11	15						
1 **2117** 12	20						
1 **2117** 13	25						
1 **2117** 14	32						
1 **2117** 15	40						
1 **2117** 16	50						

*** The adapter specified in the cell is required for installation.**

Selection table for drives and adapters

			1 **7712** 29 24 V continuous, 2-3-point 500 N, 20 mm	1 **7712** 31 24 V continuous, 2-3-point 1000 N, 20 mm	1 **7712** 32 24 V continuous, 2-3-point 2500 N, 40 mm	1 **7712** 21 24 V continuous, 2-3-point 2500 N, 40 mm	1 **7712** 28 230 V 2, 3-point 500 N, 20 mm
Combi valve	DN	max. m³/h					
F **4006** 71	15	2,5					
F **4006** 90							
F **4006** 72	15	4					
F **4006** 91							
F **4006** 73	25	6,3					
F **4006** 92							
F **4006** 93	25	8					
F **4006** 53							
F **4006** 74	32	12					
F **4006** 94							
F **4006** 75	40	20					
F **4006** 95							
F **4006** 61							
F **4006** 80	50	32					
F **4006** 96							
F **4006** 62							
F **4006** 81	65	50	1 **7712** 18 *				
F **4006** 97			1 **7712** 18 *				
F **4006** 63							
F **4006** 82	80	80	1 **7712** 18 *				
F **4006** 98			1 **7712** 18 *				
F **4006** 64			1 **7712** 17 *				
F **4006** 83	100	125					
F **4006** 99							
F **4006** 65			1 **7712** 17 *				
F **4006** 84	125	180					
F **4006** 10							
F **4006** 66							
F **4006** 56	125						
F **4006** 67	150						
F **4006** 57	150						
F **4006** 68	200						
F **4006** 69	250						
F **4006** 85	150						
F **4006** 11	150						
F **4006** 39	15	1,6					
F **4006** 40	15	2,5					
F **4006** 41	15	4					
F **4006** 42	20	6,3					
2-port valves	DN	kvs					
F **4035** 01	15	1					
F **4035** 40							
F **4035** 11	15	1,6					
F **4035** 51							
F **4035** 21	15	2,5					
F **4035** 61							
F **4035** 31	15	4					
F **4035** 71							
F **4035** 03	25	6,3					
F **4035** 43							
F **4035** 13	25	10					
F **4035** 53							
F **4035** 04	32	16	1 **7712** 17 *				
F **4035** 44			1 **7712** 17 *				
F **4035** 05	40	25	1 **7712** 17 *				
F **4035** 45			1 **7712** 17 *				
F **4035** 16	50	40	1 **7712** 17 *				
F **4035** 56			1 **7712** 17 *				
F **4035** 07	65	63	1 **7712** 17 *				
F **4035** 47			1 **7712** 17 *				
F **4035** 08	80	100	1 **7712** 17 *				
F **4035** 48			1 **7712** 17 *				
F **4035** 09	100	160					
F **4035** 49							
F **4035** 10	125	250					
F **4035** 50							
F **4035** 41	150	330					
F **4035** 52							
3-port valves	DN	kvs					
F **4037** 01	15	1					
F **4037** 11	15	1,6					
F **4037** 21	15	2,5					
F **4037** 31	15	4					
F **4037** 03	25	6,3					
F **4037** 13	25	10					
F **4037** 04	32	16	1 **7712** 17 *				
F **4037** 05	40	25	1 **7712** 17 *				
F **4037** 16	50	40	1 **7712** 17 *				
F **4037** 07	65	63	1 **7712** 17 *				
F **4037** 08	80	100	1 **7712** 17 *				
F **4037** 09	100	160					
F **4037** 10	125	250					
F **4037** 41	150	330					
Mixers	DN						
1 **2137** 11	15			Direct installation	Direct installation		
1 **2137** 12	20			Direct installation	Direct installation		
1 **2137** 13	25			Direct installation	Direct installation		
1 **2137** 14	32			Direct installation	Direct installation		
1 **2137** 15	40			Direct installation	Direct installation		
1 **2137** 16	50			Direct installation	Direct installation		
Ball valves	DN						
1 **2117** 11	15					Direct installation	Direct installation
1 **2117** 12	20					Direct installation	Direct installation
1 **2117** 13	25					Direct installation	Direct installation
1 **2117** 14	32					Direct installation	Direct installation
1 **2117** 15	40					Direct installation	Direct installation
1 **2117** 16	50					Direct installation	Direct installation

