Valves and Valve Islands

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Way Valves to ATEX-Directives 94/9/EG ATEX95)

You will find further information on the ATEX Directives in our brochure No A5P060E

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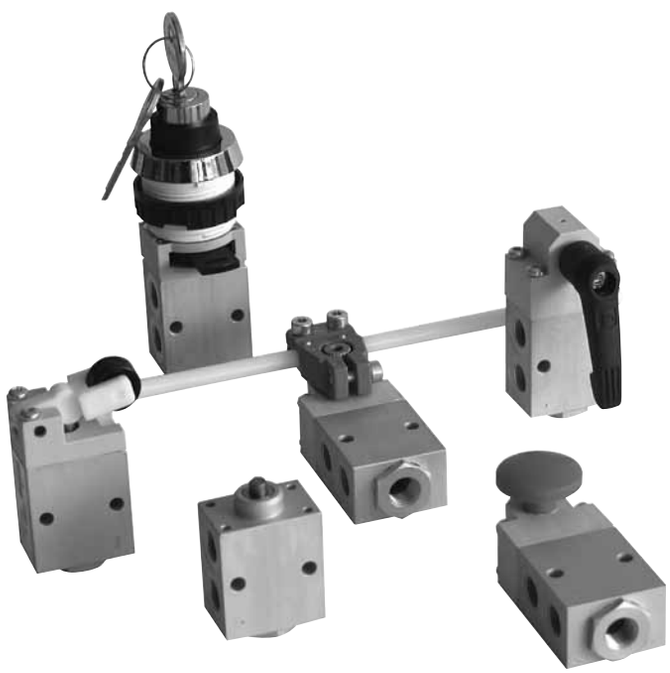
Directional Control Valves

Series K9-G1/8

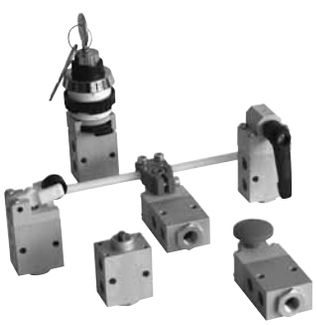


3/2 Way Valves

Series K9
G1/8

Actuation:
- **Rotary lever, indexed**
- **Rotary lever, spring return**
- **Rotary lever, indexed, secured in two positons**
- **Pushbutton**
- **Cam operation**
- **Toggle cam operation**
- **Plunger operated**
- **Cam operated, free cam left or free cam right**
- **Pivoted lever**
- **Pedal**
- **Actuators for panel mounting**

Versions:
For panel mounting, actuators correspond to internationally standardized mounting dimensions to DIN 43696 (Ø22, Ø30 mm)
Non-overlapping poppet valve with low actuating force and short response time.
Applicable as normally closed or normally open valve (see drawing).



Characteristics – Series K9

Characteristics	Symbol	Unit	Description
General Features			
System			Poppet Valve
Mounting			2 Screws M4
Tube connection			Thread
Port size			G1/8
Weight (mass)		kg	See page 4
Installation			In any position
Ambient temperature range	$T_{min/max}$	°C	-10 to +55
Medium temperature range	$T_{min/max}$	°C	+5* to +60
			Note: Please consult us for operating temperatures below 0° C
Medium			Filtered and lubricated or filtered and unlubricated
Lubrication			None or oil mist lubrication
Pneumatic Characteristics			
Nominal pressure	pn	bar	6
Operating pressure range	$p_{min/max}$	bar	0 – 10
Nominal flow	QN	l/min	220
Flow direction			1 → 2 normally closed 3 → 2 normally open
Actuation			
Actuation			Manual, mechanical and pedal actuated (see page 5-8)
Stroke		mm	1.5 – 3
Actuation force	Fb	N	(see page 4)

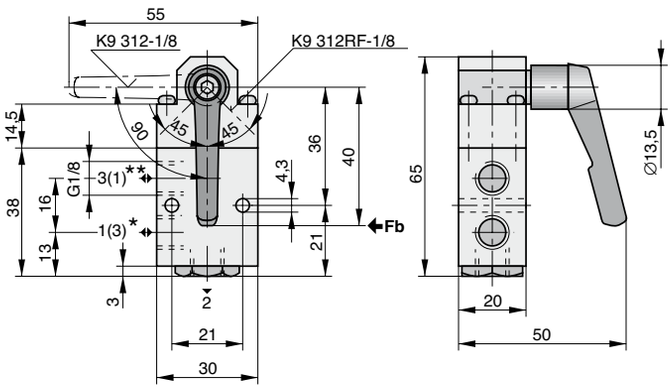
* -10°C when using dry compressed air

Actuation Forces, Rotation Angles and Weight

Description	Type	Actuation force (N)	Rotation angle	Weight mass (kg)
Rotary lever, indexed	K9 312-1/8	4.5	±45°, 90°	0.110
Rotary lever, spring return	K9 312RF-1/8	4.5	±45°, 90°	0.110
Rotary lever, indexed secured in both positions	K9 312S-1/8	4.5	±45°, 90°	0.110
Pushbutton	K9 314RF-1/8	25	–	0.075
Cam operation	K9 321RF-1/8	11	–	0.070
Toggle cam operation	K9 324RF-1/8	5	±40°	0.120
Plunger operated	K9 323RF-1/8	32	–	0.050
Cam operated free cam left	K9 325RF-1/8	5	±40°	0.120
Cam operated free cam right	K9 326RF-1/8	5	±40°	0.120
Pivoted lever	K9 329RF-1/8	2*	±40°	0.115
Pedal	K9 331RF-1/8	12	–	0.800
Basic valve for panel mounting actuators	K9 390RF-1/8	35	–	0.060

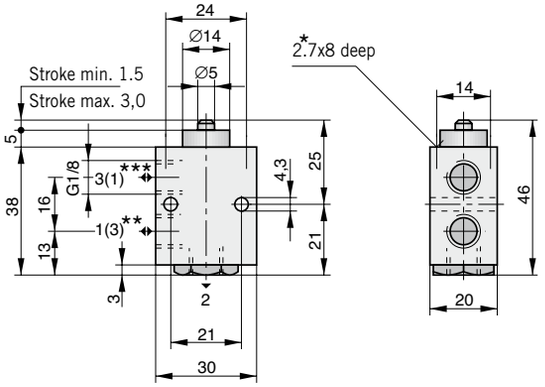
* at a distance of 100 mm from fulcrum

Rotary Lever – Type: K9 312..-1/8



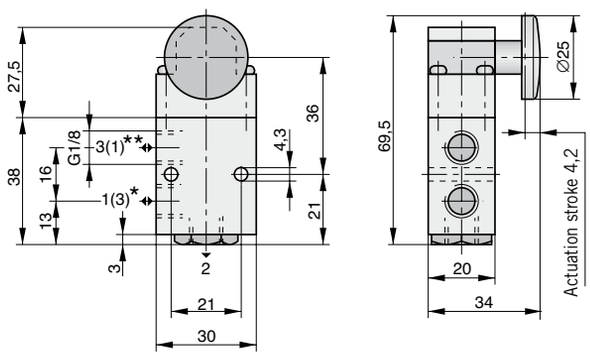
* = P when used as “normally closed“
** = P when used as “normally open“

Plunger Operated – Type: K9 323RF-1/8



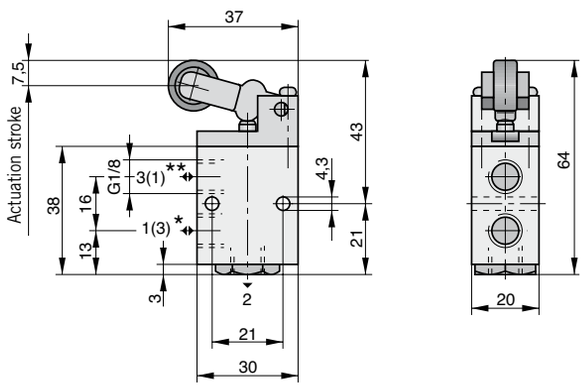
* Self tapping screws CM 3x.. DIN 7500 to be used
** = P when used as “normally closed“
*** = P when used as “normally open“

Pushbutton – Type: K9 314RF-1/8



* = P when used as “normally closed“
** = P when used as “normally open“

Cam operation– Type: K9 321RF-1/8

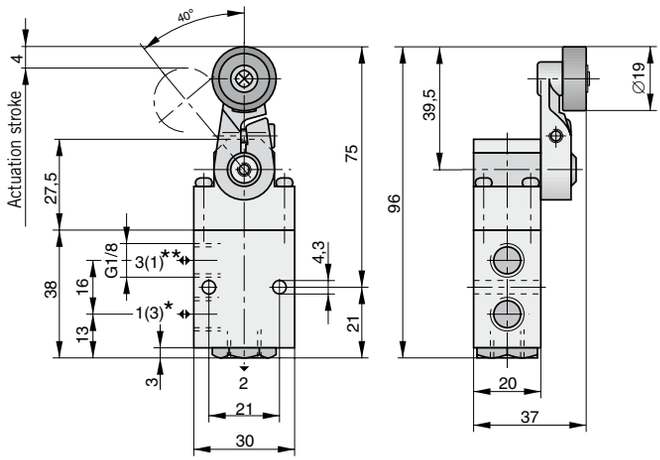


* = P when used as “normally closed“
** = P when used as “normally open“

Order Instructions see page 9, Characteristics see page 4

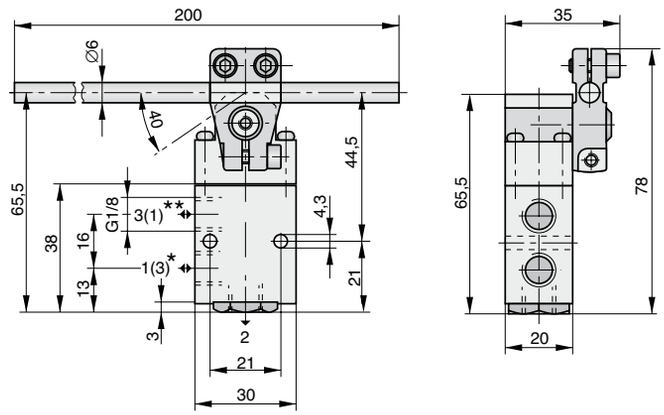
Dimensions in mm

Toggle Cam Operation – Type: K9 324RF-1/8



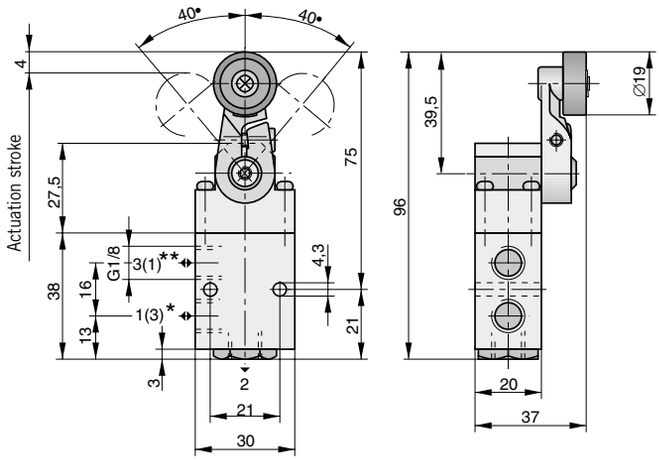
* = P when used as “normally closed“
** = P when used as “normally open“

Pivoted Lever – Type: K9 329RF-1/8



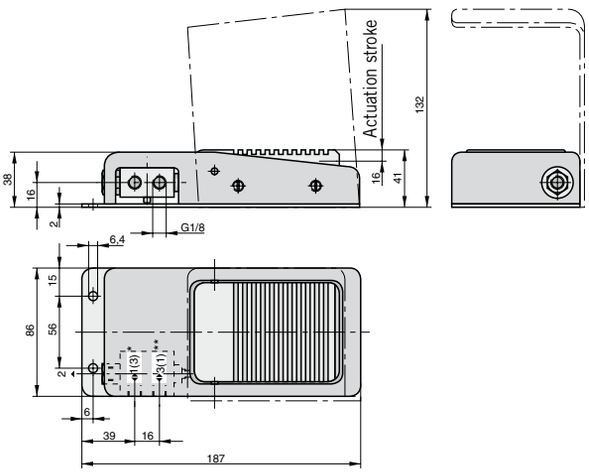
* = P when used as “normally closed“
** = P when used as “normally open“

Cam Operated free cam left / right
Type: K9 325RF-1/8, K9 326RF-1/8



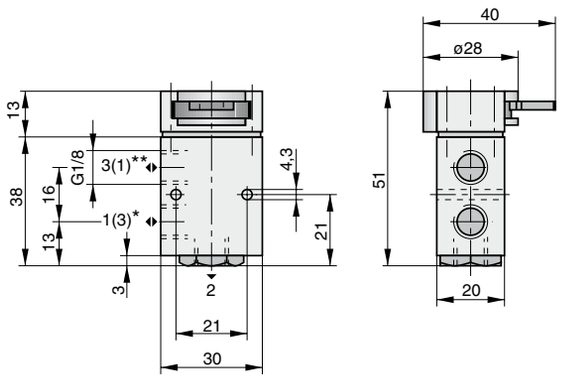
* = P when used as “normally closed“
** = P when used as “normally open“

Pedal – Type: K9 331RF-1/8



* = P when used as “normally closed“
** = P when used as “normally open“

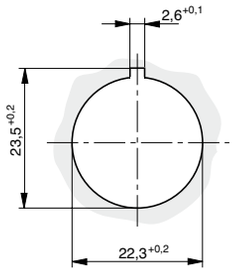
Basic Valve with adaptor for panel mounting
Type: K9 390RF-1/8



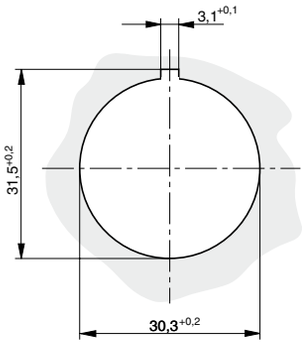
* = P when used as “normally closed“
** = P when used as “normally open“

Mounting holes for mounting diameters 22 and 30 mm

Mounting diameter ∅22 mm

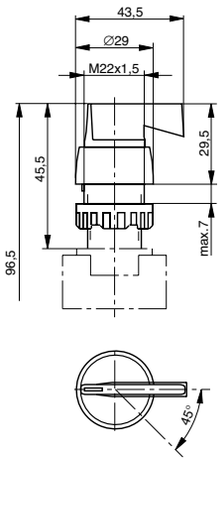


Mounting diameter ∅30 mm

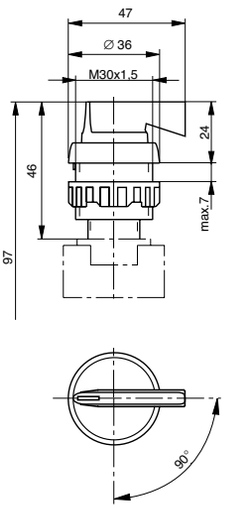


Rotary Lever, indexed – Type: 12T-22, 12T-30

Mounting diameter ∅22 mm

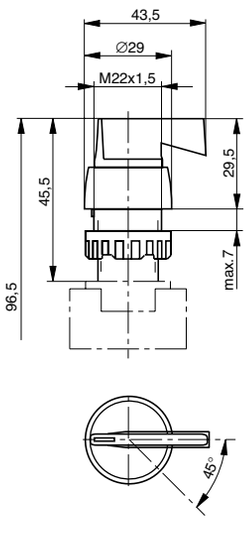


Mounting diameter ∅30 mm

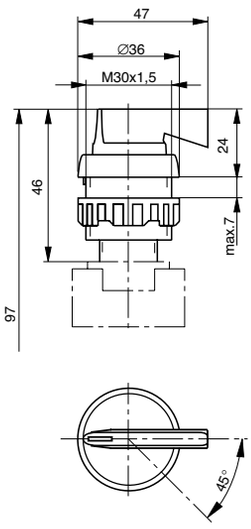


Rotary Lever with spring return – Type: 12T-RF-22, 12T-RF-30

Mounting diameter ∅22 mm



Mounting diameter ∅30 mm

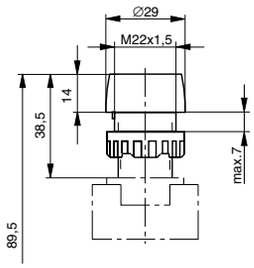


Order Instructions see page 9, Characteristics see page 4

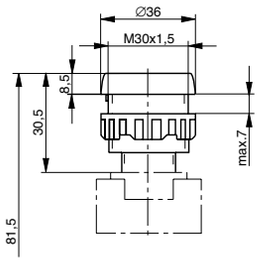
Dimensions in mm

Pushbutton – Type: 13T-RF-22, 13T-RF-30

Mounting diameter ∅22 mm

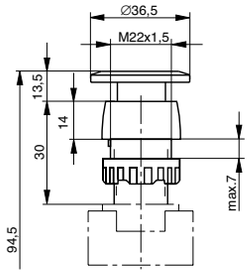


Mounting diameter ∅30 mm

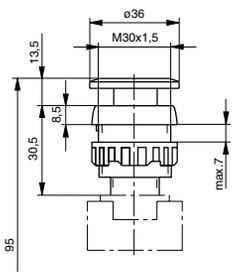


Mushroom Pushbutton – Type: 15T-RF-22, 15T-RF-30

Mounting diameter ∅22 mm

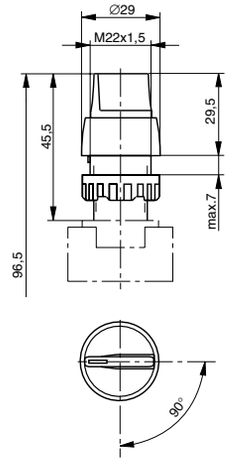


Mounting diameter ∅30 mm

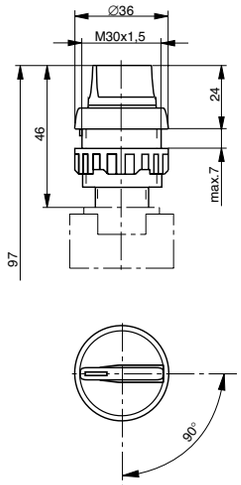


Rotary Switch – Type: 17T-22, 17T-30

Mounting diameter ∅22 mm

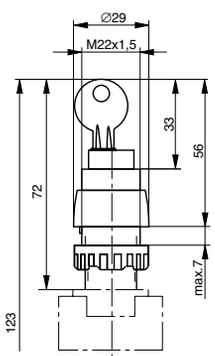


Mounting diameter ∅30 mm

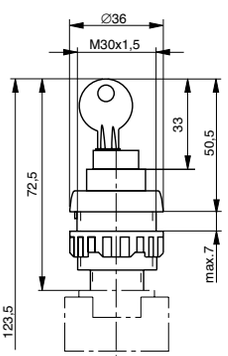


Locking Switch – Type: 16T-22, 16T-30

Mounting diameter ∅22 mm

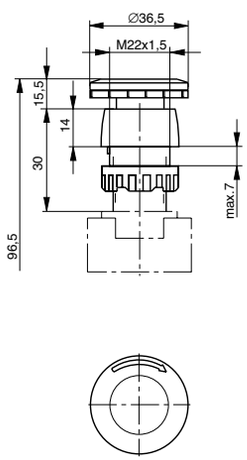


Mounting diameter ∅30 mm

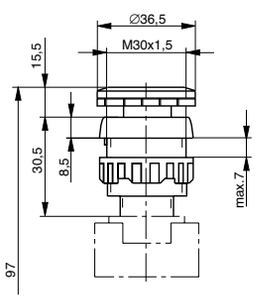


Mushroom Switch (EMERGENCY SHUTDOWN) – Type: 18T-22, 18T-30

Mounting diameter ∅22 mm



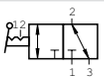
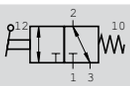
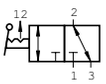
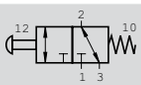
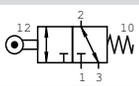
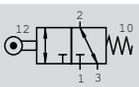
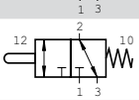
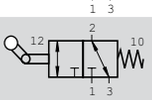
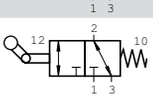
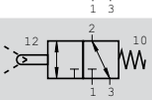
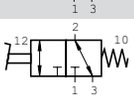
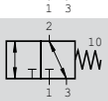
Mounting diameter ∅30 mm



Order Instructions see page 9, Characteristics see page 4

Dimensions in mm

Order Instructions – 3/2 Way Poppet Valves, Series K9

Actuation	Symbol	Mounting Ø (mm)	Order Instructions Type	Order No.	Page
Rotary lever, indexed			K9 312-1/8	PA 10269	5
Rotary lever, spring return			K9 312RF-1/8	PA 10270	5
Rotary lever, indexed secured in both positions			K9 312S-1/8	PA 10349	5
Pushbutton			K9 314RF-1/8	PA 10271	5
Cam operation			K9 321RF-1/8	PA 10272	5
Toggle cam operation			K9 324RF-1/8	PA 10273	6
Plunger operated			K9 323RF-1/8	PA 10235	5
Cam operated free cam left			K9 325RF-1/8	PA 10274	6
Cam operated free cam right			K9 326RF-1/8	PA 10275	6
Pivoted lever			K9 329RF-1/8	PA 10276	6
Pedal			K9 331RF-1/8	PA 10277	6
Panel mounting valve with adaptor for interchangeable actuation			K9 390RF-1/8	PA 10278	7
Rotary lever, indexed		22 30	12T-22 12T-30	KX 9355 KX 9314	7
Rotary lever, spring return		22 30	12T-RF-22 12T-RF-30	KX 9356 KX 9315	7
Pushbutton		22 30	13T-RF-22 13T-RF-30	KX 9357 KX 9316	8
Mushroom pushbutton		22 30	15T-RF-22 15T-RF-30	KX 9358 KX 9317	8
Locking switch		22 30	16T-22 16T-30	KX 9359 KX 9318	8
Rotary switch		22 30	17T-22 17T-30	KX 9360 KX 9319	8
Mushroom switch EMERGENCY SHUTDOWN		22 30	18T-22 18T-30	KX 9361 KX 9320	8

Contents

Directional Control Valves

Series DRS-G1/8

4/3 Way Flat Slide Valves

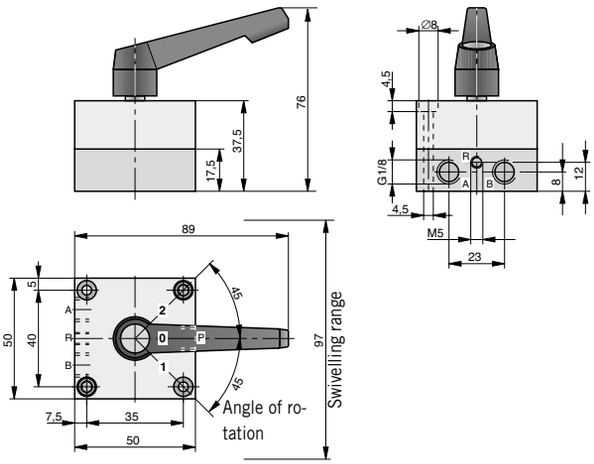
Series DRS
G1/8

Actuation:
– Rotary lever
– Rotary switch

Characteristics – Series DRS

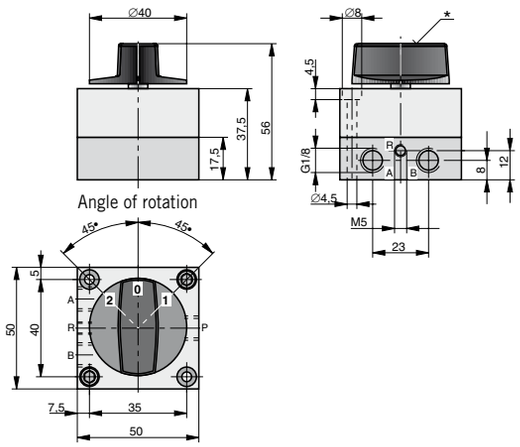
Characteristics	Symbol	Unit	Description
General Features			
System			Flat slide valve without automatic return to neutral position
Mounting			2 Screws M4
Tube connection			Thread
Port size			Port P, A, B: G1/8 Port R: M5
Weight (mass)		kg	0.500
Installation			In any position
Ambient temperature range	$T_{min/max}$	°C	-10 to +55 Note: Please consult us for operating temperatures below 0° C
Medium temperature range	$T_{min/max}$	°C	-10 to +60
Medium			Filtered compressed air
Lubrication			Oil mist lubrication compatible with Buna N
Pneumatic Characteristics			
Nominal pressure	p_n	bar	6
Operating pressure range	$p_{min/max}$	bar	0 – 10
Nominal flow	Q_N	l/min	350
Actuation			
Manual control			Direct
Actuation force	F_b	N	ca. 6

Rotary Lever – Type: DRS 412 .-1/8



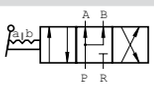
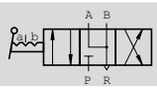
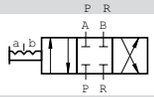
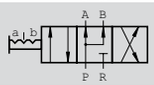
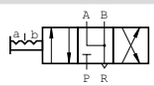
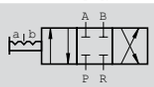
Port identification:
A = 4 Outlet
B = 2 Outlet
R = 5 Exhaust
P = 1 Pressure supply

Rotary Switch – Type: DRS 417 .-1/8



* After removing the cover and loosening the mounting screws, the rotary switch is infinitely variable.

Order Instructions – 4/3 Way Flat Slide Valves, Series DRS

Actuation	Symbol	Order Instructions Type	Order No.
Rotary lever Middle position pressurized		DRS 412 B-1/8	PA 10267
Rotary lever Middle position vented		DRS 412 E-1/8	PA 10266
Rotary lever Middle position closed		DRS 412G-1/8	PA 10268
Rotary switch Middle position pressurized		DRS 417 B-1/8	PA 10264
Rotary switch Middle position vented		DRS 417 E-1/8	PA 10263
Rotary switch Middle position closed		DRS 417 G-1/8	PA 10265

Dimensions in mm

Contents

Compact Valves

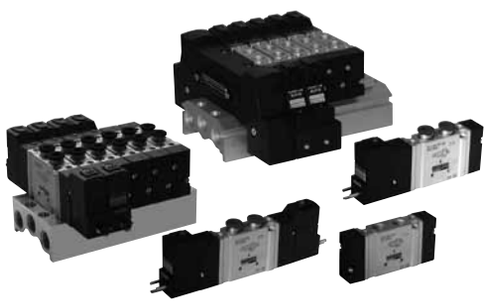
With threaded ports

Series S10..-1/8
Series S10..-1/4

or

with push-in connections

Series S10..-Q6
Series S10..-Q8



Overview

Description	Actuation	Port		Versions					
		G1/8 Q6	G1/4 Q8	Standard	with biased position	with external pilot air	Middle Position Functions		
							middle position closed	middle position vented	middle position pressurized
2x3/2 Way Valves normally closed normally open	pneumatic permanent signal (1	■	■	■	–	–	–	–	–
	electric permanent signal (1	■	■	■	–	■	–	–	–
5/2 Way Valves	pneumatic permanent signal (2	■	■	■	–	–	–	–	–
	pneumatic impulse	■	■	■	■	–	–	–	–
	electric permanent signal (2	■	■	■	–	■	–	–	–
	electric impulse	■	■	■	■	■	–	–	–
5/3 Way Valves	pneumatic permanent signal	■	■	■	–	–	■	■	■
	electric permanent signal	■	■	■	–	■	■	■	■

(1 Air spring return
(2 Return by either mechanical spring or air spring (see Order Instructions, page 29-31)

Note:
S10 Series valves are normally supplied without connector
– please include in Order Code or order separately (see Order Instructions)

Characteristics – Series S10..-1/8, S10..-1/4, S10..-Q6, S10..-Q8 (Single Valves) and IM10 (Valve Islands)

Characteristics	Symbol	Unit	Description			
Version			with threaded ports		with push-in connections (version Q6, Q8)	
Actuation			Pneumatic	electrically pilot actuated	pneumatic	electrically pilot actuated
General Features						
System			Spool Valve			
Mounting			2 Screws M3 (S10..-1/8, S10..-Q6), 2 Screws M4 (S10..-1/4, S10..-Q8)			
Tube connection			Thread		Threaded ports and push-in connections	
Port size						
– Series S10..-1/8, S10..-Q6			G1/8		Port 1, 3, 5: G1/8, Port 2, 4: push-in connection OD 6 mm	
– Series S10..-1/4, S10..-Q8			Port 1, 2, 4: G1/4 Port 3, 5: G1/8		Port 1: G1/4 – Port 3, 5: G1/8 Port 2, 4: push-in connection OD 8 mm	
Nominal diameter		mm	6			
Weight (mass)		kg	See page 18, 20, 22, 26			
Installation			In any position			
Ambient temperature range	$T_{min./max.}$	°C	-5 to +50	Note: for use below freezing point please consult us		
Medium temperature range	$T_{min./max.}$	°C	0 to +50			
Vibration restistance / vibration		G	Max. 5			
Impact strength/shock		G	Max. 30			
Medium			Filtered compressed air (5µm)			
Lubrication			With or without oil mist lubrication (We recommend mineral oil type VG 32 to ISO 3448)			
Pneumatic Characteristics						
Nominal pressure	$p_{min./max.}$	bar	6			
Operating pressure range						
– permanent signal version	$p_{min./max.}$	bar	2 – 8 (5/2 way version), 3 – 8 (5/3 and 2x3/2 way version)			
– impulse version	$p_{min./max.}$	bar	1.5 – 8 (5/2 way version)			
– with external pilot air	$p_{min./max.}$	bar	-0.9 – 8 (5/2 way version), -0,9 – 8 (5/3 and 2x3/2 way version)			
Nominal flow						
Series – S10..-1/8, S10..-Q6	QN	l/min	5/2 way version 650, 5/3 way version 550, 2x3/2 way version 400			
Series – S10..-1/4, S10..-Q8	QN	l/min	5/2 way version 950, 5/3 way version 850, 2x3/2 way version 850			

Characteristics	Symbol	Unit	Description	
Actuation				
Pneumatic			Direct	
– actuation pressure range				
– permanent signal version	$p_{st\ min./max.}$	bar	2 – 8 (5/2 way version), 3 – 8 (5/3 and 2x3/2 way version)	
– impulse version	$p_{st\ min./max.}$	bar	1.5 – 8 (5/2 way version)	
Electrical single Valves S10			Electrically pilot actuated	
Voltage types			Alternating current (50/60Hz)	Direct current
Nominal voltage				
– standard version	Un	V	230, 110, 48 ±10%	24, 12 ±10% other voltages available on request
Power consumption, switching				
– standard version		VA (W)	ca. 2.8	1.1
Power consumption, holding				
– standard version		VA (W)	ca. 2	1.1
Duty cycle	ED	%	100	
Electrical protection		IP	IP 65 to DIN 40050 (applise only to solenoid with plug)	
Connection			Connector to DIN EN 175301-803 form C ([1]	
Electrical valve islands IM10			Electrically pilot actuated	
Nominal voltage	Un	V	24, 12	
Voltage types			Direct current	
Power consumption, switching		VA (W)	1.1	
Power consumption, holding		VA (W)	1.1	
Duty cycle	ED	%	100	
Electrical protection		IP	IP 65 to DIN 40050 (Applise only to the electrically part in combination with sub-D connector, IP 65)	
Connection			D-Sub connector 25pin	
Switching indicator			LED	
Number of outputs			max. 22, max. 18 (monostable)	

([1] Solenoid also available with cable (length 1m) – see Order Instructions

2 x 3/2 Way Valves Series S10

G1/8
and
Push-In Connections
OD 6 mm

Actuation systems:
– Pneumatic
– Electrical pilot actuated

Versions:
– 2x normally closed
– 2x normally open
– 1x normally closed and 1x normally open
– With external pilot air

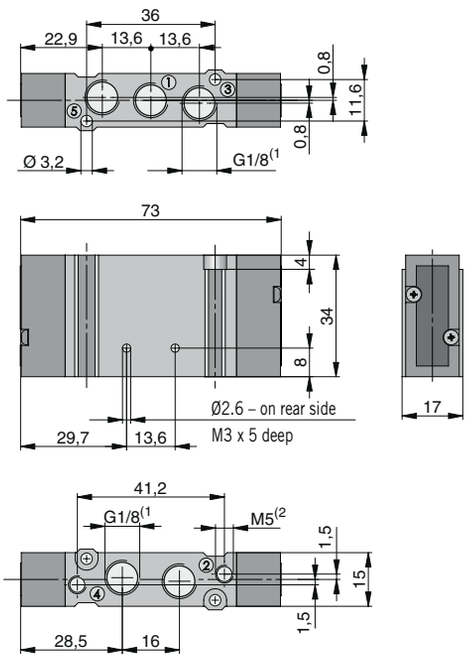
Accessories:
– Adapter plate for direct mounting on HOERBIGER-ORIGA profile-type cylinders
– Mounting bracket

For further information see page 41, 42

Weight (mass) kg

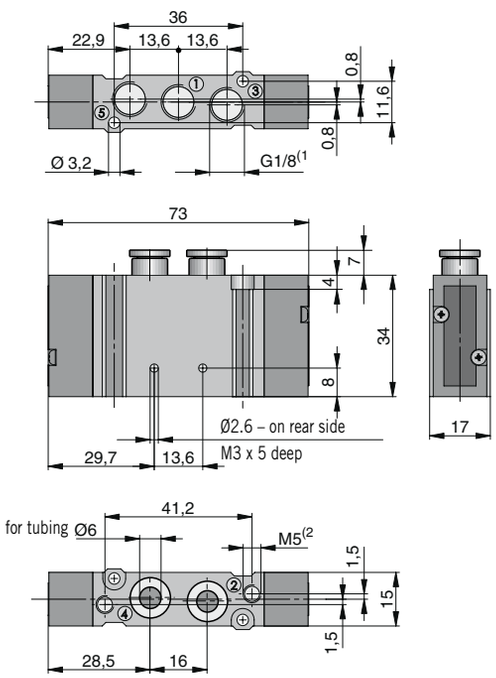
Description	Type	Weight (mass)
Pneumatic, by permanent signal	S10 361R..-1/8	0.063 kg
Electrical, by permanent signal	S10 381R..-1/8	0.089 kg
Pneumatic, by permanent signal	S10 361R..-Q6	0.070 kg
Electrical, by permanent signal	S10 381R..-Q6	0.097 kg

