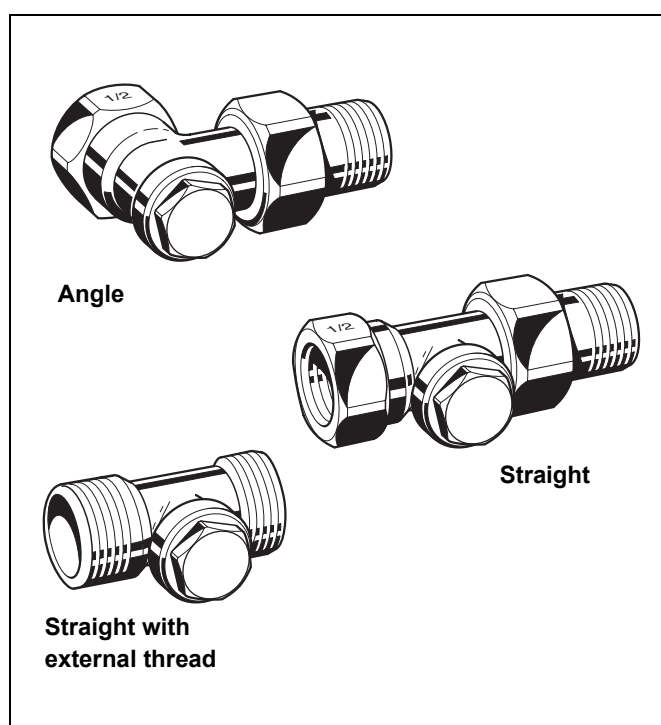


## V2400 Verafix

### PRE-SETTABLE LOCKSHIELD VALVE WITH RETAINABLE PRE-SETTING

#### PRODUCT DATA



#### Design

The lockshield valve consists of:

- Valve housing PN10, DN10, 15 or 20 with
  - internal thread connection to DIN2999 (ISO7) or external thread connection to DIN/ISO228 on inlet
  - external thread connection to DIN/ISO228 with union-nut and radiator tailpiece (not V2406) on outlet
  - Body dimensions to DIN3842
- Valve insert
- Protection cap

#### Materials

- Valve housing made of nickel-plated red bronze
- Valve insert made of brass with EPDM seals
- Tailpiece, protection cap and union-nut made of nickel-plated brass

#### Application

The Verafix is a pre-settable radiator lockshield valve for the return connection of radiators or heat exchangers. It is used:

- in typical two-pipe heating systems
- in special applications in one-pipe heating systems

for shutoff and regulation of individual radiators. Together with a draining adapter (see 'Accessories') radiators can be drained or filled with the system in operation. The pre-setting isn't affected by this.

Installation in supply also possible, draining/filling function isn't supported.

The lockshield valve is suitable for hot water and low pressure steam heating systems and cold water cooling systems.

#### Features

- **Retainable pre-setting, independent of draining or shutoff process**
- **Pre-setting, shutoff and draining/filling with one valve**
- **Pre-settable by stroke limitation**
- **Optional flow direction. Performance values apply for both directions**
- **Piston externally O-ring sealed**
- **Body dimensions to DIN3842**
- **Robust corrosion-resistant red bronze housing**
- **Connection to all types of pipe DN10...DN20**
- **Easy identification: protection cap with hexagon on top and collar to valve; also see illustration identification**

#### Specifications

|                                  |                                                                         |                            |
|----------------------------------|-------------------------------------------------------------------------|----------------------------|
| Medium                           | Water, water-glycol mixture<br>Low pressure steam<br>Quality to VDI2035 |                            |
| <b>Operating temperature</b>     | Water:                                                                  | 2...130°C<br>(36...266°F)  |
|                                  | Steam:                                                                  | max. 110°C<br>(230°F)      |
| <b>Operating pressure</b>        | Water:                                                                  | max. 10.0 bar<br>(145 psi) |
|                                  | Steam:                                                                  | max. 0.5 bar<br>(7.3 psi)  |
| <b>k<sub>vs</sub>(cv)-values</b> | Angle                                                                   | 1.70 (1.99)                |
|                                  | Straight DN10                                                           | 1.40 (1.64)                |
|                                  | Straight DN15                                                           | 1.20 (1.40)                |
|                                  | Straight DN20                                                           | 1.50 (1.76)                |

## Function

The Verafix connects the return of a radiator or heat exchanger to the heating loop and has the functions regulation, shutoff and draining/filling.

