

# Braukmann

## V5001S Kombi-S

### Shut-off Valve

#### APPLICATION

The V5001S Kombi-S shut-off valve is used to shut-off pipelines in residential or commercial hydronic heating and cooling systems. It can be installed in either supply or return pipeline.

When installed in supply it can also be used to connect impulse tube of a V5001P Kombi-Auto differential pressure control valve.

#### SPECIAL FEATURES

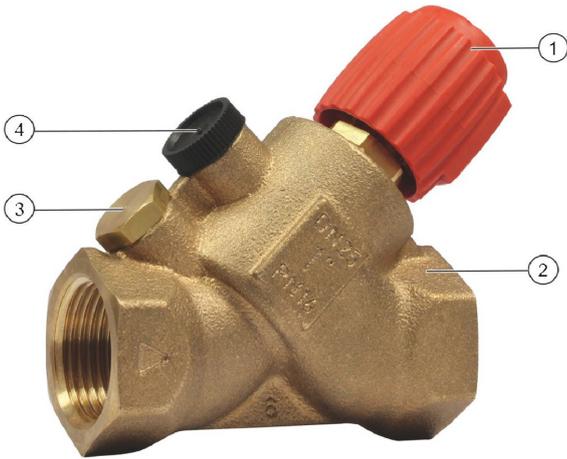
- Rugged, robust design
- High flowrates
- Insulation shells included
- Supports flow measurement with Resideo SafeCon™ quick connections
- Two measuring ranges, one for standard flow, one for low flow conditions



#### TECHNICAL DATA

|                               |  |
|-------------------------------|--|
| <b>Media</b>                  |  |
| Medium:                       | Water or water-glycol mixture, quality to VDI 2035 |
| pH-value:                     | 8...9.5  |
| <b>Pressure values</b>        |  |
| Operating pressure:           | max. 16 bar (232 psi)                              |
| <b>Operating temperatures</b> |  |
| Water                         | -20...130 °C (68...266 °F)                         |
| Water-glycol mixtures:        | -20...110 °C (68...230 °F)                         |
| <b>Leakage rate</b>           |  |
| Leakage rate:                 | According to Class IV IEC 60534-2-3                |

## CONSTRUCTION

| Overview  | Components              | Materials                    |
|---|-------------------------|------------------------------|
|  | 1 Handwheel             | Plastic                      |
|   | 2 Valve housing         | Red bronze, lead content <3% |
|   | 3 Lower blind stop      | Brass                        |
|   | 4 Upper blind stop      | Plastic                      |
|   | Not depicted components |                              |
|   | Valve insert            | Brass                        |
|   | Seat sealing            | Rubber                       |

## METHOD OF OPERATION

The V5001S Kombi-S shutoff valve is installed in supply or return pipeline as pipeline shutoff valve.

### Installation

The Kombi-S was designed as partner valve for a Kombi-AutoDP control valve. It provides impulse tube connection for supply pressure signal and pressure test connection for differential pressure measuring devices if desired. Impulse tube and all fittings required to connect to a Kombi-S are supplied with the Kombi-Auto. The Kombi-Auto itself has to be ordered separately.

All valves must be installed in the right flow direction indicated by an arrow on each side of valve inlet.

### Flow and pressure measurement

The Kombi-S can optionally be equipped with a SafeCon™ quick connect pressure test valve on the back of the valve housing to allow measurements with a differential pressure measuring computer, for example Resideo VM242 BasicMes-2.

The following measurements are possible:

- Flow** Requires additional PT valves VS600C001
- High pressure: connected to Kombi-Auto
  - Low pressure: connected to Kombi-S

- Δ loop** Requires additional PT valves VS600C001
- High pressure: connected to Kombi-S
  - Low pressure: connected to Kombi-Auto

SafeCon™ quick connect pressure test valves are available as accessory – see chapter ‘Accessories’ below. Depending on type of measurement desired they have to be fitted to the Kombi-Auto and/or Kombi-S supply valve (if used). If no Kombi-S is used other means for pressure testing and impulse tube connection must be provided.

The BasicMes-2 can directly connect to SafeCon pressure test valves for leakage free and quick measuring operations.