2 x 3/2 Way Valve, pneumatically actuated – threaded version
Type: S10 361..-1/8



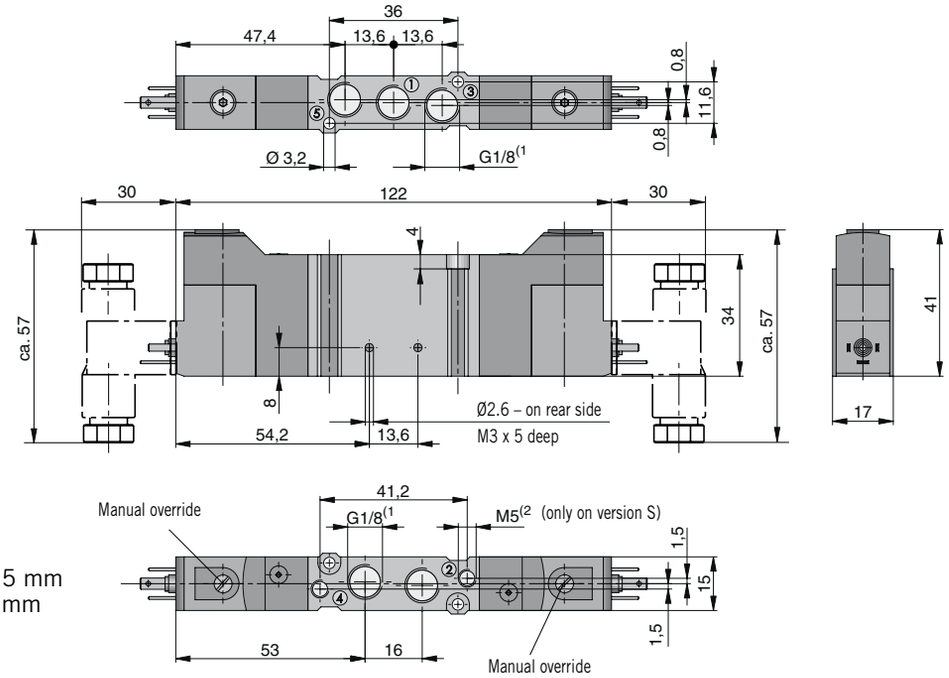
(1 thread depth 7.5 mm
(2 thread depth 5 mm

2x 3/2 Way Valve, pneumatically actuated – version with push-in connection
Type: S10 361..-Q6



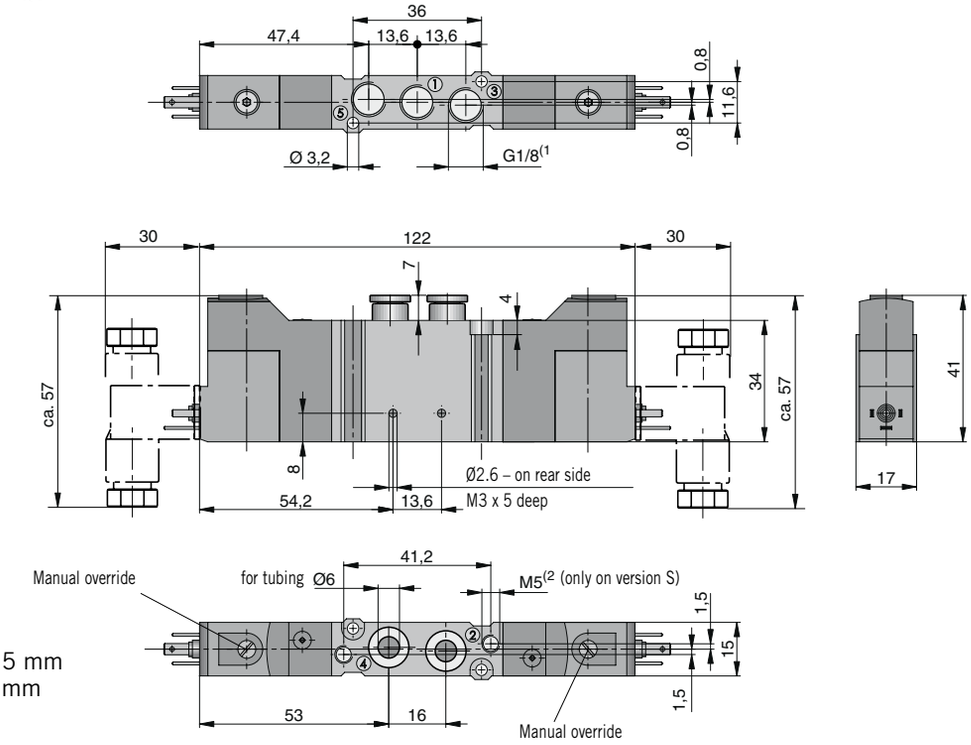
(1 thread depth 7.5 mm
(2 thread depth 5 mm

2 x 3/2 Way Valve, electrically actuated (permanent signal) – threaded version
Type: S10 381R..-1/8



(1 thread depth 7.5 mm
(2 thread depth 5 mm

2 x 3/2 Way Valve, electrically actuated (permanent signal) – version with push-in connections
Type: S10 381R..-Q6



(1 thread depth 7.5 mm
(2 thread depth 5 mm

For valve manifolds see page 32-34, for RPS manifolds see page 38, for mounting bracket see page 41, for adapter plate see page 41

Dimensions in mm

2 x 3/2 Way Valves Series S10

G1/4 and Push-In Connections OD 8 mm

Actuation systems:
– Pneumatic
– Electrical pilot operated

Versions:
– 2x normally closed
– 2x normally open
– 1x normally closed and 1x normally open
– With external pilot air

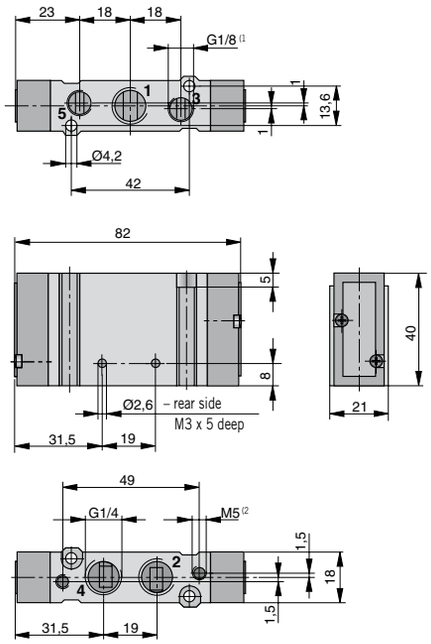
Accessories:
– Adapter plate for direct mounting on Parker -ORIGA profile-type cylinders
– Mounting brackets

For further information see page 41, 42

Weight (mass) kg

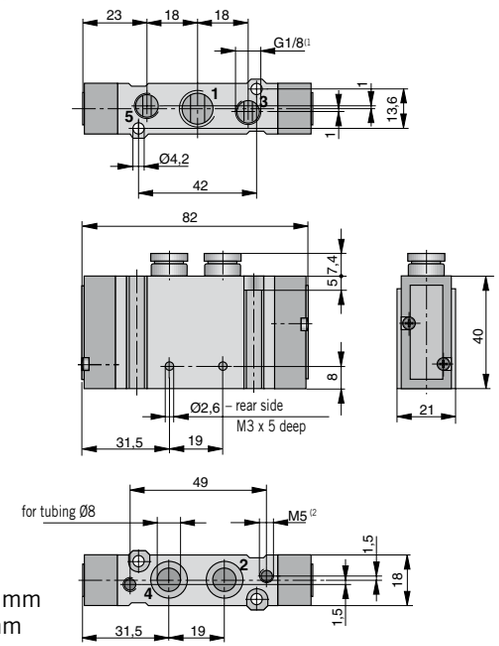
Description	Type	Gew. (mass)
Pneumatic, by permanent signal	S10 361R..-1/4	0.094 kg
Electrical, by permanent signal	S10 381R..-1/4	0.123 kg
Pneumatic, by permanent signal	S10 361R..-Q8	0.116 kg
Electrical, by permanent signal	S10 381R..-Q8	0.147 kg

2 x 3/2 Way Valve, pneumatically actuated – threaded version
Type: S10 361..-1/4



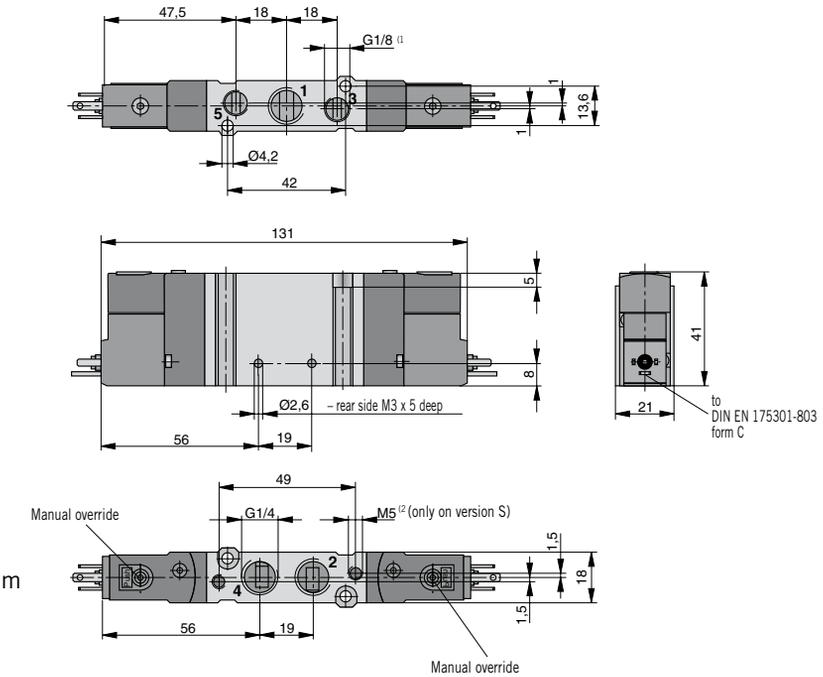
(1 thread depth 7.5 mm
(2 thread depth 5 mm

2 x 3/2 Way Valve, pneumatically actuated – version with push-in connections
Type: S10 361..-Q8



(1 thread depth 7.5 mm
(2 thread depth 5 mm

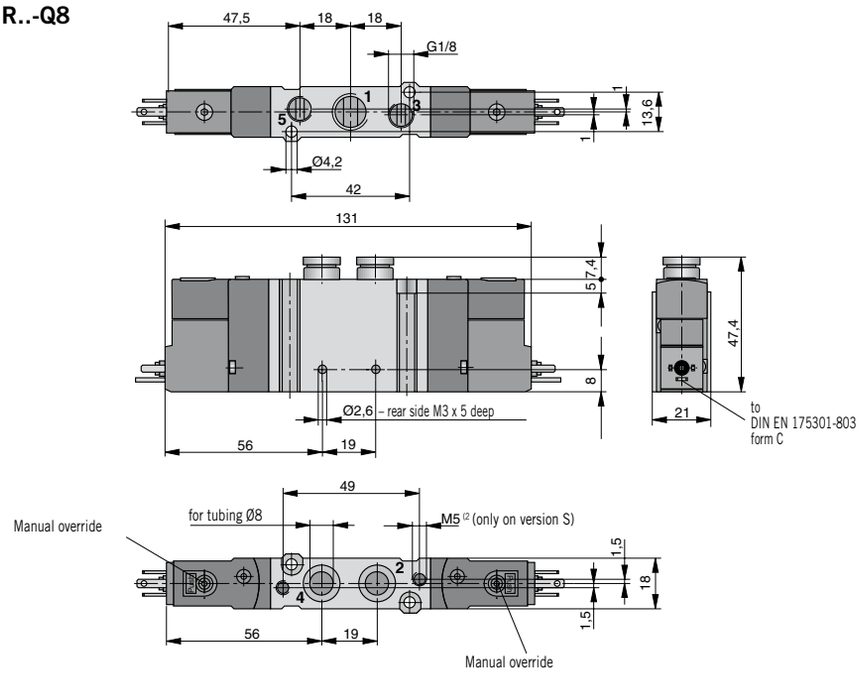
2 x 3/2 Way Valve, electrically actuated (permanent signal) – threaded version
Type: S10 381R..-1/4



(1 thread depth 7.5 mm
(2 thread depth 5 mm

2 x 3/2 Way Valve, electrically actuated (permanent signal) – version with push-in connections

Type: S10 381R..-Q8



(1 thread depth 7.5 mm
(2 thread depth 5 mm

For RPS manifolds see page Page 39, for mounting bracket see page 41,
for adapter plate see page 41

Dimensions in mm

5/2 and 5/3 Way Valves Series S10

G1/8 and Push-In Connections OD 6 mm

Actuation systems:
– Pneumatic
– Electrical, pilot operated

Versions:
– With biased position
– With external pilot air

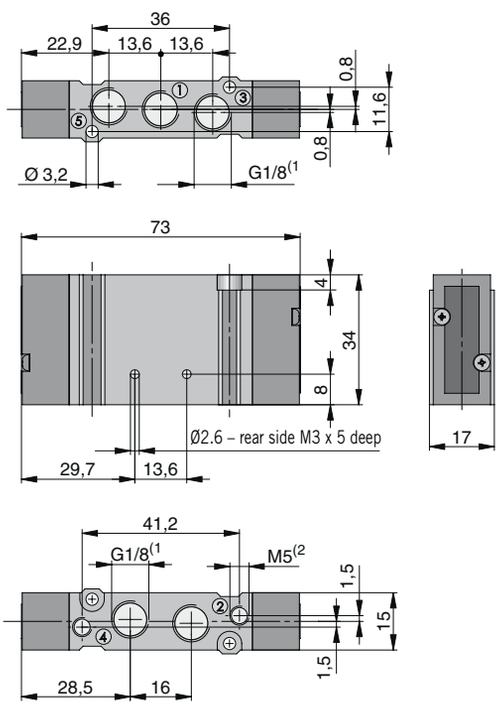
Accessories:
– Adapter plate for direct mounting on Parker -ORIGA profile-type cylinders
– Mounting bracket

For further information see page 41, 42

Weight (mass) kg

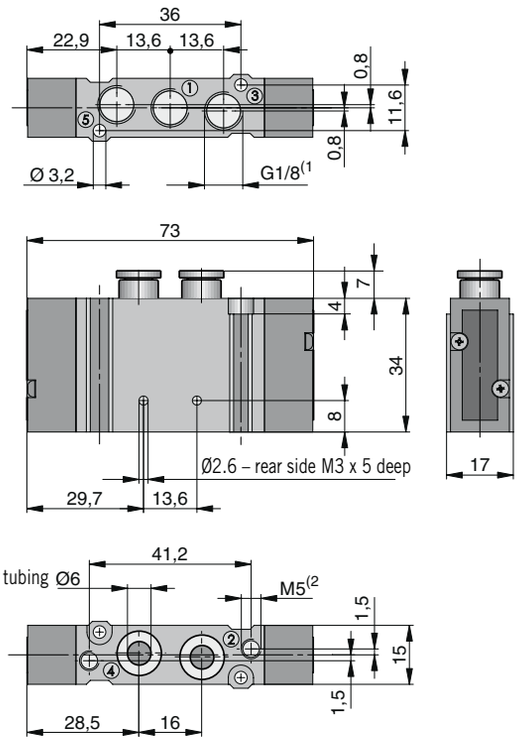
Description	Type	Weight (mass)
Pneumatic, by permanent signal	S10 561R..-1/8	0.063 kg
Pneumatic, by impulse	S10 561(562)-1/8	0.063 kg
Electrical, by permanent signal	S10 581R..-1/8	0.076 kg
Electrical, by impulse	S10 581(582)-1/8	0.089 kg
Pneumatic, by permanent signal	S10 561R..-Q6	0.070 kg
Pneumatic, by impulse	S10 561(562)-Q6	0.070 kg
Electrical, by permanent signal	S10 581R..-Q6	0.083 kg
Electrical, by impulse	S10 581(582)-Q6	0.097 kg

5/2 and 5/3 Way Valve, pneumatically actuated – threaded version
Type: S10 561..-1/8, S10 562..-1/8, S10 561RF.-1/8



(1 thread depth 7.5 mm
(2 thread depth 5 mm

5/2 and 5/3 Way Valve, pneumatically actuated – version with push-in connections
Type: S10 561..-Q6, S10 562..-Q6, S10 561RF.-Q6

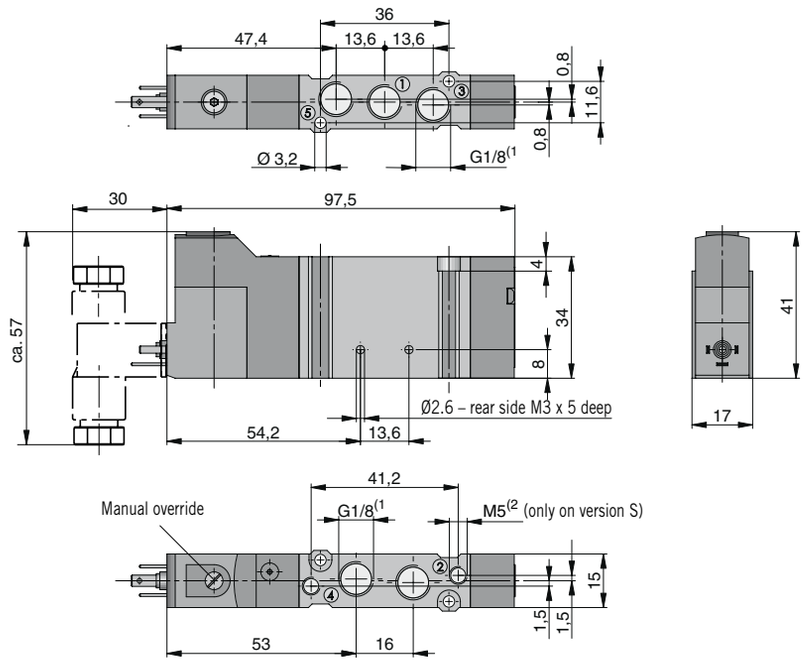


(1 thread depth 7.5 mm
(2 thread depth 5 mm

For valve manifolds see page 32-34, for RPS manifolds see page 38, for mounting bracket see page 41,
for adapter plate see page 41

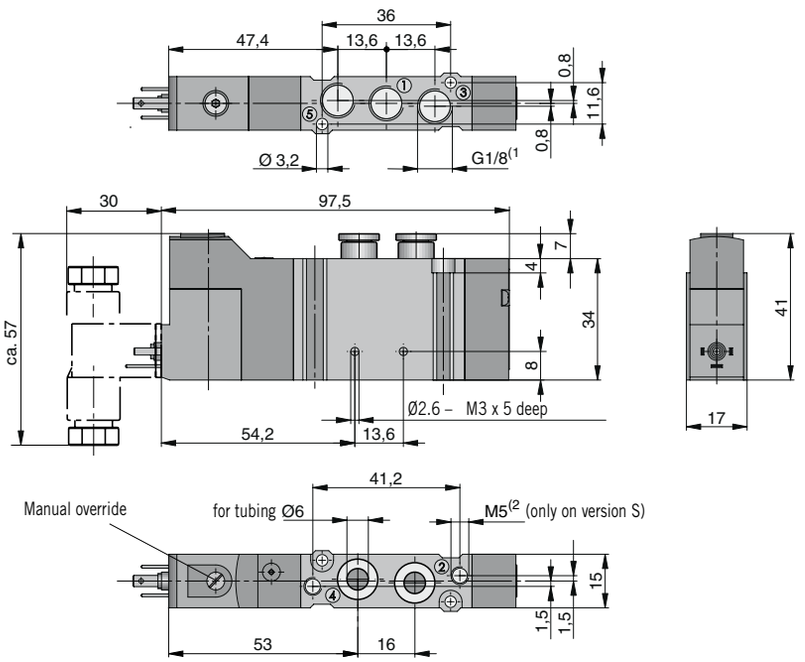
Dimensions in mm

5/2 Way Valve, electrically actuated (permanent signal) – threaded version
Type: S10 581..-1/8



(1 thread depth 7.5 mm
(2 thread depth 5 mm

5/2 Way Valve, electrically actuated (permanent signal) – version with push-in connections
Type: S10 581..-Q6

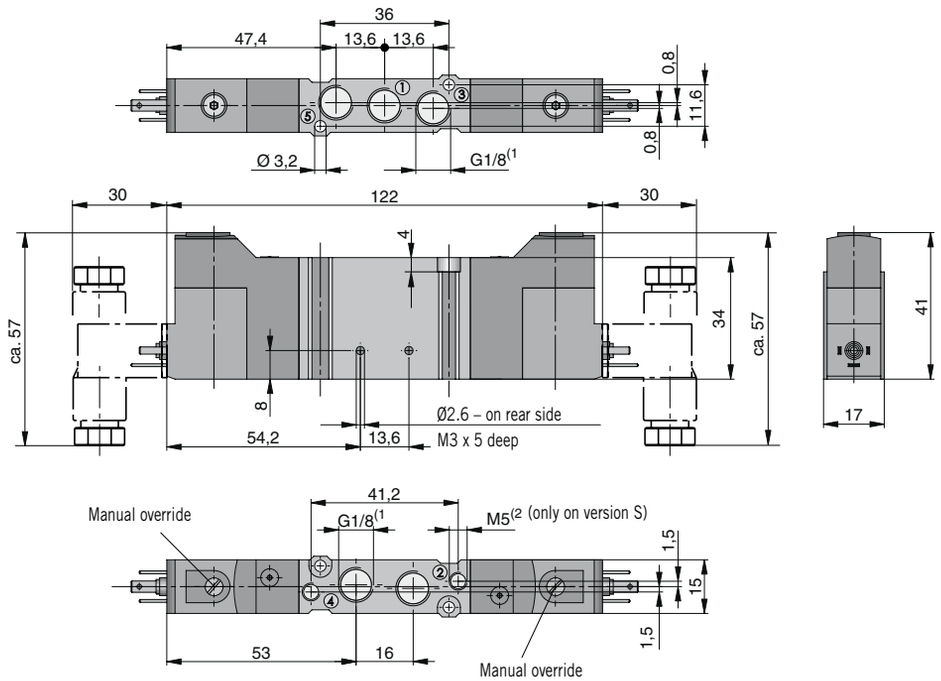


(1 thread depth 7.5 mm
(2 thread depth 5 mm

For valve manifolds see page 32-34, for RPS manifolds see page 38, for mounting bracket see page 41, for adapter plate see page 41

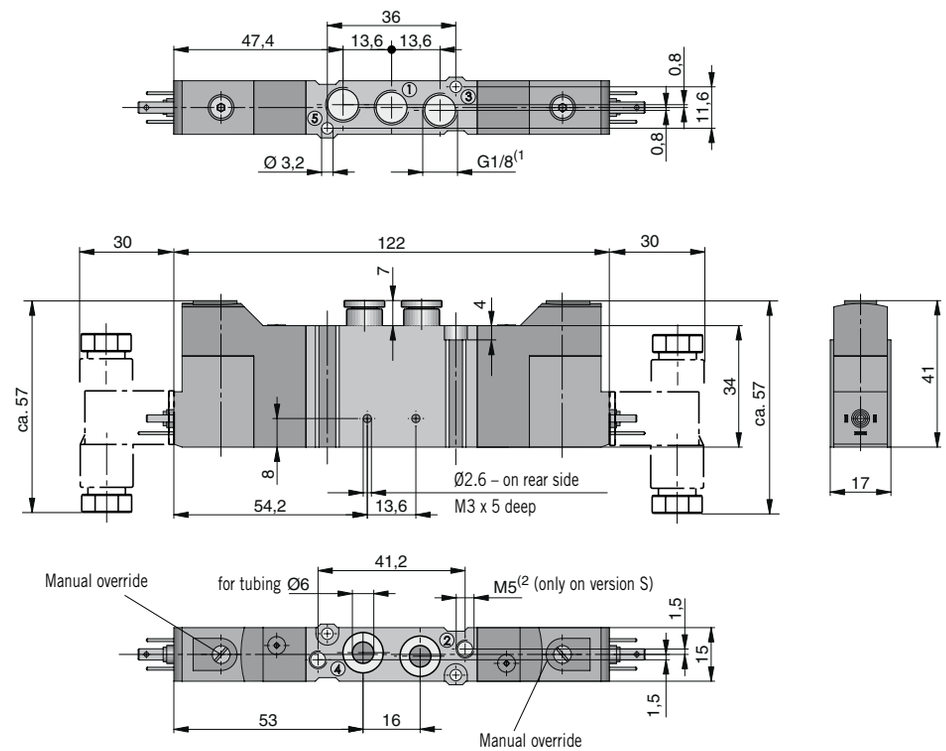
Dimensions in mm

5/2 Way Valve, electrically actuated (impulse) – threaded version, Type: S10 581-1/8, S10 582-1/8
5/3 Way Valve, electrically actuated (permanent signal) – threaded version, Type: S10 581RF.-1/8



(1 thread depth 7.5 mm
(2 thread depth 5 mm

5/2 Way Valve, electrically actuated (impulse) – version with push-in connections, Type: S10 581-Q6, S10 582-Q6
5/3 Way Valve, electrically actuated (permanent signal) – version with push-in connections, Type: S10 581RF.-Q6



(1 thread depth 7.5 mm
(2 thread depth 5 mm

For valve manifolds see page 32, 34, for RPS manifolds see page 38, for mounting bracket see page 41, for adapter plate see page 41

Dimensions in mm

5/2 and 5/3 Way Valves Series S10

G1/4 and Push-In Connections OD 8 mm

Actuation systems:
– Pneumatic
– Electrical pilot actuated

Versions:
– With biased position
– With external pilot air

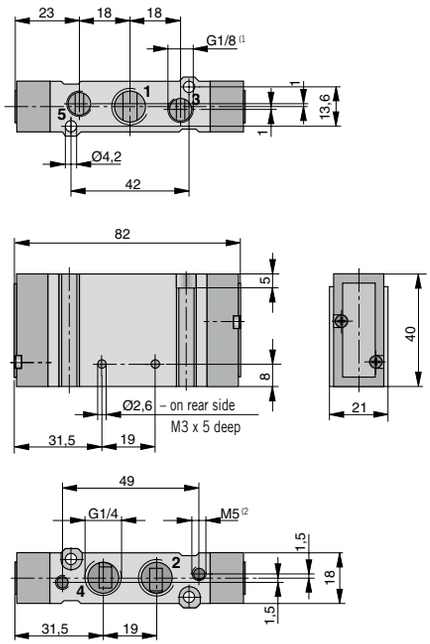
Accessories:
– Adapter plate for direct mounting on Parker Origa profile-type cylinders
– Mounting bracket

For further information see page 41, 42

Weight (mass) kg

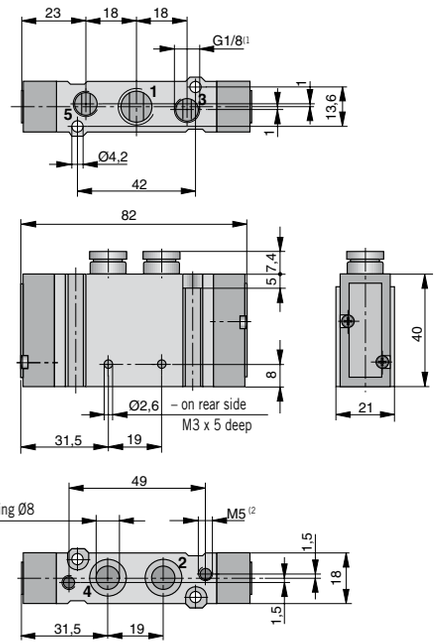
Description	Type	Weight (mass)
Pneumatic, by permanent signal	S10 561R..-1/4	0.097 kg
Pneumatic, by impulse	S10 561(562)-1/4	0.097 kg
Electrical, by permanent signal	S10 581R..-1/4	0.110 kg
Electrical, by impulse	S10 581(582)-1/4	0.125 kg
Pneumatic, by permanent signal	S10 561R..-Q8	0.118 kg
Pneumatic, by impulse	S10 561(562)-Q8	0.118 kg
Electrical, by permanent signal	S10 581R..-Q8	0.132 kg
Electrical, by impulse	S10 581(582)-Q8	0.147 kg

5/2 and 5/3 Way Valve, pneumatically actuated, threaded version
Type: S10 561..-1/4, S10 562..-1/4, S10 561RF.-1/4



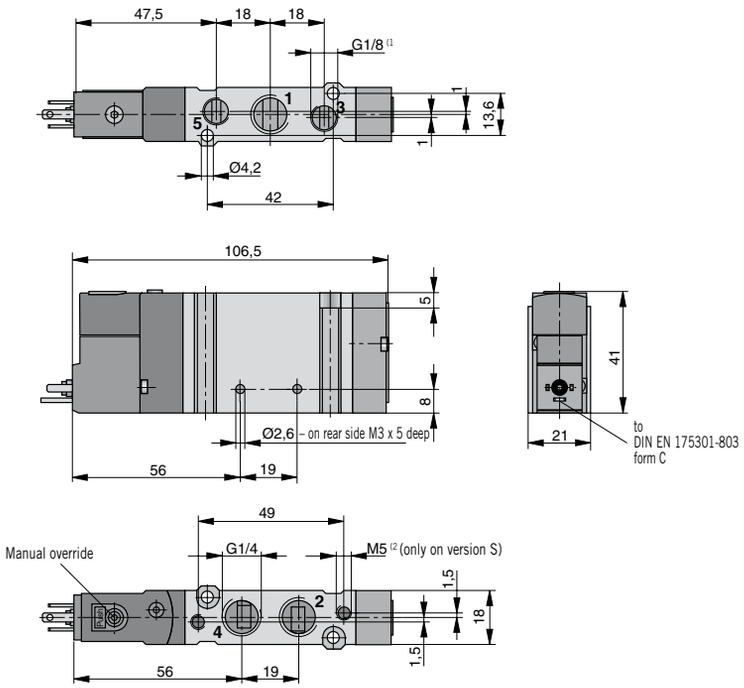
(1 thread depth 7.5 mm
(2 thread depth 5 mm

5/2 and 5/3 Way Valve, pneumatically actuated, version with push-in connections
Type: S10 561..-Q8, S10 562..-Q8, S10 561RF.-Q8



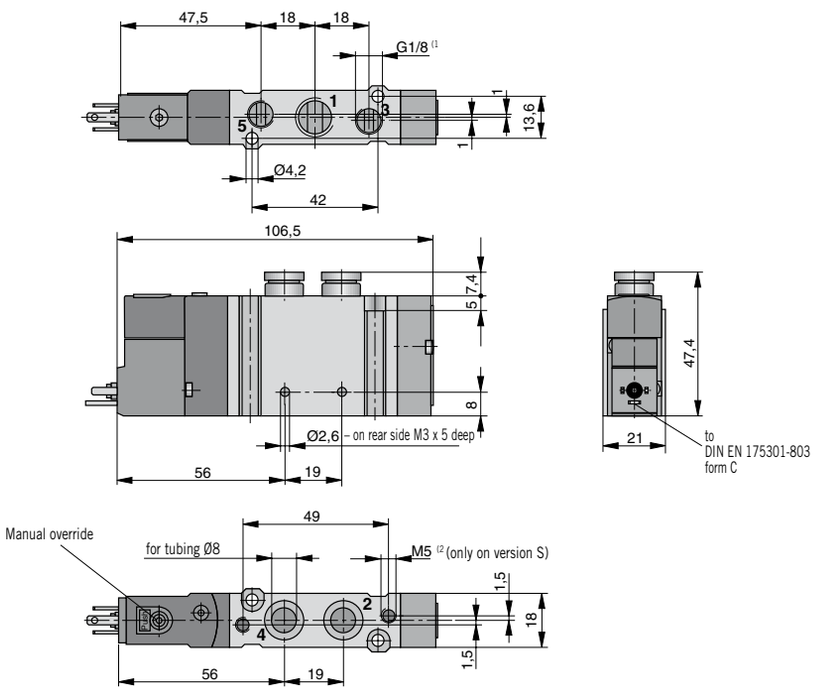
(1 thread depth 7.5 mm
(2 thread depth 5 mm

5/2 Way Valve, electrically actuated (permanent signal) – threaded version
Type: S10 581..-1/4



(1 thread depth 7.5 mm
(2 thread depth 5 mm

5/2 Way Valve, electrically actuated (permanent signal) – version with push-in connections
Type: S10 581..-Q8

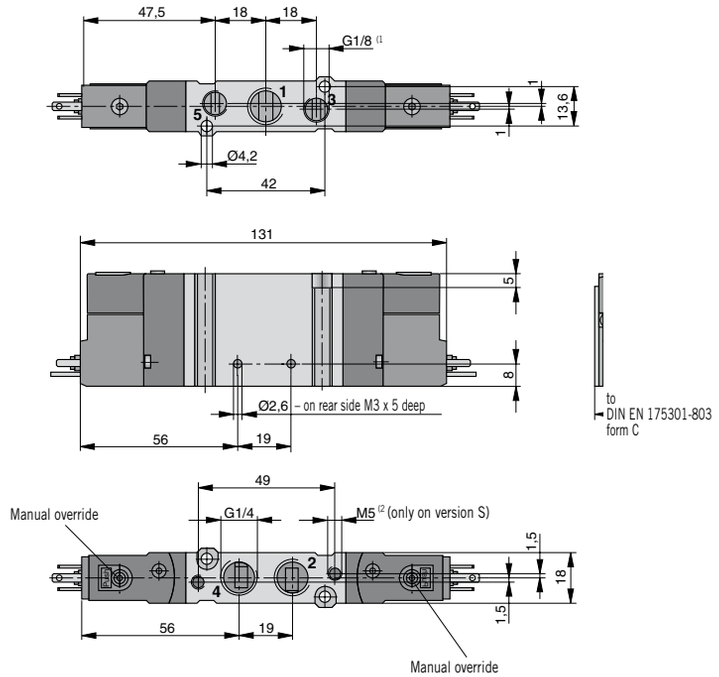


(1 thread depth 7.5 mm
(2 thread depth 5 mm

For RPS manifolds see page 39, for mounting bracket see page 41,
for adapter plate see page 41

