HERZ Combination Valve

Pressure Independent Balancing Control valve

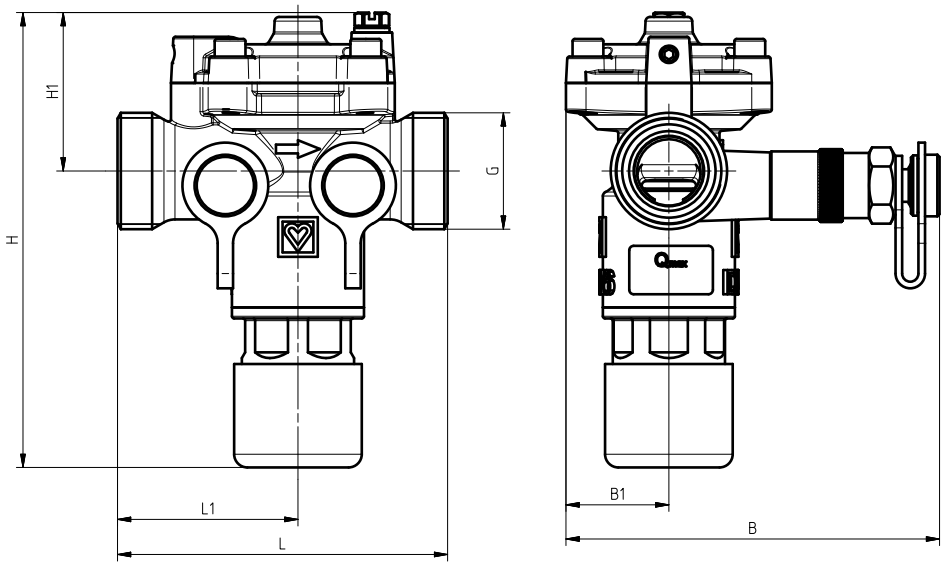
Standart sheet for

4006 SMART

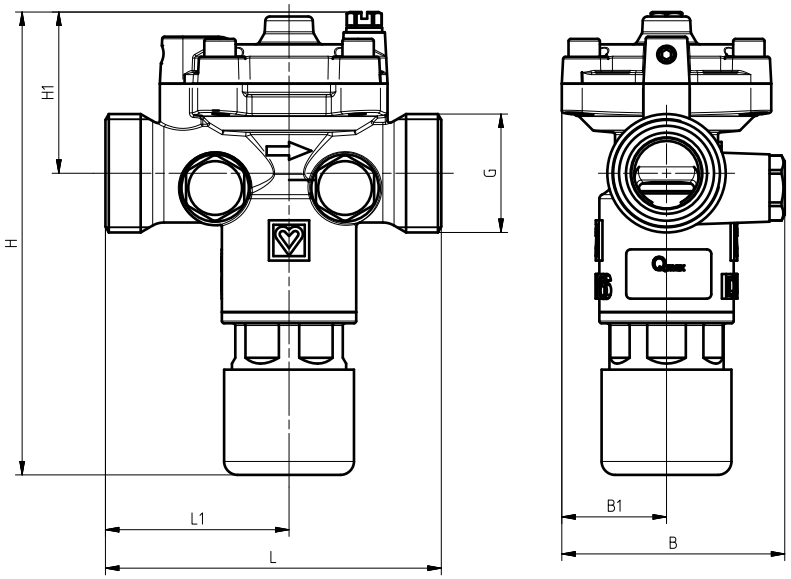
Issue 0211

Dimensions in mm

1 **4006** 2x



1 **4006** 6x



Order no.	DN	G	L	L1	B	B1	H	H1
1 **4006** 20	15 LF	3/4"	75 mm	41 mm	85 mm	24 mm	104 mm	36 mm
1 **4006** 21	15	3/4"	75 mm	41 mm	85 mm	24 mm	104 mm	36 mm
1 **4006** 22	20	1"	75 mm	41 mm	85 mm	24 mm	105 mm	33mm
1 **4006** 29	15 MF	3/4"	75 mm	41 mm	85 mm	24 mm	104 mm	36 mm
1 **4006** 60	15 LF	3/4"	75 mm	41 mm	50 mm	24 mm	104 mm	36 mm
1 **4006** 61	15	3/4"	75 mm	41 mm	50 mm	24 mm	104 mm	36 mm
1 **4006** 62	20	1"	75 mm	41 mm	50 mm	24 mm	105 mm	33mm
1 **4006** 69	15 MF	3/4"	75 mm	41 mm	50 mm	24 mm	104 mm	36 mm