### Measuring points

The Kombi-S has two measuring points. Measuring point A is at fully open valve. Measuring point B is at approx. 25% stroke. To reach measuring point B reliably adapter VA5001A001/VA5001A002 is inserted between handwheel and valve housing and then the valve is closed as far as possible.

Measuring point B is used in low flow conditions when no stable signal can be picked up at measuring point A.

### Flow measurement in the loop

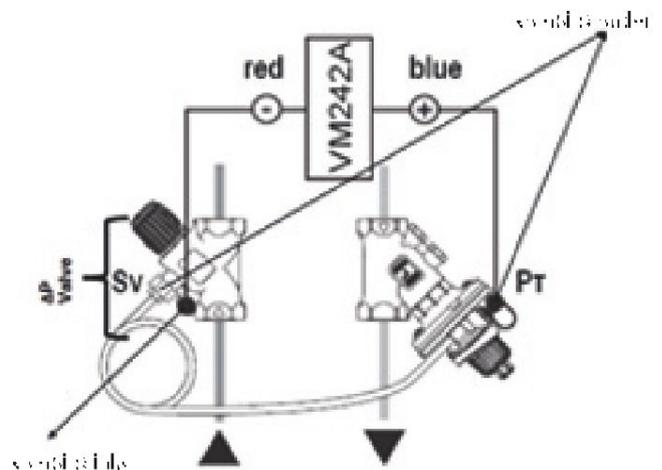
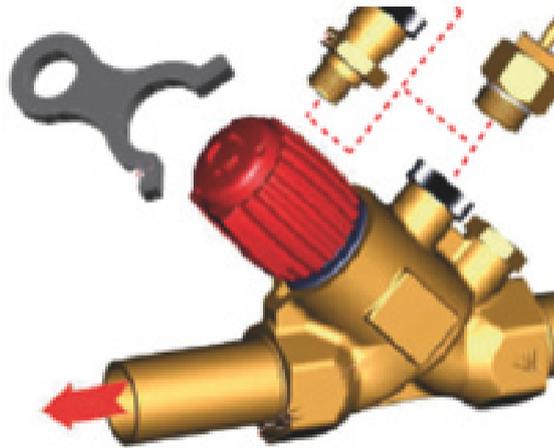


Fig. 1 Flow measured using the Kombi S kv and the ΔP across it when it is fully open at position A or partially closed at set position B.

## Adapters for flow measurement



| DN size: | Normal kvs-value: | Valve Part-No: | Adapter:   | Reduced kvs with adapter: |
|----------|-------------------|----------------|------------|---------------------------|
| 15       | 4,7               | V5001SY2015    | VA5001A001 | 1,9                       |
| 20       | 8,1               | V5001SY2020    |            | 2,7                       |
| 25       | 10,7              | V5001SY2025    |            | 4,1                       |
| 32       | 23,3              | V5001SY2032    | VA5001A002 | 8,1                       |
| 40       | 35,3              | V5001SY2040    |            | 8,4                       |
| 50       | 48,8              | V5001SY2050    |            | 9,1                       |