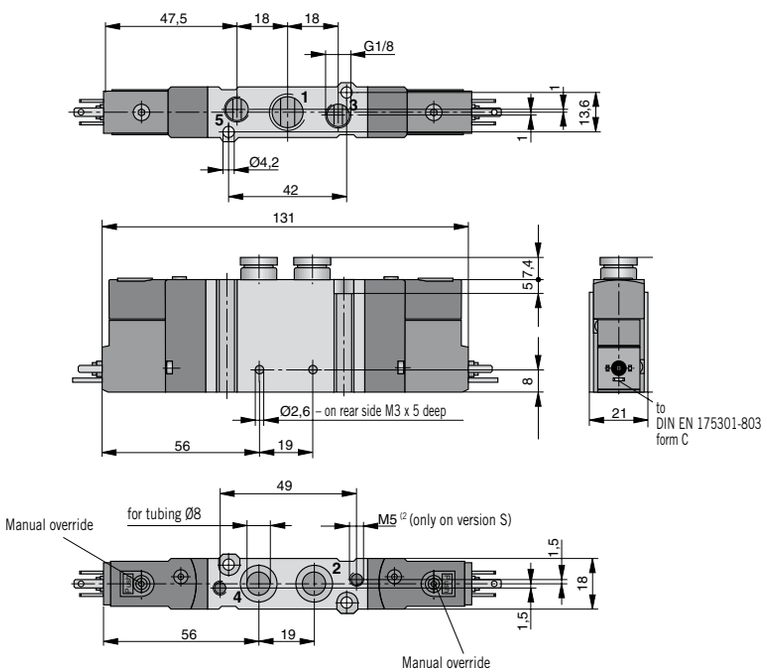
Dimensions in mm

5/2 Way Valve, electrically actuated (impulse) – threaded version Type: S10 581-1/4, S10 582-1/4
5/3 Way Valve, electrically actuated (permanent signal) – threaded version Type: S10 581RF.-1/4



(1 thread depth 7.5 mm
(2 thread depth 5 mm

5/2 Way Valve, electrically actuated (impulse) – version with Push-In Connections Type: S10 581-Q6, S10 582-Q8
5/3 Way Valve, electrically actuated (permanent signal) – version with Push-In Connections Type: S10 581RF.-Q8

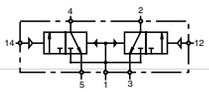
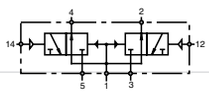
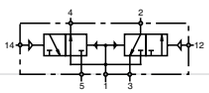
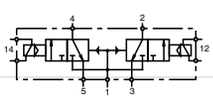
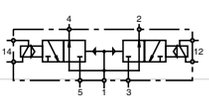
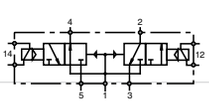
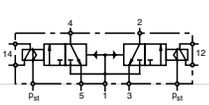
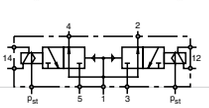
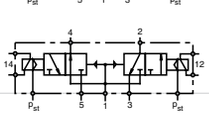


(1 thread depth 7.5 mm
(2 thread depth 5 mm

For RPS manifolds see page 39, for mounting bracket see page 41,
for adapter plate see page 41

Dimensions in mm

Order Instructions – 2 x 3/2 Way Valves, Series S10..-1/8, S10..-1/4, S10..-Q6, S10..-Q8

Actuation System	Symbol	Connections		Order Instructions		Page
		Thread	Push-In	Type	Order No.	
Pneumatic by permanent signal		G1/8	–	S10 361R2G-1/8	PA 10417	18
		–	ODØ 6mm	S10 361R2G-Q6	PA 10447	18
		G1/4	–	S10 361R2G-1/4	PA 10537	22
		–	ODØ 8mm	S10 361R2G-Q8	PA 10567	23
		G1/8	–	S10 361R2O-1/8	PA 10418	18
		–	ODØ 6mm	S10 361R2O-Q6	PA 10448	18
		G1/4	–	S10 361R2O-1/4	PA 10538	22
		–	ODØ 8mm	S10 361R2O-Q8	PA 10568	23
		G1/8	–	S10 361RGO-1/8	PA 10419	20
		–	ODØ 6mm	S10 361RGO-Q6	PA 10449	18
		G1/4	–	S10 361RGO-1/4	PA 10539	22
		–	ODØ 8mm	S10 361RGO-Q8	PA 10569	23
Electrical by permanent signal		G1/8	–	S10 381R2G-1/8-□33-□	PA 10404-□33-□	19
		–	ODØ 6mm	S10 381R2G-Q6-□33-□	PA 10434-□33-□	19
		G1/4	–	S10 381R2G-1/4-□33-□	PA 10524-□33-□	21
		–	ODØ 8mm	S10 381R2G-Q8-□33-□	PA 10554-□33-□	21
		G1/8	–	S10 381R2O-1/8-□33-□	PA 10406-□33-□	19
		–	ODØ 6mm	S10 381R2O-Q6-□33-□	PA 10436-□33-□	19
		G1/4	–	S10 381R2O-1/4-□33-□	PA 10526-□33-□	21
		–	ODØ 8mm	S10 381R2O-Q8-□33-□	PA 10556-□33-□	21
		G1/8	–	S10 381RGO-1/8-□33-□	PA 10408-□33-□	19
		–	ODØ 6mm	S10 381RGO-Q6-□33-□	PA 10438-□33-□	19
		G1/4	–	S10 381RGO-1/4-□33-□	PA 10528-□33-□	21
		–	ODØ 8mm	S10 381RGO-Q8-□33-□	PA 10558-□33-□	21
Electrical by permanent signal with external pilot air		G1/8	–	S10 381S-R2G-1/8-□33-□	PA 10405-□33-□	19
		–	ODØ 6mm	S10 381S-R2G-Q6-□33-□	PA 10435-□33-□	19
		G1/4	–	S10 381S-R2G-1/4-□33-□	PA 10525-□33-□	21
		–	ODØ 8mm	S10 381S-R2G-Q8-□33-□	PA 10555-□33-□	21
		G1/8	–	S10 381S-R2O-1/8-□33-□	PA 10407-□33-□	19
		–	ODØ 6mm	S10 381S-R2O-Q6-□33-□	PA 10437-□33-□	19
		G1/4	–	S10 381S-R2O-1/4-□33-□	PA 10527-□33-□	21
		–	ODØ 8mm	S10 381S-R2O-Q8-□33-□	PA 10557-□33-□	21
		G1/8	–	S10 381S-RGO-1/8-□33-□	PA 10409-□33-□	19
		–	ODØ 6mm	S10 381S-RGO-Q6-□33-□	PA 10439-□33-□	19
		G1/4	–	S10 381S-RGO-1/4-□33-□	PA 10529-□33-□	21
		–	ODØ 6mm	S10 381S-RGO-Q8-□33-□	PA 10559-□33-□	21

Solenoid version/ voltage
– for connector
00 without solenoid
01 12 V DC
02 24 V DC
04 48 V DC
07 110 V DC
50 12 V AC
51 24 V AC
55 48 V AC
57 110 V AC
61 230 V AC
– with cable (length 1m)
41 12 V DC
42 24 V DC
71 12 V AC
72 24 V AC

Other voltages available on request

Notes on ordering:
All electrically actuated valves are supplied **without** connector as standard.
– please include this in Order No. or order it separately (see Order Instructions).

For electrically actuated valves please complete the Type Designation and Order No. with the order codes.

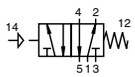
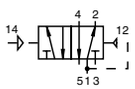
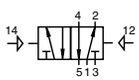
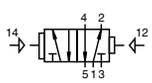
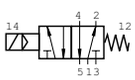
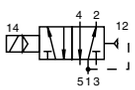
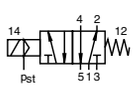
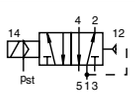
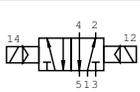
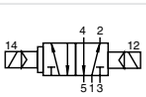
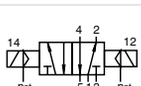
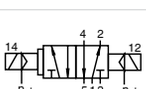
Example:
3/2 Way Valve, threaded version G1/8, electrically actuated, with spring return, normally closed, voltage 12 V DC, with standard connector

Order Instructions:
S10 381R2G-1/8-0133-88 **PA 10404-0133-88**

Variants connector	
00	without connector *
88	standard connector 15mm
89	230 V AC with LED and protective circuit
92	24 V DC with LED and protective circuit

* Standard version

Order Instructions – 5/2 Way Valves, Series S10..-1/8, S10..-1/4, S10..-Q6, S10..-Q8

Actuation System	Symbol	Connections		Order Instructions		Page
		Thread	Push-In Connections	Type	Order No.	
Pneumatic by permanent signal		G1/8	–	S10 561RF-1/8	PA 10410	22, 23
		–	ODØ 6mm	S10 561RF-Q6	PA 10440	22, 23
		G1/4	–	S10 561RF-1/4	PA 10530	26
		–	ODØ 8mm	S10 561RF-Q8	PA 10560	26
		G1/8	–	S10 561R-1/8	PA 10411	22, 23
		–	ODØ 6mm	S10 561R-Q6	PA 10441	22, 23
		G1/4	–	S10 561R-1/4	PA 10531	26
		–	ODØ 8mm	S10 561R-Q8	PA 10561	26
Pneumatic by impulse – with biased position		G1/8	–	S10 561-1/8	PA 10412	22, 23
		–	ODØ 6mm	S10 561-Q6	PA 10442	22, 23
		G1/4	–	S10 561-1/4	PA 10532	26
		–	ODØ 8mm	S10 561-Q8	PA 10562	26
		G1/8	–	S10 562-1/8	PA 10413	22, 23
		–	ODØ 6mm	S10 562-Q6	PA 10443	22, 23
		G1/4	–	S10 562-1/4	PA 10533	26
		–	ODØ 8mm	S10 562-Q4	PA 10563	26
Electrical by permanent signal		G1/8	–	S10 581RF-1/8-□33-□	PA 10390-□33-□	24
		–	ODØ 6mm	S10 581RF-Q6-□33-□	PA 10420-□33-□	24
		G1/4	–	S10 581RF-1/4-□33-□	PA 10510-□33-□	27
		–	ODØ 8mm	S10 581RF-Q8-□33-□	PA 10540-□33-□	27
		G1/8	–	S10 581R-1/8-□33-□	PA 10392-□33-□	24
		–	ODØ 6mm	S10 581R-Q6-□33-□	PA 10422-□33-□	24
		G1/4	–	S10 581R-1/4-□33-□	PA 10512-□33-□	27
		–	ODØ 8mm	S10 581R-Q8-□33-□	PA 10542-□33-□	27
Electrical by permanent signal with external pilot air		G1/8	–	S10 581S-RF-1/8-□33-□	PA 10391-□33-□	24
		–	ODØ 6mm	S10 581S-RF-Q6-□33-□	PA 10421-□33-□	24
		G1/4	–	S10 581S-RF-1/4-□33-□	PA 10511-□33-□	27
		–	ODØ 8mm	S10 581S-RF-Q8-□33-□	PA 10541-□33-□	27
		G1/8	–	S10 581S-R-1/8-□33-□	PA 10393-□33-□	24
		–	ODØ 6mm	S10 581S-R-Q6-□33-□	PA 10423-□33-□	24
		G1/4	–	S10 581S-R-1/4-□33-□	PA 10513-□33-□	27
		–	ODØ 8mm	S10 581S-R-Q8-□33-□	PA 10543-□33-□	27
Electrical by impulse – with biased position		G1/8	–	S10 581-1/8-□33-□	PA 10394-□33-□	25
		–	ODØ 6mm	S10 581-Q6-□33-□	PA 10424-□33-□	25
		G1/4	–	S10 581-1/4-□33-□	PA 10514-□33-□	27
		–	ODØ 8mm	S10 581-Q8-□33-□	PA 10544-□33-□	27
		G1/8	–	S10 582-1/8-□33-□	PA 10396-□33-□	25
		–	ODØ 6mm	S10 582-Q6-□33-□	PA 10426-□33-□	25
		G1/4	–	S10 582-1/4-□33-□	PA 10516-□33-□	27
		–	ODØ 8mm	S10 582-Q8-□33-□	PA 10546-□33-□	27
Electrical by impulse with external pilot air – with biased position		G1/8	–	S10 581S-1/8-□33-□	PA 10395-□33-□	25
		–	ODØ 6mm	S10 581S-Q6-□33-□	PA 10425-□33-□	25
		G1/4	–	S10 581S-1/4-□33-□	PA 10515-□33-□	27
		–	ODØ 8mm	S10 581S-Q8-□33-□	PA 10545-□33-□	27
		G1/8	–	S10 582S-1/8-□33-□	PA 10397-□33-□	25
		–	ODØ 6mm	S10 582S-Q6-□33-□	PA 10427-□33-□	25
		G1/4	–	S10 582S-1/4-□33-□	PA 10517-□33-□	27
		–	ODØ 8mm	S10 582S-Q8-□33-□	PA 10547-□33-□	27

Supplements on types and order no. see page 29

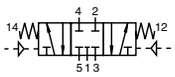
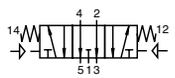
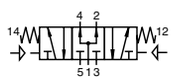
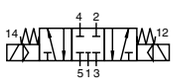
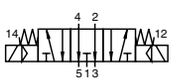
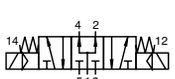
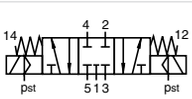
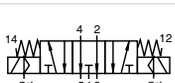
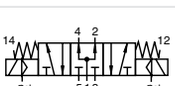
Notes on ordering:
All electrically actuated valves are supplied **without** connector as standard.
– please include this in Order No. or order it separately (see Order Instructions).

For electrically actuated valves please complete the Type Designation and Order No. with the order codes.

Example:
5/2 Way Valve, Push-In Connections, electrically actuated, with spring return, voltage 24 V DC, with standard connector.

Order Instructions:
S10 581RF-Q6-0233-88 **PA 10420-0233-88**

Order Instructions – 5/3 Way Valves, Series S10..-1/8, S10..-1/4, S10..-Q6, S10..-Q8

Actuation System	Symbol	Connections		Order Instructions		Page
		Thread	Push-In	Type	Order No.	
Pneumatic permanent signal		G1/8	–	S10 561RFG-1/8	PA 10414	23
		–	ODØ 6mm	S10 561RFG-Q6	PA 10444	23
		G1/4	–	S10 561RFG-1/4	PA 10534	26
		–	ODØ 8mm	S10 561RFG-Q8	PA 10564	26
		G1/8	–	S10 561RFE-1/8	PA 10415	23
		–	ODØ 6mm	S10 561RFE-Q6	PA 10445	23
		G1/4	–	S10 561RFE-1/4	PA 10535	26
		–	ODØ 8mm	S10 561RFE-Q8	PA 10565	26
		G1/8	–	S10 561RFB-1/8	PA 10416	23
		–	ODØ 6mm	S10 561RFB-Q6	PA 10446	23
		G1/4	–	S10 561RFB-1/4	PA 10536	26
		–	ODØ 8mm	S10 561RFB-Q8	PA 10566	26
Electrical permanent signal		G1/8	–	S10 581RFG-1/8-□33-□	PA 10398-□33-□	25
		–	ODØ 6mm	S10 581RFG-Q6-□33-□	PA 10428-□33-□	25
		G1/4	–	S10 581RFG-1/4-□33-□	PA 10518-□33-□	28
		–	ODØ 8mm	S10 581RFG-Q8-□33-□	PA 10548-□33-□	28
		G1/8	–	S10 581RFE-1/8-□33-□	PA 10400-□33-□	25
		–	ODØ 6mm	S10 581RFE-Q6-□33-□	PA 10430-□33-□	25
		G1/4	–	S10 581RFE-1/4-□33-□	PA 10520-□33-□	28
		–	ODØ 8mm	S10 581RFE-Q8-□33-□	PA 10550-□33-□	28
		G1/8	–	S10 581RFB-1/8-□33-□	PA 10402-□33-□	25
		–	ODØ 6mm	S10 581RFB-Q6-□33-□	PA 10432-□33-□	25
		G1/4	–	S10 581RFB-1/4-□33-□	PA 10522-□33-□	28
		–	ODØ 8mm	S10 581RFB-Q8-□33-□	PA 10552-□33-□	28
Electrical permanent signal with external pilot air		G1/8	–	S10 581S-RFG-1/8-□33-□	PA 10399-□33-□	25
		–	ODØ 6mm	S10 581S-RFG-Q6-□33-□	PA 10429-□33-□	25
		G1/4	–	S10 581S-RFG-1/4-□33-□	PA 10519-□33-□	28
		–	ODØ 8mm	S10 581S-RFG-Q8-□33-□	PA 10549-□33-□	28
		G1/8	–	S10 581S-RFE-1/8-□33-□	PA 10401-□33-□	25
		–	ODØ 6mm	S10 581S-RFE-Q6-□33-□	PA 10431-□33-□	25
		G1/4	–	S10 581S-RFE-1/4-□33-□	PA 10521-□33-□	28
		–	ODØ 8mm	S10 581S-RFE-Q8-□33-□	PA 10551-□33-□	28
		G1/8	–	S10 581S-RFB-1/8-□33-□	PA 10403-□33-□	25
		–	ODØ 6mm	S10 581S-RFB-Q6-□33-□	PA 10433-□33-□	25
		G1/4	–	S10 581S-RFB-1/4-□33-□	PA 10523-□33-□	28
		–	ODØ 8mm	S10 581S-RFB-Q8-□33-□	PA 10553-□33-□	28

Solenoid version/ voltage
– for connector
00 without solenoid
01 12 V DC
02 24 V DC
04 48 V DC
07 110 V DC
50 12 V AC
51 24 V AC
55 48 V AC
57 110 V AC
61 230 V AC
– with cable (length 1m)
41 12 V DC
42 24 V DC
71 12 V AC
72 24 V AC

Other voltages available on request

Notes on ordering:
all electrically actuated valves are supplied **without** connector as standard
– please include this in Order No. or order it separately (see Order Instructions).

For electrically actuated valves please complete the Type Designation and Order No. with the order codes.

Example:
5/3 Way Valve, middle position closed, Push-In Connections, electrically actuated, with spring return, voltage 230V AC, without connector.

Order Instructions:
S10 581RFG-Q6-6133-00 **PA 10428-6133-00**

Variants connector	
00	without connector *
88	standard connector 15mm
89	230 V AC with LED and protective circuit
92	24 V DC with LED and protective circuit

* Standard version

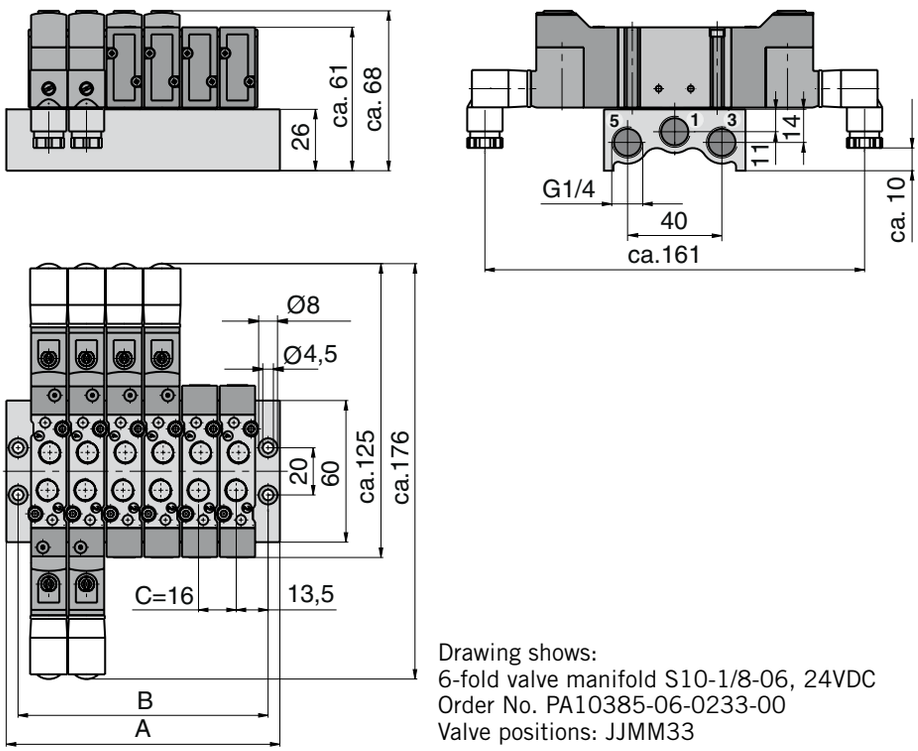
Valve Manifold Assemblies Series S10

G1/8

fully assembled

Actuation systems:
– Pneumatic
– Electrical pilot actuated

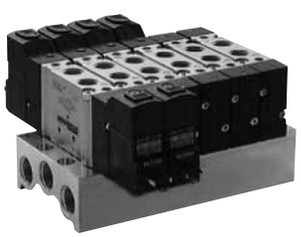
Valve Manifold assembly, fully assembled – threaded version, Type: S10-1/8-..



Drawing shows:
6-fold valve manifold S10-1/8-06, 24VDC
Order No. PA10385-06-0233-00
Valve positions: JJMM33

Dimension Table (mm)

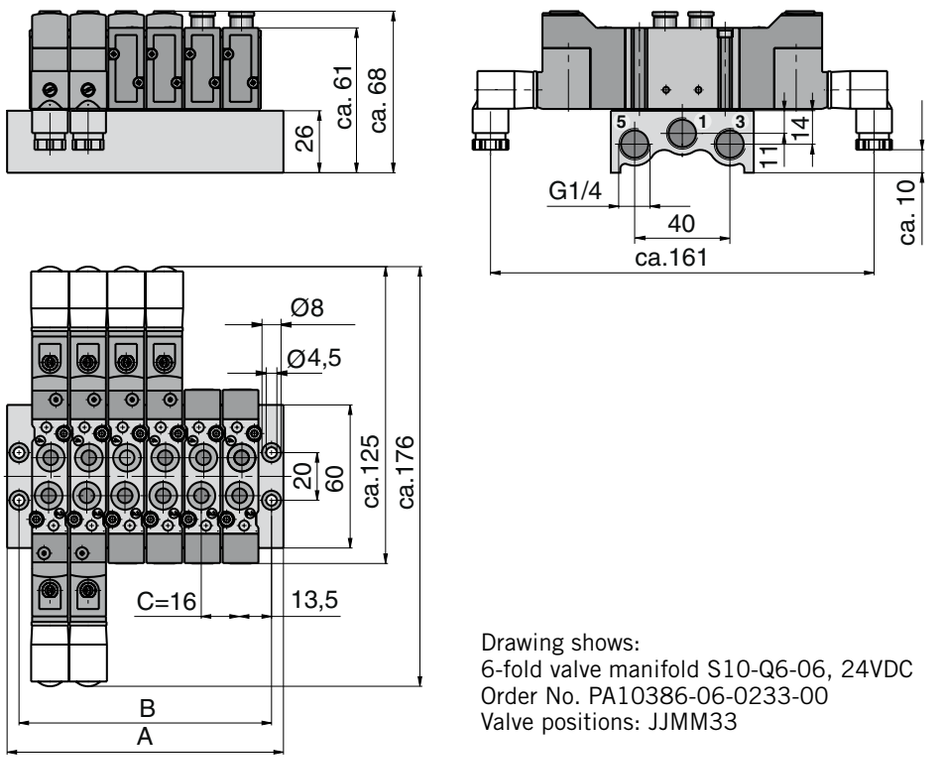
Dimension	Number of valves							
	2	4	6	8	10	12	14	16
A	52	84	116	148	180	212	244	276
B	42	74	106	138	170	202	234	266



For single valves see page 18-28, for order instructions see page 36

Dimensions in mm

Valve Manifold assembly, fully assembled – version with Push-In Connections, Type: S10-Q6-..



Drawing shows:
6-fold valve manifold S10-Q6-06, 24VDC
Order No. PA10386-06-0233-00
Valve positions: JJMM33

Valve Manifold Assembly Series S10

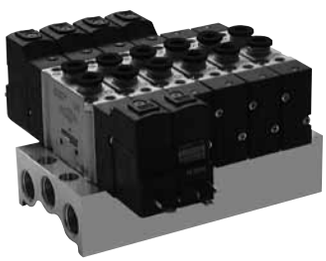
Push-In Connections OD 6 mm

fully assembled

Actuation systems:
– Pneumatic
– Electrical pilot actuated

Dimension Table (mm)

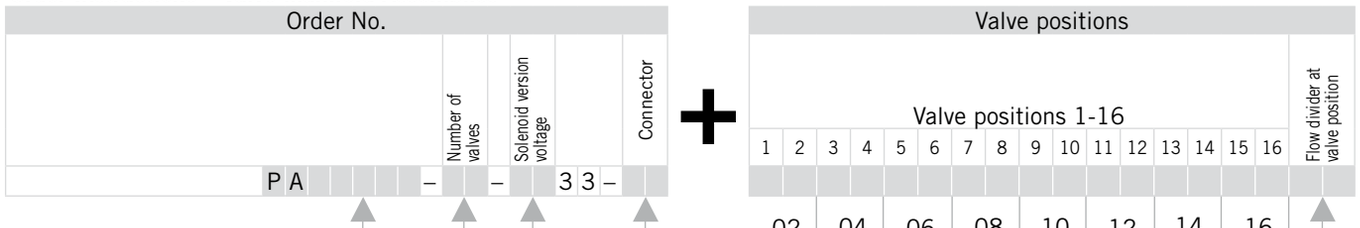
Dimension	Number of valves							
	2	4	6	8	10	12	14	16
A	52	84	116	148	180	212	244	276
B	42	74	106	138	170	202	234	266



For single valves see page 18-28, for order instructions see page 36

Dimensions in mm

Order Instructions – Valve Manifold Assemblies



Version	
PA 10385	Valves with threaded ports G1/8 Series: S10-1/8
PA 10386	Valves with push-in ports OD 6 Series: S10-Q6

Number of Valves	
02	1 – 2 valves
04	3 – 4 valves
06	5 – 6 valves
08	7 – 8 valves
10	9 – 10 valves
12	11 – 12 valves
14	13 – 14 valves
16	15 – 16 valves

Solenoid version/ voltage – for connector	
00	without solenoid
01	12 V DC
02	24 V DC
04	48 V DC
07	110 V DC
50	12 V AC
51	24 V AC
55	48 V AC
57	110 V AC
61	230 V AC
– with cable (length 1m)	
41	12 V DC
42	24 V DC
71	12 V AC
72	24 V AC
Other solenoid versions (voltages) available on request	

Connector Version	
00	without connector (standard version)
88	standard connector 15 mm wide
89	230 V AC with LED and protective circuit
92	24 V DC with LED and protective circuit

Only even numbers of valves are possible!
Please enter the codes for the valve types required.

Flow divider (for dualpressure operating)	
	none (standard)
..	at valve position

Order Codes for Valves and Cover Plates

Code	Description	Page
A	Cover plate for unused valve position	41
P	Intermediate air supply adapter G1/8	41
Pneumatically actuated		
8	2x 3/2 Way Valve NC, air spring return	18, 22
9	2x 3/2 Way Valve NO, air spring return	18, 22
0	2x 3/2 Way Valve NC, NO, air spring return	18, 22
1	5/2 Way Valve, spring return	22, 23, 26, 27
2	5/2 Way Valve, air spring return	22, 23, 26, 27
3	5/2 Way Valve, impulse	22, 23, 26, 27
4	5/2 Way Valve, impulse, with biased position	22, 23, 26, 27
5	5/3 Way Valve, middle position closed, spring return to middle position	22, 23, 26, 27
7	5/3 Way Valve, middle position exhausted, spring return to middle position	22, 23, 26, 27
6	5/3 Way Valve, middle position pressurized, spring return to middle position	22, 23, 26, 27

Order Codes for Valves and Cover Plates

Code	Description	Page
Electrically actuated		
K	2x 3/2 Way Valve NC, air spring return	19, 21
N	2x 3/2 Way Valve NO, air spring return	19, 21
H	2x 3/2 Way Valve NC, NO, air spring return	19, 21
M	5/2 Way Valve, spring return	24, 27
L	5/2 Way Valve, air spring return	24, 27
J	5/2 Way Valve, impulse	24, 27
D	5/2 Way Valve, impulse, with biased position	24, 27
G	5/3 Way Valve, middle position closed, spring return to middle position	25, 28
E	5/3 Way Valve, middle position exhausted, spring return to middle position	25, 28
B	5/3 Way Valve, middle position pressurized, spring return to middle position	25, 28

Order Codes for Valves and Cover Plates

Code	Description	Page
Electrically actuated, with external pilot air		
X	2x 3/2 Way Valve NC, air spring return	19, 21
Y	2x 3/2 Way Valve NO, air spring return	19, 21
Z	2x 3/2 Way Valve NC, NO, air spring return	19, 21
F	5/2 Way Valve, spring return	24, 27
R	5/2 Way Valve, air spring return	24, 27
S	5/2 Way Valve, impulse	24, 27
T	5/2 Way Valve, impulse, with biased position	24, 27
U	5/3 Way Valve, middle position closed, spring return to middle position	25, 28
W	5/3 Way Valve, middle position exhausted, spring return to middle position	25, 28
V	5/3 Way Valve, middle position pressurized, spring return to middle position	25, 28

Valve Islands, fully assembled – threaded version, Type: IM10-1/8-..

Valve Islands Series IM10

G1/8

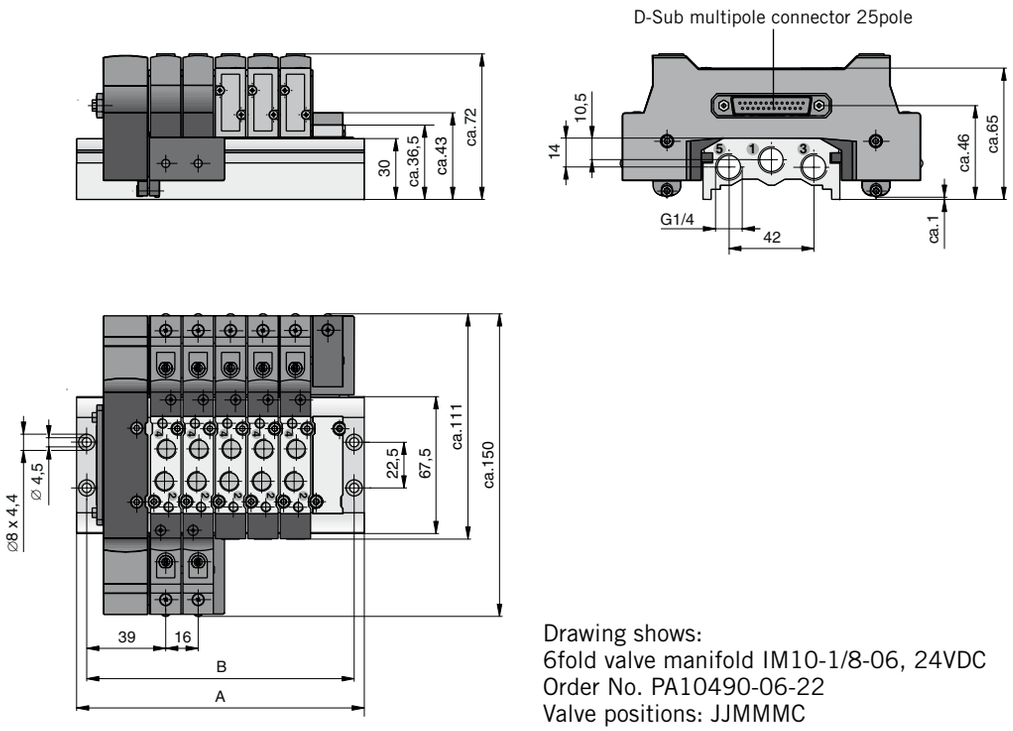
fully assembled

Actuation systems:
– Electrical pilot actuated

Version:
Multipole version with D-Sub multipole connector 25pole.