Technical data

Max. operating pressure	16 bar
Max. differential pressure on the body	4 bar
Min. operating temperature	2 °C (pure water)
Min. operating temperature	- 20 °C (frost protection)
Max. permissible operating temperature	100 °C
Lift 4 mm	

The integrated control unit allows for modulating control through an actuator. The valve can be operated with various different actuators (see also section "Accessories and spare parts").

Subject to changes resulting from HERZ's ongoing development policy.

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Applications

The combination valve is designed for use in all heating and cooling systems with circulation pumps. The controller 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.

The combination valve is designed for use in all heating and cooling systems with circulation pumps.
The diaphragm responds to the pressure upstream and downstream of the control unit.

The valve settings directly affect the volumetric flow. It is thus possible to set the maximum flow rate based on the diagram when the valve is fitted. This allows for the balancing of heating circuits, cooling water systems, ceiling cooling and heating panels, air heaters, etc. without any need to first assess the pressure variations in the system.
In systems that require verification of the flow rate, install STRÖMAX M valves (4017 M, 4117 M, 4217 GM) or HERZ Metering Station 1 4000 ..

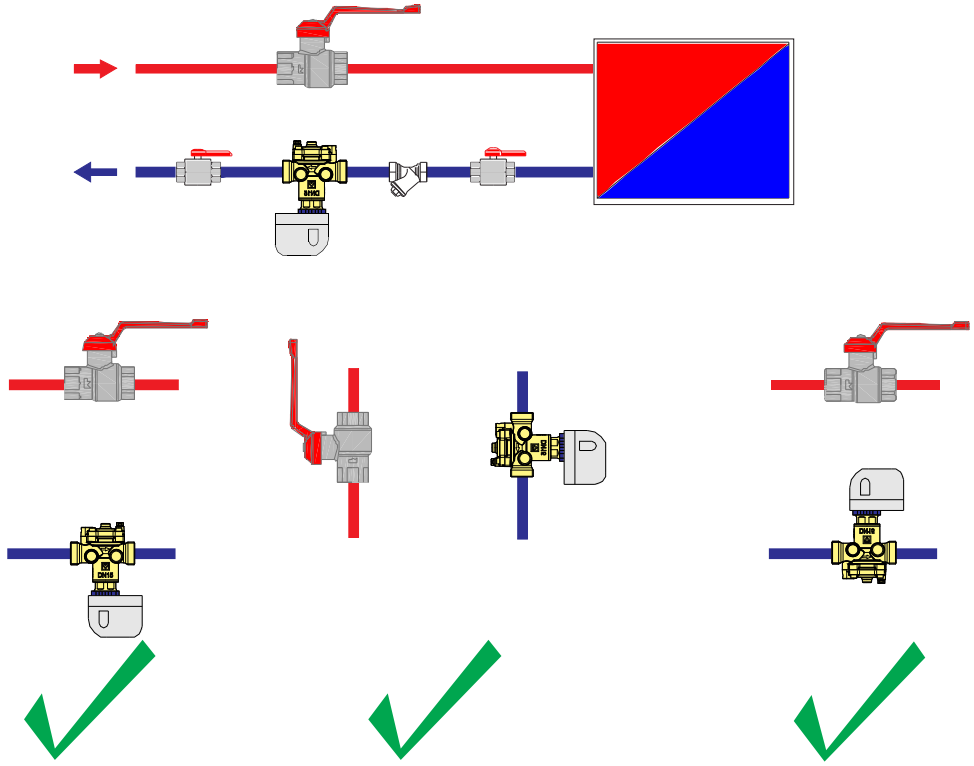
Materials

Body:	Dezincification-resistant brass
Diaphragms and O-rings:	EPDM

Water purity according to OENORM H 5195 and VDI 2035
The use of ethylene and propylene glycol at a concentration of 15 - 45 vol/vol [%] is permissible.

