



# resideo Balancing valves

## Braukmann V5003F Kombi-VX

Presetable flow control valve

### APPLICATION

The V5003F Kombi-VX is an automatic balancing valve. It is designed for balancing of heating and cooling systems by providing a constant flow rate even under changing pressure conditions. The flow rate can be externally adjusted via presettings.

### SPECIAL FEATURES

- Valve insert in cartridge design
  - easily removable for flushing
  - easily exchangeable
- Pressure measuring ports on same side as presetting
- Robust against dirt, residue, deposit and critical medium
- Various versions for different flow ranges and differential pressure ranges available
- Compact design of both valve housing and valve insert
- Valve inserts with clear digital display of presetting value
- Simplified measuring with SafeCon™ pressure test connections
- Maintenance free design




### TECHNICAL DATA

Media	
Medium:	Water or water-glycol mixture, quality to VDI 2035 (up to 50 % Glycol)
Pressure values	
Max. operating pressure:	PN25
Differential pressure:	see Ordering information
Factory presetting:	4.2
Operating temperatures	
Water:	-20 - 120 °C (-4 - 248 °F)
Water-glycol mixtures:	-20 - 110 °C (-4 - 230 °F)

- Note: To avoid stone deposit and corrosion the composition of the medium should conform with VDI-Guideline 2035
- Note: Additives have to be suitable for EPDM sealings
- Note: System has to be flushed thoroughly before initial operation. Valve inserts must be removed before flushing and all valve openings sealed by blind caps (see 'Accessories' above)
- Note: Any complaints or costs resulting from non-compliance with above rules will not be accepted
- Note: Please contact us if you should have any special requirements or needs

## CONSTRUCTION

Overview	Components	Materials
	<b>1</b> Valve housing PN25, DN15 - 50 with internal threads (ISO 228)	Brass CuZn40Pb2
	<b>Not depicted components:</b>	
	Presettable valve insert	Brass, stainless steel and plastic with rubber diaphragm and EPDM o-rings
SafeCon™ pressure test valves with dust caps	Brass and rubber	

## METHOD OF OPERATION

The flow control cartridges of the V5003F Kombi-VX contains two interacting components. One that has an adjustable orifice and one that regulates the pressure differential across the adjustable orifice. The result is a constant flow rate through the valve, independent of changing pressure conditions.

It is recommended to remove the valve insert and install a blind cap for system flushing.