*** The adapter specified in the cell is required for installation.**

Fittings

☑ Pipe connections (conical sealing) for metal pipes

Pipe		8	10	12	14	15	16	18	22
Valve		DN 15	DN 15	DN 15	DN 15	DN 15	DN 15	DN 15	DN 20
Nut G		3/4	3/4	3/4	3/4	3/4	3/4	3/4	1
Screw connection	metallic seal	1 **6274** 18	1 **6274** 00	1 **6274** 01	1 **6274** 02	1 **6274** 03	1 **6274** 04	-	1 **6273** 01
Screw connection	soft sealing	-	-	1 **6276** 12	1 **6276** 14	1 **6276** 15	1 **6276** 16	1 **6276** 18	

Compression adapters for calibrated soft steel and copper pipes. (Details can be found in the corresponding data sheets)

☑ Pipe connections (conical sealing) for plastic pipes

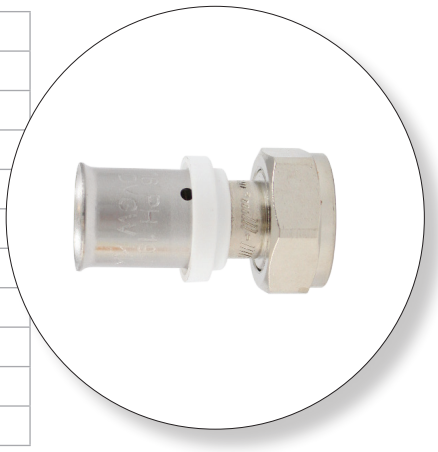
Pipe	10 x 1.3	14 x 2	15 x 2.5	16 x 2	16 x 2.2	17 x 2	17 x 2.5	18 x 2.5	18 x 2
Valve	DN 15	DN 15	DN 15	DN 15	DN 15	DN 15	DN 15	DN 15	DN 15
Nut G	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Screw connection	1 **6098** 18	1 **6098** 02	1 **6098** 16	1 **6098** 03	1 **6098** 12	1 **6098** 04	1 **6098** 05	1 **6098** 06	1 **6098** 07

Plastic pipe connector for PE-X, PB and aluminum composite pipes. (Details can be found in the corresponding data sheets).

Pipe	20 x 2	20 x 3.5	20 x 2.5	25 x 3.5	26 x 3
Valve	DN 15	DN 15	DN 15	DN 20	DN 20
Nut G	3/4	3/4	3/4	1	1
Screw connection	1 **6098** 08	1 **6098** 10	1 **6098** 11	1 **6098** 00	1 **6098** 01
Valve	DN 20				
Nut G	1				
Screw connection	1 **6198** 12				

☑ HERZ-Fittings

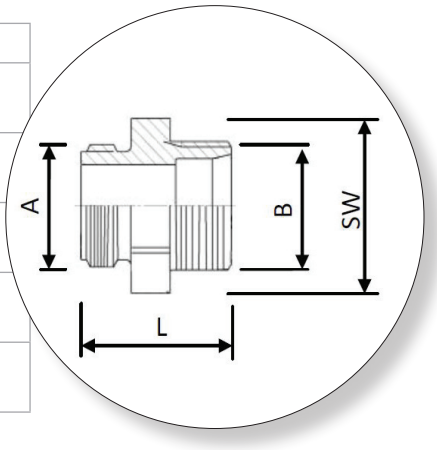
Dimensions	Order number	A	B	L
DN 15	T **7014** 81	G 3/4	14 x 2	50
DN 15	T **7016** 81	G 3/4	16 x 2	50
DN 15	T **7018** 81	G 3/4	18 x 2	50
DN 15	T **7020** 81	G 3/4	20 x 2	50
DN 25	T **7026** 43	G 1 1/4	26 x 3	50
DN 25	T **7032** 43	G 1 1/4	32 x 3	50
DN 25	T **7040** 43	G 1 1/4	40 x 3.5	70
DN 32	T **7032** 44	G 1 1/2	32 x 3	50
DN 32	T **7040** 44	G 1 1/2	40 x 3.5	70
DN 32	T **7050** 44	G 1 1/2	50 x 4	70



Fittings

HERZ-Fittings, coupling

Order number	A	B	L	SW
1 **6266** 11	G 1/2 cone, ISO 228	R 1/2, ISO 7/1	31	22
1 **6266** 12	G 3/4 cone, ISO 228	R 1/2, ISO 7/1	42	27
1 **6266** 20	G 3/4 cone, ISO 228	R 3/4, ISO 7/1	33,7	27
1 **6266** 13	G 1 cone, ISO 228	R 3/4, ISO 7/1	33,5	34
1 **6266** 03	G 1 cone, ISO 228	R 1, ISO 7/1	38,5	34