Installation

The valve is fitted in the return and can be installed in any orientation. The arrow on the valve body indicates the direction of flow.
We recommend installing isolation valves upstream and downstream of the combination valve.
The combination valve can be closed with the HERZ setting key (1 4006 02). To adjust the valve settings, turn the key clockwise to the stop.
At this point, the indicated setting is < 0%.



kvs values

DN 15LF	0,27 m³/h
DN 15MF	0,47 m³/h
DN 15	0,94 m³/h
DN 20	1,71 m³/h

Accessories and spare parts

1 **4117** ..	HERZ STRÖMAX circuit control valves, angle seat version
1 **4217** ..	HERZ STRÖMAX circuit control valves, straight seat version
1 **4017** ..	HERZ-STRÖMAX circuit control valve with integrated measuring orifice
1 **4000** ..	HERZ Metering Station
1 **4125** ..	HERZ shut-off valves, angle seat version
1 **4115** ..	HERZ shut-off valves, angle seat version
1 **4215** ..	HERZ shut-off valves, straight seat version, including versions with male threads. For details, refer to the respective data sheets.
1 **0284** 00	Pressure gauge kit for test points
1 **7709** ..	HERZ actuating drive for two-point or pulse control
1 **7990** ..	HERZ actuating drive for continuous control
1 **0273** 09	1/4 screw plug

Connecting parts

Junction press screw fitting		Order no.
with cone seal	14 x 2 - G 3/4	P **7014** 81
	16 x 2 - G 3/4	P **7016** 81
	18 x 2 - G 3/4	P **7020** 81
	20 x 2 - G 3/4	P **7020** 81

Pipe connection fittings (with cone seal) 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
Fitting	with metal seal	1 **6274** 18	1 **6274** 00	1 **6274** 01	1 **6274** 02	1 **6274** 03	1 **6274** 04		1 **6273** 01
Fitting	with soft seal			1 **6276** 12	1 **6276** 14	1 **6276** 15	1 **6276** 16	1 **6276** 18	

Compression fittings for calibrated soft steel and copper pipes (for details, see respective data sheets).

Pipe connection fittings (with cone seal) for plastic pipes

Pipe	10x1,3	12x2	14x2	15x2,5	16x2	16x2,2	17x2	17x2,5	18x2,5	18x2
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
Fitting	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

Pipe	20x2	20x3,5	20x2,5	25x3,5	26x3
Valve	DN 15	DN 15	DN 15		
Nut G	3/4	3/4	3/4		
Fitting	1 **6098** 08	1 **6098** 10	1 **6098** 11		
Valve	DN 20			DN 20	DN 20
Nut G	1			1	1
Fitting	1 **6198** 12			1 **6198** 00	1 **6198** 01

Plastic pipe fittings for PE-X, PB and aluminium composite pipes (for details, see respective data sheets).

For the connection of soft steel and copper pipes with a wall thickness of 1 mm or less with compression unions, we recommend using support sleeves (prod. no. 1 0674 xx). To connect plastic pipes, use suitable calibration tools. For detailed instructions, please refer to the installation manual. For proper installation of the compression unions, apply a little silicone oil to the thread of the locking nut or the olive screw and the olive.

1 **6220** .. Iron pipe connection, consisting of union nut, seal and connection nipple with male pipe thread
1 **6236** .. Soldering connection, consisting of union nut, seal and soldering nipple
1 **6240** .. Welding pipe connection, consisting of union nut, seal and connection nipple with welding nipple
1 **6210** .. Iron pipe connection, consisting of union nut, seal and connection nipple with male pipe thread
1 **6235** .. Soldering connection, consisting of union nut, seal and soldering nipple

Warnings

Considering the purpose of the fitting, clean and proper workmanship is required.
Dirt particles can be removed by installing a HERZ strainer (4111).