## TRANSPORTATION AND STORAGE

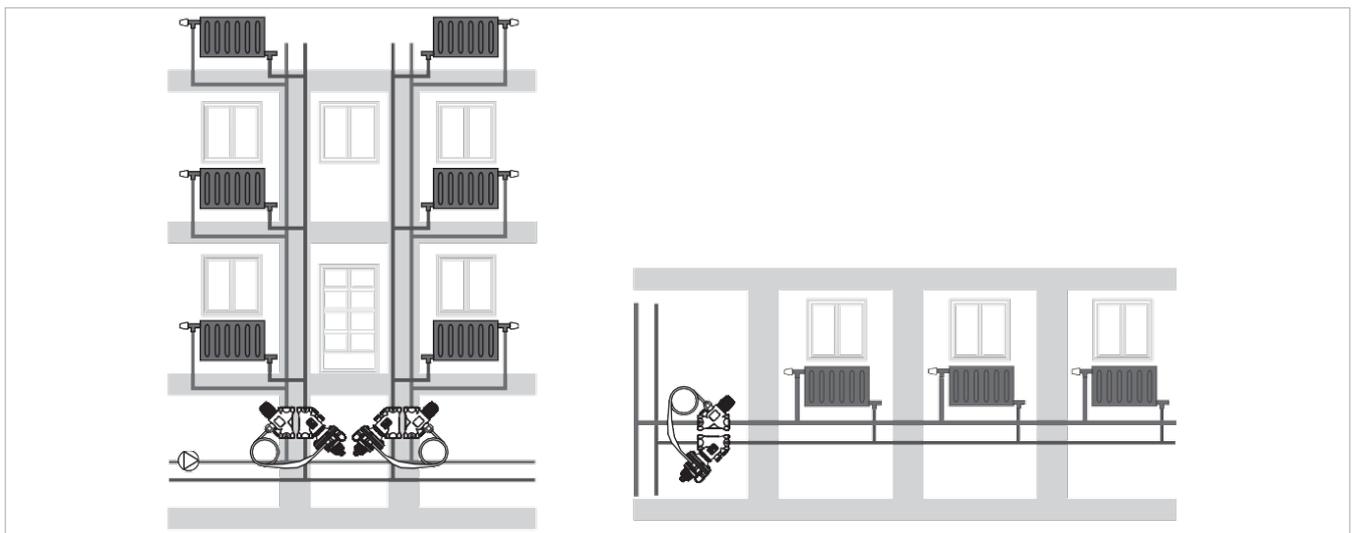
Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

| Parameter                 | Value                    |
|---------------------------|--------------------------|
| Environment:              | clean, dry and dust free |
| Min. ambient temperature: | -20 °C                   |
| Max. ambient temperature: | 65 °C                    |

## INSTALLATION GUIDELINES

### Installation Example



For more information on Resideo Balancing and Pipeline Valves see [homecomfort.resideo.com](http://homecomfort.resideo.com).