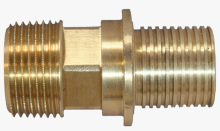


Product Overview

Press fittings, transition with external thread

Model		EAN 91 20068	Order number	Sale unit
	16 x 2 – R 1/2	14210 9	T **7016** 11	**150**
	20 x 2 – R 1/2	14250 5	T **7020** 11	**150**
	20 x 2 – R 3/4	14260 4	T **7020** 12	**150**
	26 x 3 – R 3/4	14330 4	T **7026** 12	**100**
	26 x 3 – R 1	14340 3	T **7026** 13	**80**
	32 x 3 – R 1	14350 2	T **7032** 13	**70**
	40 x 3.5 – R 1	14370 0	T **7040** 13	**30**
	32 x 3 – R 1¼	14360 1	T **7032** 14	**50**
	40 x 3.5 – R 1¼	14380 9	T **7040** 14	**30**
	50 x 4 – R 1¼	14390 8	T **7050** 14	**24**
	50 x 4 – R 1½	14400 4	T **7050** 15	**20**
	63 x 4.5 – R 2	14410 3	T **7063** 16	**14**
	75 x 5 – R 2	09003 5	T **7075** 16	**8**

Sliding sleeve fittings for HERZ QUICK FIX

Model		Dim.	EAN 91 20068	Order number	Sale unit
	Transition with external thread	**16 x 2 - R 1/2**	01274 7	T **2011** 41	**150**
		20 x 2 - R 1/2	01276 1	T **2011** 42	**120**
		20 x 2 - R 3/4	01277 8	T **2011** 43	**120**
		26 x 3 - R 3/4	01278 5	T **2011** 44	**80**
		26 x 3 - R 1	01279 2	T **2011** 45	**70**
		32 x 3 - R 1	01281 5	T **2011** 46	**60**
		32 x 3 - R 5/4	01282 2	T **2011** 47	**40**

All water transporting components are made of dezincification-resistant and brass suitable for drinking water and therefore usable in domestic water areas as well as in the heating and cooling areas¬.

Accessories

Accessories for HERZ-Differential pressure controller 4002 /4202

Model		DN	Setting range	EAN 91 20068	Order number	Sale unit
	**Replacement spring for HERZ differential** pressure controller **4002 / 4202**	**15 - 50**	**5 - 30 kPa**	02099 5	1 **4002** 97	**1**
		15 - 50	**25 - 60 kPa**	02101 5	1 **4002** 98	**1**
		15 - 50	**45 - 80 kPa**	01947 0	1 **4002** 99	**1**
	**Indicator sleeve** for HERZ differential pressure controller **4002** / **4202**	**15 - 50**	-	45141 6	1 **4002** 10	**1**
	**Differential pressure controller upper part** Replacement for 1 **4002** 41 and 1 **4202** 41		**5 - 30 kPa**	01935 7	1 **6386** 91	
	Differential pressure controller upper part Replacement for 1 **4002** 42 and 1 **4202** 42		**5 - 30 kPa**	01936 4	1 **6386** 92	
	Differential pressure controller upper part Replacement for 1 **4002** 43 and 1 **4202** 43		**5 - 30 kPa**	01937 1	1 **6386** 93	
	Differential pressure controller upper part Replacement for 1 **4002** 44 and 1 **4202** 44		**5 - 30 kPa**	01938 8	1 **6386** 94	
	Differential pressure controller upper part Replacement for 1 **4002** 45-46 and 1 **4202** 45-46		**5 - 30 kPa**	01939 5	1 **6386** 95	
	Differential pressure controller upper part Replacement for 1 **4002** 61 and 1 **4202** 61		**25 - 60 kPa**	01942 5	1 **6386** 96	
	Differential pressure controller upper part Replacement for 1 **4002** 62 and 1 **4202** 62		**25 - 60 kPa**	01943 2	1 **6386** 97	
	Differential pressure controller upper part Replacement for 1 **4002** 63 and 1 **4202** 63		**25 - 60 kPa**	01944 9	1 **6386** 98	
	Differential pressure controller upper part Replacement for 1 **4002** 64 and 1 **4202** 64		**25 - 60 kPa**	01945 6	1 **6386** 99	
	Differential pressure controller upper part Replacement for 1 **4002** 65-66 and 1 **4202** 65-66		**25 - 60 kPa**	01946 3	1 **6387** 00	

