

Honeywell | Field Devices

PRODUCT CATALOG 2016

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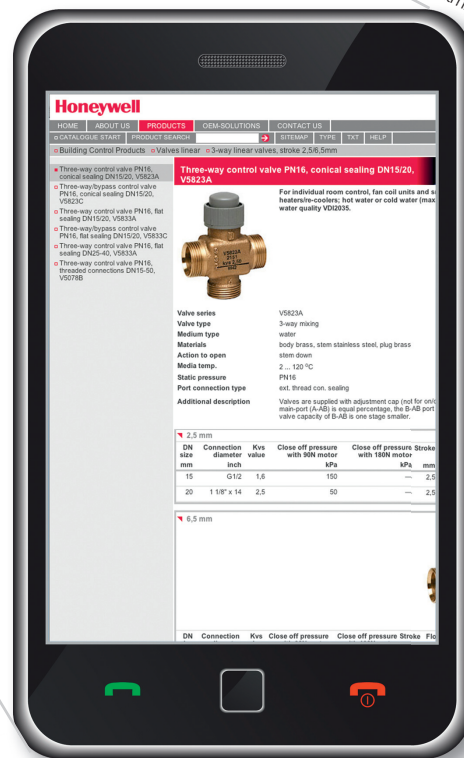
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Actuator 3-pt for zone control, 6,5 mm 180/300 N, M6410/M7410



http://products.ecc.emea.honeywell.com/europe/ecatdata/pg_v5823a.html



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Overview: Small linear actuators

1

SMALL LINEAR VALVES & ACTUATORS													
Control Mode			On/Off		Floating					Modulating			
PN16	Order No.		MT4	MT8 M5410	M7410A	M6410C/L M7410C	M6410C/L M7410C	ML6435B spring return	M4410	M7410E	M7410E	ML7430E	ML7435E spring return
Nominal			90 N	90 N	90 N	180 N	300 N	400 N	100 N	180 N	300 N	400 N	400 N
2-way	PN16	VSxx-2	●2)	●	●2)	●	–	–	●2)	●	–	–	–
	PN16	V5822A	●2)	●	●2)	●	–	–	●2)	●	–	–	–
	PN16	V5832A	●2)	●	●2)	●	–	–	●2)	●	–	–	–
	PN16	V5832B	–	–	–	–	●	●	–	–	●	●	●
	PN25	V5825B	–	–	–	–	●	●1)	–	–	●	●	●1)
3-way	PN16	VSxx-3	●2)	●	●2)	●	–	–	●2)	●	–	–	–
	PN16	V5078B	–	–	–	●	–	–	–	●	–	–	–
	PN16	V5823A/C	●2)	●	●2)	●	–	–	●2)	●	–	–	–
	PN16	V5833A/C DN15-20	●2)	●	●2)	●	–	–	●2)	●	–	–	–
	PN16	V5833A DN25-40	–	–	–	–	●	●	–	–	●	●	●

1) TÜV approval according to DIN EN 14597

2) Only for 2.5 mm valves

Small linear actuators, stroke 2,5/6,5mm



Actuator thermoelectric for zone control 2,5/6,5 mm 90 N, Smart-T

Electrical actuator on/off control, and PWM control.

Protection class	IP44
Position indication	with red indicator
End switch function/capacity	SPST, capacity 5(3) A; contact closes at power on
Stem force	90 N
Control input signal	2-pt
Additional description	Actuator supplied with mounting clip (MT-CLIP) and M30 x 1,5 adapter (MT-ADAPT-HW). • Other adapters on request. • Other cable length, or special connectors, on request. • Effective stroke for valves 2,5/6,5 mm; maximum stroke 4/8 mm. • Fits to closing dimension 11,5 +/- 0,3 mm

2,5 mm; 90 N

Supply voltage	Power loss action	Stroke mm	End switches	Runtime min	Initial current A	Cable length m	Type
24 Vac/dc	stem retracts	2,5	–	4	0,2	1	MT4-024-NO
24 Vac/dc	stem retracts	2,5	–	4	0,2	2,5	MT4-024-NO-2.5M
24 Vac/dc	stem retracts	2,5	1	4	0,2	1	MT4-024S-NO
24 Vac/dc	stem extends	2,5	–	4	0,2	1	MT4-024-NC
24 Vac/dc	stem extends	2,5	–	4	0,2	2,5	MT4-024-NC-2.5M
24 Vac/dc	stem extends	2,5	1	4	0,2	1	MT4-024S-NC
230 Vac	stem retracts	2,5	–	4	0,4	1	MT4-230-NO
230 Vac	stem retracts	2,5	–	4	0,4	2,5	MT4-230-NO-2.5M
230 Vac	stem retracts	2,5	1	4	0,4	1	MT4-230S-NO
230 Vac	stem extends	2,5	–	4	0,4	1	MT4-230-NC
230 Vac	stem extends	2,5	–	4	0,4	2,5	MT4-230-NC-2.5M
230 Vac	stem extends	2,5	1	4	0,4	1	MT4-230S-NC

6,5 mm; 90 N

Supply voltage	Power loss action	Stroke mm	End switches	Runtime min	Initial current A	Cable length m	Type
24 Vac/dc	stem retracts	6,5	–	6	0,2	1	MT8-024-NO
24 Vac/dc	stem retracts	6,5	–	6	0,2	2,5	MT8-024-NO-2.5M
24 Vac/dc	stem retracts	6,5	1	6	0,2	1	MT8-024S-NO
24 Vac/dc	stem extends	6,5	–	6	0,2	1	MT8-024-NC
24 Vac/dc	stem extends	6,5	–	6	0,2	2,5	MT8-024-NC-2.5M
24 Vac/dc	stem extends	6,5	1	6	0,2	1	MT8-024S-NC
230 Vac	stem retracts	6,5	–	6,5	0,4	1	MT8-230-NO
230 Vac	stem retracts	6,5	–	6,5	0,4	2,5	MT8-230-NO-2.5M
230 Vac	stem retracts	6,5	1	6,5	0,4	1	MT8-230S-NO
230 Vac	stem extends	6,5	–	6,5	0,4	1	MT8-230-NC
230 Vac	stem extends	6,5	–	6,5	0,4	2,5	MT8-230-NC-2.5M
230 Vac	stem extends	6,5	1	6,5	0,4	1	MT8-230S-NC

Small linear actuators, stroke 2,5/6,5mm

1

Accessories

Extra mounting clips; 10 units	MT-CLIP
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Plug-in cable (not for models with end switch)

Cable 2,5 meter; 10 units	MT-CABLE-2.5M
Cable 5 meter; 10 units	MT-CABLE-5M
Cable 10 meter; 10 units	MT-CABLE-10M

Adapters

Extra mounting adapters M30 x 1,5; 10 units	MT-ADAPT-HW
Mounting adapter for Herz/Polytherm valves; 10 units	MT-ADAPT-HP
Danfoss-RA adapter	EVA1-Danfoss
Mounting adapter for Velta -Compact Manifold	HCA1VEL



Actuator thermoelectric 0..10V for radiator/terminal units, 2,5 mm 100 N, M4410

Electrical actuator for (radiator) valves with connection size M30 x 1,5. The actuator is supplied with the M44-VA10 adapter (closing dimension 11,5 mm). This suits the following valves:

- V58xxA4, V58xxC4, VSO
- V300, V2000
- V2464, V2474

A separate adapter can be ordered (M44-VA50). With this adapter the actuator fits to the valves with closing dimension 10,5 mm.

Protection class	IP54
Stem force	100 N
Control input signal	0..10V=
Stroke	2,5 mm
Power loss action	stem extends
Runtime	75 s
Cable length	optional: 1, 3, 5 m
Required materials	check accessories
Additional description	Effective stroke for Honeywell valves 2,5 mm; maximum stroke 4 mm.

2,5 mm; 100 N

Supply voltage	Type
24 Vac	M4410E1510
24 Vdc	M4410K1515

Required Cable (old cable of MT010 actuators can also be used)

Cable with plug, 1 meter, 3 x 0,22 mm ² (1 piece)	M44-MOD-1M/U
Cable with plug, 1 meter, 3 x 0,22 mm ² (10 pieces)	M44-MOD-1M
Cable with plug, 3 meter, 3 x 0,22 mm ² (10 pieces)	M44-MOD-3M
Cable with plug, 5 meter, 3 x 0,22 mm ² (10 pieces)	M44-MOD-5M
Non-halogen cable with plug, 1 meter, 3 x 0,22 mm ² (1 piece)	M44-MOD-1MH/U
Non-halogen cable with plug, 1 meter, 3 x 0,22 mm ² (10 pieces)	M44-MOD-1MH
Non-halogen cable with plug, 3 meter, 3 x 0,22 mm ² (10 pieces)	M44-MOD-3MH
Non-halogen cable with plug, 5 meter, 3 x 0,22 mm ² (10 pieces)	M44-MOD-5MH

Valve Adapters M30 x 1,5

Valve adapter with closing dimension 11,5mm (10 pieces)	M44-VA10
Valve adapter with closing dimension 10,5mm (10 pieces)	M44-VA50

Small linear actuators, stroke 2,5/6,5mm



Actuator 3-pt for terminal unit/radiator, 2,5 mm 90 N, M7410A

Electrical actuator floating control, for valve series: V135, V136, V58..A4, V58..C4, VSO.

Protection class	IP43
Position indication	with red indicator
Supply voltage	24 Vac
Stem force	90 N
Control input signal	3-pt
Stroke	2,5 mm
Runtime	57 s
Additional description	Manual operation with valve cap.

2,5 mm; 90 N

	Cable length m	Type
	0,9	M7410A1001
	3	M7410A1001-3M

Accessories

Adapter for Danfoss RA2000	IRA-AD
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Fast motoric actuator for terminal unit/radiator, 6,5 mm 90 N, M5410

Electrical actuator on/off control, for valve series VS, V58.. DN15/20 and V100/V2000 TRV-series.

Protection class	IP54
Stem force	90 N
Control input signal	2-pt
Stroke	6,5 mm
Power loss action	stem retracts
Runtime	3,6/16 s
Cable length	1,5 m
Additional description	Manual operation with valve cap.

6,5 mm; 90 N

Supply voltage	Type
24 Vac/dc	M5410C1001
230 Vac	M5410L1001

Small linear actuators, stroke 2,5/6,5mm

1



Actuator 3-pt for zone control, 6,5 mm 180/300 N, M6410/M7410

Electrical actuator floating control.

Protection class	IP43/IP42
Position indication	with red indicator
End switch function/capacity	SPDT; capacity 1 A inductive, 5 A resistive
Control input signal	3-pt
Stroke	6,5 mm
Runtime	150 s
Additional description	For M7410-models, the valve cap can be used for manual adjustment. For models with 2 end switches, the 2 nd switch is adjustable.



6,5 mm; 180 N; for valve series: V5078B, V5822A, V5823A/C, V5832A, V5833A/C, VSM

Stem force N	Supply voltage	Manual operation	End switches	Cable length m	Type
180	24 Vac	–	–	1,5	M7410C1007
180	24 Vac	–	–	10	M7410C1007-10M
180	24 Vac	•	–	1,5	M6410C2023
180	24 Vac	•	2	1,5	M6410C4029
180	230 Vac	•	–	1,5	M6410L2023
180	230 Vac	•	2	1,5	M6410L4029

6,5 mm; 300 N; for valve series: V5825B, V5832B2, V5833A2

Stem force N	Supply voltage	Manual operation	End switches	Cable length m	Type
300	24 Vac	–	–	1,5	M7410C1015
300	24 Vac	•	–	1,5	M6410C2031
300	24 Vac	•	2	1,5	M6410C4037
300	230 Vac	•	–	1,5	M6410L2031
300	230 Vac	•	2	1,5	M6410L4037

Accessories

Adapter for valve series V5077B/V5078B	0903403
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Actuator 0/2..10V for zone control, 6,5 mm 180/300 N, M7410E

Electrical actuator modulating control.

Protection class	IP42
Position indication	with red indicator
End switch function/capacity	SPDT, capacity 1A inductive, 5A resistive
Supply voltage	24 Vac
Control input signal	0/2..10V=
Stroke	6,5 mm
Runtime	150 s
Cable length	1,5 m
Additional description	The control action is reversable. For M7410E1...-models, the valve cap can be used for manual adjustment. For models with 2 end switches, the 2 nd switch is adjustable.



Small linear actuators, stroke 2,5/6,5mm

1

6,5 mm; 180 N; for valve series: V5078B, V5822A, V5823A/C, V5832A, V5833A/C, VSM

Stem force (N)	Manual operation	End switches	Type
180	–	–	M7410E1002
180	•	–	M7410E2026
180	•	2	M7410E4022

6,5 mm; 300 N; for valve series: V5825B, V5832B2, V5833A2

Stem force (N)	Manual operation	End switches	Type
300	–	–	M7410E1028
300	•	–	M7410E2034
300	•	2	M7410E4030

Accessories

Adapter for valve series V5077B/V5078B	0903403
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Actuator 0/2..10V for district heating, DHWS, 6,5 mm 400 N, ML7430/ML7435

Electrical actuator modulating control, for valve series: V5825B.
Also suitable for V5832B/V5833A-series (DN25..40).

Protection class	IP54
Supply voltage	24 Vac
Stem force	400 N
Control input signal	0/2..10V=
Stroke	6,5 mm
Additional description	For ML7435E1004: approved according DIN EN 14597 in combination with V5825B.

6,5 mm; 400 N

Power loss action	Manual operation	Runtime (s)	Spring return	Type
–	•	15	–	ML7430E1005
stem retracts	–	60	•	ML7435E1004



Actuator 3-pt for district heating, DHWS, spring return, 6,5 mm 400 N, ML6435

Electrical actuator floating control, for valve series: V5825B.
Also suitable for V5832B/V5833A-series (DN25..40)

Protection class	IP54
Stem force	400 N
Control input signal	3-pt
Stroke	6,5 mm
Power loss action	stem retracts
Runtime	60 s
Spring return	yes
Additional description	Approved according DIN EN 14597 in combination with V5825B.

6,5 mm; 400 N

Supply voltage	Type
24 Vac	ML6435B1008
230 Vac	ML6435B1016

Overview: Large linear actuators

LARGE LINEAR VALVES & ACTUATORS										
Control Mode		Floating				Modulating				
Nominal	Order No.	Spring Return Actuators				Spring Return Actuators				
		ML6420A	ML6425A/B	ML6421A	ML6421B	ML7420A	ML7425A/B	ML7421A	ML7421B	
Threaded valves	2-way	600 N	600 N	1800 N	1800 N	600 N	600 N	1800 N	1800 N	
	3-way	•	•	•	•	•	•	•	•	•
		•	•	•	•	•	•	•	•	•
Flanged Valves	2-way	PN16	V5328A	•	•(1)	•	•	•	•	•
		PN16	V5328A 38mm	–	–	–	–	–	–	•
		PN16	V5016A	DN15-80	DN15-80(1)	–	DN100-150	DN15-80	DN15-80(1)	–
		PN25	V5025A	DN15-80	DN15-80(1)	–	DN100-150	DN15-80	DN15-80(1)	–
		PN25/40	V5049A	DN15-65	DN15-65(1)	DN15-65	DN80-100	DN15-65	DN15-65(1)	DN80-100
	3-way	PN6	V5329C	•	•	•	•	•	•	•
		PN6	V5015A	–	–	–	•	–	–	•
		PN16	V5329A	•	•	•	•	•	•	•
		PN16	V5050A,B	–	–	–	•	–	–	•
		PN25/40	V5050A,B	DN15-80	DN15-80	DN15-80	DN100	DN15-80	DN15-80	DN100

(1) TÜV approval according to DIN EN 14597

Large linear actuators, stroke 20/38mm



Actuator 3-pt, 20 mm 600 N, ML6420/ML6425

Electrical actuator floating control, for valve series: V5011, V5013, V5016A, V5025, V5049, V5050, V5328, V5329.

Protection class	IP54
Position indication	scale plate
Position feedback	optional
End switches	optional
Stem force	600 N
Control input signal	3-pt
Stroke	20 mm
Additional description	For ML6425-models: approved according DIN EN 14597 (up to 130 °C) in combination with V5016A/V5025A/V5328A/V5049A.

20 mm; 600 N

Supply voltage	Power loss action	Manual operation	Runtime min	Spring return	Type
24 Vac	–	•	1,0	–	ML6420A3007
24 Vac	–	–	1,0	–	ML6420A3072
24 Vac	–	•	0,5	–	ML6420A3023
230 Vac	–	•	1,0	–	ML6420A3015
230 Vac	–	•	0,5	–	ML6420A3031

20 mm; 600 N, Spring return

Supply voltage	Power loss action	Manual operation	Runtime min	Spring return	Type
24 Vac	stem extends	–	1,8	•	ML6425A3006
24 Vac	stem retracts	–	1,8	•	ML6425B3005
230 Vac	stem extends	–	1,8	•	ML6425A3014
230 Vac	stem retracts	–	1,8	•	ML6425B3021

Accessories

Dual end switches SPDT, adjustable (250 V~, 10 A)	43191680-005
Feedback potentiometer 10 kohm, operating range	43191679-011
Feedback potentiometer 220 ohm operating range	43191679-012

High temperature kits for:

V5011R/S, V5013R/E; V5328A/V5329A DN15..32	43196000-001
V5016A/V5025A/V5050A DN15..80; V5049A DN15..65; V5095A DN20..80; V5328A/V5329A DN40..80	43196000-002

Large linear actuators, stroke 20/38mm

1



Actuator 0/2..10V, 20 mm 600 N, ML7420/ML7425

Electrical actuator modulating control, for valve series: V5011, V5013, V5016A, V5025, V5049, V5050, V5328, V5329.



Protection class	IP54
Position indication	scale plate
Stem position at control signal loss	adjustable
End switches	optional
Supply voltage	24 Vac
Stem force	600 N
Stroke	20 mm
Additional description	The control action is reversible. For ML7425-models: approved according DIN EN 14597 (up to 130 °C) in combination with V5016A/V5025A/V5328A/V5049A.



20 mm; 600 N

Control input signal	Power loss action	Manual operation	Runtime min	Spring return	Position feedback	Type
0/2..10V=	–	•	1,0	–	2..10V=	ML7420A6009
2..10V=	–	–	1,0	–	–	ML7420A6025
0/2..10V=	–	•	0,5	–	2..10V=	ML7420A6017

20 mm; 600 N, Spring return

Control input signal	Power loss action	Manual operation	Runtime min	Spring return	Position feedback	Type
0/2..10V=	stem extends	–	1,8	•	2..10V=	ML7425A6008
0/2..10V=	stem retracts	–	1,8	•	2..10V=	ML7425B6007



Accessories

Auxiliary switch (250 V~, 10 A)	43191680-205
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High temperature kits for:

V5011R/S, V5013R/E; V5328A/V5329A DN15..32	43196000-001
V5016A/V5025A/V5050A DN15..80; V5049A DN15..65; V5095A DN20..80; V5328A/V5329A DN40..80	43196000-002

Large linear actuators, stroke 20/38mm



Actuator 3-pt, 20/38 mm 1800 N, ML6421

Electrical actuator floating control, for valve series: V5011, V5013, V5015, V5016, V5025, V5049, V5050, V5328, V5329.

Protection class	IP54
Position indication	scale plate on the yoke
End switches	optional
Stem force	1800 N
Control input signal	3-pt
Manual operation	yes

20 mm; 1800 N

Supply voltage	Stroke mm	Runtime min	Position feedback	Type
24 Vac	20	1,9	optional	ML6421A3005
230 Vac	20	1,9	–	ML6421A3013

38 mm; 1800 N

Supply voltage	Stroke mm	Runtime min	Position feedback	Type
24 Vac	38	3,5	optional	ML6421B3004
230 Vac	38	3,5	–	ML6421B3012

Accessories

Dual end switches SPDT, adjustable (250 V~, 10 A)	43191680-002
Single feedback potentiometer 220/135 ohm operating range, for 20 mm models	43191679-001
Single feedback potentiometer 10 kohm operating range, for 20 mm models	43191679-007
Single feedback potentiometer 220/135 ohm operating range, for 38 mm models	43191679-002
Single feedback potentiometer 10 kohm operating range, for 38 mm models	43191679-008

High temperature kits for:

V5011R/S, V5013R/E; V5328A/V5329A DN15..32	43196000-001
V5016A/V5025A/V5050A DN15..80; V5049A DN15..65; V5095A DN20..80; V5328A/V5329A DN40..80	43196000-002
V5015A/V5016A/V5025A/V5049A/V5050A/B/V5328A 38 mm	43196000-038

Large linear actuators, stroke 20/38mm

1



Actuator 0/2..10V, 20/38 mm 1800 N, ML7421

Electrical actuator modulating control, for valve series: V5011, V5013, V5015, V5016, V5025, V5049, V5050, V5328, V5329.

Protection class	IP54
Position indication	scale plate
Stem position at control signal loss	selectable: closed, half open, open
Position feedback	2..10V=
End switches	optional
Supply voltage	24 Vac
Stem force	1800 N
Control input signal	0/2..10V=; 0/4..20mA
Manual operation	yes



20 mm; 1800 N

Stroke mm	Runtime min	Type
20	1,9	ML7421A3004

38 mm; 1800 N

Stroke mm	Runtime min	Type
38	3,5	ML7421B3003

Accessories

Dual end switches SPDT, adjustable (250 V~, 10 A)	43191680-002
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High temperature kits for:

V5011R/S, V5013R/E; V5328A/V5329A DN15..32	43196000-001
V5016A/V5025A/V5050A DN15..80; V5049A DN15..65; V5095A DN20..80; V5328A/V5329A DN40..80	43196000-002
V5015A/V5016A/V5025A/V5049A/V5050A/B/V5328A 38 mm	43196000-038

LON linear actuators



LON actuator for radiator/zone control, 2,5/6,5 mm 90/180/300 N, M7410G

Electrical actuator with LON input signal.

Protection class	IP42
Position indication	with red indicator
LonMark(R) profile	input SNVT percent 0-100%
Transceiver type	FTT 10A
Supply voltage	24 Vac
Control input signal	LON
Cable length	1,5 m
Additional description	Contact input available for override function fully open or closed. Manual operation with valve cap. Configurable parameters for direct/ reverse acting. LED-indication for servicing.

2,5 mm; 90 N; for valve series: V100 (thermostatic valves), V58..A4, V58..C4, VSO

Stem force N	Stroke mm	Runtime s	Type
90	2,5	53	M7410G1008

6,5 mm; 180 N; for valve series: V5078B, V5822A, V5823A/C, V5832A, V5833A/C, VSM

Stem force N	Stroke mm	Runtime s	Type
180	6,5	150	M7410G1016

6,5 mm; 300 N; for valve series: V5825B, V5832B2, V5833A2

Stem force N	Stroke mm	Runtime s	Type
300	6,5	150	M7410G1024

Overview: Rotary valve actuators

1

Rotary Valves						Actuators			
Class	Connection Type	Static Pressure	DN (mm)	Kvs	Valve series	Floating		Modulating	
						24 V	230 V	24 V	230 V
2-way	wafer	PN10	25..200	52..3093	V5421B	•	•	<DN80	–
		PN16	250..400	4800..11000	V5422L motorized	–	•	–	–
					V5422E motorized	–	–	–	•
	external threads	PN25	15..32	0,25..40	VBG2	•	•	•	–
3-way	internal threads	PN6	15..40	2,5..25	DR..GMLA	•	•	•	–
			20..50	2,5..40	V5433A compact	•	•	–	–
					V5433G	•	•	–	–
	external threads	PN10	25..30 25	2,5..25 2,5..16	DRU bypass DRR bypass	•	•	•	–
	flanges DIN2531	PN6	20..150	6,3..1600	DR..GFLA	•	•	<DN100	–
4-way	internal threads	PN6	15..40	4..25	ZR..MA	•	•	•	–
			20..32	4..16	V5442A compact	•	•	–	–
					V5442G	•	•	–	–
	flanges DIN2531	PN6	25..200	10..630	ZR..FA	•	•	<DN100	–

Rotary valve actuators

1



Rotary Actuator, MVN

Electrical actuator for VBG control ball valves, DN15-DN32.
Actuator can easily be clicked on valve - no tool required.



Protection class	IP40
Position indication	scale plate
Torque	3 Nm
Angle of rotation	90 °
Manual operation	yes
Cable length	1,5 m

Floating control

Supply voltage	Control input signal	Runtime s	Type
24 Vac	2/3-pt	108	MVN613A1500
230 Vac	2/3-pt	108	MVN663A1500

Modulating control. Control action reversible.



Supply voltage	Control input signal	Runtime s	Type
24 Vac/dc	0/2..10V=	90	MVN713A1500

Accessories

Replacement screw terminal block, pluggable	MVNAT3/B
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Compact Line Rotary Actuator

Electrical actuator for valve series V5433A/G, V5442A/G.



Protection class	IP44
End switch function/capacity	SPST; capacity 1A inductive, 3 A resistive
Torque	7 Nm
Control input signal	3-pt
Angle of rotation	90 °
Manual operation	yes
Runtime	100 s
Cable length	1,5 m
Additional description	Manual operation by declutch of gear.

Supply voltage	End switches	Type
24 Vac	–	M6063A1003
24 Vac	2	M6063A4007
230 Vac	–	M6063L1009
230 Vac	2	M6063L4003

Linkage of M6063L as replacement for M676A,C	075041061
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Rotary valve actuators

1



Standard Line Rotary Actuator

Electrical actuator for valve series VBG (DN40..DN50).

Protection class	IP54
Position indication	reversible scale plate
Angle of rotation	90 °
Manual operation	yes
Additional description	Manual operation by declutch of gear.

Floating control

Torque Nm	Supply voltage	Control input signal	Runtime min	Position feedback	End switches	Type
10	24 Vac	3-pt	1,5	–	optional	M6061A1013
20	24 Vac	3-pt	1,6	–	optional	M6061A1021
30	24 Vac	3-pt	2,3	–	optional	M6061A1039
40	24 Vac	3-pt	3,5	–	optional	M6061A1047
10	230 Vac	3-pt	1,5	–	optional	M6061L1019
20	230 Vac	3-pt	1,6	–	optional	M6061L1027
30	230 Vac	3-pt	2,3	optional	optional	M6061L1035
40	230 Vac	3-pt	3,5	–	optional	M6061L1043

Modulating control

Torque Nm	Supply voltage	Control input signal	Runtime min	Position feedback	End switches	Type
10	24 Vac/dc	0/2..10V=	1,5	optional	–	M7061E1012
20	24 Vac/dc	0/2..10V=	3,0	optional	–	M7061E1020

Accessories for floating control motors

Feedback potentiometer 10 kohm, only for M6061L1035	VMP10-90
Auxiliary switch package	VMS2

Accessories for modulating control motors

Feedbacksignal of position 0..10 V	VMU1
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Rotary valve actuators



Rotary Actuator

Electrical actuator for valve series ZR, DR, DR-G, DRU. Mounting kits available for connection with non-Honeywell valves and air dampers.
For heating systems.



Protection class	IP54
Position indication	reversible scale plate
Torque	40 Nm
Angle of rotation	90 °
Manual operation	yes
End switches	optional
Control input signal	3-pt
Position feedback	optional
Runtime	1,2 min
Additional description	Manual operation by declutch of gear.

Floating control, Fast running

Supply voltage	Type
24 Vac	VMM40-24F
230 Vac	VMM40F

Accessories for floating control motors

Feedback potentiometer 10 kohm, only for models with this option	VMP10-90
Auxiliary switch package (max. 2 per motor)	VMS2

Mounting kit for non-Honeywell valves

Universal kit for almost all valves	ATU2040A
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Actuator for V5421B1090



Protection class	IP54
Supply voltage	230 Vac
Control input signal	3-pt
Built in rotation limiter	no
Manual operation	yes
End switches	optional
Runtime	150 s
Torque	40 Nm

	Type
	M6422L1003

Optional accessories

End switch	AS2
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Damper actuators

1



Damper actuator 5/10 Nm, SmartAct

Direct coupled actuators for air dampers, ventilation flaps, louvers and VAV-units.

Protection class	IP54
End switch function/capacity	SPDT switch 230 V, 5(3) A for models with end switch
Shaft mounting	for round shafts 8..16 mm; square shafts 6..13 mm
Built in rotation limiter	yes
Manual operation	yes
Additional description	• Removable wiring box, with cable gland M20x1,5 1/2" NPT. • Rotation direction selectable by switch. • Adjustable mechanical end limits included.



For damper area of 1 square meter

Supply voltage	Control input signal	End switches	Runtime s	Torque Nm	Damper area m ²	Type
24 Vac/dc	2/3-pt	–	110	5	1	N0524
24 Vac/dc	2/3-pt	2	110	5	1	N0524-SW2
230 Vac	2-pt	–	max. 110	5	1	N05230-2POS
24 Vac/dc	0/2..10V=;2/3-pt	–	90/110	5	1	N05010
24 Vac/dc	0/2..10V=;2/3-pt	2	90/110	5	1	N05010-SW2

For damper area of 2 square meters

Supply voltage	Control input signal	End switches	Runtime s	Torque Nm	Damper area m ²	Type
24 Vac/dc	2/3-pt	–	110	10	2	N1024
24 Vac/dc	2/3-pt	2	110	10	2	N1024-SW2
230 Vac	2-pt	–	max. 140	10	2	N10230-2POS
24 Vac/dc	0/2..10V=;2/3-pt	–	90/110	10	2	N10010
24 Vac/dc	0/2..10V=;2/3-pt	2	90/110	10	2	N10010-SW2

Damper actuators



Damper actuator 20/34 Nm, SmartAct

Direct-coupled actuator with self-centering shaft adapter.
For air dampers, air handlers, ventilation flaps, louvers and VAV-units.

Protection class	IP54
Position indication	rotational angle scales 0..90°, 90..0°
End switch function/capacity	SPDT switch 230V, 5 (3) A for models with end switch
Shaft mounting	for round shafts 10..27 mm; square shafts 10..18 mm
Manual operation	yes
Additional description	• Rotation direction selectable by switch. • When power is removed, the actuator remains in position. • Removable wiring box, with cable gland M20x1,5 1/2" NPT. • Actuator supplied with complete package mounting parts. • For modulating control models: Control input signal can be voltage or current. • For modulating control models: Autoadapt dipswitch. With this function the full span of the control input signal will be used for the applicable angle or rotation.

For damper area of 4 square meters

Supply voltage	Control input signal	Built in rotation limiter	End switches	Position feedback	Runtime s	Torque Nm	Damper area m ²	Type
24 Vac	2/3-pt	•	optional	–	110	20	4	N2024
24 Vac	2/3-pt	•	2	–	110	20	4	N2024-SW2
230 Vac	2/3-pt	•	optional	–	110	20	4	N20230
230 Vac	2/3-pt	•	2	–	110	20	4	N20230-SW2
24 Vac/dc	0/2..10V=	•	optional	0/2..10V=	95	20	4	N20010
24 Vac/dc	0/2..10V=	•	2	0/2..10V=	95	20	4	N20010-SW2

For damper area of 6 square meters

Supply voltage	Control input signal	Built in rotation limiter	End switches	Position feedback	Runtime s	Torque Nm	Damper area m ²	Type
24 Vac	2/3-pt	–	optional	–	110	34	6	N3424
230 Vac	2/3-pt	–	optional	–	110	34	6	N34230
24 Vac/dc	0/2..10V=	–	optional	0/2..10V=	95	34	6	N34010

Optional accessories

End switch kit, with 2 SPDT freely adjustable end-switches	SW2
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Damper actuators

1



Damper actuator 3/5 Nm, SmartAct springreturn

Direct-coupled actuator with self-centering shaft adapter.

For the operation of quarter-turn air dampers in safety related applications requiring springreturn fail-safe operation (e.g. frost protection).



Protection class	IP54
Position indication	rotational angle scales 0..90°, 90..0°
End switch function/capacity	models with 1 SPDT switch 250 V, 8 (5) A; adjustable setting between 0° and 95°
Shaft mounting	for round shafts 9..16 mm; square shafts 6..13 mm
Spring return	yes
Manual operation	no
Spring return timing	25 s
Additional description	• Rotation direction selectable by flipping the actuator 180° around its vertical axis. • Actuator supplied with complete package mounting parts. • Removable wiring box, without cable gland (M20x1,5). • Durable plastic housing with built-in mechanical end-limits.

Supply voltage	Control input signal	End switches	Position feedback	Runtime s	Torque Nm	Damper area m ²	Type
24 Vac/dc	2-pt	–	–	45	3	0,6	S0324-2POS
24 Vac/dc	2-pt	1	–	45	3	0,6	S0324-2POS-SW1
230 Vac	2-pt	–	–	45	3	0,6	S03230-2POS
230 Vac	2-pt	1	–	45	3	0,6	S03230-2POS-SW1
24 Vac/dc	0/2..10V=;3-pt	–	0..10V=	90	3	0,6	S03010
24 Vac/dc	0/2..10V=;3-pt	1	0..10V=	90	3	0,6	S03010-SW1

Supply voltage	Control input signal	End switches	Position feedback	Runtime s	Torque Nm	Damper area m ²	Type
24 Vac/dc	2-pt	1	–	45	5	1	S0524-2POS-SW1
230 Vac	2-pt	1	–	45	5	1	S05230-2POS-SW1
24 Vac/dc	0/2..10V=;3-pt	1	0..10V=	90	5	1	S05010-SW1

Damper actuators



Damper actuator 10/20 Nm, SmartAct springreturn

Direct-coupled actuator with self-centering shaft adapter.
For the operation of quarter-turn air dampers in safety related applications requiring springreturn fail-safe operation (e.g. frost protection).

Protection class	IP54
Position indication	rotational angle scales 0..90°, 90..0°
End switch function/capacity	models with 2 SPDT switches 250 V, 3 (1,5) A; fixed setting at 7° and 85°
Shaft mounting	for round shafts 10..27 mm; square shafts 13..19 mm
Spring return	yes
Manual operation	yes
Spring return timing	20 s
Additional description	• Rotation direction selectable by flipping the actuator 180° around its vertical axis. • Actuator supplied with complete package mounting parts. • Autoadapt dipswitch. With this function the full span of the control input signal will be used for the applicable angle or rotation. • Removable wiring box, without cable gland (M16x1,5). • Actuator can be locked and manually wound.

Supply voltage	Control input signal	End switches	Position feedback	Runtime s	Torque Nm	Damper area m ²	Type
24 Vac/dc	2-pt	optional	–	45	10	1,5	S1024-2POS
24 Vac/dc	2-pt	2	–	45	10	1,5	S1024-2POS-SW2
230 Vac	2-pt	optional	–	45	10	1,5	S10230-2POS
230 Vac	2-pt	2	–	45	10	1,5	S10230-2POS-SW2
24 Vac/dc	0/2..10V=;3-pt	optional	0..10V=	90	10	1,5	S10010
24 Vac/dc	0/2..10V=;3-pt	2	0..10V=	90	10	1,5	S10010-SW2

Supply voltage	Control input signal	End switches	Position feedback	Runtime s	Torque Nm	Damper area m ²	Type
24 Vac/dc	2-pt	optional	–	45	20	4,6	S2024-2POS
24 Vac/dc	2-pt	2	–	45	20	4,6	S2024-2POS-SW2
230 Vac	2-pt	optional	–	45	20	4,6	S20230-2POS
230 Vac	2-pt	2	–	45	20	4,6	S20230-2POS-SW2
24 Vac/dc	0/2..10V=;3-pt	optional	0..10V=	90	20	4,6	S20010
24 Vac/dc	0/2..10V=;3-pt	2	0..10V=	90	20	4,6	S20010-SW2

Optional accessories

End switch kit, with 2 SPDT freely adjustable end-switches	SW2
--	------------

Fire damper actuators

1



Fire Damper actuator 3/9 Nm

Fast-acting two-position spring return actuator for on/off damper control. The actuator accepts an on/off signal from a single-pole, singlethrow (SPST) controller. Reversible mounting allows actuator to be used for either clockwise (cw) or counterclockwise (ccw) spring rotation. Rated for applications according to UL555S.

Protection class	IP40
End switch function/capacity	models with 2 SPST switches 250 V 5(3) A; fixed setting at 7° and 85°
Shaft mounting	for squared shafts max. 13 mm
Spring return	yes
Spring return timing	15 s
Runtime	15 s
Control input signal	2-pt
Additional description	• No audible noise during holding • Patent pending design eliminates need for limit switches to reduce power consumption • Die-cast aluminium housing

Supply voltage	End switches	Torque Nm	Type
24 Vac/dc	–	3,4	MS8104F1010/U
24 Vac/dc	2	3,4	MS8104F1210/U
230 Vac	–	3,4	MS4604F1010/U
230 Vac	2	3,4	MS4604F1210/U

Supply voltage	End switches	Torque Nm	Type
24 Vac/dc	–	9	MS8109F1010/U
24 Vac/dc	2	9	MS8109F1210/U
230 Vac	–	9	MS4609F1010/U
230 Vac	2	9	MS4609F1210/U



Fire Damper actuator 20 Nm

Fast-acting two-position spring return actuator for on/off damper control. The actuator accepts an on/off signal from a single-pole, singlethrow (SPST) controller. Reversible mounting allows actuator to be used for either clockwise (cw) or counterclockwise (ccw) spring rotation. Rated for applications according to UL555S.

Protection class	IP54 when mounted on a horizontal shaft
End switch function/capacity	models with 2 SPDT switches 250 V 5(3) A; fixed setting at 7° and 85°
Shaft mounting	for round shafts 13..26 mm; square shafts 13..19 mm
Spring return	yes
Spring return timing	15 s
Runtime	15 s
Cable length	1000 mm
Torque	20 Nm

Supply voltage	End switches	Type
24 Vac	–	S2024-F/U
24 Vac	2	S2024-F-SW2
230 Vac	–	S20230-F
230 Vac	2	S20230-F-SW2



Valves linear	Page
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General Information

Best choice

2

Valve Type		Application						
		Steam	Heating	Cooling	FCU	AHU	DH	High Dp
Small Linear Valves								
PN16	VS	-	+	+	+	o	-	-
PN16	V582x/V583x	-	+	+	+	o	-	-
PN25	V5825B	+	+	o	-	o	+	+
Large Linear Valves								
PN16	V5011E,R	-	+	+	-	+	-	-1)
PN16	V5011S	+	+	+	-	+	+	-1)
PN16	V5013E,R	-	+	+	-	+	-	-1)
PN16	V5328	o	+	+	-	+	+	-1)
PN6/16	V5329/V5015/V5050	-	+	+	-	+	-	-1)
PN16	V5016	+	+	+	-	-	+	+
PN25	V5025	+	+	+	-	-	+	+
PN25/40	V5049	+	+	+	-	-	+	-1)
PN25/40	V5050	-	+	+	-	+	-	-1)

Legend:

- +
 - o
 -
 - 1)
- “Best choice”
- “Possible”
- “Not recommended”
- “High Dp for small nominal sizes”

Please note:

This table is only a recommendation.
 A valve marked with a "+" is a preferred choice in specific applications.
 Also a valve marked with a "-" may be suitable for an application but overspecified.

General Information

Valve parts materials

Valve	Body	Stem	Plug	Seat	Stem Seal
VS 2-way	Yellow brass	stainless steel	Brass	PPS 40% GF	EPDM
VS 3-way	Yellow brass	stainless steel	Brass	A-AB: PPS 40% GF B-AB: Yellow brass	EPDM
V5822A/32A	Yellow brass	stainless steel	Brass/EPDM	Yellow brass	EPDM
V5823A,C/ V5833A,C	Yellow brass	stainless steel	Brass/EPDM	Yellow brass	EPDM
V5833A/V5832B, DN25-40	Yellow brass	stainless steel	Brass	Yellow brass	EPDM
V5825B	Rg5	stainless steel	stainless steel	stainless steel	EPDM
V5011E,R	Yellow brass	stainless steel	Brass	stainless steel	PTFE
V5011S	Yellow brass	stainless steel	stainless steel	stainless steel	PTFE
V5013E,R	Yellow brass	stainless steel	Brass	stainless steel	PTFE
V5328A	GG-25	stainless steel	stainless steel	stainless steel	PTFE
V5016A	GGG 40.3	stainless steel	stainless steel	stainless steel	PTFE
V5025A	GGG 40.3	stainless steel	stainless steel	stainless steel	PTFE
V5049A PN25/40	GS-C25	stainless steel	stainless steel	stainless steel	PTFE
V5329A	GG-25	stainless steel	stainless steel	body integrated	PTFE
V5050A PN16 <DN100-150	GG-25	stainless steel	stainless steel	stainless steel	PTFE
V5329C	GG-25	stainless steel	stainless steel	body integrated	PTFE
V5015A	GG-25	stainless steel	Rg5	body integrated	PTFE
V5050A PN25/40	GS-C25	stainless steel	stainless steel	stainless steel	PTFE

2-way linear valves, stroke 2,5/6,5mm



Valve Small, Conical sealing, 2-way, PN16, DN15/20/25, VSxC-2

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.



Valve type	2-way
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	ext. thread con. sealing
Additional description	Valves are supplied with adjustment cap.

2,5 mm On/off; adjustment cap for full stroke travel

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1	600	—	2,5	on/off	VSOC-215-1.0
15	G1/2	1,6	300	—	2,5	on/off	VSOC-215-1.6
15	G1/2	2,5	150	—	2,5	on/off	VSOC-215-2.5
20	1 1/8 x 14	2,5	200	—	2,5	on/off	VSOC-220-2.5
20	1 1/8 x 14	4	100	—	2,5	on/off	VSOC-220-4.0
25	G1 1/4	4	200	—	2,5	on/off	VSOC-225-4.0P
25	G1 1/4	5,5	200	—	2,5	on/off	VSOC-225-5.5P

6,5 mm Modulating; adjustment cap opens A-B half stroke until 50% open



DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,16	600	600	6,5	mod.equal%	VSMC-215-0.16
15	G1/2	0,25	600	600	6,5	mod.equal%	VSMC-215-0.25
15	G1/2	0,4	600	600	6,5	mod.equal%	VSMC-215-0.4
15	G1/2	0,63	600	600	6,5	mod.equal%	VSMC-215-0.63
15	G1/2	1	600	600	6,5	mod.equal%	VSMC-215-1.0
15	G1/2	1,6	300	300	6,5	mod.equal%	VSMC-215-1.6
15	G1/2	2,5	100	100	6,5	mod.equal%	VSMC-215-2.5
20	1 1/8 x 14	2,5	150	150	6,5	mod.equal%	VSMC-220-2.5
20	1 1/8 x 14	4	50	50	6,5	mod.equal%	VSMC-220-4.0
25	G1 1/4	6,3	250	250	6,5	mod.equal%	VSMC-225-6.3P
25	G1 1/4	8	250	250	6,5	mod.equal%	VSMC-225-8.0P

Accessories

Compression fitting for DN15 valve, pipe size 15 mm	ACN-15C
Compression fitting for DN20 valve, pipe size 22 mm	ACN-20C
Soldering fitting for DN15 valve, pipe size 12 mm	ACN-15S
Soldering fitting for DN20 valve, pipe size 15 mm	ACN-20S
External threaded fitting for DN15 valve, pipe size R3/8"	ACN-15T
External threaded fitting for DN20 valve, pipe size R1/2"	ACN-20T
External threaded fitting for DN25 valve, pipe size R1"	ACN-25T

2-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	2-pt	24 Vac/dc	valve open	—	—	4 min	1	MT4-024-NC
	2-pt	24 Vac/dc	valve open	—	—	4 min	2,5	MT4-024-NC-2.5M
	2-pt	24 Vac/dc	valve open	—	1	4 min	1	MT4-024S-NC
	2-pt	24 Vac/dc	valve closed	—	—	4 min	1	MT4-024-NO
	2-pt	24 Vac/dc	valve closed	—	—	4 min	2,5	MT4-024-NO-2.5M
	2-pt	24 Vac/dc	valve closed	—	1	4 min	1	MT4-024S-NO
	2-pt	230 Vac	valve open	—	—	4 min	1	MT4-230-NC
	2-pt	230 Vac	valve open	—	—	4 min	2,5	MT4-230-NC-2.5M
	2-pt	230 Vac	valve open	—	1	4 min	1	MT4-230S-NC
	2-pt	230 Vac	valve closed	—	—	4 min	1	MT4-230-NO
	2-pt	230 Vac	valve closed	—	—	4 min	2,5	MT4-230-NO-2.5M
	2-pt	230 Vac	valve closed	—	1	4 min	1	MT4-230S-NO
	LON	24 Vac	—	—	—	53 s	1,5	M7410G1008
2,5 mm; 100 N	0..10V=	24 Vac	valve open	—	—	75 s	optional: 1, 3, 5	M4410E1510
	0..10V=	24 Vdc	valve open	—	—	75 s	optional: 1, 3, 5	M4410K1515
6,5 mm; 90 N	2-pt	24 Vac/dc	valve open	—	—	6 min	1	MT8-024-NC
	2-pt	24 Vac/dc	valve open	—	—	6 min	2,5	MT8-024-NC-2.5M
	2-pt	24 Vac/dc	valve open	—	1	6 min	1	MT8-024S-NC
	2-pt	24 Vac/dc	valve closed	—	—	3,6/16 s	1,5	M5410C1001
	2-pt	24 Vac/dc	valve closed	—	—	6 min	1	MT8-024-NO
	2-pt	24 Vac/dc	valve closed	—	—	6 min	2,5	MT8-024-NO-2.5M
	2-pt	24 Vac/dc	valve closed	—	1	6 min	1	MT8-024S-NO
	2-pt	230 Vac	valve open	—	—	6,5 min	1	MT8-230-NC
	2-pt	230 Vac	valve open	—	—	6,5 min	2,5	MT8-230-NC-2.5M
	2-pt	230 Vac	valve open	—	1	6,5 min	1	MT8-230S-NC
	2-pt	230 Vac	valve closed	—	—	3,6/16 s	1,5	M5410L1001
	2-pt	230 Vac	valve closed	—	—	6,5 min	1	MT8-230-NO
	2-pt	230 Vac	valve closed	—	—	6,5 min	2,5	MT8-230-NO-2.5M
	2-pt	230 Vac	valve closed	—	1	6,5 min	1	MT8-230S-NO
6,5 mm; 180 N	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016

2-way linear valves, stroke 2,5/6,5mm



Valve Small, Flat sealing, 2-way, PN16, DN15/20/25, VSxF-2

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.



Valve type	2-way
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	ext. thread flat sealing
Additional description	Valves are supplied with adjustment cap.

2,5 mm On/off; adjustment cap for full stroke travel

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1	600	—	2,5	on/off	VSOF-215-1.0
15	G1/2	1,6	300	—	2,5	on/off	VSOF-215-1.6
15	G1/2	2,5	150	—	2,5	on/off	VSOF-215-2.5
20	G3/4	2,5	200	—	2,5	on/off	VSOF-220-2.5
20	G3/4	4	100	—	2,5	on/off	VSOF-220-4.0
25	G1 1/4	4	200	—	2,5	on/off	VSOF-225-4.0P
25	G1 1/4	5,5	200	—	2,5	on/off	VSOF-225-5.5P

6,5 mm Modulating; adjustment cap opens A-B half stroke until 50% open



DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,16	600	600	6,5	mod.equal%	VSMF-215-0.16
15	G1/2	0,25	600	600	6,5	mod.equal%	VSMF-215-0.25
15	G1/2	0,4	600	600	6,5	mod.equal%	VSMF-215-0.4
15	G1/2	0,63	600	600	6,5	mod.equal%	VSMF-215-0.63
15	G1/2	1	600	600	6,5	mod.equal%	VSMF-215-1.0
15	G1/2	1,6	300	300	6,5	mod.equal%	VSMF-215-1.6
15	G1/2	2,5	100	100	6,5	mod.equal%	VSMF-215-2.5
20	G3/4	2,5	150	150	6,5	mod.equal%	VSMF-220-2.5
20	G3/4	4	50	50	6,5	mod.equal%	VSMF-220-4.0
25	G1 1/4	6,3	250	250	6,5	mod.equal%	VSMF-225-6.3P
25	G1 1/4	8	250	250	6,5	mod.equal%	VSMF-225-8.0P

Accessories

Soldering fitting for DN15 valve, pipe size 12 mm	AC-15FS
Soldering fitting for DN20 valve, pipe size 15 mm	AC-20FS
External threaded fitting for DN15 valve, pipe size R3/8"	AC-15FT
External threaded fitting for DN20 valve, pipe size R1/2"	AC-20FT
External threaded fitting for DN25 valve, pipe size R1"	ACS-25T

2-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	2-pt	24 Vac/dc	valve open	—	—	4 min	1	MT4-024-NC
	2-pt	24 Vac/dc	valve open	—	—	4 min	2,5	MT4-024-NC-2.5M
	2-pt	24 Vac/dc	valve open	—	1	4 min	1	MT4-024S-NC
	2-pt	24 Vac/dc	valve closed	—	—	4 min	1	MT4-024-NO
	2-pt	24 Vac/dc	valve closed	—	—	4 min	2,5	MT4-024-NO-2.5M
	2-pt	24 Vac/dc	valve closed	—	1	4 min	1	MT4-024S-NO
	2-pt	230 Vac	valve open	—	—	4 min	1	MT4-230-NC
	2-pt	230 Vac	valve open	—	—	4 min	2,5	MT4-230-NC-2.5M
	2-pt	230 Vac	valve open	—	1	4 min	1	MT4-230S-NC
	2-pt	230 Vac	valve closed	—	—	4 min	1	MT4-230-NO
	2-pt	230 Vac	valve closed	—	—	4 min	2,5	MT4-230-NO-2.5M
	2-pt	230 Vac	valve closed	—	1	4 min	1	MT4-230S-NO
	LON	24 Vac	—	—	—	53 s	1,5	M7410G1008
2,5 mm; 100 N	0..10V=	24 Vac	valve open	—	—	75 s	optional: 1, 3, 5	M4410E1510
	0..10V=	24 Vdc	valve open	—	—	75 s	optional: 1, 3, 5	M4410K1515
6,5 mm; 90 N	2-pt	24 Vac/dc	valve open	—	—	6 min	1	MT8-024-NC
	2-pt	24 Vac/dc	valve open	—	—	6 min	2,5	MT8-024-NC-2.5M
	2-pt	24 Vac/dc	valve open	—	1	6 min	1	MT8-024S-NC
	2-pt	24 Vac/dc	valve closed	—	—	3,6/16 s	1,5	M5410C1001
	2-pt	24 Vac/dc	valve closed	—	—	6 min	1	MT8-024-NO
	2-pt	24 Vac/dc	valve closed	—	—	6 min	2,5	MT8-024-NO-2.5M
	2-pt	24 Vac/dc	valve closed	—	1	6 min	1	MT8-024S-NO
	2-pt	230 Vac	valve open	—	—	6,5 min	1	MT8-230-NC
	2-pt	230 Vac	valve open	—	—	6,5 min	2,5	MT8-230-NC-2.5M
	2-pt	230 Vac	valve open	—	1	6,5 min	1	MT8-230S-NC
	2-pt	230 Vac	valve closed	—	—	3,6/16 s	1,5	M5410L1001
	2-pt	230 Vac	valve closed	—	—	6,5 min	1	MT8-230-NO
	2-pt	230 Vac	valve closed	—	—	6,5 min	2,5	MT8-230-NO-2.5M
	2-pt	230 Vac	valve closed	—	1	6,5 min	1	MT8-230S-NO
6,5 mm; 180 N	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016

2-way linear valves, stroke 2,5/6,5mm



Two-way control valve PN16, conical sealing DN15/20, V5822A

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.



Valve series	V5822A
Valve type	2-way
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem up
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	ext. thread con. sealing
Additional description	Valves are supplied with adjustment cap (not for on/off types).