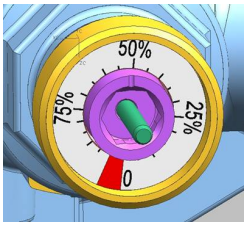
Ammonium contained in plumber's hemp can cause damage to brass valve bodies. Mineral oils and lubricants cause EPDM seals to swell, resulting in failure. For the correct addition of ethylene glycol-based antifreeze agents and corrosion inhibitors, refer to the manufacturer's instructions.

Test points

Two test points are installed in the same plane and factory-sealed.
This arrangement ensures that all installed components are easily accessible and that measuring devices can be properly connected.

Pre-setting

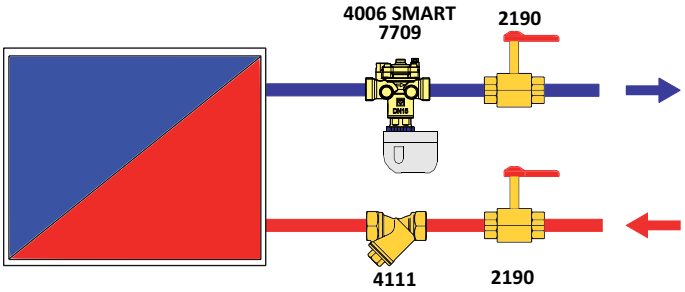
The current valve settings are clearly indicated in percentages. The desired preset value can be easily adjusted. The preset flow rate controller can be isolated at any time and adjusted to the required flow rate.



