Braukmann V9406

Verafix-Cool

Combined measuring and control valve

APPLICATION

V9406 Verafix-Cool control and measuring valves are preferably installed in the return of heat exchangers, for example fan coil units or chilled ceilings. They regulate the room temperature by controlling the flow in connection with an actuator.

With the V9406 Verafix-Cool the flow can either be preset according to the diagram on page 6 or, in combination with a measuring instrument, by flow measurement.

SPECIAL FEATURES

- Flow measuring and presetting on one valve at the same time
- Six functions in one valve: control, presetting, shut-off, measuring, draining and filling
- Compact design
- Suitable for operating pressures up to 16 bar
- Robust, low-noise and flow-efficient valve housing made of corrosion-resistant red bronze

TECHNICAL DATA

Media	
Medium:	Water or water-glycol mixture, quality to VDI 2035
pH-value:	8 - 9.5
Connections/Sizes	
Nominal size:	DN15
Pressure values	
Max. operating pressure:	max. 16 bar (232 psi)
Operating temperatures	
Water:	2 - 130 °C (36 - 266 °F)
Water-glycol mixtures:	2 - 110 °C (36 - 230 °F)
Specifications	
k_{vs} ($_{cv}$)-values:	2.5 (2.91)
Max. close-off pressure with 180N actuator:	1.0 bar (14.5 psi)
Leakage rate:	0.02 % of k_{vs}-value
Rangeability:	50:1
Stroke:	3 mm
Closing dimension:	11.5 mm
Actuator connection:	M30 x 1.5

CONSTRUCTION

Overview		Components	Materials
	**1**	Presettable control insert with protection cap	White plastic
	2	Valve housing PN16, DN15 with 3/4" flat sealing external threads to DIN/ISO 228. Suitable pipe connections see 'Accessories'	Red bronze
		Not depicted components:	
		Measuring insert with cap	Brass with PTFE sealing ring
		Union-nuts and sealings	Brass with EPDM sealing rings
		Valve insert	Brass with EPDM O-rings and soft seals

METHOD OF OPERATION

The V9406 Verafix-Cool is installed in the return of a heat exchanger and controlled by an actuator. The actuator acts onto the spindle of the control insert and in this way regulates the flow through the valve. In a cooling application the actuator closes the valve when the room temperature drops and opens the valve when the room temperature rises. The V9406 Verafix-Cool can also be used for heating applications, in this case operation is the other way round.

Without mounted actuator the valve is normally open. The maximal flow rate can be throttled by presetting the control insert. Presetting is either done according to the flow diagram on page 6 or by flow measurement. A measuring instrument can be connected to the valve by using the V9406 Verafix-MES adapter (accessory). Presetting and flow measurement can be done at the same time. The effect of a changed presetting is immediately displayed by the measuring instrument.

The V9406 Verafix-Cool can optionally be installed in the supply. In that case the draining function isn't available for the connected heat exchanger as the part of the system before the V9406 Verafix-Cool is drained.

Suitable Actuators

- M6410/M7410 with 180N

Marking

- MNG, DN15 and flow arrow on front
- MNG, PN16 and flow arrow on back
- White manual adjustment cap on top
- Brass nickel-plated protection cap with 19 mm hexagon on bottom

INSTALLATION GUIDELINES

Installation Example

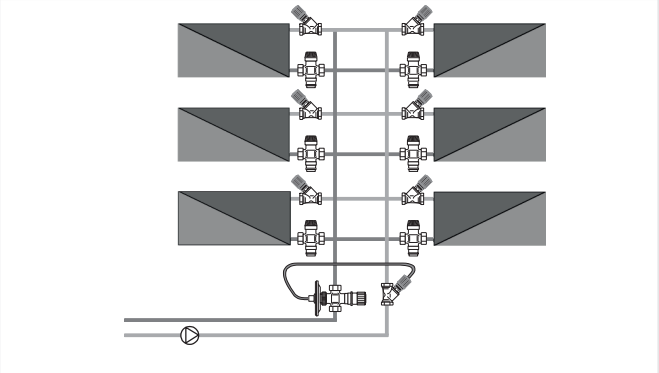


Fig. 1 Regulation of chilled ceilings: a V9406 Verafix-Cool is fitted in the return pipe of chilled ceiling systems.