2,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1,6	180	–	2,5	on/off	V5822A4000
20	1 1/8" x 14	2,5	50	–	2,5	on/off	V5822A4018

6,5 mm



DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,16	600	1600	6,5	mod.equal%	V5822A1006
15	G1/2	0,25	600	1600	6,5	mod.equal%	V5822A1014
15	G1/2	0,4	600	1600	6,5	mod.equal%	V5822A1022
15	G1/2	0,63	600	1600	6,5	mod.equal%	V5822A1030
15	G1/2	1	180	1200	6,5	mod.equal%	V5822A1048
15	G1/2	1,6	180	1200	6,5	mod.equal%	V5822A1055
20	1 1/8" x 14	2,5	50	400	6,5	mod.equal%	V5822A1063
20	1 1/8" x 14	4	50	400	6,5	mod.equal%	V5822A1071

Accessories

Compression fitting for DN15 valve, pipe size 15 mm	ACN-15C
Compression fitting for DN20 valve, pipe size 22 mm	ACN-20C
Soldering fitting for DN15 valve, pipe size 12 mm	ACN-15S
Soldering fitting for DN20 valve, pipe size 15 mm	ACN-20S
External threaded fitting for DN15 valve, pipe size 3/8"	ACN-15T
External threaded fitting for DN20 valve, pipe size 1/2"	ACN-20T
Service tool to clean/replace inserts	WV108/U
Brush for WV108	WV108B
Spare adjustment cap (pack of 10)	5585100

2-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	2-pt	24 Vac/dc	valve open	–	–	4 min	1	MT4-024-NO
	2-pt	24 Vac/dc	valve open	–	–	4 min	2,5	MT4-024-NO-2.5M
	2-pt	24 Vac/dc	valve open	–	1	4 min	1	MT4-024S-NO
	2-pt	24 Vac/dc	valve closed	–	–	4 min	1	MT4-024-NC
	2-pt	24 Vac/dc	valve closed	–	–	4 min	2,5	MT4-024-NC-2.5M
	2-pt	24 Vac/dc	valve closed	–	1	4 min	1	MT4-024S-NC
	2-pt	230 Vac	valve open	–	–	4 min	1	MT4-230-NO
	2-pt	230 Vac	valve open	–	–	4 min	2,5	MT4-230-NO-2.5M
	2-pt	230 Vac	valve open	–	1	4 min	1	MT4-230S-NO
	2-pt	230 Vac	valve closed	–	–	4 min	1	MT4-230-NC
	2-pt	230 Vac	valve closed	–	–	4 min	2,5	MT4-230-NC-2.5M
	2-pt	230 Vac	valve closed	–	1	4 min	1	MT4-230S-NC
	3-pt	24 Vac	–	–	–	57 s	0,9	M7410A1001
	3-pt	24 Vac	–	–	–	57 s	3	M7410A1001-3M
	LON	24 Vac	–	–	–	53 s	1,5	M7410G1008
2,5 mm; 100 N	0..10V=	24 Vac	valve closed	–	–	75 s	optional: 1, 3, 5	M4410E1510
	0..10V=	24 Vdc	valve closed	–	–	75 s	optional: 1, 3, 5	M4410K1515
6,5 mm; 90 N	2-pt	24 Vac/dc	valve open	–	–	3,6/16 s	1,5	M5410C1001
	2-pt	24 Vac/dc	valve open	–	–	6 min	1	MT8-024-NO
	2-pt	24 Vac/dc	valve open	–	–	6 min	2,5	MT8-024-NO-2.5M
	2-pt	24 Vac/dc	valve open	–	1	6 min	1	MT8-024S-NO
	2-pt	24 Vac/dc	valve closed	–	–	6 min	1	MT8-024-NC
	2-pt	24 Vac/dc	valve closed	–	–	6 min	2,5	MT8-024-NC-2.5M
	2-pt	24 Vac/dc	valve closed	–	1	6 min	1	MT8-024S-NC
	2-pt	230 Vac	valve open	–	–	3,6/16 s	1,5	M5410L1001
	2-pt	230 Vac	valve open	–	–	6,5 min	1	MT8-230-NO
	2-pt	230 Vac	valve open	–	–	6,5 min	2,5	MT8-230-NO-2.5M
	2-pt	230 Vac	valve open	–	1	6,5 min	1	MT8-230S-NO
	2-pt	230 Vac	valve closed	–	–	6,5 min	1	MT8-230-NC
	2-pt	230 Vac	valve closed	–	–	6,5 min	2,5	MT8-230-NC-2.5M
	2-pt	230 Vac	valve closed	–	1	6,5 min	1	MT8-230S-NC
6,5 mm; 180 N	0/2..10V=	24 Vac	–	–	–	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	–	•	–	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	–	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	–	–	–	150 s	1,5	M7410C1007
	3-pt	24 Vac	–	–	–	150 s	10	M7410C1007-10M
	3-pt	24 Vac	–	•	–	150 s	1,5	M6410C2023
	3-pt	24 Vac	–	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	–	•	–	150 s	1,5	M6410L2023
	3-pt	230 Vac	–	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	–	–	–	150 s	1,5	M7410G1016

2-way linear valves, stroke 2,5/6,5mm



Two-way control valve PN16, flat sealing DN15/20, V5832A

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.



Valve series	V5832A
Valve type	2-way
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem up
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	ext. thread flat sealing
Additional description	Valves are supplied with adjustment cap (not for on/off types).

2,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1,6	180	–	2,5	on/off	V5832A4008
20	G3/4	2,5	50	–	2,5	on/off	V5832A4016

6,5 mm



DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,16	600	1600	6,5	mod.equal%	V5832A1004
15	G1/2	0,25	600	1600	6,5	mod.equal%	V5832A1012
15	G1/2	0,4	600	1600	6,5	mod.equal%	V5832A1020
15	G1/2	0,63	600	1600	6,5	mod.equal%	V5832A1038
15	G1/2	1	180	1200	6,5	mod.equal%	V5832A1046
15	G1/2	1,6	180	1200	6,5	mod.equal%	V5832A1053
20	G3/4	2,5	50	400	6,5	mod.equal%	V5832A1061
20	G3/4	4	50	400	6,5	mod.equal%	V5832A1079

Accessories

Soldering fitting for DN15 valve, pipe size 12 mm	AC-15FS
Soldering fitting for DN20 valve, pipe size 15 mm	AC-20FS
External threaded fitting for DN15 valve, pipe size 3/8"	AC-15FT
External threaded fitting for DN20 valve, pipe size 1/2"	AC-20FT
Service tool to clean/replace inserts	WV108/U
Brush for WV108	WV108B
Spare adjustment cap (pack of 10)	5585100

2-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	2-pt	24 Vac/dc	valve open	—	—	4 min	1	MT4-024-NO
	2-pt	24 Vac/dc	valve open	—	—	4 min	2,5	MT4-024-NO-2.5M
	2-pt	24 Vac/dc	valve open	—	1	4 min	1	MT4-024S-NO
	2-pt	24 Vac/dc	valve closed	—	—	4 min	1	MT4-024-NC
	2-pt	24 Vac/dc	valve closed	—	—	4 min	2,5	MT4-024-NC-2.5M
	2-pt	24 Vac/dc	valve closed	—	1	4 min	1	MT4-024S-NC
	2-pt	230 Vac	valve open	—	—	4 min	1	MT4-230-NO
	2-pt	230 Vac	valve open	—	—	4 min	2,5	MT4-230-NO-2.5M
	2-pt	230 Vac	valve open	—	1	4 min	1	MT4-230S-NO
	2-pt	230 Vac	valve closed	—	—	4 min	1	MT4-230-NC
	2-pt	230 Vac	valve closed	—	—	4 min	2,5	MT4-230-NC-2.5M
	2-pt	230 Vac	valve closed	—	1	4 min	1	MT4-230S-NC
	3-pt	24 Vac	—	—	—	57 s	0,9	M7410A1001
	3-pt	24 Vac	—	—	—	57 s	3	M7410A1001-3M
	LON	24 Vac	—	—	—	53 s	1,5	M7410G1008
2,5 mm; 100 N	0..10V=	24 Vac	valve closed	—	—	75 s	optional: 1, 3, 5	M4410E1510
	0..10V=	24 Vdc	valve closed	—	—	75 s	optional: 1, 3, 5	M4410K1515
6,5 mm; 90 N	2-pt	24 Vac/dc	valve open	—	—	3,6/16 s	1,5	M5410C1001
	2-pt	24 Vac/dc	valve open	—	—	6 min	1	MT8-024-NO
	2-pt	24 Vac/dc	valve open	—	—	6 min	2,5	MT8-024-NO-2.5M
	2-pt	24 Vac/dc	valve open	—	1	6 min	1	MT8-024S-NO
	2-pt	24 Vac/dc	valve closed	—	—	6 min	1	MT8-024-NC
	2-pt	24 Vac/dc	valve closed	—	—	6 min	2,5	MT8-024-NC-2.5M
	2-pt	24 Vac/dc	valve closed	—	1	6 min	1	MT8-024S-NC
	2-pt	230 Vac	valve open	—	—	3,6/16 s	1,5	M5410L1001
	2-pt	230 Vac	valve open	—	—	6,5 min	1	MT8-230-NO
	2-pt	230 Vac	valve open	—	—	6,5 min	2,5	MT8-230-NO-2.5M
	2-pt	230 Vac	valve open	—	1	6,5 min	1	MT8-230S-NO
	2-pt	230 Vac	valve closed	—	—	6,5 min	1	MT8-230-NC
	2-pt	230 Vac	valve closed	—	—	6,5 min	2,5	MT8-230-NC-2.5M
	2-pt	230 Vac	valve closed	—	1	6,5 min	1	MT8-230S-NC
6,5 mm; 180 N	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016

2-way linear valves, stroke 2,5/6,5mm



Two-way control valve PN16, flat sealing DN25-40, V5832B

Pressure balanced control valve. For fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

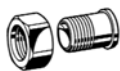
Valve series	V5832B2
Valve type	2-way press. bal.
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Stroke	6,5 mm
Media temp.	2 ... 130 °C
Pressure rating	PN16
Port connection	ext. thread flat sealing
Flow char.	linear
Additional description	Valves are supplied with adjustment cap.



6,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 300N motor	Close off pressure with 400N motor	Type
mm	inch		kPa	kPa	
25	G1 1/2	4	1600	1600	V5832B2075
25	G1 1/2	6,3	1600	1600	V5832B2083
25	G1 1/2	10	1600	1600	V5832B2091
32	G2	16	1200	1200	V5832B2109
40	G2 1/4	25	1000	1000	V5832B2117

Accessories



External threaded fitting for DN25 valve, pipe size R1"	AC-25T
External threaded fitting for DN32 valve, pipe size R1 1/4"	AC-32T
External threaded fitting for DN40 valve, pipe size R1 1/2"	AC-40T
Internal threaded fitting for DN25 valve, pipe size Rp1"	AC-25TF
Internal threaded fitting for DN32 valve, pipe size Rp1 1/4"	AC-32TF
Internal threaded fitting for DN40 valve, pipe size Rp1 1/2"	AC-40TF
Spare adjustment cap (pack of 10)	5585100

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime s	Cable length m	Spring return	Type
6,5 mm; 300 N	0/2..10V=	24 Vac	—	—	—	150	1,5	—	M7410E1028
	0/2..10V=	24 Vac	—	•	—	150	1,5	—	M7410E2034
	0/2..10V=	24 Vac	—	•	2	150	1,5	—	M7410E4030
	3-pt	24 Vac	—	—	—	150	1,5	—	M7410C1015
	3-pt	24 Vac	—	•	—	150	1,5	—	M6410C2031
	3-pt	24 Vac	—	•	2	150	1,5	—	M6410C4037
	3-pt	230 Vac	—	•	—	150	1,5	—	M6410L2031
	3-pt	230 Vac	—	•	2	150	1,5	—	M6410L4037
	LON	24 Vac	—	—	—	150	1,5	—	M7410G1024
6,5 mm; 400 N	0/2..10V=	24 Vac	—	•	—	15	—	—	ML7430E1005
	0/2..10V=	24 Vac	valve closed	—	—	60	—	•	ML7435E1004
	3-pt	24 Vac	valve closed	—	—	60	—	•	ML6435B1008
	3-pt	230 Vac	valve closed	—	—	60	—	•	ML6435B1016

2-way linear valves, stroke 2,5/6,5mm



Compact 2-way control valve PN25, pressure balanced, DN15/32, V5825B

Compact district heating valve, with wide application range. For domestic hot water and district heating; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve series	V5825B
Valve type	2-way press. bal.
Medium type	steam (water)
Materials	body red bronze (DIN1705), trim stainless steel
Action to open	stem down
Close off pressure with 300N motor	1600 kPa
Close off pressure with 400N motor	2500 kPa
Stroke	6,5 mm
Media temp.	2 ... 130 °C
Pressure rating	PN25
Port connection	ext. thread flat sealing
Flow char.	mod.equal%
Additional description	Approved according DIN EN 14597 in combination with ML7435E/ML6435B.

6,5 mm

DN size (mm)	Connection diameter (inch)	Kvs value	Type
15	G3/4	0,25	V5825B1001
15	G3/4	0,4	V5825B1019
15	G3/4	0,63	V5825B1027
15	G3/4	1	V5825B1035
15	G3/4	1,6	V5825B1043
20	G1	2,5	V5825B1050
20	G1	4	V5825B1068
25	G1 1/4	6,3	V5825B1076
32	G1 1/2	10	V5825B1084

Accessories



External threaded fitting for DN15 valve, pipe size R1/2"	ACS-15T
External threaded fitting for DN20 valve, pipe size R3/4"	ACS-20T
External threaded fitting for DN25 valve, pipe size R1"	ACS-25T
External threaded fitting for DN32 valve, pipe size R1 1/4"	ACS-32T
Welding fitting for DN15 valve, pipe size 1/2"	ACS-15W
Welding fitting for DN20 valve, pipe size 3/4"	ACS-20W
Welding fitting for DN25 valve, pipe size 1"	ACS-25W
Welding fitting for DN32 valve, pipe size 1 1/4"	ACS-32W

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime s	Cable length m	Spring return	Type
6,5 mm; 300 N	0/2..10V=	24 Vac	—	—	—	150	1,5	—	M7410E1028
	0/2..10V=	24 Vac	—	•	—	150	1,5	—	M7410E2034
	0/2..10V=	24 Vac	—	•	2	150	1,5	—	M7410E4030
	3-pt	24 Vac	—	—	—	150	1,5	—	M7410C1015
	3-pt	24 Vac	—	•	—	150	1,5	—	M6410C2031
	3-pt	24 Vac	—	•	2	150	1,5	—	M6410C4037
	3-pt	230 Vac	—	•	—	150	1,5	—	M6410L2031
	3-pt	230 Vac	—	•	2	150	1,5	—	M6410L4037
	LON	24 Vac	—	—	—	150	1,5	—	M7410G1024
6,5 mm; 400 N	0/2..10V=	24 Vac	—	•	—	15	—	—	ML7430E1005
	0/2..10V=	24 Vac	valve closed	—	—	60	—	•	ML7435E1004
	3-pt	24 Vac	valve closed	—	—	60	—	•	ML6435B1008
	3-pt	230 Vac	valve closed	—	—	60	—	•	ML6435B1016

2-way linear valves, stroke 20/38mm



Two-way control valve PN16, external threaded connections DN15-50, V5011E

For heating, ventilating and air conditioning, domestic hot water, open circuits; hot/cold water quality VDI2035.

Valve type	2-way
Materials	body brass, stem stainless steel; plug brass
Action to open	stem up
Stroke	20 mm
Media temp.	2 ... 170 °C
Pressure rating	PN16
Port connection	ext. thread flat sealing
Flow char.	mod.equal%
Medium type	water



20 mm

DN size mm	Connection diameter inch	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Type
15	G1 1/8	0,63	1600	–	V5011E1165
15	G1 1/8	1	1600	–	V5011E1171
15	G1 1/8	1,6	1600	–	V5011E1189
15	G1 1/8	2,5	1600	–	V5011E1197
15	G1 1/8	4	1600	–	V5011E1205
20	G1 1/4	6,3	1600	–	V5011E1213
25	G1 1/2	10	1000	1600	V5011E1221
32	G2	16	700	1600	V5011E1229
40	G2 1/4	25	460	1500	V5011E1237
50	G2 3/4	40	260	850	V5011E1245

Accessories

Internal threaded fitting for DN15 valve pipe size Rp 1/2"	AC-15TF
Internal threaded fitting for DN20 valve pipe size Rp 3/4"	AC-20TF
Internal threaded fitting for DN25 valve pipe size Rp 1"	AC-25TF
Internal threaded fitting for DN32 valve pipe size Rp 1 1/4"	AC-32TF
Internal threaded fitting for DN40 valve pipe size Rp 1 1/2"	AC-40TF
Internal threaded fitting for DN50 valve pipe size Rp 2"	AC-50TF

2-way linear valves, stroke 20/38mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24 Vac	–	•	optional	0,5	–	2..10V=	ML7420A6017
	0/2..10V=	24 Vac	–	•	optional	1,0	–	2..10V=	ML7420A6009
	0/2..10V=	24 Vac	valve open	–	optional	1,8	•	2..10V=	ML7425B6007
	0/2..10V=	24 Vac	valve closed	–	optional	1,8	•	2..10V=	ML7425A6008
	2..10V=	24 Vac	–	–	optional	1,0	–	–	ML7420A6025
	3-pt	24 Vac	–	–	optional	1,0	–	optional	ML6420A3072
	3-pt	24 Vac	–	•	optional	0,5	–	optional	ML6420A3023
	3-pt	24 Vac	–	•	optional	1,0	–	optional	ML6420A3007
	3-pt	24 Vac	valve open	–	optional	1,8	•	optional	ML6425B3005
	3-pt	24 Vac	valve closed	–	optional	1,8	•	optional	ML6425A3006
	3-pt	230 Vac	–	•	optional	0,5	–	optional	ML6420A3031
	3-pt	230 Vac	–	•	optional	1,0	–	optional	ML6420A3015
	3-pt	230 Vac	valve open	–	optional	1,8	•	optional	ML6425B3021
	3-pt	230 Vac	valve closed	–	optional	1,8	•	optional	ML6425A3014
	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	1,9	–	2..10V=	ML7421A3004
	3-pt	24 Vac	–	•	optional	1,9	–	optional	ML6421A3005
	3-pt	230 Vac	–	•	optional	1,9	–	–	ML6421A3013
20 mm; 1800 N									

2-way linear valves, stroke 20/38mm



Two-way control valve PN16, threaded connections DN15-50, V5011R,S

For heating, ventilating and air conditioning; hot/cold water quality VDI2035.

Valve series	V5011R/S
Valve type	2-way
Materials	body brass, stem stainless steel; plug brass or stainless steel
Action to open	stem up
Stroke	20 mm
Media temp.	2 ... 170 °C
Pressure rating	PN16
Port connection	internal threads ISO228
Flow char.	mod.equal%



20 mm, plug brass

Medium type	DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Type
water	15	0,63	1600	–	V5011R1000
water	15	1	1600	–	V5011R1018
water	15	1,6	1600	–	V5011R1026
water	15	2,5	1600	–	V5011R1034
water	15	4	1600	–	V5011R1042
water	20	6,3	1600	–	V5011R1059
water	25	10	1000	1600	V5011R1067
water	32	16	700	1600	V5011R1075
water	40	25	460	1500	V5011R1083
water	50	40	260	850	V5011R1091

20 mm, plug stainless steel

Medium type	DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Type
steam (water)	15	0,63	1600	–	V5011S1005
steam (water)	15	1	1600	–	V5011S1013
steam (water)	15	1,6	1600	–	V5011S1021
steam (water)	15	2,5	1600	–	V5011S1039
steam (water)	15	4	1600	–	V5011S1047
steam (water)	20	6,3	1600	–	V5011S1054
steam (water)	25	10	1000	1600	V5011S1062
steam (water)	32	16	700	1600	V5011S1070
steam (water)	40	25	460	1500	V5011S1088
steam (water)	50	40	260	850	V5011S1096

2-way linear valves, stroke 20/38mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24 Vac	–	•	optional	0,5	–	2..10V=	ML7420A6017
	0/2..10V=	24 Vac	–	•	optional	1,0	–	2..10V=	ML7420A6009
	0/2..10V=	24 Vac	valve open	–	optional	1,8	•	2..10V=	ML7425B6007
	0/2..10V=	24 Vac	valve closed	–	optional	1,8	•	2..10V=	ML7425A6008
	2..10V=	24 Vac	–	–	optional	1,0	–	–	ML7420A6025
	3-pt	24 Vac	–	–	optional	1,0	–	optional	ML6420A3072
	3-pt	24 Vac	–	•	optional	0,5	–	optional	ML6420A3023
	3-pt	24 Vac	–	•	optional	1,0	–	optional	ML6420A3007
	3-pt	24 Vac	valve open	–	optional	1,8	•	optional	ML6425B3005
	3-pt	24 Vac	valve closed	–	optional	1,8	•	optional	ML6425A3006
	3-pt	230 Vac	–	•	optional	0,5	–	optional	ML6420A3031
	3-pt	230 Vac	–	•	optional	1,0	–	optional	ML6420A3015
	3-pt	230 Vac	valve open	–	optional	1,8	•	optional	ML6425B3021
	3-pt	230 Vac	valve closed	–	optional	1,8	•	optional	ML6425A3014
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	1,9	–	2..10V=	ML7421A3004
	3-pt	24 Vac	–	•	optional	1,9	–	optional	ML6421A3005
	3-pt	230 Vac	–	•	optional	1,9	–	–	ML6421A3013

2-way linear valves, stroke 20/38mm



Two-way control valve PN16, flanged connections DN15-150, V5328A

For heating and air conditioning in closed circuit systems; hot/cold water quality VDI2035.

Valve series	V5328A
Valve type	2-way
Medium type	steam (water)
Materials	body cast iron GG25, trim stainless steel
Action to open	stem up
Pressure rating	PN16
Port connection	flanges ISO7005
Flow char.	mod.equal%
Additional description	Models DN15..50 approved according DIN EN 14597 (up to 130 °C), with motors ML6425A, ML7425A.



20 mm

DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Media temp. °C	Type
15	0,25	1600	–	20	2 ... 170	V5328A1138
15	0,4	1600	–	20	2 ... 170	V5328A1146
15	0,63	1600	–	20	2 ... 170	V5328A1153
15	1	1600	–	20	2 ... 170	V5328A1005
15	1,6	1600	–	20	2 ... 170	V5328A1013
15	2,5	1000	1600	20	2 ... 170	V5328A1021
15	4	1000	1600	20	2 ... 170	V5328A1039
20	4	1000	1600	20	2 ... 170	V5328A1047
20	6,3	1000	1600	20	2 ... 170	V5328A1054
25	10	1000	1600	20	2 ... 170	V5328A1062
32	16	600	1600	20	2 ... 170	V5328A1070
40	25	350	1300	20	2 ... 170	V5328A1088
50	40	200	750	20	2 ... 170	V5328A1096
65	63	120	470	20	2 ... 170	V5328A1104
80	100	50	230	20	2 ... 170	V5328A1112

38 mm

DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Media temp. °C	Type
100	160	–	230	38	2 ... 200	V5328A1195
125	250	–	90	38	2 ... 200	V5328A1203
150	360	–	90	38	2 ... 200	V5328A1211

2-way linear valves, stroke 20/38mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24 Vac	–	•	optional	0,5	–	2..10V=	ML7420A6017
	0/2..10V=	24 Vac	–	•	optional	1,0	–	2..10V=	ML7420A6009
	0/2..10V=	24 Vac	valve open	–	optional	1,8	•	2..10V=	ML7425B6007
	0/2..10V=	24 Vac	valve closed	–	optional	1,8	•	2..10V=	ML7425A6008
	2..10V=	24 Vac	–	–	optional	1,0	–	–	ML7420A6025
	3-pt	24 Vac	–	–	optional	1,0	–	optional	ML6420A3072
	3-pt	24 Vac	–	•	optional	0,5	–	optional	ML6420A3023
	3-pt	24 Vac	–	•	optional	1,0	–	optional	ML6420A3007
	3-pt	24 Vac	valve open	–	optional	1,8	•	optional	ML6425B3005
	3-pt	24 Vac	valve closed	–	optional	1,8	•	optional	ML6425A3006
	3-pt	230 Vac	–	•	optional	0,5	–	optional	ML6420A3031
	3-pt	230 Vac	–	•	optional	1,0	–	optional	ML6420A3015
	3-pt	230 Vac	valve open	–	optional	1,8	•	optional	ML6425B3021
	3-pt	230 Vac	valve closed	–	optional	1,8	•	optional	ML6425A3014
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	1,9	–	2..10V=	ML7421A3004
	3-pt	24 Vac	–	•	optional	1,9	–	optional	ML6421A3005
	3-pt	230 Vac	–	•	optional	1,9	–	–	ML6421A3013
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	3,5	–	2..10V=	ML7421B3003
	3-pt	24 Vac	–	•	optional	3,5	–	optional	ML6421B3004
	3-pt	230 Vac	–	•	optional	3,5	–	–	ML6421B3012

2-way linear valves, stroke 20/38mm



Two-way control valve PN16, high differential pressure DN15-150, V5016A

Pressure balanced control valve for closed circuit systems.
For district heating; hot or cold water (max. 50% glycol), water quality VDI2035; or steam.

Valve series	V5016A
Valve type	2-way press. bal.
Medium type	steam (water)
Materials	body nodular iron GGG40.3, trim stainless steel
Action to open	stem up
Media temp.	2 ... 180 °C
Pressure rating	PN16
Port connection	flanges ISO7005
Flow char.	mod.equal%
Additional description	Models DN15..80 approved according DIN EN 14597 (up to 130 °C), with motors ML6425A, ML7425A.



20 mm

DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Type
mm		kPa	kPa	mm	
15	0,4	1600	–	20	V5016A1010
15	0,63	1600	–	20	V5016A1028
15	1	1600	–	20	V5016A1036
15	1,6	1600	–	20	V5016A1044
15	2,5	1600	–	20	V5016A1051
15	4	1600	–	20	V5016A1069
20	6,3	1600	–	20	V5016A1077
25	10	1600	–	20	V5016A1085
32	16	1600	–	20	V5016A1093
40	25	1600	–	20	V5016A1101
50	40	1600	–	20	V5016A1119
65	63	1600	–	20	V5016A1127
80	100	1600	–	20	V5016A1135

38 mm

DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Type
mm		kPa	kPa	mm	
100	160	–	1600	38	V5016A1143
125	250	–	1600	38	V5016A1150
150	360	–	1600	38	V5016A1168

2-way linear valves, stroke 20/38mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24 Vac	–	•	optional	0,5	–	2..10V=	ML7420A6017
	0/2..10V=	24 Vac	–	•	optional	1,0	–	2..10V=	ML7420A6009
	0/2..10V=	24 Vac	valve open	–	optional	1,8	•	2..10V=	ML7425B6007
	0/2..10V=	24 Vac	valve closed	–	optional	1,8	•	2..10V=	ML7425A6008
	2..10V=	24 Vac	–	–	optional	1,0	–	–	ML7420A6025
	3-pt	24 Vac	–	–	optional	1,0	–	optional	ML6420A3072
	3-pt	24 Vac	–	•	optional	0,5	–	optional	ML6420A3023
	3-pt	24 Vac	–	•	optional	1,0	–	optional	ML6420A3007
	3-pt	24 Vac	valve open	–	optional	1,8	•	optional	ML6425B3005
	3-pt	24 Vac	valve closed	–	optional	1,8	•	optional	ML6425A3006
	3-pt	230 Vac	–	•	optional	0,5	–	optional	ML6420A3031
	3-pt	230 Vac	–	•	optional	1,0	–	optional	ML6420A3015
	3-pt	230 Vac	valve open	–	optional	1,8	•	optional	ML6425B3021
	3-pt	230 Vac	valve closed	–	optional	1,8	•	optional	ML6425A3014
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	3,5	–	2..10V=	ML7421B3003
	3-pt	24 Vac	–	•	optional	3,5	–	optional	ML6421B3004
	3-pt	230 Vac	–	•	optional	3,5	–	–	ML6421B3012

2-way linear valves, stroke 20/38mm



Two-way control valve PN25, high differential pressure DN15-150, V5025A

Pressure balanced control valve for closed circuit systems.
For district heating; hot or cold water (max. 50% glycol), water quality VDI2035; or steam.

Valve series	V5025A
Valve type	2-way press. bal.
Medium type	steam (water)
Materials	body nodular iron GGG40.3, trim stainless steel
Action to open	stem up
Media temp.	2 ... 200 °C
Pressure rating	PN25
Port connection	flanges ISO7005
Flow char.	mod.equal%
Additional description	Models DN15..80 approved according DIN EN 14597 (up to 130 °C), with motors ML6425A, ML7425A.



20 mm

DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Type
mm		kPa	kPa	mm	
15	0,4	2500	–	20	V5025A1019
15	0,63	2500	–	20	V5025A1027
15	1	2500	–	20	V5025A1035
15	1,6	2500	–	20	V5025A1043
15	2,5	2500	–	20	V5025A1050
15	4	2500	–	20	V5025A1068
20	6,3	2500	–	20	V5025A1076
25	10	2500	–	20	V5025A1084
32	16	2500	–	20	V5025A1092
40	25	2500	–	20	V5025A1100
50	40	2500	–	20	V5025A1118
65	63	2500	–	20	V5025A1126
80	100	2500	–	20	V5025A1134

38 mm

DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Type
mm		kPa	kPa	mm	
100	160	–	2500	38	V5025A1142
125	250	–	2500	38	V5025A1159
150	360	–	2500	38	V5025A1167

2-way linear valves, stroke 20/38mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24 Vac	–	•	optional	0,5	–	2..10V=	ML7420A6017
	0/2..10V=	24 Vac	–	•	optional	1,0	–	2..10V=	ML7420A6009
	0/2..10V=	24 Vac	valve open	–	optional	1,8	•	2..10V=	ML7425B6007
	0/2..10V=	24 Vac	valve closed	–	optional	1,8	•	2..10V=	ML7425A6008
	2..10V=	24 Vac	–	–	optional	1,0	–	–	ML7420A6025
	3-pt	24 Vac	–	–	optional	1,0	–	optional	ML6420A3072
	3-pt	24 Vac	–	•	optional	0,5	–	optional	ML6420A3023
	3-pt	24 Vac	–	•	optional	1,0	–	optional	ML6420A3007
	3-pt	24 Vac	valve open	–	optional	1,8	•	optional	ML6425B3005
	3-pt	24 Vac	valve closed	–	optional	1,8	•	optional	ML6425A3006
	3-pt	230 Vac	–	•	optional	0,5	–	optional	ML6420A3031
	3-pt	230 Vac	–	•	optional	1,0	–	optional	ML6420A3015
	3-pt	230 Vac	valve open	–	optional	1,8	•	optional	ML6425B3021
	3-pt	230 Vac	valve closed	–	optional	1,8	•	optional	ML6425A3014
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	3,5	–	2..10V=	ML7421B3003
	3-pt	24 Vac	–	•	optional	3,5	–	optional	ML6421B3004
	3-pt	230 Vac	–	•	optional	3,5	–	–	ML6421B3012

2-way linear valves, stroke 20/38mm



Two-way control valve PN40, flanged connections DN15-100, V5049A

For heating and air conditioning in closed circuit systems; hot/cold water quality VDI2035.

Valve series	V5049
Valve type	2-way
Medium type	steam (water)
Materials	body cast steel GS-C25, trim stainless steel
Action to open	stem up
Media temp.	2 ... 220 °C
Pressure rating	PN40
Port connection	flanges ISO7005
Flow char.	mod.equal%
Additional description	Models DN15..65 approved according DIN EN 14597 (up to 130 °C), with motors ML6425A, ML7425A.



20 mm

DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Type
15	0,25	1600	–	20	V5049A2027
15	0,4	1600	–	20	V5049A2035
15	0,63	1600	–	20	V5049A2043
15	1	1600	–	20	V5049A1425
15	1,6	1600	–	20	V5049A1433
15	2,5	1000	2500	20	V5049A1441
15	4	1000	2500	20	V5049A1458
20	6,3	1000	2500	20	V5049A1508
25	10	1000	2500	20	V5049A1565
32	16	600	2000	20	V5049A1573
40	25	350	1300	20	V5049A1581
50	40	200	750	20	V5049A1599
65	63	120	500	20	V5049A1607

38 mm

DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Type
80	100	–	230	38	V5049A1615
100	160	–	230	38	V5049A1623

2-way linear valves, stroke 20/38mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24 Vac	–	•	optional	0,5	–	2..10V=	ML7420A6017
	0/2..10V=	24 Vac	–	•	optional	1,0	–	2..10V=	ML7420A6009
	0/2..10V=	24 Vac	valve open	–	optional	1,8	•	2..10V=	ML7425B6007
	0/2..10V=	24 Vac	valve closed	–	optional	1,8	•	2..10V=	ML7425A6008
	2..10V=	24 Vac	–	–	optional	1,0	–	–	ML7420A6025
	3-pt	24 Vac	–	–	optional	1,0	–	optional	ML6420A3072
	3-pt	24 Vac	–	•	optional	0,5	–	optional	ML6420A3023
	3-pt	24 Vac	–	•	optional	1,0	–	optional	ML6420A3007
	3-pt	24 Vac	valve open	–	optional	1,8	•	optional	ML6425B3005
	3-pt	24 Vac	valve closed	–	optional	1,8	•	optional	ML6425A3006
	3-pt	230 Vac	–	•	optional	0,5	–	optional	ML6420A3031
	3-pt	230 Vac	–	•	optional	1,0	–	optional	ML6420A3015
	3-pt	230 Vac	valve open	–	optional	1,8	•	optional	ML6425B3021
	3-pt	230 Vac	valve closed	–	optional	1,8	•	optional	ML6425A3014
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	1,9	–	2..10V=	ML7421A3004
	3-pt	24 Vac	–	•	optional	1,9	–	optional	ML6421A3005
	3-pt	230 Vac	–	•	optional	1,9	–	–	ML6421A3013
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	3,5	–	2..10V=	ML7421B3003
	3-pt	24 Vac	–	•	optional	3,5	–	optional	ML6421B3004
	3-pt	230 Vac	–	•	optional	3,5	–	–	ML6421B3012

3-way linear valves, stroke 2,5/6,5mm



Valve Small, Conical sealing, 3-way, PN16, DN15/20/25, VSxC-3

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve type	3-way mixing
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	ext. thread con. sealing
Additional description	Valves are supplied with adjustment cap.



2,5 mm On/off; adjustment cap for full stroke travel

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1	600	–	2,5	on/off	VSOC-315-1.0
15	G1/2	1,6	300	–	2,5	on/off	VSOC-315-1.6
15	G1/2	2,5	150	–	2,5	on/off	VSOC-315-2.5
20	1 1/8 x 14	2,5	200	–	2,5	on/off	VSOC-320-2.5
20	1 1/8 x 14	4	100	–	2,5	on/off	VSOC-320-4.0
25	G1 1/4	4	200	–	2,5	on/off	VSOC-325-4.0P
25	G1 1/4	5,5	200	–	2,5	on/off	VSOC-325-5.5P

6,5 mm Modulating; adjustment cap opens A-B half stroke until 50% open; B-AB is linear and the Kvs is one stage smaller then A-AB



DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,25	600	600	6,5	mod.equal%	VSMC-315-0.25
15	G1/2	0,4	600	600	6,5	mod.equal%	VSMC-315-0.4
15	G1/2	0,63	600	600	6,5	mod.equal%	VSMC-315-0.63
15	G1/2	1	600	600	6,5	mod.equal%	VSMC-315-1.0
15	G1/2	1,6	300	300	6,5	mod.equal%	VSMC-315-1.6
15	G1/2	2,5	100	100	6,5	mod.equal%	VSMC-315-2.5
20	1 1/8 x 14	2,5	150	150	6,5	mod.equal%	VSMC-320-2.5
20	1 1/8 x 14	4	50	50	6,5	mod.equal%	VSMC-320-4.0
25	G1 1/4	6,3	250	250	6,5	mod.equal%	VSMC-325-6.3P
25	G1 1/4	8	250	250	6,5	mod.equal%	VSMC-325-8.0P

Accessories

Compression fitting for DN15 valve, pipe size 15 mm	ACN-15C
Compression fitting for DN20 valve, pipe size 22 mm	ACN-20C
Soldering fitting for DN15 valve, pipe size 12 mm	ACN-15S
Soldering fitting for DN20 valve, pipe size 15 mm	ACN-20S
External threaded fitting for DN15 valve, pipe size R3/8"	ACN-15T
External threaded fitting for DN20 valve, pipe size R1/2"	ACN-20T
External threaded fitting for DN25 valve, pipe size R1"	ACN-25T

3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	4 min	1	MT4-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	4 min	2,5	MT4-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	4 min	1	MT4-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	1	MT4-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	2,5	MT4-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	4 min	1	MT4-024S-NO
	2-pt	230 Vac	A-AB open	—	—	4 min	1	MT4-230-NC
	2-pt	230 Vac	A-AB open	—	—	4 min	2,5	MT4-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	4 min	1	MT4-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	4 min	1	MT4-230-NO
	2-pt	230 Vac	A-AB closed	—	—	4 min	2,5	MT4-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	4 min	1	MT4-230S-NO
	LON	24 Vac	—	—	—	53 s	1,5	M7410G1008
	0..10V=	24 Vac	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410E1510
	0..10V=	24 Vdc	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410K1515
2,5 mm; 100 N	2-pt	24 Vac/dc	A-AB open	—	—	6 min	1	MT8-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	6 min	2,5	MT8-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	6 min	1	MT8-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	3,6/16 s	1,5	M5410C1001
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	1	MT8-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	2,5	MT8-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	6 min	1	MT8-024S-NO
	2-pt	230 Vac	A-AB open	—	—	6,5 min	1	MT8-230-NC
	2-pt	230 Vac	A-AB open	—	—	6,5 min	2,5	MT8-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	6,5 min	1	MT8-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	3,6/16 s	1,5	M5410L1001
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	1	MT8-230-NO
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	2,5	MT8-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	6,5 min	1	MT8-230S-NO
6,5 mm; 90 N	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016
	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016
6,5 mm; 180 N	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016
	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016

3-way linear valves, stroke 2,5/6,5mm



Valve Small, Flat sealing, 3-way, PN16, DN15/20/25, VSxF-3

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve type	3-way mixing
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	ext. thread flat sealing
Additional description	Valves are supplied with adjustment cap.



2,5 mm On/off; adjustment cap for full stroke travel

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1	600	–	2,5	on/off	VSOF-315-1.0
15	G1/2	1,6	300	–	2,5	on/off	VSOF-315-1.6
15	G1/2	2,5	150	–	2,5	on/off	VSOF-315-2.5
20	G3/4	2,5	200	–	2,5	on/off	VSOF-320-2.5
20	G3/4	4	100	–	2,5	on/off	VSOF-320-4.0
25	G1 1/4	4	200	–	2,5	on/off	VSOF-325-4.0P
25	G1 1/4	5,5	200	–	2,5	on/off	VSOF-325-5.5P

6,5 mm Modulating; adjustment cap opens A-B half stroke until 50% open; B-AB is linear and the Kvs is one stage smaller then A-AB



DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,25	600	600	6,5	mod.equal%	VSMF-315-0.25
15	G1/2	0,4	600	600	6,5	mod.equal%	VSMF-315-0.4
15	G1/2	0,63	600	600	6,5	mod.equal%	VSMF-315-0.63
15	G1/2	1	600	600	6,5	mod.equal%	VSMF-315-1.0
15	G1/2	1,6	300	300	6,5	mod.equal%	VSMF-315-1.6
15	G1/2	2,5	100	100	6,5	mod.equal%	VSMF-315-2.5
20	G3/4	2,5	150	150	6,5	mod.equal%	VSMF-320-2.5
20	G3/4	4	50	50	6,5	mod.equal%	VSMF-320-4.0
25	G1 1/4	6,3	250	250	6,5	mod.equal%	VSMF-325-6.3P
25	G1 1/4	8	250	250	6,5	mod.equal%	VSMF-325-8.0P

Accessories

Soldering fitting for DN15 valve, pipe size 12 mm	AC-15FS
Soldering fitting for DN20 valve, pipe size 15 mm	AC-20FS
External threaded fitting for DN15 valve, pipe size R3/8"	AC-15FT
External threaded fitting for DN20 valve, pipe size R1/2"	AC-20FT
External threaded fitting for DN25 valve, pipe size R1"	ACS-25T

3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	4 min	1	MT4-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	4 min	2,5	MT4-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	4 min	1	MT4-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	1	MT4-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	2,5	MT4-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	4 min	1	MT4-024S-NO
	2-pt	230 Vac	A-AB open	—	—	4 min	1	MT4-230-NC
	2-pt	230 Vac	A-AB open	—	—	4 min	2,5	MT4-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	4 min	1	MT4-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	4 min	1	MT4-230-NO
	2-pt	230 Vac	A-AB closed	—	—	4 min	2,5	MT4-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	4 min	1	MT4-230S-NO
	LON	24 Vac	—	—	—	53 s	1,5	M7410G1008
2,5 mm; 100 N	0..10V=	24 Vac	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410E1510
	0..10V=	24 Vdc	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410K1515
6,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	6 min	1	MT8-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	6 min	2,5	MT8-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	6 min	1	MT8-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	3,6/16 s	1,5	M5410C1001
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	1	MT8-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	2,5	MT8-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	6 min	1	MT8-024S-NO
	2-pt	230 Vac	A-AB open	—	—	6,5 min	1	MT8-230-NC
	2-pt	230 Vac	A-AB open	—	—	6,5 min	2,5	MT8-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	6,5 min	1	MT8-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	3,6/16 s	1,5	M5410L1001
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	1	MT8-230-NO
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	2,5	MT8-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	6,5 min	1	MT8-230S-NO
6,5 mm; 180 N	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016

3-way linear valves, stroke 2,5/6,5mm



Valve Small, Conical sealing, 3-way/bypass, PN16, DN15/20/25, VSxC-4

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve type	3-way mixing, bypass
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	ext. thread con. sealing
Additional description	Valves are supplied with adjustment cap.



2,5 mm On/off; adjustment cap for full stroke travel

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1	600	—	2,5	on/off	VSOC-415-1.0
15	G1/2	1,6	300	—	2,5	on/off	VSOC-415-1.6
15	G1/2	2,5	150	—	2,5	on/off	VSOC-415-2.5
20	1 1/8 x 14	2,5	200	—	2,5	on/off	VSOC-420-2.5
20	1 1/8 x 14	4	100	—	2,5	on/off	VSOC-420-4.0
25	G1 1/4	4	200	—	2,5	on/off	VSOC-425-4.0P
25	G1 1/4	5,5	200	—	2,5	on/off	VSOC-425-5.5P

6,5 mm Modulating; adjustment cap opens A-B half stroke until 50% open; B-AB is linear and the Kvs is one stage smaller then A-AB



DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,25	600	600	6,5	mod.equal%	VSMC-415-0.25
15	G1/2	0,4	600	600	6,5	mod.equal%	VSMC-415-0.4
15	G1/2	0,63	600	600	6,5	mod.equal%	VSMC-415-0.63
15	G1/2	1	600	600	6,5	mod.equal%	VSMC-415-1.0
15	G1/2	1,6	300	300	6,5	mod.equal%	VSMC-415-1.6
15	G1/2	2,5	100	100	6,5	mod.equal%	VSMC-415-2.5
20	1 1/8 x 14	2,5	150	150	6,5	mod.equal%	VSMC-420-2.5
20	1 1/8 x 14	4	50	50	6,5	mod.equal%	VSMC-420-4.0
25	G1 1/4	6,3	250	250	6,5	mod.equal%	VSMC-425-6.3P
25	G1 1/4	8	250	250	6,5	mod.equal%	VSMC-425-8.0P

Accessories

Compression fitting for DN15 valve, pipe size 15 mm	ACN-15C
Compression fitting for DN20 valve, pipe size 22 mm	ACN-20C
Soldering fitting for DN15 valve, pipe size 12 mm	ACN-15S
Soldering fitting for DN20 valve, pipe size 15 mm	ACN-20S
External threaded fitting for DN15 valve, pipe size R3/8"	ACN-15T
External threaded fitting for DN20 valve, pipe size R1/2"	ACN-20T
External threaded fitting for DN25 valve, pipe size R1"	ACN-25T

3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	4 min	1	MT4-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	4 min	2,5	MT4-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	4 min	1	MT4-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	1	MT4-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	2,5	MT4-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	4 min	1	MT4-024S-NO
	2-pt	230 Vac	A-AB open	—	—	4 min	1	MT4-230-NC
	2-pt	230 Vac	A-AB open	—	—	4 min	2,5	MT4-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	4 min	1	MT4-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	4 min	1	MT4-230-NO
	2-pt	230 Vac	A-AB closed	—	—	4 min	2,5	MT4-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	4 min	1	MT4-230S-NO
	LON	24 Vac	—	—	—	53 s	1,5	M7410G1008
2,5 mm; 100 N	0..10V=	24 Vac	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410E1510
	0..10V=	24 Vdc	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410K1515
6,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	6 min	1	MT8-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	6 min	2,5	MT8-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	6 min	1	MT8-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	3,6/16 s	1,5	M5410C1001
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	1	MT8-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	2,5	MT8-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	6 min	1	MT8-024S-NO
	2-pt	230 Vac	A-AB open	—	—	6,5 min	1	MT8-230-NC
	2-pt	230 Vac	A-AB open	—	—	6,5 min	2,5	MT8-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	6,5 min	1	MT8-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	3,6/16 s	1,5	M5410L1001
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	1	MT8-230-NO
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	2,5	MT8-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	6,5 min	1	MT8-230S-NO
6,5 mm; 180 N	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016

3-way linear valves, stroke 2,5/6,5mm



Valve Small, Flat sealing, 3-way/bypass, PN16, DN15/20/25, VSxF-4

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve type	3-way mixing, bypass
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	ext. thread flat sealing
Additional description	Valves are supplied with adjustment cap.



2,5 mm On/off; adjustment cap for full stroke travel

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1	600	–	2,5	on/off	VSOF-415-1.0
15	G1/2	1,6	300	–	2,5	on/off	VSOF-415-1.6
15	G1/2	2,5	150	–	2,5	on/off	VSOF-415-2.5
20	G3/4	2,5	200	–	2,5	on/off	VSOF-420-2.5
20	G3/4	4	100	–	2,5	on/off	VSOF-420-4.0
25	G1 1/4	4	200	–	2,5	on/off	VSOF-425-4.0P
25	G1 1/4	5,5	200	–	2,5	on/off	VSOF-425-5.5P

6,5 mm Modulating; adjustment cap opens A-B half stroke until 50% open; B-AB is linear and the Kvs is one stage smaller then A-AB



DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,25	600	600	6,5	mod.equal%	VSMF-415-0.25
15	G1/2	0,4	600	600	6,5	mod.equal%	VSMF-415-0.4
15	G1/2	0,63	600	600	6,5	mod.equal%	VSMF-415-0.63
15	G1/2	1	600	600	6,5	mod.equal%	VSMF-415-1.0
15	G1/2	1,6	300	300	6,5	mod.equal%	VSMF-415-1.6
15	G1/2	2,5	100	100	6,5	mod.equal%	VSMF-415-2.5
20	G3/4	2,5	150	150	6,5	mod.equal%	VSMF-420-2.5
20	G3/4	4	50	50	6,5	mod.equal%	VSMF-420-4.0
25	G1 1/4	6,3	250	250	6,5	mod.equal%	VSMF-425-6.3P
25	G1 1/4	8	250	250	6,5	mod.equal%	VSMF-425-8.0P

Accessories

Soldering fitting for DN15 valve, pipe size 12 mm	AC-15FS
Soldering fitting for DN20 valve, pipe size 15 mm	AC-20FS
External threaded fitting for DN15 valve, pipe size R3/8"	AC-15FT
External threaded fitting for DN20 valve, pipe size R1/2"	AC-20FT
External threaded fitting for DN25 valve, pipe size R1"	ACS-25T

3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	4 min	1	MT4-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	4 min	2,5	MT4-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	4 min	1	MT4-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	1	MT4-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	2,5	MT4-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	4 min	1	MT4-024S-NO
	2-pt	230 Vac	A-AB open	—	—	4 min	1	MT4-230-NC
	2-pt	230 Vac	A-AB open	—	—	4 min	2,5	MT4-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	4 min	1	MT4-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	4 min	1	MT4-230-NO
	2-pt	230 Vac	A-AB closed	—	—	4 min	2,5	MT4-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	4 min	1	MT4-230S-NO
	LON	24 Vac	—	—	—	53 s	1,5	M7410G1008
2,5 mm; 100 N	0..10V=	24 Vac	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410E1510
	0..10V=	24 Vdc	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410K1515
6,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	6 min	1	MT8-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	6 min	2,5	MT8-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	6 min	1	MT8-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	3,6/16 s	1,5	M5410C1001
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	1	MT8-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	2,5	MT8-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	6 min	1	MT8-024S-NO
	2-pt	230 Vac	A-AB open	—	—	6,5 min	1	MT8-230-NC
	2-pt	230 Vac	A-AB open	—	—	6,5 min	2,5	MT8-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	6,5 min	1	MT8-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	3,6/16 s	1,5	M5410L1001
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	1	MT8-230-NO
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	2,5	MT8-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	6,5 min	1	MT8-230S-NO
6,5 mm; 180 N	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016

3-way linear valves, stroke 2,5/6,5mm



2



Three-way control valve PN16, threaded connections DN15-50, V5078B

For under floor heating, heating and air conditioning; cold/hot water.

Valve series	V5078B
Valve type	3-way mixing
Medium type	water
Materials	body red brass RG5, trim stainless steel
Action to open	stem down
Close off pressure with 180N motor	1000 kPa
Stroke	6,5 mm
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	internal threads ISO228
Flow char.	mod.equal%
Additional description	Adapter ring 0903403 must be used for mechanical interface if an optional motor actuator is used. It has to be ordered seperately.

6,5 mm

DN size mm	Connection diameter inch	Kvs value	Type
15	1/2	2,5	V5078B1005
20	3/4	3,3	V5078B1013
25	1	5	V5078B1021
32	1 1/4	5	V5078B1039
40	1 1/2	11	V5078B1047
50	2	13	V5078B1054

Adapter ring	0903403
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3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Manual operation	End switches	Runtime s	Cable length m	Type
6,5 mm; 180 N	0/2..10V=	24 Vac	–	–	150	1,5	M7410E1002
	0/2..10V=	24 Vac	•	–	150	1,5	M7410E2026
	0/2..10V=	24 Vac	•	2	150	1,5	M7410E4022
	3-pt	24 Vac	–	–	150	1,5	M7410C1007
	3-pt	24 Vac	–	–	150	10	M7410C1007-10M
	3-pt	24 Vac	•	–	150	1,5	M6410C2023
	3-pt	24 Vac	•	2	150	1,5	M6410C4029
	3-pt	230 Vac	•	–	150	1,5	M6410L2023
	3-pt	230 Vac	•	2	150	1,5	M6410L4029
	LON	24 Vac	–	–	150	1,5	M7410G1016

3-way linear valves, stroke 2,5/6,5mm



Three-way control valve PN16, conical sealing DN15/20, V5823A

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.



Valve series	V5823A
Valve type	3-way mixing
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	ext. thread con. sealing
Additional description	Valves are supplied with adjustment cap (not for on/off types). If the main-port (A-AB) is equal percentage, the B-AB port is linear. The valve capacity of B-AB is one stage smaller.