Regulation:

The flow can be regulated by pre-setting the Verafix to a certain value derived from the flow diagrams. By pre-setting, the opening between valve insert and valve seat is reduced. In this way the flow is throttled.

Draining:

Draining or filling of the radiator is carried out with the draining adapter (see 'Accessories'). Draining of individual radiators using the Verafix has no influence on the heating loop or other radiators in the loop.

Pre-setting isn't affected by shutoff or draining.

## Please note:

- To avoid stone deposit and corrosion the composition of the medium should conform with VDI-Guideline 2035
- Additives have to be suitable for EPDM sealings
- System has to be flushed thoroughly before initial operation with all valves fully open
- Any complaints or costs resulting from non-compliance with above rules will not be accepted by Honeywell
- Please contact us if you should have any special requirements or needs

## Dimensions and Ordering Information

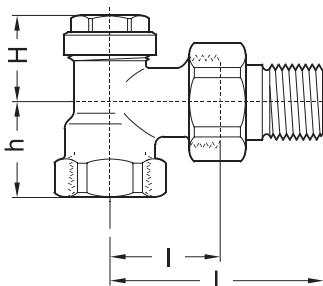


Fig. 1. Angle

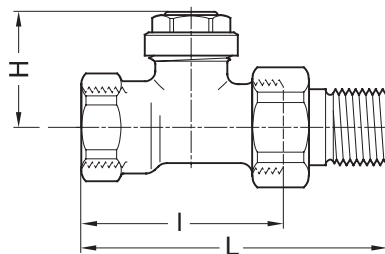


Fig. 2. Straight

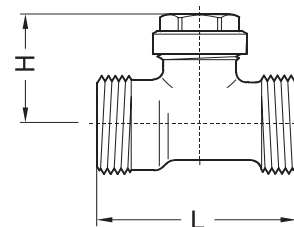


Fig. 3. Straight with external threads

Table 1. Dimensions and OS-Nos (OS=Ordering System)

| Type                           | DN | Pipe connection | $k_{vs}(c_{vs})$ -value | L  | I  | H  | h  | OS-No.     |
|--------------------------------|----|-----------------|-------------------------|----|----|----|----|------------|
| Angle                          | 10 | Rp 3/8"         | 1.70 (1.99)             | 52 | 26 | 25 | 22 | V2400E0010 |
|                                | 15 | Rp 1/2"         | 1.70 (1.99)             | 58 | 29 | 25 | 26 | V2400E0015 |
|                                | 20 | Rp 3/4"         | 1.70 (1.99)             | 66 | 34 | 29 | 29 | V2400E0020 |
| Straight                       | 10 | Rp 3/8"         | 1.40 (1.64)             | 75 | 49 | 32 | —  | V2400D0010 |
|                                | 15 | Rp 1/2"         | 1.45 (1.70)             | 80 | 51 | 32 | —  | V2400D0015 |
|                                | 20 | Rp 3/4"         | 1.50 (1.76)             | 91 | 59 | 32 | —  | V2400D0020 |
| Straight with external threads | 15 | G 3/4" AG       | 1.45 (1.70)             | 51 | —  | 32 | —  | V2406D0015 |

NOTE: All dimensions in mm unless stated otherwise.

## Installation Examples

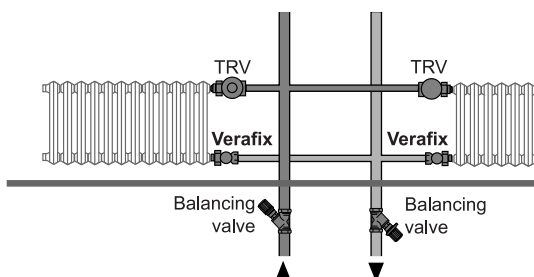


Fig. 4. Installation example heating system

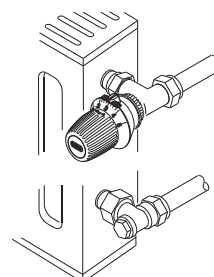


Fig. 5. Installation example radiator

## Accessories

### Connections for V2400

Compression fitting for **COPPER** and **STEEL** pipe.  
Consisting of compression nut and compression ring.  
For valves with internal thread.