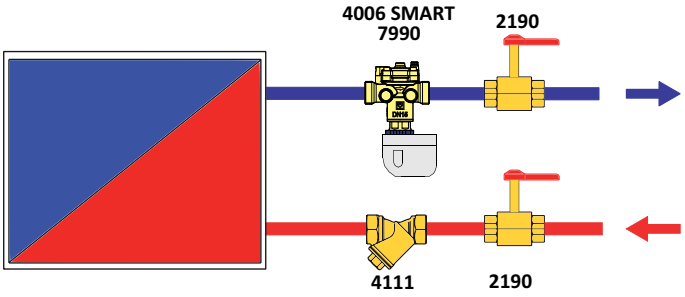
Installation examples

Fan coil systems with differential pressure controlled pump

Two-point control

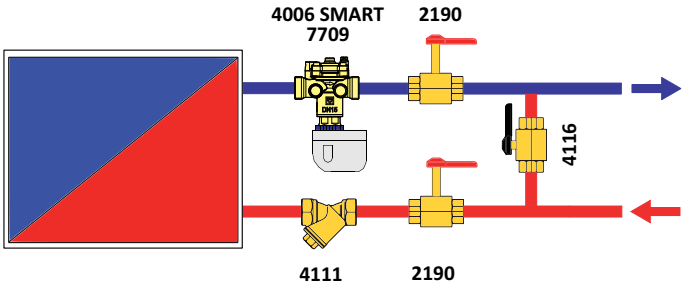


Modulating control

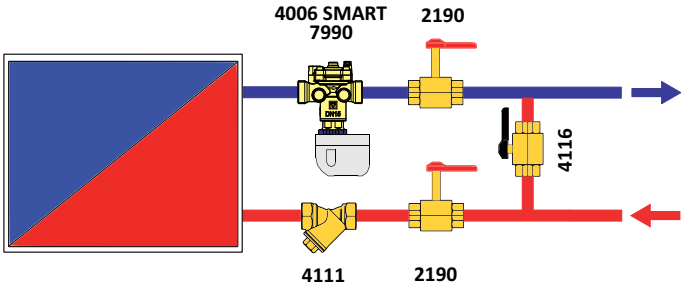


Fan coil system with constant displacement pump

Two-point control



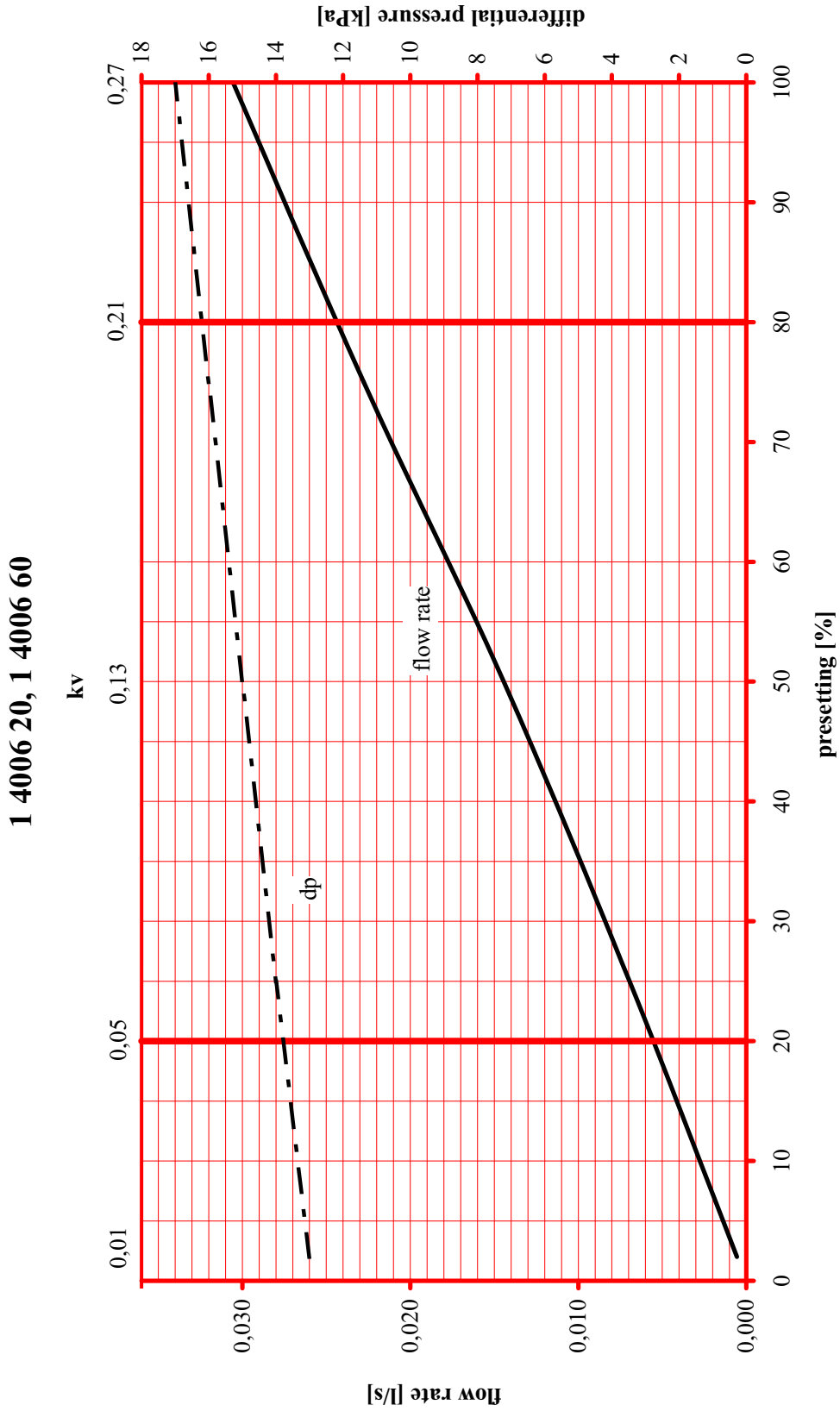
Modulating control



Note: All diagrams are indicative only.

All details and specifications contained in this document are correct at the time of going to print and are provided for information purposes only. We reserve the right to make changes resulting from HERZ's ongoing development policy. The illustrations are indicative only and might differ from the actual products. This also applies to the colours of the products shown in this document. Certain products might also vary depending on the country of order. Technical specifications and functions are subject to changes without prior notice. For queries, please contact your local HERZ office.