2,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1,6	150	–	2,5	on/off	V5823A4009
20	1 1/8" x 14	2,5	50	–	2,5	on/off	V5823A4017

6,5 mm



DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,25	500	800	6,5	mod.equal%	V5823A2003
15	G1/2	0,4	500	800	6,5	mod.equal%	V5823A2011
15	G1/2	0,63	500	800	6,5	mod.equal%	V5823A2029
15	G1/2	1	150	250	6,5	mod.equal%	V5823A2037
15	G1/2	1,6	150	250	6,5	mod.equal%	V5823A2045
20	1 1/8" x 14	2,5	–	240	6,5	mod.equal%	V5823A2151
20	1 1/8" x 14	2,5	50	100	6,5	mod.equal%	V5823A2052
20	1 1/8" x 14	4	–	240	6,5	mod.equal%	V5823A2169
20	1 1/8" x 14	4	50	100	6,5	mod.equal%	V5823A2060

Accessories

Compression fitting for DN15 valve, pipe size 15 mm	ACN-15C
Compression fitting for DN20 valve, pipe size 22 mm	ACN-20C
Soldering fitting for DN15 valve, pipe size 12 mm	ACN-15S
Soldering fitting for DN20 valve, pipe size 15 mm	ACN-20S
External threaded fitting for DN15 valve, pipe size 3/8"	ACN-15T
External threaded fitting for DN20 valve, pipe size 1/2"	ACN-20T
Service tool to clean/replace inserts	WV108/U
Brush for WV108	WV108B
Spare adjustment cap (pack of 10)	5585100

3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	4 min	1	MT4-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	4 min	2,5	MT4-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	4 min	1	MT4-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	1	MT4-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	2,5	MT4-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	4 min	1	MT4-024S-NO
	2-pt	230 Vac	A-AB open	—	—	4 min	1	MT4-230-NC
	2-pt	230 Vac	A-AB open	—	—	4 min	2,5	MT4-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	4 min	1	MT4-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	4 min	1	MT4-230-NO
	2-pt	230 Vac	A-AB closed	—	—	4 min	2,5	MT4-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	4 min	1	MT4-230S-NO
	3-pt	24 Vac	—	—	—	57 s	0,9	M7410A1001
	3-pt	24 Vac	—	—	—	57 s	3	M7410A1001-3M
	LON	24 Vac	—	—	—	53 s	1,5	M7410G1008
2,5 mm; 100 N	0..10V=	24 Vac	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410E1510
	0..10V=	24 Vdc	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410K1515
6,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	6 min	1	MT8-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	6 min	2,5	MT8-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	6 min	1	MT8-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	3,6/16 s	1,5	M5410C1001
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	1	MT8-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	2,5	MT8-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	6 min	1	MT8-024S-NO
	2-pt	230 Vac	A-AB open	—	—	6,5 min	1	MT8-230-NC
	2-pt	230 Vac	A-AB open	—	—	6,5 min	2,5	MT8-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	6,5 min	1	MT8-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	3,6/16 s	1,5	M5410L1001
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	1	MT8-230-NO
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	2,5	MT8-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	6,5 min	1	MT8-230S-NO
6,5 mm; 180 N	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016

3-way linear valves, stroke 2,5/6,5mm



Three-way/bypass control valve PN16, conical sealing DN15/20, V5823C

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

Valve series	V5823C
Valve type	3-way mixing, bypass
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	ext. thread con. sealing
Additional description	Valves are supplied with adjustment cap (not for on/off types). If the main-port (A-AB) is equal percentage, the B-AB port is linear. The valve capacity of B-AB is one stage smaller.



2,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1,6	150	–	2,5	on/off	V5823C4005
20	1 1/8" x 14	2,5	50	–	2,5	on/off	V5823C4013

6,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,25	500	800	6,5	mod.equal%	V5823C2009
15	G1/2	0,4	500	800	6,5	mod.equal%	V5823C2017
15	G1/2	0,63	500	800	6,5	mod.equal%	V5823C2025
15	G1/2	1	150	250	6,5	mod.equal%	V5823C2033
15	G1/2	1,6	150	250	6,5	mod.equal%	V5823C2041
20	1 1/8" x 14	2,5	–	240	6,5	mod.equal%	V5823C2157
20	1 1/8" x 14	2,5	50	100	6,5	mod.equal%	V5823C2058
20	1 1/8" x 14	4	–	240	6,5	mod.equal%	V5823C2165
20	1 1/8" x 14	4	50	100	6,5	mod.equal%	V5823C2066



Accessories

Compression fitting for DN15 valve, pipe size 15 mm	ACN-15C
Compression fitting for DN20 valve, pipe size 22 mm	ACN-20C
Soldering fitting for DN15 valve, pipe size 12 mm	ACN-15S
Soldering fitting for DN20 valve, pipe size 15 mm	ACN-20S
External threaded fitting for DN15 valve, pipe size 3/8"	ACN-15T
External threaded fitting for DN20 valve, pipe size 1/2"	ACN-20T
Service tool to clean/replace inserts	WV108/U
Brush for WV108	WV108B
Spare adjustment cap (pack of 10)	5585100

3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	4 min	1	MT4-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	4 min	2,5	MT4-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	4 min	1	MT4-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	1	MT4-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	2,5	MT4-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	4 min	1	MT4-024S-NO
	2-pt	230 Vac	A-AB open	—	—	4 min	1	MT4-230-NC
	2-pt	230 Vac	A-AB open	—	—	4 min	2,5	MT4-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	4 min	1	MT4-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	4 min	1	MT4-230-NO
	2-pt	230 Vac	A-AB closed	—	—	4 min	2,5	MT4-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	4 min	1	MT4-230S-NO
	3-pt	24 Vac	—	—	—	57 s	0,9	M7410A1001
	3-pt	24 Vac	—	—	—	57 s	3	M7410A1001-3M
	LON	24 Vac	—	—	—	53 s	1,5	M7410G1008
2,5 mm; 100 N	0..10V=	24 Vac	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410E1510
	0..10V=	24 Vdc	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410K1515
6,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	6 min	1	MT8-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	6 min	2,5	MT8-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	6 min	1	MT8-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	3,6/16 s	1,5	M5410C1001
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	1	MT8-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	2,5	MT8-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	6 min	1	MT8-024S-NO
	2-pt	230 Vac	A-AB open	—	—	6,5 min	1	MT8-230-NC
	2-pt	230 Vac	A-AB open	—	—	6,5 min	2,5	MT8-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	6,5 min	1	MT8-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	3,6/16 s	1,5	M5410L1001
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	1	MT8-230-NO
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	2,5	MT8-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	6,5 min	1	MT8-230S-NO
6,5 mm; 180 N	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016

3-way linear valves, stroke 2,5/6,5mm



Three-way control valve PN16, flat sealing DN15/20, V5833A

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.



Valve series	V5833A
Valve type	3-way mixing
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	ext. thread flat sealing
Additional description	Valves are supplied with adjustment cap (not for on/off types). If the main-port (A-AB) is equal percentage, the B-AB port is linear. The valve capacity of B-AB is one stage smaller.

2,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1,6	150	–	2,5	on/off	V5833A4007
20	G3/4	2,5	50	–	2,5	on/off	V5833A4015

6,5 mm



DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,25	500	800	6,5	mod.equal%	V5833A1003
15	G1/2	0,4	500	800	6,5	mod.equal%	V5833A1011
15	G1/2	0,63	500	800	6,5	mod.equal%	V5833A1029
15	G1/2	1	150	250	6,5	mod.equal%	V5833A1037
15	G1/2	1,6	150	250	6,5	mod.equal%	V5833A1045
20	G3/4	2,5	–	240	6,5	mod.equal%	V5833A3009
20	G3/4	2,5	50	100	6,5	mod.equal%	V5833A1052
20	G3/4	4	–	240	6,5	mod.equal%	V5833A3017
20	G3/4	4	50	100	6,5	mod.equal%	V5833A1060

Accessories

Soldering fitting for DN15 valve, pipe size 12 mm	AC-15FS
Soldering fitting for DN20 valve, pipe size 15 mm	AC-20FS
External threaded fitting for DN15 valve, pipe size 3/8"	AC-15FT
External threaded fitting for DN20 valve, pipe size 1/2"	AC-20FT
Service tool to clean/replace inserts	WV108/U
Brush for WV108	WV108B
Spare adjustment cap (pack of 10)	5585100

3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	4 min	1	MT4-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	4 min	2,5	MT4-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	4 min	1	MT4-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	1	MT4-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	2,5	MT4-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	4 min	1	MT4-024S-NO
	2-pt	230 Vac	A-AB open	—	—	4 min	1	MT4-230-NC
	2-pt	230 Vac	A-AB open	—	—	4 min	2,5	MT4-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	4 min	1	MT4-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	4 min	1	MT4-230-NO
	2-pt	230 Vac	A-AB closed	—	—	4 min	2,5	MT4-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	4 min	1	MT4-230S-NO
	3-pt	24 Vac	—	—	—	57 s	0,9	M7410A1001
	3-pt	24 Vac	—	—	—	57 s	3	M7410A1001-3M
	LON	24 Vac	—	—	—	53 s	1,5	M7410G1008
2,5 mm; 100 N	0..10V=	24 Vac	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410E1510
	0..10V=	24 Vdc	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410K1515
6,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	6 min	1	MT8-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	6 min	2,5	MT8-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	6 min	1	MT8-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	3,6/16 s	1,5	M5410C1001
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	1	MT8-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	2,5	MT8-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	6 min	1	MT8-024S-NO
	2-pt	230 Vac	A-AB open	—	—	6,5 min	1	MT8-230-NC
	2-pt	230 Vac	A-AB open	—	—	6,5 min	2,5	MT8-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	6,5 min	1	MT8-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	3,6/16 s	1,5	M5410L1001
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	1	MT8-230-NO
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	2,5	MT8-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	6,5 min	1	MT8-230S-NO
6,5 mm; 180 N	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016

3-way linear valves, stroke 2,5/6,5mm



Three-way/bypass control valve PN16, flat sealing DN15/20, V5833C

For individual room control, fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.



Valve series	V5833C
Valve type	3-way mixing, bypass
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Media temp.	2 ... 120 °C
Pressure rating	PN16
Port connection	ext. thread flat sealing
Additional description	Valves are supplied with adjustment cap (not for on/off types). The valve capacity for linear ports is one stage smaller than for equal percentage ports.

2,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	1,6	150	–	2,5	on/off	V5833C4003
20	G3/4	2,5	50	–	2,5	on/off	V5833C4011

6,5 mm



DN size	Connection diameter	Kvs value	Close off pressure with 90N motor	Close off pressure with 180N motor	Stroke	Flow char.	Type
mm	inch		kPa	kPa	mm		
15	G1/2	0,25	500	800	6,5	mod.equal%	V5833C1066
15	G1/2	0,4	500	800	6,5	mod.equal%	V5833C1009
15	G1/2	0,63	500	800	6,5	mod.equal%	V5833C1017
15	G1/2	1	150	250	6,5	mod.equal%	V5833C1025
15	G1/2	1,6	150	250	6,5	mod.equal%	V5833C1033
20	G3/4	2,5	–	240	6,5	mod.equal%	V5833C1140
20	G3/4	2,5	50	100	6,5	mod.equal%	V5833C1041
20	G3/4	4	–	240	6,5	mod.equal%	V5833C1152
20	G3/4	4	50	100	6,5	mod.equal%	V5833C1058

Accessories

Soldering fitting for DN15 valve, pipe size 12 mm	AC-15FS
Soldering fitting for DN20 valve, pipe size 15 mm	AC-20FS
External threaded fitting for DN15 valve, pipe size 3/8"	AC-15FT
External threaded fitting for DN20 valve, pipe size 1/2"	AC-20FT
Service tool to clean/replace inserts	WV108/U
Brush for WV108	WV108B
Spare adjustment cap (pack of 10)	5585100

3-way linear valves, stroke 2,5/6,5mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime	Cable length m	Type
2,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	4 min	1	MT4-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	4 min	2,5	MT4-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	4 min	1	MT4-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	1	MT4-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	4 min	2,5	MT4-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	4 min	1	MT4-024S-NO
	2-pt	230 Vac	A-AB open	—	—	4 min	1	MT4-230-NC
	2-pt	230 Vac	A-AB open	—	—	4 min	2,5	MT4-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	4 min	1	MT4-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	4 min	1	MT4-230-NO
	2-pt	230 Vac	A-AB closed	—	—	4 min	2,5	MT4-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	4 min	1	MT4-230S-NO
	3-pt	24 Vac	—	—	—	57 s	0,9	M7410A1001
	3-pt	24 Vac	—	—	—	57 s	3	M7410A1001-3M
	LON	24 Vac	—	—	—	53 s	1,5	M7410G1008
2,5 mm; 100 N	0..10V=	24 Vac	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410E1510
	0..10V=	24 Vdc	A-AB open	—	—	75 s	optional: 1, 3, 5	M4410K1515
6,5 mm; 90 N	2-pt	24 Vac/dc	A-AB open	—	—	6 min	1	MT8-024-NC
	2-pt	24 Vac/dc	A-AB open	—	—	6 min	2,5	MT8-024-NC-2.5M
	2-pt	24 Vac/dc	A-AB open	—	1	6 min	1	MT8-024S-NC
	2-pt	24 Vac/dc	A-AB closed	—	—	3,6/16 s	1,5	M5410C1001
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	1	MT8-024-NO
	2-pt	24 Vac/dc	A-AB closed	—	—	6 min	2,5	MT8-024-NO-2.5M
	2-pt	24 Vac/dc	A-AB closed	—	1	6 min	1	MT8-024S-NO
	2-pt	230 Vac	A-AB open	—	—	6,5 min	1	MT8-230-NC
	2-pt	230 Vac	A-AB open	—	—	6,5 min	2,5	MT8-230-NC-2.5M
	2-pt	230 Vac	A-AB open	—	1	6,5 min	1	MT8-230S-NC
	2-pt	230 Vac	A-AB closed	—	—	3,6/16 s	1,5	M5410L1001
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	1	MT8-230-NO
	2-pt	230 Vac	A-AB closed	—	—	6,5 min	2,5	MT8-230-NO-2.5M
	2-pt	230 Vac	A-AB closed	—	1	6,5 min	1	MT8-230S-NO
6,5 mm; 180 N	0/2..10V=	24 Vac	—	—	—	150 s	1,5	M7410E1002
	0/2..10V=	24 Vac	—	•	—	150 s	1,5	M7410E2026
	0/2..10V=	24 Vac	—	•	2	150 s	1,5	M7410E4022
	3-pt	24 Vac	—	—	—	150 s	1,5	M7410C1007
	3-pt	24 Vac	—	—	—	150 s	10	M7410C1007-10M
	3-pt	24 Vac	—	•	—	150 s	1,5	M6410C2023
	3-pt	24 Vac	—	•	2	150 s	1,5	M6410C4029
	3-pt	230 Vac	—	•	—	150 s	1,5	M6410L2023
	3-pt	230 Vac	—	•	2	150 s	1,5	M6410L4029
	LON	24 Vac	—	—	—	150 s	1,5	M7410G1016

3-way linear valves, stroke 2,5/6,5mm



Three-way control valve PN16, flat sealing DN25-40, V5833A

Pressure balanced control valve. For fan coil units and small re-heaters/re-coolers; hot water or cold water (max. 50% glycol), water quality VDI2035.

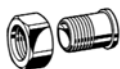


Valve series	V5833A2
Valve type	3-way mixing, press. bal.
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Stroke	6,5 mm
Media temp.	2 ... 130 °C
Pressure rating	PN16
Port connection	ext. thread flat sealing
Flow char.	linear
Additional description	Valves are supplied with adjustment cap.

6,5 mm

DN size	Connection diameter	Kvs value	Close off pressure with 300N motor	Close off pressure with 400N motor	Type
mm	inch		kPa	kPa	
25	G1 1/2	4	600	1600	V5833A2076
25	G1 1/2	6,3	600	1600	V5833A2084
25	G1 1/2	10	600	1600	V5833A2092
32	G2	16	300	1200	V5833A2100
40	G2 1/4	25	–	1000	V5833A2118

Accessories



External threaded fitting for DN25 valve, pipe size R1"	AC-25T
External threaded fitting for DN32 valve, pipe size R1 1/4"	AC-32T
External threaded fitting for DN40 valve, pipe size R1 1/2"	AC-40T
Internal threaded fitting for DN25 valve, pipe size Rp1"	AC-25TF
Internal threaded fitting for DN32 valve, pipe size Rp1 1/4"	AC-32TF
Internal threaded fitting for DN40 valve, pipe size Rp1 1/2"	AC-40TF
Spare adjustment cap (pack of 10)	5585100

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime s	Cable length m	Spring return	Type
6,5 mm; 300 N	0/2..10V=	24 Vac	–	–	–	150	1,5	–	M7410E1028
	0/2..10V=	24 Vac	–	•	–	150	1,5	–	M7410E2034
	0/2..10V=	24 Vac	–	•	2	150	1,5	–	M7410E4030
	3-pt	24 Vac	–	–	–	150	1,5	–	M7410C1015
	3-pt	24 Vac	–	•	–	150	1,5	–	M6410C2031
	3-pt	24 Vac	–	•	2	150	1,5	–	M6410C4037
	3-pt	230 Vac	–	•	–	150	1,5	–	M6410L2031
	3-pt	230 Vac	–	•	2	150	1,5	–	M6410L4037
	LON	24 Vac	–	–	–	150	1,5	–	M7410G1024
6,5 mm; 400 N	0/2..10V=	24 Vac	–	•	–	15	–	–	ML7430E1005
	0/2..10V=	24 Vac	A-AB closed	–	–	60	–	•	ML7435E1004
	3-pt	24 Vac	A-AB closed	–	–	60	–	•	ML6435B1008
	3-pt	230 Vac	A-AB closed	–	–	60	–	•	ML6435B1016

3-way linear valves, stroke 20/38mm



Three-way control valve PN16, flat sealing DN15-50, V5013E

For heating, ventilating and air conditioning, open circuits; hot/cold water quality VDI2035.

Valve series	V5013E
Valve type	3-way mixing
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Stroke	20 mm
Media temp.	2 ... 170 °C
Pressure rating	PN16
Port connection	ext. thread flat sealing
Flow char.	mod.equal%

20 mm

DN size mm	Connection diameter inch	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Type
15	G1 1/8	2,5	1600	—	V5013E1063
15	G1 1/8	4	1600	—	V5013E1071
20	G1 1/4	6,3	1600	—	V5013E1089
25	G1 1/2	10	1000	1600	V5013E1097
32	G2	16	700	1600	V5013E1105
40	G2 1/4	25	460	1500	V5013E1113
50	G2 3/4	40	260	850	V5013E1121

Accessories

Internal threaded fitting for DN15 valve, pipe size Rp1/2"	AC-15TF
Internal threaded fitting for DN20 valve, pipe size Rp3/4"	AC-20TF
Internal threaded fitting for DN25 valve, pipe size Rp1"	AC-25TF
Internal threaded fitting for DN32 valve, pipe size Rp1 1/4"	AC-32TF
Internal threaded fitting for DN40 valve, pipe size Rp1 1/2"	AC-40TF
Internal threaded fitting for DN50 valve, pipe size Rp2"	AC-50TF

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24 Vac	—	•	optional	0,5	—	2..10V=	ML7420A6017
	0/2..10V=	24 Vac	—	•	optional	1,0	—	2..10V=	ML7420A6009
	0/2..10V=	24 Vac	A-AB open	—	optional	1,8	•	2..10V=	ML7425A6008
	0/2..10V=	24 Vac	A-AB closed	—	optional	1,8	•	2..10V=	ML7425B6007
	2..10V=	24 Vac	—	—	optional	1,0	—	—	ML7420A6025
	3-pt	24 Vac	—	—	optional	1,0	—	optional	ML6420A3072
	3-pt	24 Vac	—	•	optional	0,5	—	optional	ML6420A3023
	3-pt	24 Vac	—	•	optional	1,0	—	optional	ML6420A3007
	3-pt	24 Vac	A-AB open	—	optional	1,8	•	optional	ML6425A3006
	3-pt	24 Vac	A-AB closed	—	optional	1,8	•	optional	ML6425B3005
	3-pt	230 Vac	—	•	optional	0,5	—	optional	ML6420A3031
	3-pt	230 Vac	—	•	optional	1,0	—	optional	ML6420A3015
	3-pt	230 Vac	A-AB open	—	optional	1,8	•	optional	ML6425A3014
	3-pt	230 Vac	A-AB closed	—	optional	1,8	•	optional	ML6425B3021
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	—	•	optional	1,9	—	2..10V=	ML7421A3004
	3-pt	24 Vac	—	•	optional	1,9	—	optional	ML6421A3005
	3-pt	230 Vac	—	•	optional	1,9	—	—	ML6421A3013

3-way linear valves, stroke 20/38mm



Three-way control valve PN16, threaded connections DN15-50, V5013R

For heating, ventilating and air conditioning, open circuits; hot/cold water quality VDI2035.

Valve series	V5013R
Valve type	3-way mixing
Medium type	water
Materials	body brass, stem stainless steel, plug brass
Action to open	stem down
Stroke	20 mm
Media temp.	2 ... 170 °C
Pressure rating	PN16
Port connection	internal threads ISO228
Flow char.	mod.equal%



20 mm

DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Type
15	2,5	1600	–	V5013R1032
15	4	1600	–	V5013R1040
20	6,3	1600	–	V5013R1057
25	10	1000	1600	V5013R1065
32	16	700	1600	V5013R1073
40	25	460	1500	V5013R1081
50	40	260	850	V5013R1099

3-way linear valves, stroke 20/38mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24 Vac	–	•	optional	0,5	–	2..10V=	ML7420A6017
	0/2..10V=	24 Vac	–	•	optional	1,0	–	2..10V=	ML7420A6009
	0/2..10V=	24 Vac	A-AB open	–	optional	1,8	•	2..10V=	ML7425A6008
	0/2..10V=	24 Vac	A-AB closed	–	optional	1,8	•	2..10V=	ML7425B6007
	2..10V=	24 Vac	–	–	optional	1,0	–	–	ML7420A6025
	3-pt	24 Vac	–	–	optional	1,0	–	optional	ML6420A3072
	3-pt	24 Vac	–	•	optional	0,5	–	optional	ML6420A3023
	3-pt	24 Vac	–	•	optional	1,0	–	optional	ML6420A3007
	3-pt	24 Vac	A-AB open	–	optional	1,8	•	optional	ML6425A3006
	3-pt	24 Vac	A-AB closed	–	optional	1,8	•	optional	ML6425B3005
	3-pt	230 Vac	–	•	optional	0,5	–	optional	ML6420A3031
	3-pt	230 Vac	–	•	optional	1,0	–	optional	ML6420A3015
	3-pt	230 Vac	A-AB open	–	optional	1,8	•	optional	ML6425A3014
	3-pt	230 Vac	A-AB closed	–	optional	1,8	•	optional	ML6425B3021
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	1,9	–	2..10V=	ML7421A3004
	3-pt	24 Vac	–	•	optional	1,9	–	optional	ML6421A3005
	3-pt	230 Vac	–	•	optional	1,9	–	–	ML6421A3013

3-way linear valves, stroke 20/38mm



Three-way control valve PN6, flanged connections DN15-150, V5329C/V5015A

For heating and air conditioning in closed circuit systems; hot/cold water quality VDI2035, greenhouses.

Valve series	V5329C/V5015
Valve type	3-way mixing
Medium type	water
Materials	body cast iron GG25, trim stainless steel
Action to open	stem down
Pressure rating	PN6
Port connection	flanges ISO7005
Flow char.	mod.equal%



20 mm

DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Media temp.	Type
mm		kPa	kPa	mm	°C	
15	2,5	600	–	20	2 ... 170	V5329C1000
15	4	600	–	20	2 ... 170	V5329C1018
20	6,3	600	–	20	2 ... 170	V5329C1026
25	10	600	–	20	2 ... 170	V5329C1034
32	16	600	–	20	2 ... 170	V5329C1042
40	25	480	600	20	2 ... 170	V5329C1059
50	40	260	600	20	2 ... 170	V5329C1067
65	63	160	600	20	2 ... 170	V5329C1075
80	100	100	400	20	2 ... 170	V5329C1083

38 mm

DN size	Kvs value	Close off pressure with 600N motor	Close off pressure with 1800N motor	Stroke	Media temp.	Type
mm		kPa	kPa	mm	°C	
100	140	–	150	38	2 ... 120	V5015A1151
125	220	–	120	38	2 ... 120	V5015A1169
150	310	–	80	38	2 ... 120	V5015A1177

3-way linear valves, stroke 20/38mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24 Vac	–	•	optional	0,5	–	2..10V=	ML7420A6017
	0/2..10V=	24 Vac	–	•	optional	1,0	–	2..10V=	ML7420A6009
	0/2..10V=	24 Vac	A-AB open	–	optional	1,8	•	2..10V=	ML7425A6008
	0/2..10V=	24 Vac	A-AB closed	–	optional	1,8	•	2..10V=	ML7425B6007
	2..10V=	24 Vac	–	–	optional	1,0	–	–	ML7420A6025
	3-pt	24 Vac	–	–	optional	1,0	–	optional	ML6420A3072
	3-pt	24 Vac	–	•	optional	0,5	–	optional	ML6420A3023
	3-pt	24 Vac	–	•	optional	1,0	–	optional	ML6420A3007
	3-pt	24 Vac	A-AB open	–	optional	1,8	•	optional	ML6425A3006
	3-pt	24 Vac	A-AB closed	–	optional	1,8	•	optional	ML6425B3005
	3-pt	230 Vac	–	•	optional	0,5	–	optional	ML6420A3031
	3-pt	230 Vac	–	•	optional	1,0	–	optional	ML6420A3015
	3-pt	230 Vac	A-AB open	–	optional	1,8	•	optional	ML6425A3014
	3-pt	230 Vac	A-AB closed	–	optional	1,8	•	optional	ML6425B3021
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	1,9	–	2..10V=	ML7421A3004
	3-pt	24 Vac	–	•	optional	1,9	–	optional	ML6421A3005
	3-pt	230 Vac	–	•	optional	1,9	–	–	ML6421A3013
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	3,5	–	2..10V=	ML7421B3003
	3-pt	24 Vac	–	•	optional	3,5	–	optional	ML6421B3004
	3-pt	230 Vac	–	•	optional	3,5	–	–	ML6421B3012

3-way linear valves, stroke 20/38mm



Three-way control valve PN16, flanged connections DN 15-150, V5329A/V5050A,B

For heating and air conditioning in closed circuit systems; hot/cold water quality VDI2035, greenhouses.

Valve series	V5329A/V5050
Medium type	water
Materials	body cast iron GG25, trim stainless steel
Action to open	stem down
Pressure rating	PN16
Port connection	flanges ISO7005



20 mm

Valve type	DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Media temp. °C	Flow char.	Type
3-way mixing	15	2,5	1000	–	20	2 ... 170	mod.equal%	V5329A1004
3-way mixing	15	4	1000	–	20	2 ... 170	mod.equal%	V5329A1012
3-way mixing	20	6,3	1000	–	20	2 ... 170	mod.equal%	V5329A1020
3-way mixing	25	10	1000	–	20	2 ... 170	mod.equal%	V5329A1038
3-way mixing	32	16	790	1000	20	2 ... 170	mod.equal%	V5329A1046
3-way mixing	40	25	480	1000	20	2 ... 170	mod.equal%	V5329A1053
3-way mixing	50	40	260	1000	20	2 ... 170	mod.equal%	V5329A1061
3-way mixing	65	63	160	650	20	2 ... 170	mod.equal%	V5329A1079
3-way mixing	80	100	100	400	20	2 ... 170	mod.equal%	V5329A1087

38 mm, mixing

Valve type	DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Media temp. °C	Flow char.	Type
3-way mixing	100	160	–	230	38	2 ... 220	linear	V5050A1090
3-way mixing	125	250	–	90	38	2 ... 220	linear	V5050A1108
3-way mixing	150	360	–	90	38	2 ... 220	linear	V5050A1116

38 mm, diverting, action to open AB-A: stem up

Valve type	DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Media temp. °C	Flow char.	Type
3-way diverting	100	160	–	230	38	2 ... 220	linear	V5050B1064
3-way diverting	125	250	–	90	38	2 ... 220	linear	V5050B1072
3-way diverting	150	360	–	90	38	2 ... 220	linear	V5050B1080

3-way linear valves, stroke 20/38mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24 Vac	–	•	optional	0,5	–	2..10V=	ML7420A6017
	0/2..10V=	24 Vac	–	•	optional	1,0	–	2..10V=	ML7420A6009
	0/2..10V=	24 Vac	A-AB open	–	optional	1,8	•	2..10V=	ML7425A6008
	0/2..10V=	24 Vac	A-AB closed	–	optional	1,8	•	2..10V=	ML7425B6007
	2..10V=	24 Vac	–	–	optional	1,0	–	–	ML7420A6025
	3-pt	24 Vac	–	–	optional	1,0	–	optional	ML6420A3072
	3-pt	24 Vac	–	•	optional	0,5	–	optional	ML6420A3023
	3-pt	24 Vac	–	•	optional	1,0	–	optional	ML6420A3007
	3-pt	24 Vac	A-AB open	–	optional	1,8	•	optional	ML6425A3006
	3-pt	24 Vac	A-AB closed	–	optional	1,8	•	optional	ML6425B3005
	3-pt	230 Vac	–	•	optional	0,5	–	optional	ML6420A3031
	3-pt	230 Vac	–	•	optional	1,0	–	optional	ML6420A3015
	3-pt	230 Vac	A-AB open	–	optional	1,8	•	optional	ML6425A3014
	3-pt	230 Vac	A-AB closed	–	optional	1,8	•	optional	ML6425B3021
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	1,9	–	2..10V=	ML7421A3004
	3-pt	24 Vac	–	•	optional	1,9	–	optional	ML6421A3005
	3-pt	230 Vac	–	•	optional	1,9	–	–	ML6421A3013
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	3,5	–	2..10V=	ML7421B3003
	3-pt	24 Vac	–	•	optional	3,5	–	optional	ML6421B3004
	3-pt	230 Vac	–	•	optional	3,5	–	–	ML6421B3012

3-way linear valves, stroke 20/38mm



Three-way control valve PN25/40, flanged connections DN15-100, V5050A,B

For closed circuit heating systems, hot water quality VDI2035.

Valve series	V5050
Medium type	water
Materials	body cast steel GS-C25, trim stainless steel
Action to open	stem down
Media temp.	2 ... 220 °C
Pressure rating	PN25/40
Port connection	flanges ISO7005
Flow char.	linear



20 mm

Valve type	DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Type
3-way mixing	15	2,5	1000	2500	20	V5050A1124
3-way mixing	15	4	1000	2500	20	V5050A1132
3-way mixing	20	6,3	1000	2500	20	V5050A1140
3-way mixing	25	10	1000	2500	20	V5050A1157
3-way mixing	32	16	600	2000	20	V5050A1165
3-way mixing	40	25	350	1300	20	V5050A1173
3-way mixing	50	40	200	750	20	V5050A1181
3-way mixing	65	63	120	500	20	V5050A1199
3-way mixing	80	100	50	230	20	V5050A1207

38 mm, mixing

Valve type	DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Type
3-way mixing	100	160	–	230	38	V5050A1215

38 mm, diverting, action to open AB-A: stem up

Valve type	DN size mm	Kvs value	Close off pressure with 600N motor kPa	Close off pressure with 1800N motor kPa	Stroke mm	Type
3-way diverting	100	160	–	230	38	V5050B1155

3-way linear valves, stroke 20/38mm

Actuators	Control input signal	Supply voltage	Power loss action	Manual operation	End switches	Runtime min	Spring return	Position feedback	Type
20 mm; 600 N	0/2..10V=	24 Vac	–	•	optional	0,5	–	2..10V=	ML7420A6017
	0/2..10V=	24 Vac	–	•	optional	1,0	–	2..10V=	ML7420A6009
	0/2..10V=	24 Vac	A-AB open	–	optional	1,8	•	2..10V=	ML7425A6008
	0/2..10V=	24 Vac	A-AB closed	–	optional	1,8	•	2..10V=	ML7425B6007
	2..10V=	24 Vac	–	–	optional	1,0	–	–	ML7420A6025
	3-pt	24 Vac	–	–	optional	1,0	–	optional	ML6420A3072
	3-pt	24 Vac	–	•	optional	0,5	–	optional	ML6420A3023
	3-pt	24 Vac	–	•	optional	1,0	–	optional	ML6420A3007
	3-pt	24 Vac	A-AB open	–	optional	1,8	•	optional	ML6425A3006
	3-pt	24 Vac	A-AB closed	–	optional	1,8	•	optional	ML6425B3005
	3-pt	230 Vac	–	•	optional	0,5	–	optional	ML6420A3031
	3-pt	230 Vac	–	•	optional	1,0	–	optional	ML6420A3015
	3-pt	230 Vac	A-AB open	–	optional	1,8	•	optional	ML6425A3014
	3-pt	230 Vac	A-AB closed	–	optional	1,8	•	optional	ML6425B3021
20 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	1,9	–	2..10V=	ML7421A3004
	3-pt	24 Vac	–	•	optional	1,9	–	optional	ML6421A3005
	3-pt	230 Vac	–	•	optional	1,9	–	–	ML6421A3013
38 mm; 1800 N	0/2..10V=; 0/4..20mA	24 Vac	–	•	optional	3,5	–	2..10V=	ML7421B3003
	3-pt	24 Vac	–	•	optional	3,5	–	optional	ML6421B3004
	3-pt	230 Vac	–	•	optional	3,5	–	–	ML6421B3012

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General Information

Best choice

Valve Type		Application							
		Steam	Heating	Cooling	FCU	AHU	DH	High Dp	DHW
Rotary Valves									
PN6	DRG/ZR	-	+	+	-	-	-	-	-
PN6	V5433/42	-	+	+	-	-	-	-	-
PN25	VBG	-	+	+	+	+	-	o	o
Butterfly Valves									
PN10	V5422E/L	-	+	+	-	-	-	+	o
PN16	V5421B	-	+	+	-	-	-	+	o

Legend:

- + "Best choice"
- o "Possible"
- "Not recommended"
- 1) "High Dp for small nominal sizes"

Please note:

This table is only a recommendation.
 A valve marked with a "+" is a preferred choice in specific applications.
 Also a valve marked with a "-" may be suitable for an application but overspecified.

Control Ball valves



Two way characterized control ball valves, PN25, DN15-50, VBG2

The VBG Control Ball Valves control hot and chilled water with glycol solutions up to 50% according to VDI2035 in heating, ventilating, and air conditioning (HVAC) systems to provide two-position or modulating functions. The valves have a flow control insert. The characteristic is equal percentage.

Medium type	water
Materials	body brass, stem brass, ball chrome-plated brass, flow control insert Noryl
Packing	seat Teflon seals with EPDM O-rings
Angle of rotation	90 °
Media temp.	5 ... 120 °C
Pressure rating	PN25
Port connection	ext. thread flat sealing
Valve type	2-way

DN15..32 Valves; supplied with MVNAAA adapter for MVN actuators

DN size (mm)	Connection diameter (inch)	Kvs value	Close off (kPa)	Type
15	G 1	0,25	890	VBG2-15-0.25
15	G 1	0,4	890	VBG2-15-0.4
15	G 1	0,63	890	VBG2-15-0.63
15	G 1	1	890	VBG2-15-1
15	G 1	1,6	890	VBG2-15-1.6
15	G 1	2,5	890	VBG2-15-2.5
15	G 1	4	890	VBG2-15-4
15	G 1	6,3	890	VBG2-15-6.3
20	G 1 1/4	4	890	VBG2-20-4
20	G 1 1/4	6,3	890	VBG2-20-6.3
20	G 1 1/4	8,6	890	VBG2-20-8.6
25	G 1 1/2	6,3	680	VBG2-25-6.3
25	G 1 1/2	10	680	VBG2-25-10
25	G 1 1/2	16	680	VBG2-25-16
25	G 1 1/2	25	680	VBG2-25-25
32	G 2	16	680	VBG2-32-16
32	G 2	25	680	VBG2-32-25

DN40, DN50 Valves; supplied with 5112-51 adapter for M60, M70 actuators

DN size (mm)	Connection diameter (inch)	Kvs value	Close off (kPa)	Type
40	G 2 1/4	25	680	VBG2-40-25
40	G 2 1/4	40	680	VBG2-40-40
50	G 2 3/4	40	680	VBG2-50-40
50	G 2 3/4	63	680	VBG2-50-63

Accessories for DN15..32 valves

Internal threaded fitting for VBG DN15 valve, pipe size Rp 1/2"	AC-15TF-1
Internal threaded fitting for VBG DN20 valve, pipe size Rp 3/4"	AC-20TF
Internal threaded fitting for VBG DN25 valve, pipe size Rp 1"	AC-25TF
Internal threaded fitting for VBG DN32 valve, pipe size Rp 1 1/4"	AC-32TF
Replacement stem assembly for VBG valve, DN15, DN20	5112-19/U
Replacement stem assembly for VBG valve, DN25, DN32	5112-20/U
Replacement valve adaptor standard profile, for VBG valves, DN15..DN32	MVNAAA/U

Accessories for DN40, DN50 valves

Internal threaded fitting for VBG DN40 valve, pipe size Rp 1 1/2"	AC-40TF
Internal threaded fitting for VBG DN50 valve, pipe size Rp 2"	AC-50TF
Replacement stem assembly for VBG valve, DN40, DN50	5112-21/U
Linkage set for VBG valves DN40, DN50 to M6061, M7061	5112-51/U

Control Ball valves

M6061A1013	M6061L1019	M7061E1012	MVN613A1500	MVN663A1500	MVN713A1500	Control input signal
3-pt	3-pt	0/2..10V=	2/3-pt	2/3-pt	0/2..10V=	Supply voltage
24 Vac	230 Vac	24 Vac/dc	24 Vac	230 Vac	24 Vac/dc	Torque [Nm]
10	10	10	3	3	3	VBG2-15-0.25
—	—	—	•	•	•	VBG2-15-0.4
—	—	—	•	•	•	VBG2-15-0.63
—	—	—	•	•	•	VBG2-15-1
—	—	—	•	•	•	VBG2-15-1.6
—	—	—	•	•	•	VBG2-15-2.5
—	—	—	•	•	•	VBG2-15-4
—	—	—	•	•	•	VBG2-15-6.3
—	—	—	•	•	•	VBG2-20-4
—	—	—	•	•	•	VBG2-20-6.3
—	—	—	•	•	•	VBG2-20-8.6
—	—	—	•	•	•	VBG2-25-6.3
—	—	—	•	•	•	VBG2-25-10
—	—	—	•	•	•	VBG2-25-16
—	—	—	•	•	•	VBG2-25-25
—	—	—	•	•	•	VBG2-32-16
—	—	—	•	•	•	VBG2-32-25
•	•	•	—	—	—	VBG2-40-25
•	•	•	—	—	—	VBG2-40-40
•	•	•	—	—	—	VBG2-50-40
•	•	•	—	—	—	VBG2-50-63



Three way characterized control ball valves, PN25, DN15-50, VBG3

The VBG Control Ball Valves control hot and chilled water with glycol solutions up to 50% according to VDI2035 in heating, ventilating, and air conditioning (HVAC) systems to provide two-position or modulating functions. The valves have a flow control insert. The characteristic is equal percentage.



Medium type	water
Materials	body brass, stem brass, ball chrome-plated brass, flow control insert Noryl
Packing	seat Teflon seals with EPDM O-rings
Angle of rotation	90 °
Media temp.	5 ... 120 °C
Pressure rating	PN25
Port connection	ext. thread flat sealing
Valve type	3-way mixing/diverting

DN15..32 Valves; supplied with MVNAAA adapter for MVN actuators

DN size mm	Connection diameter inch	Kvs value	Close off kPa	Type
15	G 1	0,63	340	VBG3-15-0.63
15	G 1	1	340	VBG3-15-1
15	G 1	1,6	340	VBG3-15-1.6
15	G 1	2,5	340	VBG3-15-2.5
15	G 1	4	340	VBG3-15-4
15	G 1	6,3	340	VBG3-15-6.3
20	G 1 1/4	4	340	VBG3-20-4
20	G 1 1/4	6,3	340	VBG3-20-6.3
20	G 1 1/4	8,6	340	VBG3-20-8.6
25	G 1 1/2	6,3	340	VBG3-25-6.3

Control Ball valves

DN size mm	Connection diameter inch	Kvs value	Close off kPa	Type
25	G 1 1/2	10	340	VBG3-25-10
25	G 1 1/2	16	340	VBG3-25-16
32	G 2	16	270	VBG3-32-16
32	G 2	25	270	VBG3-32-25

DN40, DN50 Valves; supplied with 5112-51 adapter for M60, M70 actuators

DN size mm	Connection diameter inch	Kvs value	Close off kPa	Type
40	G 2 1/4	25	680	VBG3-40-25
40	G 2 1/4	40	680	VBG3-40-40
50	G 2 3/4	40	680	VBG3-50-40
50	G 2 3/4	63	680	VBG3-50-63

Accessories for DN15..32 valves

Internal threaded fitting for VBG DN15 valve, pipe size Rp 1/2"	AC-15TF-1
Internal threaded fitting for VBG DN20 valve, pipe size Rp 3/4"	AC-20TF
Internal threaded fitting for VBG DN25 valve, pipe size Rp 1"	AC-25TF
Internal threaded fitting for VBG DN32 valve, pipe size Rp 1 1/4"	AC-32TF
Replacement stem assembly for VBG valve, DN15, DN20	5112-19/U
Replacement stem assembly for VBG valve, DN25, DN32	5112-20/U
Replacement valve adaptor standard profile, for VBG valves, DN15..DN32	MVNAAA/U

Accessories for DN40, DN50 valves

Internal threaded fitting for VBG DN40 valve, pipe size Rp 1 1/2"	AC-40TF
Internal threaded fitting for VBG DN50 valve, pipe size Rp 2"	AC-50TF
Replacement stem assembly for VBG valve, DN40, DN50	5112-21/U
Linkage set for VBG valves DN40, DN50 to M6061, M7061	5112-51/U

M6061A1013	M6061L1019	M7061E1012	MVN613A1500	MVN663A1500	MVN713A1500	
3-pt 24 Vac	3-pt 230 Vac	0/2..10V= 24 Vac/dc	2/3-pt 24 Vac	2/3-pt 230 Vac	0/2..10V= 24 Vac/dc	Control input signal
10	10	10	3	3	3	Supply voltage
—	—	—	•	•	•	Torque [Nm]
—	—	—	•	•	•	VBG3-15-0.63
—	—	—	•	•	•	VBG3-15-1
—	—	—	•	•	•	VBG3-15-1.6
—	—	—	•	•	•	VBG3-15-2.5
—	—	—	•	•	•	VBG3-15-4
—	—	—	•	•	•	VBG3-15-6.3
—	—	—	•	•	•	VBG3-20-4
—	—	—	•	•	•	VBG3-20-6.3
—	—	—	•	•	•	VBG3-20-8.6
—	—	—	•	•	•	VBG3-25-6.3
—	—	—	•	•	•	VBG3-25-10
—	—	—	•	•	•	VBG3-25-16
—	—	—	•	•	•	VBG3-32-16
—	—	—	•	•	•	VBG3-32-25
•	•	•	—	—	—	VBG3-40-25
•	•	•	—	—	—	VBG3-40-40
•	•	•	—	—	—	VBG3-50-40
•	•	•	—	—	—	VBG3-50-63

Rotary valves



Three-way rotary valve PN6

For supply water, heating and air conditioning; hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	DRG
Valve type	3-way rotary mixing
Medium type	water
Materials	body cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 130 °C
Pressure rating	PN6
Reduced delta P	40 kPa

Internal threads

DN size	Kvs value	Max. delta P	Torque for max. delta P	Torque for reduced delta P	Port connection	Type
mm		kPa	Nm	Nm		
15	2,5	100	20	20	internal threads	DR15-2GMLA
15	4	100	20	20	internal threads	DR15GMLA
20	6,3	100	20	20	internal threads	DR20GMLA
25	10	100	20	20	internal threads	DR25GMLA
32	16	100	20	20	internal threads	DR32GMLA
40	25	100	20	20	internal threads	DR40GMLA

Flanges

DN size	Kvs value	Max. delta P	Torque for max. delta P	Torque for reduced delta P	Port connection	Type
mm		kPa	Nm	Nm		
20	6,3	100	20	20	flanges DIN2531	DR20GFLA
25	10	100	20	20	flanges DIN2531	DR25GFLA
32	16	100	20	20	flanges DIN2531	DR32GFLA
40	25	100	20	20	flanges DIN2531	DR40GFLA
50	40	100	20	20	flanges DIN2531	DR50GFLA
65	63	100	20	20	flanges DIN2531	DR65GFLA
80	100	100	30	20	flanges DIN2531	DR80GFLA
100	160	100	40	30	flanges DIN2531	DR100GFLA
125	250	70	40	30	flanges DIN2531	DR125GFLA
150	630	50	40	40	flanges DIN2531	DR150GFLA
200	1000	50	40	40	flanges DIN2531	DR200GFLA1
200	1600	50	40	40	flanges DIN2531	DR200GFLA

Rotary valves

M6061A1021	M6061A1039	M6061A1047	M6061L1027	M6061L1035	M6061L1043	M7061E1020	VMM40-24F	VMM40F	
3-pt	3-pt	3-pt	3-pt	3-pt	3-pt	0/2..10V=	3-pt	3-pt	Control input signal
24 Vac	24 Vac	24 Vac	230 Vac	230 Vac	230 Vac	24 Vac/dc	24 Vac	230 Vac	Supply voltage
20	30	40	20	30	40	20	40	40	Torque [Nm]
•	—	—	•	—	—	•	—	—	DR15-2GMLA
•	—	—	•	—	—	•	—	—	DR15GMLA
•	—	—	•	—	—	•	—	—	DR20GMLA
•	—	—	•	—	—	•	—	—	DR25GMLA
•	—	—	•	—	—	•	—	—	DR32GMLA
•	—	—	•	—	—	•	—	—	DR40GMLA
•	—	—	•	—	—	•	—	—	DR20GFLA
•	—	—	•	—	—	•	—	—	DR25GFLA
•	—	—	•	—	—	•	—	—	DR32GFLA
•	—	—	•	—	—	•	—	—	DR40GFLA
•	—	—	•	—	—	•	—	—	DR50GFLA
•	—	—	•	—	—	•	—	—	DR65GFLA
•	•	—	•	•	—	—	—	—	DR80GFLA
—	•	•	—	•	•	—	—	—	DR100GFLA
—	•	•	—	•	•	—	—	—	DR125GFLA
—	—	•	—	—	•	—	—	—	DR150GFLA
—	—	•	—	—	•	—	•	•	DR200GFLA1
—	—	•	—	—	•	—	•	•	DR200GFLA

Rotary valves



Three-way rotary valve PN6, compact

For heating and air conditioning; hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	V5433A
Valve type	3-way rotary mixing, compact
Medium type	water
Materials	body cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 110 °C
Pressure rating	PN6
Port connection	internal threads
Max. delta P	100 kPa
Torque for max. delta P	7 Nm



DN size mm	Kvs value	Type
20	2,5	V5433A1015
20	4	V5433A1023
20	6,3	V5433A1031
25	10	V5433A1049
32	16	V5433A1056
40	25	V5433A1064
50	40	V5433A1072

M6063A1003	M6063A4007	M6063L1009	M6063L4003	
3-pt	3-pt	3-pt	3-pt	Control input signal
24 Vac	24 Vac	230 Vac	230 Vac	Supply voltage
7	7	7	7	Torque [Nm]
•	•	•	•	V5433A1015
•	•	•	•	V5433A1023
•	•	•	•	V5433A1031
•	•	•	•	V5433A1049
•	•	•	•	V5433A1056
•	•	•	•	V5433A1064
•	•	•	•	V5433A1072

Rotary valves



Three-way rotary valve PN6, compact, chrome plated

For hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	V5433G
Valve type	3-way rotary mixing, compact
Medium type	water
Materials	body chrome plated cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 110 °C
Pressure rating	PN6
Port connection	internal threads
Max. delta P	100 kPa
Torque for max. delta P	7 Nm

DN size mm	Kvs value	Type
20	2,5	V5433G1004
20	4	V5433G1012
20	6,3	V5433G1020
25	10	V5433G1038
32	16	V5433G1046
40	25	V5433G1053
50	40	V5433G1061

M6063A1003	M6063A4007	M6063L1009	M6063L4003	
3-pt	3-pt	3-pt	3-pt	Control input signal
24 Vac	24 Vac	230 Vac	230 Vac	Supply voltage
7	7	7	7	Torque [Nm]
•	•	•	•	V5433G1004
•	•	•	•	V5433G1012
•	•	•	•	V5433G1020
•	•	•	•	V5433G1038
•	•	•	•	V5433G1046
•	•	•	•	V5433G1053
•	•	•	•	V5433G1061

Rotary valves



Four-way rotary valve PN6

For supply water, heating and air conditioning; hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	ZR
Valve type	4-way rotary mixing
Medium type	water
Materials	body cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Pressure rating	PN6

Internal threads

DN size	Kvs value	Max. delta P	Torque for max. delta P	Reduced delta P	Torque for reduced delta P	Media temp.	Port connection	Type
mm		kPa	Nm	kPa	Nm	°C		
15	4	100	20	80	20	2 ... 130	internal threads	ZR15MA
20	6,3	100	20	80	20	2 ... 130	internal threads	ZR20MA
25	10	100	20	80	20	2 ... 130	internal threads	ZR25MA
32	16	100	20	80	20	2 ... 130	internal threads	ZR32MA
40	25	100	20	70	20	2 ... 130	internal threads	ZR40MA

Flanges

DN size	Kvs value	Max. delta P	Torque for max. delta P	Reduced delta P	Torque for reduced delta P	Media temp.	Port connection	Type
mm		kPa	Nm	kPa	Nm	°C		
25	10	100	20	80	20	2 ... 130	flanges DIN2531	ZR25FA
32	16	100	20	80	20	2 ... 130	flanges DIN2531	ZR32FA
40	25	100	20	70	20	2 ... 130	flanges DIN2531	ZR40FA
50	40	100	20	100	20	2 ... 130	flanges DIN2531	ZR50FA
65	63	100	20	100	20	2 ... 130	flanges DIN2531	ZR65FA
80	100	100	30	100	30	2 ... 130	flanges DIN2531	ZR80FA
100	160	80	30	80	30	2 ... 130	flanges DIN2531	ZR100FA
125	250	50	30	50	30	2 ... 130	flanges DIN2531	ZR125FA
150	400	40	30	40	30	2 ... 130	flanges DIN2531	ZR150FA
200	630	30	30	30	30	2 ... 110	flanges DIN2531	ZR200FA

M6061A1021	M6061A1039	M6061L1027	M6061L1035	M7061E1020	VMM40-24F	VMM40F	Control input signal
3-pt	3-pt	3-pt	3-pt	0/2...10V=	3-pt	3-pt	Supply voltage
24 Vac	24 Vac	230 Vac	230 Vac	24 Vac/dc	24 Vac	230 Vac	Torque [Nm]
20	30	20	30	20	40	40	
•	—	•	—	•	—	—	ZR15MA
•	—	•	—	•	—	—	ZR20MA
•	—	•	—	•	—	—	ZR25MA
•	—	•	—	•	—	—	ZR32MA
•	—	•	—	•	—	—	ZR40MA
•	—	•	—	•	—	—	ZR25FA
•	—	•	—	•	—	—	ZR32FA
•	—	•	—	•	—	—	ZR40FA
•	—	•	—	•	—	—	ZR50FA
•	—	•	—	•	—	—	ZR65FA
—	•	—	•	—	—	—	ZR80FA
—	•	—	•	—	—	—	ZR100FA
—	•	—	•	—	—	—	ZR125FA
—	•	—	•	—	—	—	ZR150FA
—	•	—	•	—	•	•	ZR200FA

Rotary valves



Four-way rotary valve PN6, compact

For heating systems; hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	V5442A
Valve type	4-way rotary mixing, compact
Medium type	water
Materials	body cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 110 °C
Pressure rating	PN6
Port connection	internal threads
Max. delta P	100 kPa
Torque for max. delta P	7 Nm

DN size mm	Kvs value	Type
20	4	V5442A1022
20	6,3	V5442A1030
25	10	V5442A1048
32	16	V5442A1055

M6063A1003	M6063A4007	M6063L1009	M6063L4003	
3-pt	3-pt	3-pt	3-pt	Control input signal
24 Vac	24 Vac	230 Vac	230 Vac	Supply voltage
7	7	7	7	Torque [Nm]
•	•	•	•	V5442A1022
•	•	•	•	V5442A1030
•	•	•	•	V5442A1048
•	•	•	•	V5442A1055

Rotary valves



Four-way rotary valve PN6, compact, chrome plated

For hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	V5442G
Valve type	4-way rotary mixing, compact
Medium type	water
Materials	body chrome plated cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 110 °C
Pressure rating	PN6
Port connection	internal threads
Max. delta P	100 kPa
Torque for max. delta P	7 Nm



DN size mm	Kvs value	Type
20	4	V5442G1003
20	6,3	V5442G1011
25	10	V5442G1029
32	16	V5442G1037

M6063A1003	M6063A4007	M6063L1009	M6063L4003	
3-pt	3-pt	3-pt	3-pt	Control input signal
24 Vac	24 Vac	230 Vac	230 Vac	Supply voltage
7	7	7	7	Torque [Nm]
•	•	•	•	V5442G1003
•	•	•	•	V5442G1011
•	•	•	•	V5442G1029
•	•	•	•	V5442G1037



Three-way rotary valve PN10

For supply water, heating and air conditioning; hot/cold water quality VDI2035; glycol water mixture 50%.