Accessories for HERZ-Differential pressure controller 4007

Model		DN	Setting range	EAN 91 20068	Order number	Sale unit
	**Upper part** for differential pressure controller **4007**	**15**	**1/2**	65550 0	1 **6386** 02	**1**
		20	**3/4**			**1**
		25	**1**	65560 9	1 **6386** 03	**1**
		32	**1 1/4**	65570 8	1 **6386** 04	**1**
		40	**1 1/2**	65580 7	1 **6386** 05	**1**
		50	**2**	65595 1	1 **6386** 06	**1**

Setting key

	**Pre-setting key** for HERZ pressure-independent control valve **4001**, from year of manufacture 2009, differential pressure controller **4002**, from year of manufacture 2009 HERZ Combi valve pressure-independent control valve **4006**-HERZ control and regulating valve **7217 GV.**	02670 6	1 **4600** 02	**1**

Accessories

Capillaries for differential pressure controllers 4007, 4002 and 4202

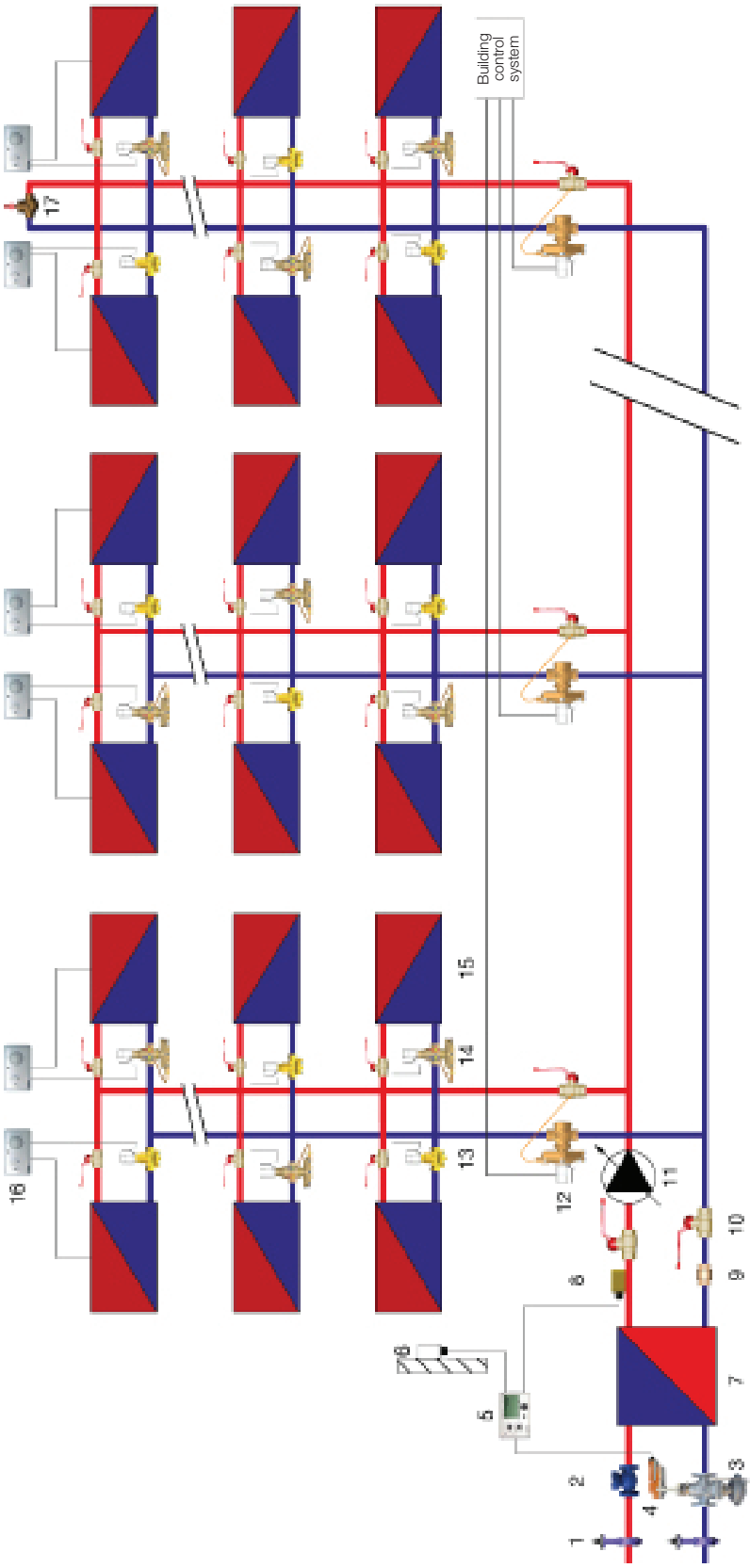
Model		DN	Dim.	EAN 91 20068	Order number	Sale unit
	**Ball valve for capillary** Threaded connection AG x IG 1/8		**1/8**	40250 0	1 **4007** 78	**1**
	Capillary for differential pressure controller with ball valve 1/8	**1.0 m**	**-**	40240 1	1 **4002** 78	**1**
	**Capillary for differential pressure controller** with connection nipple 1/8 G x 1/4 G	**1.0 m**	**-**	43270 5	1 **4007** 79	**1**
		1.5 m	**-**	43271 2	1 **4007** 80	**1**
	Capillary for differential pressure controller with connection nipple 1/8 G x 1/4 G	**2.0 m**	**-**	40102 2	1 **4002** 80	**1**
	**HERZ indicator cover** For HERZ differential pressure controller **4002**, **4202**. Plastic, black, with openings for attachment of a tampering seal, tampering seal wire included.			40100 8	1 **6502** 10	**20**
	**Connection nipple for capillary**		**1/8 x 1/4**	40101 5	1 **0269** 19	**1**
	Connection nipple for capillary		**1/8 x 1/8**	40090 2	1 **0269** 09	**1**

