

VQB015T...025T

Kombi-QB

PRESSURE INDEPENDENT BALANCING AND CONTROL VALVES

PRODUCT DATASHEET



APPLICATION

Kombi-QB is pressure independent control valve for flow balancing in heating and cooling systems. They ensure precise flow control even under changing pressure conditions and equipped with an actuator modulating flow control. It is suitable for use in variable and constant flow system and precisely set to the required flow volume in flow systems.

Kombi-QB is typically used for balancing and control of fan coil units, air handling units, chilled ceilings and one-pipe heating systems.

FEATURES

- Sizes DN15...DN25 with internal and external threads (DIN EN 10226-1)
- Valve body PN25
- Easily adjustable for pre-set with flow scale on outside of valve
- Valve insert in modular design and easily exchangeable
- Pre-setting possible even when the system is running and an actuator is already mounted
- Emergency shutoff function with protection cap

MATERIALS

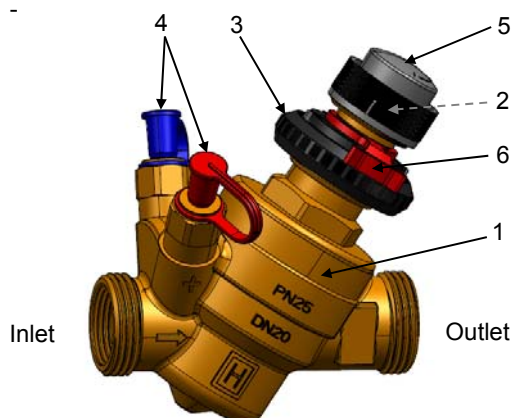
- Forged brass valve body
- Stainless steel stem
- EPDM diaphragm
- EPDM sealings

SPECIFICATIONS

Product name	Kombi-QB		
Nominal size (DN)	15	20	25
Medium	Water or water-glycol mixture, quality to VDI 2035 (up to 50% Glycol)		
pH-value	8...9.5		
Operating temperature	-10 ~ 120 °C (25 ~ 248 °F)		
Operating pressure (PN)	max. 25 bar (363 psi)		
Flow range	180...900 l/h (3.0...15.0 lpm)	300...1,500 l/h (5.0...25.0 lpm)	480...2,400 l/h (8.0 ~ 40.0 lpm)
Flow accuracy	± 10 % of controlled flow rate (@ VDI-Guideline2035 Medium Condition)		
Combined Actuators	On/off and Modulating actuators		
Operating differential pressure range	0.3 ~ 4.0 bar (60 psi)		
Stroke	3.0 mm (H100: 13.9 mm, H0: 10.9 mm)_DN15 valve 6.5 mm (H100: 17.8 mm, H0: 11.3 mm)_DN20, DN25 valve		
Pressure measurement port	Pressure test cock G1/4" (+ : P1 / - : P3)		

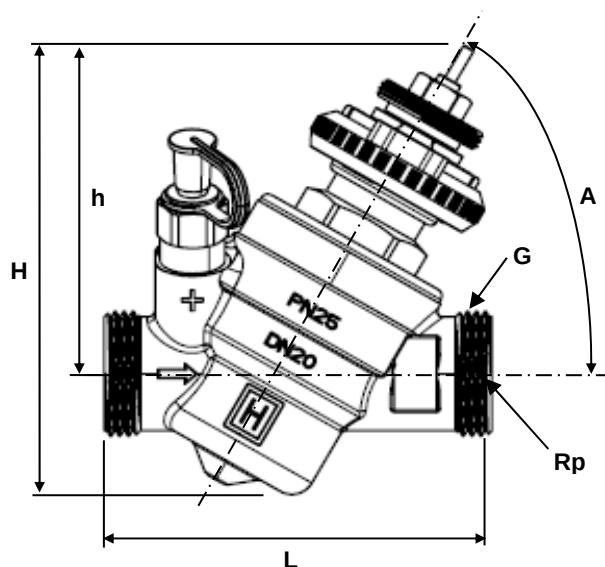
OVERVIEW

VQB015T...025T Kombi-QB (DN15...DN25)

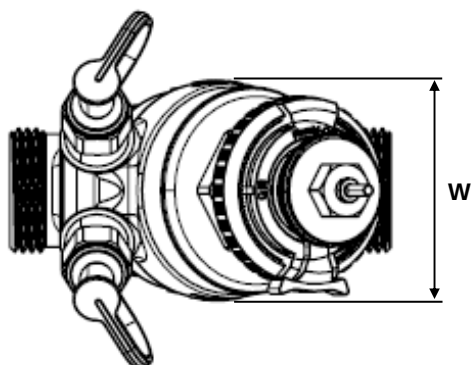


1. Constant pressure regulator & flow controller
2. Interface for connection of Honeywell linear actuators
3. Flow pre-setting hand wheel with scale from 20% to 100%
Pre-setting without tools possible
4. SafeCon™ pressure test valve with color marked protection cap
5. Protection cap - can be used as emergency shutoff knob
6. Lockable pre-setting c-ring