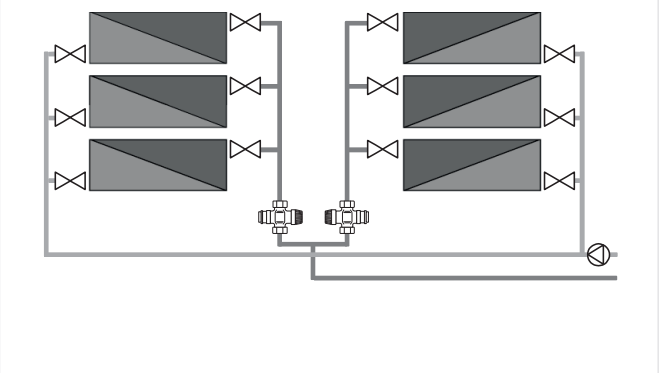
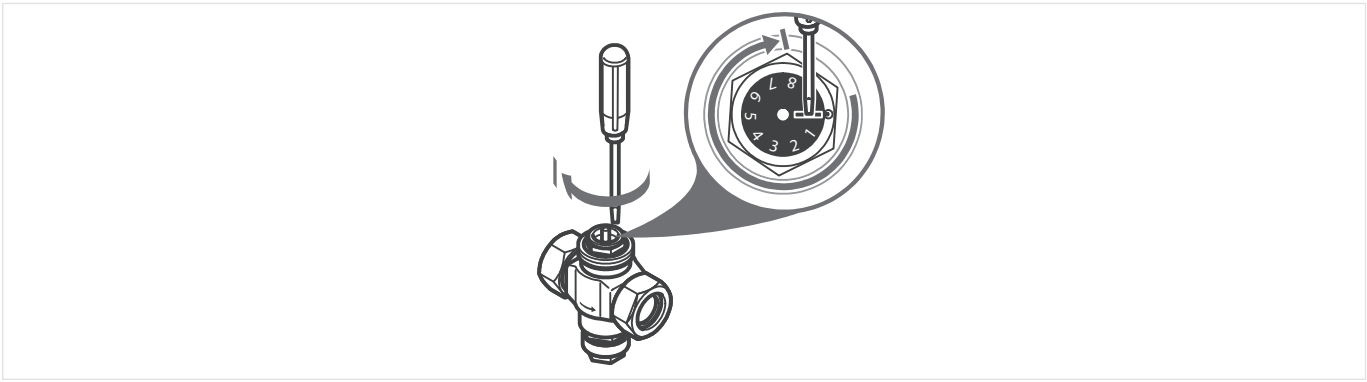


Fig. 2 Due to the high kvs-value, a single V9406 Verafix-Cool can be used to control several ceiling elements connected in parallel.