Test points

Model		Dim.	EAN 91 20068	Order number	Sale unit
	**Quick test point** (as of year of manufacture 2004), brass version, blue cap (return) for pressure transducer	**1/4**	02360 6	1 **0284** 01	**1**
	**Quick test point** (as of year of manufacture 2004), brass version, red cap (supply) for pressure transducer	**1/4**	02370 5	1 **0284** 02	**1**
	**Quick test point** Brass version, blue cap (return) for pressure transducer, extended design for valves with an insulation thickness up to 40 mm	**1/4**	02530 3	1 **0284** 11	**1**
	**Quick test point** Brass version, red cap (supply) for pressure transducer, extended design for valves with an insulation thickness up to 40 mm	**1/4**	02540 2	1 **0284** 12	**1**
	**HERZ test point with drainage** Brass version, red cap (supply)	**1/4**	02560 0	1 **0284** 22	**1**
	**HERZ test point with drainage** Brass version, blue cap (return)	**1/4**	02550 1	1 **0284** 21	**1**
	**Long quick test point with drainage, straight, blue**	**1/4**	02620 1	1 **0284** 23	**20**
	**Long quick test point with drainage, straight, red**	**1/4**	02630 0	1 **0284** 24	**20**

Application examples

☑ Pressure-independent control valve

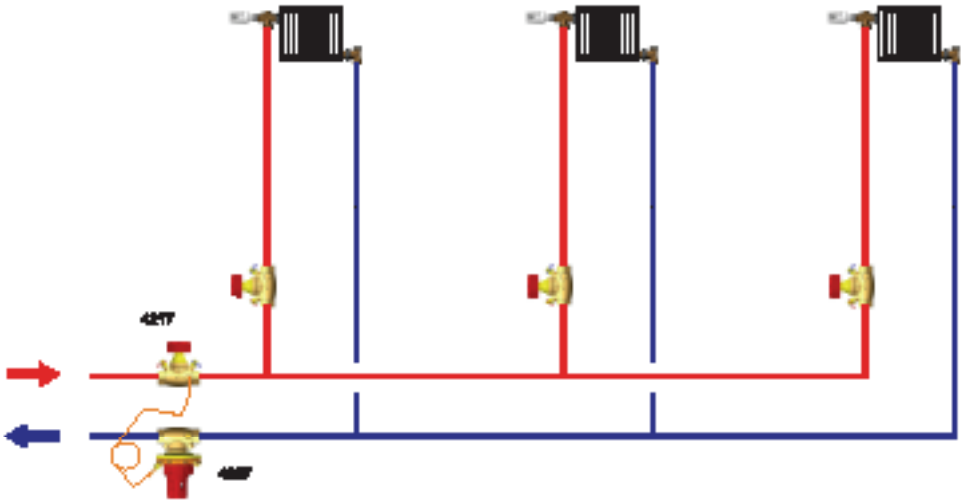


Legend

1	4219	6	7793 60	11	Speed-control pump	15	Radiator
2	2622	7	Heating exchanger			16	7795
3	F 4006	8	7793 4x	12	4002 + 7711	17	4004
4	F 7712	9	2622	13	4006 SMART + 7711		
5	7793 30	10	2100	14	4006 + 7711		