DIMENSIONS



DN	15	20	25
H	112	118	133
h	81	86	93
L	96	101	118
A	60°		
W	51	54	67



DN	15	20	25
G (external)	3/4"	1"	1 1/4"
Rp (internal)	1/2"	3/4"	1"

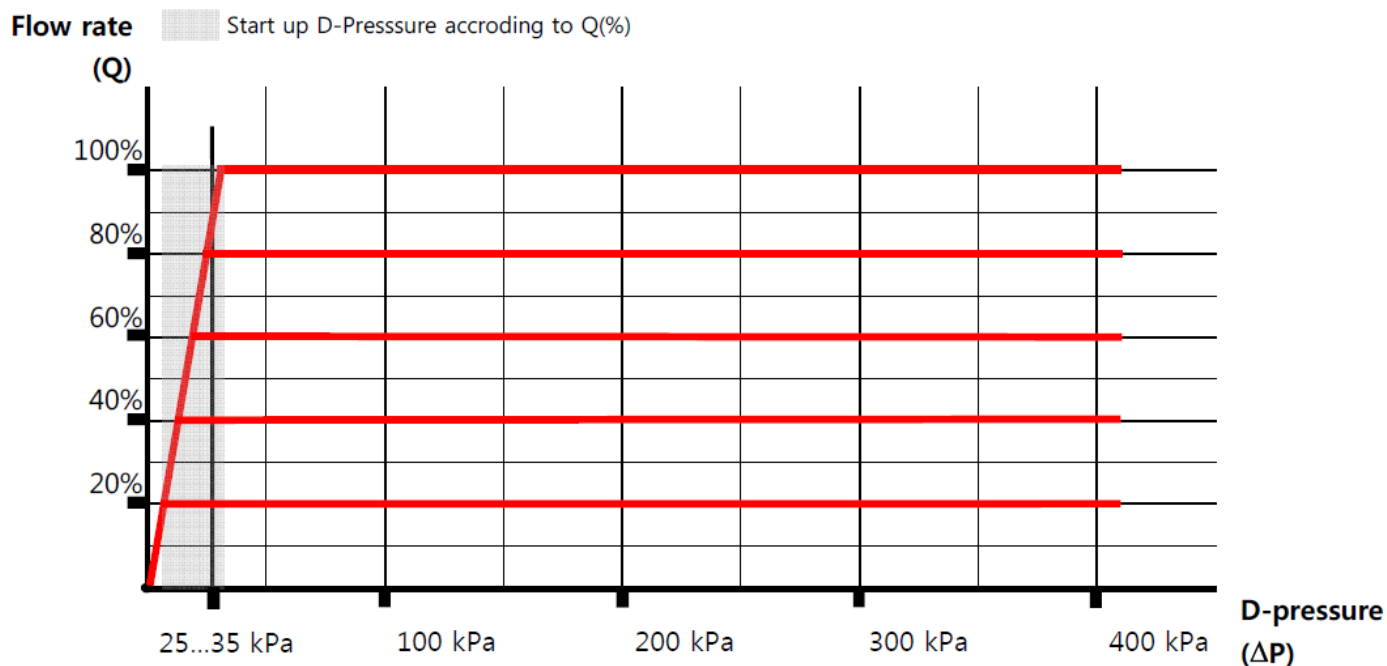
ORDERING INFORMATION

OS-Nos (OS=Ordering Specification)

Order text	DN size	Flow range		Differential pressure range		Weight [Kg]	OS-No.*
		Min. flow [l/h] (lpm)	Max. flow [l/h] (lpm)	ΔPmin [kPa]	ΔPmax [kPa]		
Linear valve VQB015T...025T Kombi-QB with internal & external threads to DIN EN 10226-1	15	180 (3.0)	900 (15.0)	30	400	0.8	VQB015T-B
						0.9	VQB015T-C
						1.1	VQB015T-C-VC
	20	300 (5.0)	1500 (25.0)			1.0	VQB020T-B
						1.1	VQB020T-C
						1.3	VQB020T-C-VC
	25	400 (8.0)	2400 (40.0)			1.6	VQB025T-B
						1.7	VQB025T-C
						1.9	VQB025T-C-VC