HERZ standard diagram	HERZ - 4006 SMART
Order no.: 1 **4006** 20, 1 **4006** 60	DN 15 LF



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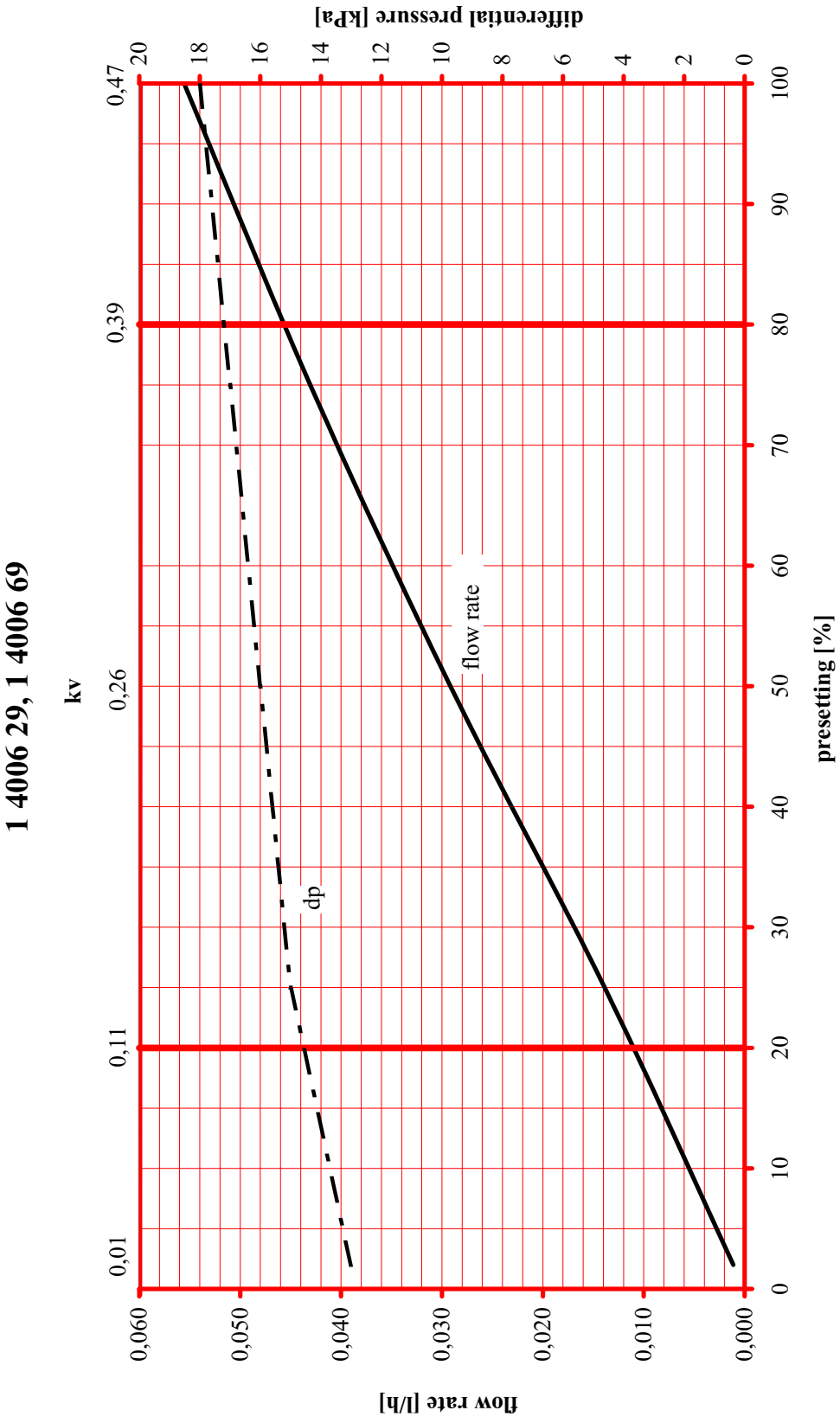
HERZ standard diagram	HERZ - 4006 SMART
Order no.: 1 **4006** 29, 1 **4006** 69	DN 15 MF