Valve positions:
– Combination mono-/ bistable outputs
max. 22
max. 18 (monostable)

On request:
Expandable with external field bus components (Profi Bus DP, Inter Bus S, CAN Device net, AS-Interface



Drawing shows:
6fold valve manifold IM10-1/8-06, 24VDC
Order No. PA10490-06-22
Valve positions: JJMMMC

Dimension Table (mm)

Dimen-sion	Number of valves																
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
A	78	94	110	126	142	158	174	190	206	222	238	254	270	286	302	318	334
B	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324

For single valves see page 18-28, for order instructions see page 39

Dimensions in mm

Valve Islands Series IM10

Push-In Connections OD 6 mm

fully assembled

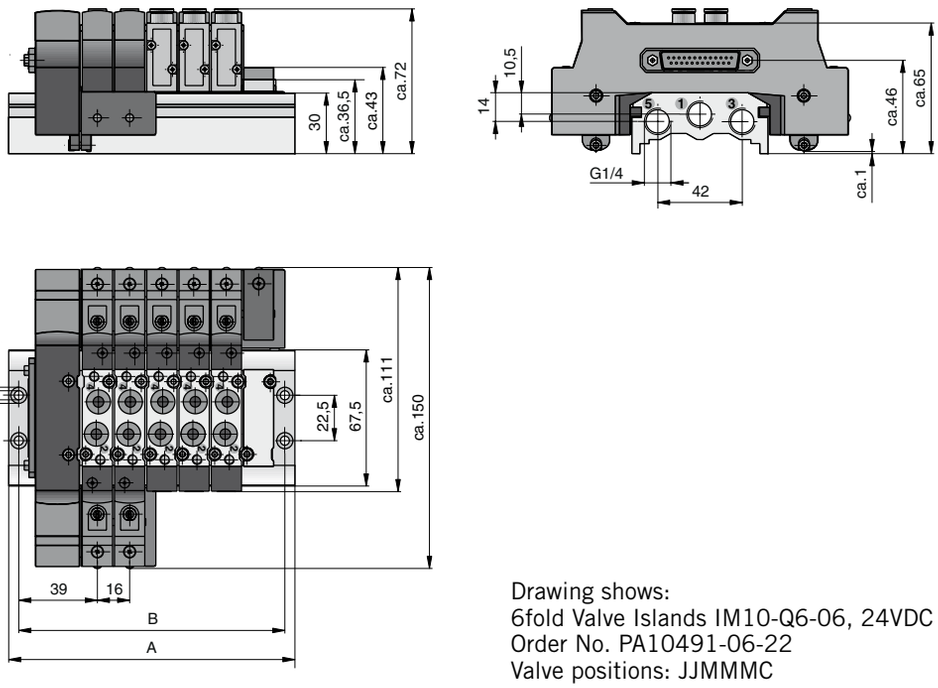
Actuation systems:
– Electrical pilot actuated

Version:
Multipole version with D-Sub multipole connector 25pole.

Valve positions:
– Combination mono-/ bistabil
Outputs
max. 22
max. 18 (monostable)

On request:
Expandable with external field bus components (Profi Bus DP, Inter Bus S, CAN Device net, AS-Interface)

Valve Islands, fully assembled – with Push-In Connections, Type: IM10-Q6-..



Drawing shows:
6fold Valve Islands IM10-Q6-06, 24VDC
Order No. PA10491-06-22
Valve positions: JJMMMC

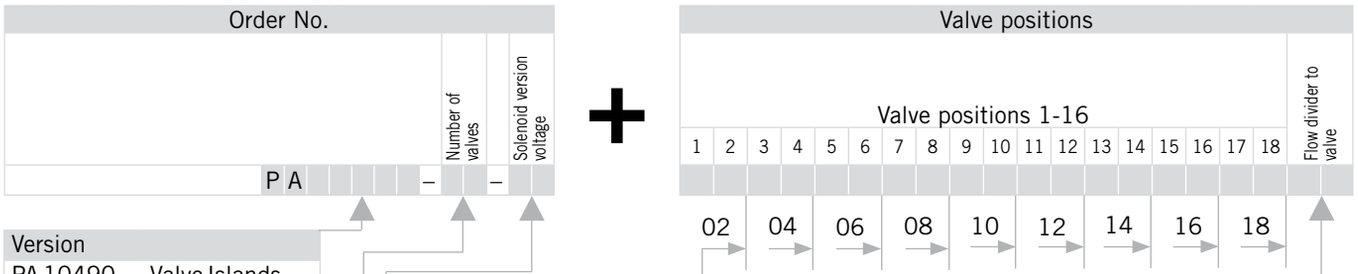
Dimension Table (mm)

Dimension	Number of valves																
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
A	78	94	110	126	142	158	174	190	206	222	238	254	270	286	302	318	334
B	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324

For single valves see page 18-28, for order instructions see page 36

Dimensions in mm

Order Instructions – Valve Islands



Version	
PA 10490	Valve Islands with threaded ports G1/8 Series: IM10-1/8
PA 10491	Valve Islands with push-in connections OD 6, Series: IM10-Q6

Valves	
02	2 valves
03	3 valves *
04	4 valves
05	5 valves
▼	
18	18 Valves

* uneven number of valve positions on request

Solenoid version/ voltage	
21	12 V DC
22	24 V DC

Even and uneven numbers of valves are possible!
Please enter the codes for the valve types required.

Flow divider (for dualpressure operating)	
	without (standard)
..	at valve position

Order Codes for Valves and Cover Plates

Code	Description	Page
A	Cover plate for unused valve position	41
C	Cover plate (monostable)*	41
O	Cover plate (bistabil)*	41
P	Intermediate air supply adapter G1/8	41

* including electrical socket

Order Codes for Valves and Cover Plates

Code	Description	Page
Electrically actuated		
K	2x 3/2 Way Valve NC, air spring return	19
N	2x 3/2 Way Valve NO, air spring return	19
H	2x 3/2 Way Valve NC, NO, air spring return	19
M	5/2 Way Valve, spring return	24
L	5/2 Way Valve, air spring return	24
J	5/2 Way Valve, impulse	24
D	5/2 Way Valve, impulse, with biased position	25
G	5/3 Way Valve, middle position closed, spring return to middle position	25
E	5/3 Way Valve, middle position exhausted, spring return to middle position	25
B	5/3 Way Valve, middle position pressurized, spring return to middle position	25

Order Codes for Valves and Cover Plates

Code	Description	Page
Electrically actuated, with external pilot air		
X	2x 3/2 Way Valve NC, air spring return	19
Y	2x 3/2 Way Valve NO, air spring return	19
Z	2x 3/2 Way Valve NC, NO, air spring return	19
F	5/2 Way Valve, spring return	24
R	5/2 Way Valve, air spring return	24
S	5/2 Way Valve, impulse	24
T	5/2 Way Valve, impulse, with biased position	25
U	5/3 Way Valve, middle position closed, spring return to middle position	25
W	5/3 Way Valve, middle position exhausted, spring return to middle position	25
V	5/3 Way Valve, middle position pressurized, spring return to middle position	25

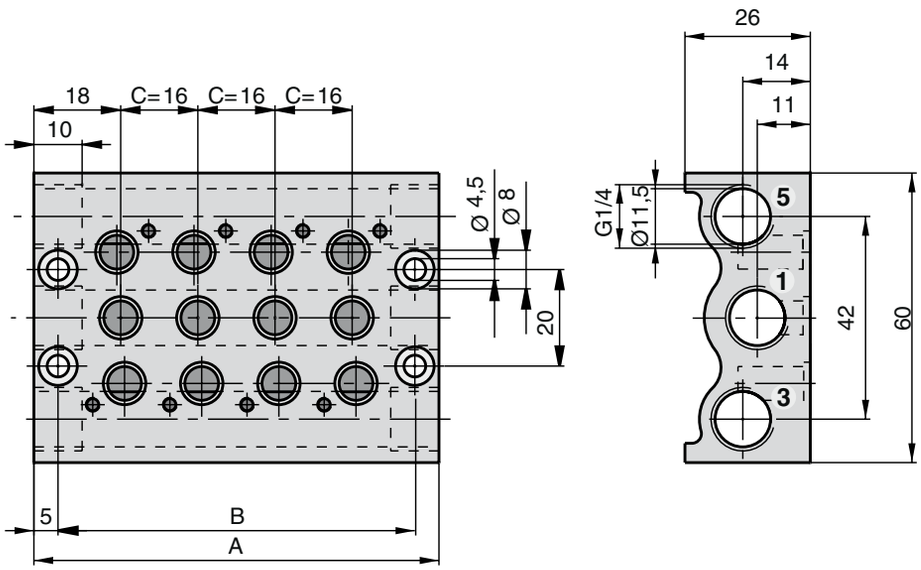
RPS-Manifolds

for Directional Valves
–Series S10-1/8
–Series S10-Q6

RPS manifolds reduce and simplify the tubing layout. They provide a space-saving, clear and simple, compact solution.
RPS manifolds have a common compressed air supply port (P) and common exhaust ports (R, S).
From 2 to 16 valves can be mounted on them.
(Other sizes available on request)

Materials:
RPS manifold
– aluminium
Screws
– galvanized steel
Gasket
– oil-resistant rubber

Dimension Table (mm) – Type: RPSL-S10-1/8-..



Drawing shows: 4fold valve manifold

Dimension Table (mm)

Type	Number of valves	Dimension	
		A	B
RPSL-S10-1/8-02	02	52	42
RPSL-S10-1/8-04	04	84	74
RPSL-S10-1/8-06	06	116	106
RPSL-S10-1/8-08	08	148	138
RPSL-S10-1/8-10	10	180	170
RPSL-S10-1/8-12	12	212	202
RPSL-S10-1/8-14	14	244	234
RPSL-S10-1/8-16	16	276	266

Order Instructions and Weight

Order Instructions *		consisting of			Weight
Type	Order No.	Manifold	Screws	Seals	(mass) [kg]
RPSL-S10-1/8-02	PD47254-0002	1	4	2	0.116
RPSL-S10-1/8-04	PD47254-0004	1	8	4	0.190
RPSL-S10-1/8-06	PD47254-0006	1	12	6	0.264
RPSL-S10-1/8-08	PD47254-0008	1	16	8	0.337
RPSL-S10-1/8-10	PD47254-0010	1	20	10	0.410
RPSL-S10-1/8-12	PD47254-0012	1	24	12	0.484
RPSL-S10-1/8-14	PD47254-0014	1	28	14	0.557
RPSL-S10-1/8-16	PD47254-0016	1	32	16	0.630

*other versions on request

For single valves see page 18-28, for order instructions see page 36

Dimensions in mm

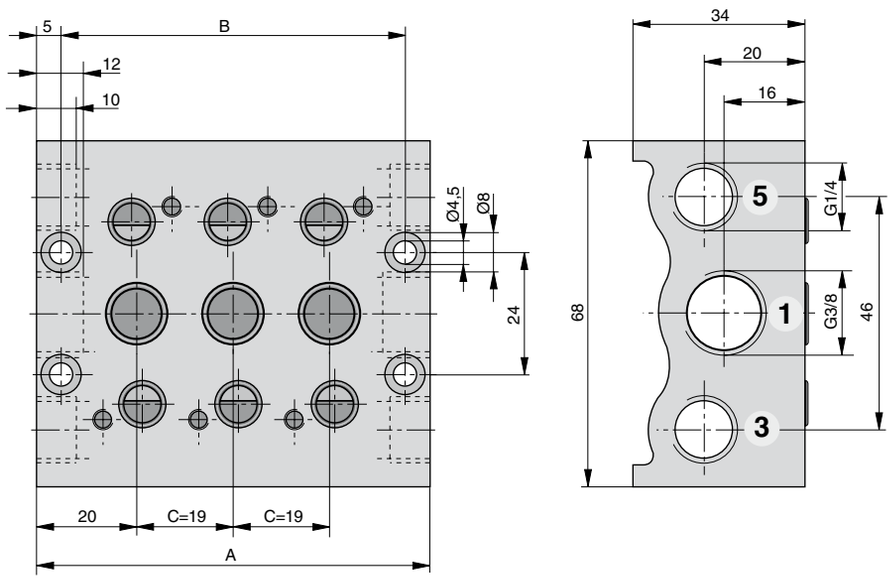
RPS Manifolds

for Directional Valves
–Series S10-1/4
–Series S10-Q8

RPS manifolds reduce and simplify the tubing layout. They provide a space-saving, clear and simple, compact solution.
RPS manifolds have a common compressed air supply port (P) and common exhaust ports (R, S).
From 2 to 16 valves can be mounted on them.
(Other sizes available on request)

Materials:
RPS manifold
– aluminium
Screws
– galvanized steel
Gasket
– oil-resistant rubber

Dimension Table (mm) – Type: RPSL-S10-1/4-..



Drawing shows: 3fold manifold

Maßtabelle (mm)

Type	Number of valves	Dimension	
		A	B
RPSL-S10-1/4-02	02	59	49
RPSL-S10-1/4-04	04	97	87
RPSL-S10-1/4-06	06	135	125
RPSL-S10-1/4-08	08	173	163
RPSL-S10-1/4-10	10	211	201
RPSL-S10-1/4-12	12	249	239
RPSL-S10-1/4-14	14	287	277
RPSL-S10-1/4-16	16	325	315

Order Instructions and Weight

Order Instructions *		consisting of			Weight
Type	Order No.	Manifold	Screws	Seals	(mass) [kg]
RPSL-S10-1/4-02	PD49210-0002	1	4	2	0.255
RPSL-S10-1/4-04	PD49210-0004	1	8	4	0.424
RPSL-S10-1/4-06	PD49210-0006	1	12	6	0.594
RPSL-S10-1/4-08	PD49210-0008	1	16	8	0.736
RPSL-S10-1/4-10	PD49210-0010	1	20	10	0.932
RPSL-S10-1/4-12	PD49210-0012	1	24	12	1.101
RPSL-S10-1/4-14	PD49210-0014	1	28	14	1.270
RPSL-S10-1/4-16	PD49210-0016	1	32	16	1.439

*other versions on request

For single valves see page 18-28

Dimensions in mm

Accessories

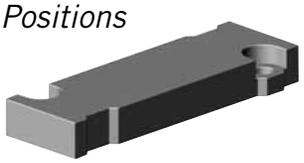
for Valve Manifold Assemblies

Flow Divider

Material: Aluminium

Order No.
– S10-1/8 (Q6): **PD47353**
– S10-1/4 (Q8): **PD49322**

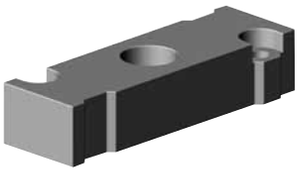
Cover Plate for unused Valve Positions



Material: Aluminium

Order No.
– S10-1/8 (Q6): **KL9114**
– S10-1/4 (Q8): **KL9186**

Intermediate Air Supply Adapter



Material: Aluminium

Order No.
– S10-1/8 (Q6): **KL9115**
– S10-1/4 (Q8): **KL9187**

Clamp Mounting for DIN Rail 35 mm

Versions:
– for Valve Manifolds S10
– for Valve Islands IM10

Material: Aluminium

The delivery includes:
1 clamp mounting
4 screws

Order Instructions – Clamp Mounting for S10-1/8 (Q6)

Clamp Mounting Number of valves	Order No.	
	for valve manifolds Type: S10-1/8	for valve islands Type: IM10-1/8
2	PD47393-0002	PD47949-0002
4	PD47393-0004	PD47949-0004
6	PD47393-0006	PD47949-0006
8	PD47393-0008	PD47949-0008
10	PD47393-0010	PD47949-0010
11 – 18	on request	PD48270

Order Instructions – Clamp Mounting for S10-1/4 (Q8)

Clamp Mounting valves	Order No. for RPS-manifold Type: RPSL-S10-1/4-..
2	PD49423-0002
4	PD49423-0004
6	PD49423-0006
8	PD49423-0008
10	PD49423-0010
12-16	on request

Cable with D-Sub multipole connector 25pole

Order Instructions – Cable

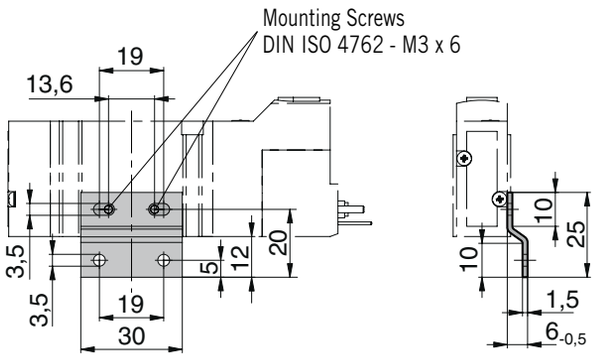
Cable length	Electrical protection	Order No.
2 m	IP40	KL3355
5 m	IP40	KL3356
5 m	IP65	KL3357

Dimensions in mm

Accessories

for Single Valves

Dimension Table – Mounting Bracket for Single Valves

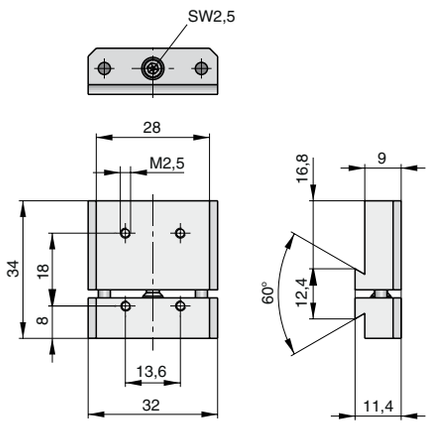


Mounting Bracket for Single Valves Series S10

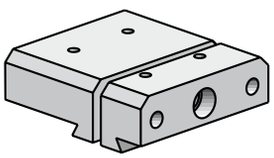
Material: Steel, passivated

Order No.: KL9112

Dimension Table – Adapter Plate for Single Valves S10-1/8 (Q6)



Adapter Plate for Single Valves Series S10-1/8 (Q6) Series S10-1/4 (Q8)

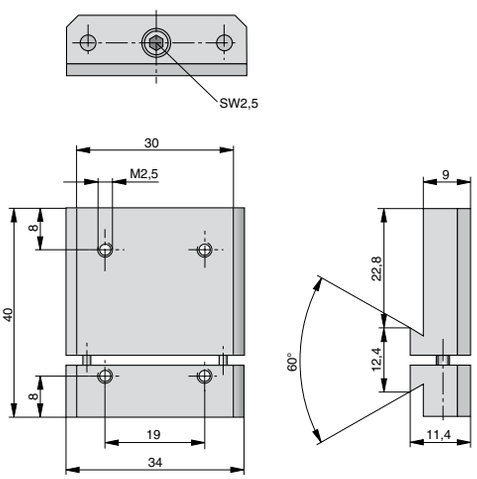


Adapter plate for direct mounting on Parker Origa profile cylinders

Material: Aluminium

Order No.
– S10-1/8 (Q6): **PD47420**
– S10-1/4 (Q8): **PD49325**

Dimension Table – Adapter Plate for Single Valves S10-1/4 (Q8)



Dimensions in mm

Accessories

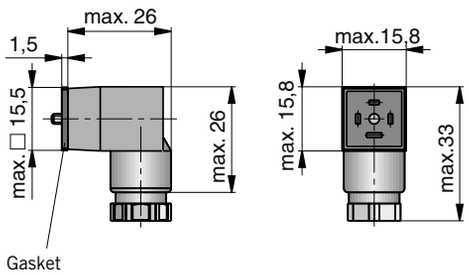
for Single Valves

Connectors for Series S10

– Standard version
– version with LED

Material: Plastic

Dimension Table – Connector



Versions and Order Instructions

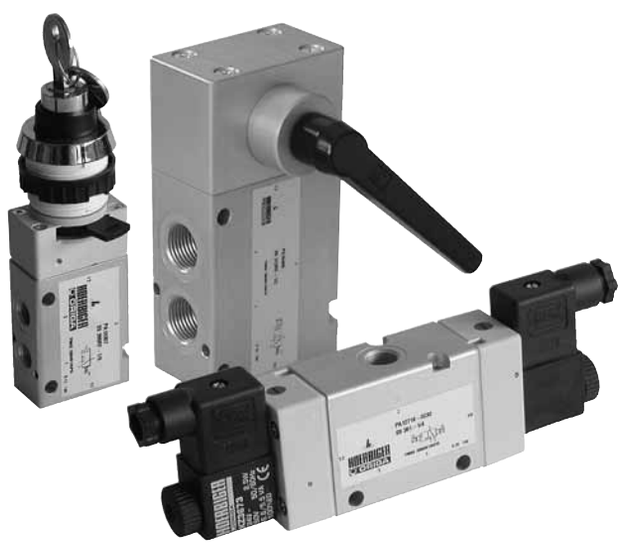
Version	Voltage	Colour	Order No.
Standard version	230 V AC/DC	black	KL9052
Bipolar LED and VDR to protect supply and switch	230 V AC	transparent	KL9056
	24 V DC	transparent	KL9118

Dimensions in mm

Contents

Directional Control Valves

Series
S9-G1/8 to G1/2



3/2, 5/2 and 5/3 Directional Control Valves

Series
S9-G1/8 to G1/2

Series S9 – G1/8 to G1/2

Characteristics	Symbol	Unit	Series S9 G1/8			
Actuation			Manual control	pneumatic	electrical	
General Features						
Type			Spool valve			
Mounting			2 Screws M5			
Tube connection			Thread			
Thread			G1/8 – 7.4 deep			
Weight		kg	See page 48, 56, 64			
Installation			In any position			
Ambient temperature range ([1	$T_{min./max.}$	°C	-10 to +60 *			
Medium temperature range ([1	$T_{min./max.}$	°C	-10 to +60 *			
Medium			Filtered compressed air			
Lubrication			With or without oil mist lubrication (We recommend the use of mineral oil type VG 32 to ISO 3448)			
Pneumatische Characteristics						
Nominal pressure	$p_{min./max.}$	bar	6			
Operating pressure range	$p_{min./max.}$	bar	0–10 ([10	–	–	
– permanent signal version	$p_{min./max.}$	bar	–	0–10	2–10	
– impulse version	$p_{min./max.}$	bar	–	0–10	2–10	
– with external pilot air	$p_{min./max.}$	bar	–	–	0–10	
Nominal flow	QN	l/min	500 (450 bei 3/2 Way Valve)			
Actuation						
Manual control			Direct			
Stroke		mm	4.5			
Actuation force	Fb	N	7 ([2 10 ([3			
Actuation force for panel mounting actuators			See page 48			
Pneumatic			Direct			
Actuation pressure range						
– permanent signal version	$p_{min./max.}$	bar	–	2–10	2–10	
– impulse version	$p_{min./max.}$	bar	–	1.5–10	1.5–10	
Electrical			Electrical pilot operated			
Voltage type			Alternating current (50/60Hz)			
Nominal voltage						
– Standard version	U_n	V	230 ±10%			
– Low wattage version	U_n	V	230 ±10%			
Initial power consumption			G1/8	G1/4	G1/2	
– Standard version		VA (W)	8.5	8.5	11.0	
– Low wattage version		VA (W)	6.6	6.6	7.8	
Continuous consumption			G1/8	G1/4	G1/2	
– Standard version		VA (W)	6.0	6.0	8.5	
– Low wattage version		VA (W)	3.9	4.9	4.9	
Duty cycle	ED	%	100			
Electrical protection		IP	IP65 to DIN 40050 (applise only to solenoid with plug)			
Connection			Plug to DIN EN 175301-803 form B – industrial standard ([6			

* Valve Manifold Assemblies with electrically actuated valves -10 to +50°C

([1 Note:
For use below freezing point please contact us
([2 Actuation force for valves without spring return, actuation with rotary lever: 5N
([3 Actuation force for valves with spring return, Actuation with rotary lever: 15N
([4 Only for version with biased position 2 – 10 bar, pneumatically actuated 2 – 10 bar, electrically actuated 2.5 – 10 bar
([5 Version with biased position 2.5 – 10 bar
([6 Low wattage version: Plug to DIN EN 175301-803 form A
([7 Version “middle position vented“ 1000 l/min
([8 Version “middle position vented“ 3300 l/min
Version “middle position pressured“ 3600 l/min
([9 5/3 Way Valve 2.5 – 10 bar
([10Valves with panel mounting actuators 2 – 10 bar

	Series S9 G1/4			Series S9 G1/2		
	Manual control	pneumatic	electrical	Manual control	pneumatic	electrical
	Spool valve			Spool valve		
	2 Screws M6			2 Screws M6		
	Thread			Thread		
	G1/4 – 11 deep			G1/2 – 16 deep		
	See page 52, 60, 66			See page 54, 62, 68		
	In any position			In any position		
	-10 to +60 *			-10 to +60 *		
	-10 to +60 *			-10 to +60 *		
	6			6		
	0–10	–	–	0–10	–	–
	–	0–10	2–10	–	0–10	2.2–10
	–	0–10	2–10	–	0–10	2.2–10
	–	–	0–10	–	–	0–10
	1300(7			3500(8		
	Direct			Direct		
	6.5			9.4		
	10 (2 15 (3			15 (2 40 (3		
	–			–		
	Direct			Direct		
	2–10	2–10	2–10	–	2.2–10(9	2.2–10
	1.5–10	1.5–10(4	1.5–10(4	–	1.5–10(5	1.5–10(4
	Direct current					
	24 ±10%			Other voltages on request		
	24 ±10%					
	G1/8	G1/4	G1/2			
	2.5	2.5	4.8			
	2.1	2.1	2.7			
	G1/8	G1/4	G1/2			
	2.5	2.5	4.8			
	2.1	2.1	2.7			

3/2, 5/2 and 5/3 Way Valves for use in EX areas

Series
S9-G1/8 to G1/2

Series S9 – G1/8 to G1/2

Characteristics	Symbol	Unit	Series S9 G1/8		
Actuation			Manual Control	pneumatic	electrical
General Features					
Type			Spool valve		
Mounting			2 screws M5		
Tube connection			Thread		
Thread			G1/8 – 7.4 deep		
Weight		kg	See page 48, 56, 64		
Installation			In any position		
Ambient temperature range ([1	$T_{min./max.}$	°C	-10 to +60 *		
Medium temperature range ([1	$T_{min./max.}$	°C	-10 to +60 *		
Medium			Filtered, unlibricated compressed air – free from water and dirt to ISO8573-1		
Pneumatic Characteristics					
Nominal pressure	$p_{min./max.}$	bar	6		
Operating pressure range	$p_{min./max.}$	bar	0–8 ([10	–	–
– permanent signal version	$p_{min./max.}$	bar	–	0–8	2–8
– impulse version	$p_{min./max.}$	bar	–	0–8	1.5–8([4
– with external pilot air	$p_{min./max.}$	bar	–	–	0–8
Nominal flow	QN	l/min	500 (450 bei 3/2 Way Valve)		
Actuation					
Manual control			Direct		
Stroke		mm	4.5		
Actuation force	Fb	N	7 ([2 10 ([3		
Actuation force for panel mounting actuators			See page 48		
Pneumatic			Direct		
Actuation pressure range					
– permanent signal version	$p_{min./max.}$	bar	–	2–8	2–8
– impulse version	$p_{min./max.}$	bar	–	1.5–8	1.5–8([4
Electrical			Electrical pilot operated		
Certification			EC Type Test Certificate for single valve: not required for mechanical units in II 2G		
Category, type of ignition protection			Single valve II 2G c T4T135°C-10°C≤Ta≤+60°C		
Voltage type			Alternating current (50/60Hz)		
Nominal voltage	U_N	V	230 ±10%		
	U_N	V	110 ±10%		
	U_N	V	24 ±10%		
Power rating at U_N			G1/8, G1/4, G1/2		
		VA (W)	3.1 (230V)		
		VA (W)	3.0 (110V)		
		VA (W)	2.5 (24V)		
Max. power at Un ([6			G1/8, G1/4, G1/2		
		VA (W)	2.9 (230V)		
		VA (W)	2.8 (110V)		
		VA (W)	2.4 (24V)		
Electrical protection		IP	IP65 (applise only to solenoid with cable)		
Connection			Cable – cable lengths see Order Instructions		

* Valve Manifold Assemblies with electrically actuated valves -10 to +50°C

([1 Note:
For use below freezing point please contact us

([2 Actuation force for valves without spring return, Actuation with rotary lever: 5N

([3 Actuation force for valves with spring return, actuation with rotary lever: 15N

([4 Only for version with biased position pneumatically actuated 2 – 8 bar, electrically actuated 2.5 – 8 bar

([5 Version with biased position 2.5 – 8 bar

([6 Maximum power if warmed up to termal load limit

([7 Version “middle position vented“ 1000 l/min

([8 Version “middle position vented“ 3300 l/min
Version “middle position pressured“ 3600 l/min

([9 5/3 Way Valve 2.5 – 8 bar

([10 Valves with panel mounting actuators 2 – 8 bar

	Series S9 G1/4			Series S9 G1/2		
	Manual Control	pneumatic	electrical	Manual Control	pneumatic	electrical
	Spool valve			Spool valve		
	2 Screws M6			2 Screws M6		
	Thread			Thread		
	G1/4 – 11 deep			G1/2 – 16 deep		
	See page 52, 60, 66			See page 54, 62, 68		
	In any position			In any position		
	-10 to +60 *			-10 to +60 *		
	-10 to +60 *			-10 to +60 *		
	Solids: Class 7 particle size <40 µm for gas Class 4, but at least 5°C below minimum operating temperature			Water content: pressure dew point + 3°C,		
	6			6		
	0–8	–	–	0–8	–	–
	–	0–8	2–8	–	0–8	2.2–8
	–	0–8	1.5–8(4	–	0–8	1.5–8(4
	–	–	0–8	–	–	0–8
	1300(7			3500(8		
	Direct			Direct		
	6.5			9.4		
	10 (2 15 (3			15 (2 40 (3		
	–			–		
	Direct			Direct		
	2–8	2–8	2–8	–	2.2–8(9	2.2–8
	1.5–8	1.5–8(4	1.5–8(4	–	1.5–8(5	1.5–8(4
	EC Type Test Certificate for solenoid: PTB-No. 03 Ex IEC 2019X and PTB 03 ATEX 2018X toT5					
	Solenoid/individual use: II 2G EEx m II T5 -20°C≤Ta≤+50°C Solenoid/manifold mounting: II 2G EEx m II T5 -20°C≤Ta≤+40°C					
	Direct current					
	24 ±10%			Other voltages on request		
	G1/8, G1/4, G1/2					
	3.3 (24V)					
	G1/8, G1/4, G1/2					
	3.0 (24V)					

3/2 Way Valves Series S9

G1/8

Actuation:
- **Hand lever**
- **Pneumatic**
- **Electrical pilot operated**
- **Electrical pilot operated with external pilot air**
- **Panel mounting actuators for mounting diameter to DIN 43696**

Versions:
- Normally closed
- Normally open
- With external pilot air
- Version to ATEX Standard

Note:
The “normally open“ valve S9 381S-RF-1/8 cannot be used on a P-supply manifold.

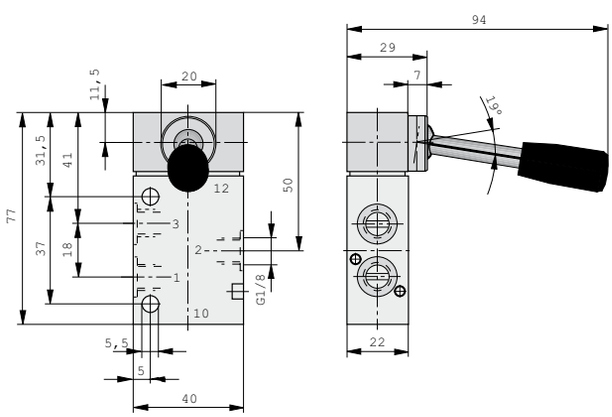
Weight (mass) kg

Description	Type	Weight (mass) kg
Hand lever indexed	S9 311-1/8	0.162
– with spring return	S9 311RF-1/8	0.162
Pneumatic, by permanent signal	S9 361RF-1/8	0.137
Pneumatic, by impulse	S9 361-1/8	0.147
Electrical, by permanent signal	S9 381(S)RF-1/8	0.247
Electrical, by impulse	S9 381(S)-1/8	0.382

Weight (mass) kg and action forces for valves with panel mounting actuators

Description	Type	Actuation force (N, Nm)	Weight (mass) kg
Rotary lever	S9 312T-1/8	0.3	0.137
	S9 312T-RF-1/8	0.3	0.137
Pushbutton	S9 313T-RF-1/8	8.0	0.137
Mushroom pushbutton	S9 315T-RF-1/8	8.0	0.137
Locking switch	S9 316T-1/8	9.0	0.202
Rotary switch	S9 317T-1/8	0.3	0.127
Mushroom pushbutton emergency-Off	S9 318T-1/8	10.0	0.137

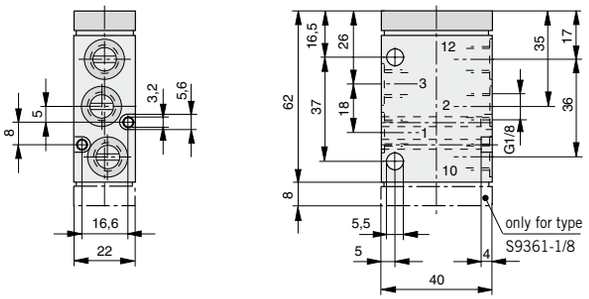
Hand lever actuated
Type: S9 311-1/8, S9 311RF-1/8



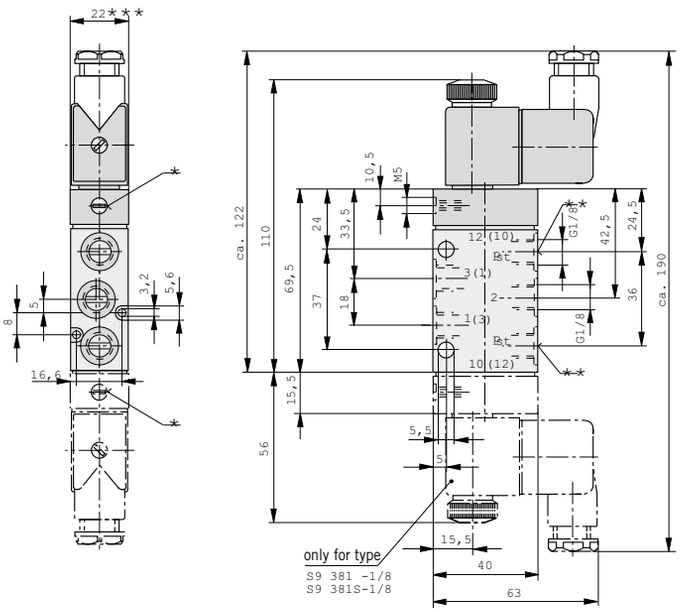
For order instructions see page 70-72, characteristics see page 44-47
and for RPS manifolds see page 93-100, Valve Islands see page 87-92

Dimensions in mm

Pneumatically actuated – Type: S9 361-1/8, S9 361RF-1/8

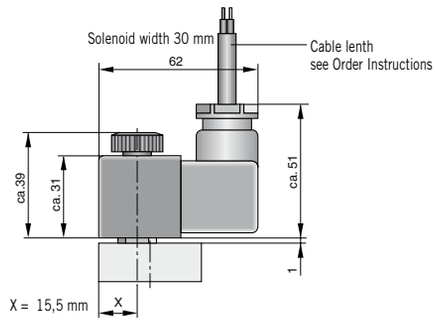


Electrically actuated – Type: S9 381(S)-1/8, S9 381(S)RF-1/8



* Manual override
** Operating pressure supply p_{st} only for type S9 381S
*** Solenoid width = 30 mm on low wattage coil version

Solenoid for use in EX areas – Dimensions

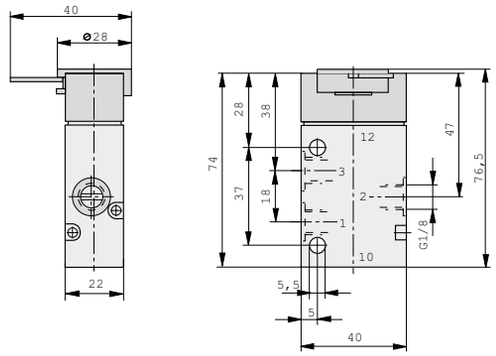


For more information on valves to ATEX standards
see page 46, 47, 72

For order instructions see page 70-72, characteristics see page 44-47
P-Manifolds and for RPS manifolds see page 93-100, Valve Islands see page 87-92

Dimensions in mm

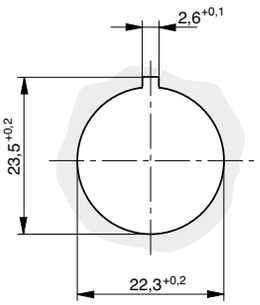
Basic valve for panel mounting actuatos – Type: S9 390RF-1/8



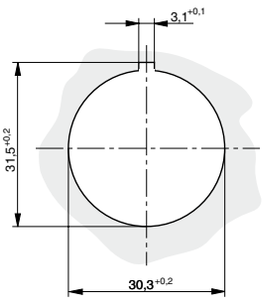
The actuators for these valves are interchangeable and can be mounted with 180° displacement on the basic valve. The actuators are not mounted upon delivery.