NOTE : * VQB0xxT-B (Blind type_Option version) / VQB0xxT-C (Cock type_Standard version) / VQB0xxT-C-VC (Cock type for VC actuators version)

FLOW DATA



FLOW RATE

OS-No.	Pre-setting	100% **	90%	80%	70%	60%	50%	40%	30%	20% *
	Flowrate									
VQB015T-B VQB015T-C VQB015T-C-VC	[l/h]	900	810	720	630	540	450	360	270	180
	(lpm)	15.0	13.5	12.0	10.5	9.0	7.5	6.0	4.5	3.0
VQB020T-B VQB020T-C VQB020T-C-VC	[l/h]	1500	1350	1200	1050	900	750	600	450	300
	(lpm)	25.0	22.5	20.0	17.5	15.0	12.5	10.0	7.5	5.0
VQB025T-B VQB025T-C VQB025T-C-VC	[l/h]	2400	2160	1920	1680	1440	1200	960	720	480
	(lpm)	40.0	36.0	32.0	28.0	24.0	20.0	16.0	12.0	8.0

NOTE : * Recommend min. pre-setting flowrate is 20% of Q100%.

** When using modulating actuators(0...10 Vdc), linear characteristic of flowrate is to be best at Q100% setting.

1) Actuator Selection

For Valves with 3.0 mm stroke

VQB015T Kombi-QB (DN15)

No.	Descriptions	OS-No.
1	<u>Actuator thermoelectric</u> 4.0 mm effective stroke, 90 N, (24 Vac, 230 Vac) On/Off (2 wire)	MT4-024-NO MT4-024-NC MT4-230-NO MT4-230-NC
2	<u>Actuator thermoelectric</u> 4.0 mm effective stroke, 100 N, (24 Vac, 24 Vdc) Modulating 0...10 Vdc (3 wire) Cable for M4410 actuator, 1 m, 10 pcs	M4410E1510 ** M4410K1515 ** M44-MOD-1M
3	<u>Actuator motorized</u> 2.9 mm effective stroke, 90 N, (24 Vac) Modulating 0/2...10 Vdc (3 wire)	M7410E5001 **
4	<u>Actuator fast motorized</u> <u>SPST</u> 4.0 mm effective stroke, 120 N, (220 Vac) On/Off (3 wire)	MC2000A-LED-G MC2000E-G
5	<u>Actuator fast motorized</u> <u>SPST, SPDT</u> 10.0 mm effective stroke, 110 N, (220 Vac) On/Off Spring return (2 wire)	VC4043ZZ11T
6	<u>Actuator fast motorized</u> <u>SPST</u> 10.0 mm effective stroke, 90 N, (220 Vac) On/Off Non-Spring return (3 wire)	VC4013
7	<u>Actuator motorized</u> <u>SPDT</u> 10.0 mm effective stroke, 170 N, (230 Vac) Floating (3 wire)	VC6983ZZ1111T

For Valves with 6.5 mm stroke

VQB020T, VQB025T Kombi-QB (DN20, DN25)

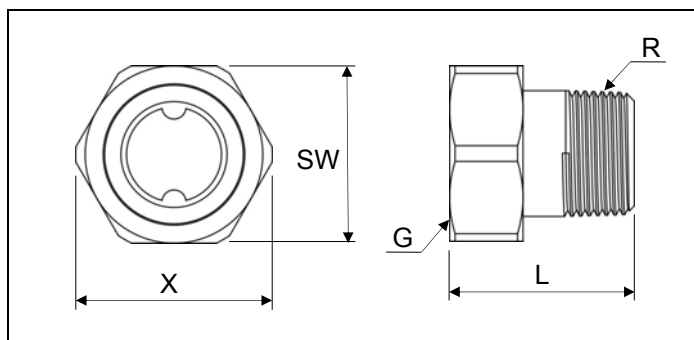
No.	Descriptions	OS-No.
1	<u>Actuator thermoelectric</u> 6.5 mm effective stroke, 90 N, (24 Vac, 230 Vac) On/Off (2 wire)	MT8-024-NO MT8-024-NC MT8-230-NO MT8-230-NC
2	<u>Actuator fast motorized</u> <u>SPST, SPDT</u> 10.0 mm effective stroke, 110 N, (220 Vac) On/Off Spring return (2 wire)	VC4043ZZ11T
3	<u>Actuator fast motorized</u> <u>SPST</u> 10.0 mm effective stroke, 160 N, (220 Vac) On/Off Non-Spring return (3 wire)	VC4013
4	<u>Actuator motorized</u> 6.5 mm effective stroke, 180 N, (24 Vac) Modulating 0/2...10 Vdc (3 wire)	M7410E1002 ** M7410E2026 ** M7410E4022 **
5	<u>Actuator motorized</u> 10.0 mm effective stroke, 180 N, (24 Vac) Modulating 0/2...10 Vdc (3 wire)	VC7931ZZ11T *

NOTE : Zero point of valve(Q zero) should be always closed position when using modulating actuators.