### Installation Example

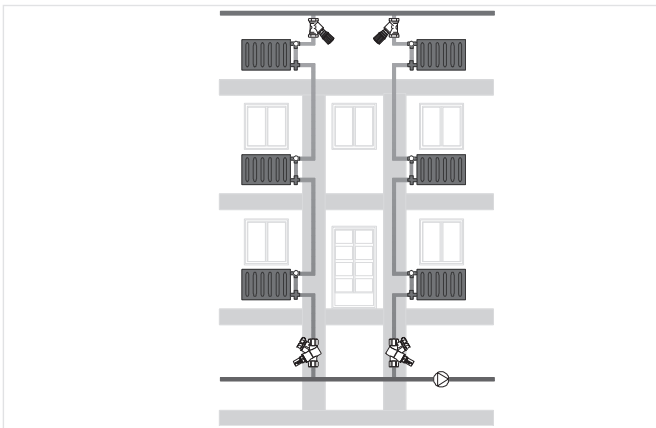


Fig. 1 Chilled Ceiling, 2-pipe system

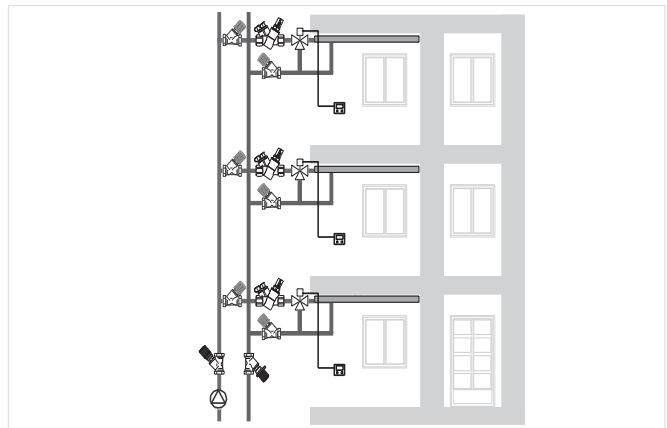


Fig. 3 Fan-Coil Unit, 4-pipe system

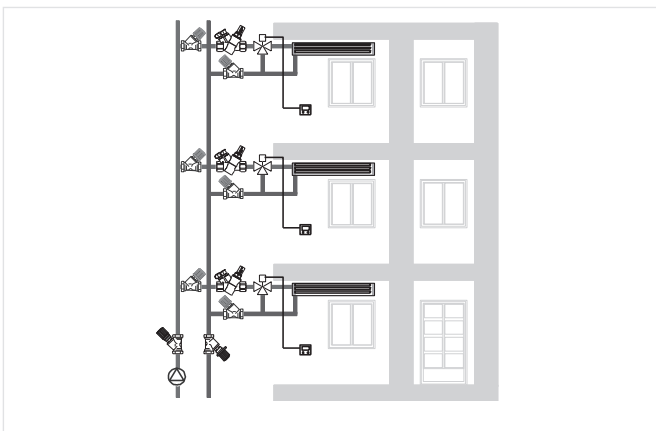


Fig. 2 Fan-Coil Unit, 2-pipe system

## TECHNICAL CHARACTERISTICS

### Flow Rate

V5003FY10.. (DN15 - 25)			
with valve insert	V5003FZ101 50412	V5003FZ101 50825	V5003FZ101 50825
Colour	black-white pawl	green white pawl	red-white pawl
$\Delta p$ (mbar)	170-2100	170-2100	170-2100
Presetting	[l/hr]	[l/hr]	[l/hr]
1.0	100	157	276
1.5	140	210	360
2.0	180	270	440
2.5	220	330	520
3.0	260	380	600
3.5	300	440	670
4.0	330	500	730
4.5	370	550	780
5.0	412	609	825

V5003FY20.. (DN15 - 25)			
with valve insert	V5003FZ201 50615	V5003FZ201 50896	V5003FZ201 51270
Colour	black-grey pawl	green-grey pawl	red-grey-pawl
$\Delta p$ (mbar)	350-4000	350-4000	350-4000
Presetting	[l/hr]	[l/hr]	[l/hr]
1.0	138	238	406
1.5	200	320	510
2.0	260	400	620
2.5	320	490	730
3.0	380	570	840
3.5	440	650	940
4.0	500	730	1050
4.5	560	810	1160
5.0	615	896	1270

Accuracy: Greatest of either  $\pm 5\%$  of controlled flow rate or  $\pm 2\%$  of maximum flow rate.

V5003FY10.. (DN25 LI - 32)	
with valve insert	V5003FZ10325020
Colour	green/black-white pawl
$\Delta p$ (mbar)	170-4000
Presetting	[l/hr]
1.0	535
1.5	1730
2.0	2690
2.5	3470
3.0	4100
3.5	4620
4.0	5050
4.5	5440
5.0	5830

V5003FY10.. (DN40 - 50)	
with valve insert	V5003FZ10501610
Colour	black/champagne-grey pawl
$\Delta p$ (mbar)	200-4000
Presetting	[l/hr]
1.0	3180
1.5	7070
2.0	9570
2.5	11200
3.0	12400
3.5	13400
4.0	14400
4.5	15300
5.0	16100

Accuracy: Greatest of either  $\pm 5\%$  of controlled flow rate or  $\pm 2\%$  of maximum flow rate.