|  | Valve size  | Pipe dimension | Part number   | Pcs/pack |
|-----------------------------------------------------------------------------------|-------------|----------------|---------------|----------|
|                                                                                   | 3/8" (DN10) | 10 mm          | FIG3/8CS10    | 1        |
|                                                                                   | 3/8" (DN10) | 12 mm          | FIG3/8CS12    | 1        |
|                                                                                   | 1/2" (DN15) | 10 mm          | FIG1/2CS10    | 1        |
|                                                                                   | 1/2" (DN15) | 12 mm          | FIG1/2CS12    | 1        |
|                                                                                   | 1/2" (DN15) | 14 mm          | FIG1/2CS14    | 1        |
|                                                                                   | 1/2" (DN15) | 15 mm          | FIG1/2CS15    | 1        |
|                                                                                   | 1/2" (DN15) | 15 mm          | FIG1/2CS15-10 | 10       |
|                                                                                   | 1/2" (DN15) | 16 mm          | FIG1/2CS16    | 1        |
|                                                                                   | 3/4" (DN20) | 18 mm          | FIG3/4CS18    | 1        |
|                                                                                   | 3/4" (DN20) | 22 mm          | FIG3/4CS22    | 1        |

NOTE: Support inserts have to be used for copper or soft steel pipe with 1.0 mm wall thickness. Max. operating temperature 120°C, max. operating pressure 10 bar.

Compression fitting for **COPPER** and **SOFT STEEL** pipe.  
Consisting of compression nut, compression ring and support insert.

For valves with internal thread.

|  | Valve size  | Pipe dimension | Part number | Pcs/pack |
|-------------------------------------------------------------------------------------|-------------|----------------|-------------|----------|
|                                                                                     | 3/8" (DN10) | 12 mm          | FIG3/8CSS12 | 1        |
|                                                                                     | 1/2" (DN15) | 12 mm          | FIG1/2CSS12 | 1        |
|                                                                                     | 1/2" (DN15) | 14 mm          | FIG1/2CSS14 | 1        |
|                                                                                     | 1/2" (DN15) | 15 mm          | FIG1/2CSS15 | 1        |
|                                                                                     | 1/2" (DN15) | 16 mm          | FIG1/2CSS16 | 1        |
|                                                                                     | 1/2" (DN15) | 18 mm          | FIG1/2CSS18 | 1        |
|                                                                                     | 3/4" (DN20) | 18 mm          | FIG3/4CSS18 | 1        |

NOTE: Support inserts have to be used for copper or soft steel pipe with 1.0 mm wall thickness. Max. operating temperature 120°C, max. operating pressure 10 bar.

Compression fitting for **MULTILAYER** pipe.

Consisting of compression nut, compression ring and support insert.

For valves with internal thread.

|  | Valve size  | Pipe dimension | Part number | Pcs/pack |
|-------------------------------------------------------------------------------------|-------------|----------------|-------------|----------|
|                                                                                     | 1/2" (DN15) | 16 mm          | FIG1/2M16X2 | 1        |

NOTE: Max. operating temperature 90°C, max. operating pressure 10 bar.

### Connections for V2406

Compression fitting for **COPPER** and **STEEL** pipe.  
Consisting of one-piece (preassembled) nut.  
Soft sealing connection.

For valves with external thread G3/4".

|  | Connection | Pipe dimension | Part number   | Pcs/pack |
|-----------------------------------------------------------------------------------|------------|----------------|---------------|----------|
|                                                                                   | G3/4"      | 10 mm          | FEG3/4CS10    | 1        |
|                                                                                   | G3/4"      | 12 mm          | FEG3/4CS12    | 1        |
|                                                                                   | G3/4"      | 14 mm          | FEG3/4CS14    | 1        |
|                                                                                   | G3/4"      | 14 mm          | FEG3/4CS14-10 | 10       |
|                                                                                   | G3/4"      | 15 mm          | FEG3/4CS15    | 1        |
|                                                                                   | G3/4"      | 15 mm          | FEG3/4CS15-10 | 10       |
|                                                                                   | G3/4"      | 16 mm          | FEG3/4CS16    | 1        |
|                                                                                   | G3/4"      | 18 mm          | FEG3/4CS18    | 1        |

NOTE: Reinforcing insert for copper or soft steel pipe with 1,0 mm wall thickness not required.  
Max. operating temperature 90°C, max. operating pressure 10 bar.