Mounting diameter

Mounting diameter Ø22 mm

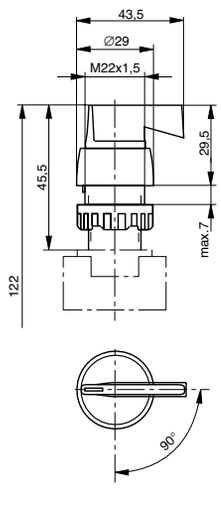


Mounting diameter Ø30 mm

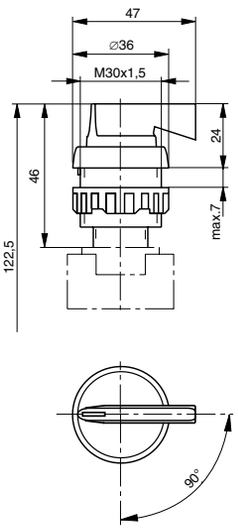


Rotary lever, indexed – Type: 12T-22, 12T-30,

Mounting diameter Ø22 mm

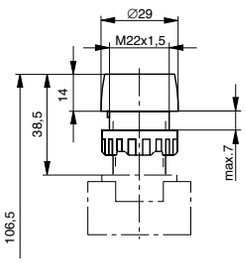


Mounting diameter Ø30 mm

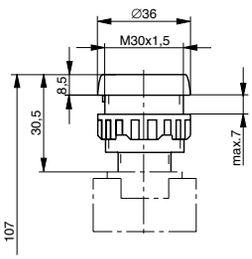


Pushbutton – Type: 13T-RF-22, 13T-RF-30

Mounting diameter Ø22 mm



Mounting diameter Ø30 mm

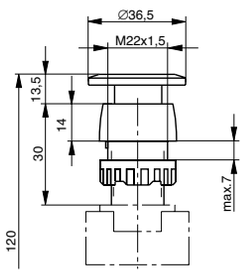


For order instructions see page 70-72, characteristics see page 44-47

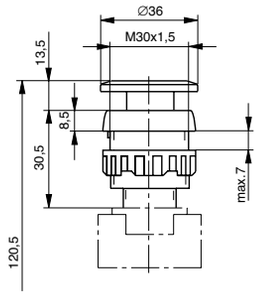
Dimensions in mm

Mushroom pushbutton – Type: 15T-RF-22, 15T-RF-30

Mounting diameter Ø22 mm

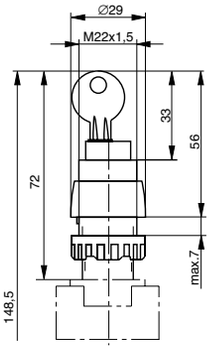


Mounting diameter Ø30 mm

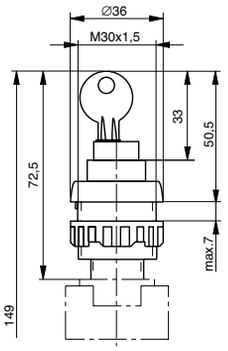


Locking switch – Type: 16T-22, 16T-30

Mounting diameter Ø22 mm

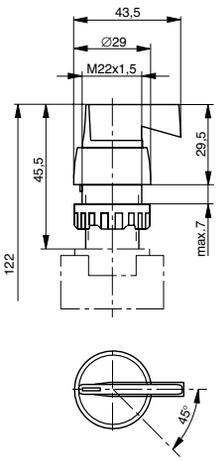


Mounting diameter Ø30 mm

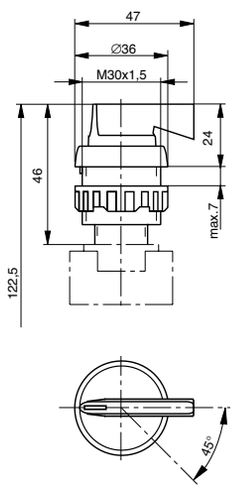


Rotary lever with spring return – Type: 12T-RF-22, 12T-RF-30

Mounting diameter Ø22 mm

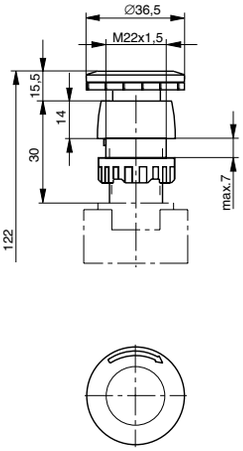


Mounting diameter Ø30 mm

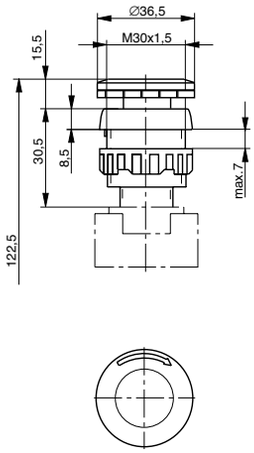


Mushroom pushbutton emergency-0ff – Type: 18T-22, 18T-30

Mounting diameter Ø22 mm

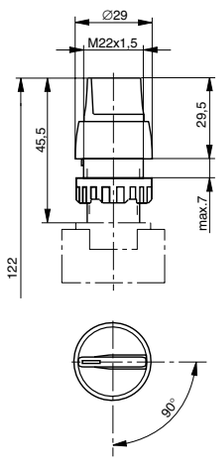


Mounting diameter Ø30 mm

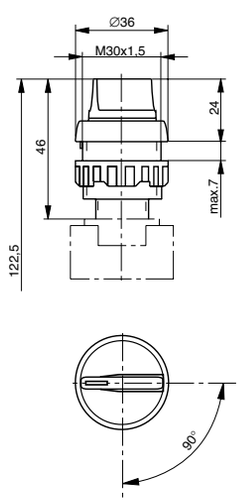


Rotary switch – Type: 17T-22, 17T-30

Mounting diameter Ø22 mm



Mounting diameter Ø30 mm



3/2 Way Valves Series S9

G1/4

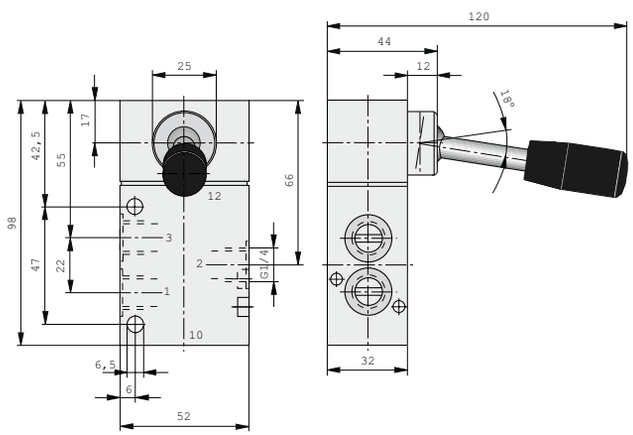
Actuation systems:
- **Hand lever**
- **Pneumatic**
- **Electrical pilot operated**
- **Electrical pilot operated with external pilot air**

Versions:
- Normally closed
- Normally open
- With external pilot air
- With biased position
- Version to ATEX Standard

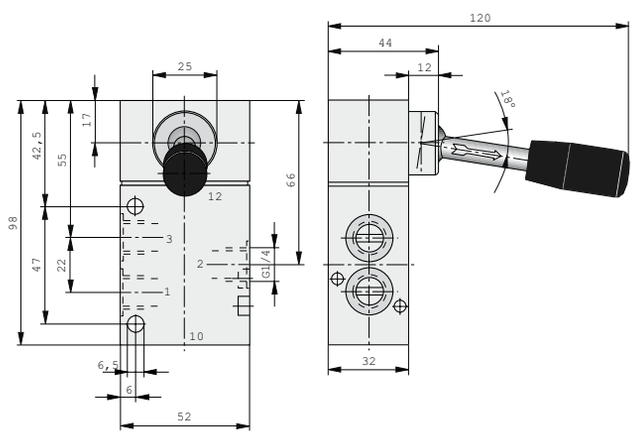
Weight (mass) kg

Description	Type	Weight (mass)
Hand lever, indexed	S9 311-1/4	0.370
– with spring return	S9 311RF-1/4	0.370
Safety hand lever	S9 311S-1/4	0.370
Rotary lever, indexed	S9 312-1/4	0.370
– with spring return	S9 312RF-1/4	0.370
Pneumatic, by permanent signal	S9 361RF-1/4	0.370
Pneumatic, by impulse	S9 361-1/4	0.430
– with biased position	S9 362-1/4	0.430
Electrical, by permanent signal	S9 381(S) RF-1/4	0.500
Electrical, by impulse	S9 381(S)-1/4	0.600
– with biased position	S9 382(S)-1/4	0.600

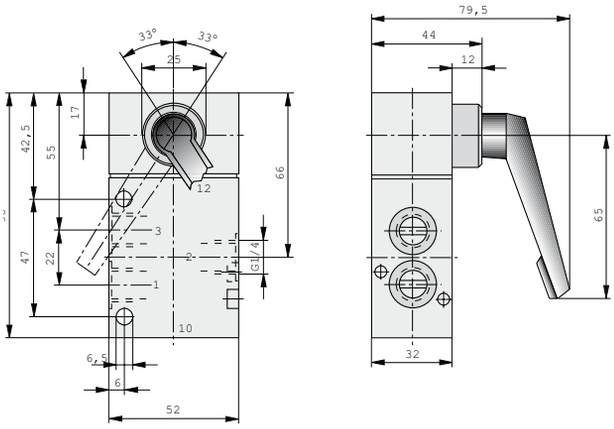
Hand lever actuated – Type: S9 311-1/4, S9 311RF-1/4



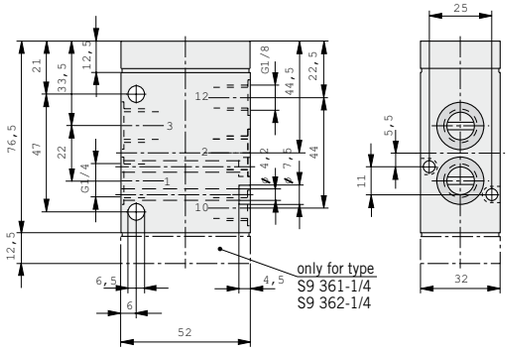
Safety hand lever actuated – Type: S9 311S-1/4



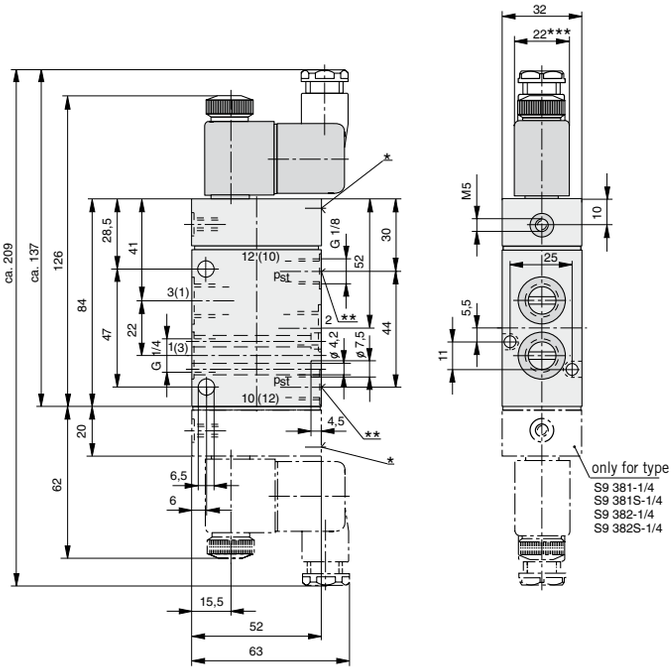
Rotary lever actuated – Type: S9 312-1/4, S9 312RF-1/4



Pneumatically actuated
– Type: S9 361-1/4, S9 362-1/4, S9 361RF-1/4



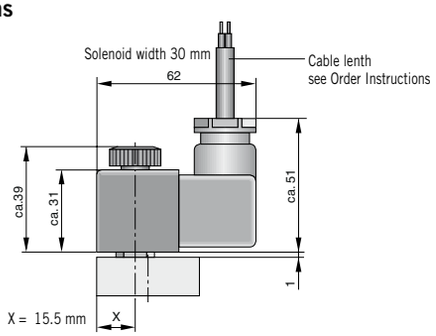
Electrically actuated
– Type: S9 381(S)-1/4, S9 382(S)-1/4, S9 381(S)RF-1/4



* Manual override
** Operating pressure supply p_{st} only for type S9 381S
*** Solenoid width = 30 mm
on low wattage coil version

Note:
The “normally open“ valve S9 381S-RF-1/4 cannot be used on a P-supply manifold.

Solenoid for use in EX areas
Dimensions



For more information on valves to ATEX standards
see page 46, 47, 72

For order instructions see page 70-72, characteristics see page 44-47

Dimensions in mm

3/2 Way Valves Series S9

G1/2

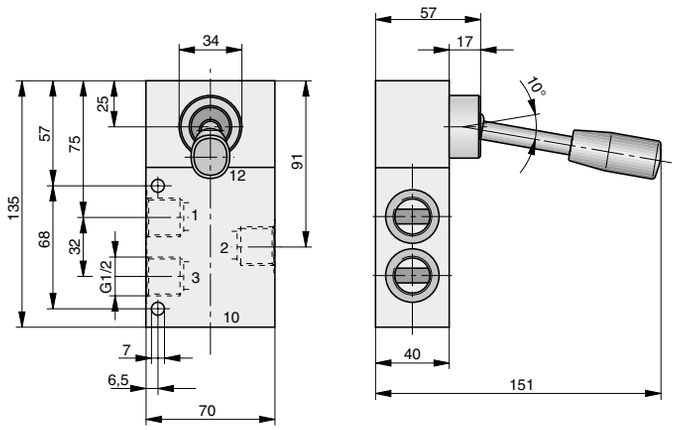
Actuation systems:
- **Hand lever**
- **Pneumatic**
- **Electrical pilot operated**
- **Electrical pilot operated with external pilot air**

Versions:
- Normally closed
- Normally open
- With external pilot air
- With biased position
- Version to ATEX Standard

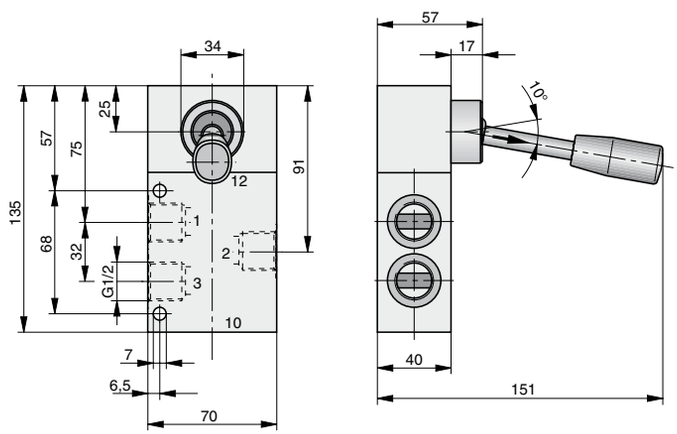
Weight (mass) kg

Description	Type	Weight (mass)
Hand lever, indexed	S9 311-1/2	0.900
– with spring return	S9 311RF-1/2	0.900
Safety hand lever	S9 311S-1/2	0.900
Rotary lever, indexed	S9 312-1/2	0.950
–with spring return	S9 312RF-1/2	0.950
Pneumatic, by permanent signal	S9 361RF-1/2	0.700
Pneumatic, by impulse	S9 361-1/2	0.650
– with biased position	S9 362-1/2	0.650
Electrical, by permanent signal	S9 381(S) RF-1/2	0.770
Electrical, by impulse	S9 381(S)-1/2	1.008
– with biased position	S9 382(S)-1/2	1.008

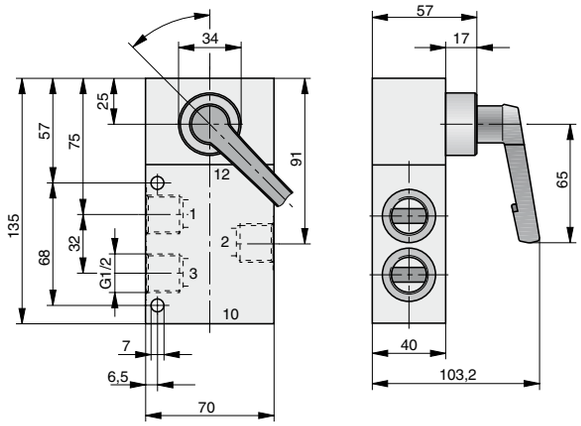
Hand lever actuated – Type: S9 311-1/2, S9 311RF-1/2



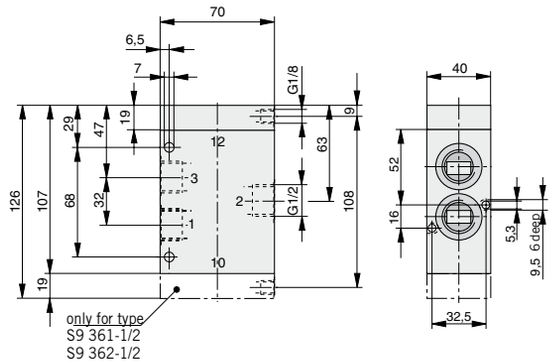
Safety hand lever actuated – Type: S9 311S-1/2



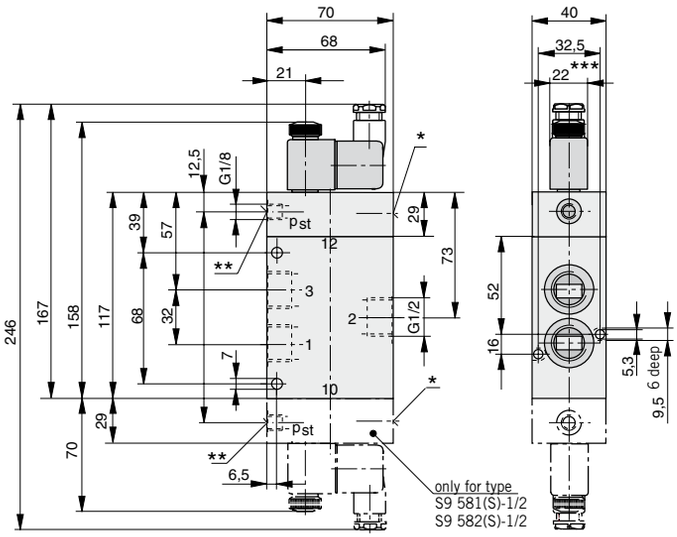
Rotary lever actuated – Type: S9 312-1/2, S9 312RF-1/2



Pneumatically actuated – Type: S9 361-1/2, S9 361RF-1/2



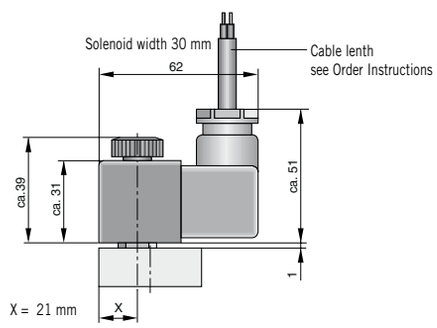
Electrically actuated
Type: S9 381(S)-1/2, S9 382(S)-1/2, S9 381(S)RF-1/2



* Manual override
** Operating pressure supply p_{st} only for type S9 381S
*** Solenoid width = 30 mm on low wattage coil version

Note:
The "normally open" valve S9 381S-RF-1/2 cannot be used on a P-supply manifold.

Solenoid for use in EX areas
Dimensions



For more information on valves to ATEX standards
see page 46, 47, 72

For order instructions see page 70-72, characteristics see page 44-47

Dimensions in mm

5/2 Way Valves Series S9

G1/8

Actuation systems:
- **Hand lever**
- **Safety hand lever**
- **Pneumatic**
- **Electrical pilot operated**
- **Electrical pilot operated with external pilot air**
- **Panel mounting actuators to DIN 43696**

Versions:
- With external pilot air
- With biased position
- Version to ATEX Standard

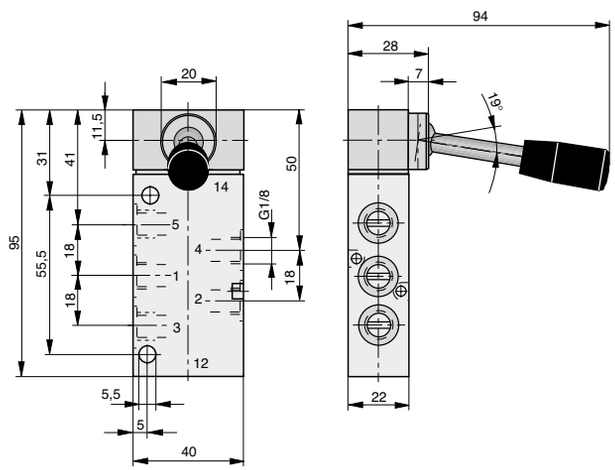
Weight (mass) kg

Description	Type	Weight (mass)
Hand lever, indexed	S9 511-1/8	0.195
– with spring return	S9 511RF-1/8	0.195
Safety hand lever	S9 511S-1/8	0.195
Pneumatic, by permanent signal	S9 561RF-1/8	0.160
Pneumatic, by impulse	S9 561-1/8	0.170
Electrical, by permanent signal	S9 581(S)RF-1/8	0.280
Electrical, by impulse	S9 581(S)-1/8	0.415
– with biased position	S9 582-1/8	0.415

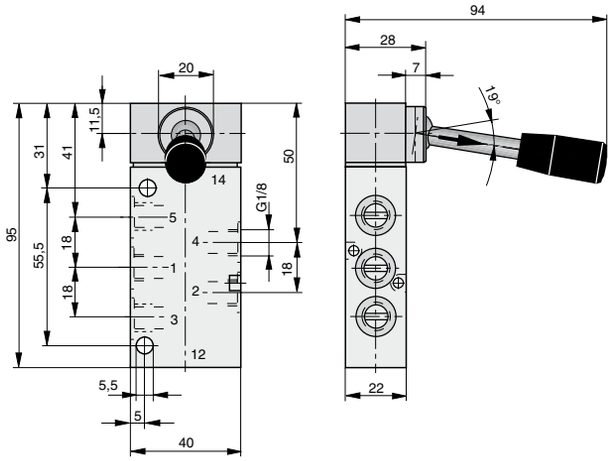
Weight (mass) and actuating forces for valves with panel mounting

Description	Type	Actuating force (N, Nm)	Weight (mass) (kg)
Rotary lever	S9 512T-1/8	0.3	0.160
	S9 512T-RF-1/8	0.3	0.160
Pushbutton	S9 513T-RF-1/8	8.0	0.150
Mushroom pushbutton	S9 515T-RF-1/8	8.0	0.160
Locking switch	S9 516T-1/8	9.0	0.225
Rotary switch	S9 517T-1/8	0.3	0.150
Mushroom pushbutton emergency-Off	S9 518T-1/8	10.0	0.160

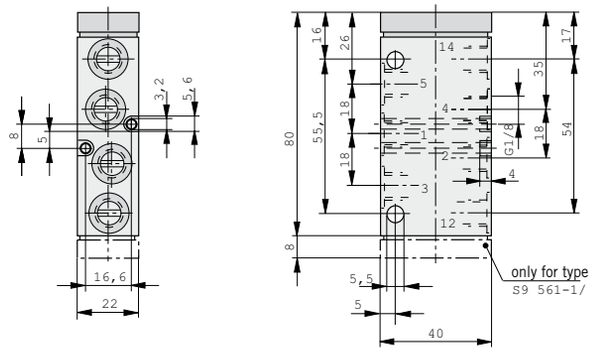
Hand lever actuated – Type: S9 511-1/8, S9 511RF-1/8



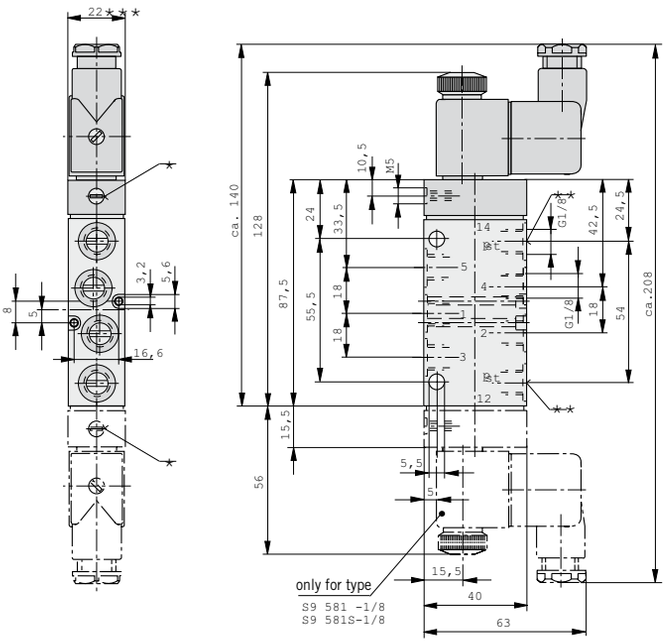
Safety hand lever actuated – Type: S9 511S-1/8



Pneumatically actuated – Type: S9 561-1/8, S9 561RF-1/8

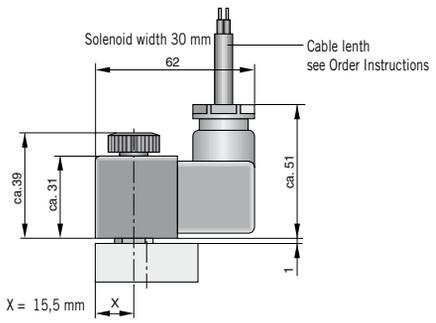


Electrically actuated
Type: S9 581(S)-1/8, S9 581(S)RF-1/8, S9 582-1/8



* Manual override
** Operating pressure supply p_{st} only for type S9 581S
*** Solenoid width = 30 mm on low wattage coil version

Solenoid for use in EX areas
Dimensions

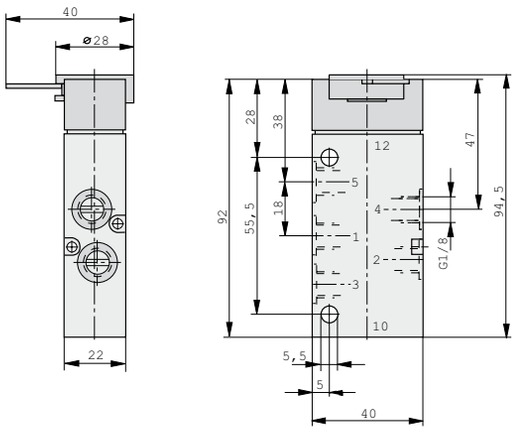


For more information on valves to ATEX standards
see page 46, 47, 74

For order instructions see page 73, 74, characteristics see page 44-47

Dimensions in mm

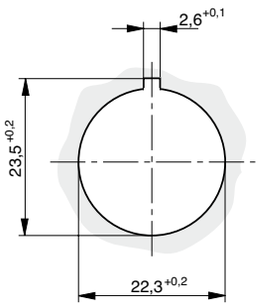
Basic valve for panel mounting actuatos – Type: S9 590RF-1/8



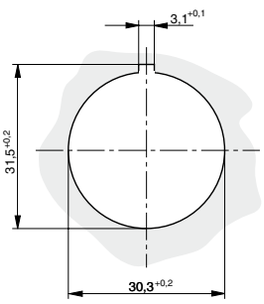
The actuators for these valves are interchangeable and can be mounted with 180° displacement on the basic valve. The actuators are not mounted upon delivery.