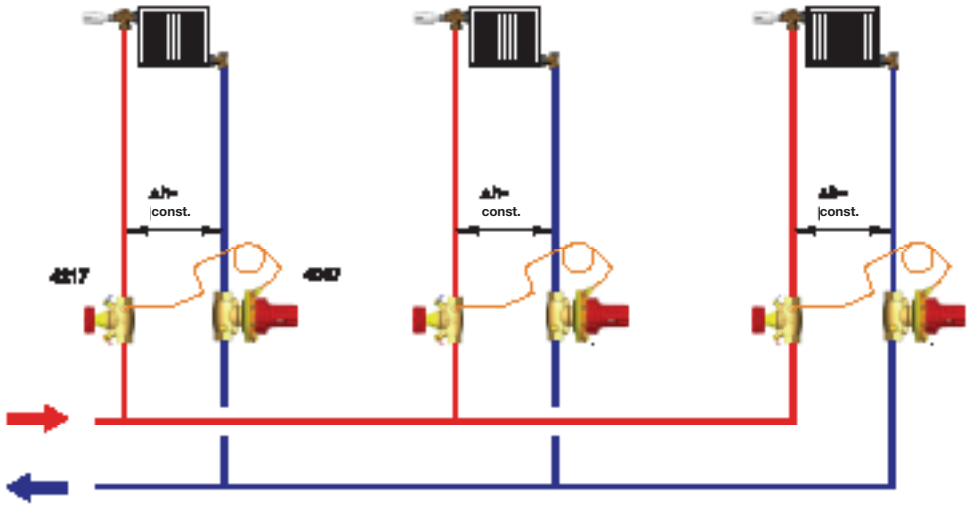
Application examples

Constant maintenance of the differential pressure in the main branch



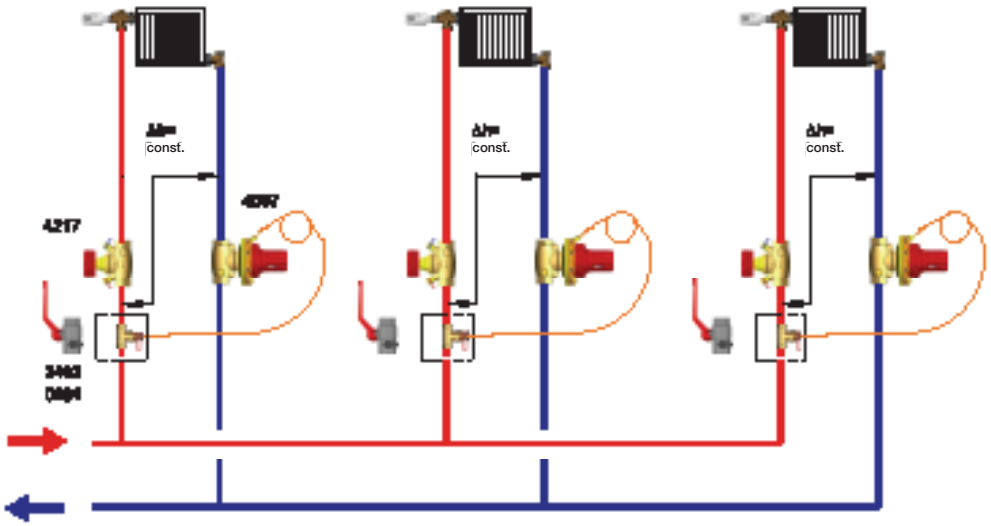
The differential pressure controller 4007 keeps the differential pressure constant in the supply line for the consumer. Through the use of commissioning vales 4217 (or 4017 inclined body) in the consumer supply lines, the flow rate is limited and the water volumes can be regulated and measured.

Constant maintenance of the differential pressure in the sub-circuit



In systems with pre-settable (thermostatic) valves the differential pressure is kept constant despite changing mass flows, due to an opening and closing of the regulating valves. The use of commissioning valves 4217 (or 4017) serves to facilitate the installation of the sensor line and the execution of measurements on the branch.