Compression fitting for **PEX** pipe.

Consisting of one-piece (preassembled) nut and reinforcing insert.

Soft sealing connection.

For valves with external thread G3/4".

|  | Connection | Pipe dimension | Part number   | Pcs/pack |
|-------------------------------------------------------------------------------------|------------|----------------|---------------|----------|
|                                                                                     | G3/4"      | 12x1,1 mm      | FEG3/4P12X1.1 | 1        |
|                                                                                     | G3/4"      | 16x1,5 mm      | FEG3/4P16X1.5 | 1        |

NOTE: Max. operating temperature 90°C, max. operating pressure 10 bar.

Compression fitting for **PEX** and **MULTILAYER** pipe.

Consisting of one-piece nut with preassembled anti-torsion elastic compression ring and one-piece reinforcing insert.

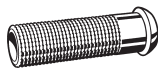
For valves with external thread G3/4".

|  | Connection | Pipe dimension | Part number     | Pcs/pack |
|-------------------------------------------------------------------------------------|------------|----------------|-----------------|----------|
|                                                                                     | G3/4"      | 14x2 mm        | FEG3/4PM14X2    | 1        |
|                                                                                     | G3/4"      | 16x2 mm        | FEG3/4PM16X2    | 1        |
|                                                                                     | G3/4"      | 16x2 mm        | FEG3/4PM16X2-10 | 10       |
|                                                                                     | G3/4"      | 16x2.2 mm      | FEG3/4PM16X2.2  | 1        |
|                                                                                     | G3/4"      | 17x2 mm        | FEG3/4PM17X2    | 1        |
|                                                                                     | G3/4"      | 17x2 mm        | FEG3/4PM17X2-10 | 10       |
|                                                                                     | G3/4"      | 18x2 mm        | FEG3/4PM18X2    | 1        |
|                                                                                     | G3/4"      | 18x2 mm        | FEG3/4PM18X2-10 | 10       |
|                                                                                     | G3/4"      | 20x2 mm        | FEG3/4PM20X2    | 1        |

NOTE: Max. operating temperature 90°C, max. operating pressure 10 bar.

**Radiator tailpiece with thread up to collar**

|                        |            |
|------------------------|------------|
| for valves DN10 (3/8") | VA5201A010 |
| for valves DN15 (1/2") | VA5201A015 |
| for valves DN20 (3/4") | VA5201A020 |

**Extended radiator tailpiece, nickel-plated, to be shortened as required**

|                                                 |            |
|-------------------------------------------------|------------|
| 3/8" x 70 mm (for DN10)<br>thread approx. 50 mm | VA5204B010 |
| 1/2" x 76 mm (for DN15)<br>thread approx. 65 mm | VA5204B015 |
| 3/4" x 70 mm (for DN20)<br>thread approx. 60 mm | VA5204B020 |

**Valve Accessories****Draining adapter**

|               |            |
|---------------|------------|
| for all sizes | VA3300A001 |
|---------------|------------|

**Verafix key**

|               |            |
|---------------|------------|
| for all sizes | VA8300A001 |
|---------------|------------|

**Service Parts****Cover cap**

|               |            |
|---------------|------------|
| for all sizes | VS3301A001 |
|---------------|------------|

**Sealing ring for cover cap**

|               |            |
|---------------|------------|
| for all sizes | VS3302A001 |
|---------------|------------|

**Pressure cap – for shutting off valves on radiator outlet**

|                        |            |
|------------------------|------------|
| for valves DN10 (3/8") | VA2202A010 |
| for valves DN15 (1/2") | VA2202A015 |
| for valves DN20 (3/4") | VA2202A020 |