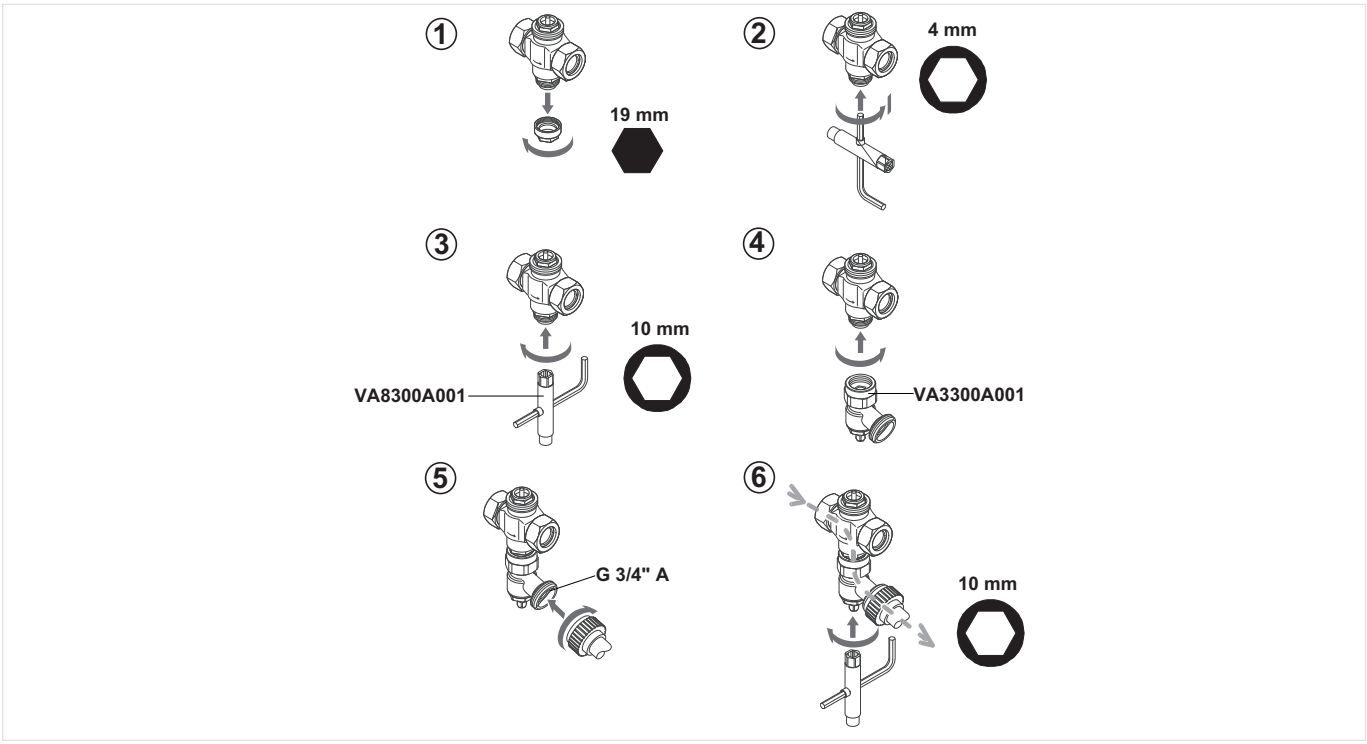
Shut-off



Use protection cap for longer-term shut-off

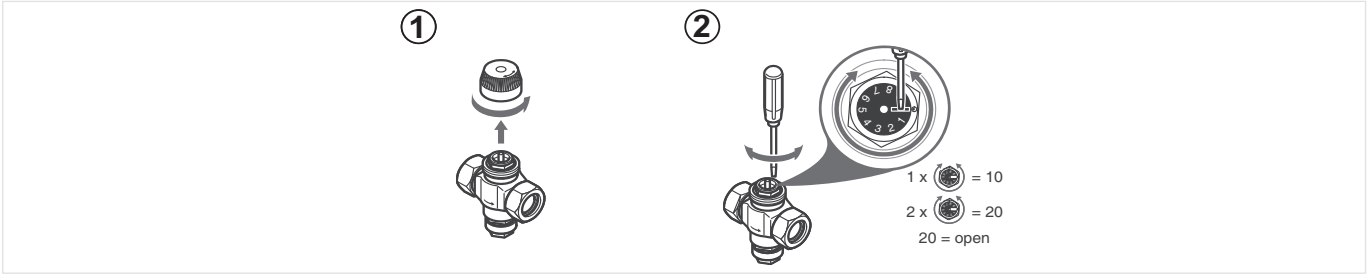
Presetting:	5	8	13	16.0	20 = open
k_V-value:	0.63	1.0	1.6	2.0	2.5
cv-value:	0.73	1.16	1.86	2.33	2.91

