


NG2P15A

Advantages

- ✓ normally open (NO) valve
- ✓ flat connections
- ✓ wide range of K_{vs} values
- ✓ settable K_{vs} value
- ✓ closing against the flow

2-port terminal control valves, NG2

- Valves for HVAC applications
- Nominal system pressure : PN16 (16bar)
- Sizes : DN15, DN20 or DN25
- Valve body : brass
- Valve stroke : 3,0mm
- Valve characteristic : on/off, nearly linear
- Valve construction : normally open (NO)
- Medium : water or water/glycol +2°C..+100°C
- K_{vs} : 0,63..4,5m³/h (adjustable)
- Valve with flat connection, outside thread accord. ISO228-1, class B

PN16

DN15/20/25
Description

The 2-port terminal control valves, series NG2.., have been developed for HVAC applications like zone control, heating and cooling applications, IRC individual room control, etc. in a temperature range of +2°C..+100°C (medium temperature) and closed circuits with nominal pressure up to 16 bars (PN16).

Typical applications are : zone control, radiators, induction units, VAV-boxes, climate- or cooled ceilings, fan-coil units, chilled beams, etc.

The valve body is made of brass and has settable K_{vs} values. The valve on its own is an NO valve (normally open) thanks to the integrated spring mechanism. When the valve spindle is pushed down, the A ► AB port is closed.

The valve is delivered preset with the maximum K_{vs} value. If required the preset K_{vs} value can be modified by using a 7mm wrench before mounting the actuator.

The valve connection for these series of valves, NG2.., is made through a flat connection with outside thread according ISO228-1, class B.

The NG2 valve is a uni-directional valve: flow direction of the medium is defined in one particular direction. Therefore the valve should be mounted in a way that the water flows through the valve in accordance with the arrow on the valve body.

The NG2.. valves for terminal control are designed for combination with different types of electrical or thermic actuators. These Belparts actuators are available for on/off control, 3-point control, puls width modulation (PWM) or modulating control signal Y: 0..10Vdc.

Technical data		NG2..
Construction	2-port valve, uni-directional flow	
Application	on/off valve	
Nominal pressure	PN16 (16bar)	
Sizes	DN15, DN20 or DN25	
Function	A ► AB normally open (NO) ¹⁾	
K_{vs} value	0,63..4,5m ³ /h (adjustable)	
Leakage rate	0,0001% of the K_{vs} value	
Medium	water or water/glycol ²⁾ water treatment according VDI2035	
Medium temperature	+2..+100°C	
Valve stroke	3.0mm	
Valve connection type	2x flat connection with outside thread according ISO228-1, class B	
Actuator mounting type	M30x1,5 (valve adapter, type VA80)	
Material	valve body	brass
	stem	nickel plated brass
	insert	EPDM O-ring

¹⁾ without actuator

²⁾ max.40% of glycol

Article reference number

NG	2	P	15A	-	-	-	-
NG							Type of control valve NG terminal control valve with flat connections
	2						Number of ports 2 2-port valve 3 3-port valve (see datasheet 6.451a) 4 4-port valve (see datasheet 6.551a)
		P					Connection P flat connections according ISO228-1, class B D flat connections according ISO228-1, class B, with connection parts included
			15A				Size & K_{vs} value 15A DN15, G½"B, K _{vs} 1,6 m³/h 15B DN15, G½"B, K _{vs} 1,0 m³/h 15C DN15, G½"B, K _{vs} 0,63 m³/h 20A DN20, G¾"B, K _{vs} 2,5 m³/h 20B DN20, G¾"B, K _{vs} 3,5 m³/h 25A DN25, G1"B, K _{vs} 4,5 m³/h
			-				- reserved for later use
				-			- reserved for later use
					-		- reserved for later use
						-	- reserved for later use
							- reserved for later use