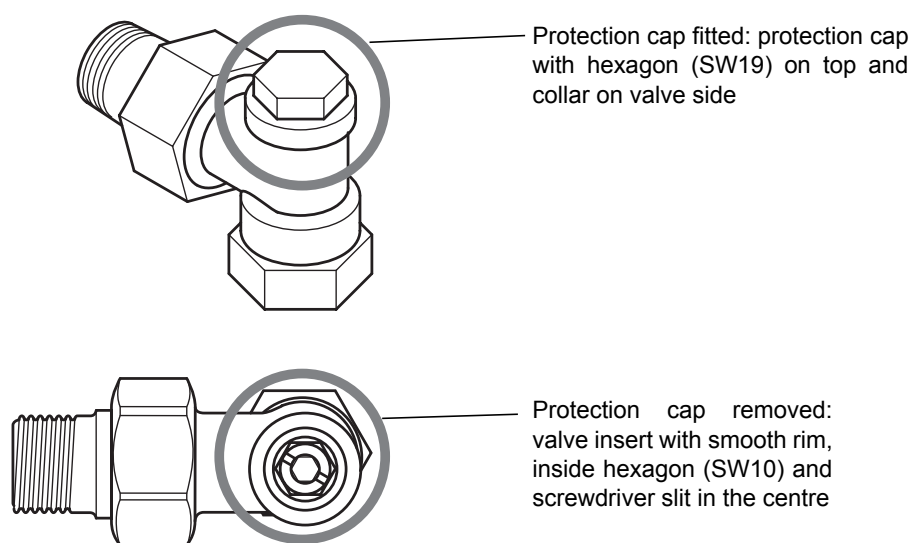
**Exchange valve insert**

|              |            |
|--------------|------------|
| Verafix type | VS1300VF02 |
|--------------|------------|

**Sealing ring for pressure cap**

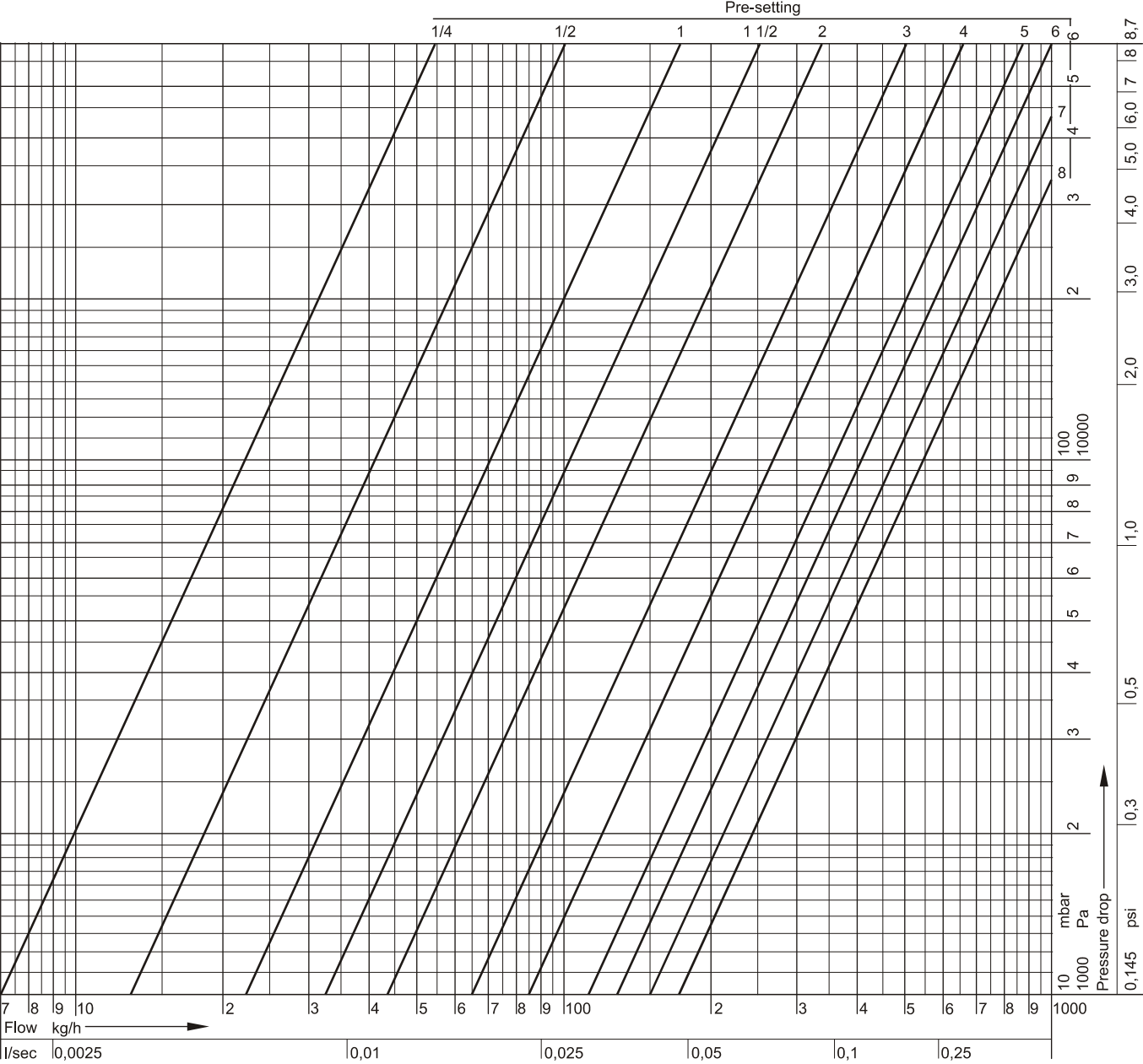
|                        |            |
|------------------------|------------|
| for valves DN10 (3/8") | VA5090A010 |
| for valves DN15 (1/2") | VA5090A015 |
| for valves DN20 (3/4") | VA5090A020 |