Draining and Filling



Flow of water during draining

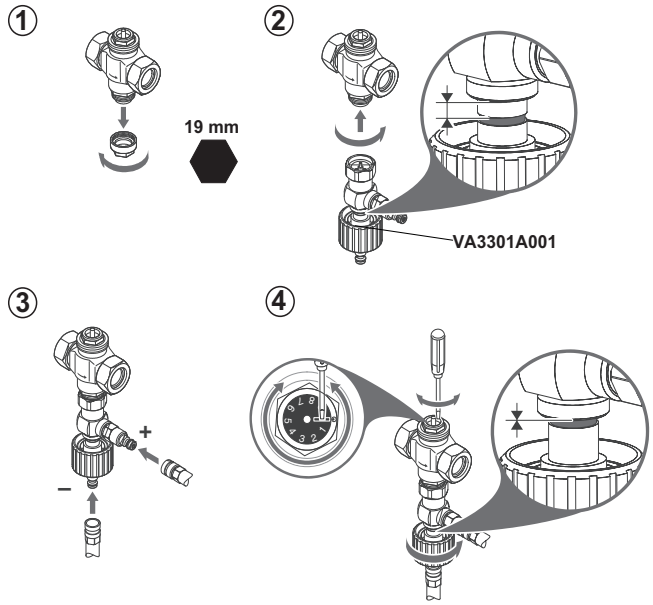
Presetting



Factory setting = 20

Turn back to required pre-setting

Measuring and Presetting



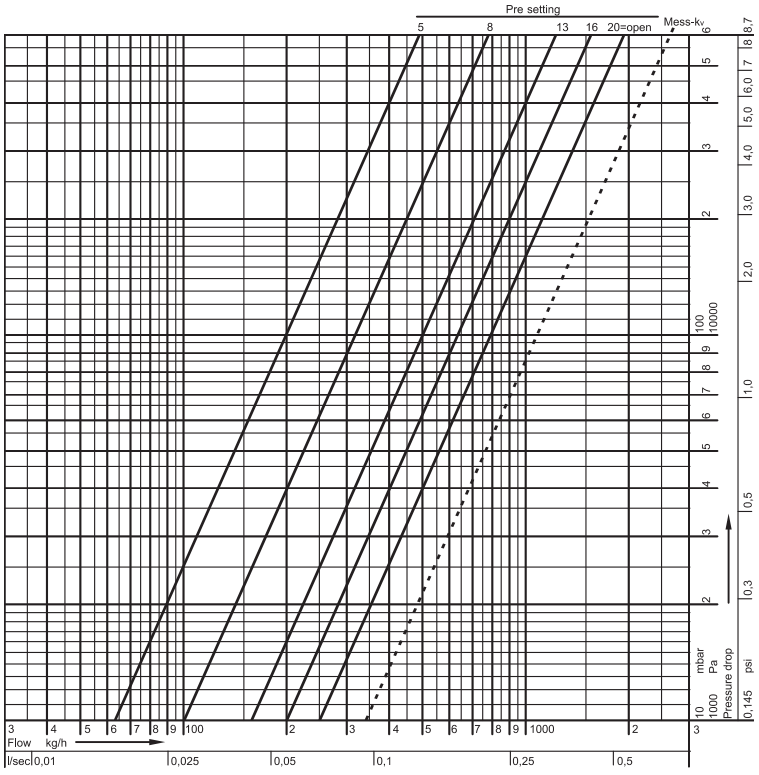
TECHNICAL CHARACTERISTICS

kvs-Values

Presetting:	5	8	13	16	20 = open
k_v-value:	0.63	1.0	1.6	2.0	k_{vs} = 2.5
cv-value:	0.73	1.16	1.86	2.33	2.91

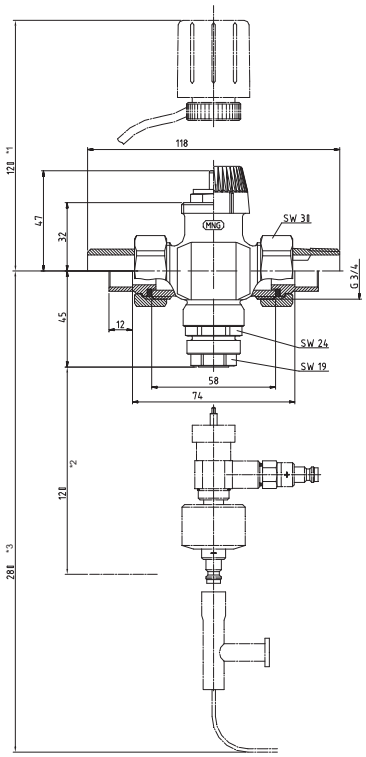
Note: Flow data is only valid for water with a temperature of 5 - 30 °C (41 - 86 °F) When other temperatures or liquids are used the data may vary - see Reference Sheet 'Calculation of Flow Data' (EN0H-0221GE25).

Flow Data



DIMENSIONS

Overview



*1 for installation of actuator

*2 for connection of draining adapter

*3 for connection of measuring adapter

Note: All dimensions in mm unless stated otherwise.

Note: Supplied with manual adjustment cap and union-nuts with sealings. Actuator, draining adapter and measuring adapter have to be ordered separately (see Accessories).

ORDERING INFORMATION

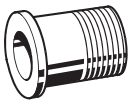
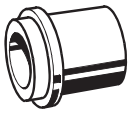
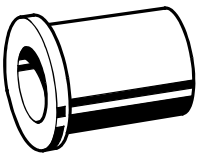
The following tables contain all the information you need to make an order of an item of your choice. When ordering, please always state the type, the ordering or the part number.

Options

Order text:	DN:	Connection size:	k_{VS} (c_{VS})-value:	OS-No.:
V9406 Verafix-Cool control and measuring valve	15	G 3/4"A	2.5 (2.91)	V9406DX015

Accessories

	Description		Dimension	Part No.
	**VA3300**	**Draining adapter**		
				VA3300A001
	**VA8300**	**Special Verafix-key**		
				VA8300A001

	**VA3301**	**Measuring adapter**		
				VA3301A001
	**VA5500**	**Externally threaded brass tailpiece, flat sealing**		
		to DIN 2999	$R^1/_2$"	VA5500A015
		NPT thread !	$NPT^1/_2$"	VA5501A015
	**VM242A**	**BasicMes-2 handheld measuring computer** Note: To connect the VM241 BasicMes to SafeCon™ pressue test cocks please order measuring adapter VA3600C001 separately.		
		Computer is supplied with case and accessories	for all sizes	VM242A0101
	**VA5930**	**Brass soldering tailpiece, flat sealing**		
			15 mm	VA5930A015
			16 mm	VA5930A016
	**VA5540**	**Steel welding tailpiece, flat sealing**		
			$^1/_2$"	VA5540A015
	**VA5920**	**Internally threaded nickel-plated brass tailpiece, flat sealing**		
			$Rp^1/_2$"	VA5920A015

Manufactured for
and on behalf of
Pittway Sàrl, Z.A., La Pièce 4,
1180 Rolle, Switzerland
by its authorised representative
Ademco 1 GmbH

For more information
homecomfort.resideo.com/europe
Ademco 1 GmbH, Hardhofweg 40,
74821 MOSBACH, GERMANY
Phone: +49 6261 810
Fax: +49 6261 81309

Subject to change. EN0H-0198GE25 R0420