Mounting diameter

Mounting diameter Ø22 mm

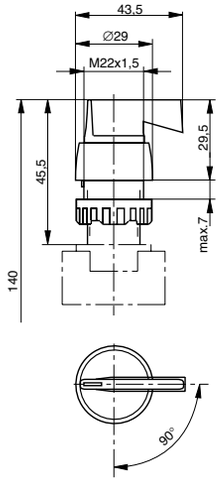


Mounting diameter Ø30 mm

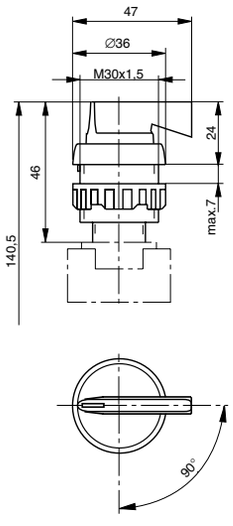


Rotary lever, indexed – Type: 12T-22, 12T-30

Mounting diameter Ø22 mm

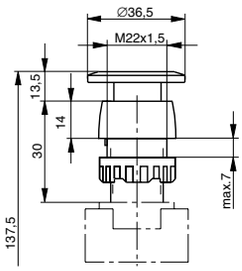


Mounting diameter Ø30 mm

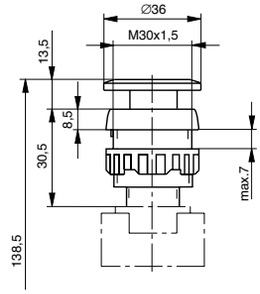


Mushroom pushbutton – Type: 15T-RF-22, 15T-RF-30

Mounting diameter Ø22 mm

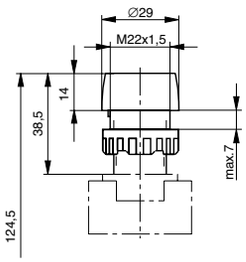


Mounting diameter Ø30 mm

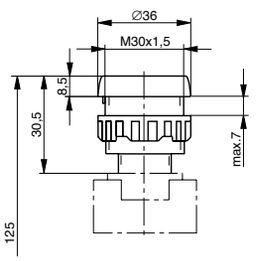


Pushbutton – Type: 13T-RF-22, 13T-RF-30

Mounting diameter Ø22 mm

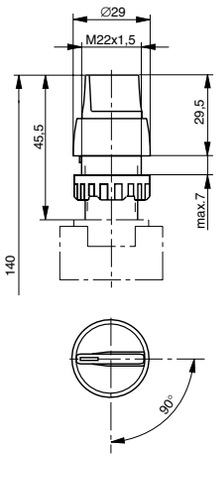


Mounting diameter Ø30 mm

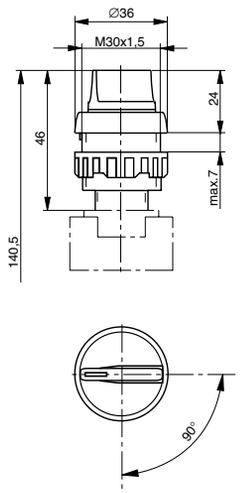


Rotary switch – Type: 17T-22, 17T-30

Mounting diameter Ø22 mm

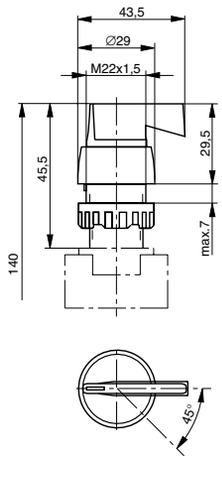


Mounting diameter Ø30 mm

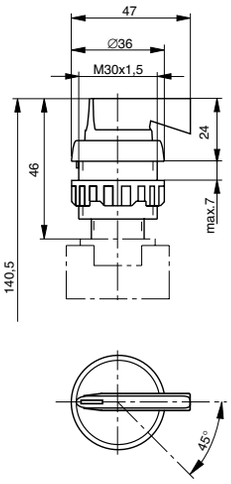


Rotary lever with spring return – Type: 12T-RF-22, 12T-RF-30

Mounting diameter Ø22 mm

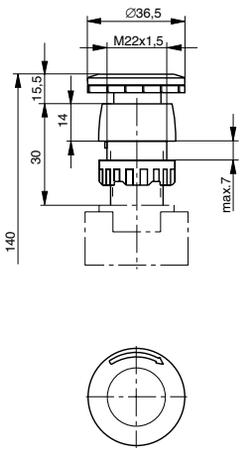


Mounting diameter Ø30 mm

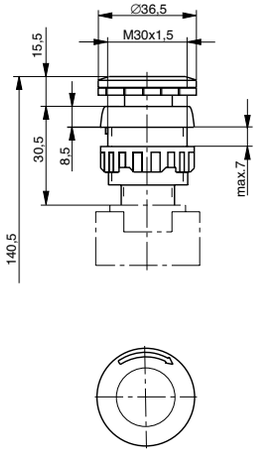


Mushroom pushbutton emergency-0ff – Type: 18T-22, 18T-30

Mounting diameter Ø22 mm

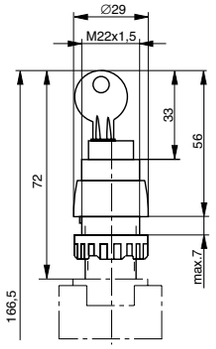


Mounting diameter Ø30 mm

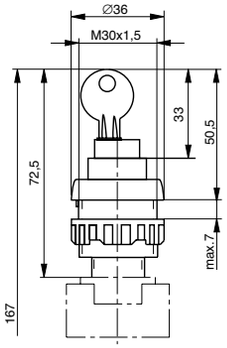


Locking switch – Type: 16T-22, 16T-30

Mounting diameter Ø22 mm



Mounting diameter Ø30 mm



For order instructions see page 73, 74, characteristics see page 44-47

Dimensions in mm

5/2 Way Valves Series S9

G1/4

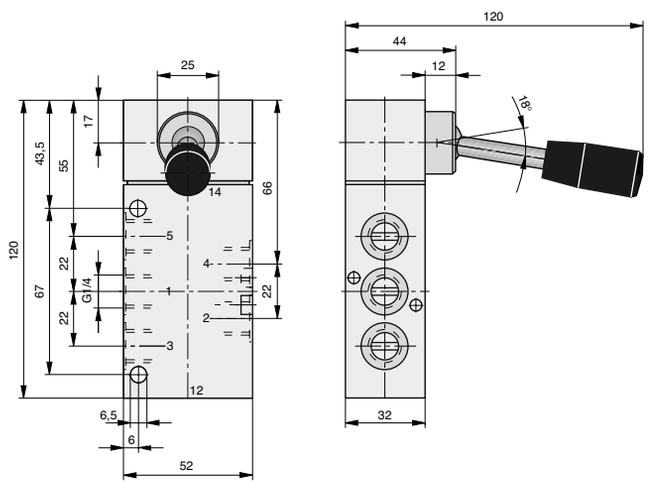
Actuation systems:
- **Hand lever**
- **Safety hand lever**
- **Pneumatic**
- **Electrical pilot operated**
- **Electrical pilot operated with external pilot air**

Versions
- With external pilot air
- With biased position
- Version to ATEX Standard

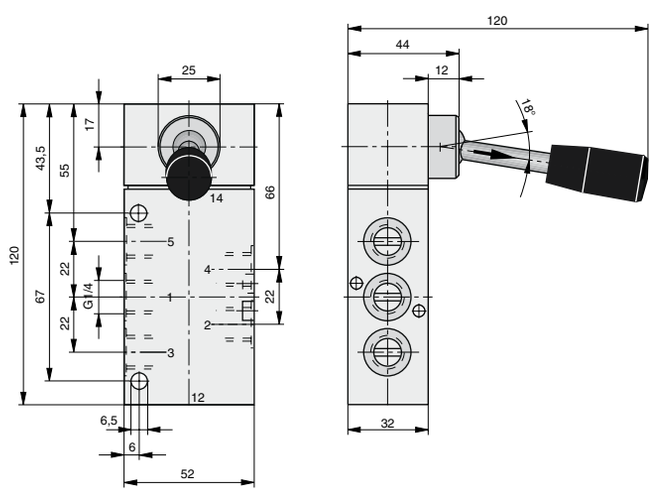
Weight (mass) kg

Description	Type	Weight (mass)
Hand lever, indexed	S9 511-1/4	0.520
– with spring return	S9 511RF-1/4	0.520
Safety hand lever	S9 511S-1/4	0.520
Rotary lever, indexed	S9 512-1/4	0.520
– with spring return	S9 512RF-1/4	0.520
Pneumatic, by permanent signal	S9 561RF-1/4	0.490
Pneumatic, by impulse	S9 561-1/4	0.510
– with biased position	S9 562-1/4	0.510
Electrical, by permanent signal	S9 581(S) RF-1/4	0.600
Electrical, by impulse	S9 581(S)-1/4	0.700
– with biased position	S9 582(S)-1/4	0.700

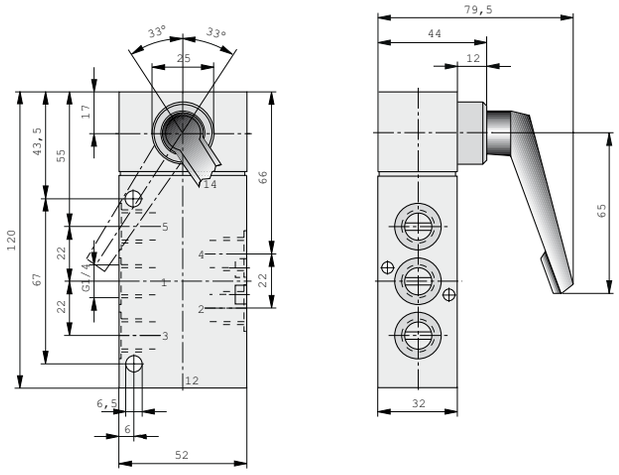
Hand lever actuated – Type: S9 511-1/4, S9 511RF-1/4



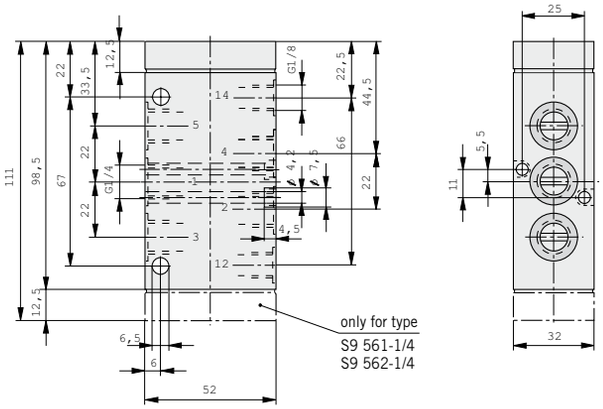
Safety hand lever actuated – Type: S9 511S-1/4



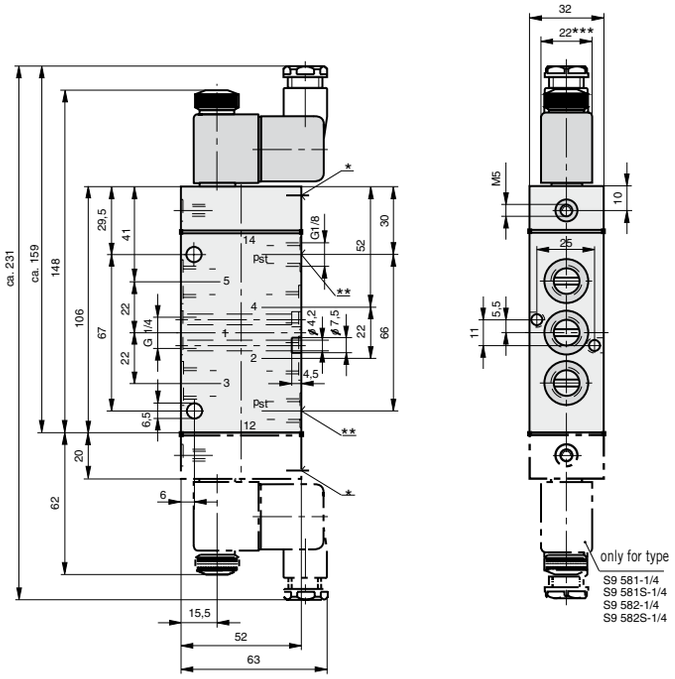
Rotary lever actuated
Type: S9 512-1/4, S9 512RF-1/4



Pneumatically actuated
Type: S9 561-1/4, S9 562-1/4, S9 561RF-1/4

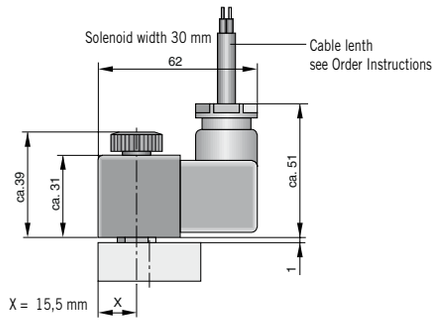


Electrically actuated
Type: S9 581(S)-1/4, S9 582(S)-1/4, S9 581(S)RF-1/4



* Manual override
** Operating pressure supply p_{st} only for type S9 581S
*** Solenoid width = 30 mm on low wattage coil version

Solenoid for use in EX areas
Dimensions



For more information on valves to ATEX standards
see page 46, 47, 74

For order instructions see page 73, 74, characteristics see page 44-47

Dimensions in mm

5/2 Way Valves Series S9

G1/2

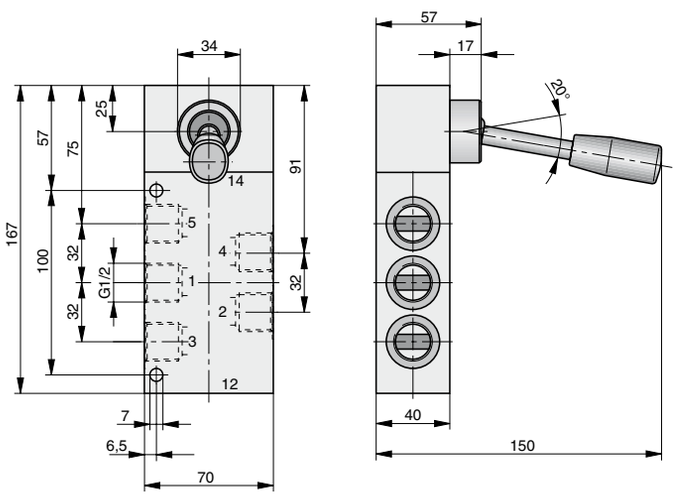
Actuation systems:
– Hand lever
– Safety hand lever
– Pneumatic
– Electrical pilot operated

Versions:
– With external pilot air
– With biased position
– Version to ATEX Standard

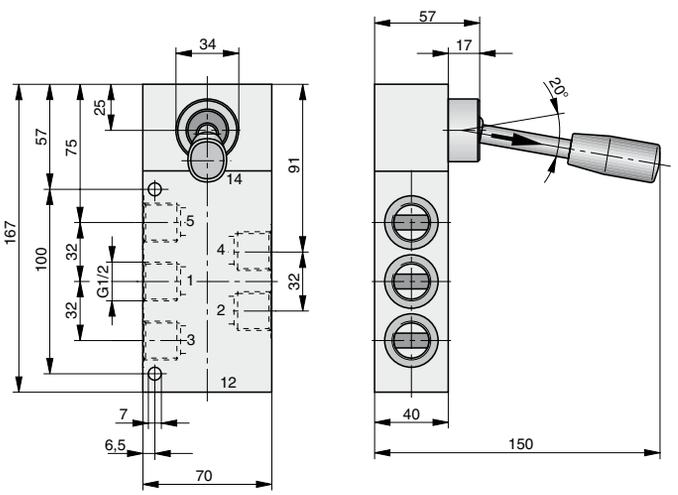
Weight (mass) kg

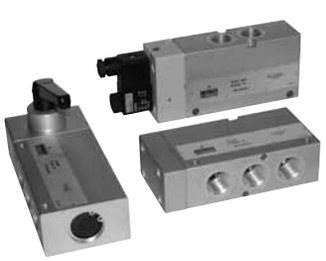
Description	Type	Weight (mass)
Hand lever, indexed	S9 511-1/2	0.120
– with spring return	S9 511RF-1/2	0.120
Safety hand lever	S9 511S-1/2	0.120
Rotary lever, indexed	S9 512-1/2	0.120
– with spring return	S9 512RF-1/2	0.120
Pneumatic, by permanent signal	S9 561RF-1/2	0.800
Pneumatic, by impulse	S9 561-1/2	0.900
– with biased position	S9 562-1/2	0.900
Electrical, by permanent signal	S9 581(S) RF-1/2	1.000
Electrical, by impulse	S9 581(S)-1/2	1.045
– with biased position	S9 582-1/2	1.045

Hand lever actuated – Type: S9 511-1/2, S9 511RF-1/2

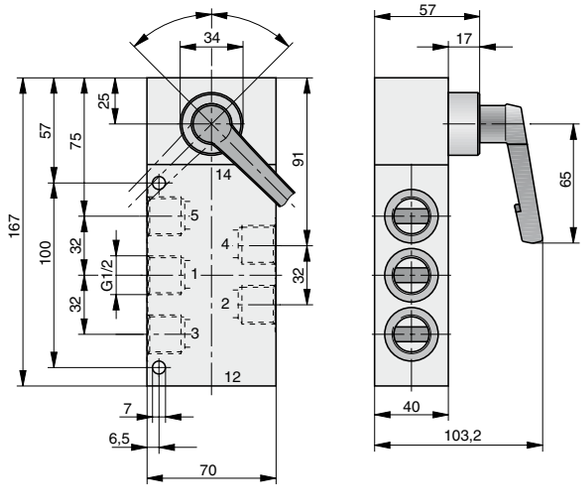


Safety hand lever actuated – Type: S9 511S-1/2

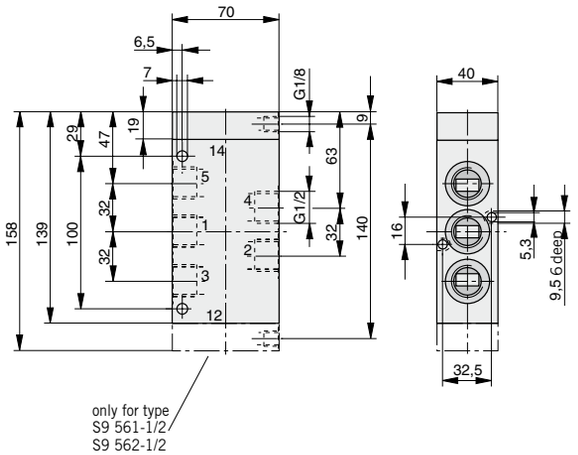




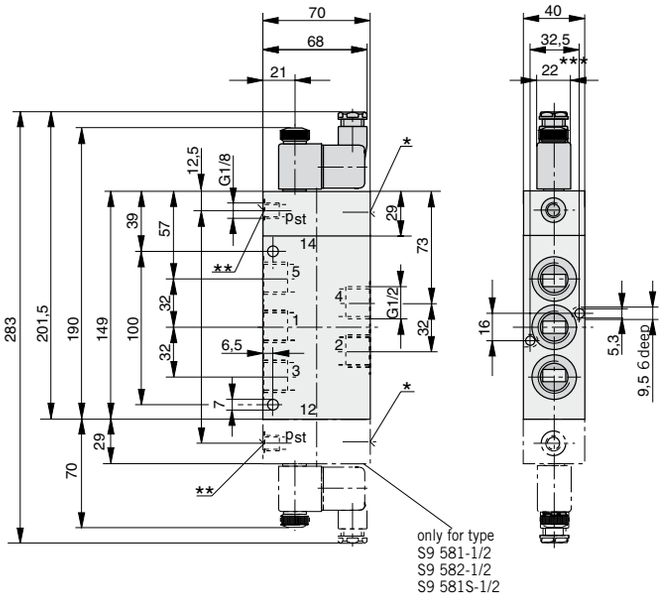
Rotary lever actuated – Type: S9 512-1/2, S9 512RF-1/2



Pneumatically actuated
Type: S9 561-1/2, S9 561RF-1/2, S9 562-1/2

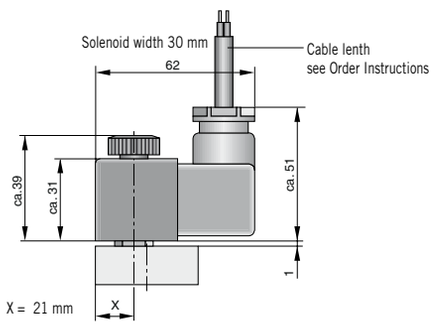


Electrically actuated
Type: S9 581(S)-1/2, S9 582-1/2, S9 581(S)RF-1/2



* Manual override
** Operating pressure supply p_{st} only for type S9 581S
*** Solenoid width is 30 mm on low wattage coil version

Solenoid for use in EX areas
Dimensions



For more information on valves to ATEX standards
see page 46, 47, 74

For order instructions see page 73,74, characteristics see page 44-47

Dimensions in mm

5/3 Way Valves Series S9

G1/8

Actuation systems:
– Hand lever
– Safety hand lever
– Pneumatic
– Electrical pilot operated

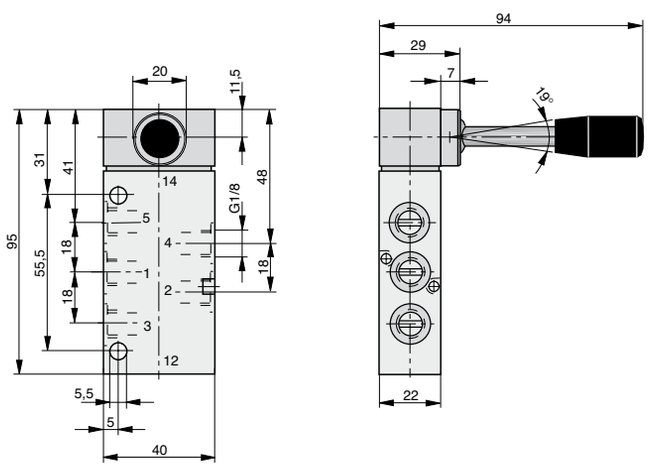
Versions:
– With external pilot air
– Version to ATEX Standard

Weight (mass) kg

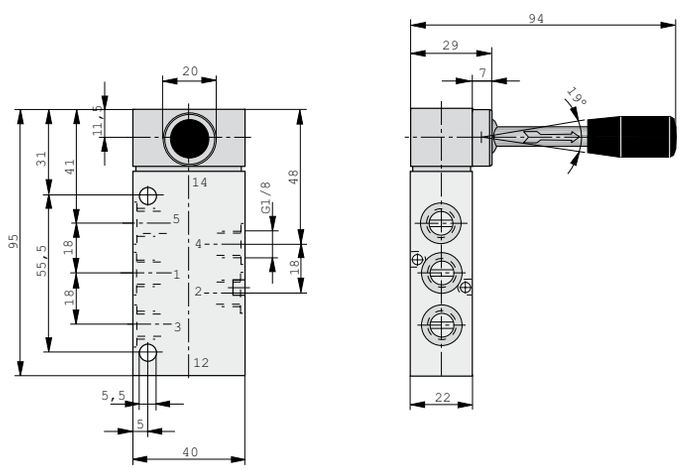
Description	Type *	Weight (mass)
Hand lever	S9 511.-1/8	0,195
– with spring return	S9 511RF.-1/8	0,195
Safety hand lever	S9 511S.-1/8	0,195
Pneumatic, by permanent signal	S9 561RF.-1/8	0,180
Electrical, by permanent signal	S9 581RF.-1/8	0,425
Electrical, by permanent signal	S9 581S-RF.-1/8	0,425

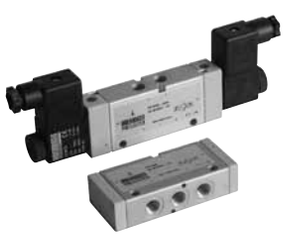
* Type code for middle position functions
G = middle position closed
E = middle position exhausted
B = middle position pressurized

Hand lever actuated – Type: S9 511.-1/8, S9 511RF.-1/8

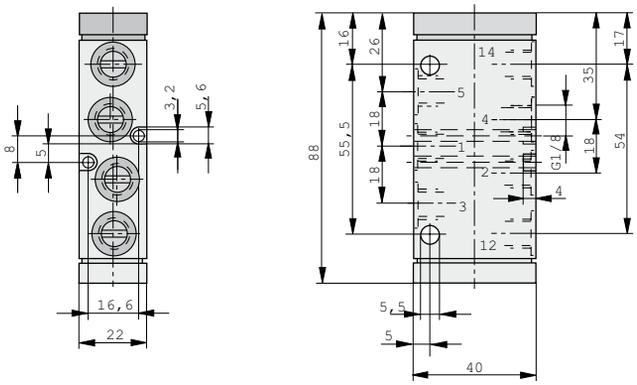


Safety hand lever actuated – Type: S9 511S.-1/8

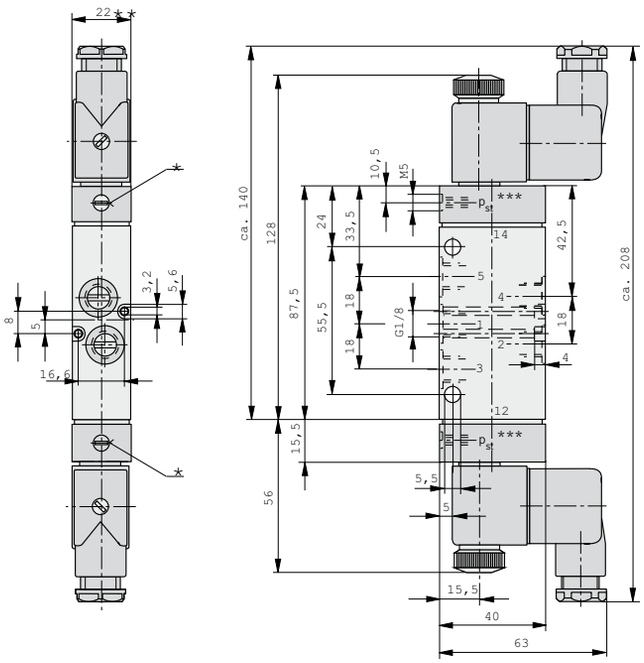




Pneumatically actuated – Type: S9 561RF.-1/8

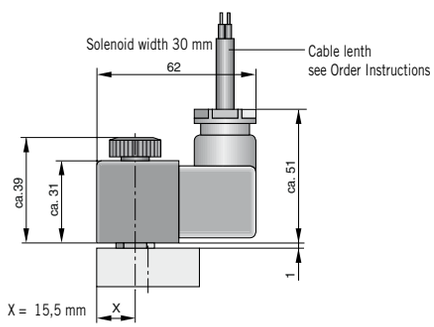


Electrically actuated – Type: S9 581(S-)RF.-1/8



* Manual override
** Solenoid width = 30 mm on low wattage coil version
*** Operating pressure supply p_{st} only for type S9 581S

Solenoid for use in EX areas Dimensions



For more information on valves to ATEX standards see page 46, 47, 77

For order instructions see page 75-77, characteristics see page 44-47

Dimensions in mm

5/3 Way Valves Series S9

G1/4

Actuation systems:
– Hand lever
– Safety hand lever
– Pneumatic
– Electrical pilot operated

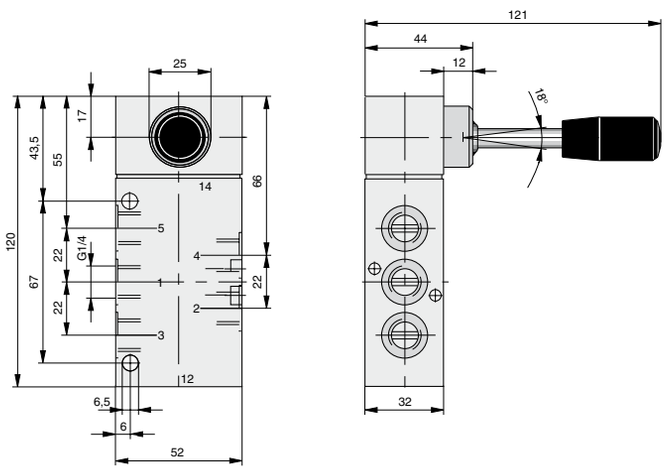
Versions:
– Version to ATEX Standard

Weight (mass) kg

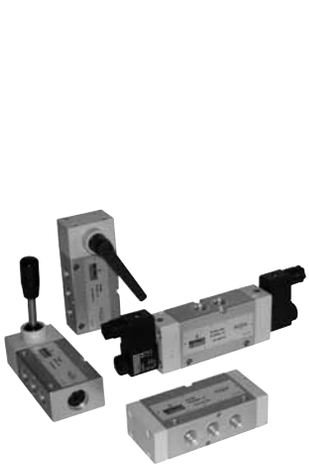
Description	Type *	Weight (mass)
Hand lever, indexed	S9 511.-1/4	0.520
– with spring return	S9 511RF.-1/4	0.530
Safety hand lever	S9 511S.-1/4	0.520
Rotary lever, indexed	S9 512.-1/4	0.520
–with spring return	S9 512RF.-1/4	0.530
Pneumatic, by permanent signal	S9 561RF.-1/4	0.530
Electrical, by permanent signal	S9 581RF.-1/4	0.700

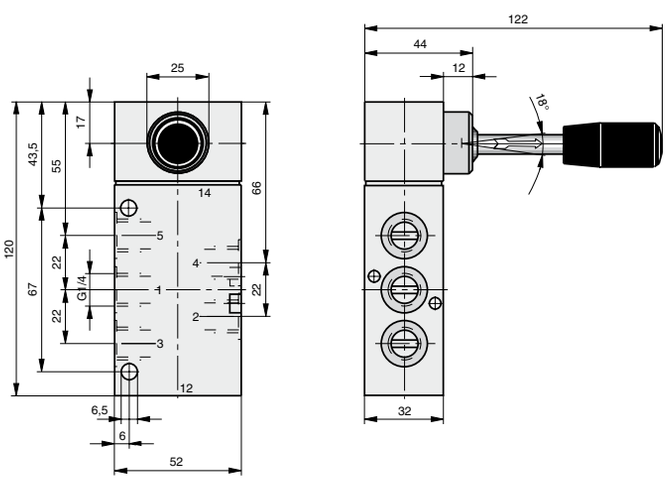
* Type code for middle position functions
G = middle position closed
E = middle position exhausted
B = middle position pressurized

Hand lever actuated – Type: S9 511.-1/4, S9 511RF.-1/4

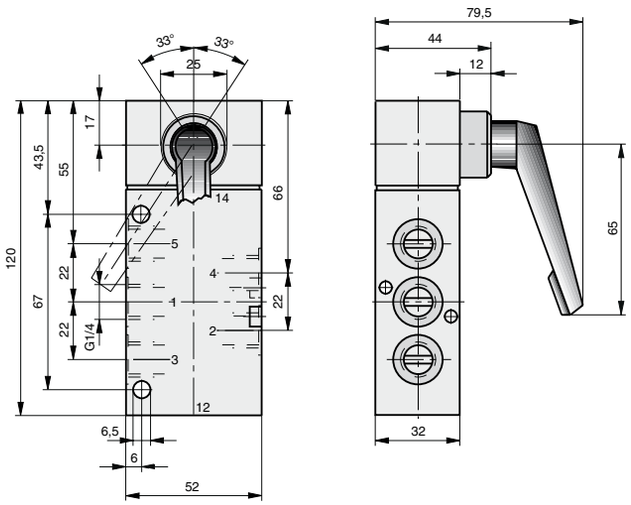


Safety hand lever actuated – Type: S9 511S.-1/4

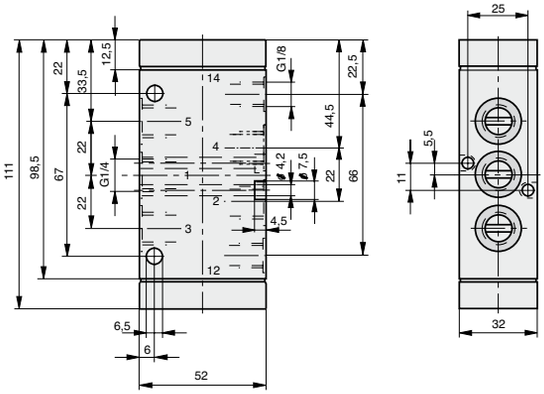




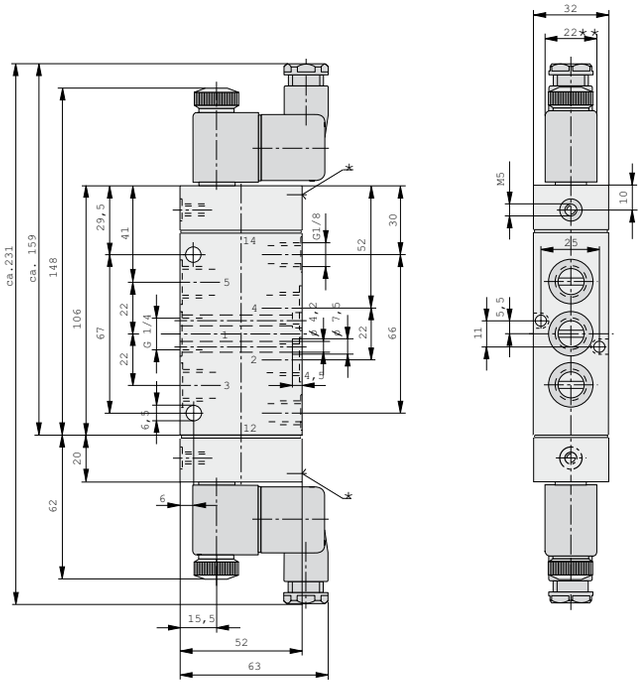
Rotary lever actuated – Type: S9 512.-1/4, S9 512RF.-1/4



Pneumatically actuated – Type: S9 561RF.-1/4

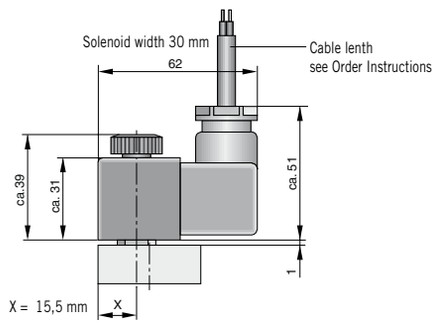


Electrically actuated – Type: S9 581RF.-1/4



* Manual override
** Solenoid width is 30 mm on low wattage coil version

Solenoid for use in EX areas
Dimensions



For more information on valves to ATEX standards
see page 46, 47, 77

For order instructions see page 75-77, characteristics see page 44-47

Dimensions in mm

5/3 Way Valves Series S9

G1/2

Actuation systems:
– Hand lever
– Safety hand lever
– Pneumatic
– Electrical pilot operated

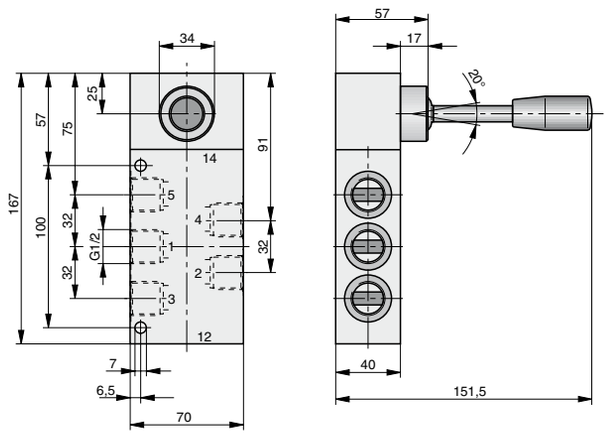
Versions:
– Version to ATEX Standard

Weight (mass) kg

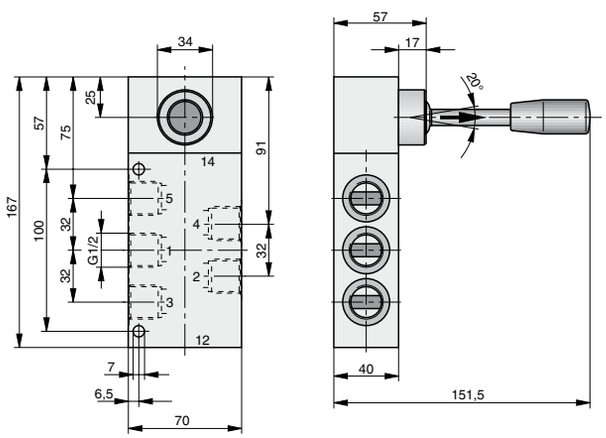
Description	Type *	Weight (mass)
Hand lever, indexed	S9 511.-1/2	1.200
– with spring return	S9 511RF.-1/2	1.200
Safety hand lever	S9 511S.-1/2	1.200
Rotary lever, indexed	S9 512.-1/2	1.200
– with spring return	S9 512RF.-1/2	1.200
Pneumatic, by permanent signal	S9 561RF.-1/2	0.900
Electrical, by permanent signal	S9 581RF.-1/2	1.045

* Type code for middle position functions
G = middle position closed
E = middle position exhausted
B = middle position pressurized

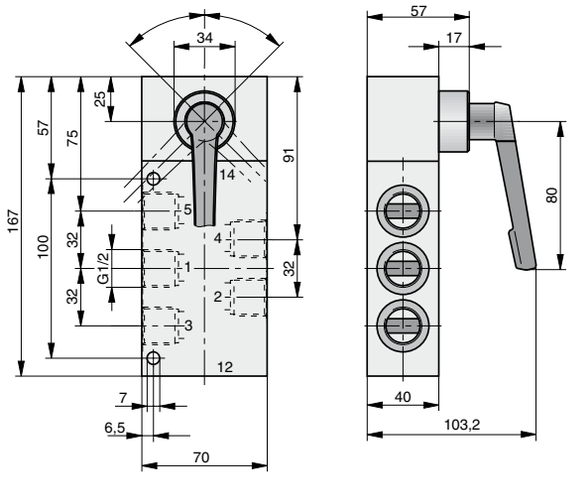
Hand lever actuated – Type: S9 511.-1/2, S9 511RF.-1/2