Overview

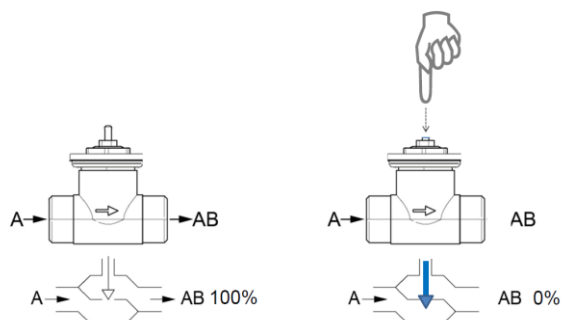
	Type	connection ISO228-1	K _{vs} [m³/h]	Connection parts included	Δp _{max} ¹⁾ [kPa]
	NG2P15A	G½" B	1,6		250
	NG2P15B	G½" B	1,0		250
	NG2P15C	G½" B	0,63		250
	NG2P20A	G¾" B	3,5		180
	NG2P20B	G¾" B	2,5		180
	NG2P25A	G1" B	4,5		100
	NG2D15A	G½" B	1,6	●	250
	NG2D15B	G½" B	1,0	●	250
	NG2D15C	G½" B	0,63	●	250
	NG2D20A	G¾" B	3,5	●	180
	NG2D20B	G¾" B	2,5	●	180
	NG2D25A	G1" B	4,5	●	100

¹⁾ Δp_{max} defines the maximum pressure difference over the terminal control valve at which the closing of the valve using Belparts actuators, BA.. series (100N) can still be guaranteed.

In order to avoid the negative effects of noise, the Δp over the terminal control valve should be limited to approx. 30kPa.

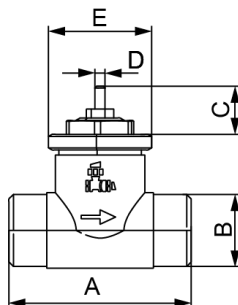
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Construction

Stem	A ► AB
up	open
down	closed



100kPa ≈ 1bar ≈ 10mWC

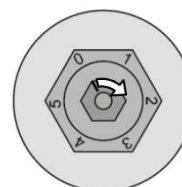
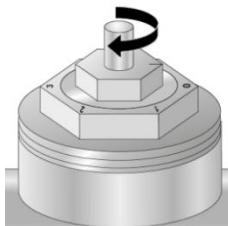
Dimensions



Type	A	B	C	D	E	kg
NG2P15A	52mm	G $\frac{1}{2}$ " B	11,5mm	3mm	M30x1,5	180g
NG2P15B	52mm	G $\frac{1}{2}$ " B	11,5mm	3mm	M30x1,5	180g
NG2P15C	52mm	G $\frac{1}{2}$ " B	11,5mm	3mm	M30x1,5	180g
NG2P20A	56mm	G $\frac{3}{4}$ " B	11,5mm	3mm	M30x1,5	280g
NG2P20B	56mm	G $\frac{3}{4}$ " B	11,5mm	3mm	M30x1,5	280g
NG2P25A	65mm	G1" B	11,5mm	3mm	M30x1,5	330g

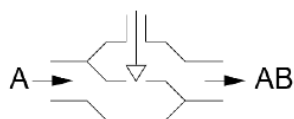
K_{vs} setting

The K_{vs} value can be set using a 7mm wrench. The desired K_{vs} value can be easily set using the marks on top of the valve body. The default factory setting '0' of the valve delivers the maximum K_{vs} value for that particular valve.



Type	K _{vs} [m³/h]	Setting	K _v value [m³/h]	Default factory setting
NG2P15A	1,6	1	0,2	
		2	0,63	
		3	1,0	
		4	1,3	
		5	1,5	
		0	1,6	•
NG2P15B	1,0	1	0,2	
		2	0,3	
		3	0,4	
		4	0,63	
		5	0,85	
		0	1,0	•
NG2P15C	0,63	1	0,2	
		2	0,4	
		3	0,5	
		4	0,55	
		5	0,6	
		0	0,63	•
NG2P20A	3,5	1	1,0	
		2	1,9	
		3	2,5	
		4	2,9	
		5	3,1	
		0	3,5	•
NG2P20B	2,5	1	0,3	
		2	1,1	
		3	1,9	
		4	2,2	
		5	2,4	
		0	2,5	•
NG2P25A	4,5	1	1,0	
		2	1,9	
		3	3,0	
		4	3,9	
		5	4,2	
		0	4,5	•