### Pressure drop characteristics

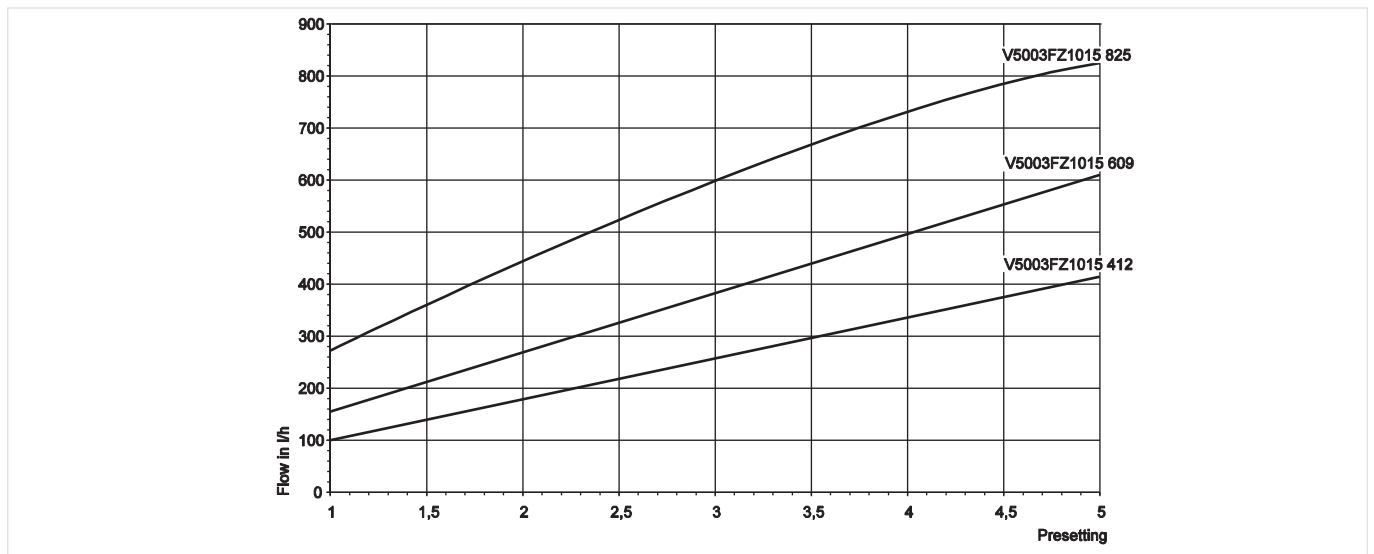


Fig. 4 Presetting Diagram Kombi VX V5003FY10

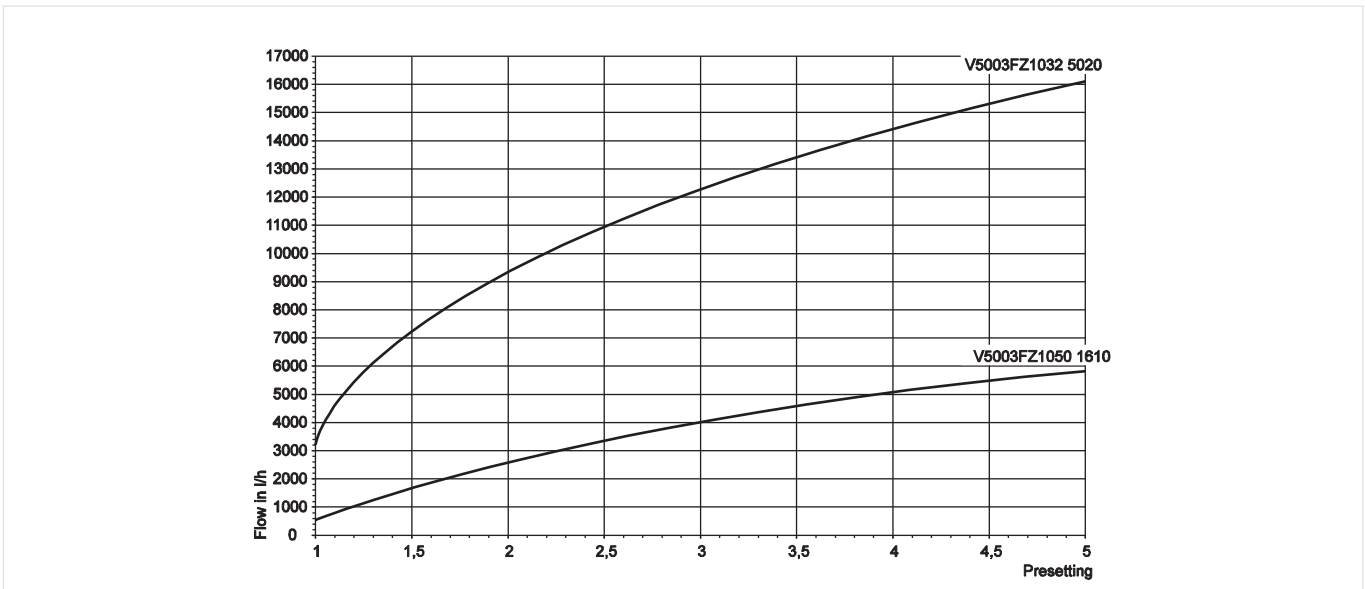