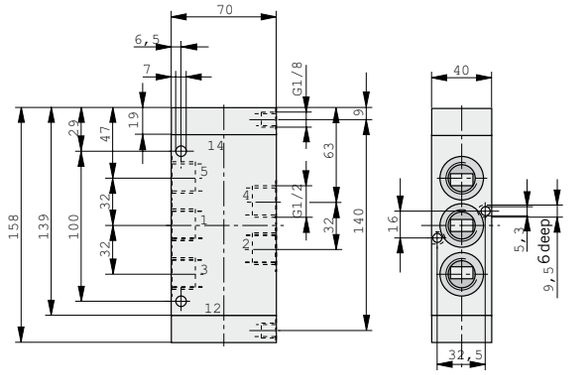
Safety hand lever actuated – Type: S9 511S.-1/2



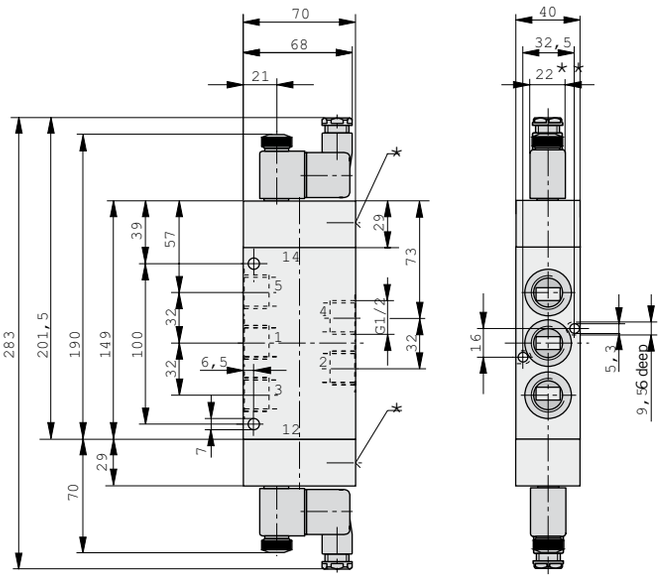
Rotary lever actuated – Type: S9 512.-1/2, S9 512RF.-1/2



Pneumatically actuated – Type: S9 561RF.-1/2

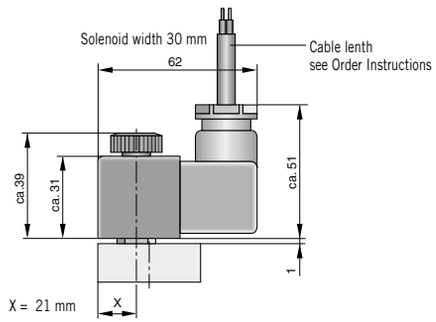


Electrically actuated – Type: S9 581RF.-1/2



* Manual override
** Solenoid width is 30 mm on low wattage coil version

Solenoid for use in EX areas
Dimensions

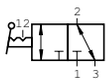
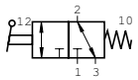
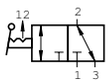
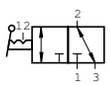
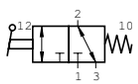
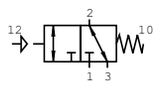
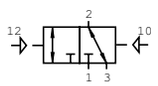
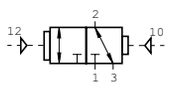
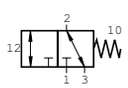


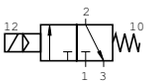
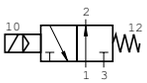
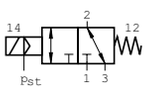
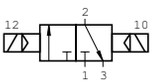
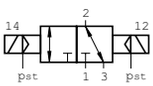
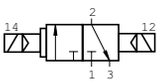
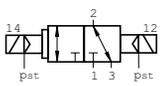
For more information on valves to ATEX standards
see page 46, 47, 77

For order instructions see page 75-77, characteristics see page 44-47

Dimensions in mm

3/2 Way Valves – Standard versions

Actuation System	Symbol	Mounting Ø (mm)	Order Instructions		Page
			Type	Order No.	
Hand lever, indexed			S9 311-1/8	PA 10293	48
			S9 311-1/4	PA 12708	52
			S9 311-1/2	PA 16404	54
Hand lever, spring return			S9 311RF-1/8	PA 10294	48
			S9 311RF-1/4	PA 12709	52
			S9 311RF-1/2	PA 16405	54
Hand lever secured in 2 switching positions					
			S9 311S-1/4	PA 12710	52
			S9 311S-1/2	PA 16406	54
Rotary lever, indexed					
			S9 312-1/4	PA 12711	53
			S9 312-1/2	PA 16407	45
Rotary lever, spring return					
			S9 312RF-1/4	PA 12712	53
			S9 312RF-1/2	PA 16408	55
Pneumatic, by permanent signal			S9 361RF-1/8	PA 10295	49
			S9 361RF-1/4	PA 12713	53
			S9 361RF-1/2	PA 16409	55
Pneumatic, by impulse			S9 361-1/8	PA 10296	49
			S9 361-1/4	PA 12714	53
			S9 361-1/2	PA 16410	55
Pneumatic, by impulse, with biased position					
			S9 362-1/4	PA 12715	53
			S9 362-1/2	PA 16411	55
Basic valve for panel mounting			S9 390RF-1/8	PA 10307	50
Rotary lever, indexed		22	12T-22	KX 9355	50
		30	12T-30	KX 9314	
Rotary lever, spring return		22	12T-RF-22	KX 9356	51
		30	12T-RF-30	KX 9315	
Pushbutton		22	13T-RF-22	KX 9357	50
		30	13T-RF-30	KX 9316	
Mushroom pushbutton		22	15T-RF-22	KX 9358	51
		30	15T-RF-30	KX 9317	
Locking switch		22	16T-22	KX 9359	51
		30	16T-30	KX 9318	

Actuation System	Symbol	Mounting Ø (mm)	Order Instructions Type	Order No.	Page
Rotary switch		22	17T-22	KX 9360	51
		30	17T-30	KX 9319	
Mushroom pushbutton emergency-Off		22	18T-22	KX 9361	51
		30	18T-30	KX 9320	
Electrical by permanent signal			S9 381RF-1/8-NC-..	PA 10297-..33	49
			S9 381RF-1/4-NC-..	PA 12716-..33	53
			S9 381RF-1/2-NC-..	PA 16412-..33	55
			S9 381RF-1/8-NO-..	PA 10298-..33	49
			S9 381RF-1/4-NO-..	PA 12717-..33	53
			S9 381RF-1/2-NO-..	PA 16413-..33	55
with external pilot air			S9 381S-RF-1/8-..	PA 10300-..33	49
			S9 381S-RF-1/4-..	PA 12719-..33	53
			S9 381S-RF-1/2-..	PA 16415-..33	55
Electrical by impulse			S9 381-1/8-..	PA 10299-..33	49
			S9 381-1/4-..	PA 12718-..33	53
			S9 381-1/2-..	PA 16414-..33	55
Electrical, by impulse, with external pilot air			S9 381S-1/8-..	PA 10301-..33	49
			S9 381S-1/4-..	PA 12720-..33	53
			S9 381S-1/2-..	PA 16417-..33	55
Electrical by impulse, with biased position					
			S9 382-1/4-..	PA 12721-..33	53
			S9 382-1/2-..	PA 16418-..33	55
with external pilot air					
			S9 382S-1/4-..	PA 12722-..33	53
			S9 382S-1/2-..	PA 16419-..33	55

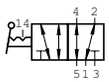
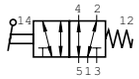
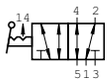
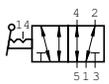
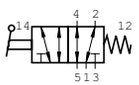
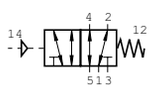
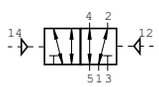
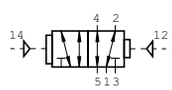
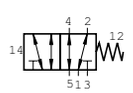
Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type additon
Standard version	230V 50/60Hz	110 V =	61	–
	24V =	60V 50/60Hz	02	–
Low wattage version	24V =		13	–
	230V 50/60Hz		69	–
EX Area versions to ATEX standard see page 72				

EX Area versions to ATEX Standard
Category, type of ignition protection
Single valve: ⟨Ex⟩ II 2G c T4 T135°C -10°C≤Ta≤+60°C
Solenoid/individual use: ⟨Ex⟩ II 2G EEx m II T5 -20°C≤Ta≤+50°C
Solenoid/manifold mounting: ⟨Ex⟩ II 2G EEx m II T5 -20°C≤Ta≤+40°C

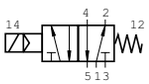
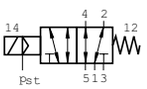
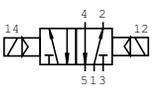
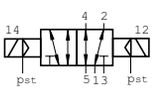
Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type ad-diton
Solenoid – with cable 1.2 m	24V =		48	ATEX
– with cable 3 m	24V =		45	ATEX
– with cable 5 m	24V =		46	ATEX
– with cable 10 m	24V =		47	ATEX
– with cable 1.2 m	24V 50/60Hz		99	ATEX
– with cable 1.2 m	110V 50/60Hz		97	ATEX
– with cable 1.2 m	230V 50/60Hz		98	ATEX

Example for valves in ATEX-Version:
– for valves Series S9-G1/8, S9-G1/4, S9-G1/2
Please add behind the Standard Order No. “ATEX“
Type: S9 381RF-1/8-NC-4633
Order No. PA10297-4633ATEX

Order Instructions – 5/2 Way Valves – Standard versions

Actuation System	Symbol	Mounting Ø (mm)	Order Instructions		Page
			Type	Order No.	
Hand lever, indexed			S9 511-1/8	PA 10308	56
			S9 511-1/4	PA 12671	60
			S9 511-1/2	PA 16367	62
Hand lever, spring return			S9 511RF-1/8	PA 10309	56
			S9 511RF-1/4	PA 12672	60
			S9 511RF-1/2	PA 16366	62
Hand lever secured in 2 switching positions			S9 511S-1/8	PA 10368	57
			S9 511S-1/4	PA 12673	60
			S9 511S-1/2	PA 16368	62
Rotary lever, indexed					
			S9 512-1/4	PA 12674	61
			S9 512-1/2	PA 16378	63
Rotary lever, spring return					
			S9 512RF-1/4	PA 12675	61
			S9 512RF-1/2	PA 16379	63
Pneumatic, by permanent signal			S9 561RF-1/8	PA 10310	57
			S9 561RF-1/4	PA 12676	61
			S9 561RF-1/2	PA 16165	63
Pneumatic, by impulse			S9 561-1/8	PA 10311	57
			S9 561-1/4	PA 12677	61
			S9 561-1/2	PA 16166	63
Pneumatic, by impulse, with biased position					
			S9 562-1/4	PA 12678	61
			S9 562-1/2	PA 16167	63
Basic valve for panel mounting			S9 590RF-1/8	PA 10320	58
Rotary lever, indexed		22	12T-22	KX 9355	58
		30	12T-30	KX 9314	
Rotary lever, spring return		22	12T-RF-22	KX 9356	59
		30	12T-RF-30	KX 9315	
Pushbutton		22	13T-RF-22	KX 9357	58
		30	13T-RF-30	KX 9316	
Mushroom pushbutton		22	15T-RF-22	KX 9358	58
		30	15T-RF-30	KX 9317	
Locking switch		22	16T-22	KX 9359	59
		30	16T-30	KX 9318	

Order Instructions – 5/2 Way Valves – Standard versions

Actuation System	Symbol	Mounting Ø (mm)	Order Instructions Type	Order No.	Page
Rotary switch		22	17T-22	KX 9360	58
		30	17T-30	KX 9319	
Mushroom pushbutton Emergency-Off		22	18T-22	KX 9361	59
		30	18T-30	KX 9320	
Electrical, by permanent signal			S9 581RF-1/8-..	PA 10312-..33	57
			S9 581RF-1/4-..	PA 12679-..33	61
			S9 581RF-1/2-..	PA 16171-..33	63
with external pilot air			S9 581S-RF-1/8-..	PA 10314-..33	57
			S9 581S-RF-1/4-..	PA 12681-..33	61
			S9 581S-RF-1/2-..	PA 16174-..33	63
Electrical, by impulse			S9 581-1/8-..	PA 10313-..33	57
			S9 581-1/4-..	PA 12680-..33	61
			S9 581-1/2-..	PA 16172-..33	63
with external pilot air			S9 581S-1/8-..	PA 10315-..33	57
			S9 581S-1/4-..	PA 12682-..33	61
			S9 581S-1/2-..	PA 16175-..33	63

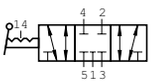
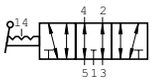
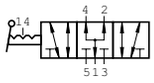
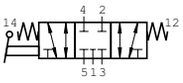
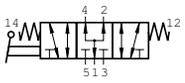
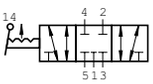
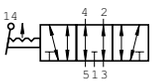
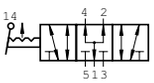
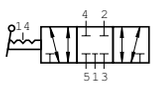
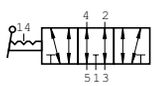
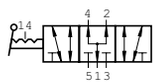
Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type additon
Standard version	230V 50/60Hz	110 V =	61	–
	24V =	60V 50/60Hz	02	–
Low wattage version	24V =		13	–
	230V 50/60Hz		69	–

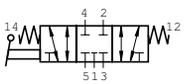
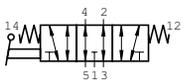
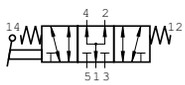
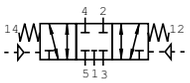
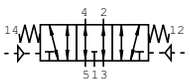
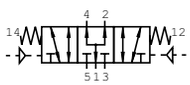
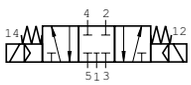
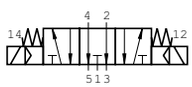
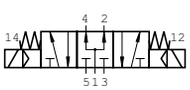
EX Area versions to ATEX Standard
Category, type of ignition protection
Single valve: ⟨Ex⟩ II 2G c T4 T135°C -10°C≤Ta≤+60°C
Solenoid/individual use: ⟨Ex⟩ II 2G EEx m II T5 -20°C≤Ta≤+50°C
Solenoid/manifold mounting: ⟨Ex⟩ II 2G EEx m II T5 -20°C≤Ta≤+40°C

Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type additon
Solenoid – with cable 1.2 m	24V =		48	ATEX
– with cable 3 m	24V =		45	ATEX
– with cable 5 m	24V =		46	ATEX
– with cable 10 m	24V =		47	ATEX
– with cable 1.2 m	24V 50/60Hz		99	ATEX
– with cable 1.2 m	110V 50/60Hz		97	ATEX
– with cable 1.2 m	230V 50/60Hz		98	ATEX

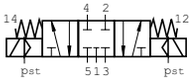
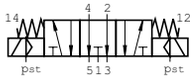
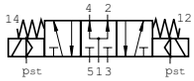
Example for valves in ATEX-Version:
– for valves Series S9-G1/8, S9-G1/4, S9-G1/2
Please add behind the Standard Order No. “ATEX“
Type: S9 581RF-1/8-4633
Order No. PA10312-4633ATEX

Order Instructions – 5/3 Way Valves – Standard versions

Actuation System	Symbol	Order Instructions		Page
		Type	Order No.	
Hand lever, secured in 3 operating positions		S9 511G-1/8	PA 10321	64
		S9 511G-1/4	PA 12687	66
		S9 511G-1/2	PA 16369	68
		S9 511E-1/8	PA 10322	64
		S9 511E-1/4	PA 12688	66
		S9 511E-1/2	PA 16370	68
		S9 511B-1/8	PA 10323	64
		S9 511B-1/4	PA 12689	66
		S9 511B-1/2	PA 16371	68
Hand lever, spring return to middle position		S9 511RFG-1/8	PA 10324	64
		S9 511RFG-1/4	PA 12690	66
		S9 511RFG-1/2	PA 16372	68
		S9 511RFE-1/8	PA 10325	64
		S9 511RFE-1/4	PA 12691	66
		S9 511RFE-1/2	PA 16373	68
		S9 511RFB-1/8	PA 10326	64
		S9 511RFB-1/4	PA 12692	66
		S9 511RFB-1/2	PA 16374	68
Hand lever, secured in 3 operating positions		S9 511SG-1/8	PA 10327	64
		S9 511SG-1/4	PA 12693	66
		S9 511SG-1/2	PA 16375	68
		S9 511SE-1/8	PA 10328	64
		S9 511SE-1/4	PA 12694	66
		S9 511SE-1/2	PA 16376	68
		S9 511SB-1/8	PA 10329	64
		S9 511SB-1/4	PA 12695	66
		S9 511SB-1/2	PA 16377	68
Rotary lever, indexed in 3 operating positions				
		S9 512G-1/4	PA 12696	67
		S9 512G-1/2	PA 16380	69
				
		S9 512E-1/4	PA 12697	67
		S9 512E-1/2	PA 16381	69
				
		S9 512B-1/4	PA 12698	67
		S9 512B-1/2	PA 16382	69

Actuation System	Symbol	Order Instructions		Page
		Type	Order No.	
Rotary lever, spring return to middle position				
		S9 512RFG-1/4	PA 12699	67
		S9 512RFG-1/2	PA 16383	69
				
		S9 512RFE-1/4	PA 12700	67
		S9 512RFE-1/2	PA 16384	69
				
		S9 512RFB-1/4	PA 12701	67
		S9 512RFB-1/2	PA 16385	69
Pneumatic, by permanent signal spring return to middle position		S9 561RFG-1/8	PA 10330	65
		S9 561RFG-1/4	PA 12702	67
		S9 561RFG-1/2	PA 16168	69
		S9 561RFE-1/8	PA 10331	65
		S9 561RFE-1/4	PA 12703	67
		S9 561RFE-1/2	PA 16169	69
		S9 561RFB-1/8	PA 10332	65
		S9 561RFB-1/4	PA 12704	67
		S9 561RFB-1/2	PA 16170	69
Electrical by permanent signal spring return to middle position		S9 581RFG-1/8-..	PA 10333-..33	65
		S9 581RFG-1/4-..	PA 12705-..33	67
		S9 581RFG-1/2-..	PA 16176-..33	69
		S9 581RFE-1/8-..	PA 10334-..33	65
		S9 581RFE-1/4-..	PA 12706-..33	67
		S9 581RFE-1/2-..	PA 16177-..33	69
		S9 581RFB-1/8-..	PA 10335-..33	65
		S9 581RFB-1/4-..	PA 12707-..33	67
		S9 581RFB-1/2-..	PA 16178-..33	69

For complete Type- and Order No. - see page 77

Actuation System	Symbol	Order Instructions		Page
		Type	Order No.	
Electrical by permanent signal		S9 581S-RFG-1/8-..	PA 10377-..33	65
		S9 581S-RFG-1/4-..	PA 12925-..33	67
spring return to middle position		S9 581S-RFE-1/8-..	PA 10379-..33	65
		S9 581-RFE-1/4-..	PA 12923-..33	67
with external pilot air		S9 581S-RFB-1/8-..	PA 10378-..33	65
		S9 581S-RFB-1/4-..	PA 12924-..33	67

Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type additon
Standard version	230V 50/60Hz	110 V =	61	–
	24V =	60V 50/60Hz	02	–
Low wattage version	24V =		13	–
	230V 50/60Hz		69	–

EX Area versions to ATEX Standard
Category, type of ignition protection
Single valve: ⟨Ex⟩ II 2G c T4 T135°C -10°C≤Ta≤+60°C
Solenoid/individual use: ⟨Ex⟩ II 2G EEx m II T5 -20°C≤Ta≤+50°C
Solenoid/manifold mounting: ⟨Ex⟩ II 2G EEx m II T5 -20°C≤Ta≤+40°C

Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type additon
Solenoid – with cable 1.2 m	24V =		48	ATEX
– with cable 3 m	24V =		45	ATEX
– with cable 5 m	24V =		46	ATEX
– with cable 10 m	24V =		47	ATEX
– with cable 1.2 m	24V 50/60Hz		99	ATEX
– with cable 1.2 m	110V 50/60Hz		97	ATEX
– with cable 1.2 m	230V 50/60Hz		98	ATEX

Example for valves in ATEX-Version:
– for valves Series S9-G1/8, S9-G1/4, S9-G1/2
Please add behind the Standard Order No. “ATEX“
Type: S9 581RFG-1/8-4633
Order No. PA10333-4633ATEX

3/2, 5/2 and 5/3 Way Valves Series S9

G1/8, G1/4

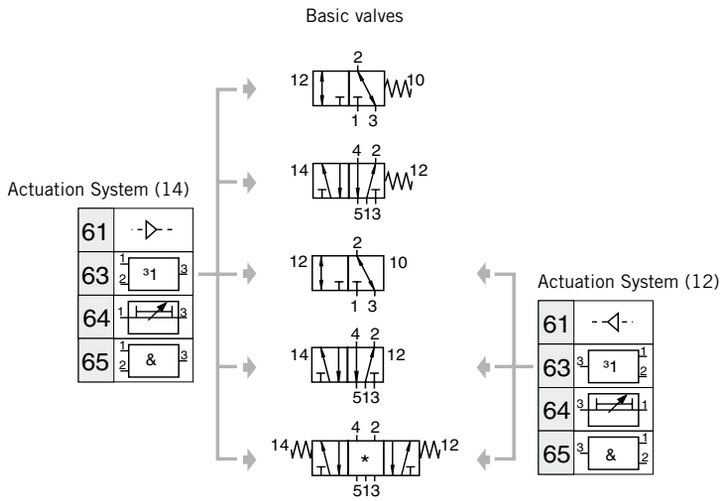
Actuation systems:
Pneumatic
– AND
– OR
– TIMER

Versions:
Freely selectable types
– See Order information
– All Timer-Versions on request

Weight (mass) kg

Description	Weight (mass) – Connection size	
	G1/8	G1/4
3/2 Way Valve, by permanent signal	0.137	0.370
3/2 Way Valve, by impulse	0.147	0.430
5/2 Way Valve, by permanent signal	0.160	0.490
5/2 Way Valve, by impulse	0.170	0.510
5/3 Way Valve, by permanent signal	0.180	0.530

Possible combinations:

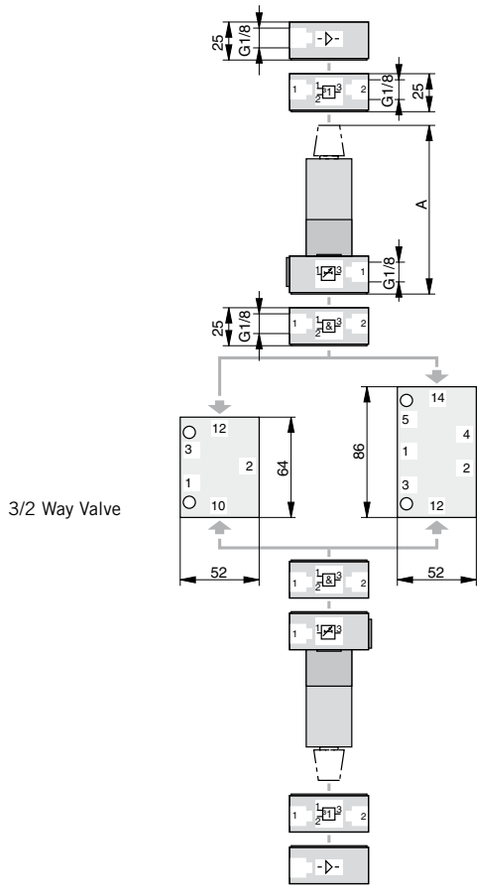


* RFG = middle position closed
RFE = middle position exhausted
RFB = middle position pressurized

For more information on standard valves see Instructions sheets on page 44-69

Dimensions in mm

Valve Combinations with Logic Elements – 3/2, 5/2 and 5/3 Way Valves



Dimension Table and adjustment ranges

Adjustment range	Dimension A [mm]
0.1 to 15	103 (133*)
0.1 to 30	117 (147*)
0.1 to 60	150 (180*)

* Version with rotary knob (optional)

Dimension Table and adjustment ranges

Adjustment range	Dimension A [mm]
0.1 to 15	103 (133*)
0.1 to 30	117 (147*)
0.1 to 60	150 (180*)

* Version with rotary knob (optional)

Order Instructions

	S9	5	63	/	65	–	RFG	–	1/4	

Version	
3	3 Way Valve
5	5 Way Valve

Actuation System (14)	
61	Pneumatic
63	OR
64	Timer* – all Timer-Versions on request
65	AND

* only with connection size G1/4

Connection size	
1/8	G1/8
1/4	G1/4

Mid position function (only with 5/3 Way Valves)	
RFG	closed
RFE	vented
RFB	pressurized

Actuation System (14)	
RF	spring return
61	pneumatic
63	OR
64	Timer* – all Timer-Versions on request
65	AND

* only with Connection size G1/4

Dimensions in mm

Contents

Solenoid Poppet Valves

directly actuated

Series EV-M5 (G1/8)
Series V9-G1/8

3/2 Way Screw-In Valve Series EV

G1/8-M5

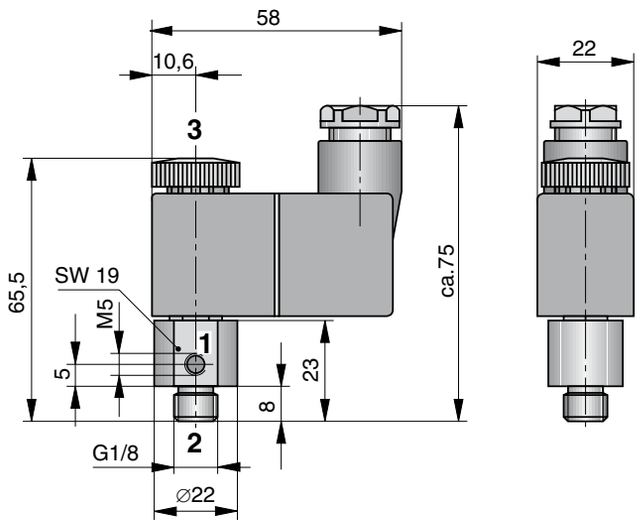
Actuation System:
– Electrical, directly actuated

Characteristics – Series EV

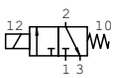
Characteristics	Symbol	Unit	Description		
General Features					
Actuation			Electrical directly operated		
Type			Poppet valve, normally closed		
Mounting			Screws into thread G1/8		
Tube connection			Thread		
Port size			Port 1: M5, port 2: G1/8		
Weight		kg	0.1		
Nominal diameter		mm	1		
Installation			in any position		
Ambient temperature range	$T_{min. / max.}$	°C	-10 to +60	Note : Please consult us for operating temperatures below 0° C	
Medium temperature range	$T_{min. / max.}$	°C	-10 to +60		
Medium			Filtered compressed air (30µ)		
Lubrication			With or without oil mist lubrication (We recommend the use of mineral oil type VG 32 to ISO 3448)		
Pneumatic Characteristics					
Nominal pressure	$p_{min. / max.}$	bar	6		
Operating pressure range	$p_{min. / max.}$	bar	0 – 10		
Nominal flow	Q_N	l/min	30		
Actuation					
Electrical			Direct		
Voltage type			Alternating current (50/60Hz)	Direct current	
Nominal voltage [1]					
– Standard version	U_n	V	230 ±10%	24 ±10%	other voltages on request
– Low wattage version	U_n	V	230 ±10%	24 ±10%	
Initial power consumption					
– Standard version		VA (W)	11	4.8	
– Low wattage version		VA (W)	7.8	2.7	
Continuous consumption					
– Standard version		VA (W)	8.5	4.8	
– Low wattage version		VA (W)	4.9	2.7	
Duty cycle	ED	%	100		
Electrical protection			IP 65 to DIN 40050 (applise only to solenoid with plug)		
Connection			Plug to DIN EN 175301-803 form B – industrial standard, Low wattage version form A		

([1] see Order Instructions

3/2 Way Valve – Type: EV 381RF-M5



Order Instructions – 3/2 Way Screw-In Valve – Series EV

Actuation	Symbol	Order Instructions	
		Type	Order No.
Electrical, by permanent signal		EV 381RF-M5-..	PD25076-..33

Solenoid version	Nominal voltage	Key code
Cast encapsulated housing	24V =	02
	230V 50/60Hz	61
	Other voltages on request	

Dimensions in mm

3/2 Way Valves Series V9

NW 1.3 and 2.5

Actuation System:
– Electrically actuated, directly actuated

Versions:
Threaded version
– Normally closed
– Normally open
– With manual override

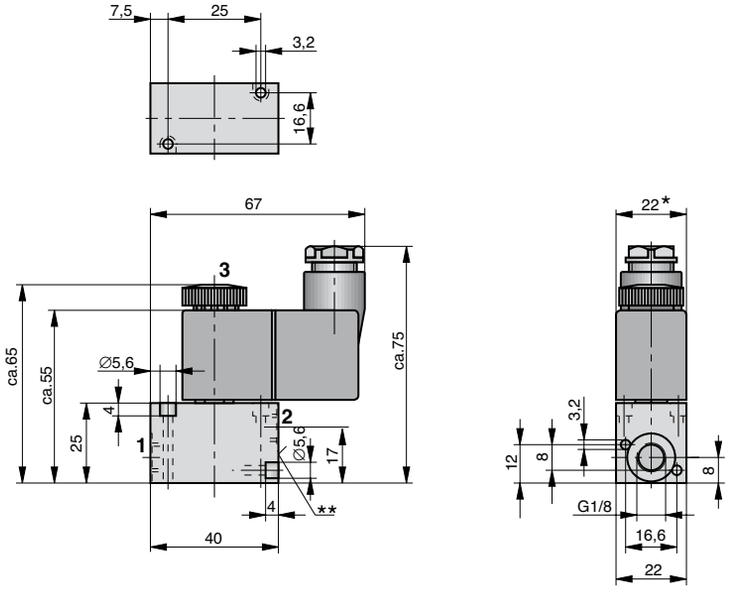
P-moulding mounting:
– See Order Instructions

Characteristics – Series V9-G1/8

Characteristics	Symbol	Unit	Description		
General Features					
Type			Poppet valve		
Mounting			2 Screws M3 (NW 2.5: 2 x M4)		
Tube connection			Thread		
Thread			G1/8 – 8 deep		
Weight		kg	NW 1.3: 0.140 NW 2.5: 0.320		
Installation			In any position		
Ambient temperature range (1	$T_{min. / max.}$	°C	-10 +60	Note : Please consult us for operating temperatures below 0° C	
Medium temperature range (1	$T_{min. / max.}$	°C	-10 +70		
Medium			Filtered compressed air		
Lubrication			With or without oil mist lubrication (We recommend the use of mineral oil type VG 32 to ISO 3448)		
Pneumatic Characteristics					
Nominal pressure	$p_{min. / max.}$	bar	6		
Operating pressure range	$p_{min. / max.}$	bar	NW 1.3: 0–10 NW 2.5: 0-7		
Nominal flow	Q_N	l/min	NW 1.3: 37 NW 2.5: 150		
Actuation					
Electrical			Direct		
Voltage type			Alternating current (50/60Hz)	Direct current	
Nominal voltage					
– Standard version	U_n	V	230 ±10%	24 ±10%	other voltages on request
– Low wattage version	U_n	V	230 ±10% (not for V9-NW 2.5)	24 ±10% (not for V9-NW 2.5)	
Initial power consumption					
– Standard version		VA (W)	NW 1.3: 11 NW 2.5: 11.5	NW 1.3: 4.8 NW 2.5: 10	
– Low wattage version		VA (W)	7.8	2.7	
Continuous consumption					
– Standard version		VA (W)	NW 1.3: 8.5 NW 2.5: 7.5	NW 1.3: 4.8 NW 2.5: 7.5	
– Low wattage version		VA (W)	4.9	2.7	
Duty cycle	ED	%	100		
Electrical protection		IP	IP 65 to DIN 40050 (applise only to solenoid with connector)		
Connection			NW 1.3: connector to DIN EN 175301-803 form B – industrial standard NW 2.5: connector to DIN EN 175301-803 form A – industrial standard		

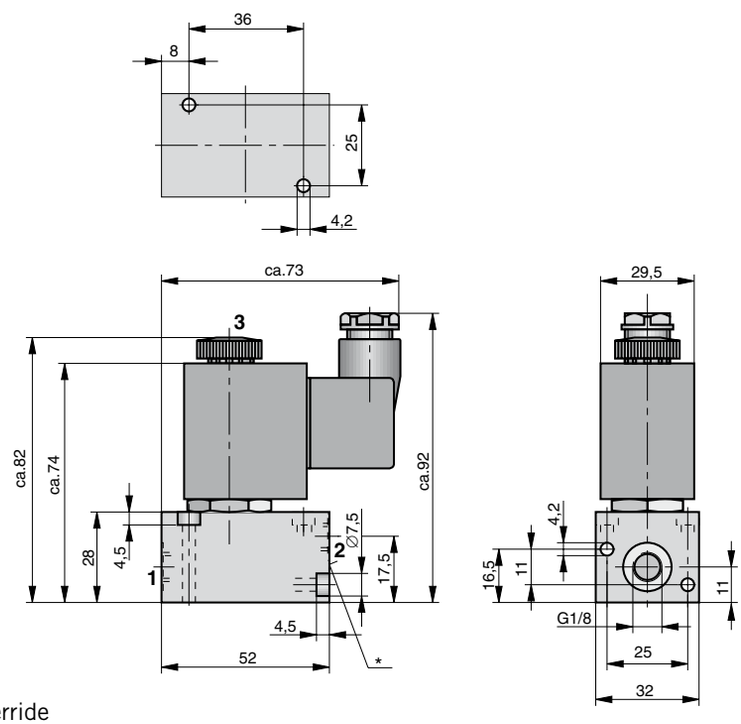
Type: V9 381RF-1/8NG (NO[1])– NW 1.3
Type: V9 381H-RF-1/8NG (NO[1])– NW 1.3