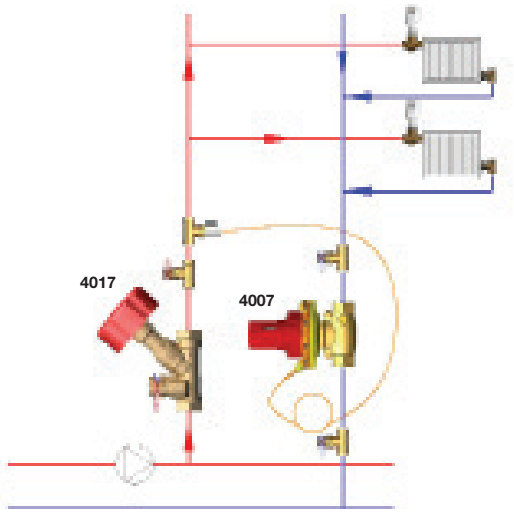
Application with systems with unbalanced consumers



In the case of systems that are not preset, the supply flow is set with the commissioning valve 4217 (or 4017) and measured with the measuring computer 8900. The differential pressure is kept constantly within the indicated range. This switching has no influence on the water distribution between the individual consumers. The measurement line is fitted to a measuring valve (0284) installed for this purpose, or to the drainage hole of a ball valve (2402).

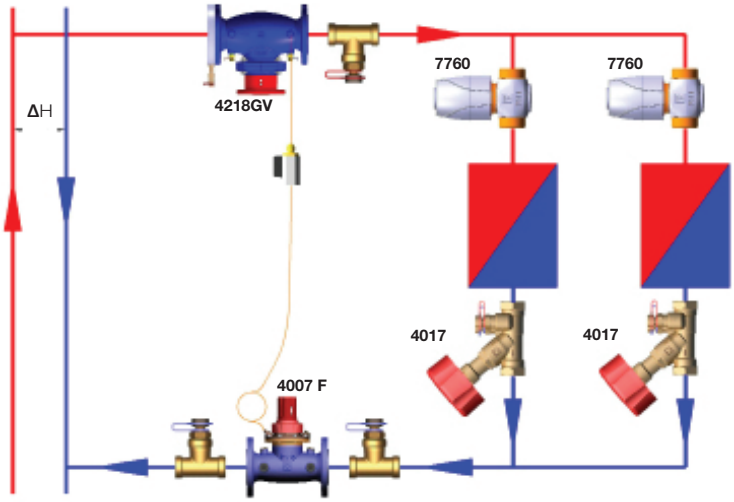
Application examples

Differential pressure controller in the return



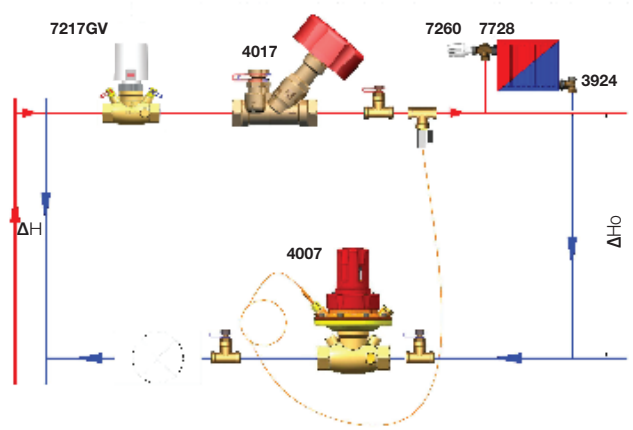
If the riser has been designed for a heating circuit then the differential pressure controller should be installed at the end of the return, in order to ensure that a differential pressure of 30 kPa is not exceeded in the pipe network.

Differential pressure controller in the branch and a secondary circuit with variable flow



The goal is to maintain a constant differential pressure and at the same time, stable operation of the control valves. To achieve a hydraulic balance, open all the regulating valves completely and measure the flow in the balancing valve. If necessary, adjust the Differential pressure regulator to 110% of the calculated flow. Set the balancing valves using the proportional method. Once the adjustment is complete, set the differential pressure regulator to 100% of the calculated flow so that differential pressure and the flow in the circuit are both set on the differential pressure controller. If the control valves shut down, the differential pressure controller will remain constant throughout the circuit.