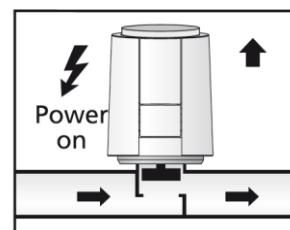
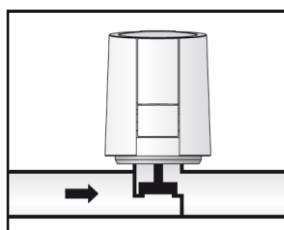
Valve behaviour



When the valve stem is pushed down-wards, the valve will be closed (water flow A ► AB). The integrated spring mechanism will push back the valve to it's (normally) open position when no force is present on the stem.

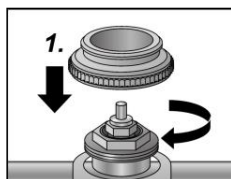
Valve combined with actuator

Using a Belparts BA.. actuator (NC) the valve/actuator combination will be normally closed when the power supply of the actuator is cut off.



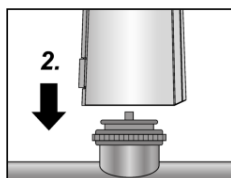
Actuator mounting (BA.. types)

1



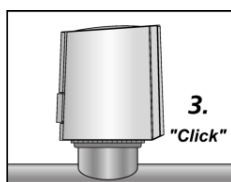
Screw the valve adapter onto the valve (M30x1,5) by hand

2



Position the BA..-type actuator perpendicular to the valve body and valve adapter

3



Push down the BA.. actuator with a double "click" in order to merge the actuator onto the valve adapter

Installation



When isolation material is used on installation parts in the direct environment of the valve (for example Armaflex on pipes, etc.) it is recommended to use ammonia-free isolation material.

By using ammonia-free material irreparable damage by corrosion (like stress corrosion, etc.) can be avoided.

Ordering information
2-port terminal control valve, 3.0mm

Type		DN	NC	NO	Connection ISO228-1	K _{vs} [m³/h]	Connection parts	Stroke [mm]
NG2P15A	▲	15	-	●	G½" B	1,6	-	3.0
NG2P15B	▲	15	-	●	G½" B	1,0	-	3.0
NG2P15C	▲	15	-	●	G½" B	0,63	-	3.0
NG2P20A	▲	20	-	●	G¾" B	3,5	-	3.0
NG2P20B	▲	20	-	●	G¾" B	2,5	-	3.0
NG2P25A	▲	25	-	●	G1" B	4,5	-	3.0
NG2D15A		15	-	●	G½" B	1,6	●	3.0
NG2D15B		15	-	●	G½" B	1,0	●	3.0
NG2D15C		15	-	●	G½" B	0,63	●	3.0
NG2D20A		20	-	●	G¾" B	3,5	●	3.0
NG2D20B		20	-	●	G¾" B	2,5	●	3.0
NG2D25A		25	-	●	G1" B	4,5	●	3.0

Thermic actuators for 2-port terminal control valves, NG2..

Series		AC 230V	AC 24V	DC 24V	Force	NC ¹⁾	Control signal	Cable	Datasheet
BA2004..	▲	●			100N	●	On/Off, PWM	fixe	6.191
BA4004..	▲		●	●	100N	●	On/Off, PWM	fixe	6.192
BA2005..	▲	●			100N	●	On/Off, PWM	with connector	6.111
BA4005..	▲		●	●	100N	●	On/Off, PWM	with connector	6.112
BA6135..	▲		●		100N	●	0(2)..10Vdc	with connector	6.121

The terminal control valve, series NG2.., can be delivered with a wide range of thermic actuators : see table above. These actuators should be mounted onto the NG2.. valves using a valve adapter, type VA80, and can be delivered with a cable for electrical wiring of 1m or 2m length. Other lengths are available on request.

¹⁾ function obtained when combining the thermic actuator with the NG2.. valve

▲ standard

NC : normally closed (without actuator)
 NO : normally open (without actuator)

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