Valve series	DRU
Valve type	3-way rotary mixing, bypass
Medium type	water
Materials	body cast iron, inner parts chrome plated
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 130 °C
Pressure rating	PN10
Port connection	external threads
Max. delta P	100 kPa
Torque for max. delta P	20 Nm



Rotary valves

Universal Rotary Valve

DN size mm	Kvs value	Type
25	2,5	DRU25-2.5
25	4	DRU25-4.0
25	6,3	DRU25-6.3
25	10	DRU25-10
25	16	DRU25-16
32	10	DRU32-10
32	16	DRU32-16
32	25	DRU32-25

H-extensions

H-extension DN25	HE25
H-extension DN32	HE32

Accessories

Welding socket with gaskets and cap nut, DN25, pipe size 25 mm	WTU25
Welding socket with gaskets and cap nut, DN32, pipe size 32 mm	WTU32
Soldering socket with gasket and cap nut, DN25, pipe size 18 mm	LSU25-18
Soldering socket with gasket and cap nut, DN25, pipe size 22 mm	LSU25-22
Soldering socket with gasket and cap nut, DN25, pipe size 28 mm	LSU25-28
Soldering socket with gasket and cap nut, DN32, pipe size 22 mm	LSU32-22
Soldering socket with gasket and cap nut, DN32, pipe size 28 mm	LSU32-28
Soldering socket with gasket and cap nut, DN32, pipe size 35 mm	LSU32-35
Internal threaded socket with gaskets and cap nut, DN25, pipe size 25 mm	STU25
Internal threaded socket with gaskets and cap nut, DN32, pipe size 32 mm	STU32



M6061A1021	M6061L1027	M7061E1020	
3-pt	3-pt	0/2..10V=	Control input signal
24 Vac	230 Vac	24 Vac/dc	Supply voltage
20	20	20	Torque [Nm]
•	•	•	DRU25-2.5
•	•	•	DRU25-4.0
•	•	•	DRU25-6.3
•	•	•	DRU25-10
•	•	•	DRU25-16
•	•	•	DRU32-10
•	•	•	DRU32-16
•	•	•	DRU32-25

Rotary valves



Three-way rotary valve PN10, for systems with oxygen diffusion

For supply water, heating and air conditioning; hot/cold water quality VDI2035; glycol water mixture 50%.
For applications with sludge deposition and for panel heating (e.g. underfloor and ceiling heating systems) with oxygen diffusion.



Valve type	3-way rotary mixing, bypass
Medium type	water
Materials	body red brass, inner parts chrome plated cast iron
Packing	double O-ring sealing
Angle of rotation	90 °
Media temp.	2 ... 130 °C
Pressure rating	PN10
Port connection	external threads
DN size	25 mm
Max. delta P	100 kPa
Torque for max. delta P	20 Nm
Additional description	Thermal insulation package included.

Kvs value	Type
2,5	DRR25-2.5
4	DRR25-4.0
6,3	DRR25-6.3
10	DRR25-10
16	DRR25-16

H-extensions

H-extension DN25	HE25
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Accessories

Welding socket with gaskets and cap nut, DN25, pipe size 25 mm	WTU25
Soldering socket with gasket and cap nut, DN25, pipe size 18 mm	LSU25-18
Soldering socket with gasket and cap nut, DN25, pipe size 22 mm	LSU25-22
Soldering socket with gasket and cap nut, DN25, pipe size 28 mm	LSU25-28
Internal threaded socket with gaskets and cap nut, DN25, pipe size 25 mm	STU25



M6061A1021	M6061L1027	M7061E1020	
3-pt	3-pt	0/2...10V=	Control input signal
24 Vac	230 Vac	24 Vac/dc	Supply voltage
20	20	20	Torque [Nm]
•	•	•	DRR25-2.5
•	•	•	DRR25-4.0
•	•	•	DRR25-6.3
•	•	•	DRR25-10
•	•	•	DRR25-16

Butterfly valves



Butterfly valve DN25..200

For heating applications, or boiler management systems.
For heating water containing up to 50% glycol. Other additives possible, but contact Honeywell for confirmation.



Valve series	V5421B
Valve type	butterfly for motor
Medium type	water
Materials	rotary disc DN25-80 stainless steel 1.4581, DN100-200 ductile iron GGG40; coating DeltaMagni
Packing	EPDM
Angle of rotation	90 °
Pressure rating	PN16
Port connection	wafer
Additional description	Without flanges. Actuators (M6061..., M7061..., M6422L1003) to be ordered separately.

DN size mm	Kvs value	Max. delta P kPa	Torque for max. delta P Nm	Media temp. °C	Type
25	26	1600	8	-10 ... 120	V5421B1009
32	26	1600	8	-10 ... 120	V5421B1017
40	50	1600	12	-10 ... 120	V5421B1025
50	116	1000	12	-10 ... 120	V5421B1033
65	259	1000	15	-10 ... 120	V5421B1041
80	377	1000	25	-10 ... 120	V5421B1058
100	763	800	40	-10 ... 120	V5421B1066
125	1030	600	40	0 ... 90	V5421B1074
150	1790	400	40	0 ... 90	V5421B1082
200	3460	300	60	0 ... 90	V5421B1090

Spare parts

Coupling set DN25-150	VCU-SET
Universal console	VC02

M6061A1021	M6061A1039	M6061A1047	M6061L1027	M6061L1035	M6061L1043	M6422L1003	M7061E1020	
3-pt	3-pt	3-pt	3-pt	3-pt	3-pt	3-pt	0/2..10V=	Control input signal
24 Vac	24 Vac	24 Vac	230 Vac	230 Vac	230 Vac	230 Vac	24 Vac/dc	Supply voltage
20	30	40	20	30	40	40	20	Torque [Nm]
•	—	—	•	—	—	—	•	V5421B1009
•	—	—	•	—	—	—	•	V5421B1017
•	—	—	•	—	—	—	•	V5421B1025
•	—	—	•	—	—	—	•	V5421B1033
•	—	—	•	—	—	—	•	V5421B1041
—	•	—	—	•	—	—	—	V5421B1058
—	—	•	—	—	•	—	—	V5421B1066
—	—	•	—	—	•	—	—	V5421B1074
—	—	•	—	—	•	—	—	V5421B1082
—	—	—	—	—	—	•	—	V5421B1090

Butterfly valves



Motorized Butterfly valve DN250..300

Butterfly valve with factory mounted electrical actuator.
For heating water containing up to 50% glycol. Other additives possible,
but contact Honeywell for confirmation.



Valve series	V5422L/E
Valve type	butterfly motorized
Medium type	water
Materials	body and disc ductile iron GGG40, disc coating DeltaMagni, shaft stainless steel 1.4021
Packing	EPDM
Protection class	IP67
Position indication	mechanical pointer
Max. delta P	1000 kPa
Angle of rotation	max. 90 °
Pressure rating	PN10
Port connection	wafer
Manual operation	with wheel
Power supply	230 Vac; 276 VA
Runtime	30 s
Media temp.	-10 ... 120 °C
Additional description	Without flanges.

3-pt control, with 2x SPST 230 Vac end switches for open/close feedback

DN size mm	Kvs value	Torque Nm	Control input signal	Type
250	5070	250	3-pt	V5422L1006
300	7430	600	3-pt	V5422L1014

Modulating control and electrical position indication, Microswitch settings for signals values 0/2..10V, 0/4..20mA

DN size mm	Kvs value	Torque Nm	Control input signal	Type
250	5070	250	0/2..10V=; 0/4..20mA	V5422E1001
300	7430	600	0/2..10V=; 0/4..20mA	V5422E1019

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Frequency Inverters



Inverters 0,37..5,5kW, IP20, SmartDrive Compact

Variable frequency drives for induction motors, with built-in RFI filters. EMC and LVD compliant. SmartDrive Compact is a compact size micro inverter with easy operation and commissioning. The product offers good possibilities to be used with various applications with high functionality software and 1 rating which can be used in both variable torque (HVAC applications) and constant torque (machines in industrial or process installations).

Features

- Start up wizard
- Integrated RFI-filters
- Flexible side by side mounting with screws or DIN-rail as standard
- Compact size
- Single rating suitable for both pump and fan or machine applications
- Maximum ambient temperature 50 °C; (40 °C for COMP230-2P2-20 and COMP400-5P5-20)
- Easy to use single software package with high functionality
- Parameter upload/download even without powering the inverter with COMP-LOADER accessory
- Configurable Inputs and Outputs
- Inputs/Outputs: 2 analog inputs (1 voltage + 1 current), 6 digital inputs, 3 digital outputs (2 relays + 1 open collector), 1 analog output (mA) and Modbus RTU

Series	SmartDrive Compact
RFI-filter	integrated
Output frequency	0 ... 320 Hz
Frequency resolution	0,01 Hz
Serial communication	Modbus RTU
Immunity	fulfills all EMC immunity requirements
Emissions	EN61800-3 (category C2), C-Tick
Safety	EN61800-5, CE, UL, cUL
Protection class	IP20
More Information	http://inverter.ecc.emea.honeywell.com

208..240V, 1 phase

Voltage	Low overload (for Fan/Pump) kW	Low overload I _{cont} A	High overload (for Machines) kW	High overload I _{cont} A	Brake chopper	1 phase input	3 phases input	Type
230V	0,37	2,4	0,37	2,4	–	•	–	COMP230-P37-20
230V	0,75	3,7	0,75	3,7	–	•	–	COMP230-P75-20
230V	1,1	4,8	1,1	4,8	–	•	–	COMP230-1P1-20
230V	1,5	7	1,5	7	–	•	–	COMP230-1P5-20
230V	2,2	9,6	2,2	9,6	–	•	–	COMP230-2P2-20

380..480V, 3 phases

Voltage	Low overload (for Fan/Pump) kW	Low overload I _{cont} A	High overload (for Machines) kW	High overload I _{cont} A	Brake chopper	1 phase input	3 phases input	Type
400V	0,55	1,9	0,55	1,9	–	–	•	COMP400-P55-20
400V	0,75	2,4	0,75	2,4	–	–	•	COMP400-P75-20
400V	1,1	3,3	1,1	3,3	–	–	•	COMP400-1P1-20
400V	1,5	4,3	1,5	4,3	integrated	–	•	COMP400-1P5-20
400V	2,2	5,6	2,2	5,6	integrated	–	•	COMP400-2P2-20
400V	3	7,6	3	7,6	integrated	–	•	COMP400-3P0-20
400V	4	9	4	9	integrated	–	•	COMP400-4P0-20
400V	5,5	12	5,5	12	integrated	–	•	COMP400-5P5-20



Frequency Inverters



Inverters 1,1..160kW, IP21/IP54, SmartDrive HVAC

Variable speed drives for induction- and permanent magnet motors, with built-in RFI filters. EMC and LVD compliant.

The SmartDrive HVAC inverters are especially designed with many advanced features for Heating, ventilation and air-conditioning applications.

Features

- Detachable multilanguage HMI with advanced commissioning display/keypad (parameter copy function)
- Compact size
- Integrated stress removal and 360° grounding for power cable shield inside the device no need for cable glands
- Varnished circuit boards as standard
- Real Time Clock for timed functions and fault time stamps
- Inputs/Outputs: 2 analog inputs (mA/V), 6 digital inputs, 2 relays (NO/NC), 1 thermistor input (PTC), 1 analog output (mA/V), Ethernet (IP), RS485 (MS/TP)
- Flexible I/O configuration: 2 free slots for expansion boards
- Start Up wizard for extremely fast start of basic pump and fan applications
- Mini wizards for more advanced applications: PID, Cascade Control and Resonance sweep wizards
- Intelligent automatic functionality: Ramp Time Optimizer, Overtemperature ride-through, Power ride-through etc.
- PID controller with advanced features: Sleep mode, Pump Soft fill, pressure loss compensation, Cascade controller etc.
- U/f control

Series	SmartDrive HVAC
RFI-filter	integrated
Voltage	400V
Output frequency	0 ... 320 Hz
Frequency resolution	0,01 Hz
Serial communication	Standard: BACnet IP, Modbus TCP/IP, BACnet MS/TP, Modbus RTU, N2. Optional: LonWorks
Immunity	fulfills all EMC immunity requirements
Emissions	• EN61800-3, category C2 • EN61800-3, category C1 with optional filters Type: RFI.. (see Accessories) • EN61000-3-12
Safety	EN61800-5, CE, UL, cUL
1 phase input	no
3 phases input	yes
More Information	http://inverter.ecc.emea.honeywell.com

Frequency Inverters

IP21

Protection class	Low overload (for Fan/Pump) kW	Low overload Icont A	Size	Type
IP21	1,1	3,4	4	HVAC400-1P1-21A
IP21	1,5	4,8	4	HVAC400-1P5-21A
IP21	2,2	5,6	4	HVAC400-2P2-21A
IP21	3	8	4	HVAC400-3P0-21A
IP21	4	9,6	4	HVAC400-4P0-21A
IP21	5,5	12	4	HVAC400-5P5-21A
IP21	7,5	16	5	HVAC400-7P5-21A
IP21	11	23	5	HVAC400-11P-21A
IP21	15	31	5	HVAC400-15P-21A
IP21	18,5	38	6	HVAC400-18P-21A
IP21	22	46	6	HVAC400-22P-21A
IP21	30	61	6	HVAC400-30P-21A
IP21	37	72	7	HVAC400-37P-21A
IP21	45	87	7	HVAC400-45P-21A
IP21	55	105	7	HVAC400-55P-21A
IP21	75	140	8	HVAC400-75P-21A
IP21	90	170	8	HVAC400-90P-21A
IP21	110	205	8	HVAC400-110-21A
IP21	132	261	9	HVAC400-132-21A
IP21	160	310	9	HVAC400-160-21A

IP54

Protection class	Low overload (for Fan/Pump) kW	Low overload Icont A	Size	Type
IP54	1,1	3,4	4	HVAC400-1P1-54A
IP54	1,5	4,8	4	HVAC400-1P5-54A
IP54	2,2	5,6	4	HVAC400-2P2-54A
IP54	3	8	4	HVAC400-3P0-54A
IP54	4	9,6	4	HVAC400-4P0-54A
IP54	5,5	12	4	HVAC400-5P5-54A
IP54	7,5	16	5	HVAC400-7P5-54A
IP54	11	23	5	HVAC400-11P-54A
IP54	15	31	5	HVAC400-15P-54A
IP54	18,5	38	6	HVAC400-18P-54A
IP54	22	46	6	HVAC400-22P-54A
IP54	30	61	6	HVAC400-30P-54A
IP54	37	72	7	HVAC400-37P-54A
IP54	45	87	7	HVAC400-45P-54A
IP54	55	105	7	HVAC400-55P-54A
IP54	75	140	8	HVAC400-75P-54A
IP54	90	170	8	HVAC400-90P-54A
IP54	110	205	8	HVAC400-110-54A
IP54	132	261	9	HVAC400-132-54A
IP54	160	310	9	HVAC400-160-54A



Frequency Inverters



Inverters 1,1..30kW, IP21/IP54, NXL HVAC

Variable speed drives for induction motors, with built-in RFI filters. EMC and LVD compliant. The inverters are suitable for High/Low Overload (constant/variable torque) applications. To control pumps and fans for heating, ventilation and air conditioning systems, normally Low Overload ratings are used. Industrial or process installations normally require High Overload ratings.

Features

- the software is tailored to meet the typical HVAC application
- start-up wizard
- optimized I/O configuration including thermistor input
- flexible I/O configuration: 2 slots
- inputs/outputs: 2 analog inputs, 6 digital inputs, 2 relays, 1 thermistor input, 1 analog output

Series	NXL HVAC
RFI-filter	integrated
Brake chopper	integrated
Voltage	400V
Output frequency	0 ... 320 Hz
Frequency resolution	0,01 Hz
Serial communication	Modbus RTU as standard; optional: LonWorks, Profibus DP, BACnet, Ethernet (Modbus/TCP), N2, DeviceNet, CANopen
Immunity	fulfills all EMC immunity requirements
Emissions	EN61800-3 (IP21: category C2, IP54: category C1)
Safety	EN61800-5, CE, UL, cUL
1 phase input	no
3 phases input	yes
More Information	http://inverter.ecc.emea.honeywell.com

IP21

Protection class	Low overload (for Fan/Pump) kW	Low overload Icont A	High overload (for Machines) kW	High overload Icont A	Type
IP21	1,1	3,3	0,75	2,2	HVAC03C2
IP21	1,5	4,3	1,1	3,3	HVAC04C2
IP21	2,2	5,6	1,5	4,3	HVAC05C2
IP21	3	7,6	2,2	5,6	HVAC07C2
IP21	4	9	3	7,6	HVAC09C2
IP21	5,5	12	4	9	HVAC12C2
IP21	7,5	16	5,5	12	HVAC16C2
IP21	11	23	7,5	16	HVAC23C2
IP21	15	31	11	23	HVAC31C2
IP21	18,5	38	15	31	HVAC38C2
IP21	22	46	18,5	38	HVAC46C2
IP21	30	61	22	46	HVAC61C2

Frequency Inverters

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IP54

Protection class	Low overload (for Fan/Pump) kW	Low overload I _{cont} A	High overload (for Machines) kW	High overload I _{cont} A	Type
IP54	1,1	3,3	0,75	2,2	HVAC03C5
IP54	1,5	4,3	1,1	3,3	HVAC04C5
IP54	2,2	5,6	1,5	4,3	HVAC05C5
IP54	3	7,6	2,2	5,6	HVAC07C5
IP54	4	9	3	7,6	HVAC09C5
IP54	5,5	12	4	9	HVAC12C5
IP54	7,5	16	5,5	12	HVAC16C5
IP54	11	23	7,5	16	HVAC23C5
IP54	15	31	11	23	HVAC31C5
IP54	18,5	38	15	31	HVAC38C5
IP54	22	46	18,5	38	HVAC46C5
IP54	30	61	22	46	HVAC61C5



Inverters 1,1..400kW, IP21/IP54, NXS

Speed controller for induction motors, with built-in RFI filters. EMC and LVD compliant. The Honeywell inverters are suitable for High/Low Overload (constant/variable torque) applications. To control pumps and fans for heating, ventilation and air conditioning systems, normally Low Overload inverters are used. Industrial or process installations normally require High Overload inverters.

Features

- high featured software package with predefined applications
- start-up wizard
- detachable multilingual HMI-panel with memory and backup functions
- flexible I/O configuration; 5 slots
- inputs/outputs: 2 analog inputs, 6 digital inputs, 2 relays, 1 digital output, 1 thermistor input, 1 analog output

Series	NXS
Voltage	400V
Output frequency	0 ... 320 Hz
Frequency resolution	0,01 Hz
Serial communication	optional: LonWorks, Modbus RTU, Profibus DP, BACnet, Ethernet (Modbus/TCP), N2, DeviceNet, CANopen
Immunity	fulfills all EMC immunity requirements
Safety	EN61800-5, CE, UL, cUL
RFI-filter	integrated
1 phase input	no
3 phases input	yes
More Information	http://inverter.ecc.emea.honeywell.com



IP21, wall mounted; Emissions EN61800-3 (category C2), C-Tick

Protection class	Low overload (for Fan/Pump) kW	Low overload I _{cont} A	High overload (for Machines) kW	High overload I _{cont} A	Brake chopper	Type
IP21	1,1	3,1	0,75	2,2	integrated	NXS0003V35A2H1
IP21	1,5	4	1,1	3,1	integrated	NXS0004V35A2H1
IP21	2,2	5,4	1,5	4	integrated	NXS0005V35A2H1
IP21	3	7	2,2	5,4	integrated	NXS0007V35A2H1
IP21	4	9	3	7	integrated	NXS0009V35A2H1
IP21	5,5	12	4	9	integrated	NXS0012V35A2H1
IP21	7,5	16	5,5	12	integrated	NXS0016V35A2H1

Frequency Inverters

Protection class	Low overload (for Fan/Pump) kW	Low overload I _{cont} A	High overload (for Machines) kW	High overload I _{cont} A	Brake chopper	Type
IP21	11	22	7,5	16	integrated	NXS0022V35A2H1
IP21	15	31	11	22	integrated	NXS0031V35A2H1
IP21	18,5	38	15	31	integrated	NXS0038V35A2H1
IP21	22	45	18,5	38	integrated	NXS0045V35A2H1
IP21	30	61	22	45	integrated	NXS0061V35A2H1
IP21	37	72	30	61	optional	NXS0072V35A2H0
IP21	45	87	37	72	optional	NXS0087V35A2H0
IP21	55	105	45	87	optional	NXS0105V35A2H0
IP21	75	140	55	105	optional	NXS0140V35A2H0
IP21	90	170	75	140	optional	NXS0168V35A2H0
IP21	110	205	90	170	optional	NXS0205V35A2H0
IP21	132	261	110	205	optional	NXS0260V35A2H0
IP21	160	300	132	245	optional	NXS0310V35A2H0

IP21, stand-alone cabinet; Emissions EN61800-3 (category 3)

Protection class	Low overload (for Fan/Pump) kW	Low overload I _{cont} A	High overload (for Machines) kW	High overload I _{cont} A	Brake chopper	Type
IP21	200	385	160	300	—	NXS0385V35A2L0
IP21	250	460	200	385	—	NXS0460V35A2L0
IP21	315	590	250	520	—	NXS0590V35A2L0
IP21	355	650	315	590	—	NXS0650V35A2L0
IP21	400	730	355	650	—	NXS0730V35A2L0

IP54, wall mounted; Emissions EN61800-3 (category C2), C-Tick



Protection class	Low overload (for Fan/Pump) kW	Low overload I _{cont} A	High overload (for Machines) kW	High overload I _{cont} A	Brake chopper	Type
IP54	1,1	3,1	0,75	2,2	integrated	NXS0003V35A5H1
IP54	1,5	4	1,1	3,1	integrated	NXS0004V35A5H1
IP54	2,2	5,4	1,5	4	integrated	NXS0005V35A5H1
IP54	3	7	2,2	5,4	integrated	NXS0007V35A5H1
IP54	4	9	3	7	integrated	NXS0009V35A5H1
IP54	5,5	12	4	9	integrated	NXS0012V35A5H1
IP54	7,5	16	5,5	12	integrated	NXS0016V35A5H1
IP54	11	22	7,5	16	integrated	NXS0022V35A5H1
IP54	15	31	11	22	integrated	NXS0031V35A5H1
IP54	18,5	38	15	31	integrated	NXS0038V35A5H1
IP54	22	45	18,5	38	integrated	NXS0045V35A5H1
IP54	30	61	22	45	integrated	NXS0061V35A5H1
IP54	37	72	30	61	optional	NXS0072V35A5H0
IP54	45	87	37	72	optional	NXS0087V35A5H0
IP54	55	105	45	87	optional	NXS0105V35A5H0
IP54	75	140	55	105	optional	NXS0140V35A5H0
IP54	90	170	75	140	optional	NXS0168V35A5H0
IP54	110	205	90	170	optional	NXS0205V35A5H0
IP54	132	261	110	205	optional	NXS0260V35A5H0
IP54	160	300	132	245	optional	NXS0310V35A5H0

Parts and accessories for inverters



Parts and accessories for inverters

Honeywell inverter inputs/outputs can be easily configured by adding or changing option cards. These option boards are designed to easy installation even on the site and are automatically identified by the inverter software.

Fieldbus cards

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
LonWorks	•	•	•	–	OPTC4

Fieldbus cards

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
Modbus/N2 (RS485)	–	•	–	–	NXOPTC2
Profibus DP	•	•	–	–	NXOPTC3
CANopen (slave)	•	•	–	–	NXOPTC6
DeviceNet	•	•	–	–	NXOPTC7
Modbus TCP/IP (Ethernet)	•	•	–	–	NXOPTC1
BACnet MS/TP (RS485)	•	•	–	–	NXOPTCJ

Input/output expander cards

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
6 digital inputs/outputs (programmable)	–	•	•	–	OPTB1
1 analog input (mA), 2 analog output (mA)	•	•	•	–	OPTB4
3 relays (NO)	•	•	•	–	OPTB5
1 relay, 5 Vac inputs (42..240 Vac)	–	•	•	–	OPTB9
1 analog input (mA/V), 1 relay (NO), 1 digital output (open collector)	–	–	•	–	OPTBF
3 digital inputs, 1 relay (NO/NC), 1 digital output	•	–	–	–	NXLOPTAA
standard NXS slot A board: 6 DI, 1 DO (open collector), 2 AI, 1 AO	–	•	–	–	NXOPTA1
2 relays (1 NO, 1 NO/NC), 1 thermistor	•	•	–	–	NXOPTB2
3 Pt100 input	–	•	–	–	NXOPTB8

SmartDrive PC connection tools and cables

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
SmartDrive Compact Parameter download/ upload and PC interface tool with cable for USB connection to PC	–	–	–	•	COMP-LOADER
SmartDrive Compact Parameter download/ upload and PC interface tool without cable	–	–	–	•	COMP-LOADER-NC
SmartDrive 3.0m USB PC connection cable	–	–	•	•	SMARTDRIVE-USBC

NXL/NXS PC connection tools and cables

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
NXL RS232 adapter (for PC connection)	•	–	–	–	NXL PANRS
2 m RS232 cable	•	•	–	–	RS232C2M
4 m RS232 cable	•	•	–	–	RS232C-4M



Parts and accessories for inverters



SmartDrive HVAC display panels

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
SmartDrive HVAC advanced commissioning display/keypad with parameter copy function	–	–	•	–	HVAC-HMI-A



NXL Display panels

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
NXL standard 7-segment display	•	–	–	–	NXLPANC



NXS Display panels

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
NXS standard alpha-numeric display	–	•	–	–	NXPANA
NXS special display for Cyrillic or Chinese letters	–	•	–	–	NXPANG



Display panel kits

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
NXL door installation set for display panel, 2m cable	•	–	–	–	DRA-02L
NXL door installation set for display panel, 4m cable	•	–	–	–	DRA-04L
NXS door installation set for display panel, 2m cable	–	•	–	–	DRA02B
NXS door installation set for display panel, 4m cable	–	•	–	–	DRA-04B
SmartDrive HVAC door installation set for display panel, 3m cable	–	–	•	–	HVAC-DOOR-KIT
SmartDrive HVAC hand held kit for display panel, 3m cable	–	–	•	–	HVAC-HAND-KIT



SmartDrive COMPACT IP20 to IP21 upgrade kits

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
IP21 enclosure upgrade kit for SmartDrive Compact size MI1	–	–	•	–	COMP-IP21-KIT1
IP21 enclosure upgrade kit for SmartDrive Compact size MI2	–	–	•	–	COMP-IP21-KIT2
IP21 enclosure upgrade kit for SmartDrive Compact size MI3	–	–	•	–	COMP-IP21-KIT3
IP21 enclosure upgrade kit with additional wiring terminal cover for SmartDrive Compact size MI1	–	–	•	–	COMP-NEMA1-KIT1
IP21 enclosure upgrade kit with additional wiring terminal cover for SmartDrive Compact size MI2	–	–	•	–	COMP-NEMA1-KIT2
IP21 enclosure upgrade kit with additional wiring terminal cover for SmartDrive Compact size MI3	–	–	•	–	COMP-NEMA1-KIT3

Parts and accessories for inverters

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NXL HVAC/NXS IP21 to IP54 upgrade kits

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
IP54 enclosure upgrade kit for NXL HVAC/NXS size 4 (HVAC03-HVAC12, NXS0003-NXS0012)	•	•	–	–	NXIP54FR4
IP54 enclosure upgrade kit for NXL HVAC/NXS size 5 (HVAC16-HVAC31, NXS0016-NXS0031)	•	•	–	–	NXIP54FR5
IP54 enclosure upgrade kit for NXL HVAC/NXS size 6 (HVAC38-HVAC61, NXS0038-NXS0061)	•	•	–	–	NXIP54FR6

NXL/NXS Sine-wave output filters 380-500V, IP00 Selection to be done so that the nominal current of the inverter cannot exceed the nominal current of the filter

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
Filter for Nominal current of 10 A (40°C), 8,8 A (50°C)	•	•	•	–	SIN-0010-5-0-P
Filter for Nominal current of 18 A (40°C), 16 A (50°C)	•	•	•	–	SIN-0018-5-0-P
Filter for Nominal current of 32 A (40°C), 28 A (50°C)	•	•	•	–	SIN-0032-5-0-P
Filter for Nominal current of 48 A (40°C), 42 A (50°C)	•	•	•	–	SIN-0048-5-0-P
Filter for Nominal current of 75 A (40°C), 66 A (50°C)	•	•	•	–	SIN-0075-5-0-P
Filter for Nominal current of 110 A (40°C), 97 A (50°C)	•	•	•	–	SIN-0110-5-0-P
Filter for Nominal current of 180 A (40°C), 155 A (50°C)	•	•	•	–	SIN-0180-5-0-P

SmartDrive HVAC C1 conducted emission filter IP54

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
C1 RFI-filter for size 4	–	–	•	–	RFI-0012-5-IP54
C1 RFI-filter for size 5	–	–	•	–	RFI-0031-5-IP54
C1 RFI-filter for size 6	–	–	•	–	RFI-0061-5-IP54
C1 RFI-filter for size 7	–	–	•	–	RFI-0105-5-IP54



Main cooling fan spare parts for inverters

Product description	NXL HVAC	NXS	SmartDrive HVAC	SmartDrive Compact	Type
NXL HVAC / NXS spare part fan size 4 (HVAC03-HVAC12, NXS0003-NXS0012)	•	•	–	–	NX-FAN-4
NXL HVAC / NXS spare part fan size 5 (HVAC16-HVAC31, NXS0016-NXS0031)	•	•	–	–	NX-FAN-5
NXL HVAC / NXS spare part fan size 6 (HVAC38-HVAC61, NXS0038-NXS0061)	•	•	–	–	NX-FAN-6
NXS spare part fan size 7 (NXS0072-NXS0105)	–	•	–	–	NX-FAN-7
SmartDrive HVAC spare part fan size 4 (HVAC400-1P1..HVAC400-5P5)	–	–	•	–	HVAC-FAN-4
SmartDrive HVAC spare part fan size 5 (HVAC400-7P5..HVAC400-15P)	–	–	•	–	HVAC-FAN-5
SmartDrive HVAC spare part fan size 6 (HVAC400-18P..HVAC400-30P)	–	–	•	–	HVAC-FAN-6
SmartDrive HVAC spare part fan size 7 (HVAC400-37P..HVAC400-55P)	–	–	•	–	HVAC-FAN-7
SmartDrive HVAC spare part fan size 8 (HVAC400-75P..HVAC400-110P)	–	–	•	–	HVAC-FAN-8
SmartDrive HVAC spare part fan size 9 (HVAC400-132P..HVAC400-160P)	–	–	•	–	HVAC-FAN-9



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Sensor Applications

Sensor Applications						
	Room	Outdoor	Air Duct	Pipe (Strap-On)	Pipe (Immersion)	Miscellaneous
Temperature	RF20 DRF20-S T7412 T7470 TF22 TFU22 T7460	AF SAF25 T7414C	LF PF C7085	SF	VF T7425	EF20 GF20 KTF20 AGF1
Humidity & Temperature	T7560C H7012A H7012B	H7508B	H7015B			
Air Quality	C7110A					
CO ₂ & Temperature	C7110C1001 C7110D1009		AQS71-KAM-T			
Averaging			C7085A			
Differential Pressure Switch			DPS DDCM			
Differential Pressure Transmitter			DPTM			

Nominal values

Sensing Element				
	Pt1000	Pt100	Balco500	NTC20k Thermistor
Resistance	1000 Ω @ 0°C	100 Ω @ 0°C	500 Ω @ 23.3°C	20 k Ω @ 25°C
Accuracy	0,3 K + 0,5% · t (t in °C) DIN IEC 751, Class B	0,3 K + 0,5% · t (t in °C) DIN IEC 751, Class B	± 1 Ω @ 23.3°C	0,3 K + 1% · t-25 (t in °C)
Sensitivity	≈ 3.85 Ω /K	≈ 0.4 Ω /K	≈ 2 Ω /K	–

Temperature sensors NTC



Wall modules for heating applications, NTC

- Room temperature sensor for Excel 10 and Excel 50..800 controllers. With setpoint adjustment, occupancy extension.
- | | |
|------------------------|---|
| LED functions | LED on or blinking in case of bypass, LED functions programmable with Excel 20..800 controllers |
| Temperature element | NTC20k |
| Temperature range | -15 ... 40 °C |
| Setpoint knob | -7 ... 7 °C |
| Occupancy switch | auto/off/on |
| Mounting place | internal wall |
| Housing (HxWxD) | 104 mm; 99 mm; 30 mm |
| Additional description | Models with setpoint potentiometer delivered with 4 setpoint wheels; white and blue, relative and absolute scale. |



Product description	Type
Sensor with setpoint wheel	TF22



Product description	Type
Sensor with pushbuttons for setpoint adjustment and display	TFU22



Room temperature sensor NTC, economy

- | | |
|------------------------|---|
| Protection class | IP30 |
| Temperature element | NTC20k |
| Temperature range | 6 ... 40 °C |
| Mounting place | internal wall |
| Housing (HxWxD) | 56 mm; 46 mm; 19,3 mm |
| Wiring terminals | 2 |
| Type of terminals | spring |
| Additional description | T7470A1009 will be delivered as one set of 5 sensors. |



Type
T7470A1009



Room temperature sensor, NTC

- | | |
|-------------------|----------------------|
| Protection class | IP30 |
| Temperature range | 10 ... 40 °C |
| Mounting place | internal wall |
| Housing (HxWxD) | 104 mm; 99 mm; 30 mm |



Temperature element	Wiring terminals	Type
NTC20k	2	RF20
2 x NTC20k	3	DRF20-S

Temperature sensors NTC



Room temperature sensor, setpoint unit, IRC style, NTC

Room temperature sensor. Models with remote control point adjustment unit.

Protection class	IP30
Mounting place	internal wall
Temperature element	NTC20k
Temperature range	0 ... 50 °C
Housing (HxWxD)	130 mm; 80 mm; 34 mm



Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
3	- ... +	-	-	T7412B1008



Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
4	- ... +	on/off	-	T7412C1006



Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
4	- ... +	-	auto/off/1/2/3	T7412D1004



Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
5	-	-	-	T7412E1027

Temperature sensors NTC



Water temperature sensor, NTC

Wiring terminals

2



Immersion with well

Temperature element	Temperature range °C	Mounting place	Immersion well material	Immersion well thread	Immersion depth mm	Cable length m	Protection class	Type
NTC10k	-40 ... 150	in pipe	brass	R1/2"	150	–	IP54	VF10-1B54T
NTC20k	-40 ... 150	in pipe	brass	R1/2"	150	–	IP54	VF20-1B54
NTC20k	-40 ... 150	in pipe	brass	R1/2"	300	–	IP54	VF20-3B54
NTC20k	-40 ... 150	in pipe	brass	R1/2"	50	–	IP54	VF20-5B54
NTC20k	-40 ... 150	in pipe	stainless steel	R1/2"	150	–	IP54	VF20-1B54S
NTC20k	-40 ... 150	in pipe	stainless steel	R1/2"	300	–	IP54	VF20-3B54S
NTC20k	-40 ... 150	in pipe	brass	R1/2"	150	–	IP65	VF20-1B65
NTC20k	-40 ... 150	in pipe	stainless steel	R1/2"	150	–	IP65	VF20-1B65S

Strap-on

Temperature element	Temperature range °C	Mounting place	Immersion well material	Immersion well thread	Immersion depth mm	Cable length m	Protection class	Type
NTC10k	-40 ... 110	strap on pipe	–	–	–	–	IP54	SF10-B54
NTC20k	-40 ... 110	strap on pipe	–	–	–	–	IP54	SF20-B54
NTC20k	-40 ... 110	strap on pipe	–	–	–	–	IP65	SF20-B65

Spare wells

Stainless steel well, 50 mm, R1/2, PN25	WS50
Brass well, 50 mm, R1/2, PN10	WB50
Stainless steel well, 150 mm, R1/2, PN25	WS150
Brass well, 150 mm, R1/2, PN10	WB150
Stainless steel well, 300 mm, R1/2, PN25	WS300
Brass well, 300 mm, R1/2, PN10	WB300



Water temperature sensor NTC, fast reaction time

Sensor for direct mounting in pipe, G1/2" connection.
For water temperature measurement in district heating or hot water supply.

Protection class	IP65
Temperature element	NTC20k fast
Temperature range	-20 ... 140 °C
Mounting place	in pipe
Cable length	2,5 m
Additional description	Reaction time max. 2 sec. Sensing material steel 1.4571. Immersion depth adjustable.



Immersion depth mm	Sensing element (dia x L) mm; mm	Type
max. 75	4; 25	T7425A1005
max. 220	4; 170	T7425A1013
max. 300	4; 250	T7425A1021

Temperature sensors NTC



Water temperature sensor NTC, cable type

Watertight temperature sensor with sensor cartridge.

Protection class	IP65
Temperature element	NTC20k
Temperature range	-30 ... 105 °C
Mounting place	universal
Immersion depth	50 mm
Sensing element (dia x L)	6 mm; 50 mm
Wiring terminals	2
Additional description	Metal immersion spring is not included

Cable length m	Packing unit quantity	Type
2	1	KTF20-65-2M
2	50	KTF20-65-2M-B
5	50	KTF20-65-5M-B

Wells

Stainless steel well, 50 mm, R1/2, PN25	WS50
Brass well, 50 mm, R1/2, PN10	WB50
Stainless steel well, 150 mm, R1/2, PN25	WS150
Brass well, 150 mm, R1/2, PN10	WB150
Stainless steel well, 300 mm, R1/2, PN25	WS300
Brass well, 300 mm, R1/2, PN10	WB300

Spring

Spring for use with old style VF immersion wells	VF-SPRING
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Outdoor, strap-on temperature sensor

Mounting place	outdoor/strap-on
Protection class	IP65
Temperature range	-30 ... 70 °C
Temperature element	NTC20k
Cable length	1 m

Type
T7414C1012

Temperature sensors NTC



Outdoor temperature sensor, NTC

Temperature range	-40 ... 70 °C
Mounting place	wall outside
Housing (HxWxD)	56 mm; 81 mm; 49 mm
Wiring terminals	2

Temperature element	Protection class	Type
NTC10k	IP54	AF10-B54
NTC20k	IP54	AF20-B54
NTC20k	IP65	AF20-B65



Air duct temperature sensor, NTC

Temperature range	-40 ... 110 °C
Mounting place	air duct
Immersion depth	300 mm
Wiring terminals	2
Additional description	Humidity 5..95 %rh, non condensing.

Temperature element	Cable length m	Protection class	Type
NTC10k	–	IP54	LF10-3B54
NTC20k	–	IP54	LF20-3B54
NTC20k	–	IP65	LF20-3B65
NTC20k	5	IP65	LF20-3P65-5M



Air duct temperature sensor, average measurement, NTC

Averaging temperature sensor, with wall socket, flexible rod, a 0,5 m long connector cable and four rod clips with screws. For application in ducts where large temperature gradients can occur.	
Temperature element	4 x NTC20k
Temperature range	-30 ... 70 °C
Mounting place	air duct
Wiring terminals	2
Additional description	The 3 meters flexible rod has four sensors positioned along the length of the rod.

Type
C7085A1014

5

Temperature sensors NTC



Unit temperature sensor

Temperature sensor for air handling units, fancoil units or air outlets.

Protection class	IP65
Mounting place	air duct
Temperature element	NTC20k
Temperature range	0 ... 70 °C
Wiring terminals	2
Additional description	Sensor supplied with mounting bracket. Sensing element size: diameter 6 mm, length 55 mm.

Cable length m	Type
2	PF20-65-2M
5	PF20-65-5M

5



Earth temperature sensor, NTC

For use in greenhouses and similar applications

Protection class	IP62
Temperature element	NTC20k
Temperature range	-20 ... 34 °C
Mounting place	greenhouse, earth
Wiring terminals	2
Cable length	5 m

Type
EF20



Damp-proof temperature sensor, NTC

for use in greenhouses and similar applications

Approvals	IEC144
Protection class	IP30
Temperature element	NTC20k
Temperature range	-20 ... 30 °C
Mounting place	greenhouse, air
Wiring terminals	2
Cable length	5 m

Type
GF20

Temperature sensors Pt100/Pt1000



Room temperature sensor Pt100/Pt1000, setpoint unit

Room temperature sensor. Models with remote control point adjustment unit.

Mounting place	internal wall
Approvals	IEC751 Class B
Protection class	IP30
Temperature range	0 ... 50 °C
Housing (HxWxD)	130 mm; 80 mm; 34 mm

Temperature element	Setpoint knob °C	Wiring terminals	Type
Pt100	–	2	T7412A1059
Pt1000	– ... +	4	T7412B1016
Pt1000	15 ... 30	5	T7412B1040



Wall module, Pt1000

Wall module for direct wiring to Excel 800, Excel Web, Excel IRC, Honeywell Comfort Point Open; or other systems using Pt1000 sensing elements

Temperature element	Pt1000
Temperature range	6 ... 40 °C
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Protection class	IP30

Type
T7460A1018

Temperature sensors Pt100/Pt1000



Water temperature sensor, Pt1000

Approvals IEC751 class B
 Temperature element Pt1000
 Wiring terminals 2

Immersion with well

Temperature range °C	Mounting place	Immersion well material	Immersion well thread	Immersion depth mm	Cable length m	Protection class	Type
-40 ... 150	in pipe	brass	R1/2"	150	–	IP54	VF00-1B54
-40 ... 150	in pipe	brass	R1/2"	150	–	IP65	VF00-1B65

Immersion without well

Temperature range °C	Mounting place	Immersion well material	Immersion well thread	Immersion depth mm	Cable length m	Protection class	Type
-40 ... 150	in well	–	–	150	–	IP54	VF00-1B54NW
-40 ... 150	in well	–	–	300	–	IP54	VF00-3B54NW

Strap-on

Temperature range °C	Mounting place	Immersion well material	Immersion well thread	Immersion depth mm	Cable length m	Protection class	Type
-40 ... 110	strap on pipe	–	–	–	–	IP54	SF00-B54

Wells

Stainless steel well, 50 mm, R1/2, PN25	WS50
Brass well, 50 mm, R1/2, PN10	WB50
Stainless steel well, 150 mm, R1/2, PN25	WS150
Brass well, 150 mm, R1/2, PN10	WB150
Stainless steel well, 300 mm, R1/2, PN25	WS300
Brass well, 300 mm, R1/2, PN10	WB300

Temperature sensors Pt100/Pt1000



Water temperature sensor Pt1000, fast reaction time

Sensor for direct mounting in pipe, G1/2" connection.
For water temperature measurement in hot water supply, solar panels etc.

Protection class	IP65
Temperature element	Pt1000 fast
Temperature range	-20 ... 300 °C
Mounting place	in pipe
Cable length	2,5 m
Additional description	Reaction time max. 2 sec. Sensing material steel 1.4571. Immersion depth adjustable.

Immersion depth mm	Sensing element (dia x L) mm; mm	Type
max. 75	4; 75	T7425B1011
max. 220	4; 220	T7425B1029



Water temperature sensor Pt1000, cable type

Approvals	IEC751 class B
Protection class	IP65
Temperature element	Pt1000
Temperature range	-30 ... 105 °C
Mounting place	universal
Immersion depth	min. 50 mm
Sensing element (dia x L)	6 mm; 50 mm
Cable length	2 m

Type
KTF00-65-2M

Wells

Stainless steel well, 50 mm, R1/2, PN25	WS50
Brass well, 50 mm, R1/2, PN10	WB50
Stainless steel well, 150 mm, R1/2, PN25	WS150
Brass well, 150 mm, R1/2, PN10	WB150
Stainless steel well, 300 mm, R1/2, PN25	WS300
Brass well, 300 mm, R1/2, PN10	WB300

Spring

Spring for use with old style VF immersion wells	VF-SPRING
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Temperature sensors Pt100/Pt1000



Outdoor, strap-on temperature sensor

Approvals	IEC751 class B
Protection class	IP65
Temperature element	Pt1000
Temperature range	-30 ... 70 °C
Mounting place	outdoor/strap-on
Wiring terminals	2
Cable length	1 m

Type
T7414C1004

5



Outdoor temperature sensor, Pt1000

Approvals	IEC751 class B
Temperature element	Pt1000
Temperature range	-40 ... 70 °C
Mounting place	wall outside
Housing (HxWxD)	56 mm; 81 mm; 49 mm
Wiring terminals	2
Protection class	IP54

Type
AF00-B54



Air duct temperature sensor, Pt

Temperature range	-40 ... 110 °C
Mounting place	air duct
Wiring terminals	2
Protection class	IP54
Additional description	Humidity 5..95 %rh, non condensing.

Temperature element	Immersion depth mm	Type
Pt100	150	LF0-1B54
Pt1000	150	LF00-1B54
Pt1000	300	LF00-3B54

Temperature sensors Pt100/Pt1000



Air duct temperature sensor, average measurement

Averaging temperature sensor, with wall socket, flexible rod, a 0,5 m long connector cable and four rod clips with screws.
For application in ducts where large temperature gradients can occur.



Temperature element	4 x Pt1000
Temperature range	-30 ... 70 °C
Mounting place	air duct
Wiring terminals	2
Additional description	The 3 meters flexible rod has four sensors positioned along the length of the rod.

Type
C7085A1006



Flue gas temperature sensor

Steel plug in temperature sensor with mounting flange.
For flue gas temperature measurement.



Temperature element	Pt1000
Temperature range	0 ... 320 °C
Media temp. limit	temperatures up to 400 °C are allowable for short periods
Mounting place	flue gas vent
Immersion depth	120 mm
Cable length	1 m
Additional description	Supplied with electrical cable with steel casing.

Type
AGF1

5

R.H. (+ temperature) sensors



Wall module with temperature and R.H. sensor

Temperature element	NTC20k
Temperature range	10 ... 40 °C
R.H. range	5 ... 90 %rh
R.H. sensing element	capacitive
R.H. output signal	0..10V=
Power supply	24 Vacdc; 0,15 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Wiring terminals	5

Type

T7560C1006

5



Room R.H.- and temperature sensor

Combined Room Humidity and Temperature Sensor with various sensor elements

Approvals	IEC751 class B for Pt1000 sensor
Protection class	IP30
R.H. range	5 ... 95 %rh
R.H. sensing element	capacitive
R.H. output signal	0..10V=
Power supply	24 Vac; 0,48 VA
Mounting place	internal wall
Housing (HxWxD)	130 mm; 80 mm; 34 mm

Temperature element	Output signal	Temperature range °C	Type
–	–	–	H7012A1010
Pt1000	–	0 ... 50	H7012B1008
NTC20k	–	0 ... 50	H7012B1024
–	temp: 0..10V=	0 ... 50	H7012B1030

Upgrade kit for H7012A1009 with Balco500 temperature sensor
(5 sensors included)

H7012BALC0500KIT

R.H. (+ temperature) sensors



Outdoor R.H.- and temperature sensor/transmitter

Protection class	IP34
Temperature range	-30 ... 50 °C
R.H. range	5 ... 95 %rh
R.H. sensing element	capacitive
R.H. output signal	0..10V=
Power supply	24 Vac; 0,25 VA
Mounting place	wall outside
Housing (HxWxD)	172 mm; 132 mm; 60 mm
Additional description	Relative humidity sensor accuracy class: 3%.

Temperature element	Output signal	Wiring terminals	Type
–	temp: 0..10V=	5	H7508B1060
NTC20k	–	6	H7508B1080

Upgrade kit for H7508B1060 with Balco500 temperature sensor
(5 sensors included)

H7012BALCO500KIT



Air duct R.H.- and temperature transmitter

Protection class	IP65
Output signal	• temperature: 0..10 V • relative humidity: 0..10 V
R.H. range	0 ... 100 %rh
R.H. sensing element	capacitive
Power supply	24 Vacdc; 0,4 VA
Mounting place	air duct
Immersion depth	235 mm
Additional description	Relative humidity sensor accuracy 2,5%.

Temperature range °C	Wiring terminals	Note	Type
0 ... 50	5	–	H7015B1060
-30 ... 70	7	extra output: NTC20k sensor	H7015B1080

Air quality sensors



Air quality sensor

For detection of unpleasant odours, tobacco smoke, and vapours emitted by such materials as furniture, carpets, paint, glue, etc.

Protection class	III as per EN60730-1I IP30 as per EN60529
Output signal	0..10Vdc
Power supply	24 Vacdc; 1 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Additional description	Adjustable output offset and LED display



Type

C7110A1010

Room temperature/ CO2 sensor

For sensing or controlling of CO₂ concentration in buildings.

LED functions	operation as CO ₂ indicator
Output signal	• CO₂: 0..10 V for 0..2000 ppm (factory setting) or 0..3000 ppm • temperature: 0..10 V
Power supply	24 Vac; 2 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Additional description	Automatic baseline calibration, and quick calibration options.



Type

C7110C1001



Room temperature/ CO2 sensor

For sensing or controlling of CO ₂ concentration; and temperature measurement in buildings.	
LED functions	operation as occupancy indicator
Output signal	CO ₂ : 0..10 V for 0..2000 ppm (factory setting) or 0..3000 ppm
Temperature element	NTC20k
Temperature range	10 ... 35 °C
Setpoint knob	-5 ... 5 °C
Extra setp. knob	12 ... 30 °C
Occupancy switch	auto/bypass
Power supply	24 Vac; 2 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Additional description	• Temperature setpoint potentiometer delivered with 4 setpoint wheels; white and blue, relative and absolute scale. • Automatic baseline calibration, and quick calibration options.

Type
C7110D1009



Air duct CO2 and temperature transmitter

For sensing or controlling of CO ₂ concentration, and temperature measurement in buildings.	
Protection class	IP65 when probe mounted downwards, otherwise IP20
Output signal	The following output signals are applicable: • 0..10 V for 0..2000 ppm CO₂ • 0..10 V for 0..50 °C
Power supply	24 Vac; max. 3 VA
Mounting place	air duct
Wiring terminals	5

Type
AQS71-KAM-T

IRC/XL10 sensors, Wall modules



Room temperature sensor, setpoint unit, IRC style, NTC

Room temperature sensor. Models with remote control point adjustment unit.

Protection class	IP30
Mounting place	internal wall
Temperature element	NTC20k
Temperature range	0 ... 50 °C
Housing (HxWxD)	130 mm; 80 mm; 34 mm



Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
3	- ... +	-	-	T7412B1008



Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
4	- ... +	on/off	-	T7412C1006



Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
4	- ... +	-	auto/off/1/2/3	T7412D1004



Wiring terminals	Setpoint knob °C	Occupancy switch	Fan switch	Type
5	-	-	-	T7412E1027

IRC/XL10 sensors, Wall modules



Remote setpoint adjustment unit for IRC or XL10

Remote setpoint adjustment unit.

Mounting	fancoil unit
Protection class	IP30
Setpoint knob	- ... + °C
Cable length	2 m
Housing (HxWxD)	75 mm; 70 mm; 22 mm



Wiring terminals	Fan switch	Model	Type
2	–	for XL IRC	S7014A1004



Wiring terminals	Fan switch	Model	Type
3	auto/off/1/2/3	for XL IRC	S7014B1000
3	auto/off/1/2/3	for XL10	S7014C1009

IRC/XL10 sensors, Wall modules



Wall modules for EXCEL 5000 controllers

Room temperature sensor for Excel 10/12 and Excel 50..800 controllers. Models available with setpoint adjustment, occupancy extension and fan switch.

LED functions	LED on or blinking in case of bypass, LED functions programmable with Excel 20..800 controllers
Temperature element	NTC20k
Temperature range	10 ... 35 °C
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Additional description	Models with setpoint potentiometer delivered with 4 setpoint wheels; white and blue, relative and absolute scale.