* Input signal of VC7931 should be supplied from 10 Vdc(valve closed) to 0 Vdc(valve open) for increasing Q.

** Input signal of M7410 and M4410 actuator should be supplied from 0 Vdc(valve closed) to 10 Vdc(valve open) for increasing Q.

2) Connection Union

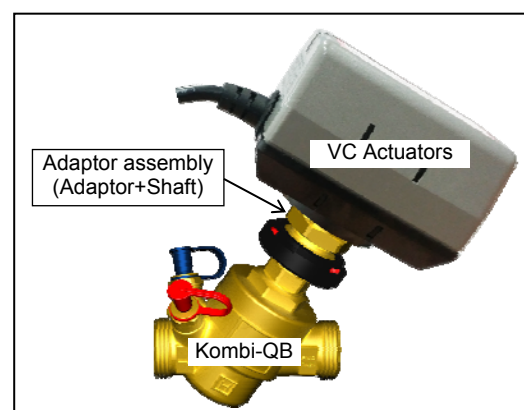
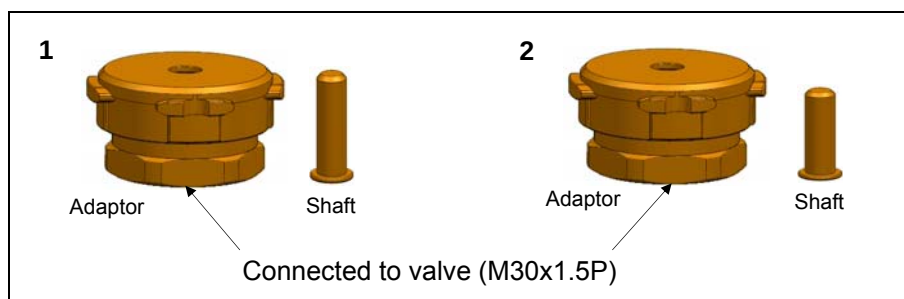


DN	SW	X	L	OS-No.
15	30	(34)	37	G-116267
20	37	(41)	40	G-116268
25	46	(50)	48	G-116269

DN	15	20	25
G (internal)	3/4"	1"	1 1/4"
R (external)	1/2"	3/4"	1"

3) Adaptor assembly (Adaptor + Shaft)

For combining VC actuators



No.	Descriptions	OS-No.
1	Adaptor assembly (DN15 valve)	G-116684-Item
2	Adaptor assembly (DN20, DN25 valve)	G-116685-Item

4) Pressure Test port

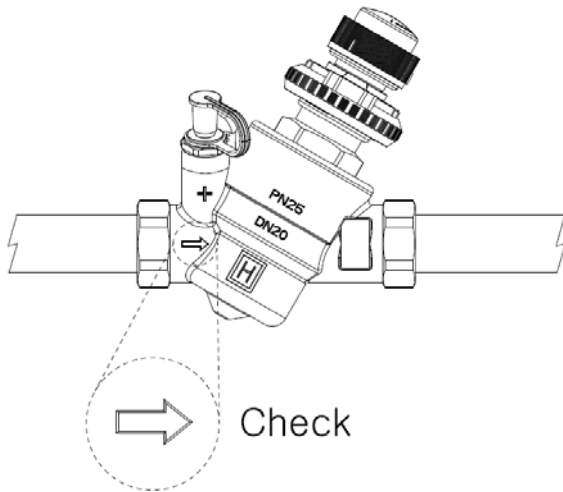


No.	Descriptions	OS-No.
1	Cock type (G 1/4" 1 set of 2 pcs)	G-116699-Item
2	Blind type (G 1/4" 1 set of 2 pcs)	G-116700-Item *

NOTE : * General pressure gauge can be used on test port for measuring pressure after blind removed, even if have no Honeywell specific pressure gauge

INSTALLATION GUIDELINES

INSTALLATION EXAMPLE



Connection size	G(external)	3/4 "	1 "	1 1/4 "
	DN	15	20	25
	W *	54	57	70

* Minimum distance from wall to centre line of pipework.

Installation Guidelines

- Check the flow direction of valve & pipework as the first step, water-hammer is occurred if valve is installed in the opposite direction !!
- Install in horizontal pipework with valve insert directed upwards
- Remove the valve before system flushing on pipework

Honeywell

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