# TECHNICAL CHARACTERISTICS

## Pressure drop characteristics

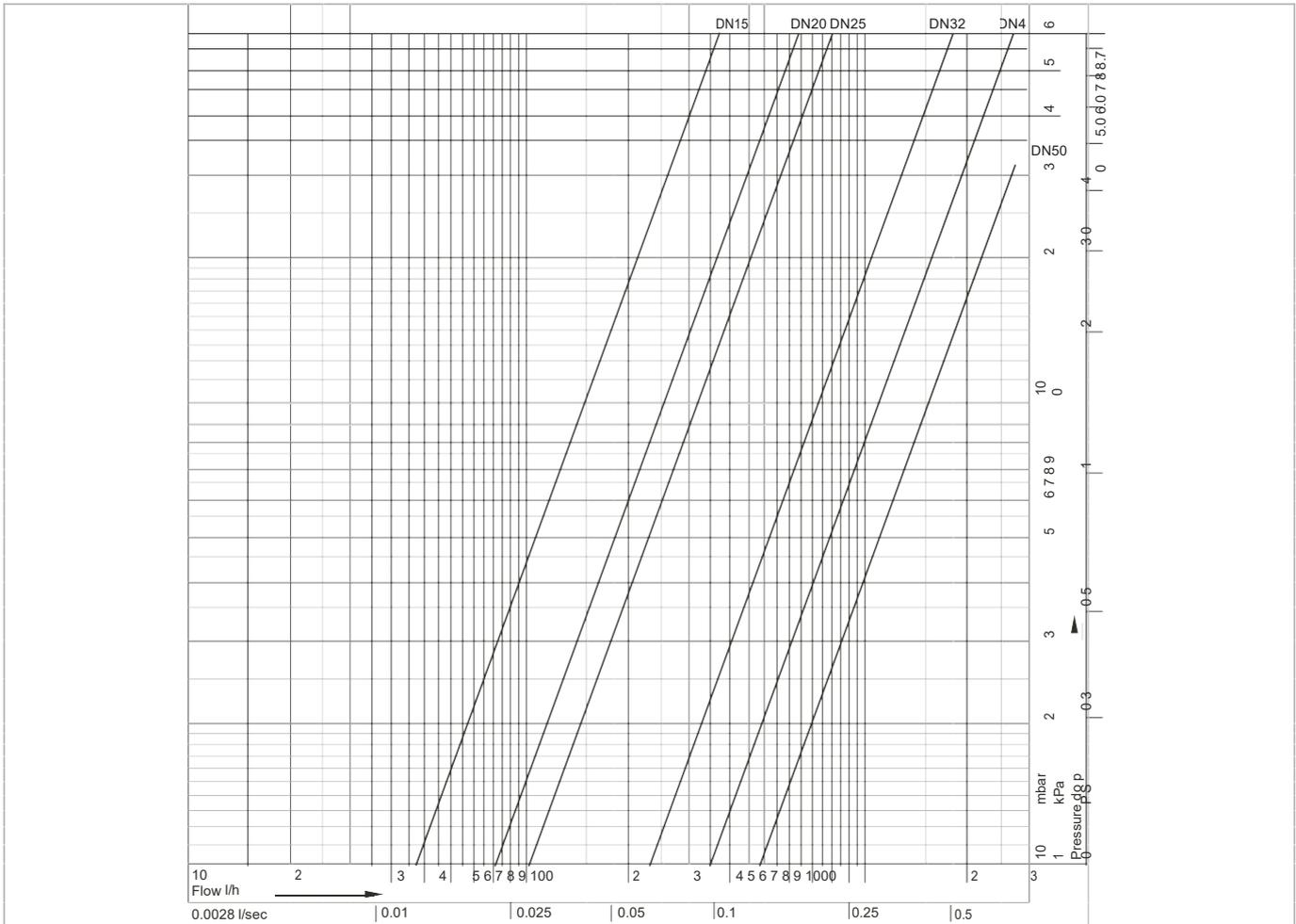
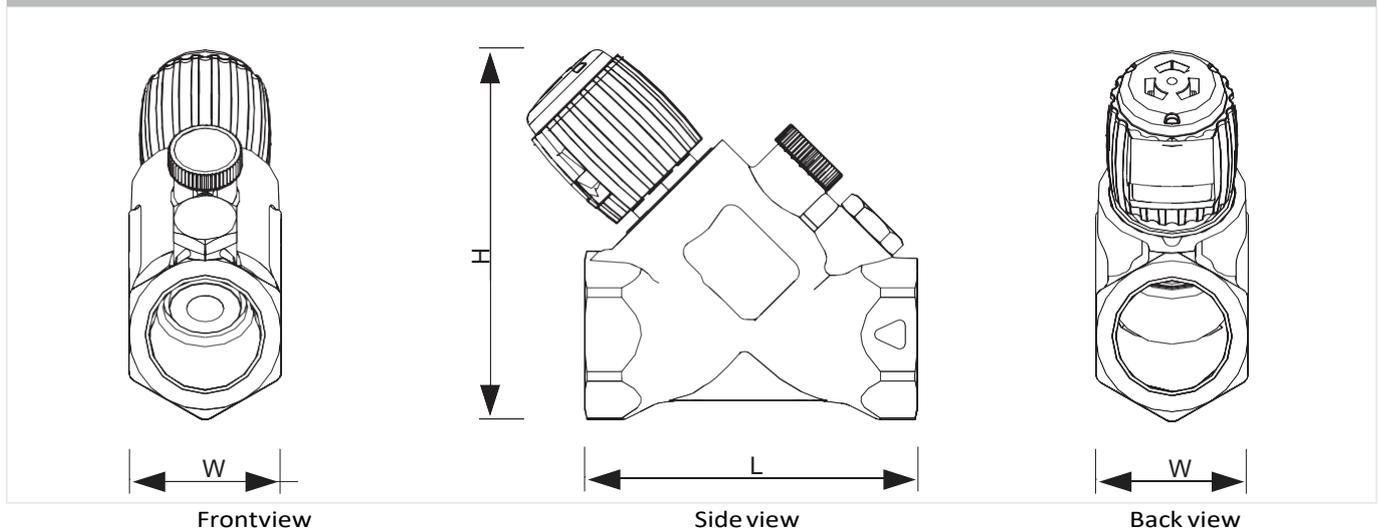