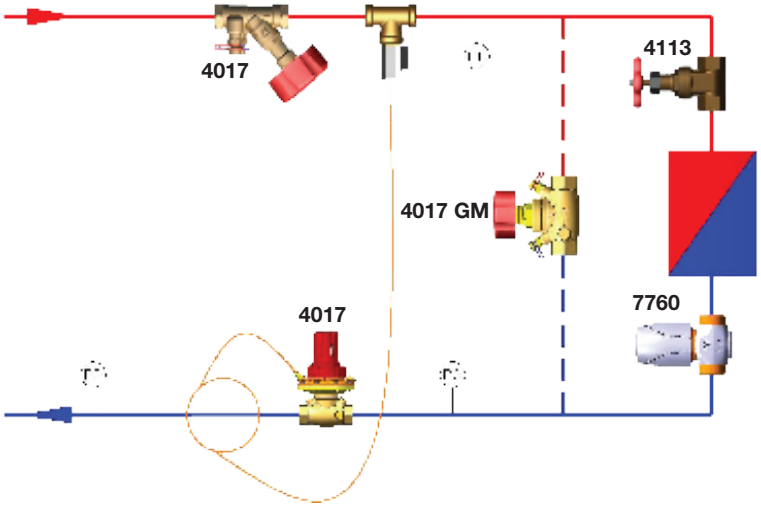
Control valve in branch with differential pressure controller



This schematic shows a zone valve with a differential pressure controller. It is important that the control valve and the measuring valve are not located in the same section of the circuit as the differential pressure controller. By defining the pressure drop, with the control valve and the measuring valve in the secondary circuit, it is possible to maintain a lower differential pressure in the secondary circuit. This facilitates a higher authority of the control valve in the secondary circuit, or smaller dimensioning of the control valves.

Application examples

Commissioning the differential pressure controller in an individual circuit

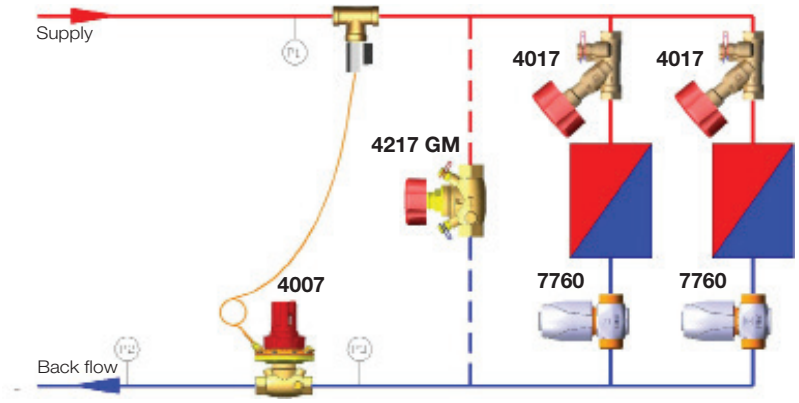


It is necessary to ensure that the capillaries of the differential pressure controller are connected in the supply and return. The individual valves in the system have pre-integrated measuring points. However, it is desirable to install the test points P1, P2, P3 for the pressure measurement, as illustrated in the schematic.

Observe the following procedure:

- Connect a measuring computer to the measuring valve, open the motorised control valve fully and adjust the differential pressure controller until the desired flow rate has been attained. The differential pressure controller is now preset.
- In order to check that the differential pressure controller has been correctly set, measure the differential pressure at points P1-P3 and examine how it changes when the motorised valve has been moved.

Commissioning a differential pressure controller with multiple consumers in a secondary circuit



If a Differential pressure controller controls multiple consumers in a system, it is not possible to control the differential pressure in the motorised valves alone. It is therefore necessary to control the pressure drop in the motorised valves, the consumers and the commissioning valves. It is not possible to assign 100 % authority to the valves and authority of 30 - 50 % is therefore issued. The differential pressure must be aligned with the highest value required in the secondary circuit.

Example: 25 kPa available and the consumer, the two-way valve of which requires a minimum pressure drop of 40 kPa. The differential pressure controller must now be set such that it is able to control a difference of 40 kPa, the pressure drop in the pipes and at the measuring orifice valve. A typical value here would be 50 kPa. If the available pressure in a constant circuit is too high for a two-way valve then it is necessary to connect an inverted action differential pressure controller between points P2 & P3.

Hydraulic example:

- Set the balancing valves using the proportional method.
- Repeat the last step with all other connections and set the commissioning valve to 100 % of the calculated flow rate.
- In order to set the differential pressure controller all control valves within a branch must be closed. The flow rate must be measured at the commissioning valve and the differential pressure valve must be regulated until the calculated flow rate is measured in the commissioning valve. The process must be carried out at all connections.
- The differential pressure controller now ensures a constant flow rate in the main circuit and a constant differential pressure between points P2 & P3.

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