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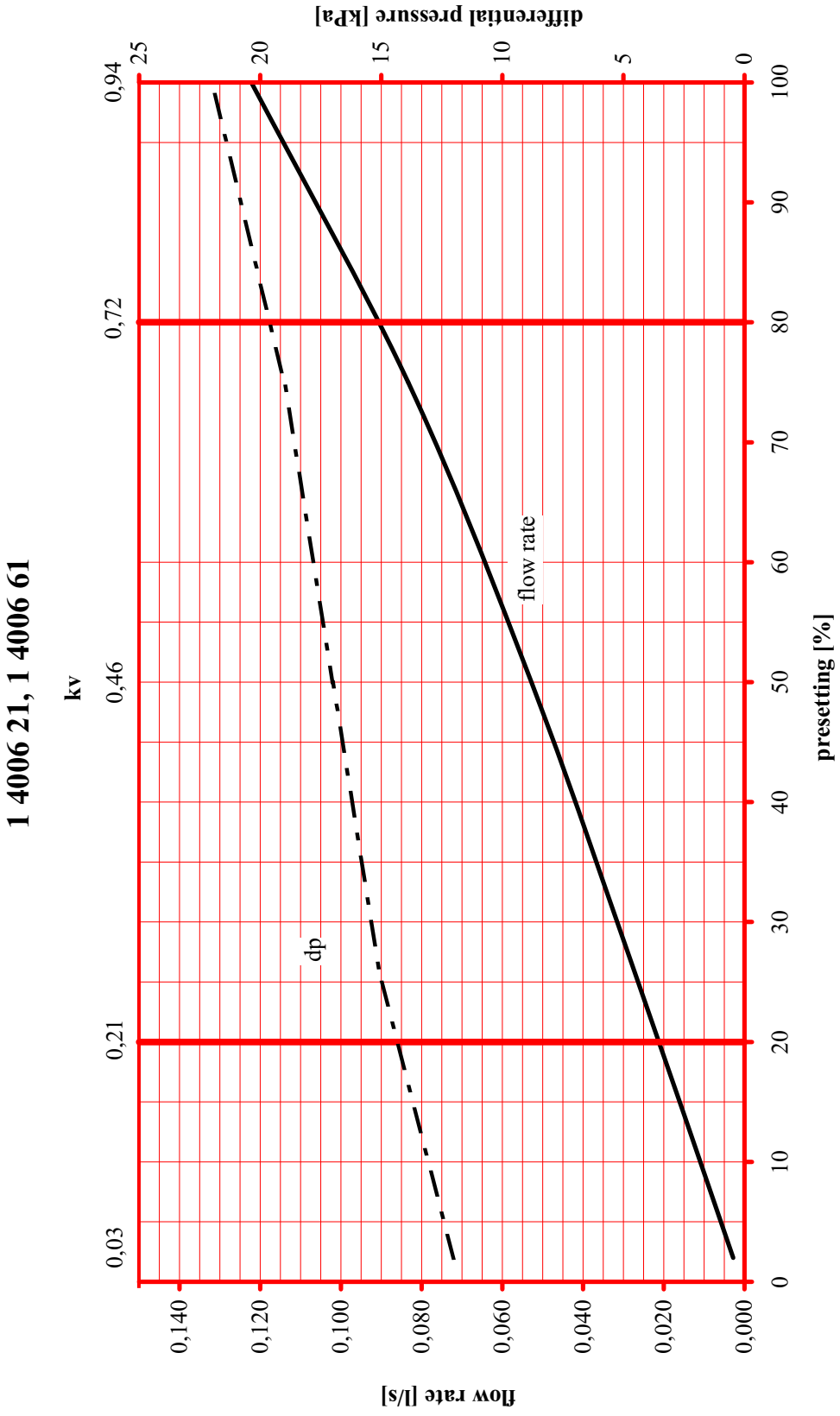
HERZ standard diagram	HERZ - 4006 SMART
Order no.: 1 **4006** 21, 1 **4006** 61	DN 15