Fig. 5 Presetting Diagram Kombi VX V5003FY10

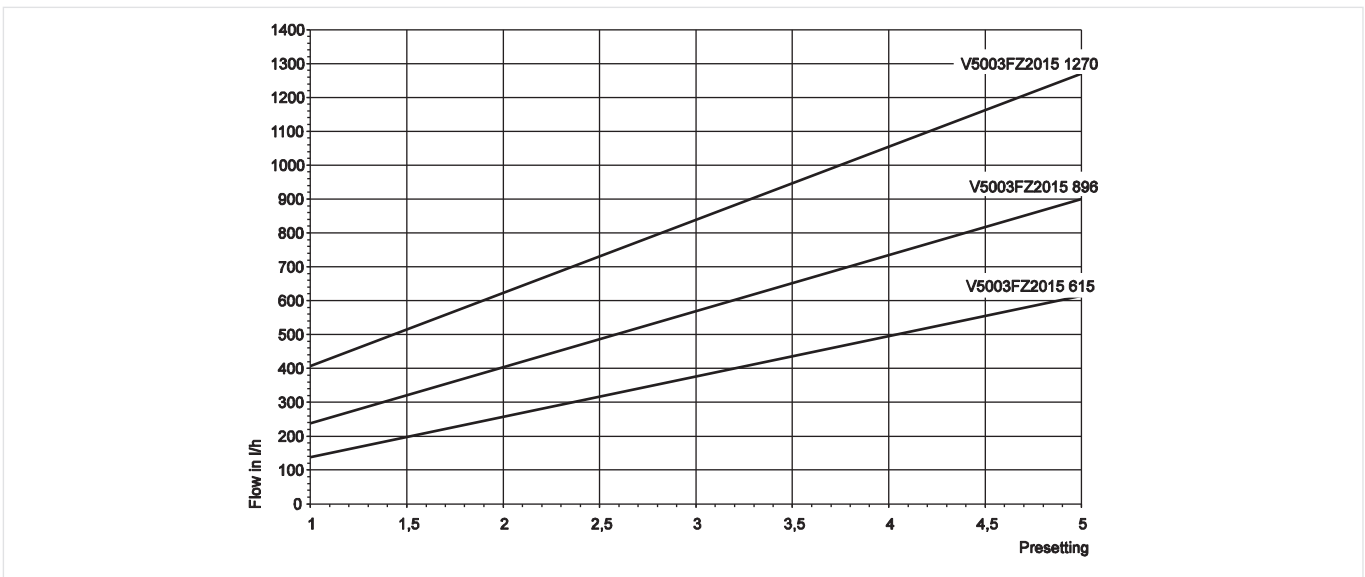
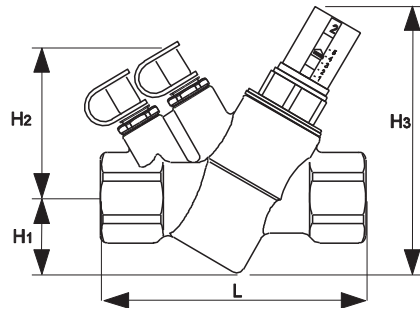


