

## PN16 composite valves for terminal units and zone control

| MODEL | DESCRIPTION   |
|-------|---|
| VPS   | two-way valve DN 1/2" - 3/4"; Kvs 1,6 - 2,5 m <sup>3</sup> /h                         |
| VPM   | three-way valve DN 1/2" - 3/4"; Kvs 1,6 - 2,5 m <sup>3</sup> /h                       |
| VPT   | three-way valve with built in by-pass DN 1/2" - 3/4"; Kvs 1,6 - 2,5 m <sup>3</sup> /h |



### APPLICATION AND USE

Composite Micra are designed for the control of chilled and warm water in heating and air-conditioning plants; they can be motorized with on-off electro-thermal actuators MVP or modulating MVX52B depending on the requirements. MVP actuator offer IP44 and auxiliary microswitch option.

### MANUFACTURING CHARACTERISTICS

Fibre Reinforced Polymer valve body and plug with EPDM double ORs. Stainless steel stem. Stem packing with EPDM double OR. Composite material offers a 100% corrosion free product. The selected material guarantees extremely high mechanical performance both with chilled (min temperature 5°C) and hot water (max temperature 95 °C).

VPx valves have a Push-Down-To-Close design: a 2 ways valve is open with the stem upward and closed with the stem downward and a 3-ways or 3-ways with by pass valve has the direct way open (and the by pass way closed) with the stem upward and the direct way closed (and the by pass way open) with the stem downward.

All models are equipped with a stainless steel spring that makes the valve Normally Open (NO) without actuator.

### TECHNICAL CHARACTERISTICS

| CHARACTERISTIC      | DESCRIPTION                                 |
|---------------------|---|
| Operating pressure  | 1600 kPa                                    |
| Stroke              | 3,9 mm                                      |
| Allowed fluids      | Water, water+glycol (50% max.)              |
| Temperature         | 5T95°C                                      |
| Leakage             | 0 (tight close-off on direct and angle way) |
| Valve body and plug | recyclable fibre reinforced polymer         |
| Stem and spring     | Stainless Steel                             |
| Seals               | EPDM  |

### OPERATION

VP valves are Normally Open without the actuator. When the actuator is installed and not powered the stem is pushed downward clo-

The performances stated in this sheet can be modified without any prior notice.

sing the valve (in a 3 ways valve closing the direct way) when the actuator is powered, the valve spring is pushing upward the spindle opening the valve (in a 3 ways valve opening the direct way). VP valves offer a tight close off with zero leakage thanks to the double EPDM orings on the plug.

VP valves can be motorized by MVP actuators (on/off 24 Vac/dc or 230 Vac) or MVX52B (modulating 0-10 Vdc) depending on the requirements.

For further information about actuators please refer to the following data sheets: MVP\_DBL615e and MVX52B\_DBL476e.

## INSTALLATION AND MOUNTING

Before mounting, make sure pipes are clean, free from weld slag, perfectly aligned with the valve body and not subjected to vibrations.

The valve can be installed with any orientation but not up side down (the spindle oriented downward).

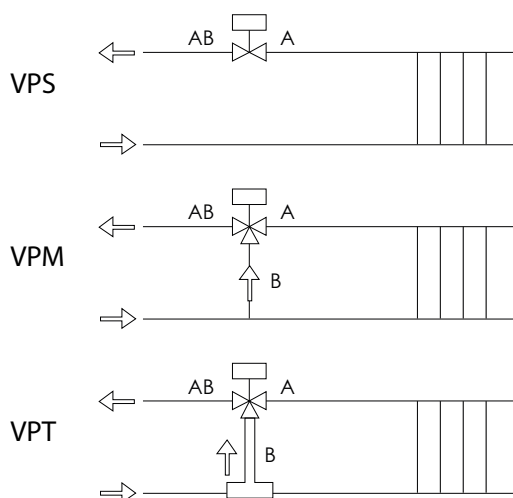
Three-way valves should be preferably used as mixing valves.

In case they are mounted as diverting (i.e. one inlet and two outlets) please observe the maximum close-off pressure specified in the table below.

