

Data sheet

High pressure bypass valve HPBV PN16

Description



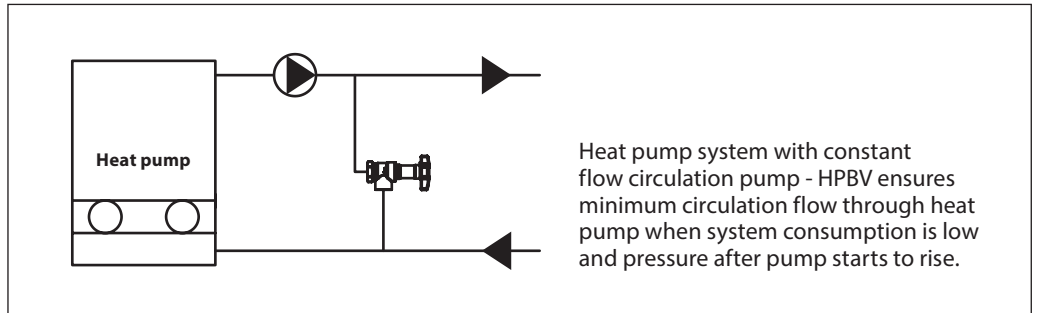
HPBV is a self-acting high pressure bypass valve primarily for use in air-conditioning systems. The controller is normally closed and opens on rising pressure.

Regulator has a control spring inside and handle for differential pressure setting.

Main Data:

- DN 25-40
- PN16
- Setting range:
 - 0.5-2.5 bar (DN25 & 32)
 - 1.0-3.0 bar (DN40)
- Temperature: Circulation water 90°C
- Connections: internal thread

Application principle

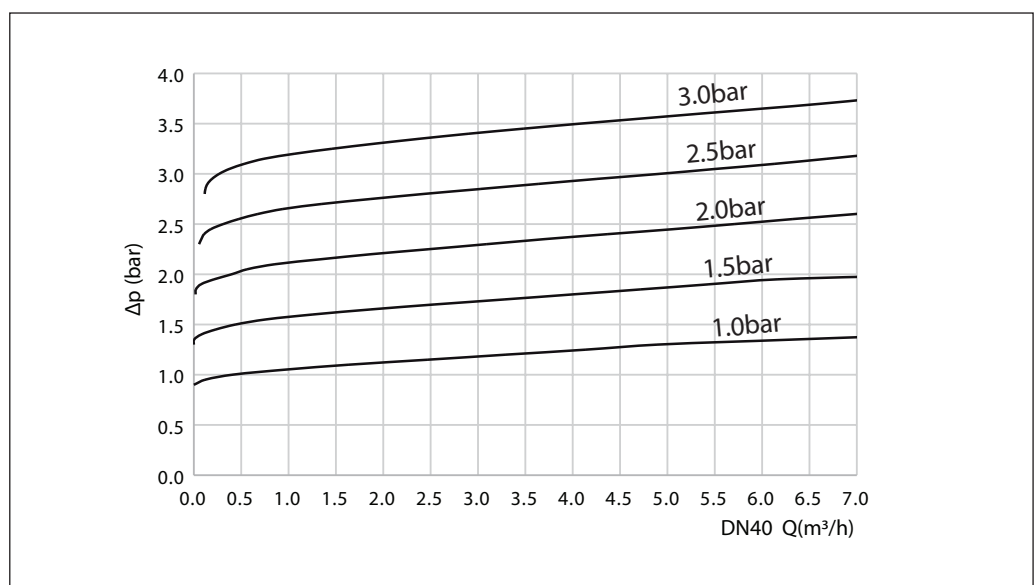
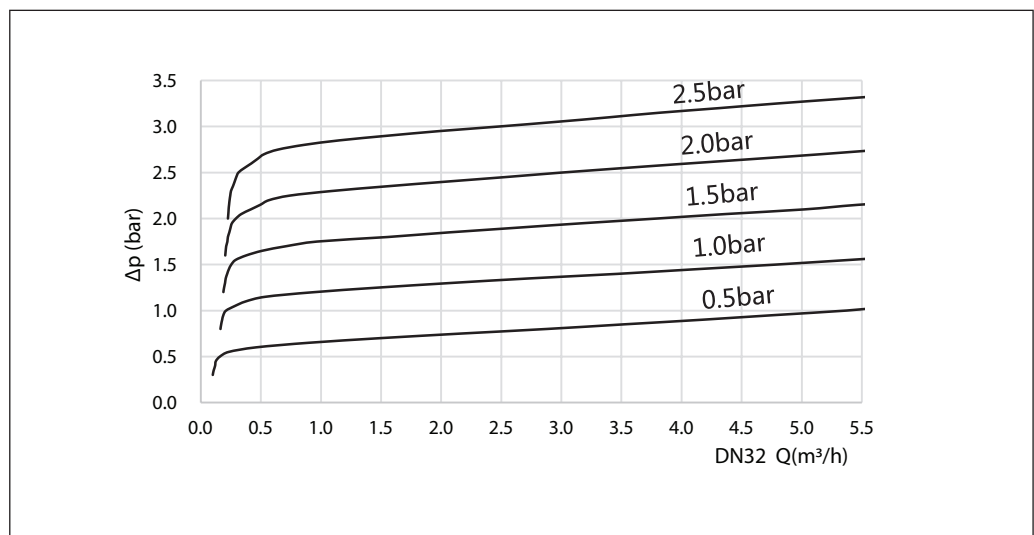
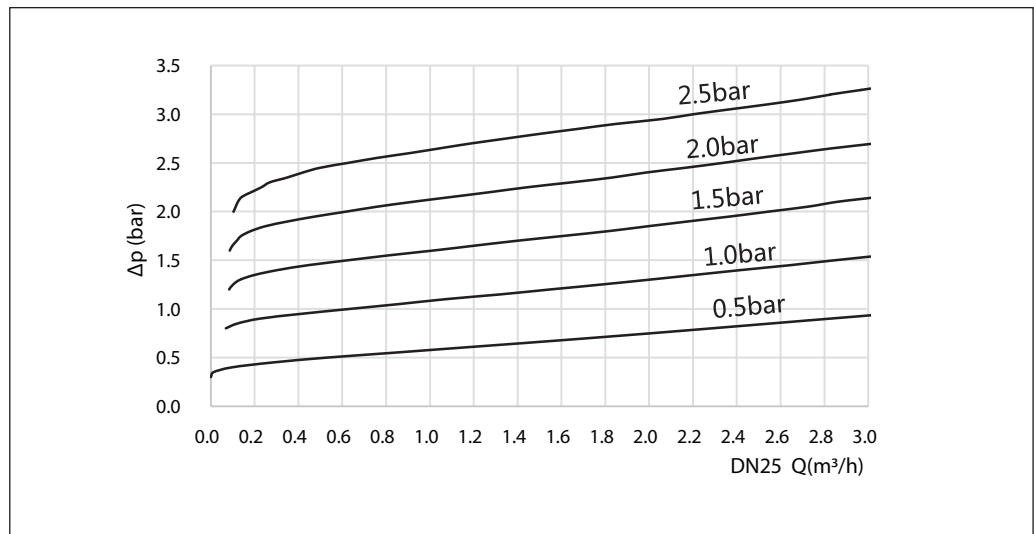