Setpoint knob °C	Extra setp. knob °C	Occupancy switch	Fan switch	Type
–	–	–	–	T7460A1001
-5 ... 5	12 ... 30	–	–	T7460B1009
-5 ... 5	12 ... 30	auto/bypass	–	T7460C1007
-5 ... 5	12 ... 30	–	auto/off/1/2/3	T7460D1005
-5 ... 5	12 ... 30	auto/bypass	auto/off/on	T7460E1002
-5 ... 5	12 ... 30	auto/bypass	auto/off/1/2/3	T7460F1000
LON connection board				T7460LONJACK
Setpoint range limiter				T7460LIMITER

IRC/XL10 sensors, Wall modules



Spare parts for all T7460 models

Blind cover, blue (25 pieces)	WMSPS-1
Blind cover, white (25 pieces)	WMSPS-2
Round knob, blue (25 pieces)	WMSPS-3
Round knob, white (25 pieces)	WMSPS-4



Spare parts for T7460B,C,D,E,F

Setpoint wheel, blue (scale +/-5K) (25 pieces)	WMSPS-8
Setpoint pack, consists of 1 blind cover white, 1 setpoint wheel blue (scale 12..30). 1 setpointwheel white (scale 12..30), 1 setpointwheel white, scale +/-5 (10 pieces)	WMSPS-9



Spare parts for T7460D,E,F

Fanspeed knob (50 pieces)	WMSPS-10
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Spare parts for T7460C,E,F

Occupancy button (50 pieces)	WMSPS-11
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IRC/XL10 sensors, Wall modules



Wall modules for EXCEL 5000 controllers, with display

Room temperature sensor with digital display, for Excel 10 and Excel 50..800 controllers. With setpoint adjustment, occupancy extension, fan speed button and on/off button. Model with R.H.-sensor.



Display functions	room temperature, setpoint temperature, occupancy status, fan speed status
Temperature element	NTC20k
Temperature range	10 ... 40 °C
Setpoint knob	-5 ... 5 °C
Extra setp. knob	12 ... 30 °C
Occupancy switch	on/off
Fan switch	configurable
Power supply	24 Vac; 2 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Additional description	Tool-free configuration: • number of fan speeds • relative / absolute setpoint • enable/disable space temperature display • centigrade/fahrenheit

R.H. range %rh	R.H. sensing element	R.H. output signal	Wiring terminals	Model	Type
–	–	–	7	blue knobs/wheel	T7560A1000
–	–	–	7	white knobs/wheel	T7560A1026
–	–	–	7	white knobs/wheel/ fahrenheit	T7560A1018
5 ... 90	capacitive	0..10V=	8	blue knobs/wheel	T7560B1008
5 ... 90	capacitive	0..10V=	8	white knobs/wheel	T7560B1024
5 ... 90	capacitive	0..10V=	8	white knobs/wheel/ fahrenheit	T7560B1016

Accessories

LON/BACnet connection board	T7460LONJACK
Blind cover for T7560 knobs (50 pieces)	T7560BLINDS

Spare parts

Blind cover, blue (25 pieces)	WMSPS-1
Blind cover, white (25 pieces)	WMSPS-2
Round knob, blue (25 pieces)	WMSPS-3
Round knob, white (25 pieces)	WMSPS-4
Setpoint wheel, blue, unprinted (25 pieces)	WMSPS-5
Setpoint wheel, white, unprinted (25 pieces)	WMSPS-6



IRC/XL10 sensors, Wall modules



Wall modules for EXCEL 12 controllers, with display, and light buttons

Room temperature sensor with digital display. With setpoint adjustment, occupancy extension, lights on/off/dim buttons and on/off button.

Display functions	room temperature, setpoint temperature, occupancy status
Temperature element	NTC20k
Temperature range	10 ... 40 °C
Setpoint knob	-5 ... 5 °C
Extra setp. knob	12 ... 30 °C
Occupancy switch	on/off
Power supply	24 Vac; 2 VA
Mounting place	internal wall
Housing (HxWxD)	104 mm; 99 mm; 30 mm
Wiring terminals	7
Model	blue knobs/wheel
Additional description	Tool-free configuration: • relative / absolute setpoint • enable/disable space temperature display • centigrade/fahrenheit

Type
T7560A1036

Accessories

LON/BACnet connection board	T7460LONJACK
Blind cover for T7560 knobs (50 pieces)	T7560BLINDS

Spare parts

Round knob, white (25 pieces)	WMSPS-4
Setpoint wheel, white, unprinted (25 pieces)	WMSPS-6





Solar sensor

Sensor to register solar radiation. Including two sensing elements.

Protection class	IP30
Mounting place	wall outside
Housing (HxWxD)	120 mm; 60 mm; 50 mm
Wiring terminals	3
Additional description	To be connected to a 10Vdc output from a controller as power supply. The solar output signal (0..5Vdc = 0..500 W/m ²) must be connected to an analogue input of the controller.

Type
SAF25



Dew-point switch

This early-warning dew-point switch is designed for use in monitoring cooling water pipes or chilled surfaces in order to determine if temperatures are approaching the dewpoint. It is suitable for mounting on flat and round surfaces. The switch measures the relative humidity prevailing directly at the chilled surface and can thus be used to:

- regulating cooling performance
- switching cooling systems ON and OFF
- signalling if the temperature is approaching the dew-point

Status indication with LED, showing condensation danger
Switching point at 90 %rh, hysteresis 5 %rh

Ambient temperature	0 ... 50 °C
Protection class	IP40
Mounting	wall, duct or pipe (max. 50 mm)
Power supply	24 Vac; 0,3 VA
Switch function/capacity	potential free changeover contact; max. 24 Vac/dc, 1 A
Wiring connection	5-pole push-in terminals, max. 1,5mm ²

Type
HSS-DPS

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Pneumatic Sensor Controller System

This comprises a series of dedicated sensors measuring temperature and humidity and transmitting an industry-standard 0.2 to 1 bar (3-15 psi) signal to controllers. The controllers are available with proportional and proportional plus integral control outputs with or without reset and remote control point adjustment (CPA). These outputs are used to control air conditioning and heating plants. Direct indication of the controlled variable can be provided by a gauge calibrated to match the output of the sensor installed in the tubing of any convenient point.

The RP920 Pneumatic Controllers provide proportional or proportional+integral control of temperature, humidity/or pressure in heating and air conditioning systems depending upon the controller/sensor combination. The construction is of modular design using modern plastic technology providing a high degree of accuracy and reliability, whilst the compact size and rail mounting saves panel space. Compensation and a remote set point facility are available, with either proportional or proportional plus integral output. Gauges can be fitted to indicate the sensor readings and the output pressure. The control output can be selected as either direct or reverse acting to suit the application. The set point scale is 0 to 100% on set point knob. Separate scales for available sensors supplied with controller. Authority is 20 to 300% of main sensor span. Compensation start point is 0 to 100% of compensation sensor span. Integral reset time is 0.5 to 20 min. Proportional Band is 2.5 to 45% of main sensor span.

Max. safe air pressure	2 bar
Ambient temperature	5 ... 55 °C
Air connection	Dual barbs to fit either 6 x 1mm (1/4" OD) or 4 x 0.75mm(5/32" OD) PE tubing. Gauge connection 1/8" NPT.
Supply air pressure	1,25 bar

Model	Type
Proportional controller with reset and CPA	RP920B1007
P + I controller with reset and CPA	RP920D1003

Damper/Valve Actuators



Pneumatic damper actuator, MP904

Pneumatic actuator for a damper that controls the volume of air in heating, cooling or ventilation systems.

Max. operating pressure	140 kPa
Air connection	barb fitting for 6 mm 1/4" polyethylene tubing
Max. safe air pressure	210 kPa
Stroke	90 mm
Additional description	Pressure operating range for MP904A, C models field adjustable for 3 spans.

Pressure range kPa	Positioner	Effective diaphragm area cm ²	Net force at 0 kPa pressure N	Net force at 140 kPa pressure N	Ambient temperature °C	Type
21, 35, 70	•	146	550	600	-30 ... 70	MP904A5047
21...91	–	146	270	600	-30 ... 90	MP904B5037
49...91	–	146	550	600	-30 ... 90	MP904B5052
21, 35, 70	•	65	280	250	-30 ... 70	MP904C1026
14...49	–	65	70	500	-30 ... 90	MP904D1032
49...91	–	65	280	250	-30 ... 90	MP904D1040
21...91	–	65	110	250	-30 ... 90	MP904D1057



Pneumatic damper actuator with shaft connection, MP913

Pneumatic actuator for a damper that controls the volume of air in induction units, mixing boxes, and variable volume systems.

Max. operating pressure	140 kPa
Operating range	21 ... 91 kPa
Air connection	metal barb type slip-on connector for 6 x 1 mm or 1/4" O.D. polyethylene tube
Max. safe air pressure	200 kPa
Ambient temperature	-30 ... 70 °C
Additional description	• Shaft connection thread M10 • Rolling diaphragm

Stroke mm	Effective diaphragm area cm ²	Net force at 0 kPa pressure N	Net force at 125 kPa pressure N	Type
90	25	45	80	MP913B1068
65	25	45	80	MP913B1076
70	45	80	145	MP913C1074

Damper/Valve Actuators



Pneumatic actuator, MP953

Pneumatic actuator for valves in heating and air conditioning systems.
Actuators are suitable for valve series: V5011, V5013, V5015, V5049, V5050, V5016, V5025, V5328, V5329.

Protection class	IP54
Action	direct or reverse acting
Max. operating pressure	140 kPa
Max. safe air pressure	172 kPa
Additional description	Rolling diaphragm



20 mm

Pressure range kPa	Adjustable start point kPa	Positioner	Stroke mm	Action actuator stem	Max. ambient temperature °C	Diaphragm inch	Type
34,5 or 69	20,7 ... 69	•	20	extends	70	5	MP953A5005
34,5 or 69	20,7 ... 69	•	20	extends	70	8	MP953A5039
34,5 or 69	20,7 ... 69	•	20	retracts	70	7	MP953B5003
13,8...48,3	–	–	20	extends	120	5	MP953C5001
55,2...82,8	–	–	20	extends	120	5	MP953C5019
27,6...75,9	–	–	20	extends	120	5	MP953C5027
13,8...48,3	–	–	20	extends	120	8	MP953C5068
55,2...82,8	–	–	20	extends	120	8	MP953C5076
27,6...75,9	–	–	20	extends	120	8	MP953C5084
55,2...82,8	–	–	20	retracts	120	7	MP953D5009
27,6...75,9	–	–	20	retracts	120	7	MP953D5025

38 mm

Pressure range kPa	Adjustable start point kPa	Positioner	Stroke mm	Action actuator stem	Max. ambient temperature °C	Diaphragm inch	Type
34,5 or 69	20,7 ... 69	•	38	extends	70	13	MP953A5054
13,8...48,3	–	–	38	extends	120	13	MP953C5142
27,6...75,9	–	–	38	extends	120	13	MP953C5159



High Temperature Applications, the following bonnet extensions must be used with MP953 actuators when the flowing medium temperature is 150 to 220 degrees C, to give extra air circulation and less conduction of heat from the valve body to the actuator.

Used with V5049A up to 65mm, V5050A up to 80mm, V5328A 40mm to 80mm, V5329A 40mm to 80mm	43161276-001
Used with V5011R,S, V5013R,E, V5328A 15mm to 32mm, V5329A 15mm to 32mm	43297431-001

Relays



Electric-pneumatic relay

Relay to switch with an electric voltage the supply air pressure to one or the other output port	
Input signal	230 Vac, 9/7 VA ; supply air pressure on port 1
Output signal	air pressure on port 2 or 3
Pressure connection	for 6 x 1 mm or 1/4" PE hose
Mounting	DIN rail or wall
Max. pressure	800 kPa
Media temp.	-10 ... 40 °C
Additional description	Air capacity 55 NI/h.

Type
RP416A2008



Pneumatic selector relay, RP470

Three-port relay to transmit the higher of two input signals.	
Branch Line Pressure range	0 ... 125 kPa
Max. safe air pressure	205 kPa
Air connection	barb for 5/32" or 4 mm O.D. plastic tubing
Mounting	In-line; panel; Wall
Includes	14003030-001 1 1/2 in. Mounting Clip for Mounting relay to wall or panel, 1/4" (6 mm) and 5/32" (4 mm) plastic tubing, connectors, compression adapters

Type
RP470A1003/U



Pneumatic switching relay, RP670

Pneumatic switching relays block, divert, or bleed pneumatic air lines when pilot pressure is changed from one specific value to another. Commonly applied in Day-Night, Summer-Winter, Start- Stop, On-Off-Auto and other multiple condition systems where control sequence is changed as conditions change.	
Branch Line Pressure range	0 ... 152 kPa
Max. safe air pressure	205 kPa
Air connection	barb for 5/32" or 4 mm O.D. plastic tubing
Includes	14003030-001 1 1/2 in. Mounting Clip for Mounting relay to wall or panel, 1/4" (6 mm) and 5/32" (4 mm) plastic tubing, connectors, compression adapters

Model	Type
Switching pilot relay SPDT, range 3..7 psi	RP670A1001/U
Switching pilot relay SPDT, range 13..18 psi	RP670A 1019



Pneumatic Capacity Relay

The RP970A is a direct acting, proportional relay suitable for use in HVAC systems to increase the capacity of a branchline signal to a pneumatic valve or damper operator. The RP970A provides a 1:1 pressure ratio. It can also transmit the lower of 2 pressures.

- Branch Line Pressure range 0 ... 124 kPa
- Max. safe air pressure 205 kPa
- Air connection barb for 5/32" or 4 mm O.D. plastic tubing

Type
RP970A1008/U



Pneumatic Reversing Relay

The RP972A reverses and increases the capacity of the branch line pressure to the final control device in all types of HVAC systems. May be set to decrease from 13, 16, or 18 psi (90,110 or 124 kPa).

- Branch Line Pressure range 0 ... 124 kPa
- Max. safe air pressure 207 kPa
- Air connection barb for 5/32" or 4 mm O.D. plastic tubing
- Model Operating Range 0 to 124 kPa

Type
RP972A1006/U



Electric-pneumatic signal conversion module

Input signal	electrical input 2..10 Vdc
Output signal	pressure output 20..100 kPa, proportional to input signal
Pressure connection	for 4 or 6 mm PE hose
Wiring connection	with 1 metre cable
Mounting	DIN rail
Max. pressure	200 kPa
Media temp.	5 ... 55 °C
Additional description	Air capacity 720 NI/h.

Power supply Vacdc; VA	Model	Type
from controller; 10	for Micronik 100	RP7517A1009
24; 1,7	for Excel 5000	RP7517B1008



Pneumatic temperature sensor, LP914

Pneumatic sensor for control of hot water or warm air, in heating and air-conditioning systems.

Max. safe air pressure	175 kPa
Max. media temperature	130 °C
Supply air pressure	125 kPa
Pressure output	21 ... 103 kPa
Air connection	push-on barb connector for 6 mm or 1/4" O.D. tube
Action	direct acting

Temperature range °C	Immersion depth mm	Mounting	Type
-40 ... 70	380	duct or well	LP914A1003/U
5 ... 115	380	duct or well	LP914A1029/U
-40 ... 70	175	duct or well	LP914A1045/U
5 ... 115	175	well	LP914A1052/U
-5 ... 50	380	duct or well	LP914A1144/U

Accessories

Stainless steel well, 380 mm 1/2" NPT	43163162-001
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Pneumatic temperature sensor, LP915

One-pipe, direct-acting temperature sensor used with RP908 or RP920 Controllers to provide proportional control of pneumatic valve or damper actuators. Averaging, liquid-filled element for duct mounting.

Max. safe air pressure	172 kPa
Max. media temperature	118 °C
Supply air pressure	124 kPa
Pressure output	21 ... 103 kPa
Air connection	push-on barb connector for 4 mm or 5/32" and 6 mm or 1/4" O.D. tube
Capillary tube length	5,6 m
Temperature range	-18 ... 93 °C
Mounting	duct
Action	direct acting

Type
LP915A1044/U

Thermostat/Humidistat

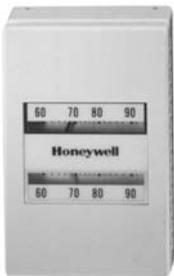


Pneumatic room temperature controller, TP937/938

Room-mounted pneumatic temperature controller; models with a facility for resetting the setpoint with a signal from a master pneumatic controller.
For proportional control of pneumatic valve- and damper actuators in heating and air-conditioning systems.

Branch Line Pressure range	21 ... 105 kPa
Throttling range	adjustable 1,1...5,5 °C
Max. safe air pressure	175 kPa
Max. media temperature	65 °C
Air connection	110 mm tubing with barb type fitting for polyethylene tubing, diameter 6 mm
Mounting	wall
Temp. setpoint range	15 ... 30 °C
Submaster set-up	no
Additional description	• filter included in air connection and in external H-restriction • submaster set-up range 5 °C when reset signal increases from 21...91 kPa

Action	Type
direct acting	TP937A1006
reverse acting	TP937B1004



Pneumatic room temperature controller, TP970

For proportional control of pneumatic valves and damper actuators in heating and air-conditioning systems. The TP970 incorporates a relay amplifier giving sensitive control and facilitating averaging control, which requires extra relays when bleed-type thermostats are used. The range comprises factory calibrated bimetal element proportional instruments with a setpoint indicator. The cover is ordered separately, and restrictors are not required.

Branch Line Pressure range	21 ... 105 kPa
Throttling range	adjustable 1...5 °C
Max. safe air pressure	175 kPa
Mounting	wall
Temp. setpoint range	15 ... 30 °C
Action	direct acting

	Type
	TP970A2020/U
Satin chrome cover	14004406-120/U

Thermostat/Humidistat



Pneumatic room temperature sensor, TP974

One- or two-pipe direct-acting temperature sensor used with RP908/RP920 controllers to provide proportional control of pneumatic valve and damper actuators.

Max. safe air pressure	170 kPa
Max. media temperature	66 °C
Supply air pressure	124 kPa
Pressure output	21 ... 103 kPa
Air connection	plug-in
Temperature range	10 ... 38 °C
Mounting	wall
Action	direct acting



Type	
TP974A2000/U	
Cover without scale	14004406-300/U
Spacer ring for wall mounting	14004458-001/U

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Pneumatic room humidity sensor, HP971

One- or two-pipe direct-acting humidity sensor used with RP908/RP920 controllers to provide proportional control of pneumatic valve and damper actuators in systems requiring humidification or dehumidification control.

Max. safe air pressure	172 kPa
Max. media temperature	52 °C
Supply air pressure	124 kPa
Pressure output	21 ... 103 kPa
Air connection	1/4 " tubing
Mounting	wall
Action	direct acting
R.H. range	15 ... 85 %rh



Type	
HP971A1024	
Cover	14004406-124/U



Pressure reducing valve with Filter Regulator Station, PP907



Provides reducing of inlet pressure to a constant operating pressure and filtering e.g. of condensates, dust, oil and rust particles.

- Air consumption 30 NI/h (500 sccm) at 500 kPa inlet pressure, max. 60 NI/h (1000 sccm)
- Upper limit of air capacity 10 Nm³/h
- Outlet pressure gauge indication 0...2 bar (0...30 psi) full range
- Sub-micron filter for dust separation and separation of condensates
- Pressure relief valve, fixed at 175 kPa

Supply air pressure max. 1000 kPa
Pressure output 10 ... 175 kPa

Type
PP907A1008



Pneumatic switches, SP470/970



For manual correction of process control-/manual proportional action switching or minimum positioning in pneumatic control systems.

Max. safe air pressure 200 kPa

Air connection • SP470: sharp barb type slip-on connections for 4 mm (5/32") plastic tubing
 • SP970: connectors for 4 mm or 5/32" O.D. plastic tubing

Model	Operating range kPa	Ambient temperature °C	Type
2-position switch	0 ... 150	-18 ... 60	SP470A1042
3-position switch	0 ... 150	-18 ... 60	SP470A1059
3 port pneumatic switch, span 70 kPa	0 ... 125	0 ... 50	SP970A1021

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Humidistats



Room humidistat, low voltage

Low voltage humidistat for humidity control of rooms.

Switch function/capacity	SPDT 48 Vac, 6 A
R.H. hysteresis switching point	5 %rh
Ambient temperature	10 ... 50 °C
R.H. sensing element	nylon
(De) Humidification application	D + H
Mounting place	internal wall
Additional description	With internal setpoint adjustment limiter. Including mounting base/ring.

	R.H. setpoint range %rh	Type
	30 ... 80	H615A2015
	50 ... 90	H615A2077



Air duct humidistat

Line voltage immersion humidistat for air ducts or industrial areas.

Switch function/capacity	SPDT 230 Vac, 15 A
R.H. setpoint range	35 ... 100 %rh
R.H. hysteresis switching point	4 %rh
Ambient temperature	-30 ... 60 °C
R.H. sensing element	plastic tissue
(De) Humidification application	D + H
Mounting place	air duct

Type
HGK3



Switching module, Q6371

Wall mounted switching module.
For manual control of the valve, or the valve and the fan in fan-coil applications.



Approvals	CE
Protection class	IP30
Switch function/capacity	manual switch outputs, 230Vac, 6 A resistive, 4 A inductive ratings
Terminal max. wire size	1,5 mm ²
Manual operation functions	on/off switch
Product literature language	Multilingual
Earthing	double insulated
Housing (HxWxD)	83 mm; 84 mm; 27 mm

Heating /Cooling application	Fan switch	Heat/Cool manual mode	Type
H or C	1/2/3	–	Q6371A1006
H + C	yes	H/C	Q6371C1002
H + C	1/2/3	H/C	Q6371C1010

Transformers



Transformer



Protection class	IP00
Input voltage	220/230 V selectable, 50Hz
Output voltage	24Vac
Additional description	With mains fuse. VDE0551 mark.

Model	Type
48 VA	CRT2
144 VA	CRT6
288 VA	CRT12



Transformer, 2 secondary windings



Protection class	IP00
Input voltage	230 V, 50Hz
Output voltage	2 x 24Vac, separated
Additional description	With mains fuse. VDE0551 mark.

Model	Type
144/144 VA	CRT6-6
150/250 VA	CRT6-12



Transformer wall mounting



Transformer to be mounted outside of cabinets, built in closed housing.

Protection class	IP54
Input voltage	220 V, 50/60Hz
Output voltage	24Vac
Additional description	Power 45 VA • With mains cable 1,5 m and mains plug. • With low voltage cable 3 m, without plug.

Type
ETR2

Signal modules



Relay module for on/off and 3-pt control

Two channel signal converter module.
For a signal change from 0..10Vdc (from external controller) into on/off and 3-pt control relay contact output.



Input signal	2 x 0..10 Vdc
Output signal	• relay K1 and K2 SPST contact 240V 0,2 A supplying 3-pt control of first analogue input • relay K3 SPDT contact 240V 2 A, supplying on/off control of second analogue input
Mounting	DIN rail
Power supply	24 Vacdc; 5 VA

Type
MCD3



Voltage level switch

For conversion of an analogue output signal from a controller into an on/off output signal.



Input signal	0..10 Vdc
Output signal	relay contact SPDT 250 V, 4 A; relay on with input voltage > 3 V, relay off with input voltage < 2,5 V
Manual operation functions	override switch with auto-off-on position
LED functions	yellow LED showing relay status
Mounting	DIN rail
Power supply	24 Vacdc; 1 VA

Type
MCE1



Conversion module 24Vdc/relay

For conversion of an 24 Vdc signal from a digital output of a controller into an on/off output signal.



Input signal	0 or 24 Vdc
Output signal	relay contact SPDT 250 V, 6 A; relay on with 24 V, off with 0 V input signal
Manual operation functions	override switch with auto-off-on position
LED functions	yellow LED showing relay status
Mounting	DIN rail
Power supply	24 Vacdc; 0,5 VA

Type
MCE2

Signal modules



Conversion module 0..10Vdc/relay, 3 channel

Three channel signal converter module.
For a signal change from 0..10Vdc (from external controller) into an on/off relay contact output.

Input signal	3 x 0..10 Vdc
Output signal	• relay K1/K2 SPDT contact 240 V, 2 A • relay K3 SPST contact 240 V, 2 A
Mounting	DIN rail
Power supply	24 Vacdc; 1 VA



Type
MCE3



Status display module, 4 channel

Status indication module for external contacts.	
Input signal	4 x external potential free contacts
Output signal	4 x 24Vacdc (from power supply)
LED functions	4 x red or green LED showing the status of the input
Manual operation functions	4 x switch for LED status inversion
Mounting	DIN rail
Power supply	24 Vacdc; 1 VA



Type
MCM1



Manual positioning module

Manual positioning module for analogue output signals to manually adjust damper and valve actuators or to provide a fixed position.

Input signal	0..10 Vdc
Output signal	0..10 Vdc from input or from potentiometer (max. 1 mA)
Manual operation functions	potentiometer to adjust output signal 0..10Vdc; switch with auto/manual position
LED functions	red LED, intensity shows output level
Mounting	DIN rail
Power supply	24 Vacdc; 0,4 VA
Additional description	Potential free contact for feedback of manual override.



Type
MCP1

Signal modules

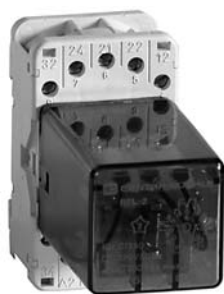


Isolating relay

Relay with inbuilt transformer, and waterproof housing.

Switch function/capacity	SPDT contact, maximum load 4A/250Vac
Model	Power supply 230V; 50Hz; control connection 24 V
Protection class	IP40

Type
KA10



Goldcontact relays

Relay with contact material hard silver and gold plating.
For switching of low voltages.

Mounting	including socket for screw connection or DIN rail
Switch function/capacity	3 x SPDT contacts, minimum load 10VA/24Vdc; maximum load 6A/250Vac

Model	Type
230V; 50Hz	REL2
24V; 50Hz	REL3

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Pressure switches



Pressure switch for liquid, gas (DCM)

For overpressure monitoring of non-aggressive liquids and gaseous media.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN EN 175301
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • -301: terminal connection housing, IP65 • -307: two microswitches, switching in parallel or in succession, fixed switching interval, terminal connection case, IP65 • -217: two microswitches, 1 plug, switching in succession, adjustable switching interval • -213: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • -351: protection class IP65 and switching housing with surface protection (chemical version) • -513: gold-plated contacts, switching differential permanent, IP65, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA; suitable isolating switching amplifier necessary, degree of protection Ex-i
Certificates	SIL 2 according IEC 61508-2

Pressure switches

Fixed pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	Sensing element material	Type
0,04 ... 0,25	–	0,03	6	Copper + Brass	DCM025
0,1 ... 0,6	–	0,04	6	Copper + Brass	DCM06
0,2 ... 1,6	–	0,04	6	Copper + Brass	DCM1
0,2 ... 2,5	–	0,1	16	1.4104 + 1.4571	DCM3
0,5 ... 6	–	0,15	16	1.4104 + 1.4571	DCM6
0,5 ... 6	–	0,25	25	1.4104 + 1.4571	DCM625
1 ... 10	–	0,3	25	1.4104 + 1.4571	DCM10
3 ... 16	–	0,5	25	1.4104 + 1.4571	DCM16
4 ... 25	–	1	60	1.4104 + 1.4571	DCM25
8 ... 40	–	1,3	60	1.4104 + 1.4571	DCM40
16 ... 63	–	2	130	1.4104 + 1.4571	DCM63
0,04 ... 0,25	–	0,03	6	1.4104 + 1.4571	DNM025

Adjustable pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	Sensing element material	Type
0,04 ... 0,25	0,03 ... 0,4	–	6	Copper + Brass	DCMV025
0,1 ... 0,6	0,04 ... 0,5	–	6	Copper + Brass	DCMV06
0,2 ... 1,6	0,07 ... 0,55	–	6	Copper + Brass	DCMV1
0,2 ... 2,5	0,15 ... 1,5	–	16	1.4104 + 1.4571	DCMV3
0,5 ... 6	0,25 ... 2	–	16	1.4104 + 1.4571	DCMV6
1 ... 10	0,5 ... 2,8	–	25	1.4104 + 1.4571	DCMV10
3 ... 16	0,7 ... 3,5	–	25	1.4104 + 1.4571	DCMV16
4 ... 25	1,3 ... 6	–	60	1.4104 + 1.4571	DCMV25
8 ... 40	2,6 ... 6,6	–	60	1.4104 + 1.4571	DCMV40
16 ... 63	3 ... 10	–	130	1.4104 + 1.4571	DCMV63

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)

U430B

Pressure switches



Differential pressure switch for liquid, gas (DDCM)

For flow monitoring and differential pressure control of steam, gas, hot/cold water and automatic checking of filter plant.

Kind of pressure	differential pressure, relative
Pressure connection	internal thread G1/4
Electrical connection	Plug DIN EN 175301
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch; capacity 5 A inductive, 8 A resistive
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • -301: terminal connection housing, IP65 • -205: maximum limiter with reclosing lock-out, interlocking with increasing pressure • -206: Minimum limiter with reclosing lock-out, interlocking with falling pressure • -307: two microswitches, switching in parallel or in succession, fixed switching interval, terminal connection case, IP65 (with the exception of DDCM252, 662, 1602, 6002) • -217: two microswitches, 1 plug, switching in succession, adjustable switching interval (with the exception of DDCM252, 662, 1602, 6002) • -213: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • -351: protection class IP65 and switching housing with surface protection (chemical version) • -513: gold-plated contacts, switching differential permanent, IP65, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA; suitable isolating switching amplifier necessary, degree of protection Ex-i

Certificates SIL2 according IEC 61508-2

Pressure adjustment range bar	Switching differential bar	Max. pressure bar	Sensing element material	Type
0,004 ... 0,025	0,002	0,5	Perbunan + Aluminium	DDCM252
0,01 ... 0,06	0,015	1,5	Perbunan + Aluminium	DDCM662
0,02 ... 0,16	0,02	3	Perbunan + Aluminium	DDCM1602
0,1 ... 0,6	0,035	3	Perbunan + Aluminium	DDCM6002
-0,1 ... 0,4	0,15	15	1.4305 + 1.4571	DDCM014
0,2 ... 1,6	0,13	15	1.4305 + 1.4571	DDCM1
1 ... 4	0,2	25	1.4305 + 1.4571	DDCM4
0,5 ... 6	0,2	15	1.4305 + 1.4571	DDCM6
3 ... 16	0,6	25	1.4305 + 1.4571	DDCM16

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)

U430B

Pressure switches



Differential pressure switch for air (DPS)

Filter monitor or flow switch for air, non-combustible, non aggressive gases in air conditioning and ventilating installations.

Kind of pressure	overpressure, relative
Pressure connection	plastic connection piece for 5 mm (internal) hose
Electrical connection	AMP connector 6,3x0,8 (DIN 46244) or screw terminals
Protection class	IP54
Sensing element material	ABS + Silicon
Media temp.	-20 ... 85 °C
Ambient temperature	-20 ... 85 °C
Switch function/capacity	SPDT switch 240 Vac; 1,5 A (0.4)A
Certificates	CE0085AR0013 according EC Gas Appliance Directive EU/2009/142/EG and DIN EN 1854
Max. pressure	10 kPa
Additional description	Accessories supplied with pressure switch: 2 m silicon hose, 2 connection pieces with mounting screws, 2 self tapping screws for mounting on housing, 3 screw terminals for electrical connection.

Pressure adjustment range Pa	Switching differential mbar	Type
20 ... 200	0,1	DPS200
40 ... 400	0,2	DPS400
50 ... 500	0,2	DPS500
200 ... 1000	1	DPS1000
500 ... 2500	1,5	DPS2500

Accessories

L-shaped bracket for installation turned by 90°, e.g. in the ceiling area	DPSL
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Pressure switches



TÜV



Pressure monitor for hot water, steam, gas, fuel (DWR)

For overpressure monitoring of steam, hot water, burnable gases, liquid fuels.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN EN 175301
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Sensing element material	1.4104 + 1.4571
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Mechanical lock/reset	with special function possible
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • -213: gold-plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • -301: terminal connection housing, IP65 • -513: Gold-plated contacts, single-pole switch-over. Switching differential permanent. IP65. Switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA, suitable isolating switching amplifier necessary, degree of protection Ex-i
Certificates	• ID 0000007042 according VdTUEV Memorandum Pressure 100, Issue 07.2006 and DIN EN 12952-11 and DIN EN 12953-9:2007 • TV.DWFS (SDBFS).12-281 according VdTUEV Memorandum Pressure 100, Issue 07.2006 and DIN EN 12952-11 and DIN EN 12953-9:2007 • ID 0000035004 according DIN EN 764-7:2002 and DIN EN 13611:2008 • CE-0085CL0343 according to DIN EN 1854, Issue 07.2006 • 01 202 931-B-11-0003 according Directive 97/23 EC • SIL2 according IEC 61508-2

Pressure switches

Fixed pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	Allowable max. gas-pressure bar	Type
0,1 ... 0,6	–	0,04	6	6	DWR06
0,2 ... 1,6	–	0,06	6	6	DWR1
0,2 ... 2,5	–	0,1	16	10	DWR3
0,5 ... 6	–	0,2	16	10	DWR6
0,5 ... 6	–	0,25	25	20	DWR625
3 ... 16	–	0,5	25	20	DWR16
4 ... 25	–	1	63	50	DWR25
8 ... 40	–	1,3	63	50	DWR40

Adjustable pressure hysteresis

Pressure adjustment range bar	Adjustable switching differential bar	Switching differential bar	Max. pressure bar	Allowable max. gas-pressure bar	Type
0,1 ... 0,6	0,08 ... 0,5	–	6	6	DWR06-203
0,2 ... 1,6	0,15 ... 0,6	–	6	6	DWR1-203
0,2 ... 2,5	0,17 ... 1,2	–	16	10	DWR3-203
0,5 ... 6	0,3 ... 1,4	–	16	10	DWR6-203
0,5 ... 6	0,4 ... 2,5	–	25	20	DWR625-203
3 ... 16	0,75 ... 3,15	–	25	20	DWR16-203
4 ... 25	1,3 ... 6	–	63	50	DWR25-203
8 ... 40	2,3 ... 6,6	–	63	50	DWR40-203

Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)

U430B

Pressure switches



TÜV



Minimum pressure limiter for hot water, steam, fuel, gas (DWR-B)

For minimum-pressure detection of steam, hot water, burnable gases, liquid fuels.

Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN EN 175301
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12
Sensing element material	1.4104 + 1.4571
Media temp.	-25 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-25 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Certificates	• ID 000007042 according VdTUEV Memorandum Pressure 100, Issue 07.2006, DIN EN 12952-11:2007 and DIN EN 12953-9:2007 • TV.DWFS (SDBFS).12-281 according VdTUEV Memorandum Pressure 100, Issue 07.2006, DIN EN 12952-11:2007 and DIN EN 12953-9:2007 • ID 0000035004 according DIN EN 764-7:2002 and DIN EN 13611:2008 • ID 0000020757 according VdTUEV Memorandum Pressure 100, Issue 4.83 • CE-0085CL0343 according DIN EN 1854, Issue 7.2006 • 01 202 931-B-11-0003 according to Directive 97/23 EG • SIL2 according IEC 61508-2
Pressure interlock/Reset	minimum press./button

Pressure adjustment range bar	Max. pressure bar	Allowable max. gas-pressure bar	Type
0,1 ... 0,6	6	6	DWR06-206
0,2 ... 1,6	6	6	DWR1-206
0,2 ... 2,5	16	10	DWR3-206
0,5 ... 6	16	10	DWR6-206
0,5 ... 6	25	20	DWR625-206
3 ... 16	25	20	DWR16-206
4 ... 25	63	50	DWR25-206
8 ... 40	63	50	DWR40-206

Syphon for high temperature, steel, U-shape, for more accessories, see Accessories for Pressure Switches / Transmitters)

U430B

Pressure switches



TÜV



Maximum pressure limiter of 'special construction' (SDB)

Maximum pressure limiter with selfmonitoring sensor and internal relock For steam and hot water.	
Kind of pressure	overpressure, relative
Pressure connection	internal thread G1/4, external thread G1/2
Electrical connection	Plug DIN EN 175301
Protection class	IP54
Housing material	rugged housing of seawater resistant aluminium die casting GD Al Si 12.
Sensing element material	1.4104 + 1.4571
Media temp.	-20 ... 70 °C
Media temp. limit	temperatures up to 85 °C are allowable for short periods. Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap, see Accessories for Pressure Switches / Transmitters)
Ambient temperature	-20 ... 70 °C
Ambient temp. limit	at temperatures below 0 °C, ensure that no water condensation can arise in the sensor and in the switching device
Switch function/capacity	SPDT Microswitch 250 Vac; capacity 5 A inductive, 8 A resistive
Certificates	• TUEV-SDB-11-134 according VdTUEV Memorandum Pressure 100, Issue 07.2006, DIN EN 12952-11, Issue 09.2007 and DIN EN 12953-9, Issue 09.2007 • 01 202 931-B-11-0001 according to Directive 97/23/EC • SIL2 according IEC 61508
Pressure interlock/Reset	maximum press./button

Pressure adjustment range bar	Switching differential bar	Max. pressure bar	Type
0,2 ... 1,6	0,12	5	SDBAM1
0,4 ... 2,5	0,15	5	SDBAM2.5
1,2 ... 6	0,4	10	SDBAM6
1,2 ... 6	0,6	20	SDBAM625
3 ... 16	0,8	20	SDBAM16
6 ... 32	3	45	SDBAM32
Syphon for high temperature, steel, U-shape (for more accessories, see Accessories for Pressure Switches / Transmitters)			U430B

Pressure switches



Electronic Differential Pressure Switches for gas and liquid (Smart DCM DIFF)

Electronic Differential Pressure Switches are microprocessor-controlled pressure measurement devices for a differential pressure range of 0 ... 20 bar. They are suitable for an extremely wide range of applications, including the precision recording, monitoring and control of system pressure. They come complete with an angled M12X1 plug and are mounted directly to the pipe via two G1/4" internal thread connections.

Features:

- Open-collector
- Configurable as min./max./window monitor
- LCD graphical display (Human-Machine-Interface models, only) can be swiveled for better readability; display can be rotated in 90° steps by software for better readability; HMI can be freely swiveled 310°
- Self-monitoring electronics
- Adjustable drop-in/drop-out delay

Media temp. -20 ... 80 °C

Protection class IP65

Ambient temperature -20 ... 70 °C

Pressure Switch HMI

Pressure range bar	Max. pressure bar	Type
0 ... 0,1	0,9	PSHDM1002
0 ... 0,3	0,9	PSHDM3002
0 ... 1	3	PSHDB0012
0 ... 3	9	PSHDB0032
0 ... 6	21	PSHDB0062
0 ... 20	60	PSHDB0202

Pressure sensors



Differential pressure transmitter for air (DPTA)

Differential pressure transmitter for air-conditioning/ventilation.
For filter-, fluid-, level monitoring, fan-, blower-, valve-, flap-, air flow control, and environmental protection.



Kind of pressure	differential pressure, relative
Pressure connection	6mm hose pipe
Electrical connection	M20x1,5
Protection class	IP54
Housing material	ABS and POM
Sensing method	piezoresistive
Sensing element material	ABS + POM
Media temp.	0 ... 50 °C
Medium	gaseous
Ambient temperature	0 ... 50 °C
Output signal	0-10 V and 4-20 mA
Additional description	• Automatic zeroing for all ranges • 3-wire connection • Duct Kit DPSK included in delivery of single package

8-range models; range selectable by rotary switch

	Pressure range Pa	Display	Type
Selectable ... -50/+50, -10/+100, -250/+250, -500/+500, -1000/+1000, 0-250, 0-500, 0-1000		no	DPTAQ8
Selectable ... -50/+50, -10/+100, -250/+250, -500/+500, -1000/+1000, 0-250, 0-500, 0-1000		yes	DPTAQ8D

Single range models

	Pressure range Pa	Display	Type
	-25 ... 25	no	DPTA25S
	-25 ... 25	yes	DPTA25SD
	0 ... 25	no	DPTA25
	0 ... 25	yes	DPTA25D

Accessories

Duct Kit, including 2m silicone-hose and 2 joining pipes DPSJ with screws	DPSK
Mounting brackets L-shaped	DPSL



Pressure sensors



Electronic Pressure switch for liquid, high viscosity/roiled liquid (SmartPress)

Electronic Pressure switch, with LCD display for the field of plant construction, fluidics, process technology, and pneumatics, as well as in the monitoring and control of pumps and compressors. Models available with the following output types:

- all models: switch output open collector; 14..36 Vdc, 250 mA and relay output with gold plated SPDT contact



Protection class	IP65
Housing material	Polybutylene terephthalate (PBT)
Sensing element material	1.4571 + 1.4435
Media temp.	-20 ... 100 °C
Media temp. limit	Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap)
Ambient temperature	-20 ... 60 °C
Switch function/capacity	All models with relay contact output, 1 x SPDT, material silver gold plated. Capacity resistive: 24 Vdc, 60 mA / 230 Vac, 6,5 mA. With bigger loads, the gold layer will disappear, the capacity with the silver contacts is: 230 Vac 3(1) A.
Additional description	• Applicable parameter settings: • switching Set / Reset points • filters • analog output range • electrical drag indicator • Applicable configurations: • Max-Min, Window monitor • Analog output signal • Pressure unit • Simulation mode • Plugs have to be ordered separately !

Switch + Transmitter + Relay output

Pressure range (bar)	Max. pressure (bar)	Kind of pressure	Type
-1 ... 1	6	vacuum, relative	PSTV01RG34F-R
0 ... 0,25	1	overpressure, relative	PSTM250RG34F-R
0 ... 0,4	2	overpressure, relative	PSTM400RG34F-R
0 ... 0,6	2	overpressure, relative	PSTM600RG34F-R
0 ... 1	6	overpressure, relative	PST001RG34F-R
0 ... 1,6	6	overpressure, relative	PST002RG34F-R
0 ... 4	12	overpressure, relative	PST004RG34F-R
0 ... 10	30	overpressure, relative	PST010RG34F-R
0 ... 25	75	overpressure, relative	PST025RG34F-R
0 ... 2	6	absolute	PST002AG34F-R
0 ... 10	30	absolute	PST010AG34F-R

Accessories / Connectors for plug 1 + 2 (OC and analog outputs) / Plug 3 (relay outputs ST4) / Syphons

5-prong M12 plug connector, angled version	ST12-5-A
4-prong M12 plug connector, angled version	ST12-4-A
4-prong M12 plug connector, straight version with 2 m cable	ST12-4-GK
4-prong M12 plug connector, angled version with 2 m cable	ST12-4-AK
Plug protection cap, IP65	STA12
Syphons for high temperature, steel, U-shape. For more accessories, see Accessories for Pressure Switches / Transmitters)	U430B

Pressure sensors



Electronic Pressure switch for gas, low viscosity liquid (SmartPress)

Electronic Pressure switch, with LED display for the field of plant construction, fluidics, process technology, and pneumatics, as well as in the monitoring and control of pumps and compressors. Models available with the following output types:

- all models: switch output open collector; 14..36 Vdc, 250 mA and relay output with gold plated SPDT contact

Protection class	IP65
Housing material	Polybutylene terephthalate (PBT)
Media temp.	-20 ... 100 °C
Media temp. limit	Higher temperatures are possible, provided that the limit is safeguarded by suitable measures (e.g. water tube trap)
Ambient temperature	-20 ... 60 °C
Switch function/capacity	All models with relay contact output, 1 x SPDT, material silver gold plated. Capacity resistive: 24 Vdc, 60 mA / 230 Vac, 6,5 mA. With bigger loads, the gold layer will disappear, the capacity with the silver contacts is: 230 Vac 3(1) A.
Output signal	0..10Vdc / 4..20 mA + switch + relay
Sensing element material	1.4571 + 1.4542
Additional description	Applicable parameter settings: • switching Set / Reset points • filters • analog output range • electrical drag indicator Applicable configurations: • Max-Min, Window monitor • Analog output-signal • Pressure unit • Simulation mode • Plugs have to be ordered separately !

Switch + Transmitter + Relay output

Pressure range (bar)	Max. pressure (bar)	Kind of pressure	Type
-1 ... 1	6	vacuum, relative	PSTV01RG12S-R
0 ... 0,25	1	overpressure, relative	PSTM250RG12S-R
0 ... 0,4	2	overpressure, relative	PSTM400RG12S-R
0 ... 0,6	2	overpressure, relative	PSTM600RG12S-R
0 ... 1	6	overpressure, relative	PST001RG12S-R
0 ... 1,6	6	overpressure, relative	PST002RG12S-R
0 ... 4	12	overpressure, relative	PST004RG12S-R
0 ... 10	30	overpressure, relative	PST010RG12S-R
0 ... 25	75	overpressure, relative	PST025RG12S-R
0 ... 60	180	overpressure, relative	PST060RG12S-R
0 ... 100	300	overpressure, relative	PST100RG12S-R
0 ... 250	500	overpressure, relative	PST250RG12S-R
0 ... 600	1000	overpressure, relative	PST600RG12S-R
0 ... 2	6	absolute	PST002AG12S-R
0 ... 10	30	absolute	PST010AG12S-R

Accessories / Connectors for plug 1 + 2 (OC and analog outputs) / Plug 3 (relay outputs ST4) / Syphons

5-prong M12 plug connector, angled version	ST12-5-A
4-prong M12 plug connector, angle version	ST12-4-A
4-prong M12 plug connector, straight version with 2 m cable	ST12-4-GK
4-prong M12 plug connector, angled version with 2 m cable	ST12-4-AK
Plug protection cap, IP65	STA12
Syphons for high temperature, steel, U-shape. for more accessories, see Accessories for Pressure Switches / Transmitters	U430B

Pressure sensors



Electronic Pressure switch for gas and liquid (Smart DCM)

Electronic Pressure Switches are microprocessor-controlled pressure measurement devices for relative pressures of -1 to +1 bar and 0 to 40 bar. They are suitable for an extremely wide range of applications, including the precision recording, monitoring, and control of system pressure.

Features:

- Open-collector
- Configurable as min./max/window monitor
- Adjustable drop-in/drop-out delay
- Hysteresis defined by set-point and reset-point
- Backlit LCD graphical display (Human-Machine-Interface models, only) can be swiveled for better readability; display can be rotated in 90° steps by software

Media temp.	-20 ... 80 °C
Sensing element material	1.4571
Protection class	IP65
Ambient temperature	-20 ... 70 °C

Pressure Switch HMI

Pressure range bar	Max. pressure bar	Type
-1 ... 1	6	PSHRV1011
0 ... 1	3	PSHRB0011
0 ... 4	12	PSHRB0041
0 ... 10	30	PSHRB0101
0 ... 16	48	PSHRB0161
0 ... 25	50	PSHRB0251
0 ... 40	80	PSHRB0401

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Electronic Pressure transmitter for gas and liquid (Smart SN)

Electronic Pressure Transmitters are microprocessor-controlled pressure measurement devices for relative pressures of -1 to +1 bar and 0 to 40 bar. They are suitable for an extremely wide range of applications, including the precision recording and monitoring of system pressure.

Features:

- Configurable as 0/2...10V or 0/4...20 mA (3-wire)
- Adjustable attenuation filter
- LCD graphical display (Human-Machine-Interface models, only) can be swiveled for better readability; display can be rotated in 90° steps by software

Media temp.	-20 ... 80 °C
Sensing element material	1.4571
Certificates	All 2-wire versions are SIL2 approved according IEC 61508

Pressure Transmitter without HMI (2-wire, 4-20 mA)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP67	-20 ... 80	PTSRV1011A2
0 ... 1	3	IP67	-20 ... 80	PTSRB0011A2
0 ... 4	12	IP67	-20 ... 80	PTSRB0041A2
0 ... 10	30	IP67	-20 ... 80	PTSRB0101A2
0 ... 16	48	IP67	-20 ... 80	PTSRB0161A2
0 ... 25	50	IP67	-20 ... 80	PTSRB0251A2
0 ... 40	80	IP67	-20 ... 80	PTSRB0401A2



Pressure sensors



Pressure Transmitter without HMI (3-wire, 0-10V)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP67	-20 ... 80	PTSRV1011V3
0 ... 1	3	IP67	-20 ... 80	PTSRB0011V3
0 ... 4	12	IP67	-20 ... 80	PTSRB0041V3
0 ... 10	30	IP67	-20 ... 80	PTSRB0101V3
0 ... 16	48	IP67	-20 ... 80	PTSRB0161V3
0 ... 25	50	IP67	-20 ... 80	PTSRB0251V3
0 ... 40	80	IP67	-20 ... 80	PTSRB0401V3



Pressure Transmitter without HMI (3-wire, 4...20mA)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP67	-20 ... 80	PTSRV1011A3
0 ... 1	3	IP67	-20 ... 80	PTSRB0011A3
0 ... 4	12	IP67	-20 ... 80	PTSRB0041A3
0 ... 10	30	IP67	-20 ... 80	PTSRB0101A3
0 ... 16	48	IP67	-20 ... 80	PTSRB0161A3
0 ... 25	50	IP67	-20 ... 80	PTSRB0251A3
0 ... 40	80	IP67	-20 ... 80	PTSRB0401A3



Pressure Transmitter with HMI (2-wire, 4-20 mA)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP65	-20 ... 70	PTHRV1011A2
0 ... 1	3	IP65	-20 ... 70	PTHRB0011A2
0 ... 4	12	IP65	-20 ... 70	PTHRB0041A2
0 ... 10	30	IP65	-20 ... 70	PTHRB0101A2
0 ... 16	48	IP65	-20 ... 70	PTHRB0161A2
0 ... 25	50	IP65	-20 ... 70	PTHRB0251A2
0 ... 40	80	IP65	-20 ... 70	PTHRB0401A2



Pressure Transmitter with HMI (3-wire, 0-10 V)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
-1 ... 1	6	IP65	-20 ... 70	PTHRV1011V3
0 ... 1	3	IP65	-20 ... 70	PTHRB0011V3
0 ... 4	12	IP65	-20 ... 70	PTHRB0041V3
0 ... 10	30	IP65	-20 ... 70	PTHRB0101V3
0 ... 16	48	IP65	-20 ... 70	PTHRB0161V3
0 ... 25	50	IP65	-20 ... 70	PTHRB0251V3
0 ... 40	80	IP65	-20 ... 70	PTHRB0401V3

Pressure sensors



Differential pressure transmitter for air (DPTE)

Differential pressure transmitter for air-conditioning/ventilation.
Air-conditioning and ventilation systems, Building automation, Environmental protection, Fan and ventilation control, Valve and shutter control, Filter and fan monitoring

Kind of pressure	differential pressure, relative
Pressure connection	6mm hose pipe
Electrical connection	M20x1,5
Protection class	IP54
Housing material	ABS and POM
Sensing method	piezoresistive
Sensing element material	ABS + POM
Media temp.	0 ... 50 °C
Medium	gaseous
Ambient temperature	0 ... 50 °C
Additional description	Duct Kit DPSK included in delivery of single package. • Adjustable by jumper to the next higher pressure range. • Factory settings: see column "pressure range". Full scale pressure range see data sheet

**3-wire models, selectable 0 - 10 V/4 - 20 mA, analog output,
supply voltage 18...30 Vac/dc, 50/60 Hz**

Pressure range Pa	Max. pressure kPa	Type
-50 ... 50	20	DPTE50S
-100 ... 100	20	DPTE100S
-500 ... 500	20	DPTE500S
-1000 ... 1000	20	DPTE1000S
0 ... 100/250	20	DPTE100
0 ... 250/500	20	DPTE250
0 ... 500/1000	20	DPTE500
0 ... 1000/2500	40	DPTE1000
0 ... 5000/10000	60	DPTE5000

Pressure sensors

**3-wire models, selectable 0 - 10 V / 4 - 20 mA analog output,
supply voltage 18...30 Vac/dc, 50/60 Hz; WITH LED Display**

Pressure range Pa	Max. pressure kPa	Type
-50 ... 50	20	DPTE50SD
-100 ... 100	20	DPTE100SD
-500 ... 500	20	DPTE500SD
-1000 ... 1000	20	DPTE1000SD
0 ... 100/250	20	DPTE100D
0 ... 250/500	20	DPTE250D
0 ... 500/1000	20	DPTE500D
0 ... 1000/2500	40	DPTE1000D
0 ... 5000/10000	60	DPTE5000D

2-wire models, analog output 4 - 20 mA, supply voltage 16 ... 32 Vdc

Pressure range Pa	Max. pressure kPa	Type
-50 ... 50	20	DPTE52S
-100 ... 100	20	DPTE102S
0 ... 100/250	20	DPTE102
0 ... 250/500	20	DPTE252
0 ... 500/1000	20	DPTE502
0 ... 1000/2500	40	DPTE1002
0 ... 5000/10000	60	DPTE5002

Accessories

Duct Kit, including 2m silicone-hose and 2 joining pipes DPSJ with screws	DPSK
Mounting brackets L-shaped	DPSL

Pressure sensors



Electronic Differential Pressure transmitter for gas and liquid (Smart SN DIFF)

Electronic Differential Pressure Transmitters are microprocessor-controlled pressure measurement devices for a differential pressure range of 0 ... 20 bar. They are suitable for an extremely wide range of applications, including the precision recording and monitoring of system pressure. They come complete with an angled M12X1 plug and are mounted directly to the pipe via two G1/4" internal thread connections.