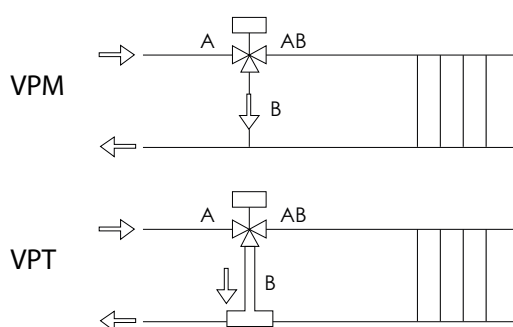
While mounting, respect the fluid directions indicated by the arrows on the valve body.

## APPLICATION DIAGRAMS

### Mixing



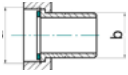
### Diverting



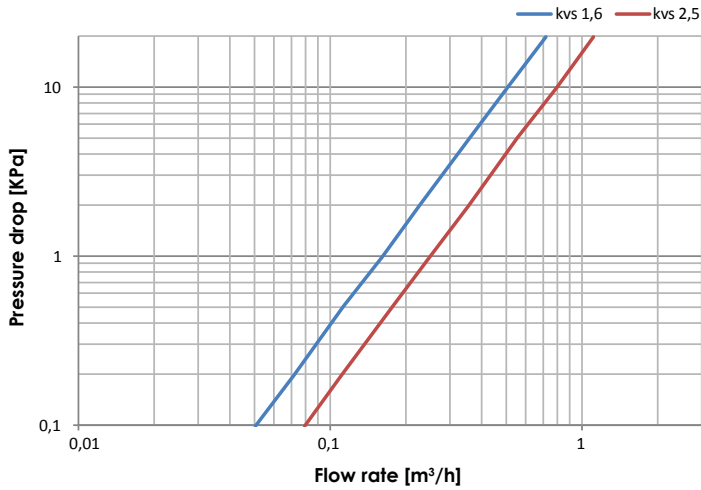
## ACCESSORIES

VXC Manual Override



| FITTINGS |           |        |        |               |   |
|----------|-----------|--------|--------|---------------|---|
| CODE     | DN        | a      | b      | Pack quantity |   |
| 55183-11 | 15 (1/2") | G 1/2" | R 3/8" | 10            |  |
| 55183-12 | 20 (3/4") | G 3/4" | R 1/2" |               |   |

## PRESSURE DROP DIAGRAM



## CLOSE-OFF PRESSURE

| Model  | MIXING                  |           |                 | DIVERTING               |           |                 | Max $\Delta P$<br>without noise |
|--|-------------------------|-----------|-----------------|-------------------------|-----------|-----------------|---------------------------------|
|  | Kvs [m <sup>3</sup> /h] |           | Close-off [bar] | Kvs [m <sup>3</sup> /h] |           | Close-off [bar] |                                 |
|  | direct way              | angle way | MVP             | direct way              | angle way | MVP             |                                 |
| Two-way valves                                   |                         |           |                 |                         |           |                 |                                 |
| VPS16P   | 1,6                     | -         | 3,5             | -                       | -         | -               | -                               |
| VPS25P   | 2,5                     | -         | 3,5             | -                       | -         | -               | -                               |
| Three-way valves                                 |                         |           |                 |                         |           |                 |                                 |
| VPM16P   | 1,6                     | 1         | 3,5             | 1,6                     | 0,5       | 0,8             | 0,6                             |
| VPM25P   | 2,5                     | 1,6       | 3,5             | 2,5                     | 0,6       | 0,2             | 0,2                             |
| Three-way valves with built-in by-pass (4 ports) |                         |           |                 |                         |           |                 |                                 |
| VPT16P   | 1,6                     | 1         | 3,5             | 1,6                     | 0,5       | 0,8             | 0,6                             |
| VPT25P   | 2,5                     | 1,6       | 3,5             | 2,5                     | 0,6       | 0,2             | 0,2                             |

## DIMENSIONS [mm]

| Model  | a  | b      | c    | d    | e    | f     | Weight [g] |
|--------|----|--------|------|------|------|-------|------------|
| VPS16P | 52 | G1/2"  | 20   | 25,8 | 15,6 | 61,4  | 36         |
| VPS25P | 56 | G 3/4" | 22,8 |      |      | 64,2  | 42         |
| VPM16P | 52 | G1/2"  | 25   | 25,8 | 15,6 | 66,4  | 38         |
| VPM25P | 56 | G 3/4" | 34   |      |      | 75,4  | 45         |
| VPT16P | 52 | G1/2"  | 40   | 25,8 | 15,6 | 102,8 | 60         |
| VPT25P | 56 | G 3/4" | 40   |      |      | 105,6 | 67         |