Heat pump system with constant flow circulation pump - HPBV ensures minimum circulation flow through heat pump when system consumption is low and pressure after pump starts to rise.

Ordering data

Picture	DN (mm)	Connection	Pressure setting range (bar)	Nominal pressure	Maximum temperature (°C)	Code No.
	25	G 1	0.5 - 2.5	PN16	90	003H6005
	32	G 1 ¼				003H6006
	40	G 1 ½	1.0 - 3.0			003H6007

DP-Flow curve



Design & Material

Position	Description	Material
1	valve body	CW617
2	valve cone	PPS
3	spring	SS304
4	O-ring	EPDM
5	valve cover	CW617
6	setting stem	CW614
7	guiding bush	PTFE
8	setting handle	PA (plastic)

Installation

Mount according to flow direction indicated on valve body.

Before mounting the valve check that pipes are clean and free from dirt.

Setting

Pressure setting is done by rotating handle which adjust the setting spring inside the valve body.

Selected setting value is indicated on handle.

Dimensions

DN	a	b	L1	H1	H2	S
25	G1	G1	41	37	105	41
32	G1-1/4	G1-1/4	50	46	109	50
40	G1-1/2	G1-1/2	50	48	134	55



Sizing

Given data:

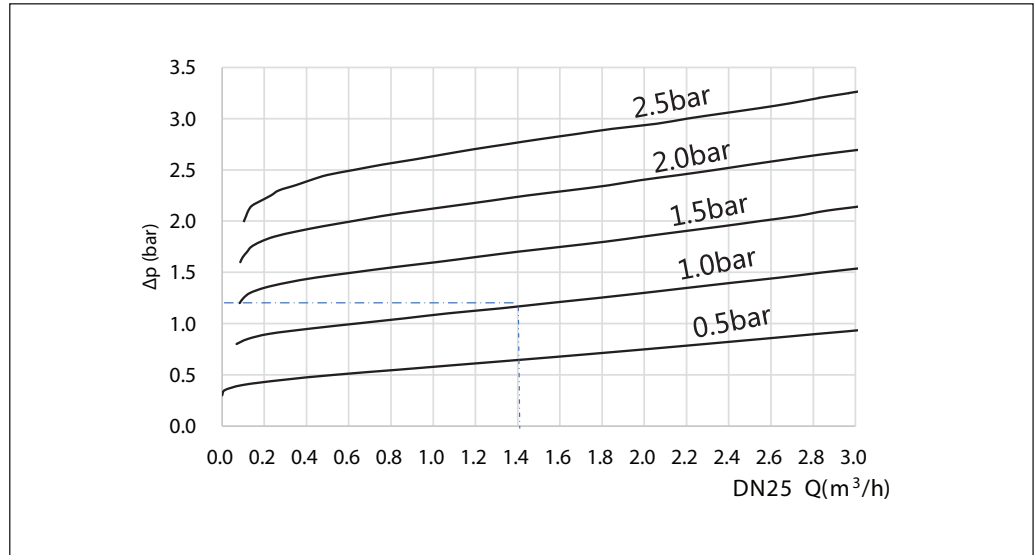
Minimum required flow for operation of heat pump is 1.4 m³/h, circulation pump head would be 1.2 bar. Pressure in flow pipe of system is 0.95 bar, when all terminals are open and system in standard heat load.

Pressure in flow pipe of system is 1.2 bar, when some terminals are closed and system has the lowest flow required by heat pump.

Solution:

Since pressure in flow pipe of system is 0.95 bar in standard load, the relief valve setting should be 1 bar (higher than pressure of pump in standard load).

Check the 1 bar setting curve in the DN25 diagram - at 1.2 bar pump head valve enables 1.4 m³/h flow, so the valve size DN25 is correct size.



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