Features:

- Configurable as 0/2...10V or 0/4...20 mA (3-wire)
- Adjustable attenuation filter
- LCD graphical display (Human-Machine-Interface models, only) can be swiveled for better readability; display can be rotated in 90° steps by software for better readability; HMI can be freely swiveled 310°
- Self-monitoring electronics
- Power supply 24 VAC/DC (3-wire models)
- Power supply 18-35 V DC (2-wire models)

Media temp. -20 ... 80 °C

Pressure Transmitter with HMI (2-wire)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
0 ... 0,1	0,9	IP65	-20 ... 70	PTHDM1002A2
0 ... 0,3	0,9	IP65	-20 ... 70	PTHDM3002A2
0 ... 1	3	IP65	-20 ... 70	PTHDB0012A2
0 ... 3	9	IP65	-20 ... 70	PTHDB0032A2
0 ... 6	21	IP65	-20 ... 70	PTHDB0062A2
0 ... 20	60	IP65	-20 ... 70	PTHDB0202A2

Pressure Transmitter without HMI (3-wire)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
0 ... 0,1	0,9	IP67	-20 ... 80	PTSDM1002V3
0 ... 0,3	0,9	IP67	-20 ... 80	PTSDM3002V3
0 ... 1	3	IP67	-20 ... 80	PTSDB0012V3
0 ... 3	9	IP67	-20 ... 80	PTSDB0032V3
0 ... 6	21	IP67	-20 ... 80	PTSDB0062V3
0 ... 20	60	IP67	-20 ... 80	PTSDB0202V3

Pressure Transmitter with HMI (3-wire)

Pressure range bar	Max. pressure bar	Protection class	Ambient temperature °C	Type
0 ... 0,1	0,9	IP65	-20 ... 70	PTHDM1002V3
0 ... 0,3	0,9	IP65	-20 ... 70	PTHDM3002V3
0 ... 1	3	IP65	-20 ... 70	PTHDB0012V3
0 ... 3	9	IP65	-20 ... 70	PTHDB0032V3
0 ... 6	21	IP65	-20 ... 70	PTHDB0062V3
0 ... 20	60	IP65	-20 ... 70	PTHDB0202V3

Frost thermostats



Single-stage frost protection thermostat (FT69)

Suitable for use as frost-protection thermostats for the protection of downstream air heaters in ventilation and climate control systems as well as heat exchangers in cooling systems. Can also be used to control electrical heating systems and to switch acoustic or optical alarm signals.



Housing material	Polycarbonate and ABS
Ambient temperature	-20 ... 55 °C
Switch function/capacity	SPDT 24..250 Vac, 15(8)A
Thermostat application	frost protection thermostat
Protection class	IP65

Temperature element	Capillary tube length m	Mechanical lock/reset	Type
capillary with bulb	1,8	manual	FT6960-18
capillary	3	manual	FT6960-30
capillary	6	manual	FT6960-60
capillary with bulb	1,8	automatic	FT6961-18
capillary	3	automatic	FT6961-30
capillary	6	automatic	FT6961-60

Safety thermostats



Safety limiting thermostat, with hand reset (STB1)

Sealing pipe thermostat with well.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	SPST 230 Vac, 10 A
Mechanical lock/reset	mechanical lock, with hand reset on outside of thermostat
Immersion depth	150 mm
Certificates	TUEV-approval STB 89 507
Thermostat application	immersion tube thermostat
Thermostat functions	temp. setting inside, reset outside
Temp. setpoint range	60 ... 130 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	150 °C

	Type
	STB1
	STB1F

Accessories

Steel well R1/2" x 150 mm	T4NST
Steel well R1/2" x 150 mm	T4NSTF

8



Safety strap-on thermostat (temperature limiter) for floor heating applications (STB)

The STB Series of universal strap-on thermostats are designed for floor heating applications. They are suitable for use as strap-on, wall-mounted, or (with optional immersion well) immersion thermostat. Devices of the STB Series likewise measure temperature. If the sensor temperature exceeds the set value, a snap-action switch opens, interrupting the electrical circuit, and remains open until reset manually. (Also, if the sensor temperature drops to below approx. - 20 degrees C, the snap-action switch opens, but closes again automatically after the temperature rises again.) To manually reset the device, the sensor temperature must drop by more than approx. 10 K.

Electrical connection	M20x1,5
Protection class	IP54
Housing material	PA, ABS, PMMA
Ambient temperature	0 ... 80 °C
Switch function/capacity	max: 230Vac, 12 (2,5) A / min: 24 Vac/dc, 100 mA
Mechanical lock/reset	manual reset
Setpoint device	knob
Certificates	CE, UL, PED, DIN EN 14597
Thermostat application	strap-on thermostat
Differential fixed	10 K

	Temp. setpoint range °C	Type
	20 ... 80	STB2080
	70 ... 130	STB70130

Accessories

Immersion Well, G1/2	STG12-100
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Safety thermostats



Safety limiting thermostat, hand reset, large range (STW1)

Sealing pipe thermostat with well.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	SPDT 230 Vac, 10 A
Mechanical lock/reset	no mechanical lock
Certificates	TUEV-approval STW (STB)89 407 S
Thermostat application	immersion tube thermostat
Thermostat functions	temp. setting inside, reset inside
Temp. setpoint range	20 ... 150 °C
Mounting place	in pipe
Immersion depth	150 mm
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	175 °C
Additional description	Fixed switching differential approx. 4% of setpoint value.

	Type
	STW1
	STW1F

Accessories

Steel well R1/2" x 150 mm	T4NST
Steel well R1/2" x 150 mm	T4NSTF



Safety strap-on thermostat for floor heating applications (STW)

The STW Series of universal strap-on thermostats are designed for floor heating applications. They are suitable for use as strap-on, wall-mounted, or (with optional immersion well) immersion thermostat. Devices of the STW Series measure temperature. If the sensor temperature exceeds the set value, a snap-action switch opens, interrupting the electrical circuit. As soon as the sensor temperature drops by more than 10 K, the snap-action switch again closes automatically. (Also, if the sensor temperature drops to below approx. 20 degrees C, the snap-action switch opens, but closes again automatically after the temperature rises again.)

Electrical connection	M20x1,5
Protection class	IP54
Housing material	PA, ABS, PMMA
Ambient temperature	0 ... 80 °C
Switch function/capacity	max: 230 Vac, 12 (2,5) A min: 24 Vac/dc, 100 mA
Mechanical lock/reset	automatic reset
Setpoint device	knob
Certificates	CE, UL, PED, DIN EN 14597
Thermostat application	strap-on thermostat
Differential fixed	10 K

	Temp. setpoint range (°C)	Type
	20 ... 80	STW2080
	70 ... 130	STW70130

Accessories

Immersion well, G1/2, 100 mm	STG12-100
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Safety thermostats



Safety limiting thermostat with setpoint knob, shut-off (STBTR)

Sealing pipe thermostat with well.

For safety temperature control, and in addition high temperature shut-off functionality.



Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	safety control switch SPDT 230 Vac, 10 A; shut-off temperature switch SPST 230 Vac, 10 A
Mechanical lock/reset	shut-off mechanical lock, with hand reset on outside of thermostat
Immersion depth	150 mm
Certificates	TUEV-approval TR / STB 90 007
Thermostat application	immersion tube therm. + controller
Thermostat functions	temp. setting inside + outside, reset outside
Temp. setpoint range	30 ... 110 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	130 °C
Additional description	Safety control switching differential approx. 4% of setpoint value. Shut-off temperature: 30..110 °C adjustable.

Type
STB+TR

Accessories

Steel well R1/2" x 150 mm	T5NST
Steel well R1/2" x 150 mm	T5NSTF

8



Safety limiting thermostat with setpoint knob, shut-off, automatic reset (STWTR)

Sealing pipe thermostat with well.

For safety temperature control, and in addition high temperature shut-off functionality.



Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	safety control switch SPDT 230 Vac, 10 A; shut-off temperature switch SPST 230 Vac, 10 A
Mechanical lock/reset	shut-off mechanical lock, automatic reset
Immersion depth	150 mm
Certificates	TUEV-approval TR / STW (STB)89 907 S
Thermostat application	immersion tube therm. + controller
Thermostat functions	temp. setting inside + outside, reset inside
Temp. setpoint range	20 ... 150 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	175 °C
Additional description	Safety control switching differential approx. 4% of setpoint value. Shut-off temperature: 20..150 °C adjustable.

Safety thermostats

Type
STW+TR

Accessories

Steel well R1/2" x 150 mm	T5NST
Steel well R1/2" x 150 mm	T5NSTF



Safety limiting thermostat, with shut-off (STBTW)

Sealing pipe thermostat with well.

For safety temperature control, and in addition high temperature shut-off functionality.

Protection class	IP54
Housing material	Aluminium diecasting with plastic cover
Ambient temperature	0 ... 80 °C
Switch function/capacity	safety control switch SPDT 230 Vac, 10 A; shut-off temperature switch SPST 230 Vac, 10 A
Mechanical lock/reset	shut-off mechanical lock, with hand reset on outside of thermostat
Immersion depth	150 mm
Certificates	TUEV-approval TW / STB 90 407
Thermostat application	immersion tube therm. + monitor
Thermostat functions	temp. setting inside, reset outside
Temp. setpoint range	30 ... 110 °C
Mounting place	in pipe
Immersion well material	red brass, nickel plated
Immersion well thread	R1/2"
Max. perm. temp. at sensor	130 °C
Additional description	Safety control switching differential approx. 3..4% of setpoint value. Shut-off temperature: 30..110 °C adjustable.

Type
STB+TW

Accessories

Steel well R1/2" x 150 mm	T5NST
Steel well R1/2" x 150 mm	T5NSTF

Room thermostats



Room thermostat, industrial, 1/2 stages (T6120)

Line voltage thermostat for control of heating-, cooling-, and ventilation systems in industrial areas.

Housing material	glass fibre reinforced ABS
Setpoint device	knob
Thermostat application	room thermostat
Differential fixed	1 K
Additional description	T6120B is dual stage, with 2..10 K difference between the stages.

Temp. setpoint range °C	Switch function/capacity	Protection class	Type
0 ... 60	SPDT 250Vac 10A (1,5A)	IP54	T6120A1005
-30 ... 30	SPDT 250Vac 15A (8A)	IP65	T6120B1003



Room thermostat for industrial permises (TRM)

Room thermostats are suitable for industrial plant, for greenhouses, cowsheds and warehouses, also for monitoring the maximum temperature in switchgear cabinets and relay stations. Line voltage thermostat for control of heating-, cooling-, and ventilation systems in industrial areas.

Electrical connection	Plug DIN EN 175301
Protection class	IP54
Housing material	die cast metal GD Al Si 12 to DIN 1725
Ambient temperature	-15 ... 70 °C
Switch function/capacity	SPDT 250 Vac, 8(5) A
Optional functions	add the type numbers below to the listed type numbers for extra functionality as described • -213: gold plated contacts, switching capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA. And others not available with adjustable switching difference. • -301: terminal connection housing, IP65 • -351: protection class IP65 and switching housing with surface protection (chemical version) • -513: gold-plated contacts, IP65, capacity: max. 24 Vdc, 100 mA, min. 5 Vdc, 2 mA, degree of protection Ex-i

Certificates	SIL 2 according IEC 61508-2
Thermostat application	room thermostat, industrial
Additional description	Including mounting bracket typenumber H1.

Fixed switching difference

Temp. setpoint range °C	Differential fixed K	Differential setting range K	Max. perm. temp. at sensor °C	Type
-20 ... 20	1	–	70	TRM022
0 ... 40	1	–	70	TRM40
10 ... 50	1	–	70	TRM150

Adjustable switching difference

Temp. setpoint range °C	Differential fixed K	Differential setting range K	Max. perm. temp. at sensor °C	Type
0 ... 40	–	3 ... 10	70	TRMV40
10 ... 50	–	3 ... 10	70	TRMV150

Accessories

Sealing	P2
Heat conducting compound	WLP1



Electronical air flow switch for air (ASL)

Air flow monitor consisting of two parts: the sensor type SLF.. and the belonging evaluation unit type ASL...

For air flow monitoring in air-conditioning systems, ventilation and cooling systems and wherever flow processes in air or neutral gases have to be detected.

Protection class sensor: IP32

Output signal evaluation unit: relay SPST 8A, 250Vac, switch point adjustable from 0,1..20 m/s air speed

Additional description Media temperature at sensor: -20..100 °C.

Sensor

Mounting place	Immersion depth mm	Power supply Vac; VA	Type
air duct	150	-; -	SLF15

Evaluation Unit

Mounting place	Immersion depth mm	Power supply Vac; VA	Type
universal	-	24; 3	ASL453/24
universal	-	230; 3	ASL453



Electronical flow switch for liquid (ASW)

The flow in fluids can be monitored reliably with flow sensors SWF62 and SWF62L and evaluation unit ASW454. The sensitivity can be adjusted accurately with a rough and fine potentiometer. The switching state is indicated by LED. The sensor element must be located in the flow.

Protection class sensor: IP65; evaluation unit: IP32

Output signal evaluation unit: relay SPST 8A, 250Vac, switch point adjustable, lowest 0,03 m/s fluid speed

Additional description For sensor:

- media temperature 0..80 °C
- sensing element steel

Sensor

Power supply Vac; VA	Mounting place	Immersion depth mm	Connection diameter inch	Type
-; -	in pipe	25	G1/4	SWF62
-; -	in pipe	45	G1/2	SWF62L

Evaluation unit

Power supply Vac; VA	Mounting place	Immersion depth mm	Connection diameter inch	Type
230; 3	universal	-	-	ASW454
24; 3	universal	-	-	ASW454/24





Paddle flow switches for air (S6040)

The flow switches are designed for monitoring flow rates in pipes and ducts employed in HVAC applications.
For monitoring flow of non-aggressive gases in air ducts of air conditioning systems and air treatment systems.

Protection class	IP65
Switch function/capacity	SPDT, capacity 250Vac, (8)15 A
Setpoint device	screw
Max. media temperature	85 °C
Setpoint range	2,5..9,2m/s
Max. pressure	0,25 bar

		Type
		S6040A1003
Paddle set		PA1



Paddle flow switches for liquid (S6065)

The flow switches are designed for monitoring flow rates in pipes employed in HVAC applications.
For monitoring flow in water, oil, cooling circuits, and lubrication systems.

Protection class	IP65
Switch function/capacity	SPDT, capacity 250Vac, (8)15 A
Setpoint device	screw
Max. media temperature	120 °C
Setpoint range	0,6..165 m ³ /h pipe size dependent

Liquid

Media	Max. pressure bar	Type
liquid non-aggressive	11	S6065A1003
liquid aggressive	30	S6065A2001



Electronic flow switches for liquid, compact version (KSW)

The high reliable compact electronic flow switch is designed for detecting water flow in pipes. As soon as medium flow speed exceeds or falls under a customer adjusted value, the device will switch a electric circuit.

Protection class	IP65
Switch function/capacity	SPDT, capacity 250 Vac, 10(2) A
Immersion depth	20 mm
Media	liquid and air
Setpoint range	0,05..3 m/s
Max. media temperature	80 °C
Max. pressure	30 bar
Additional description	LED's available for indication of power supply and switch status.

Process connection G1/2"

		Power supply Vac; VA	Type
		24; 4	KSW24
		230; 4	KSW230



Room and air duct humidistats (H)

The H6045A1002 single-stage duct hygrostat and the H6120A1000 single-stage room hygrostat are designed for monitoring relative humidity in air conditioning systems and climatic chambers and for controlling air humidifiers and dehumidifiers in indoor swimming pool buildings. Further applications include air humidity regulation in food storage premises, the textile and paper industries, printing works, the optical and chemical industries, greenhouses, hospitals and wherever relative air humidity levels need to be measured, controlled and monitored.

R.H. setpoint range	35 ... 100 %rh
(De) Humidification application	D + H
Additional description	Maximum air flow speed for ducts: 8 m/s.

Room humidistat H6120

R.H. hysteresis switching point %rh	Ambient temperature °C	Mounting place	Immersion depth mm	Switch function/capacity	Protection class	Type
4	0 ... 60	internal wall	–	SPDT 230Vac /5A (0,2A)	IP30	H6120A1000

Duct humidistat H6045

R.H. hysteresis switching point %rh	Ambient temperature °C	Mounting place	Immersion depth mm	Switch function/capacity	Protection class	Type
5	-10 ... 65	air duct	222	SPDT 250Vac/15A (8A)	IP65	H6045A1002



Flue gas thermostat

Flue gas thermostat for safety control of solid fuel boilers (in combination with oil boilers).

Switch function/capacity	SPDT 10A/250Vac
Setpoint device	inside
Mounting place	flue gas vent
Temp. setpoint range	20 ... 400 °C
Differential setting range	10 ... 18 °C

Type
RGT240

Metering	Page
Hydronic meters	9-2
Calculators and system components	9-10
Electrical Energy meter	9-14



Hydronic meters



EW370 Series Woltman Flow Meters DN50...300

Honeywell EW370 Series Woltman flow meters are used for volume measuring of heating or chilled water in heating and air conditioning system networks. They are available in sizes DN50 to DN300 and have a roller counter. They are fitted with a pulse cable for connection to an energy calculator, e.g. Honeywell EW500 Series.



Features	• Robust design with Woltman WP flow sensor • Available up to DN300 • Pulse out as standard for connection to energy calculator
Medium	heating or chilled water
Max. operating pressure	16 bar
Measuring method	woltmann wheel
Display functions	Eight digit roller counter
Approvals	MID
Connection	Flanges PN16
Media temp.	1 ... 130 °C
Interface	Pulse out
Interface type	Fixed

DN size mm	Nominal flow (qp) m ³ /h	Length mm	Type
50	15	200	EW3701AP5000
65	25	200	EW3701AP5600
80	40	200	EW3701AP6500
100	60	250	EW3701AP7300
125	100	250	EW3701AP8100
150	200	300	EW3701AP8500
200	250	350	EW3701AP8900
250	400	450	EW3701AP9100
300	600	500	EW3701AP9203

Hydronic meters



EW473 Ultrasonic Flowmeters

Honeywell EW473 Series ultrasonic flowmeters are used for flow measurement of heating or cooling water in hydronic heating, cooling or air conditioning systems. They are typically used with an EW545 Series energy calculator. The combination of flowmeter and energy calculator has the same functionality as a heatmeter. EW473 Series flowmeter are equipped with two galvanically isolated digital outputs for easy connection to a calculator (potential-free).

Features	• No pressure loss • Rugged design • Indifferent to dirt in the system
Measuring method	ultrasonic
Display functions	LCD, 8+2-digit
Media temp.	2 ... 120 °C
Power source	230Vac, 50...60Hz
Approvals	MID
Medium	heating or chilled water
Connection	Flanges PN16
Max. operating pressure	16 bar
Interface	Pulse out
Interface type	Fixed

DN size mm	Nominal flow (qp) m ³ /h	Length mm	Type
100	120	350	EW473P8303
125	200	350	EW473P8725
150	300	500	EW473P9025
200	500	500	EW473P9125
250	800	600	EW473P9225
300	1120	500	EW473P9303
350	1500,0	550	EW473P9425
400	1900	600	EW473P9525
500	2950	625	EW473P9625
600	4300	750	EW473P9925

Hydronic meters



EW447, EW450 Multijet Heat Meters

Static compact hydronic meter with electronic measurement, consisting of electronic energy calculator and mechanical flowmeter.

Metering of hydronic heating and/or cooling energy in hydronic systems based on volume, supply and return temperature.



Features

- Suitable for heating water (EW447) or heating and chilled water (EW450)
- No calming leg required on inlet or outlet
- Optional remote readout via M-bus or pulse out

Measuring method

multi jet

Display functions

LCD, 7-digit

Power source

Lithium battery with 12 year nominal lifetime

Approvals

MID

Dynamic range

1:100

Media temp.

5 ... 90 °C

Max. operating pressure

16 bar

EW447 Multijet Heat Meters for heating water

Medium	DN size mm	Nominal flow (qp) m ³ /h	Length mm	Connection	Interface	Interface type	Type
heating water	15	0,6	110	G 3/4	–	–	EW447A0100
heating water	15	1,5	110	G 3/4	–	–	EW447A1200
heating water	20	2,5	130	G 1	–	–	EW447A2000
heating water	15	0,6	110	G 3/4	M-Bus	Fixed	EW447M0100
heating water	15	1,5	110	G 3/4	M-Bus	Fixed	EW447M1200
heating water	20	2,5	130	G 1	M-Bus	Fixed	EW447M2000
heating water	15	0,6	110	G 3/4	Pulse out	Fixed	EW447P0100
heating water	15	1,5	110	G 3/4	Pulse out	Fixed	EW447P1200
heating water	20	2,5	130	G 1	Pulse out	Fixed	EW447P2000

EW450 Multijet Heat Meters for heating and chilled water

Medium	DN size mm	Nominal flow (qp) m ³ /h	Length mm	Connection	Interface	Interface type	Type
heating or chilled water	15	0,6	110	G 3/4	–	–	EW450A0100
heating or chilled water	15	1,5	110	G 3/4	–	–	EW450A1200
heating or chilled water	20	2,5	130	G 1	–	–	EW450A2000
heating or chilled water	15	0,6	110	G 3/4	M-Bus	Fixed	EW450M0100
heating or chilled water	15	1,5	110	G 3/4	M-Bus	Fixed	EW450M1200
heating or chilled water	20	2,5	130	G 1	M-Bus	Fixed	EW450M2000
heating or chilled water	15	0,6	110	G 3/4	Pulse out	Fixed	EW450P0100
heating or chilled water	15	1,5	110	G 3/4	Pulse out	Fixed	EW450P1200
heating or chilled water	20	2,5	130	G 1	Pulse out	Fixed	EW450P2000



Hydronic meters



**Set of two union nuts, sealings and externally threaded brass tailpieces
(one pack per meter required)**

For DN15, thread 1/2"	EWA1500035
For DN20, thread 3/4"	EWA1500042



Ballvalve with connection for supply temperature probe

G1/2" internal threads	EWA087HY004
G3/4" internal threads	EWA087HY005



Tailpiece for connection of supply temperature sensor

R1/2" external thread, M10x1 sensor thread	EWA087HY003
G1/4" external thread, M10x1 sensor thread	EWA354830



Brass immersion pockets (MID approved)

35mm, for DN15...32	EWA3002684
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Hydronic meters



EW773 Series Ultrasonic Hydronic Meters DN15-100



Static compact hydronic meter with electronic measurement based on the ultrasonic principle, consisting of electronic energy calculator, ultrasonic flowmeter and temperature sensors. Metering of hydronic heating and/or cooling energy in hydronic systems based on volume, supply and return temperature.

Features

- Improved power efficiency
- High long term stability, tested and verified by independent AGFW test
- Insensitive to dirt
- Versatile power supply
- Optionally with integrated RF, Open Metering Standard, 868MHz
- Individual remote reading (AMR) with add on plug & play modules

Measuring method

ultrasonic

Display functions

LCD, 8-digit

Power source

- Standard: 3.6V A-cell lithium battery (11 year lifetime)
- Optional: 3.6V D-cell lithium battery (16 year lifetime), 230Vac or 24Vac mains unit

Approvals

- Approval for ultrasonic meter with dynamic range of 1:250 (qi:qp) in class 2
- Approved according MID in class 2 and 3 and PTB K 7.2 (cooling)

Dynamic range

1:250

EW7730A Ultrasonic hydronic meter for heating applications

Medium	DN size mm	Nominal flow (qp) m ³ /h	Length mm	Connection	Media temp. °C	Max. operating pressure bar	Interface	Interface type	Type
heating water	15	1,5	110	G 3/4	5 ... 130	16	–	Retrofittable (two slots)	EW7730A1200
heating water	20	2,5	130	G 1	5 ... 130	16	–	Retrofittable (two slots)	EW7730A1400
heating water	20	2,5	130	G 1	5 ... 130	16	–	Retrofittable (two slots)	EW7730A2000
heating water	25	6	260	G 1 1/4	5 ... 150	16	–	Retrofittable (two slots)	EW7730A3600
heating water	32	6	260	Flanges PN25	5 ... 150	25	–	Retrofittable (two slots)	EW7730A4000
heating water	40	10	300	G 2	5 ... 150	16	–	Retrofittable (two slots)	EW7730A4600
heating water	40	10	300	Flanges PN25	5 ... 150	25	–	Retrofittable (two slots)	EW7730A4800
heating water	50	15	270	Flanges PN25	5 ... 150	25	–	Retrofittable (two slots)	EW7730A5200
heating water	65	25	300	Flanges PN25	5 ... 150	25	–	Retrofittable (two slots)	EW7730A6000
heating water	80	40	300	Flanges PN25	5 ... 150	25	–	Retrofittable (two slots)	EW7730A7000
heating water	100	60	360	Flanges PN25	5 ... 150	25	–	Retrofittable (two slots)	EW7730A7800

EW7730F Ultrasonic hydronic meter for heating applications, with RF on board

Medium	DN size mm	Nominal flow (qp) m ³ /h	Length mm	Connection	Media temp. °C	Max. operating pressure bar	Interface	Interface type	Type
heating water	15	1,5	110	G 3/4	5 ... 130	16	RF	Fixed	EW7730F1200
heating water	20	2,5	130	G 1	5 ... 130	16	RF	Fixed	EW7730F2000

EW7730M Ultrasonic hydronic meter for heating applications, with M-Bus module

Medium	DN size mm	Nominal flow (qp) m ³ /h	Length mm	Connection	Media temp. °C	Max. operating pressure bar	Interface	Interface type	Type
heating water	15	1,5	110	G 3/4	5 ... 130	16	M-Bus	Retrofittable (factory installed)	EW7730M1200
heating water	20	2,5	130	G 1	5 ... 130	16	M-Bus	Retrofittable (factory installed)	EW7730M2000
heating water	25	6	260	G 1 1/4	5 ... 150	16	M-Bus	Retrofittable (factory installed)	EW7730M3600

Hydronic meters

EW7730K Ultrasonic hydronic meter for heating applications; with M-Bus and pulse input modules

Medium	DN size	Nominal flow (qp)	Length	Connection	Media temp.	Max. operating pressure	Interface	Interface type	Type
	mm	m ³ /h	mm		°C	bar			
heating water	15	1,5	110	G 3/4	5 ... 130	16	M-Bus + pulse in	Retrofittable (factory installed)	EW7730K1200
heating water	20	2,5	130	G 1	5 ... 130	16	M-Bus + pulse in	Retrofittable (factory installed)	EW7730K2000

EW7731A Ultrasonic hydronic meter for heating and cooling applications

Medium	DN size	Nominal flow (qp)	Length	Connection	Media temp.	Max. operating pressure	Interface	Interface type	Type
	mm	m ³ /h	mm		°C	bar			
heating or chilled water	15	1,5	110	G 3/4	5 ... 105	16	–	Retrofittable (two slots)	EW7731A1200
heating or chilled water	20	2,5	130	G 1	5 ... 105	16	–	Retrofittable (two slots)	EW7731A2000
heating or chilled water	25	6	260	G 1 1/4	5 ... 105	16	–	Retrofittable (two slots)	EW7731A3600
heating or chilled water	32	6	260	Flanges PN25	5 ... 105	25	–	Retrofittable (two slots)	EW7731A4000
heating or chilled water	40	10	300	G 2	5 ... 105	16	–	Retrofittable (two slots)	EW7731A4600
heating or chilled water	40	10	300	Flanges PN25	5 ... 105	25	–	Retrofittable (two slots)	EW7731A4800
heating or chilled water	50	15	270	Flanges PN25	5 ... 105	25	–	Retrofittable (two slots)	EW7731A5200
heating or chilled water	65	25	300	Flanges PN25	5 ... 105	25	–	Retrofittable (two slots)	EW7731A6000
heating or chilled water	80	40	300	Flanges PN25	5 ... 105	25	–	Retrofittable (two slots)	EW7731A7000
heating or chilled water	100	60	360	Flanges PN25	5 ... 105	25	–	Retrofittable (two slots)	EW7731A7800

EW7731F Ultrasonic hydronic meter for heating and cooling applications; with RF and two pulse inputs

Medium	DN size	Nominal flow (qp)	Length	Connection	Media temp.	Max. operating pressure	Interface	Interface type	Type
	mm	m ³ /h	mm		°C	bar			
heating or chilled water	15	1,5	110	G 3/4	5 ... 105	16	RF	Fixed	EW7731F1200
heating or chilled water	20	2,5	130	G 1	5 ... 105	16	RF	Fixed	EW7731F2000

EW7731M Ultrasonic hydronic meter for heating and cooling applications; with M-Bus module

Medium	DN size	Nominal flow (qp)	Length	Connection	Media temp.	Max. operating pressure	Interface	Interface type	Type
	mm	m ³ /h	mm		°C	bar			
heating or chilled water	15	1,5	110	G 3/4	5 ... 105	16	M-Bus	Retrofittable (factory installed)	EW7731M1200
heating or chilled water	20	2,5	130	G 1	5 ... 105	16	M-Bus	Retrofittable (factory installed)	EW7731M2000
heating or chilled water	25	6	260	G 1 1/4	5 ... 105	16	M-Bus	Retrofittable (factory installed)	EW7731M3600
heating or chilled water	32	6	260	Flanges PN25	5 ... 105	25	M-Bus	Retrofittable (factory installed)	EW7731M4000
heating or chilled water	40	10	300	Flanges PN25	5 ... 105	25	M-Bus	Retrofittable (factory installed)	EW7731M4800
heating or chilled water	50	15	270	Flanges PN25	5 ... 105	25	M-Bus	Retrofittable (factory installed)	EW7731M5200
heating or chilled water	65	25	300	Flanges PN25	5 ... 105	25	M-Bus	Retrofittable (factory installed)	EW7731M6000
heating or chilled water	80	40	300	Flanges PN25	5 ... 105	25	M-Bus	Retrofittable (factory installed)	EW7731M7000
heating or chilled water	100	60	360	Flanges PN25	5 ... 105	25	M-Bus	Retrofittable (factory installed)	EW7731M7800

Hydronic meters



Set of two union nuts, sealings and externally threaded brass tailpieces (one pack per meter required)

For DN15, thread 1/2"	EWA1500035
For DN20, thread 3/4"	EWA1500042
For DN25, thread 1"	EWA1500062
For DN25, thread 1 1/2"	EWA1500072



Set of union nut, sealing and Sanpress red bronze crimp fitting (two packs per meter required)

For DN15, for 15 mm pipe-diameter	VA7404A015
For DN15, for 18 mm pipe-diameter	VA7404A018
For DN20, for 22 mm pipe-diameter	VA7404A020
For DN25, for 28 mm pipe-diameter	VA7404A025



Set of union nut, sealing and Mapress stainless steel crimp fitting (two packs per meter required)

For DN15, for 15 mm pipe-diameter	VA7403A015
For DN15, for 18 mm pipe-diameter	VA7403A018
For DN20, for 22 mm pipe-diameter	VA7403A020
For DN25, for 28 mm pipe-diameter	VA7403A025



Set of union nut, sealing and internally threaded red bronze tailpiece (two packs per meter required)

For DN15, thread Rp1/2"	VA7405A015
For DN20, thread Rp3/4"	VA7405A020
For DN25, thread Rp1"	VA7405A025

Temperature sensor installation kit (bulk pack of 20pcs)

Brass, max. 130C	EWA3001303
Plastic, max. 90C	EWA3001305

Ball valve with connection for supply temperature probe

DN15, G1/2" internal threads	EWA087HY004
DN20, G3/4" internal threads	EWA087HY005
DN25, G1" internal threads	EWA087HY006



Tailpiece for connection of supply temperature sensor

R1/2" external thread, M10x1 sensor thread	EWA087HY003
G1/4" external thread, M10x1 sensor thread	EWA354830

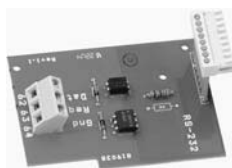


Brass immersion pockets (MID approved)

35mm, for DN15...32	EWA3002684
52mm, for DN40...65	EWA3002685
85mm, for DN80...125	EWA3004406



Hydronic meters



Modules

M-Bus communication module (single pack)	EWA3022071
M-Bus communication module (bulk pack of 72pcs)	EWA3023125
Pulse output module with two outputs	EWA3022073
Pulse input module with two inputs (single pack)	EWA3022074
Pulse input module with two inputs (bulk pack of 72pcs)	EWA3023130
Combined pulse input/output module	EWA3022075
RS232 interface module with cable	EWA3028129
RS485 interface module	EWA3022101
Analogue 4...20mA module (occupies both slots)	EWA3022106

Power supply

A-cell battery 3.6V DC (11 year lifetime) as replacement for standard battery	EWA3022102
D-cell battery 3.6V DC (16 year lifetime)	EWA3022103
Mains supply unit 230V AC	EWA3022076
Mains supply unit 24V AC	EWA3022079
Replacement backup battery for mains supply units	EWA3022097

Calculator mounts

Wall mount (single pack)	EWA3007090
Wall mount (bulk pack of 20pcs)	EWA3007091
Angle mount 105	EWA3026160
Distance mount	EWA54300011
DIN rail mount	EWA54300012

Bluetooth optohead

For all EW773	EWA3001799
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IzarSet Expert dongle

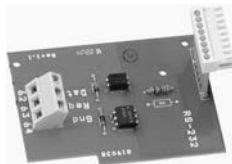
For all EW773	EWP3021322
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Calibration certificates

For up to five meters	EWA3003095A
For six to 20 meters	EWA3003095B
For more than 20 meters	EWA3003095C

Modules and Accessories for EW773 (type 773) - former generation, built till end of 2010

C-cell battery 3.0V DC (12 year lifetime) as replacement for standard battery	EWA54200006
D-cell battery 3.6V DC (16 year lifetime)	EWA3000783
M-Bus communication module (for EW773xA types)	EWA54200001
Pulse output module (2 outputs)	EWA54200002
Pulse input module (2 inputs)	EWA54200003
RF module	EWA54200017
Combined pulse input/output module	EWA54200026
RS232 interface module	EWA54200030



Calculators and system components



EW500 Series Energy Calculators

EW500 Series Electronic energy calculators were designed for use with ultrasonic or mechanical flow sensors and 2-wire Pt500 temperature sensors. The combination of EW500, flow and temperature sensors provides fluid energy metering of heating and chilled water systems.

Metering of hydronic heating and / or cooling energy in hydronic systems based on volume, supply and return temperature. Suitable for energy metering of cooling, heating and combined cooling and heating systems.

Features

- Two slots for retrofitable communication modules
- Replaceable battery
- Extensive readable data memory

Medium type

water

Display functions

LCD, 8-digit

Power source

Battery with 11 year nominal lifetime

Approvals

MID

EW500 Series with no modules installed

Product description	Pulse value	Interface	Interface type	Type
Energy unit: MWh with 1 decimal place	1 litre	–	Retrofitable (two slots)	EW5001CD0001
Energy unit: MWh with 1 decimal place	2.5 litres	–	Retrofitable (two slots)	EW5001CD0003
Energy unit: kWh with 0 decimal places	10 litres	–	Retrofitable (two slots)	EW5001CD0010
Energy unit: MWh with 1 decimal place	50 litres	–	Retrofitable (two slots)	EW5001CD0050
Energy unit: MWh with 1 decimal place	100 litres	–	Retrofitable (two slots)	EW5001CD0100
Energy unit: MWh with 1 decimal place	250 litres	–	Retrofitable (two slots)	EW5001CD0250
Energy unit: MWh with 1 decimal place	1,000 litres	–	Retrofitable (two slots)	EW5001CD1000

EW500 Series with installed M-Bus module and one free slot

Product description	Pulse value	Interface	Interface type	Type
Energy unit: kWh with 0 decimal places	10 litres	M-Bus	Retrofitable (factory installed)	EW5001CM0010
Energy unit: MWh with 1 decimal place	100 litres	M-Bus	Retrofitable (factory installed)	EW5001CM0100

EW500 Series with installed Modbus module and one free slot

Product description	Pulse value	Interface	Interface type	Type
Energy unit: kWh with 0 decimal places	10 litres	M-Bus	Retrofitable (factory installed)	EW5001CT0010
Energy unit: MWh with 1 decimal place	100 litres	M-Bus	Retrofitable (factory installed)	EW5001CT0100

Configurable EW500 with no modules installed

Product description	Pulse value	Interface	Interface type	Type
Programmable pulse value, installation place and energy unit	–	–	Retrofitable (two slots)	EW5001CDZ

Pair of Pt500 temperature sensors, 5.2mm (MID approved)

Cable length 2m	EWA3002680
Cable length 3m	EWA3002681
Cable length 5m	EWA3002682
Cable length 10m	EWA3002679

Calculators and system components

Temperature sensor installation kit (bulk pack of 20pcs)

Brass, max. 130C	EWA3001303
Plastic, max. 90C	EWA3001305

Tailpiece for connection of supply temperature sensor



R1/2 external thread, M10 x 1 sensor thread	EWA087HY003
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Brass immersion pockets (MID approved)



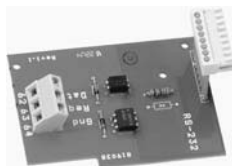
35mm, for DN25...32	EWA3002684
52mm, for DN40...65	EWA3002685
85mm, for DN80...125	EWA3004406
120mm, for DN150	EWA3004407

Ballvalves with connection for supply temperature sensor



G 1/2" internal thread	EWA087HY004
G 3/4" internal thread	EWA087HY005
G 1" internal thread	EWA087HY006

Modules



Lonworks communication module	EWA500C-LON
Wired M-Bus communication module	EWA500C-MBUS
Modbus communication module	EWA500C-RS485
Pulse out communication module	EWA500C-PO
Pulse in/out communication module	EWA500C-PIPO
RF (OMS, 848MHz) communication module	EWA500C-RF

Power supply

230V mains power supply	EWA500P-230V
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Meter configuration

Optical interface with USB connection	EWA3001798
EW500 configuration software, download free of charge from http://metering.ecc.emea.honeywell.com/	EW500SET
EW500SET expert dongle for advanced configuration of EW500 Series	EWP500-XPRT

Calculators and system components



EW535 Series M-Bus System Components

EW535 Series M-Bus System Components enable remote recording and reading out of M-Bus capable meters, e.g. Honeywell EW773 Series Ultrasonic Heat Meters.

The M-Bus system is used to connect various meters, typically M-Bus capable heat meters and water meters but also gas or electricity meters to a central M-Bus master unit. Values recorded by the meter are stored in the master unit and can be read out directly by connecting a PC or remotely, e.g. by telephone line or LAN converter. Many non M-Bus capable meters can be connected to the M-Bus system by using a converter.



Materials	Housing made of grey heat resistant plastic
Ambient temperature	-20 ... 70 °C
Maximum humidity	90 %rh

EW535

Model name	Product description	Type
IzarCenter 60	M-Bus level converter/repeater for max. 60 M-Bus devices	EW535M5777
IzarCenter 60 Memory	M-Bus master for max. 60 M-Bus devices, 256MB data logger memory	EW535M5781
IzarCenter 120	M-Bus level converter/repeater for max. 120 M-Bus devices, 256MB data logger memory	EW535M5778
IzarCenter 120 Memory	M-Bus master for max. 120 M-Bus devices, 256MB data logger memory	EW535M5782
IzarCenter 250	M-Bus level converter/repeater for max. 250 M-Bus devices	EW535M5780
IzarCenter 250 Memory	M-Bus master for max. 250 M-Bus devices, 256MB data logger memory	EW535M5783
Hydro-Port Pulse	Pulse meter to M-Bus converter, 2 pulse inputs	EW535M0056
Hydro-Port Analog	Converter for meters with analogue 420mA output to M-Bus, 2 analogue inputs, 1 analogue output, 1 input for PT temperature sensor	EW535M0057
Hydro-Port Housing	Heavy-duty housing IP66 for Hydro-Port modules	EW535M0058
Hydro-Port Control	M-Bus relay module with 2 digital state inputs and 2 bistable relay outputs	EW535M0059



EW535M0131 M-Bus RF Receiver

Receiver for stationary readout of suitable hydronic meters with RF capability and conversion into M-Bus signal. Remote readout and data logging is done in combination with an IzarCenter M-Bus master or repeater. Configuration is also done via the IzarCenter.

Features

- No wiring from meter to master necessary
- Powered through M-Bus interface no external power source required
- Two wire M-Bus interface for direct connection to M-Bus master
- Internal memory to buffer last radio telegram of up to 450 meters

Interface

M-Bus



Type
EW535M0131

Calculators and system components



Connections for Heat and Water Meters

Fittings and pipe connections for heat and water meters

Set of union nut, sealing and externally threaded brass tailpiece, sealable with sealing wire (one pack per meter required)



DN size mm	Product description	Type
15	1/2 x 3/4	EWA1500035
20	3/4 x 1	EWA1500042
25	1 x 1 1/4	EWA1500062
32	1 1/4 x 1 1/2	EWA1500067
40	1 1/2 x 2	EWA1500072

Set of union nut, sealing and Sanpress red bronze crimp fitting (two packs per meter required)



DN size mm	Product description	Type
15	For 15mm pipe diameter	VA7404A015
15	For 18mm pipe diameter	VA7404A018
20	For 22mm pipe diameter	VA7404A020
25	For 28mm pipe diameter	VA7404A025

Set of union nut, sealing and Mapress stainless steel crimp fitting (two packs per meter required)



DN size mm	Product description	Type
15	For 15mm pipe diameter	VA7403A015
15	For 18mm pipe diameter	VA7403A018
20	For 22mm pipe diameter	VA7403A020
25	For 28mm pipe diameter	VA7403A025

Set of union nut, sealing and internally threaded brass tailpiece (two packs per meter required)



DN size mm	Product description	Type
15	Rp 1/2	VA7405A015
20	Rp 3/4	VA7405A020
25	Rp 1	VA7405A025

Electrical Energy meter



Electrical Energy Meters, 1 phase, 32A, LCD, EEM230-D

Electrical energy meter with direct reading of all relevant data, such as energy (total and partial), current and voltage, active and reactive power.

- Single phase energy meter, 230VAC 50 Hz
- Direct measurement up to 32 A
- Accuracy class B according to EN50470-3, accuracy class 1 according to IEC62053-21
- 7-digits display, clear read-out with 6 mm tall figures
- Backlighted LCD
- Metering of total and partial consumed energy
- Resettable value of partial energy
- Display of instantaneous power
- Reactive power available through interface
- Display of voltage
- Display of current
- Clear fault indication

Interface	Certificates	Type
ModBus RTU	–	EEM230-D-MO
ModBus RTU	MID	EEM230-D-MO-MID
M-Bus	–	EEM230-D-M
M-Bus	MID	EEM230-D-M-MID
pulse	–	EEM230-D-P
pulse	MID	EEM230-D-P-MID

20 sealcaps (for 10 energy meters) EEM230-SEALCAP



Electrical Energy Meters, 1 phase, 32A, LCD, Economic, EEM230-E

Energy meter with LCD display and integrated S0 interface. The S0 interface is a hardware interface for the transmission of measured values in building automation.

- Single phase energy meter, 230VAC 50 Hz
- Direct measurement up to 32 A
- 7-digit LC-Display
- Lead seal possible with cap as accessory
- Precision class 1 according to IEC62053-21
- S0 output according to IEC62053-31
- Clear fault indication

Interface pulse

Type
EEM230-E-P

20 sealcaps (for 10 energy meters) EEM230-SEALCAP

Electrical Energy meter



Electrical Energy Meters, 3 phases, 65A, 2 Tariff, LCD, EEM400-D

Electrical energy meter with direct reading of all relevant data, such as energy (total and partial), current and voltage for every phase and active and reactive power for every phase and for the three phases.

- 3-phase energy meter, 3 x 230/400 VAC 50 Hz
- Direct measurement up to 65 A
- Accuracy class B according to EN50470-3, accuracy class 1 according to IEC62053-21
- 7-digits display, clear read-out with 6 mm tall figures
- Backlighted LCD
- Metering of total and partial consumed energy, partial resettable
- 2 tariff measuring
- Display of instantaneous power for each phase and all phases
- Display of voltage of each phase
- Display of current
- Reactive power for every and/or all phases available through interface
- Energy value readable without power supply
- Clear fault indication

Interface	Certificates	Type
ModBus RTU	–	EEM400-D-MO
ModBus RTU	MID	EEM400-D-MO-MID
M-Bus	–	EEM400-D-M
M-Bus	MID	EEM400-D-M-MID
pulse	–	EEM400-D-P
pulse	MID	EEM400-D-P-MID

Panel mounting kit for front door of cabinet

PMK-EEM400

20 sealcaps (for 5 energy meters)

EEM400-SEALCAP



Electrical Energy Meters, 3 phases for current transformer 5A, LCD, EEM400C-D

Electrical energy meter with direct reading of all relevant data, such as energy (total and partial), current and voltage for every phase and active and reactive power for every phase and for the three phases.

- 3-phase energy meter, 3 x 230/400 VAC 50 Hz
- Measurement up to 1.500 A over external current transformer
- Accuracy class B according to EN50470-3, accuracy class 1 according to IEC62053-21
- 7-digits display, clear read-out with 6 mm tall figures
- Backlighted LCD
- Metering of total and partial consumed energy, partial resettable
- CT ratio is blocked through a wire bridge
- Display of instantaneous power for each phase and all phases
- Display of voltage of each phase
- Display of current
- Reactive power for every and/or all phases available through interface
- Energy value readable without power supply
- Clear fault indication

Interface	Certificates	Type
ModBus RTU	–	EEM400C-D-MO
ModBus RTU	MID	EEM400C-D-MO-MID
M-Bus	–	EEM400C-D-M
M-Bus	MID	EEM400C-D-M-MID
pulse	–	EEM400C-D-P
pulse	MID	EEM400C-D-P-MID

Panel mounting kit for front door of cabinet

PMK-EEM400

20 sealcaps (for 5 energy meters)

EEM400-SEALCAP

Electrical Energy meter



S0-Pulse counter, 4 inputs, EEM-CONVERT

The S0-Pulse counter with Modbus Interface allows to count pulse from Meters (Electrical, Gas, Water, etc.) with S0-Pulse (without intelligent Interface such Modbus), memorize this and send to the BMS System over one Modbus RTU Interface.

- 230 Vac, 50 Hz power supply
- Up to 99 S0-Modbus Modules on the same bus
- 4 S0 pulse inputs (S01+...S04+) per S0-Modbus Module
- Up to 396 S0 devices on the same Modbus
- The inputs comply with the S0 standard EN62053-31
- Integrated RS-485 termination resistor
- LED for bus activity indication



Interface

ModBus RTU

Type
EEM-CONVERT

10

Phase over lists



OLD TYPES Phase over list, Sensors

The OLD TYPE products are not deliverable anymore. They can be replaced with the products shown in the last column. Take care about small differences! It is the responsibility of the user to ensure that the right product is chosen.

Old catalogs data:

<http://ecc.emea.honeywell.com/sphider/search.php>

OLD TYPES A..Z	Product description	Type
AF20	Outdoor temperature sensor, NTC	AF20-B54
AFF-L	Outdoor temperature sensor LON (new Type needs converter)	AF00-B54
AQS31	CO2 Sensor /temperature sensor (new Type can also be C7110D1009)	C7110C1001
AQS31-KAM	CO2 Sensor for air duct	AQS71-KAM-T
AQS41	CO2 Sensor /temperature sensor/display	C7110D1009
AQS51	CO2 Sensor /temperature sensor	C7110C1001
AQS51-KAM	CO2 Sensor /temperature sensor for air duct	AQS71-KAM-T
AQS61	CO2 Sensor /temperature sensor/display	C7110C1001
AQS61-KAM	CO2 Sensor /temperature sensor/display for air duct	AQS71-KAM-T
AQS71-KAM	CO2 Sensor for air duct	AQS71-KAM-T
C7068A1007B	Unit temperature sensor	PF20-65-2M
C7068A1007	Unit temperature sensor	PF20-65-2M
C7068A1007-3M	Unit temperature sensor	PF20-65-5M
C7068A1007-5M	Unit temperature sensor	PF20-65-5M
C7068A1007-8M	Unit temperature sensor	PF20-65-5M
C7110A1005	Air quality sensor	C7110A1010
DAF20	Outdoor temperature sensor, NTC	AF20-B54
DGF20	Damp-proof temperature sensor, NTC	GF20
H600A1022	Room humidistat	H6120A1000
H7012A1009	Room R.H. sensor	H7012A1010
H7012B1007	Room R.H./temperature sensor	H7012B1008
H7012B1023	Room R.H./temperature sensor	H7012B1024
H7015A1006	Air duct R.H. - and temperature/transmitter	H7015B1060
H7015B1020	Air duct R.H. - and temperature sensor/transmitter	H7015B1080
H7508A1034	Outdoor R.H. - and temperature sensor/transmitter (new Type needs: H7012BALCO500KIT)	H7508B1060
H7508A1042	Outdoor R.H. - and temperature sensor/transmitter	H7508B1080
HGK1	Duct Hygrostat	H6045A1002
HKF1	Air duct humidity sensor	H7015B1060
HRF1	Room humidity sensor	H7012A1010
KTF20	Water temperature sensor NTC, cable type	KTF20-65-2M
KTF20AC	Water temperature sensor NTC, cable type	KTF20-65-2M
KTF20-B	Water temperature sensor NTC, cable type	KTF20-65-2M-B
KTF20-5M-B	Water temperature sensor NTC, cable type	KTF20-65-5M-B
LF10	Air duct temperature sensor, NTC	LF10-3B54
LF20	Air duct temperature sensor, NTC	LF20-3B54
LF20-C	Air duct temperature sensor, NTC	LF20-3P65-5M
LMS31	Air duct, average temperature sensor, PTC	C7085A1006
LQR1	Air quality sensor	C7110A1010
RF20A	Room temperature sensor, NTC	RF20
SWM1/FS1-F	Dew point sensor	HSS-DPS
T6046A1006	Frost protection thermostat	FT6960-18
T6046A1014	Frost protection thermostat	FT6960-30
T6950A1000	Frost protection thermostat	FT6960-18

Phase over lists

OLD TYPES A..Z	Product description	Type
T6950A1018	Frost protection thermostat	FT6960-30
T6950A1026	Frost protection thermostat	FT6960-60
T6951A1009	Frost protection thermostat	FT6961-18
T6951A1017	Frost protection thermostat	FT6961-30
T6951A1025	Frost protection thermostat	FT6961-60
T6960A1008	Frost protection thermostat	FT6960-18
T6960A1016	Frost protection thermostat	FT6960-30
T6960A1024	Frost protection thermostat	FT6960-60
T6961A1007	Frost protection thermostat	FT6961-18
T6961A1015	Frost protection thermostat	FT6961-30
T6961A1023	Frost protection thermostat	FT6961-60
T7411A1001	Air duct temperature sensor, Pt1000	LF00-1B54
T7411A1019	Air duct temperature sensor, Pt1000	LF00-3B54
T7411A1027	Air duct temperature sensor, Pt1000	LF00-3B54
T7411A1043	Air duct temperature sensor, Pt100	LF0-1B54
T7411B1009	Air duct temperature sensor, NTC, flexible probe	PF20-65-2M
T7411B1017	Air duct temperature sensor, Pt1000, flexible probe	LF00-3B54
T7412A1000	Room temperature sensor NTC20k	T7460A1001
T7412A1018	Room temperature sensor Pt1000	T7460A1018
T7413A1009	Water temperature sensor, Pt1000	VF00-1B54
T7413A1041	Water temperature sensor, Pt1000	VF00-1B54NW
T7413A1058	Water temperature sensor, Pt1000	VF00-3B54NW
T7413A1066	Water temperature sensor, Pt1000	VF00-1B54NW
T7413A1074	Water temperature sensor, Pt1000	VF00-3B54NW
T7414A1008	Water temperature sensor, Pt1000, strap-on	SF00-B54
T7415A1007	Water temperature sensor, Pt1000, cable type	KTF00-65-2M
T7416A1006	Outdoor temperature sensor, Pt1000	AF00-B54
T7416A1014	Outdoor temperature sensor, Pt1000	AF00-B54
T7416A1022	Outdoor temperature sensor, NTC 20k	AF20-B54
T7416A1030	Outdoor temperature sensor, NTC 10k	AF10-B54
T7416C1002	Outdoor, strap-on temperature sensor, Pt1000	T7414C1004
T7416C1010	Outdoor, strap-on temperature sensor, NTC	T7414C1012
T7425A1005-L	Fast Immersion Sensor, 75 mm LON (new Type needs converter)	T7425B1011
T7460H	Room temperature sensor, setpoint adjustment, occupancy extension	TF22
T7560H	Room temperature sensor, setpoint adjustment, occupancy extension, display	TFU22
TF26H	Room temperature sensor, setpoint adjustment, occupancy extension, display	TFU22
VF10A	Water temperature sensor, NTC 10k strap-on	SF10-B54
VF10T	Water temperature sensor, NTC 10k immersion	VF10-1B54T
VF20A	Water temperature sensor, NTC 20k strap-on	SF20-B54
VF20L	Water temperature sensor, NTC 20k immersion	VF20-3B54
VF20LN	Water temperature sensor, NTC 20k immersion	VF20-3B54S
VF20L-L	Immersion Sensor, LON 300 mm (new Type needs converter + VFL)	VF00-3B54NW
VF20NT	Water temperature sensor, NTC 20k immersion	VF20-1B54S
VF20T	Water temperature sensor, NTC 20k immersion	VF20-1B54
VF20T-L	Immersion Sensor, LON 135 mm (new Type needs converter)	VF00-1B54
WPF20A	Water temperature sensor, NTC, strap-on	DKF20
WPF20L	Water temperature sensor, NTC, immersion	DKF20
WPF20T	Water temperature sensor, NTC, immersion	DKF20

Phase over lists



OLD TYPES Phase over list, Pressure Sensors/Switches

The OLD TYPE products are not deliverable anymore. They can be replaced with the products shown in the last column. Take care about small differences! It is the responsibility of the user to ensure that the right product is chosen.