## Identification



**Fig. 6. Identification of VERAfix**

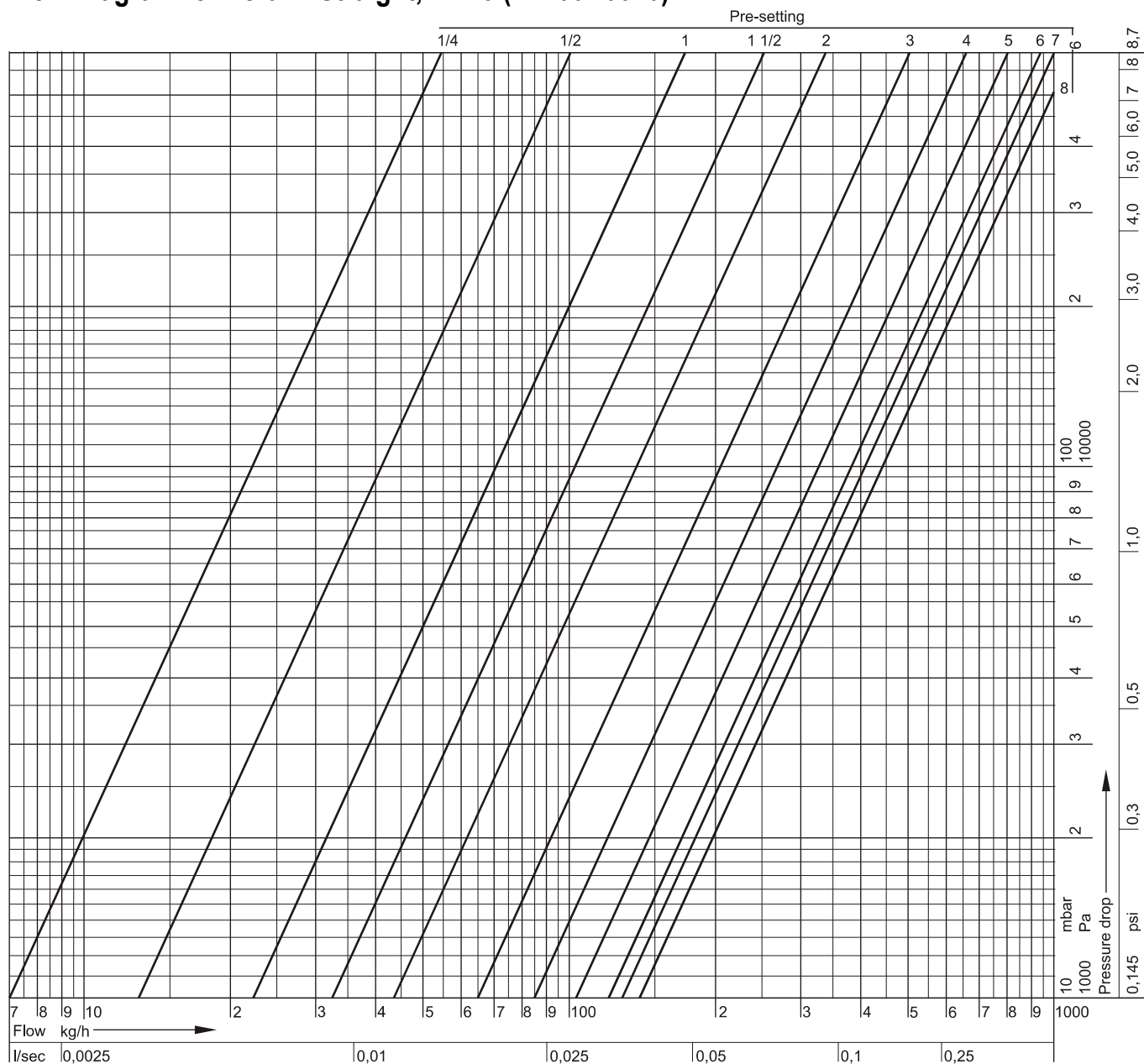
Flow Diagram for Verafix Angle - 2K (applies to V2400, V2410, V2420, V2480, V340, V330)