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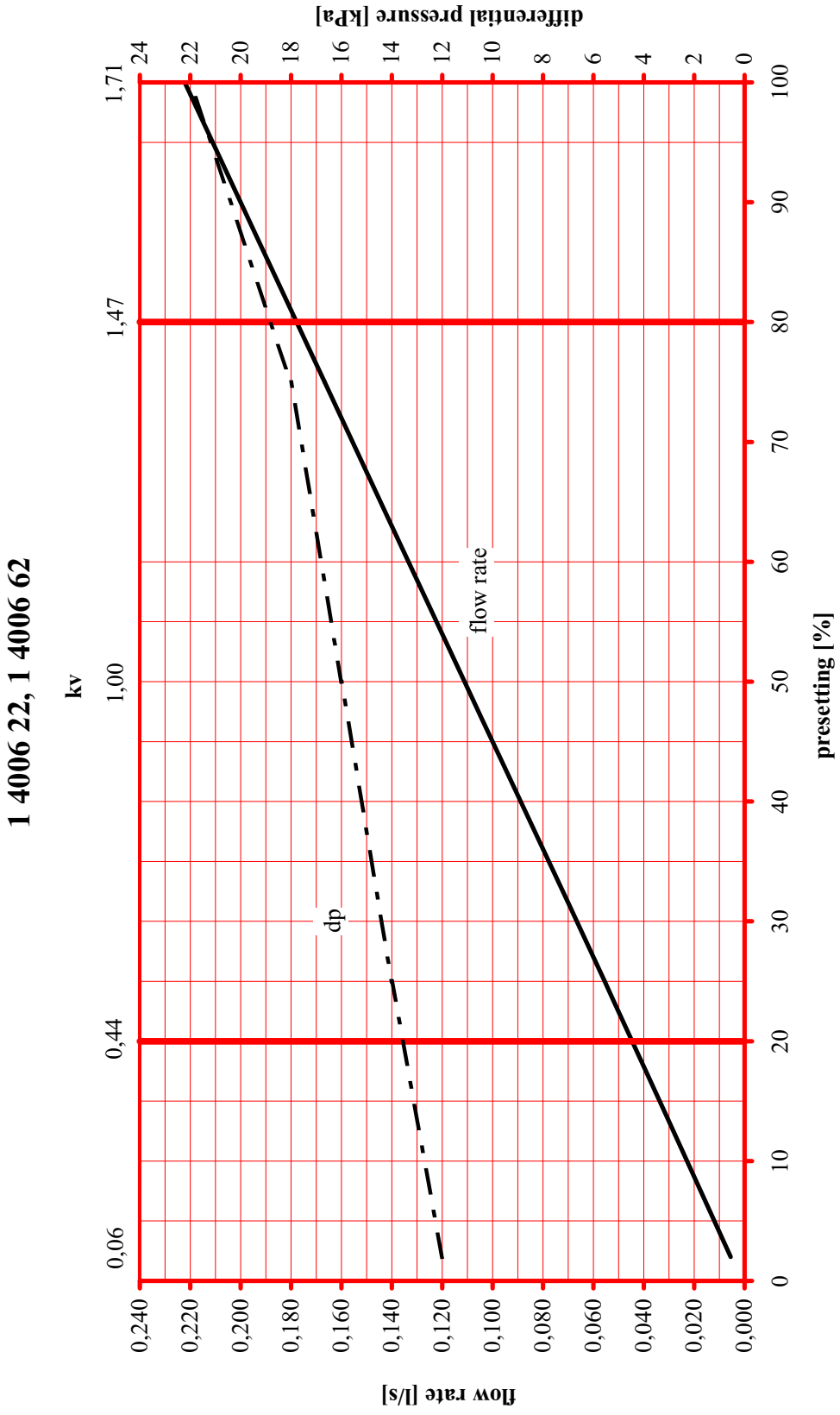
HERZ standard diagram	HERZ - 4006 SMART
Order no.: 1 **4006** 22, 1 **4006** 62	DN 20



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