Fig. 6 Presetting Diagram Kombi VX V5003FY20

## DIMENSIONS

### Overview



Parameter		Values						
Connection size:	R	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	2"
Nominal sizes:	DN	15	20	25	25 LI*	32	40	50
Weight:	kg	0.55	0.62	0.65	1.87	1.69	3.86	3.48
Dimensions:	H <sub>1</sub>	31	31	31	46	46	54	54
	H <sub>2</sub>	68	68	65	82	82	90	90
	H <sub>3</sub>	110	110	110	146	146	171	171
	L	83	95	102	128	128	169	169

\* LI = large insert

Note: All dimensions in mm unless stated otherwise.



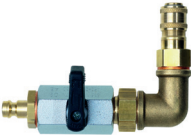



## ORDERING INFORMATION

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

Nominal size diameter:	Differential pressure:		Flow range:		OS-No.:
	(kPa)		(l/h)		
DN	min.	max.	min.	max.	
15	17	210	100	412	V5003FY10150412
15	17	210	157	609	V5003FY10150609
15	17	200	276	825	V5003FY10150825
15	35	400	138	615	V5003FY20150615
15	35	400	238	896	V5003FY20150896
15	30	400	406	1270	V5003FY20151270
20	17	210	100	412	V5003FY10200412
20	17	210	157	609	V5003FY10200609
20	17	200	276	825	V5003FY10200825
20	35	400	138	615	V5003FY20200615
20	35	400	238	896	V5003FY20200896
20	30	400	406	1270	V5003FY20201270
25	17	210	100	412	V5003FY10250412
25	17	210	157	609	V5003FY10150609
25	17	200	276	825	V5003FY10250825
25	35	400	138	615	V5003FY20250615
25	35	400	238	896	V5003FY20250896
25	30	400	406	1270	V5003FY20251270
25(LI)	17	400	535	5830	V5003FY10265020
32	17	400	535	5830	V5003FY10325020
40	20	400	3180	16100	V5003FY10401610
50	20	400	3180	16100	V5003FY10501610

## Accessories

	Description	Dimension	Part No.
	<b>VA5003 Presetting key</b>		
		for all sizes	VA5003ZA001
	<b>VA5003 Brass blind cap</b>		
		for valve size DN15 - DN25	VA5003ZA003
		for valve size DN25 (LI) - DN32	VA5003ZA004
		for valve size DN40 - DN50	VA5003ZA005
	<b>VA3600 Measuring adapter (2 pcs.)</b>		
	Conversion connector for measuring balancing and Non measuring instrument. SafeCon female connection to Rectus 21 male connection with ball valve.		VA3600C001
	<b>VA2601 Extension piece for pressure test cocks, length 45 mm, for insulated valves</b>		
		for all dimensions	VA2601A008
	<b>VM242A BasicMes-2 handheld measuring computer</b>		
	Note: To connect the VM241 BasicMes to SafeCon™ pressure test cocks please order measuring adapter VA3600C001 separately.		
	Computer is supplied with case and accessories	for all sizes	VM242A0101
	<b>VA5032A Draining adapter for SafeCon™ connections</b>		
	Can be used to drain the water from a SafeCon connection provided on the balancing valve families		
		for all dimensions	VA5032A001