Fig. 2 Pressure drop diagram V5001S Kombi-S

## DIMENSIONS

### Overview



| DN | Thread    | Without insulation shell |       |        | With insulation shell |       |        | Weight |
|----|-----------|--------------------------|-------|--------|-----------------------|-------|--------|--------|
|    |           | Length                   | Width | Height | Length                | Width | Height |        |
| 15 | Rp 1/2"   | 102                      | 35    | 89     | 133                   | 84    | 122    | 0.5 kg |
| 20 | Rp 3/4"   | 101                      | 40    | 95     | 130                   | 93    | 125    | 0.7 kg |
| 25 | Rp 1"     | 105                      | 41    | 101    | 140                   | 104   | 136    | 0.8 kg |
| 32 | Rp 1 1/4" | 140                      | 56    | 135    | 171                   | 113   | 167    | 1.6 kg |
| 40 | Rp 1 1/2" | 146                      | 66    | 140    | 176                   | 126   | 174    | 1.9 kg |
| 50 | Rp 1"     | 158                      | 78    | 154    | 200                   | 147   | 190    | 2.8 kg |

Note: All dimensions in mm unless stated otherwise.

## ORDERING INFORMATION

The following tables contain all the information you need to make an order of an item of your choice. When ordering, please always state the type, the ordering or the part number.

### Options

| Description   | Nominal size diameter: DN | Thread    | kvs (cvs)-value | Ordering Number |
|---|---------------------------|-----------|-----------------|-----------------|
| V5001P Kombi-Auto with internal threads to DIN2999 (ISO7) | 15                        | Rp 1/2"   | 4.7             | V5001SY2015     |
|   | 20                        | Rp 3/4"   | 8.1             | V5001SY2020     |
|   | 25                        | Rp 1"     | 10.7            | V5001SY2025     |
|   | 32                        | Rp 1 1/4" | 23.3            | V5001SY2032     |
|   | 40                        | Rp 1 1/2" | 35.3            | V5001SY2040     |
|   | 50                        | Rp 2"     | 48.8            | V5001SY2050     |

Note: Available versions and OS-Nos (OS=Ordering Specification)

**Accessories**

|   | Description   | Dimension | Part No.   |
|---|---|-----------|------------|
|  | <b>VM242A BasicMes-2 handheld measuring computer</b><br>For all sizes. Computer is supplied with case and accessories |           |            |
|   |   |           | VM242A0101 |
|  | <b>VS2600 Spare set of 2 pressure test cocks G<sup>1</sup>/<sub>4</sub>"</b><br>For all sizes.                        |           |            |
|   |   |           | VS2600C001 |
|  | <b>VS5501 Shut-off valve for impulse tube</b><br>For all sizes.   |           |            |
|   |   |           | VS5501A008 |

**Spare Parts**

| Overview  | Description                    | Dimension | Part No.    |
|---|--------------------------------|-----------|-------------|
|  | <b>1 Replacement inserts</b>   |           |             |
|   |                                | DN15      | V5001SZ2015 |
|   |                                | DN20      | V5001SZ2020 |
|   |                                | DN25      | V5001SZ2025 |
|   |                                | DN32      | V5001SZ2032 |
|   |                                | DN40      | V5001SZ2040 |
|   |                                | DN50      | V5001SZ2050 |
|   | <b>2 Insulation shells</b>     |           |             |
|   |                                | DN15      | VA2510D015  |
|   |                                | DN20      | VA2510D020  |
|   |                                | DN25      | VA2510D025  |
|   |                                | DN32      | VA2510D032  |
|   |                                | DN40      | VA2510D040  |
|   |                                | DN50      | VA2510D050  |
|   | <b>3 Measurement DN15-DN25</b> |           |             |
|   |                                | DN15      | VA5001A001  |
|   |                                | DN20      |             |
|   |                                | DN25      |             |
|   | <b>4 Measurement DN32-DN50</b> |           |             |
|   |                                | DN32      | VA5001A002  |
|   | DN40                           |           |             |
|   | DN50                           |           |             |