|                            |      |      |      |       |      |      |      |      |      |      |                        |
|----------------------------|------|------|------|-------|------|------|------|------|------|------|------------------------|
| Turns of pre-setting screw | 1/4  | 1/2  | 1    | 1 1/2 | 2    | 3    | 4    | 5    | 6    | 7    | 8 = open               |
| k <sub>v</sub> -value      | 0.07 | 0.13 | 0.22 | 0.32  | 0.43 | 0.65 | 0.85 | 1.10 | 1.30 | 1.50 | k <sub>vs</sub> = 1.70 |
| cv-value                   | 0.08 | 0.15 | 0.26 | 0.37  | 0.50 | 0.76 | 0.99 | 1.29 | 1.52 | 1.76 | 1.99                   |

NOTE: See chapter presetting for pre-setting instructions.

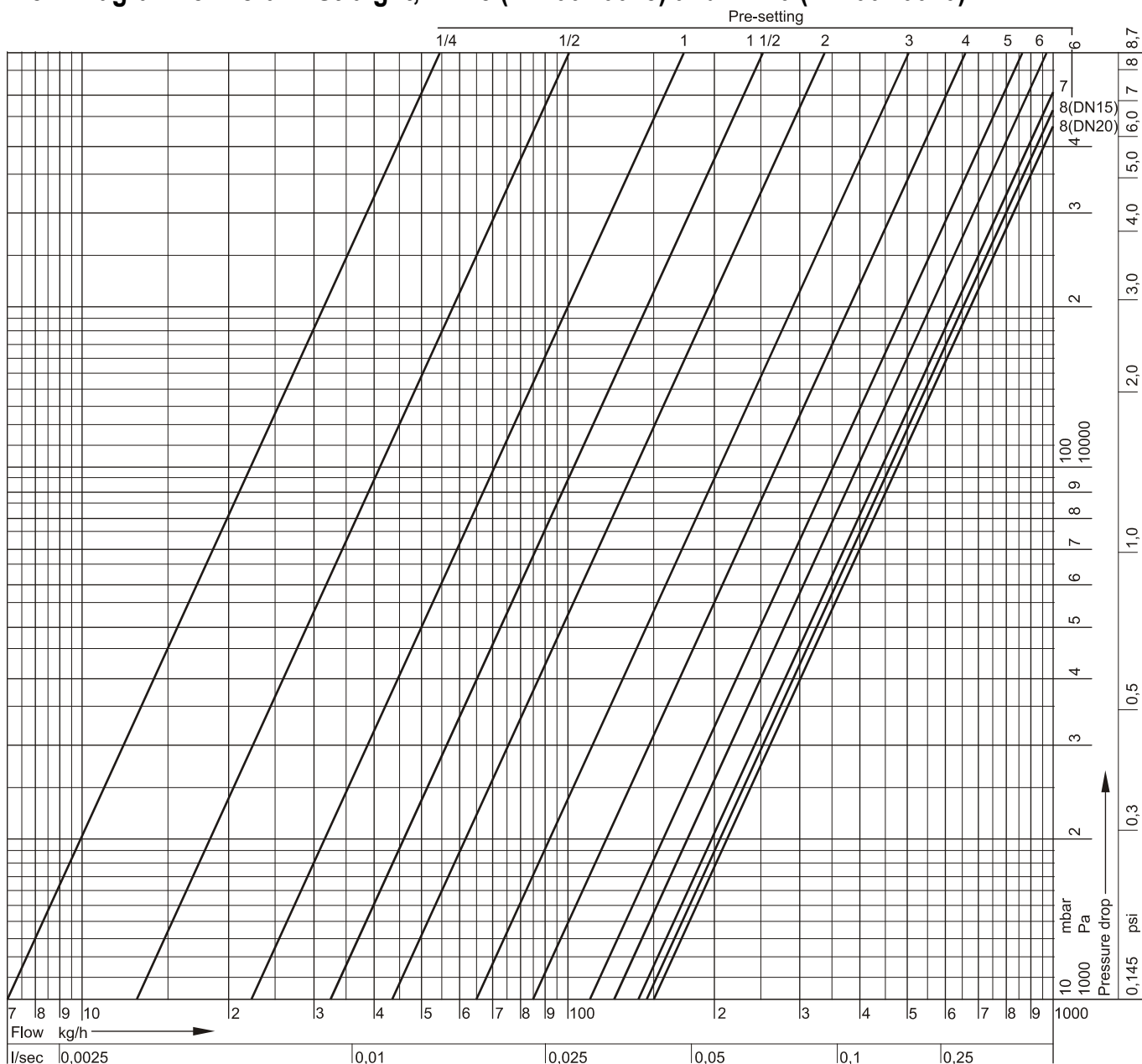
# Flow Diagram for Verafix Straight, DN10 (V2400D0010) - 2K



| Turns of pre-setting screw | 1/4  | 1/2  | 1    | 1 1/2 | 2    | 3    | 4    | 5    | 6    | 7    | 8 = open               |
|----------------------------|------|------|------|-------|------|------|------|------|------|------|------------------------|
| <b>k<sub>v</sub>-value</b> | 0.08 | 0.18 | 0.31 | 0.43  | 0.52 | 0.69 | 0.82 | 0.92 | 1.02 | 1.10 | k <sub>vs</sub> = 1.20 |
| <b>cv-value</b>            | 0.09 | 0.21 | 0.36 | 0.50  | 0.61 | 0.81 | 0.96 | 1.08 | 1.19 | 1.29 | 1.40                   |