Old catalogs data:

<http://ecc.emea.honeywell.com/sphider/search.php>

Sensors

OLD TYPES A..Z	Product description	Type
DPT100, DPTM100	Differential pressure sensor for air	DPTE100
DPT1000, DPTM1000	Differential pressure sensor for air	DPTE1000
DPT1000D, DPTM1000D	Differential pressure sensor for air	DPTE1000D
DPT1002, DPTM1002	Differential pressure sensor for air	DPTE1002
DPT100D, DPTM100D	Differential pressure sensor for air	DPTE100D
DPT102, DPTM102	Differential pressure sensor for air	DPTE102
DPT110, DPTM110	Differential pressure sensor for air	DPTE100S
DPT1100, DPTM1100	Differential pressure sensor for air	DPTE1000S
DPT1100D, DPTM1100D	Differential pressure sensor for air	DPTE1000SD
DPT110D, DPTM110D	Differential pressure sensor for air	DPTE100SD
DPT112, DPTM112	Differential pressure sensor for air	DPTE102S
DPT250, DPTM250	Differential pressure sensor for air	DPTE250
DPT250D, DPTM250D	Differential pressure sensor for air	DPTE250D
DPT50, DPTM50	Differential pressure sensor for air	DPTE50S
DPT500, DPTM500	Differential pressure sensor for air	DPTE500
DPT5000, DPTM5000	Differential pressure sensor for air	DPTE5000
DPT5000D, DPTM5000D	Differential pressure sensor for air	DPTE5000D
DPT5002, DPTM5002	Differential pressure sensor for air	DPTE5002
DPT500D, DPTM500D	Differential pressure sensor for air	DPTE500D
DPT502, DPTM502	Differential pressure sensor for air	DPTE502
DPT50D, DPTM50D	Differential pressure sensor for air	DPTE50SD
DPT52, DPTM52	Differential pressure sensor for air	DPTE52S
DPT550, DPTM550	Differential pressure sensor for air	DPTE500S
DPT550D, DPTM550D	Differential pressure sensor for air	DPTE500SD
SK10	Differential pressure sensor 0-1000Pa	DPTE1000
SK10-AK	Differential pressure sensor 0-1000Pa / Display	DPTE1000D
SK20	Differential pressure sensor 0-2000Pa	DPTE1000
SK20-AK	Differential pressure sensor 0-2000Pa / Display	DPTE1000D
SK5	Differential pressure sensor 0-500Pa	DPTE500
SK5-AK	Differential pressure sensor 0-500Pa / Display	DPTE500D
SKV10	Differential pressure sensor +/- 1000Pa	DPTE1000S
SKV10-AK	Differential pressure sensor +/- 1000Pa / Display	DPTE1000SD
SKV5	Differential pressure sensor +/- 500Pa	DPTE500
SKV5-AK	Differential pressure sensor +/- 500Pa / Display	DPTE500D
SL10-2	Differential pressure sensor 0-1000Pa, 2-wire	DPTE502
SL10-3	Differential pressure sensor 0-1000Pa, 3-wire	DPTE500
SL20-3	Differential pressure sensor 0-2000Pa, 3-wire	DPTE1002
SL5-3	Differential pressure sensor 0-500Pa, 3-wire	DPTE250

Phase over lists

Electronic Pressure switch for liquid, LOW viscosity/roiled liquid (SmartPress)

OLD TYPES A..Z	Product description	Type
PSTV01RG12S	Pressure switch vacuum -1..1 bar	PSTV01RG12S-R
PSTM250RG12S	Pressure switch overpressure relative 0..0,25 bar	PSTM250RG12S-R
PSTM400RG12S	Pressure switch overpressure relative 0..04 bar	PSTM400RG12S-R
PSTM600RG12S	Pressure switch overpressure relative 0..0,6 bar	PSTM600RG12S-R
PST001RG12S	Pressure switch overpressure relative 0..1 bar	PST001RG12S-R
PST002RG12S	Pressure switch overpressure relative 0..1,6 bar	PST002RG12S-R
PST004RG12S	Pressure switch overpressure relative 0..4 bar	PST004RG12S-R
PST010RG12S	Pressure switch overpressure relative 0..10 bar	PST010RG12S-R
PST025RG12S	Pressure switch overpressure relative 0..25 bar	PST025RG12S-R
PST060RG12S	Pressure switch overpressure relative 0..60 bar	PST060RG12S-R
PST100RG12S	Pressure switch overpressure relative 0..100 bar	PST100RG12S-R
PST250RG12S	Pressure switch overpressure relative 0..250 bar	PST250RG12S-R
PST600RG12S	Pressure switch overpressure relative 0..600 bar	PST600RG12S-R
PST002AG12S	Pressure switch absolute 0..2 bar	PST002AG12S-R
PST010AG12S	Pressure switch absolute 0..10 bar	PST010AG12S-R

Electronic Pressure switch for liquid, HIGH viscosity/roiled liquid (SmartPress)

OLD TYPES A..Z	Product description	Type
PSTV01RG34F	Pressure switch vacuum -1..1 bar	PSTV01RG34F-R
PSTM250RG34F	Pressure switch overpressure relative 0..0,25 bar	PSTM250RG34F-R
PSTM400RG34F	Pressure switch overpressure relative 0..04 bar	PSTM400RG34F-R
PSTM600RG34F	Pressure switch overpressure relative 0..0,6 bar	PSTM600RG34F-R
PST001RG34F	Pressure switch overpressure relative 0..1 bar	PST001RG34F-R
PST002RG34F	Pressure switch overpressure relative 0..1,6 bar	PST002RG34F-R
PST004RG34F	Pressure switch overpressure relative 0..4 bar	PST004RG34F-R
PST010RG34F	Pressure switch overpressure relative 0..10 bar	PST010RG34F-R
PST025RG34F	Pressure switch overpressure relative 0..25 bar	PST025RG34F-R
PST002AG34F	Pressure switch absolute 0..2 bar	PST002AG34F-R
PST010AG34F	Pressure switch absolute 0..10 bar	PST010AG34F-R



OLD TYPES Phase over list, Small Actuators

The OLD TYPE products are not deliverable anymore. They can be replaced with the products shown in the last column. Take care about small differences! It is the responsibility of the user to ensure that the right product is chosen.

Old catalogs data: <http://ecc.emea.honeywell.com/sphider/search.php>

OLD TYPES A..Z	Product description	Type
H200-AO	Thermal actuator, 24V, 4mm, NO	MT4-024-NO
H200-AG	Thermal actuator, 24V, 4mm, NC	MT4-024-NC
M100-AG	Thermal actuator, 24V, 4mm, NC	MT4-024-NC
M100-AGE	Thermal actuator, 24V, 4mm, NC, switch	MT4-024S-NC
M100-AG-L	Thermal actuator, 24V, 4mm, NC, 2,5m cable	MT4-024-NC-2.5M
M100-AGX	Thermal actuator, 24V, 4mm, NC, low current	MT4-024-NC
M100-AO	Thermal actuator, 24V, 4mm, NO	MT4-024-NO
M100-AO-L	Thermal actuator, 24V, 4mm, NO, 2,5m cable	MT4-024-NO-2.5M
M100-AOX	Thermal actuator, 24V, 4mm, NO, low current	MT4-024-NO
M100-BG	Thermal actuator, 230V, 4mm, NC	MT4-230-NC
M100-BGE	Thermal actuator, 230V, 4mm, NC, switch	MT4-230S-NC

Phase over lists

OLD TYPES A..Z	Product description	Type
M100-BG-L	Thermal actuator, 230V, 4mm, NC, 2,5m cable	MT4-230-NC-2.5M
M100-BO-L	Thermal actuator, 230V, 4mm, NO, 2,5m cable	MT4-230-NO-2.5M
M4450A1009	Thermal actuator, 230V, 8mm, NO, 2,5m cable	MT8-230-NO-2.5M
M452A1006	Thermal actuator, 230V, 8mm, switch	MT8-230S-NC
M452B1005	Thermal actuator, 24V, 8mm, switch	MT8-024S-NC
M5410C4005	Fast motoric actuator 24V, 2,5mm, 90N, 1,5m cable	M5410C1001
M656A1002	Floating actuator 230Vac 2 switches (new Type needs 0903403)	M6410L4029
M656B1001	Floating actuator 24Vac 2 switches (new Type needs 0903403)	M6410C4029
M8001V230	Thermal actuator, 230V, 4mm	MT4-230-NC
M8001V24	Thermal actuator, 24V, 4mm	MT4-024-NC
M8450A1000	Thermal actuator, 24V, 8mm, NO, 2,5m cable	MT8-024-NO-2.5M
ML6425B2015	Floating actuator 24Vac	ML6435B1008
ML6425B2023	Floating actuator 230Vac	ML6435B1016
ML7420A2016	Modulating actuator 24Vac	ML7430E1005
MT010	Thermal actuator, 24V, 3,5mm, 0..10V, 1m (new Type needs M44-MOD-1M)	M4410E1510
MT010-N	Thermal actuator, 24V, 3,5mm, 0..10V, 1m (new Type needs M44-MOD-1M)	M4410E1510
MT010-3M	Thermal actuator, 24V, 3,5mm, 0..10V, 3m (new Type needs M44-MOD-3M)	M4410E1510
MT010-3MN	Thermal actuator, 24V, 3,5mm, 0..10V, 3m (new Type needs M44-MOD-3M)	M4410E1510
MT4-024LC-NC	Thermal actuator, 24V, 4mm, NC	MT4-024-NC
MT4-024LC-NO	Thermal actuator, 24V, 4mm, NO	MT4-024-NO
MT4-230LC-NC	Thermal actuator, 230V, 4mm, NC	MT4-230-NC
MT4-230LC-NO	Thermal actuator, 230V, 4mm, NO	MT4-230-NO
MT8-024LC-NC	Thermal actuator, 24V, 8mm, NC	MT8-024-NC
MT8-024LC-NO	Thermal actuator, 24V, 8mm, NO	MT8-024-NO
MT8-230LC-NC	Thermal actuator, 230V, 8mm, NC	MT8-230-NC
MT8-230LC-NO	Thermal actuator, 230V, 8mm, NO	MT8-230-NO
Z100-AG	Thermal actuator, 24V, 4mm, NC	MT4-024-NC
Z100-AGE	Thermal actuator, 24V, 4mm, NC, switch	MT4-024S-NC
Z100-AO	Thermal actuator, 24V, 4mm, NO	MT4-024-NO
Z100-BG	Thermal actuator, 230V, 4mm, NC	MT4-230-NC
Z100-BGE	Thermal actuator, 230V, 4mm, NC, switch	MT4-230S-NC
Z100-BO	Thermal actuator, 230V, 4mm, NO	MT4-230-NO
Z108-AA	Thermal actuator, 24V, 4mm, NC, switch	MT4-024S-NC
Z108-BA	Thermal actuator, 230V, 4mm, NC, switch	MT4-230S-NC

Accessories

OLD TYPES A..Z	Product description	Type
MT-CABLE-1.5M	Cable	MT-CABLE-2.5M

Phase over lists



OLD TYPES Phase over list, Small Linear Valves

The OLD TYPE products are not deliverable anymore. They can be replaced with the products shown in the last column. Take care about small differences! It is the responsibility of the user to ensure that the right product is chosen.

Old catalogs data:

<http://ecc.emea.honeywell.com/sphider/search.php>

OLD TYPES A..Z	Product description	Type
V5802D1020	2-way control valve PN16 external threaded (new Type + couplings)	V5832A1046
V5802D1038	2-way control valve PN16 external threaded (new Type + couplings)	V5832A1053
V5802D1046	2-way control valve PN16 external threaded (new Type + couplings)	V5832A1061
V5802D1053	2-way control valve PN16 external threaded (new Type + couplings)	V5832B2075
V5802D1079	2-way control valve PN16 external threaded (new Type + couplings)	V5832B2083
V5802D1087	2-way control valve PN16 external threaded (new Type + couplings)	V5832B2091
V5802D1095	2-way control valve PN16 external threaded (new Type + couplings)	V5832B2109
V5802D1103	2-way control valve PN16 external threaded (new Type + couplings)	V5832B2117
V5803D1029	3-way control valve PN16 external threaded (new Type + couplings)	V5833A1029
V5803D1037	3-way control valve PN16 external threaded (new Type + couplings)	V5833A1037
V5803D1045	3-way control valve PN16 external threaded (new Type + couplings)	V5833A1045
V5803D1052	3-way control valve PN16 external threaded (new Type + couplings)	V5833A1052
V5803D1060	3-way control valve PN16 external threaded (new Type + couplings)	V5833A2076
V5803D1078	3-way control valve PN16 external threaded (new Type + couplings)	V5833A2084
V5803D1086	3-way control valve PN16 external threaded (new Type + couplings)	V5833A2092
V5803D1094	3-way control valve PN16 external threaded (new Type + couplings)	V5833A2100
V5803D1102	3-way control valve PN16 external threaded (new Type + couplings)	V5833A2118
V5812A1008	2-way control valve PN16 external threaded (new Type + couplings)	V5832A1004
V5812A1016	2-way control valve PN16 external threaded (new Type + couplings)	V5832A1012
V5812A1024	2-way control valve PN16 external threaded (new Type + couplings)	V5832A1020
V5812A1032	2-way control valve PN16 external threaded (new Type + couplings)	V5832A1038
V5812A1040	2-way control valve PN16 external threaded (new Type + couplings)	V5832A1046
V5812A1057	2-way control valve PN16 external threaded (new Type + couplings)	V5832A1053
V5812A1065	2-way control valve PN16 external threaded (new Type + couplings)	V5832A1061
V5812A1073	2-way control valve PN16 external threaded (new Type + couplings)	V5832A1079
V5813A1007	3-way control valve PN16 external threaded (new Type + couplings)	V5833A1003
V5813A1015	3-way control valve PN16 external threaded (new Type + couplings)	V5833A1011
V5813A1023	3-way control valve PN16 external threaded (new Type + couplings)	V5833A1029
V5813A1031	3-way control valve PN16 external threaded (new Type + couplings)	V5833A1037
V5813A1049	3-way control valve PN16 external threaded (new Type + couplings)	V5833A1045
V5813A1056	3-way control valve PN16 external threaded (new Type + couplings)	V5833A1052
V5813A1064	3-way control valve PN16 external threaded (new Type + couplings)	V5833A1060
V5813C1003	3-way/bypass control valve PN16 external threaded (new Type + couplings)	V5833C1066
V5813C1011	3-way/bypass control valve PN16 external threaded (new Type + couplings)	V5833C1009
V5813C1029	3-way/bypass control valve PN16 external threaded (new Type + couplings)	V5833C1017
V5813C1037	3-way/bypass control valve PN16 external threaded (new Type + couplings)	V5833C1025
V5813C1045	3-way/bypass control valve PN16 external threaded (new Type + couplings)	V5833C1033
V5813C1052	3-way/bypass control valve PN16 external threaded (new Type + couplings)	V5833C1041
V5832B1085	2- way control valve PN16 flat sealing	V5832B2083
V5832B1093	2- way control valve PN16 flat sealing	V5832B2091
V5832B1101	2- way control valve PN16 flat sealing	V5832B2109
V5832B1119	2- way control valve PN16 flat sealing	V5832B2117
V5833A1078	3- way control valve PN16 flat sealing	V5833A2084
V5833A1086	3- way control valve PN16 flat sealing	V5833A2092

Phase over lists

OLD TYPES A..Z	Product description	Type
V5833A1094	3- way control valve PN16 flat sealing	V5833A2100
V5833A1102	3- way control valve PN16 flat sealing	V5833A2118
V5842B2008	2-way PN16 internal threaded valve (new Type + couplings)	V5832B2075
V5842B2016	2-way PN16 internal threaded valve (new Type + couplings)	V5832B2083
V5842B2024	2-way PN16 internal threaded valve (new Type + couplings)	V5832B2091
V5842B2032	2-way PN16 internal threaded valve (new Type + couplings)	V5832B2109
V5842B2040	2-way PN16 internal threaded valve (new Type + couplings)	V5832B2117
V5843A2009	3-way PN16 internal threaded valve (new Type + couplings)	V5833A2076
V5843A2017	3-way PN16 internal threaded valve (new Type + couplings)	V5833A2084
V5843A2025	3-way PN16 internal threaded valve (new Type + couplings)	V5833A2092
V5843A2033	3-way PN16 internal threaded valve (new Type + couplings)	V5833A2100
V5843A2041	3-way PN16 internal threaded valve (new Type + couplings)	V5833A2118
V5872B1003	2- way control valve PN16 external threaded high diff pressure	V5825B1001
V5872B1011	2- way control valve PN16 external threaded high diff pressure	V5825B1019
V5872B1029	2- way control valve PN16 external threaded high diff pressure	V5825B1027
V5872B1037	2- way control valve PN16 external threaded high diff pressure	V5825B1035
V5872B1045	2- way control valve PN16 external threaded high diff pressure	V5825B1043
V5872B1052	2- way control valve PN16 external threaded high diff pressure	V5825B1050
V5872B1060	2- way control valve PN16 external threaded high diff pressure	V5825B1068
V5872B1078	2- way control valve PN16 external threaded high diff pressure	V5825B1076
V5872B1086	2- way control valve PN16 external threaded high diff pressure	V5825B1084



OLD TYPES Phase over list, Large Actuators

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Old catalogs data:

<http://ecc.emea.honeywell.com/sphider/search.php>

OLD TYPES A..Z	Product description	Type
M234A1016	Actuator 3-pt, rotary	ML6420A3015
M634A1009	Actuator 3-pt, rotary	ML6420A3007
M634B1032	Actuator 3-pt, rotary	ML6420A3015
M644A1065	Actuator 3-pt, rotary	ML6420A3072
M644A1073	Actuator 3-pt, rotary	ML6420A3072
M644G1010	Actuator 3-pt, rotary	ML6420A3007
M644G1028	Actuator 3-pt, rotary	ML6420A3007
M644G1036	Actuator 3-pt, rotary	ML6420A3023
M644G1044	Actuator 3-pt, rotary	ML6420A3023
M645B1004	Actuator 3-pt, rotary Spring return	ML6425A3006
M645C1003	Actuator 3-pt, rotary Spring return	ML6425A3006
M6420A1001-7	Actuator 3-pt, 20 mm	ML6420A3007
M6420A1027-7	Actuator 3-pt, 20 mm	ML6420A3007
M6420A1035-7	Actuator 3-pt, 20 mm	ML6420A3023
M6420A1043-7	Actuator 3-pt, 20 mm (new Type needs 43191680-005)	ML6420A3007
M6420A1050-7	Actuator 3-pt, 20 mm	ML6420A3015
M6421A1000-7	Actuator 114s, 24 V, 20mm, float	ML6421A3005
M6421A1026-7	Actuator 114s, 230 V, 20mm, float	ML6421A3013
M6421B1008-7	Actuator 210s, 24 V, 38mm, float	ML6421B3004
M6421B1024-7	Actuator 210s, 230 V, 38mm, float	ML6421B3012
M6425A1006-7	Actuator 3-pt, 20 mm Spring return	ML6425A3006
M6425A1030-7	Actuator 3-pt, 230 V 20 mm Spring return	ML6425A3014

Phase over lists

OLD TYPES A..Z	Product description	Type
M6425B1004-7	Actuator 3-pt, 20 mm Spring return	ML6425B3005
M6421A1000	Actuator 114s, 24 V, 20mm, float	ML6421A3005
M6421A1026	Actuator 114s, 230 V, 20mm, float	ML6421A3013
M6421B1008	Actuator 210s, 24 V, 38mm, float	ML6421B3004
M6421B1024	Actuator 210s, 230 V, 38mm, float	ML6421B3012
M744E1002	Actuator 60s, 24 V, rotary, 0/2...10 V for air damper	N20010
M744E1002	Actuator 60s, 24 V, rotary, 0/2...10 V for valve	ML7420A6009
M7420A1009-7	Actuator 60s, 24 V, 20mm, 0/2...10 V	ML7420A6009
M7420A1025-7	Actuator 60s, 24 V, 20mm, 0/2...10 V (new Type needs 43191680-205)	ML7420A6009
M7420A1017-7	Actuator 30s, 24 V, 20mm, 0/2...10V	ML7420A6017
M7421A1008-7	Actuator 114s, 24 V, 20mm, 0/2...10 V	ML7421A3004
M7421A1016	Actuator 114s, 24 V, 20mm, 0/2...10 V rev	ML7421A3004
M7421B1006-7	Actuator 210s, 24 V, 38mm, 0/2...10 V	ML7421B3003
M7421B1014	Actuator 210s, 24 V, 38mm, 0/2...10 V rev	ML7421B3003
M7425A1004-7	Actuator 108s; SR-ext., 24 V, 20mm, 0/2...10V	ML7425A6008
M7425B1002-7	Actuator 108s; SR-ret. 24 V, 20mm, 0/2...10V	ML7425B6007
ML7420A3006	Actuator 60s, 24 V, 20mm, 0/2...10 V	ML7420A6009
ML7420A3014	Actuator 30s, 24 V, 20mm, 0/2...10V	ML7420A6017
ML7420A3048	Actuator 30s, 24 V, 20mm, 0/2...10V	ML7420A6017
ML7420A3071	Actuator 60s, 24 V, 20mm, 0/2...10V	ML7420A6025
ML7425A3005	Actuator 108s; SR-ext., 24 V, 20mm, 0/2...10V	ML7425A6008
ML7425B3004	Actuator 108s; SR-ret. 24 V, 20mm, 0/2...10V	ML7425B6007



OLD TYPES Phase over list, Large Linear Valves

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Old catalogs data:

<http://ecc.emea.honeywell.com/sphider/search.php>

OLD TYPES A..Z	Product description	Type
V176A5051	2-way control valve PN16 flanged	V5016A1010
V176A5053	2-way control valve PN16 flanged	V5016A1036
V176A5055	2-way control valve PN16 flanged	V5016A1051
V176B5102	2-way control valve PN16 flanged	V5016A1069
V176B5104	2-way control valve PN16 flanged	V5016A1077
V176B5156	2-way control valve PN16 flanged	V5016A1077
V176B5158	2-way control valve PN16 flanged	V5016A1085
V176B5257	2-way control valve PN16 flanged	V5016A1093
V176B5259	2-way control valve PN16 flanged	V5016A1093
V176B5300	2-way control valve PN16 flanged	V5016A1101
V176B5302	2-way control valve PN16 flanged	V5016A1119
V176B5353	2-way control valve PN16 flanged	V5016A1127
V176B5405	2-way control valve PN16 flanged	V5016A1135
V176B5457	2-way control valve PN16 flanged	V5016A1143
V5011A8002	2-way control valve PN16 threaded	V5011R1018
V5011A8010	2-way control valve PN16 threaded	V5011R1026
V5011A8028	2-way control valve PN16 threaded	V5011R1034
V5011A8036	2-way control valve PN16 threaded	V5011R1042
V5011A8044	2-way control valve PN16 threaded	V5011R1059
V5011A8051	2-way control valve PN16 threaded	V5011R1067
V5011A8069	2-way control valve PN16 threaded	V5011R1075

Phase over lists

OLD TYPES A..Z	Product description	Type
V5011A8077	2-way control valve PN16 threaded	V5011R1083
V5011A8093	2-way control valve PN16 threaded	V5011R1091
V5011A8143	2-way control valve PN16 threaded	V5011R1000
V5011A8150	2-way control valve PN16 threaded	V5011R1018
V5011A8168	2-way control valve PN16 threaded	V5011R1026
V5011A8176	2-way control valve PN16 threaded	V5011R1034
V5011A8184	2-way control valve PN16 threaded	V5011R1042
V5011A8192	2-way control valve PN16 threaded	V5011R1059
V5011A8200	2-way control valve PN16 threaded	V5011R1067
V5011A8218	2-way control valve PN16 threaded	V5011R1075
V5011A8226	2-way control valve PN16 threaded	V5011R1083
V5011A8234	2-way control valve PN16 threaded	V5011R1091
V5013A1245	3-way control valve PN16 threaded	V5013R1032
V5013A1252	3-way control valve PN16 threaded	V5013R1040
V5013A1260	3-way control valve PN16 threaded	V5013R1057
V5013A1278	3-way control valve PN16 threaded	V5013R1065
V5013A1286	3-way control valve PN16 threaded	V5013R1073
V5013A1294	3-way control valve PN16 threaded	V5013R1081
V5013A1302	3-way control valve PN16 threaded	V5013R1099
V5013A1310	3-way control valve PN16 threaded	V5013R1040
V5013A1328	3-way control valve PN16 threaded	V5013R1057
V5013A1336	3-way control valve PN16 threaded	V5013R1065
V5013A1344	3-way control valve PN16 threaded	V5013R1073
V5013A1351	3-way control valve PN16 threaded	V5013R1081
V5013A1369	3-way control valve PN16 threaded	V5013R1099
V5013A2003	3-way control valve PN16 threaded	V5013R1032
V5013A2011	3-way control valve PN16 threaded	V5013R1040
V5013A2029	3-way control valve PN16 threaded	V5013R1057
V5013A2037	3-way control valve PN16 threaded	V5013R1065
V5013A2045	3-way control valve PN16 threaded	V5013R1073
V5013A2052	3-way control valve PN16 threaded	V5013R1081
V5013A2060	3-way control valve PN16 threaded	V5013R1099
V5013A8000	3-way control valve PN16 threaded	V5013R1032
V5013A8018	3-way control valve PN16 threaded	V5013R1040
V5013A8026	3-way control valve PN16 threaded	V5013R1057
V5013A8034	3-way control valve PN16 threaded	V5013R1065
V5013A8042	3-way control valve PN16 threaded	V5013R1073
V5013A8059	3-way control valve PN16 threaded	V5013R1081
V5013A8067	3-way control valve PN16 threaded	V5013R1099
V5015A1094	3-way control valve PN6 flanged	V5329C1034
V5015A1102	3-way control valve PN6 flanged	V5329C1042
V5015A1110	3-way control valve PN6 flanged	V5329C1059
V5015A1128	3-way control valve PN6 flanged	V5329C1067
V5015A1136	3-way control valve PN6 flanged	V5329C1075
V5015A1144	3-way control valve PN6 flanged	V5329C1083
V5015A1185	3-way control valve PN6 flanged	V5329C1034
V5015A1193	3-way control valve PN6 flanged	V5329C1042
V5015A1201	3-way control valve PN6 flanged	V5329C1059
V5015A1219	3-way control valve PN6 flanged	V5329C1067
V5015A1227	3-way control valve PN6 flanged	V5329C1075
V5015A1235	3-way control valve PN6 flanged	V5329C1083
V5015A1243	3-way control valve PN6 flanged	V5015A1151
V5015A1250	3-way control valve PN6 flanged	V5015A1169

Phase over lists

OLD TYPES A..Z	Product description	Type
V5015A1268	3-way control valve PN6 flanged	V5015A1177
V5025B1017	2-way control valve PN25 flanged	V5025A1019
V5025B1025	2-way control valve PN25 flanged	V5025A1027
V5025B1033	2-way control valve PN25 flanged	V5025A1035
V5025B1041	2-way control valve PN25 flanged	V5025A1043
V5025B1058	2-way control valve PN25 flanged	V5025A1050
V5025B1066	2-way control valve PN25 flanged	V5025A1068
V5025B1074	2-way control valve PN25 flanged	V5025A1076
V5025B1082	2-way control valve PN25 flanged	V5025A1084
V5025B1090	2-way control valve PN25 flanged	V5025A1092
V5025B1108	2-way control valve PN25 flanged	V5025A1100
V5025B1116	2-way control valve PN25 flanged	V5025A1118
V5025B1124	2-way control valve PN25 flanged	V5025A1126
V5025B1132	2-way control valve PN25 flanged	V5025A1134
V5025B1140	2-way control valve PN25 flanged	V5025A1142
V5025B1157	2-way control valve PN25 flanged	V5025A1159
V5025B1165	2-way control valve PN25 flanged	V5025A1167
V5049A1201	2-way control valve PN16 flanged	V5328A1195
V5049A1219	2-way control valve PN16 flanged	V5328A1203
V5049A1227	2-way control valve PN16 flanged	V5328A1211
V5050A1009	3-way control valve PN16 flanged	V5329A1004
V5050A1017	3-way control valve PN16 flanged	V5329A1012
V5050A1025	3-way control valve PN16 flanged	V5329A1020
V5050A1033	3-way control valve PN16 flanged	V5329A1038
V5050A1041	3-way control valve PN16 flanged	V5329A1046
V5050A1058	3-way control valve PN16 flanged	V5329A1053
V5050A1066	3-way control valve PN16 flanged	V5329A1061
V5050A1074	3-way control valve PN16 flanged	V5329A1079
V5050A1082	3-way control valve PN16 flanged	V5329A1087
V5050A1363	3-way control valve PN25/40 flanged	V5050A1124
V5050A1371	3-way control valve PN25/40 flanged	V5050A1132
V5050A1389	3-way control valve PN25/40 flanged	V5050A1140
V5050A1397	3-way control valve PN25/40 flanged	V5050A1157
V5050A1405	3-way control valve PN25/40 flanged	V5050A1165
V5050A1413	3-way control valve PN25/40 flanged	V5050A1173
V5050A1421	3-way control valve PN25/40 flanged	V5050A1181
V5050A1439	3-way control valve PN25/40 flanged	V5050A1199
V5050A1447	3-way control valve PN25/40 flanged	V5050A1207
V5050A1454	3-way control valve PN25/40 flanged	V5050A1215
V5095A1016	2-way control valve PN16 high diff pressure	V5016A1010
V5095A1024	2-way control valve PN16 high diff pressure	V5016A1028
V5095A1032	2-way control valve PN16 high diff pressure	V5016A1036
V5095A1040	2-way control valve PN16 high diff pressure	V5016A1044
V5095A1057	2-way control valve PN16 high diff pressure	V5016A1051
V5095A1065	2-way control valve PN16 high diff pressure	V5016A1069
V5095A1073	2-way control valve PN16 high diff pressure	V5016A1077
V5095A1081	2-way control valve PN16 high diff pressure	V5016A1085
V5095A1099	2-way control valve PN16 high diff pressure	V5016A1093
V5095A1107	2-way control valve PN16 high diff pressure	V5016A1101
V5095A1115	2-way control valve PN16 high diff pressure	V5016A1119
V5095A1123	2-way control valve PN16 high diff pressure	V5016A1119
V5095A1131	2-way control valve PN16 high diff pressure	V5016A1127

Phase over lists



OLD TYPES Phase over list, Frequency Inverters

The OLD TYPE products are not deliverable anymore. They can be replaced with the products shown in the last column. Take care about small differences! It is the responsibility of the user to ensure that the right product is chosen.

Old catalogs data: <http://ecc.emea.honeywell.com/sphider/search.php>

HVAC Frequency Inverters 400V IP21

OLD TYPES A..Z	Product description	Type
HVAC400-1P1-21	Inverter 1.1kW/3.4A; new type with advanced HMI	HVAC400-1P1-21A
HVAC400-1P5-21	Inverter 1.5kW/4.8A; new type with advanced HMI	HVAC400-1P5-21A
HVAC400-2P2-21	Inverter 2.2kW/5.6A; new type with advanced HMI	HVAC400-2P2-21A
HVAC400-3P0-21	Inverter 3kW/8A; new type with advanced HMI	HVAC400-3P0-21A
HVAC400-4P0-21	Inverter 4kW/9.6A; new type with advanced HMI	HVAC400-4P0-21A
HVAC400-5P5-21	Inverter 5.5kW/12A; new type with advanced HMI	HVAC400-5P5-21A
HVAC400-7P5-21	Inverter 7.5kW/16A; new type with advanced HMI	HVAC400-7P5-21A
HVAC400-11P-21	Inverter 11kW/23A; new type with advanced HMI	HVAC400-11P-21A
HVAC400-15P-21	Inverter 15kW/31A; new type with advanced HMI	HVAC400-15P-21A
HVAC400-18P-21	Inverter 18.5kW/38A; new type with advanced HMI	HVAC400-18P-21A
HVAC400-22P-21	Inverter 22kW/46A; new type with advanced HMI	HVAC400-22P-21A
HVAC400-30P-21	Inverter 30kW/61A; new type with advanced HMI	HVAC400-30P-21A
HVAC400-37P-21	Inverter 37kW/72A; new type with advanced HMI	HVAC400-37P-21A
HVAC400-45P-21	Inverter 45kW/87A; new type with advanced HMI	HVAC400-45P-21A
HVAC400-55P-21	Inverter 55kW/105A; new type with advanced HMI	HVAC400-55P-21A
HVAC400-75P-21	Inverter 75kW/140A; new type with advanced HMI	HVAC400-75P-21A
HVAC400-90P-21	Inverter 90kW/168A; new type with advanced HMI	HVAC400-90P-21A
HVAC400-110-21	Inverter 110kW/205A; new type with advanced HMI	HVAC400-110-21A
HVAC400-132-21	Inverter 132kW/261A; new type with advanced HMI	HVAC400-132-21A
HVAC400-160-21	Inverter 160kW/310A; new type with advanced HMI	HVAC400-160-21A

HVAC Frequency Inverters 400V IP54

OLD TYPES A..Z	Product description	Type
HVAC400-1P1-54	Inverter 1.1kW/3.4A; new type with advanced HMI	HVAC400-1P1-54A
HVAC400-1P5-54	Inverter 1.5kW/4.8A; new type with advanced HMI	HVAC400-1P5-54A
HVAC400-2P2-54	Inverter 2.2kW/5.6A; new type with advanced HMI	HVAC400-2P2-54A
HVAC400-3P0-54	Inverter 3kW/8A; new type with advanced HMI	HVAC400-3P0-54A
HVAC400-4P0-54	Inverter 4kW/9.6A; new type with advanced HMI	HVAC400-4P0-54A
HVAC400-5P5-54	Inverter 5.5kW/12A; new type with advanced HMI	HVAC400-5P5-54A
HVAC400-7P5-54	Inverter 7.5kW/16A; new type with advanced HMI	HVAC400-7P5-54A
HVAC400-11P-54	Inverter 11kW/23A; new type with advanced HMI	HVAC400-11P-54A
HVAC400-15P-54	Inverter 15kW/31A; new type with advanced HMI	HVAC400-15P-54A
HVAC400-18P-54	Inverter 18.5kW/38A; new type with advanced HMI	HVAC400-18P-54A
HVAC400-22P-54	Inverter 22kW/46A; new type with advanced HMI	HVAC400-22P-54A
HVAC400-30P-54	Inverter 30kW/61A; new type with advanced HMI	HVAC400-30P-54A
HVAC400-37P-54	Inverter 37kW/72A; new type with advanced HMI	HVAC400-37P-54A
HVAC400-45P-54	Inverter 45kW/87A; new type with advanced HMI	HVAC400-45P-54A
HVAC400-55P-54	Inverter 55kW/105A; new type with advanced HMI	HVAC400-55P-54A
HVAC400-75P-54	Inverter 75kW/140A; new type with advanced HMI	HVAC400-75P-54A
HVAC400-90P-54	Inverter 90kW/168A; new type with advanced HMI	HVAC400-90P-54A
HVAC400-110-54	Inverter 110kW/205A; new type with advanced HMI	HVAC400-110-54A
HVAC400-132-54	Inverter 132kW/261A; new type with advanced HMI	HVAC400-132-54A
HVAC400-160-54	Inverter 160kW/310A; new type with advanced HMI	HVAC400-160-54A

HVAC Frequency Inverters Accessories

OLD TYPES A..Z	Product description	Type
HVAC-HMI-S	Advanced comm.	HVAC-HMI-A

Phase over lists



OLD TYPES Phase over list, Rotary Valves

The OLD TYPE products are not deliverable anymore. They can be replaced with the products shown in the last column. Take care about small differences! It is the responsibility of the user to ensure that the right product is chosen.

Old catalogs data:

<http://ecc.emea.honeywell.com/sphider/search.php>

OLD TYPES A..Z	Product description	Type
DRK15	3-way universal rotary valve	DRU25-4.0
DRK20	3-way universal rotary valve	DRU25-6.3
DRK25	3-way universal rotary valve	DRU25-10
DRK32	3-way universal rotary valve	DRU32-16
DRK40	3-way universal rotary valve	DRU32-25
V5431A1025	3-way rotary valve DN15 internal thread	DR15GMLA
V5431A1033	3-way rotary valve DN20 internal thread	DR20GMLA
V5431A1041	3-way rotary valve DN25 internal thread	DR25GMLA
V5431A1058	3-way rotary valve DN32 internal thread	DR32GMLA
V5431A1066	3-way rotary valve DN40 internal thread	DR40GMLA
V5431F1032	3-way rotary valve DN20 flange	DR20GFLA
V5431F1040	3-way rotary valve DN25 flange	DR25GFLA
V5431F1057	3-way rotary valve DN32 flange	DR32GFLA
V5431F1065	3-way rotary valve DN40 flange	DR40GFLA
V5431F1073	3-way rotary valve DN50 flange	DR50GFLA
V5431F1081	3-way rotary valve DN65 flange	DR65GFLA
V5431F1099	3-way rotary valve DN80 flange	DR80GFLA
V5431F1107	3-way rotary valve DN100 flange	DR100GFLA
V5431F1115	3-way rotary valve DN125 flange	DR125GFLA
V5431F1123	3-way rotary valve DN150 flange	DR150GFLA
V5434T1010	3-way universal rotary valve	DRU25-2.5
V5434T1028	3-way universal rotary valve	DRU25-4.0
V5434T1036	3-way universal rotary valve	DRU25-6.3
V5434T1044	3-way universal rotary valve	DRU25-10
V5434T1051	3-way universal rotary valve	DRU25-16
V5434T1069	3-way universal rotary valve	DRU32-10
V5434T1077	3-way universal rotary valve	DRU32-16
V5434T1085	3-way universal rotary valve	DRU32-25
V5441A1023	4-way rotary valve DN15 internal thread	ZR15MA
V5441A1031	4-way rotary valve DN20 internal thread	ZR20MA
V5441A1049	4-way rotary valve DN25 internal thread	ZR25MA
V5441A1056	4-way rotary valve DN32 internal thread	ZR32MA
V5441A1064	4-way rotary valve DN40 internal thread	ZR40MA
V5441F1048	4-way rotary valve DN25 flange	ZR25FA
V5441F1055	4-way rotary valve DN32 flange	ZR32FA
V5441F1063	4-way rotary valve DN40 flange	ZR40FA
V5441F1071	4-way rotary valve DN50 flange	ZR50FA
V5441F1089	4-way rotary valve DN65 flange	ZR65FA
V5441F1097	4-way rotary valve DN80 flange	ZR80FA
V5441F1105	4-way rotary valve DN100 flange	ZR100FA
V5441F1113	4-way rotary valve DN125 flange	ZR125FA
V5441F1121	4-way rotary valve DN150 flange	ZR150FA
V5441F1139	4-way rotary valve DN200 flange	ZR200FA

Phase over lists



OLD TYPES Phase over list, Damper Actuators

The OLD TYPE products are not deliverable anymore. They can be replaced with the products shown in the last column. Take care about small differences! It is the responsibility of the user to ensure that the right product is chosen.

Old catalogs data:

<http://ecc.emea.honeywell.com/sphider/search.php>

OLD TYPES A..Z	Product description	Type
BEL-AM230	Damper Actuator 230Vac, 18Nm, 2-pos	N20230
BEL-AM230-2H	Damper Actuator 230Vac, 18Nm, 2-pos	N20230
BEL-AM230-S	Damper Actuator 230Vac, 18Nm, 2-pos, switches	N20230-SW2
BEL-AM230-2-SH	Damper Actuator 230Vac, 18Nm, 2-pos, switches	N20230-SW2
BEL-AM24	Damper Actuator 24Vac, 18Nm, 2-pos	N2024
BEL-AM24H	Damper Actuator 24Vac, 18Nm, 2-pos	N2024
BEL-AM24-S	Damper Actuator 24Vac, 18Nm, 2-pos, switches	N2024-SW2
BEL-AM24-SH	Damper Actuator 24Vac, 18Nm, 2-pos, switches	N2024-SW2
BEL-GM220H	Damper Actuator 230Vac, 30Nm, 2-pos	N34230
BEL-GM24H	Damper Actuator 24Vac, 30Nm, 2-pos	N3424
BEL-LM230-SH	Damper Actuator 230Vac, 4Nm, 2-pos, switches (new Type needs SSW2)	N05230-2POS
BEL-LM230H	Damper Actuator 230Vac, 4Nm, 2-pos	N05230-2POS
BEL-LM24-SH	Damper Actuator 24Vac, 4Nm, 2-pos, switches	N0524-SW2
BEL-LM24H	Damper Actuator 24Vac, 4Nm, 2-pos	N0524
BEL-NM230H	Damper Actuator 230Vac, 8Nm, 2-pos	N10230-2POS
BEL-NM24H	Damper Actuator 24Vac, 8Nm, 2-pos	N1024
M6530A1008	Damper Actuator 24Vac, 7,5Nm, 3-pos	N1024
M6531A1007	Damper Actuator 24Vac, 15Nm, 3-pos	N2024
M6531B1005	Damper Actuator 230Vac, 15Nm, 3-pos	N20230
M6535A1003	Spring Return Damper Actuator 24Vac, 12Nm, 2-pos	S1024-2POS
M7531A1005	Damper Actuator 24Vac, 15Nm, 0...10V	N20010
M7535A1001-7	Spring Return Damper Actuator 24Vac, 12Nm, 3-pos	S10010
ML4115C1007/U	Fire and Smoke Damper Actuator	MS4604F1010/U
ML4115D1006/U	Fire and Smoke Damper Actuator	MS4604F1010/U
ML6161E2005	Damper Actuator 24Vac, 4Nm, 3-pos	N0524
ML6161E3011	Damper Actuator 24Vac, 5Nm, 3-pos	N0524
ML6161E3029	Damper Actuator 24Vac, 5Nm, 3-pos, switches	N0524-SW2
ML6174E2008	Damper Actuator 24Vac, 8Nm, 3-pos	N1024
ML6174E3014	Damper Actuator 24Vac, 10Nm, 3-pos	N1024
ML6174E3022	Damper Actuator 24Vac, 10Nm, 3-pos, switches	N1024-SW2
ML6184E1009	Damper Actuator 24Vac, 17Nm, 3-pos	N2024
ML6184E1017	Damper Actuator 24Vac, 17Nm, 3-pos, switches	N2024-SW2
ML6185E1006	Spring Return Damper Actuator 24Vac, 6Nm, 3-pos	S10010
ML6185E1014	Spring Return Damper Actuator 24Vac, 6Nm, 3-pos, switches	S10010-SW2
ML6194E1008	Damper Actuator 24Vac, 34Nm, 3-pos	N3424
ML6661E3010	Damper Actuator 230Vac, 5Nm, 3-pos	N05230-2POS
ML6661E3028	Damper Actuator 230Vac, 5Nm, 3-pos, switches (new Type needs SSW2)	N05230-2POS
ML6674E3013	Damper Actuator 230Vac, 10Nm, 3-pos	N10230-2POS
ML6674E3021	Damper Actuator 230Vac, 10Nm, 3-pos, switches (new Type needs SSW2)	N10230-2POS
ML6684E1008	Damper Actuator 230Vac, 17Nm, 3-pos	N20230
ML6684E1016	Damper Actuator 230Vac, 17Nm, 3-pos, switches	N20230-SW2
ML6694E1007	Damper Actuator 230Vac, 34Nm, 3-pos, switches (new Type needs SSW2)	N34230
ML7161E2004	Damper Actuator 24Vac, 4Nm, 0...10V	N05010
ML7161E3010	Damper Actuator 24Vac, 5Nm, 0...10V	N05010
ML7161E3028	Damper Actuator 24Vac, 5Nm, 0...10V, switches	N05010-SW2

Phase over lists

OLD TYPES A..Z	Product description	Type
ML7174E2004	Damper Actuator 24Vac, 4Nm, 0...10V	N05010
ML7174E2007	Damper Actuator 24Vac, 8Nm, 0...10V	N10010
ML7174E3013	Damper Actuator 24Vac, 10Nm, 0...10V	N10010
ML7174E3021	Damper Actuator 24Vac, 10Nm, 0...10V, switches	N10010-SW2
ML7284E1006	Damper Actuator 24Vac, 17Nm, 0...10V	N20010
ML7285E1003	Spring Return Damper Actuator 24Vac, 6Nm, 0...10V	S10010
ML7294E1005	Damper Actuator 24Vac, 34Nm, 0...10V	N34010
ML7295E1007	Spring Return Damper Actuator 24Vac, 16Nm, 0...10V	S20010
ML7295E1015	Spring Return Damper Actuator 24Vac, 16Nm, 0...10V, switches	S20010-SW2
ML8115A1005/U	Fire and Smoke Damper Actuator	MS8104F1010/U
ML8115B1004/U	Fire and Smoke Damper Actuator	MS8104F1010/U
ML8195E1003	Spring Return Damper Actuator 24Vac, 16Nm, 2-pos	S2024-2POS
ML8195E1011	Spring Return Damper Actuator 24Vac, 16Nm, 2-pos, switches	S2024-2POS-SW2
MS4709F1014/U	Fire and Smoke Damper Actuator	MS4609F1010/U
MS4809F1012/U	Fire and Smoke Damper Actuator	MS4609F1010/U
MS8209F1003/U	Fire and Smoke Damper Actuator	MS8109F1010/U
MS8309F1001/U	Fire and Smoke Damper Actuator	MS8109F1010/U
N20230-2POS	Damper Actuator 230Vac, 20Nm, 2-pos	N20230
N2024-2POS	Damper Actuator 24Vac, 20Nm, 2-pos	N2024
N20010A	Damper Actuator 24Vac, 20Nm, 0...10V	N20010
N20010A-SW2	Damper Actuator 24Vac, 20Nm, 0...10V, switches	N20010-SW2
N20230A	Damper Actuator 230Vac, 20Nm, 3-pos	N20230
N20230A-SW2	Damper Actuator 230Vac, 20Nm, 3-pos, switches	N20230-SW2
N2024A	Damper Actuator 24Vac, 20Nm, 3-pos	N2024
N2024A-SW2	Damper Actuator 24Vac, 20Nm, 3-pos, switches	N2024-SW2
N34010A	Damper Actuator 24Vac, 34Nm, 0...10V	N34010
N34230A	Damper Actuator 230Vac, 34Nm, 3-pos	N34230
N3424A	Damper Actuator 24Vac, 34Nm, 3-pos	N3424



OLD TYPES Phase over list, Pneumatics

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Old catalogs data:

<http://ecc.emea.honeywell.com/sphider/search.php>

OLD TYPES A..Z	Product description	Type
LP914A1037	Pneumatic temperature sensor	LP914A1003/U
LP914A1045	Pneumatic temperature sensor	LP914A1045/U
LP914A1052	Pneumatic temperature sensor	LP914A1052/U
LP914A1060	Pneumatic temperature sensor	LP914A1045/U
LP914A1151/U	Pneumatic temperature sensor	LP914A1003/U
LP914A1177/U	Pneumatic temperature sensor	LP914A1029/U
LP914A1193/U	Pneumatic temperature sensor	LP914A1045/U
LP914A1201/U	Pneumatic temperature sensor	LP914A1052/U
LP914A1235/U	Pneumatic temperature sensor	LP914A1144/U
PP902	Pressure reducing valve	PP907A1008
RP403D2023	Electric-pneumatic relay	RP416A2008
RP416A1000	Electric-pneumatic relay	RP416A2008
RP7507A1000	Electric-pneumatic signal conversion module	RP7517A1009
RP908A1070	Pneumatic Sensor Controller System	RP920A1017
RP908A1088	Pneumatic Sensor Controller System	RP920A1009

Phase over lists

OLD TYPES A..Z	Product description	Type
RP908B1045	Pneumatic Sensor Controller System	RP920B1007
RP908B1052	Pneumatic Sensor Controller System	RP920B1007
RP908B1128	Pneumatic Sensor Controller System	RP920C1005
RP908B1136	Pneumatic Sensor Controller System	RP920C1005
RP914A1007	Pneumatic Sensor Controller System	RP920A1017
RP914A1023	Pneumatic Sensor Controller System	RP920A1017
RP914A1049	Pneumatic Sensor Controller System	RP920A1009
RP914B1047	Pneumatic Sensor Controller System	RP920B1007
RP914B1062	Pneumatic Sensor Controller System	RP920B1007
RP914B1088	Pneumatic Sensor Controller System	RP920B1007
RP914B1096	Pneumatic Sensor Controller System	RP920B1007
RP914C1003	Pneumatic Sensor Controller System	RP920C1005
RP914C1029	Pneumatic Sensor Controller System	RP920C1005
RP914C1045	Pneumatic Sensor Controller System	RP920C1005
RP914C1052	Pneumatic Sensor Controller System	RP920C1005
TP910A1429	Pneumatic room temperature controller	TP970A2020/U
TP913B1036	Pneumatic room temperature controller	TP970A2020/U
TP925A1000	Pneumatic room temperature sensor (new Type needs 14002362-001)	TP974A2000/U
TP931A1002	Pneumatic room temperature controller (new Type needs 43176366-003)	TP937A1006
TP931A1010	Pneumatic room temperature controller (new Type needs 43176366-003)	TP937A1006
TP931B1000	Pneumatic room temperature controller (new Type needs 43176366-003)	TP937A1006
TP931B1034	Pneumatic room temperature controller (new Type needs 43176366-003)	TP937A1006
TP931C1008	Pneumatic room temperature controller	TP937A1006
TP931C1016	Pneumatic room temperature controller	TP937A1006
TP931D1006	Pneumatic room temperature controller (new Type needs 43176366-003)	TP937B1004
TP931D1014	Pneumatic room temperature controller (new Type needs 43176366-003)	TP937B1004
TP931E1003	Pneumatic room temperature controller (new Type needs 43176366-003)	TP937B1004
TP931E1011	Pneumatic room temperature controller (new Type needs 43176366-003)	TP937B1004
TP931F1001	Pneumatic room temperature controller	TP937B1004
TP931F1019	Pneumatic room temperature controller	TP937B1004
TP934A1009	Pneumatic unit temperature controller (new Type needs 43176366-003)	TP939A1004
TP934A1017	Pneumatic unit temperature controller (new Type needs 43176366-003)	TP939A1004
TP934A1025	Pneumatic unit temperature controller (new Type needs 43176366-003)	TP939A1004
TP934A1033	Pneumatic unit temperature controller (new Type needs 43176366-003)	TP939A1004
TP934C1005	Pneumatic unit temperature controller (new Type needs 43176366-003)	TP939A1004
TP934C1013	Pneumatic unit temperature controller (new Type needs 43176366-003)	TP939A1004
TP974A1000	Pneumatic room temperature sensor	TP974A2000/U

Phase over lists



OLD TYPES Phase over list, Pneumatic Valves/Actuators

The OLD TYPE products are not deliverable anymore. They can be replaced with the products shown in the last column. Take care about small differences! It is the responsibility of the user to ensure that the right product is chosen.

Old catalogs data:

<http://ecc.emea.honeywell.com/sphider/search.php>

OLD TYPES A..Z	Product description	Type
MP903A1039	Pneumatic Damper Actuator	MP904C1026
MP904A5005	Pneumatic Damper Actuator	MP904A5047
MP904A5013	Pneumatic Damper Actuator	MP904A5047
MP904A5039	Pneumatic Damper Actuator	MP904A5047
MP904B5003	Pneumatic Damper Actuator	MP904D1057
MP909A1371	Pneumatic Damper Actuator Shaft connection	MP913B1068
MP909A1389	Pneumatic Damper Actuator Shaft connection	MP913B1068
MP909B1353	Pneumatic Damper Actuator Shaft connection	MP904D1057
MP913C1066	Pneumatic Damper Actuator Shaft connection	MP904D1057
MP953A1004	Pneumatic Valve Actuator	MP953A5005
MP953A1012	Pneumatic Valve Actuator	MP953A5005
MP953A1020	Pneumatic Valve Actuator	MP953A5039
MP953A1038	Pneumatic Valve Actuator	MP953A5039
MP953A1046	Pneumatic Valve Actuator	MP953A5005
MP953A1053	Pneumatic Valve Actuator	MP953A5039
MP953A1079	Pneumatic Valve Actuator	MP953A5005
MP953A1087	Pneumatic Valve Actuator	MP953A5005
MP953A1095	Pneumatic Valve Actuator	MP953A5005
MP953A1103	Pneumatic Valve Actuator	MP953A5005
MP953A1145	Pneumatic Valve Actuator	MP953A5039
MP953A1178	Pneumatic Valve Actuator	MP953A5039
MP953A5013	Pneumatic Valve Actuator	MP953A5005
MP953A5021	Pneumatic Valve Actuator	MP953A5005
MP953A5047	Pneumatic Valve Actuator	MP953A5039
MP953B1002	Pneumatic Valve Actuator	MP953B5003
MP953B1028	Pneumatic Valve Actuator	MP953B5003
MP953B1036	Pneumatic Valve Actuator	MP953B5003
MP953B1051	Pneumatic Valve Actuator	MP953B5003
MP953B5011	Pneumatic Valve Actuator	MP953B5003
MP953C1000	Pneumatic Valve Actuator	MP953C5001
MP953C1018	Pneumatic Valve Actuator	MP953C5019
MP953C1026	Pneumatic Valve Actuator	MP953C5027
MP953C1034	Pneumatic Valve Actuator	MP953C5001
MP953C1042	Pneumatic Valve Actuator	MP953C5019
MP953C1059	Pneumatic Valve Actuator	MP953C5027
MP953C1067	Pneumatic Valve Actuator	MP953C5068
MP953C1075	Pneumatic Valve Actuator	MP953C5076
MP953C1083	Pneumatic Valve Actuator	MP953C5084
MP953C1125	Pneumatic Valve Actuator	MP953C5142
MP953C1133	Pneumatic Valve Actuator	MP953C5159
MP953C1174	Pneumatic Valve Actuator	MP953C5001
MP953C1182	Pneumatic Valve Actuator	MP953C5019
MP953C1190	Pneumatic Valve Actuator	MP953C5027
MP953C1208	Pneumatic Valve Actuator	MP953C5001
MP953C1216	Pneumatic Valve Actuator	MP953C5019

Phase over lists

OLD TYPES A..Z	Product description	Type
MP953C1224	Pneumatic Valve Actuator	MP953C5027
MP953C1232	Pneumatic Valve Actuator	MP953C5068
MP953C1240	Pneumatic Valve Actuator	MP953C5076
MP953C1257	Pneumatic Valve Actuator	MP953C5084
MP953C1414	Pneumatic Valve Actuator	MP953C5084
MP953C1422	Pneumatic Valve Actuator	MP953C5076
MP953C5035	Pneumatic Valve Actuator	MP953C5001
MP953C5043	Pneumatic Valve Actuator	MP953C5019
MP953C5050	Pneumatic Valve Actuator	MP953C5027
MP953C5092	Pneumatic Valve Actuator	MP953C5027
MP953C5100	Pneumatic Valve Actuator	MP953C5027
MP953C5118	Pneumatic Valve Actuator	MP953C5068
MP953C5126	Pneumatic Valve Actuator	MP953C5084
MP953D1008	Pneumatic Valve Actuator	MP953D5009
MP953D1024	Pneumatic Valve Actuator	MP953D5009
MP953D1032	Pneumatic Valve Actuator	MP953D5009
MP953D1073	Pneumatic Valve Actuator	MP953D5025
MP953D1099	Pneumatic Valve Actuator	MP953D5025
MP953D1107	Pneumatic Valve Actuator	MP953D5009
MP953D1123	Pneumatic Valve Actuator	MP953D5009
MP953D1131	Pneumatic Valve Actuator	MP953D5025
MP953D1156	Pneumatic Valve Actuator	MP953D5025
MP953D1164	Pneumatic Valve Actuator	MP953D5009
MP953D5017	Pneumatic Valve Actuator	MP953D5009
MP953D5033	Pneumatic Valve Actuator	MP953D5025
VP532A5004	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1017)	V5833A1029
VP532A5012	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1017)	V5833A1037
VP532A5020	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1017)	V5833A1045
VP532A5038	Pneumatic 3-way control valve PN16 (new Type+ AC-20FT+MP958A1017)	V5833A1052
VP532A5046	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1017)	V5833A1003
VP532A5053	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1017)	V5833A1029
VP532A5061	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1017)	V5833A1037
VP532A5079	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1017)	V5833A1045
VP532A5087	Pneumatic 3-way control valve PN16 (new Type+ AC-20FT+MP958A1017)	V5833A1052
VP532A5095	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1025)	V5833A1029
VP532A5103	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1025)	V5833A1037
VP532A5111	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1025)	V5833A1045
VP532A5129	Pneumatic 3-way control valve PN16 (new Type+ AC-20FT+MP958A1025)	V5833A1052
VP532A5137	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1009)	V5833A1003
VP532A5145	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1009)	V5833A1029
VP532A5152	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1009)	V5833A1037
VP532A5160	Pneumatic 3-way control valve PN16 (new Type+ AC-15FT+MP958A1009)	V5833A1045
VP532A5178	Pneumatic 3-way control valve PN16 (new Type+ AC-20FT+MP958A1009)	V5833A1052

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Applications and Dimensioning

1. GENERAL

Control valves are these devices in an control loop which are, operated by a controller signal, steering the size of energy (using media water or steam).

You find this control devices in most heating, ventilating and air-conditioning systems. The right selection is very important for the controllability of the specified control loop and customer satisfaction.

The control device (valve and actuator) should be selected accordingly to the design requirements of the application and should result in a linear coherence between the output signal and the control variable.



2. DIMENSIONING AND APPLICATION POINT OF VIEW

If the system is to be prepared for connection to a district heating network, space reheaters (radiators, convectors and heating coils) should be connected with 2-way valves, according to system 1 or 2, and dimensioned for water temperatures of 80°C/40°C, at the prevailing outdoor temperature.

In case air reheaters are dimensioned for a return temperature of 50°C, the air heater group must always be connected to the boiler in a bypass configuration, with an automatically controlled 3-way valve. This will ensure a sufficiently high return temperature. If air heaters are to be connected to a district heating network, their temperature and pressure specifications must be suitable for such operation.

If there is no likelihood of later connection to a district heating network, the system should be dimensioned for 80°C/60°C operation, at the prevailing outdoor temperature.

The heaters should be connected with a 2-way valve, in a bypass configuration (system 2), which ensures calculation through the boiler, or with a 3-way valve (system 4). Select the configuration that gives the lowest system cost.

Air reheaters for outdoor air or a mixture of outdoor air and return air should always be fitted with circulation pumps, to prevent freezing. If such air heaters are installed, a freeze protection thermostat should be installed in the lowest water pipe, which, in case of freezing risk, automatically stops the supply air fan and closes outdoor air dampers.

2.1 Characteristic Parameters

K_V - Value

The K_V - value is showing the capacity of media flow of a valve. It characterises the volume flow in [m³/h] of water by measuring a differential pressure of 1 bar.

C_V - Value

In the USA, the C_V - Value is normally used and is related to the volume flow in [gal/min] by having a differential pressure over the valve of 1 [lb/sq in].

$$K_V = 0,86 \cdot C_V \quad / \quad C_V = 1,17 \cdot K_V$$

K_{VS} - Value

By using the K_{VS} - Value, the K_V - Value is related to a Stroke of $H = 100\%$.

K_{VR} - Value

The K_{VR} - Value describes the smallest K_V - Value, where the inclination tolerances of the valve characteristics are just fit.

Rangeability S_V

The rangeability S_V is characterizing the relation between K_{VS} - Value and K_{VR} - Value.

$$S_V = K_{VS} / K_{VR}$$

Calculation with K_V - Value (Medium Water)

$$K_V = V / (\sqrt{\Delta p_v})$$

$$\Delta p_v = (V/k_v)^2$$

$$V = k_v \times \sqrt{\Delta p_v}$$

V = Volume flow in [m³/h]

Δp_v = Differential pressure in [bar]

Applications and Dimensioning

Conversion for other media

$$k_V = V \times \sqrt{\frac{\rho}{\Delta p_v}} \quad \rho = \text{Density in [kg/dm}^3\text{]}$$

In applications where water/glycol mixtures are needed, this is mainly used for heating recovery systems in air/water applications a conversion is needed for the differences in density of the glycol/water mixture. This mixtures are used to reduce the temperature for freezing of the heat exchanger by the outside air.

Attached you find some values for the density of water/glycol mixtures:

a) Density of Propylenglycol/Watermixture

(Sample: Hoechst Antifrogen L)

Values given in ρ [kg/dm³]

TEMP.	VOL. % OF ANTIFROGEN L				
	16%	25%	38%	47%	100%
-20°C	-	-	1.0500	1.0618	1.0766
-10°C	-	1.0323	1.0472	1.0582	1.0710
0°C	1.0184	1.0302	1.0438	1.0538	1.0647
10°C	1.0168	1.0275	1.0400	1.0487	1.0576
20°C	1.0149	1.0241	1.0357	1.0431	1.0500
30°C	1.0111	1.0200	1.0305	1.0369	1.0421

b) Ethylenglycol/Watermixture

(Sample: Hoechst Antifrogen N)

Values given in ρ [kg/dm³]

TEMP.	VOL. % OF ANTIFROGEN N				
	20%	27%	39%	52%	100%
-20°C	-	-	1.0820	1.1045	1.1695
-10°C	1.0400	1.0570	1.0790	1.1010	1.1630
0°C	1.0385	1.0545	1.0755	1.0970	1.1560
10°C	1.0360	1.0510	1.0715	1.0920	1.1495
20°C	1.0330	1.0475	1.0670	1.0870	1.1425
30°C	1.0290	1.0430	1.0620	1.0815	1.1360

2.2 Mixing or diverting valves

As pointed out earlier, 3-way valves are used in order to minimize upsets in pressure and flow balances in the system. In every control circuit there is a mixing and a diverting point. In new constructions, the valve is installed in the mixing point. When renovating old installations, the diverting valve should be retained, if the circuit was so designed originally.

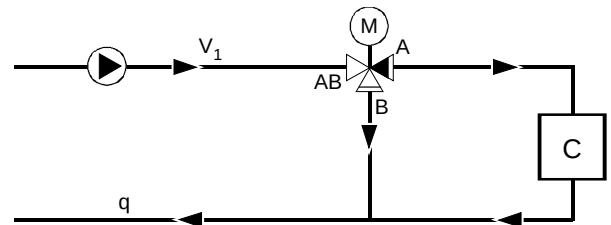


Fig. 1: 3-way valve as a diverting valve

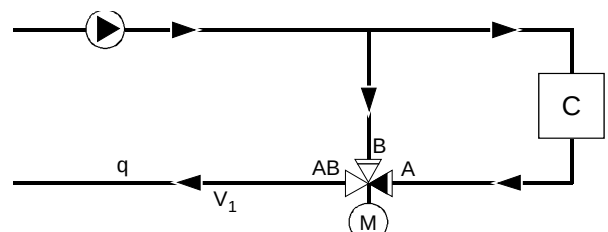


Fig. 2: 3-way valve as a mixing valve

2.2.1 Pressure drop across 3-way valves

The pump pressure and the pressure drop across the 3-way valve are often confused. 3-way valves always have some water path open, which means that the total pressure from the pump does not affect the mixing valve.

Which pressure drop affects the valve plug?

Ignore pressure drops in pipes and pipe bends. Close path B of valve V1. The flow from the diversion point C, through the balancing valve V3 is zero. There can be no pressure drop in this line. This means that the same pressure prevails in diversion point C and at plug B. The flow from point C passes through the load, L and valve port A.

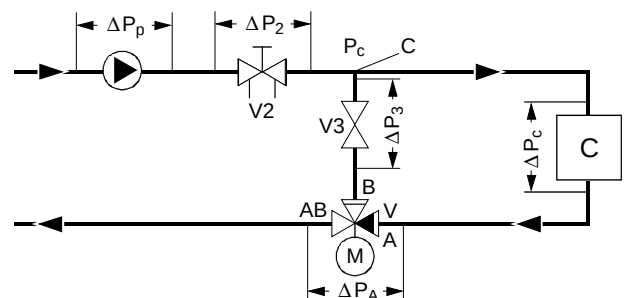


Fig. 3: Pressure drops in typical mixing valve circuit

The valve has been selected, so that its pressure drop will be Δp_A , for a given flow. For the same flow, the pressure drop across the load will be Δp_L .

Applications and Dimensioning

Pressure at plug A: $p_A = p_c - \Delta p_c - \Delta p_A$

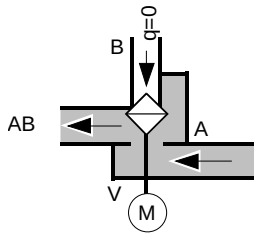


Fig. 4: 3-way valve with water path A open

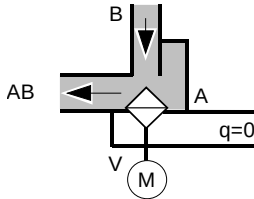


Fig. 5: 3-way valve with water path B open

2.2.2 Pressure drop across the valve plug

$$\Delta P_{plug} = p_B - p_A \rightarrow p_c - (p_c - \Delta p_c - \Delta p_A)$$

$$\Delta P_{plug} = \Delta p_c + \Delta p_A$$

The same reasoning applies, when plug A is closed. The above shows that the 3-way valve is only affected by the pressure drops in the circuit, where the flow is varied by the mixture valve.

The pressure drops that load a 3-way valve is equal to the total pressure drop in the open flow path, calculated from the point at which the flow is divided (C) to the common valve port (AB).

2.3 Valve authority

The valve authority should only be calculated for that part of the circuit, in which the flow is effected by the valve. Thus, the balancing valve V2 in Fig.3 does not effect the valve authority.

The 3-way valve effects the flow in the following parts of the pipe network (marked with thick lines in the figures):

a. Diverting three way valve

Port A: Pipes AC + pressure drop across G.
Port B: CB.

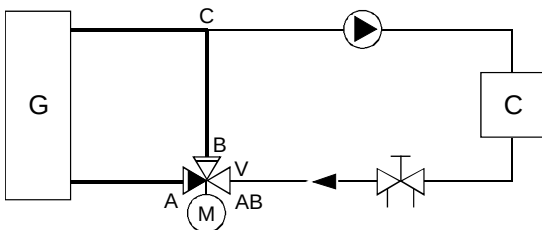


Fig. 6: Diverting three way valve

$$\beta = \frac{\Delta p_V}{\Delta p_V + \Delta p_G + \Delta p_{AC}}$$

b. Mixing three way valve

Port A: Pipes CA + pressure drop across G.
Port B: CB.

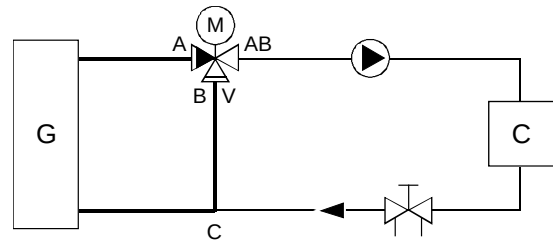


Fig. 7: Mixing three way valve

$$\beta = \frac{\Delta p_V}{\Delta p_V + \Delta p_G + \Delta p_{AC}}$$

c. Diverting three way valve

Port A: Pipes AD + CE
Port B: BC

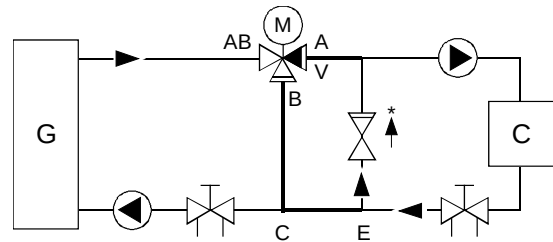


Fig. 8: Diverting three way valve

$$\beta = \frac{\Delta p_V}{\Delta p_V + \Delta p_{AD} + \Delta p_{CE}}$$

d. Mixing three way valve

Port A: Pipes AE + CD.
Port B: CB.

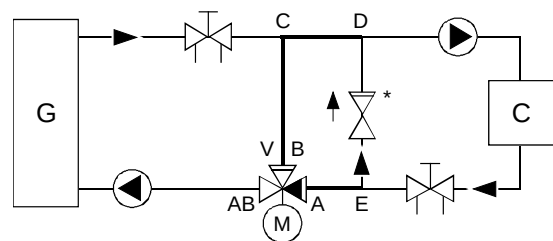


Fig. 9: Mixing three way valve

$$\beta = \frac{\Delta p_V}{\Delta p_V + \Delta p_{AE} + \Delta p_{CD}}$$

For the marked parts the pressure drops in Fig. 8 and Fig 9 are relatively small. The authority of 3-way valves is therefore often close to 1. But to maintain correct characteristic in control valve V, don't select it for a Δp below 3kPa.

Applications and Dimensioning

3. DIMENSIONING

System 1

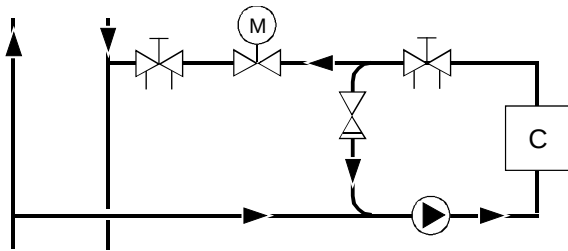


Fig. 10: Preheating coil which can be subject to freezing

System 2

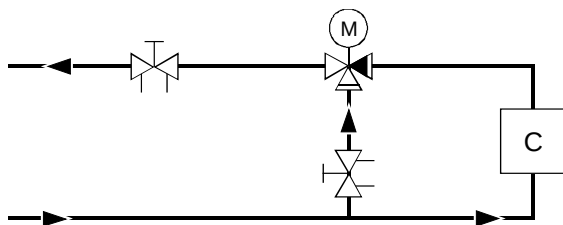


Fig. 11: Reheating system in cases not subject to freezing

System 3

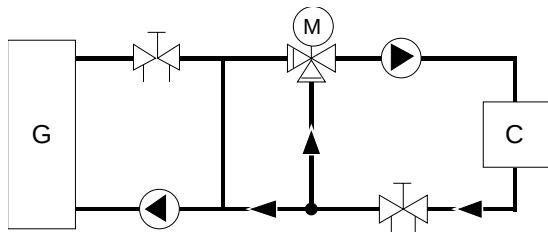


Fig. 12: Radiator circuit connected to boiler heating plant

System 4

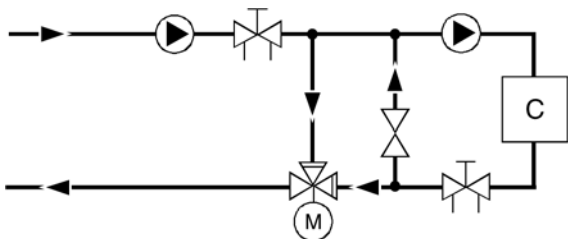


Fig. 13: System with constant primary and secondary flows

System 5

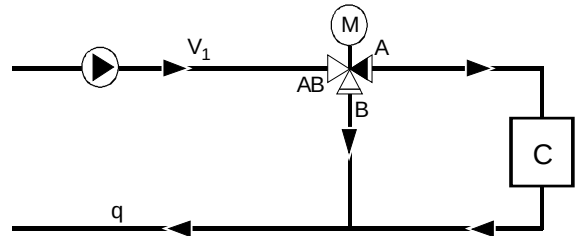


Fig. 14: System with constant primary and secondary flows

System 6

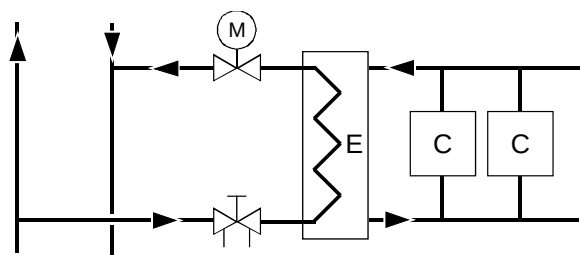


Fig. 15: Fig.15 Heating system connected to district heating network

System 7

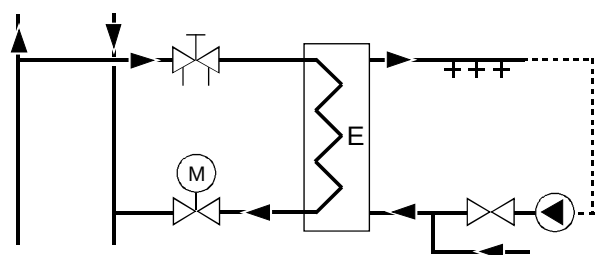


Fig. 16: Domestic hot water system connected to district heating network

Applications and Dimensioning

3.1 System 1, 2-way valve with primary pump

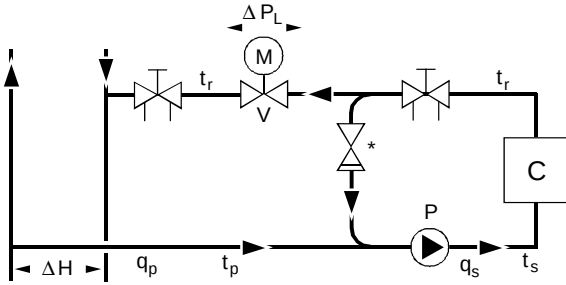


Fig. 17: 2-way valve with primary pump

3.1.1 Functions and characteristics

- Primary circuit: flow control, constant temperature
- Secondary circuit: temperature control, constant flow
- Connected to district heating network, with a requirement on low return temperature
- Heating installation, with long pipe runs
- Large air heaters, not subjected to freezing

3.1.2 Valve sizing

Thermal equilibrium

$$q_p \cdot (t_p - t_r) = q_s \cdot (t_s - t_r)$$

Dimension the pump for the flow in the secondary circuit, and the total pressure drop in the circuit.

$$\Delta p_v \approx \Delta H$$

The pressure drop in the pipes of the primary side is negligible.

$$K_v = \frac{36 \cdot q_p}{\sqrt{\Delta H}} (\text{kPa}, 1/s)$$

3.1.3 Flow Characteristic

$\Delta H = 3\text{-}5\text{ kPa}$ Eq% (Logarithmic)

$\Delta H = 5\text{-}10\text{ kPa}$ Modified linear (MOD.LIN)

3.2 System 2, 3-way mixing valve with primary pump

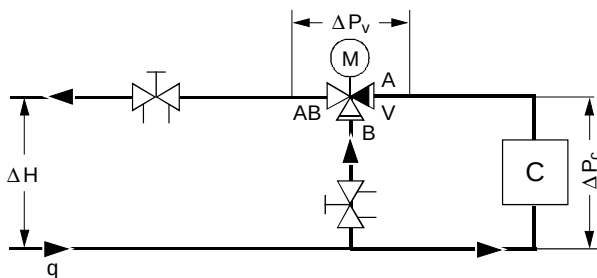


Fig. 18: 3-way mixing valve with primary pump

3.2.1 Functions and characteristics

- Primary circuit: constant flow
- Secondary circuit: variable flow, constant temperature
- The coil must not be subjected to freezing.
- With variable flow, this configuration does not provide an even temperature in the air coil.
- With small coils also risk for hunting at constant supply air temperature control.

3.2.2 Valve sizing

$$\beta \geq 0.5 \text{ i.e. } \Delta p_v \geq \Delta p_c$$

$$\Delta p_v = \Delta H - \Delta p_c$$

$$K_v = \frac{36 \cdot q}{\sqrt{\Delta p_v}} (\text{kPa}, 1/s)$$

3.2.3 Flow Characteristic

A - AB = EQ% (Logarithmic)

B - AB = linear (LIN)

3.3 System 3, Boiler, 3-way mixing valve

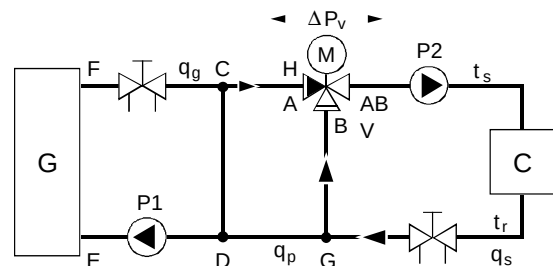


Fig. 19: Constant flow in boiler

3.3.1 Functions and characteristics

- Primary circuit: variable flow, constant temperature
- Secondary circuit: constant flow, variable temperature
- System with local boiler

3.3.2 Valve sizing

$$\beta = 1$$

$$\Delta p_v > \Delta_{GD} + \Delta_{CH}$$

not less than 3 kPa

$$K_v = \frac{36 \cdot q_s}{\sqrt{\Delta p_v}} (\text{kPa}, 1/s)$$

3.3.3 Flow Characteristic

Linear

The resistance of pipe CD is considered to be negligible.

Applications and Dimensioning

3.4 System 4, System with constant flows in primary and secondary circuits

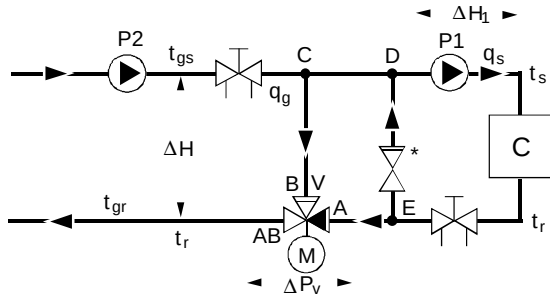


Fig. 20: Coil in air handling unit

3.4.1 Functions and characteristics

- Primary circuit: constant flow, temperature control
- Secondary circuit: constant flow
- This configuration is used for large air cooling and heating coils
- It is suitable for connection to large boilers, where each object is individually controlled.

$$q_g \cdot (t_{gs} - t_{gr}) = q_s (t_s - t_r)$$

$$q_{gs} < q_s \quad t_{gs} > t_s$$

3.4.2 Valve sizing

Pipe sections C-D and E-A are the part of the pipe network, in which the flow is affected by the valve.
Valve authority, $\beta = 1.0$.

3.4.3 Flow characteristic for V:

$$\Delta p_v > 3kPa \quad (\text{Linear})$$

$$K_v = \frac{36 \cdot q_s}{\sqrt{\Delta p_v}} (kPa, 1/s)$$

3.4.4 Balancing

- Close port A-AB of V and start pumps, P1 and P2.
- Adjust valve, so that the flow through the coil is correct.
- Open port A-AB of V fully.
- Adjust valve, so that the designed primary flow is obtained.

3.5 System 5, System with constant primary and secondary flows

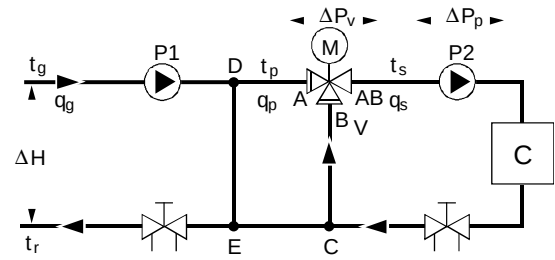


Fig. 21: Constant flow in primary/secondary circuit

3.5.1 Functions and characteristics

- Primary circuit: constant flow, constant temperature
- Secondary circuit: constant flow, variable temperature
- Pressure changes in the primary circuit do not affect the secondary circuit, which also means that the secondary circuit cannot affect the primary circuit.
- This configuration is used for large systems, with multiple mixing valve - bypass groups.

3.5.2 Valve sizing

Pipe section D-E is the part of the pipe network, in which the flow is affected by the valve. The pressure drop in D-E is negligible, which means that the authority of the valve, $\beta = 1$, but the valve must be designed for a pressure drop of at least 3kPa.

3.5.3 Flow characteristic for V:

$$\Delta p_v \geq 3kPa \quad (\text{Linear})$$

$$K_v = \frac{36 \cdot q_s}{\sqrt{\Delta p_v}} (kPa, 1/s)$$

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3.6 System 6, 2-way valve with primary pump water/water

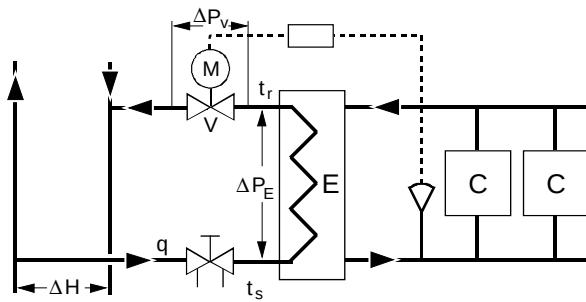


Fig. 22: Heat exchanger, heating system

3.6.1 Functions and characteristics

- Flow control.
- Heating system (radiator groups and air heaters) connected to district heating network, with a requirement on low return temperature.
- Heat exchanger between primary and secondary circuits, is required if static pressure and temperature on primary side are incompatible with equipment in secondary circuit.
- Small air heaters, not subjected to freezing.

3.6.2 Valve sizing

$$\Delta p_v = \Delta H - \Delta p_E$$

$$K_v = \frac{36 \cdot q}{\sqrt{\Delta p_v}} (kPa, 1/s)$$

$$\beta = \frac{\Delta p_v}{\Delta H} \geq 0.5$$

Flow characteristic: EQ% (Logarithmic)

3.7 System 7, 2-way valve with primary pump water/(domestic) water

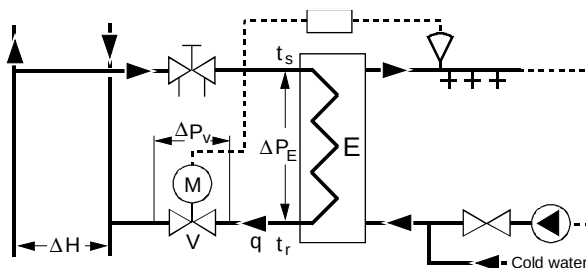


Fig. 23: Heat exchanger, hot water

3.7.1 Functions and characteristics

- Flow control.
- Throttling away of excess pressure
- Domestic hot water system connected to district heating network
- System with requirements on low primary return temperature.

3.7.2 Valve sizing

$$\Delta p_v = \Delta H - \Delta p_E$$

$$K_v = \frac{36 \cdot q}{\sqrt{\Delta p_v}} (kPa, 1/s)$$

$$\beta = \frac{\Delta p_v}{\Delta H} \geq 0.5$$

Valve characteristic: EQ% (Logarithmic)

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4. CALCULATION EXAMPLES

4.1 Formulas

Heating:

Water $P = 4.18 \cdot q_w \cdot \Delta T$
 $P = 1.16 \cdot q \cdot \Delta T$

Air $P = 1.3 \cdot q_A \cdot \Delta T$

Steam $G = 1.59 \cdot P$

Units and designations:

$P = \text{kW}$
 $q = \text{m}^3/\text{h}$
 $q_w = 1/\text{s}$
 $q_A = \text{m}^3/\text{h}$
 $G = \text{kg}/\text{h}$

Temperatures (standard values):

Heat exchanger, primary, district heating $\Delta T = 40\text{K}$

Heat exchanger, other $\Delta T = 20\text{K}$

Heat exchanger, radiators, low flow system $\Delta T = 50\text{K}$
 (80-30K)

Heat exchanger, cooling coils $\Delta T = 5 - 10\text{K}$

Heating demands of dwellings:

New buildings $40 \text{ W}/\text{m}^2$ living area
 Well insulated buildings $50 \text{ W}/\text{m}^2$ living area
 Not very well insulated buildings $60 \text{ W}/\text{m}^2$ living area
 Poorly insulated buildings $100 \text{ W}/\text{m}^2$ living area
 Cellars $15 \text{ W}/\text{m}^2$ living area

Calculation of valve leakage using the temperature method:

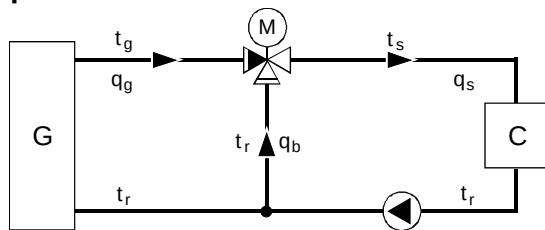


Fig. 24: Calculation of leakage using the temperature method

$$\frac{q_g}{q_s} = \frac{t_s - t_r}{t_g - t_r} \quad \frac{q_b}{q_s} = \frac{t_s - t_g}{t_r - t_g}$$

Valve flow coefficient

LIQUID	$K_v = \frac{q \cdot \sqrt{p}}{\sqrt{Dp_v}}$	$C_v = 1.17 \cdot K_v$
STEAM	CRITICAL PRESSURE DROP $\Delta p \geq 0.5 \cdot p_1$	SUB-CRITICAL PRESSURE DROP $\Delta p < 0.5 \cdot p_1$
SATURATED STEAM	$K_v = \frac{G}{11.35 \cdot p_1}$	$K_v = \frac{G}{22.7 \cdot \sqrt{\Delta p \cdot p_2}}$
SUPER-HEATED STEAM	$K_v = \frac{G \cdot k}{11.35 \cdot p_1}$ $k = 1 + 0.0012 \cdot t_s$	$K_v = \frac{G \cdot k}{22.7 \cdot \sqrt{\Delta p \cdot p_2}}$

K_v = Flow coefficient, m^3/h , at $\Delta p = 1 \text{ bar}$

C_v = Flow coefficient, US gallons/min, at $\Delta p = 1 \text{ psi}$

p_1 = Pressure before valve, bar absolute

p_2 = Pressure after valve, bar absolute

p_v = Pressure drop across valve, $p_1 - p_2$, bar

ρ = Density, kg/dm^3 (note units)

q = Liquid flow rate, m^3/h

G = Steam flow rate, kg/h

t_s = Steam superheating temperature, $^{\circ}\text{C}$

k = Correction factor for superheated steam

Valves connected in parallel

$$K_v = K_{v1} + K_{v2} + K_v$$

Valves connected in series

$$\frac{1}{(K_v)^2} = \frac{1}{(K_{v1})^2} + \frac{1}{(K_{v2})^2}$$

4.2 General

When designing HVAC-systems, often uncertainty exists regarding the magnitude of the pressure drop across various components. The following information will suffice for rough estimates, although the manufacturers specifications always should be consulted when making accurate calculations.

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4.3 Guide for quick estimates

The following are commonly encountered pressure drops:

Δp_p = pressure drop on primary side of heat exchangers.

Δp_s = pressure drop on secondary side of heat exchangers.

Water heater (tap water) $\begin{cases} \Delta p_p = 2 - 7 \text{ kPa}, 20 \text{ kPa}, \text{max.} \\ \Delta p_s = 10 - 30 \text{ kPa}, 50 \text{ kPa}, \text{max.} \end{cases}$

Heat exchanger (radiator network, air conditioning, snow melting) $\begin{cases} \Delta p_p = 20 \text{ kPa}, \text{max.} \\ \Delta p_s = 15 \text{ kPa}, \text{max.} \end{cases}$

Radiators without radiator valves $\Delta p = 0.5 \text{ kPa}$

Low flow systems with radiator $Dp = 10 \text{ kPa}$

Convectors $Dp = 5 - 20 \text{ kPa}$

Fan coils $Dp = 5 - 20 \text{ kPa}$

Heating/cooling coils $\Delta p = 5 - 20 \text{ kPa}$

Boilers single family houses $\Delta p = 1 - 5 \text{ kPa}$

Boilers apartment houses $\Delta p = 0.5 - 10 \text{ kPa}$

Water meter district heating $\Delta p_p = 15 \text{ kPa}$

Filters $\Delta p = 15 \text{ kPa}$

Pipe resistance copper pipe $\Delta p = 0.2 \text{ kPa} / m$

Pipe resistance steel pipe $\Delta p = 0.4 \text{ kPa} / m$

Pipe resistance total in a substation (district heating) $\Delta p = 10 \text{ kPa}$

4.4 Calculations

4.4.1 Example 1

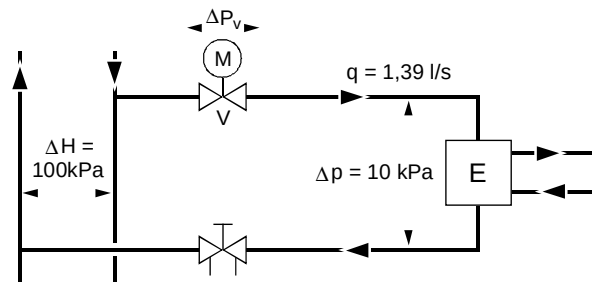


Fig. 25: Example 1

To obtain a flow in the primary circuit of 1.39 l/s a pressure drop of 10 kPa is required. A pressure drop of 100 kPa is available. Calculate the flow coefficient K_v and the authority β of the valve.

Solution

$$p_v = 100 - 10 = 90 \text{ kPa}$$

$$K_v = \frac{36 \cdot q}{\sqrt{\Delta p}} = \frac{36 \cdot 1.39}{\sqrt{90}} = 5.27 \text{ (kPa} \cdot \text{l/s)}$$

$$+40\% = 7.38$$

$$K_v = 5.27$$

$$-20\% = 4.2$$

Select $K_v = 6.3$

Valve authority, β

$$K_v = 6.3 \quad q = 1.39 \text{ l/s}$$

$$Dp_v = 90 \cdot \left(\frac{5.27}{6.3} \right)^2 = 63 \text{ kPa}$$

$$\beta = \frac{63}{100} = 0.63 \quad (\text{a good value as } \beta \text{ should be } > 0.5)$$

Pressure drop to create in the balancing valve

$$DH = Dp_v - Dp_E = 100 - 63 - 10 = 27 \text{ kPa}$$

4.4.2 Example 2

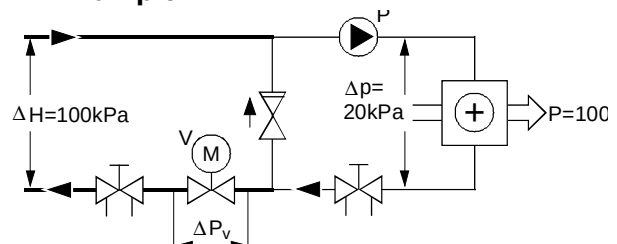


Fig. 26: Example 2

An air preheater must deliver 100 kW.

- Sizing of V.
- Sizing of circulating pump, P.
- Calculate the authority of the valve.

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Solution

$$P = q \cdot \Delta T \cdot 1.16 \text{ kW}$$

$$100 = q \times (100 - 35) \times 1.16$$

$$q = 1.3 \text{ m}^3/\text{h} = 0.371 \text{ l/s}$$

The pump P should be dimensioned for the flow, $q = 1.3 \text{ m}^3/\text{h}$, and $\Delta p = 20 \text{ kPa}$, plus the remaining pressure drops in the circuit. Select the nearest larger pump and compensate with valve.

4.4.3 Example 3, Control valve V

The pump P provides a constant flow in the secondary circuit and overcomes drops in the secondary circuit. V should be dimensioned for the entire pressure drop, $\Delta p = 100 \text{ kPa}$.

$$K_v = \frac{36 \cdot q}{\sqrt{\Delta p}} = \frac{36 \cdot 0.37}{\sqrt{100}} = 1.33 \text{ (kPa, l/s)}$$

Valve authority, $\beta = 1.0$

Choose right K_v

4.4.4 Example 4, Heating, radiator circuit

Heat demand

50 apartments, each with an average area of 65 m^2 .

A heating demand of 60 W/m^2 gives

$$P = 50 \cdot 65 \cdot 60 = 195 \text{ kW}$$

Similarly, a cellar area of 600 m^2 , with a heating demand of 15 W/m^2 , gives 9 kW .

$$P_{\text{tot}} = 195 + 9 = 204 \text{ kW}$$

4.4.5 Example 5, Radiator valve V1

$$P = q \cdot \Delta T \cdot 1.16$$

$$204 = q \cdot (100 - 50) \cdot 1.16$$

$$q = 3.5 \text{ m}^3/\text{h} = 0.971 \text{ l/s}$$

Pressure drop in the circuit

Heat exchanger $\Delta p_p = 35 \text{ kPa}$

Water meter and piping $\Delta p = 25 \text{ kPa}$

$$\Delta p_v = 150 - 35 - 25 = 90 \text{ kPa}$$

$$K_v = \frac{36 \cdot q}{\sqrt{\Delta p_v}} = \frac{36 \cdot 0.27}{\sqrt{90}} = 3.68 \text{ (kPa, l/s)}$$

$$\text{Basic } K_v - \text{value} = 3.68$$

$$+40\% = 5.2$$

$$-20\% = 2.9$$

Select: $K_v = 4.0$

EQ% (Logarithmic) characteristic.

Valve authority, β

$$\beta = \frac{90}{150} = 0.6$$

Valve close-off pressure

Can the primary valve close off the maximum differential pressure?

Is Δp_c (maximum permissible Δp across a closed valve) lower than the maximum value permitted by the combination of actuator, valve type and valve size? If not, the valve leakage will be excessive ($>0.05\%$ of K_v).

4.5 Explanation Examples

4.5.1 Medium Water

Drawing Line in Fig. 27

Given: -Volume flow $V_{100} = 6.0 \text{ m}^3/\text{h}$
-Pressure drop $\Delta p_v = 0.9 \text{ bar}$ ($= 90 \text{ kPa}$)

Searched for: - k_{vs} - value

The point of intersection of the two drawing lines shows the k_v - value 6.3.

Result: Select a valve with $k_{vs} = 6.3 \text{ m}^3/\text{h}$

4.5.2 Medium Steam

Example A: Drawing Line 1 in Fig. 28

Given: -Max. mass flow of saturated steam $G_S = 370 \text{ kg/h}$
-Primary valve pressure $p_1 = 2.8 \text{ bar}$ (absolute)
-Pressure drop $\Delta p_v = 0.6 \text{ bar}$

Searched for: k_{vs} - value

From the point of intersection of $p_1 = 2.8 \text{ bar}$ with $\Delta p_v = 0.6 \text{ bar}$ move horizontal into the k_v - value area. Then from the mass flow of saturated steam $G_S = 370 \text{ kg/h}$ move vertically downwards.

The point of intersection with the horizontal and vertical drawing line is between k_v - value 13.7 and 16.

Result: Select a valve with $k_{vs} = 16.0 \text{ m}^3/\text{h}$

Example B: Drawing Line 1 in Fig. 28

Given: -Max. mass flow of superheated steam $G_S = 1300 \text{ kg/h}$
-Primary valve pressure $p_1 = 1.2 \text{ bar}$ (absolute)
-Pressure drop $\Delta p_v = 0.35 \text{ bar}$
-Superheat $\Delta t = 100^\circ\text{C}$

Searched for: k_{vs} - value

From the point of intersection of $p_1 = 1.2 \text{ bar}$ with $\Delta p_v = 0.35 \text{ bar}$ move horizontal into the k_v - value area. Then from the mass flow of superheated steam $G_S = 1300 \text{ kg/h}$ follow parallel to the lines and move vertically upwards to the point of intersection with the horizontal line for the superheat $\Delta t = 100^\circ\text{C}$.

From this point move vertically upwards.

The point of intersection with the horizontal drawing line shows the k_v - value 100.

Result: Select a valve with $k_{vs} = 100 \text{ m}^3/\text{h}$

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DIAGRAM 1: k_{VS} - Dimensioning, Medium Water

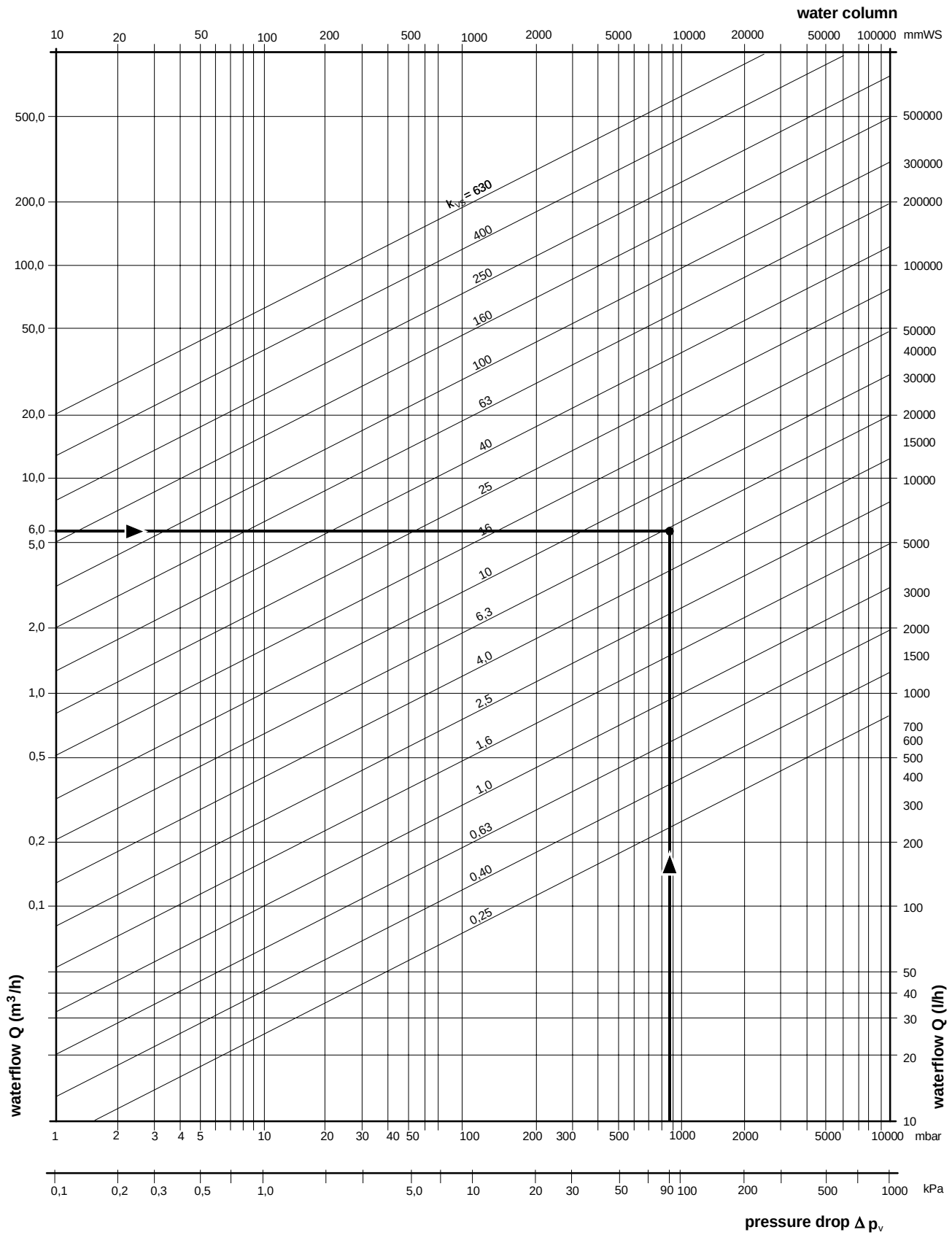


Fig. 27: Example for k_{VS} -dimensioning, medium water

Applications and Dimensioning

DIAGRAM 2 k_{VS} - Dimensioning, Medium Steam

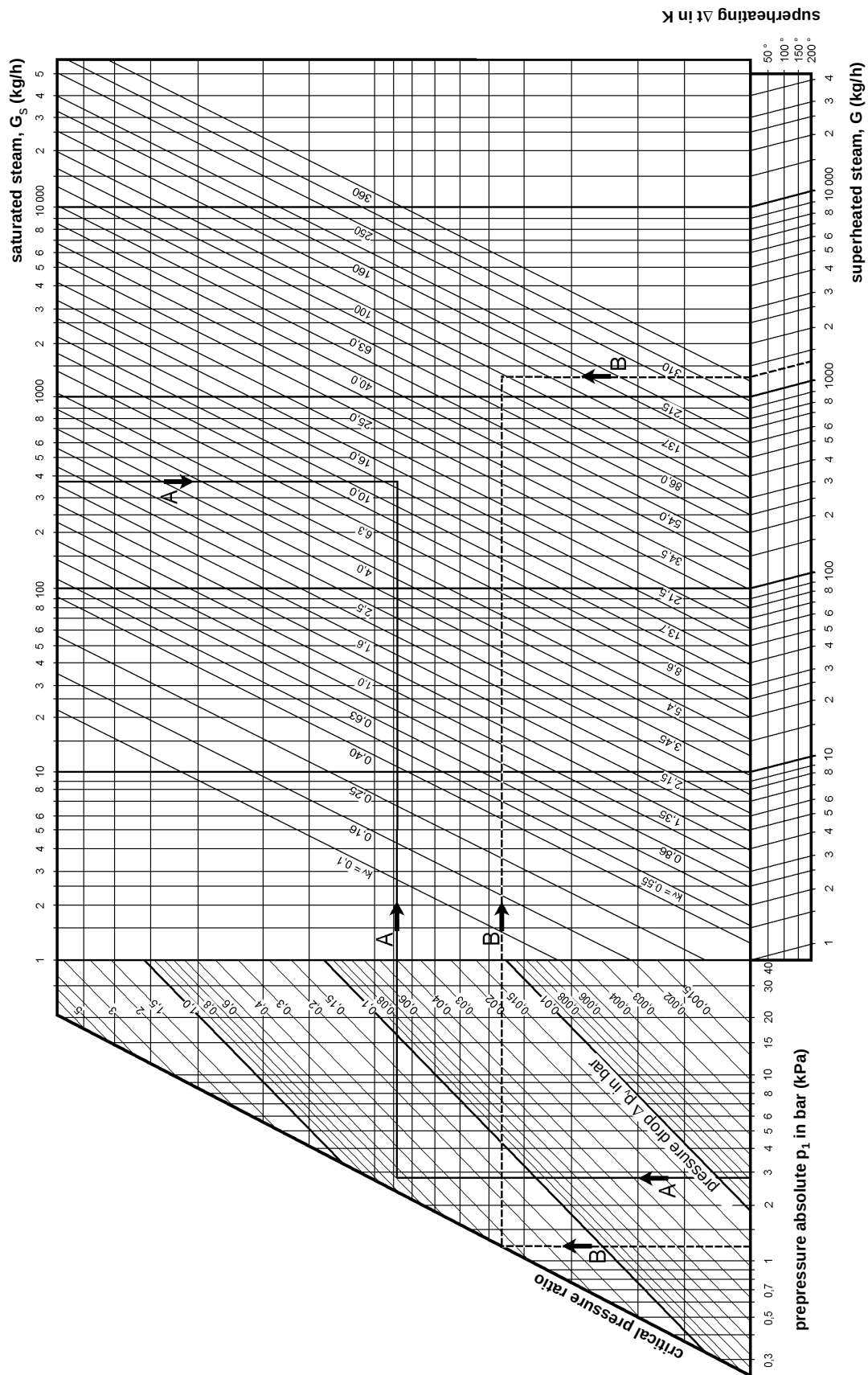


Fig. 28: Example for k_{VS} -dimensioning, medium steam

Applications and Dimensioning

Applicable Literature:

- Technikum Luzern: "Arbeitsunterlagen Heizungstechnik (Abt. HLK)"
- Recknagel/Sprenger "Taschenbuch für Heizungs- und Klimatechnik"
- - Honeywell "Engineering Manual of Automatic Control"

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