NOTE: See chapter presetting for pre-setting instructions.

# Flow Diagram for Verafix Straight, DN15 (V2400D0015) and DN20 (V2400D0020) - 2K



| Turns of pre-setting screw | $\frac{1}{4}$ | $\frac{1}{2}$ | 1    | 1 $\frac{1}{2}$ | 2    | 3    | 4    | 5    | 6    | 7    | 8 = open   |            |
|----------------------------|---------------|---------------|------|-----------------|------|------|------|------|------|------|------------|------------|
|                            |               |               |      |                 |      |      |      |      |      |      | DN15       | DN20       |
| <b>k<sub>v</sub>-value</b> | 0.07          | 0.13          | 0.22 | 0.32            | 0.43 | 0.65 | 0.85 | 1.10 | 1.25 | 1.40 | kvs = 1.45 | kvs = 1.50 |
| <b>cv-value</b>            | 0.08          | 0.15          | 0.26 | 0.37            | 0.50 | 0.76 | 0.99 | 1.29 | 1.46 | 1.64 | kvs = 1.70 | kvs = 1.76 |

NOTE: See chapter presetting for pre-setting instructions.

## Environmental and Combustion Controls

Honeywell GmbH

Hardhofweg

74821 MOSBACH

GERMANY

Phone: +49 (6261) 810

Fax: +49 (6261) 81393

<http://ecc.emea.honeywell.com>

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