[1] not suitable for P-supply manifold mounting



* Low wattage version is 30 mm wide:
– therefore to mount these on a P-Supply Manifold, special measures are needed.
** Manual override

Type: V9 381RF-1/8NG – NW 2.5
Type: V9 381H-RF-1/8NG – NW 2.5

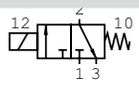
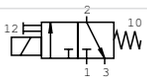
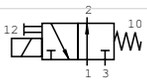


* Manual override

For order instructions see page 86

Dimensions in mm

Order Instructions – 3/2 Way Valves – Series V9

Actuation System	Symbol	Nominal Size (mm)	Order Instructions Type	Order No.	Page
Electrical, by permanent signal		NW 1.3	V9 381RF-1/8-NC-..	PA 10362-..33	84, 85
		NW 2.5	V9 381RF-1/8-NC-..	PA 10369-..33	84, 85
		NW 1.3	V9 381H-RF-1/8-NC-..	PA 10363-..33	84, 85
		NW 2.5	V9 381H-RF-1/8-NC-..	PA 10370-..33	84, 85
		NW 1.3	V9 381H-RF-1/8-NO-..	PA 10367-..33	84, 85

Solenoid version	Nominal voltage	Applicable for	Key code
Standard version	230V 50/60Hz	110 V =	61
	24V =	60V 50/60Hz	02
Low wattage version	24V =		13
	230V 50/60Hz		69
Other voltages on request			

Order Instructions – Accessories for P-Supply Manifold Mounting

Description	for NW	Order No.
P-Manifold PL-1/8-..	1.3	PD32763-....*
P-Manifold PLK-1/8-..	1.3	PD37174-....*
P-Manifold PL-1/4-..	2.5	PD32765-....*
P-Manifold PLK-1/4-..	2.5	PD32175-....*

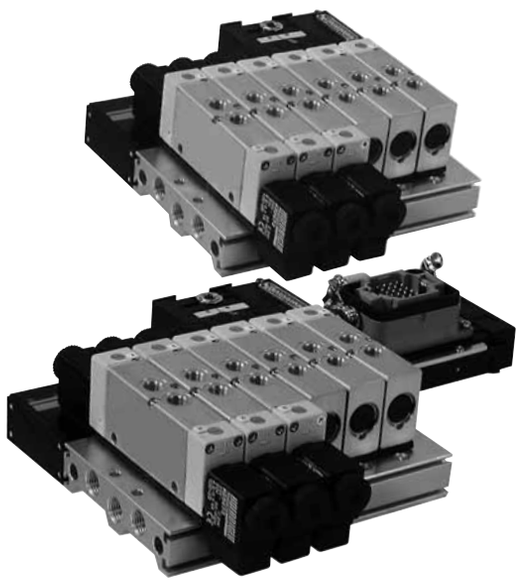
* Complete order no. with no. of valve

The delivery includes:
P-Manifold complete incl. mounting kit

Contents

Valve Islands

Series IM20-G1/8
Series IM20-G1/4

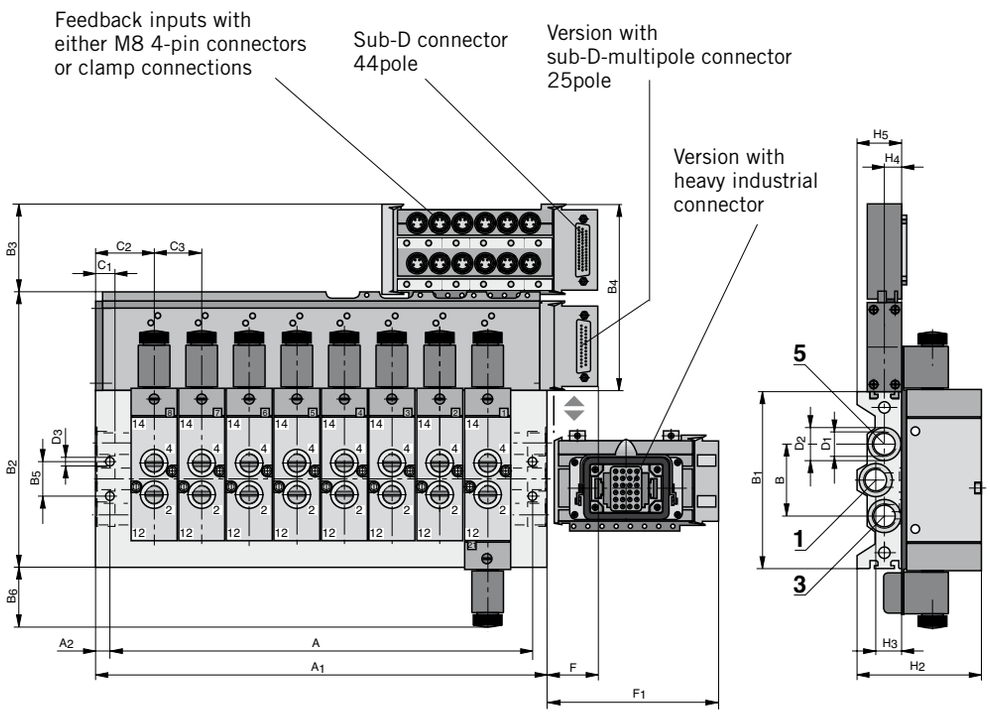


Valve Islands with Multipole Connector

Characteristics	Symbol	Unit	Description	
General Features				
Type			IM20-1/8	IM20-1/4
Mounting			4 Screws – see drawing	4 Screws – see drawing
Connection size				
– air supply and exhaust			G1/4 both sides	G3/8 both sides
– valve outlets			G1/8	G1/4
Size for valve positions			22	33
Installation			In any position	
Ambient and medium temperature range	T_{min} T_{max}	°C °C	–10 +50	Note: Please consult us for operating temperatures below 0° C
Medium			Filtered compressed air	
Lubrication			With or without oil mist lubrication (We recommend the use of mineral oil type VG 32 to ISO 3448)	
Material				
– Base plate			Al	
– Valve housing			Al	
– Seals			NBR	
Durability of valves			10 x 10^6 operations	
No. of valves positions			4 – 6 – 8 – 10 – 12 –14–16 (1	
No. of switching outputs			max. 24	
No. of sensor inputs			max. 32	
Pneumatic characteristics				
Nominal pressure	p_n	bar	6	
Operating pressure range	p_{min} p_{max}	bar bar	2.5 10	
Nominal flow	Q_n	l/min	500	1300 (2
Actuation				
Electrical			By control system	
Voltage type			Direct current	
Nominal voltage	U_n	V	24 ±10%	
Power consumption		W	2.5	
Mass/ground			Minuspol	
Electrical protection		IP	IP65 (applise only to the electrically part)	
– Input clamps		IP	IP20	
– Input plug		IP	IP65	
Connection				
– Multipole Connector			25-pin sub-D connector or 24-pin industrial connector	
– Sensor inputs			Ladder clamps or M8 x 14-pin connectors	
Status indication			LED	
Protective circuit			Integrated	

(1 other numbers of valves can be fitted via the use of blanking plates.
(2 Version “middle position vented“ 1000 l/min

Multipole Island with sub-D-multipole connector 25pole (or heavy industrial connector) and 16 M8 4-pin feedback inputs with 44pin sub-D connector



Dimension Table (mm)

Valve Islands	Dimension											
	A	A_1	A_2	B	B_1	B_2	B_3	B_4	B_5	B_6	B_7	C_1
IM20-1/8	17 + x C_3	30 + x C_3	6	43	99	166	62.5	132	20.5	42.5	60	11

Valve Islands	Dimension										
	C_2	C_3	D_1	ØD_2	ØD_3	F	F_1	H_2	H_3	H_4	H_5
IM20-1/8	26	23	G1/4	19x0.2	5.5	40	126	68	12	9	25

x C_3= Dimension C_3 multiplied with number of valves

For order instructions see page 91, 135

Dimensions in mm

Valve Islands with Multipole Connection Series IM20

G1/8

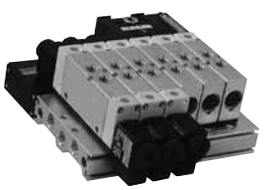
Multipole islands can be equipped with following valves.

– 5/2 Way Valves with springreturn
– 5/2 Way Impulse Valves
– 5/3 Way Valves with spring return to middle position
  – middle position closed
  – middle position exhausted
  – middle position pressurized

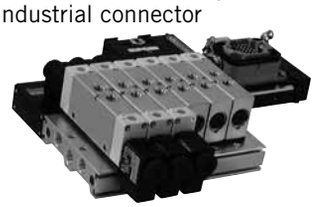
Versions:
– Connection with sub-D connector
– Connection with heavy industrial connector
– With or without sensor inputs
– With multi-connection for sensor inputs (via 44pole sub-D connector)

Accessories See page 92
– Cable with sub-D plug
– Heavy industrial connector
– Straight plug M8 4pole

Connection with sub-D connector



Connection with heavy industrial connector



Valve Islands with Multipole Connection Series IM20

G1/4

Multipole islands can be equipped with following valves:

– 5/2 Way Valves with spring return
– 5/2 Way Impulse Valves
– 5/3 Way Valves with spring return to middle position
  – middle position closed
  – middle position exhausted
  – middle position pressurized

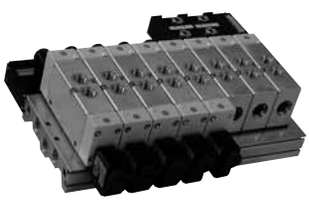
Versions:

– Connection with sub-D connector
– Connection with heavy duty industrial connector
– With or without sensor inputs
– With multi-connection for sensor inputs (via 44-pin sub-D connector)

Accessories See page 92

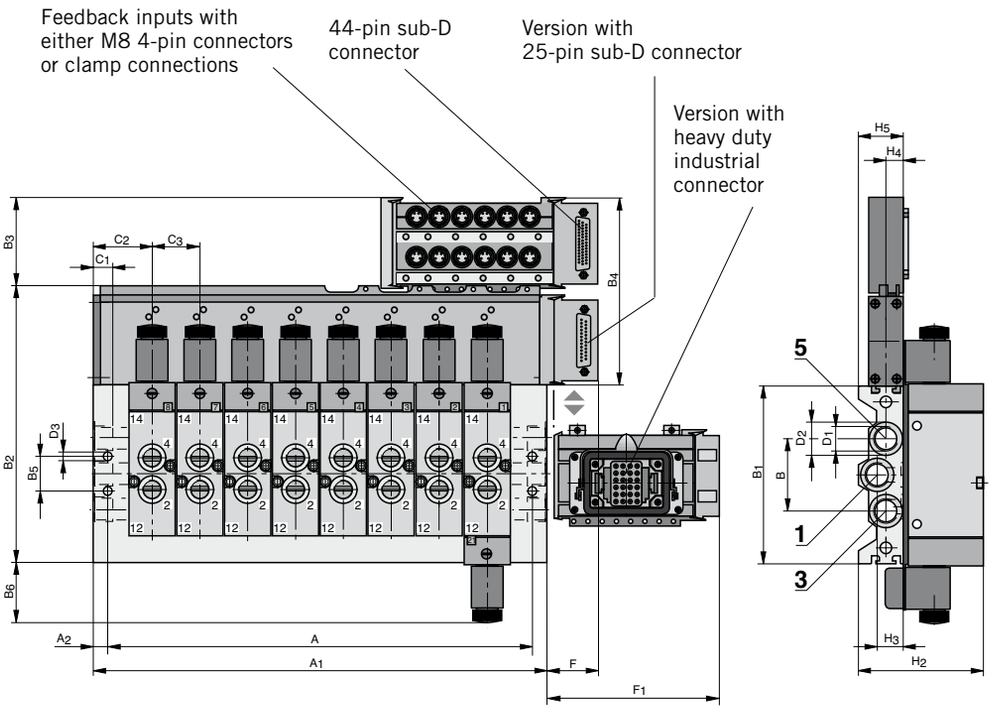
– Cable with sub-D plug
– Heavy duty industrial connector
– Straight M8 4-pin connector

Connection with sub-D connector



Connection with heavy duty industrial connector

Multipole Island with 25-pin sub-D connector (or heavy duty industrial connector) and 16 M8 4-pin feedback inputs with 44-pin sub-D connector



Dimension Table (mm)

Valve Islands	Dimension											
	A	A_1	A_2	B	B_1	B_2	B_3	B_4	B_5	B_6	B_7	C_1
IM20-1/4	17 + x C_3	30 + x C_3	6	50	123	190	62.5	132	24	42.5	73.5	12

Valve Islands	Dimension										
	C_2	C_3	D_1	ØD_2	ØD_3	F	F_1	H_2	H_3	H_4	H_5
IM20-1/4	31	33	G3/8	23x0.5	6.2	40	126	86	18.5	12	31

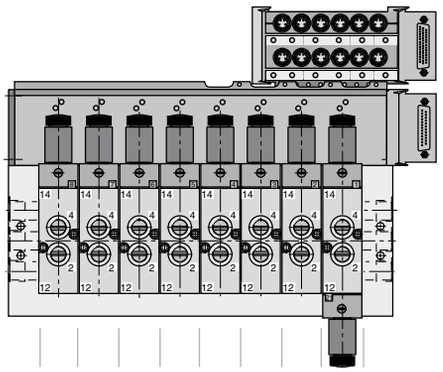
x C_3= Dimension C_3 multiplied by number of valves

For order instructions see page 91, 135

Dimensions in mm

Order Instructions – Valve Islands

Example:
Valve Islands with Multipole Connector, M8 assembled with:
1 item 5/2 Way Valves S9 581-1/8
7 item 5/2 Way Valves S9 581RF-1/8



	Ident-No.							Electrical connection	Valves	Valve position												Input module	Number of inputs	Flow divider	Position of channel divider	
										1	2	3	4	5	6	7	8	9	10	11	12					
Example	P	A	1	0	3	8	1	D	S	0	8	M	M	M	M	M	M	M	J								

04 06 08 10 12

even number of valve positions only

For order, please use the neutral order form on page 135

Important: Please specify the code for the desired valve types

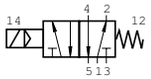
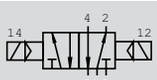
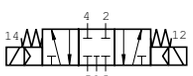
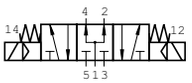
Valve Islands – Sizes	
PA 10381	Type: IM20-1/8 Connections: G1/8: valve outlets G1/4: base plate
PA12867	Type: IM20-1/4 Connections: G1/4: valve outlets G3/8: base plate

Input Modules	
K	Pins IP20
S	M8 IP65 connector
04-08-12 16-20-24 28-32	Number of inputs

Dual Pressure Operating	
J	with channel divider in port 1
01 – 11	Position of channel divider to valve position

Electrical Connection	
Multipol-Version	
DS	with sub-D-Connection
HI	with industrial connector

Valves	
04	to 4 valves
06	5 and 6 valves
08	7 and 8 valves
10	9 and 10 valves
12	11 and 12 valves
14	13 and 14 valves
16	15 and 16 valves

Ordering Code for Valves and Cover Plates		
Code	Symbol	Description
A	–	Cover plate on valve
M		5/3 Way Solenoid Valve, permanent signal with spring return Type: S9 581RF-..
J		5/3 Way Solenoid Valve, Impulse version Type: S9 581RF-..
G		5/3 Way Solenoid Valve, spring return to middle position, middle position closed Type: S9 581RFG-..
B		5/3 Way Solenoid Valve, spring return to middle position, middle position pressurized Type: S9 581RFB-..
E		5/3 Way Solenoid Valve, spring return to middle position, middle position exhausted Type: S9 581RFE-..

Accessories for Valve Islands IM20

with Multipole Connector

- **Cable with sub-D plug**
- **Heavy duty industrial connector**
- **Straight plug M8 4pole**

Cable with sub-D plug

Number of poles	Cable length	Order Instructions		Figure
		Type	Order No.	
25	1.0 m	GSK-25-1	KL9012	
25	3.0 m	GSK-25-3	KL9013	
25	5.0 m	GSK-25-5	KL9014	
44	5.0 m	GSK-44-5	KL9005	

Heavy duty industrial connector with cable

Number of poles	Cable length	Order Instructions		Figure
		Type	Order No.	
24	5.0 m	K-IST-24	KL9003	

Straight plug M8 for inputs

Number of poles	Use	Order Instructions		Figure
		Type	Order No.	
4	for own packing	K-M8-4	KL9011	

Contents

P- and RPS-Supply Manifolds

for directional valves
S9-G1/8
S9-G1/4

P-Supply Manifold Series PLK, PL

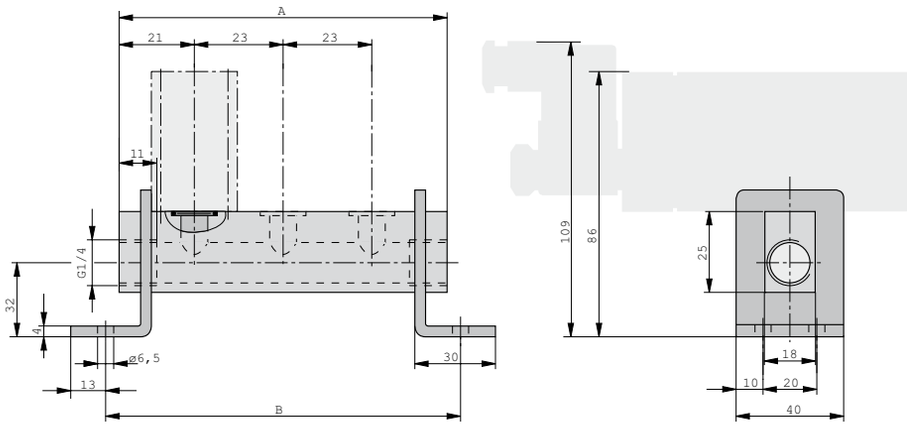
for directional valves Series S9-G1/8

P-supply manifolds reduce and simplify tubing. They allow a clear, space-saving design.
3/2, 5/2 and 5/3 Way Valves with different types of actuation can be mounted in groups of 2-10.

Die Usage of Magnet-Impulse Valves is possible only with P-Manifold Type PL-...

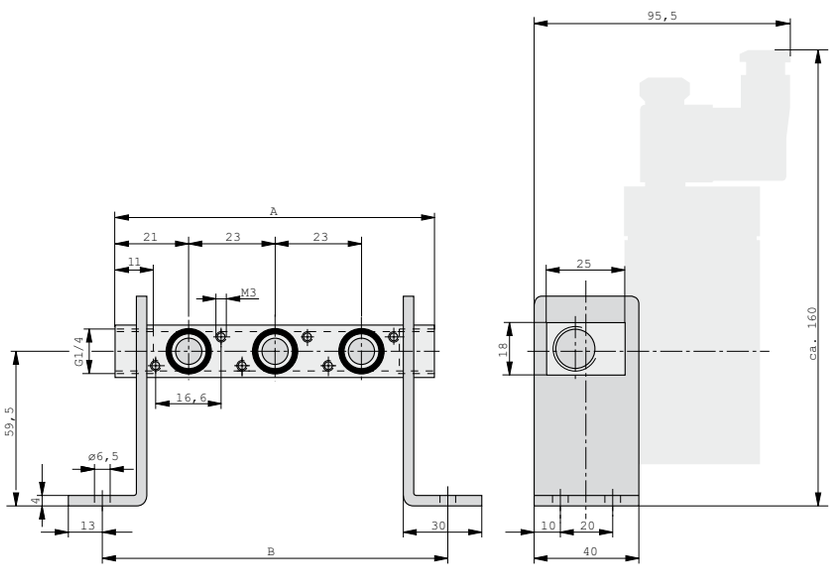
The delivery includes:
P-Manifold
Mounting bracket
Mounting Screws
O-Rings

P-Supply Manifold with short mounting brackets Type: PLK-1/8-..



Drawing shows: PLK-1/8-3

P-Manifold with long mounting brackets Type: PL-1/8-..



Drawing shows: PL-1/8-3

Material

Description	Material
P-Manifold	Al anodized
Mounting bracket	Steel passivated
Screws	Galvanized steel
O-Ring	NBR

Overview for directional valves see page 70-77

Dimensions in mm

Dimension Table (mm)

Type	Number of Valves	A	B
PLK-1/8-2	2	65	79
PL-1/8-2	2	65	79
PLK-1/8-3	3	88	102
PL-1/8-3	3	88	102
PLK-1/8-4	4	111	125
PL-1/8-4	4	111	125
PLK-1/8-5	5	134	148
PL-1/8-5	5	134	148
PLK-1/8-6	6	157	171
PL-1/8-6	6	157	171
PLK-1/8-7	7	180	194
PL-1/8-7	7	180	194
PLK-1/8-8	8	203	217
PL-1/8-8	8	203	217
PLK-1/8-9	9	226	240
PL-1/8-9	9	226	240
PLK-1/8-10	10	249	263
PL-1/8-10	10	249	263

Order Instructions and Weight

Order In-		Number of Valves	Consisting of				Weight (kg)
Type	Order No.		Manifold	Bracket	Screws	O-Ring	
PLK-1/8-2	PD 37174-0002	2	1	2	4	2	0.28
PL-1/8-2	PD 32763-0002	2	1	2	4	2	0.28
PLK-1/8-3	PD 37174-0003	3	1	2	6	3	0.31
PL-1/8-3	PD 32763-0003	3	1	2	6	3	0.31
PLK-1/8-4	PD 37174-0004	4	1	2	8	4	0.34
PL-1/8-4	PD 32763-0004	4	1	2	8	4	0.34
PLK-1/8-5	PD 37174-0005	5	1	2	10	5	0.37
PL-1/8-5	PD 32763-0005	5	1	2	10	5	0.37
PLK-1/8-6	PD 37174-0006	6	1	2	12	6	0.40
PL-1/8-6	PD 32763-0006	6	1	2	12	6	0.40
PLK-1/8-7	PD 37174-0007	7	1	2	14	7	0.43
PL-1/8-7	PD 32763-0007	7	1	2	14	7	0.43
PLK-1/8-8	PD 37174-0008	8	1	2	16	8	0.47
PL-1/8-8	PD 32763-0008	8	1	2	16	8	0.47
PLK-1/8-9	PD 37174-0009	9	1	2	18	9	0.50
PL-1/8-9	PD 32763-0009	9	1	2	18	9	0.50
PLK-1/8-10	PD 37174-0010	10	1	2	20	10	0.53
PL-1/8-10	PD 32763-0010	10	1	2	20	10	0.53

Accessories

Description	Order No.
Cover plate completely	PD 34694
Flow divider	PD 42483

P-Supply Manifolds Series PLK, PL

for directional valves Series S9-G1/4

P-supply manifolds reduce and simplify tubing. They allow a clear, space-saving design.
3/2, 5/2 and 5/3 Way Valves with different types of actuation can be mounted in groups of 2-10 item.

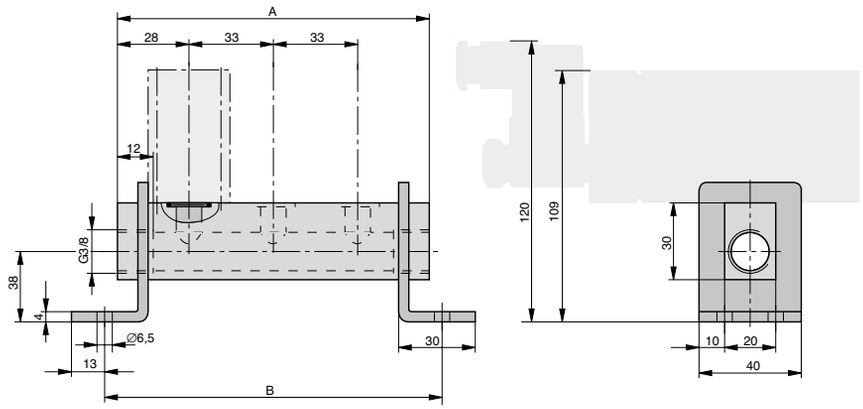
Die Usage of Magnet-Impulse Valves is possible only with P-Manifold Type PL-...

The delivery includes:
P-Manifold
Mounting bracket
Mounting Screws
O-Rings

Material

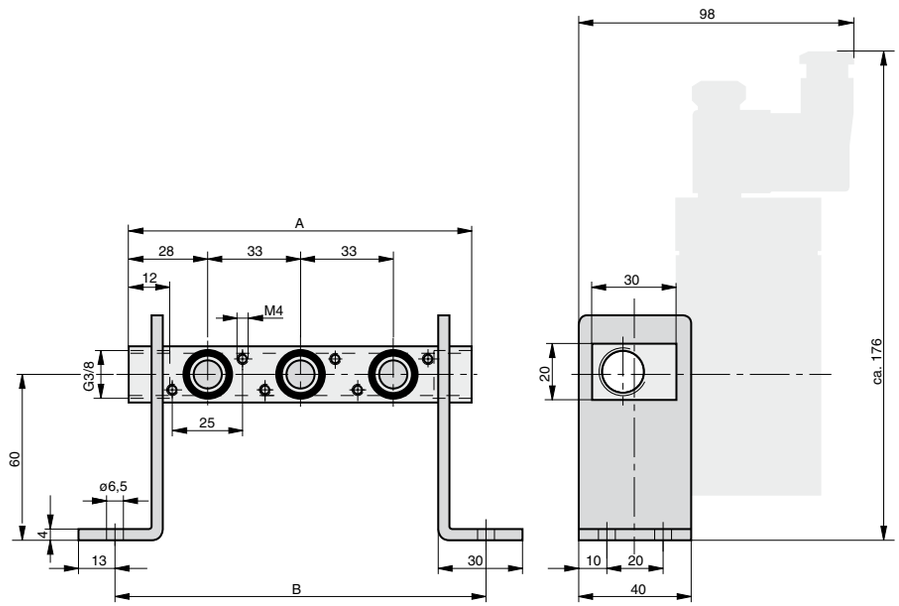
Description	Material
P-Manifold	Al anodized
Mounting bracket	Steel passivated
Screws	Galvanized steel
O-Ring	NBR

P-Manifold with short mounting brackets Type: PLK-1/4-..



Drawing shows: PLK-1/4-3

P-Manifold with long mounting brackets Type: PL-1/4-..



Drawing shows: PL-1/4-3

Overview for directional valves see page 70-77

Dimensions in mm

Dimension Table (mm)

Type	Number of valves	A	B
PLK-1/4-2	2	89	99
PL-1/4-2	2	89	99
PLK-1/4-3	3	122	132
PL-1/4-3	3	122	132
PLK-1/4-4	4	155	165
PL-1/4-4	4	155	165
PLK-1/4-5	5	188	198
PL-1/4-5	5	188	198
PLK-1/4-6	6	221	231
PL-1/4-6	6	221	231
PLK-1/4-7	7	254	264
PL-1/4-7	7	254	264
PLK-1/4-8	8	287	297
PL-1/4-8	8	287	297
PLK-1/4-9	9	320	330
PL-1/4-9	9	320	330
PLK-1/4-10	10	353	363
PL-1/4-10	10	353	363

Order Instructions and Weight

Order data		Number of valves	Consisting of				Weight (kg)
Type	Order No.		Manifold	Bracket	Ccrews	O-Ring	
PLK-1/4-2	PD 37175-0002	2	1	2	4	2	0.31
PL-1/4-2	PD 32765-0002	2	1	2	4	2	0.31
PLK-1/4-3	PD 37175-0003	3	1	2	6	3	0.35
PL-1/4-3	PD 32765-0003	3	1	2	6	3	0.35
PLK-1/4-4	PD 37175-0004	4	1	2	8	4	0.39
PL-1/4-4	PD 32765-0004	4	1	2	8	4	0.39
PLK-1/4-5	PD 37175-0005	5	1	2	10	5	0.43
PL-1/4-5	PD 32765-0005	5	1	2	10	5	0.43
PLK-1/4-6	PD 37175-0006	6	1	2	12	6	0.47
PL-1/4-6	PD 32765-0006	6	1	2	12	6	0.47
PLK-1/4-7	PD 37174-0007	7	1	2	14	7	0.51
PL-1/4-7	PD 32765-0007	7	1	2	14	7	0.51
PLK-1/4-8	PD 37175-0008	8	1	2	16	8	0.55
PL-1/4-8	PD 32765-0008	8	1	2	16	8	0.55
PLK-1/8-9	PD 37175-0009	9	1	2	18	9	0.59
PL-1/4-9	PD 32765-0009	9	1	2	18	9	0.59
PLK-1/4-10	PD 37175-0010	10	1	2	20	10	0.63
PL-1/4-10	PD 32765-0010	10	1	2	20	10	0.63

Accessories

Description	Order No.
Cover plate completely	PD 34695
Flow divider	PD 42516

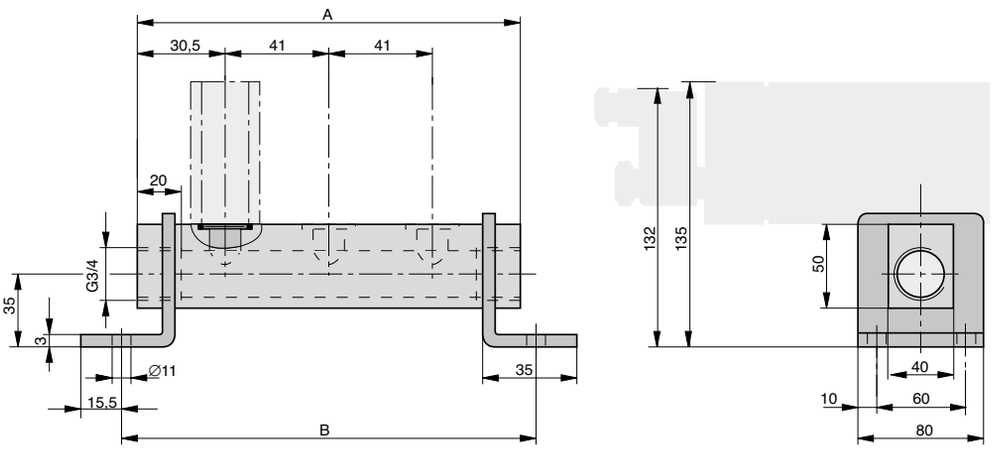
P-Manifolds Series PL

for way valves Series S9-G1/2

P-supply manifolds reduce and simplify tubing. They allow a clear, space-saving design.
3/2, 5/2 and 5/3 Way Valves with different types of actuation can be mounted in groups of 2-4 item.

The delivery includes:
P-Manifold
Mounting bracket
Mounting Screws
O-Rings

P-Manifold with short mounting brackets – Type: PL-1/2-..



Drawing shows: PL-1/2-3

Material

Description	Material
P-Manifold	Al anodized
Mounting bracket	Steel chromanized
Screws	Galvanized steel
O-Ring	NBR

Dimension Table (mm)

Type	Number of valves	A	B
PL-1/2-2	2	102	122
PL-1/2-3	3	143	163
PL-1/2-4	4	184	204

Accessories

Description	Order No.
Cover plate completely	PD 39138

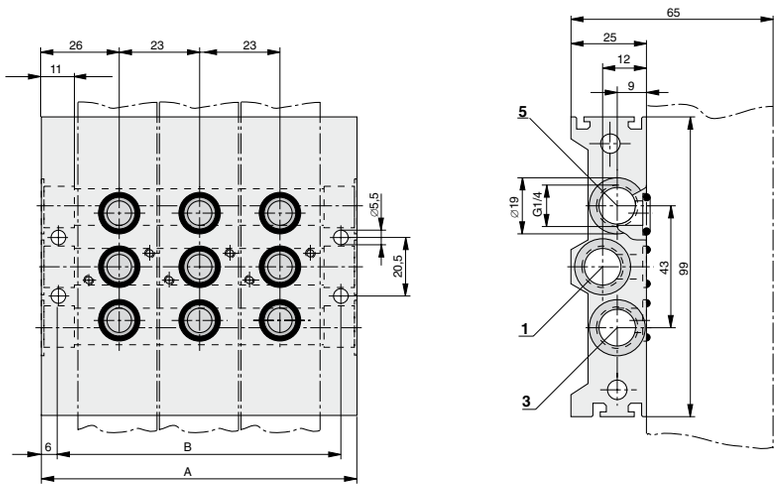
Order Instructions and Weight

Order data		Number of valves	consisting of				Weight (kg)
Type	Order No.		Manifold	Mounting bracket	Screws	O-Ring	
PL-1/2-2	PD 39016-0002	2	1	2	4	2	0.45
PL-1/2-3	PD 39016-0003	3	1	2	6	3	0.60
PL-1/2-4	PD 39016-0004	4	1	2	8	4	0.80

Overview for directional valves see page 70-77

Dimensions in mm

RPS-manifold – Type: RPSL-S9-1/8-.
Dimension A and B see Tabelle



Drawing shows: RPSL-S9-1/8-3

RPS-Manifolds Series RPSL

for directional valves Series S9-G1/8

RPS-supply manifolds reduce and simplify tubing. They allow a clear, space-saving design.
The RPS manifolds have a common compressed air supply (P) and common vent lines (R,S).
Valves can be mounted in groups of 2-10.
– RPS-Manifolds for more valves on request

The delivery includes:
RPS-suppply manifold
Mounting Screws
O-Rings

Dimension Table (mm)

Type	Number of valves	A	B
RPSL-S9-1/8-2	2	75	63
RPSL-S9-1/8-3	3	98	86
RPSL-S9-1/8-4	4	121	109
RPSL-S9-1/8-5	5	144	132
RPSL-S9-1/8-6	6	167	155
RPSL-S9-1/8-7	7	190	178
RPSL-S9-1/8-8	8	213	201
RPSL-S9-1/8-9	9	236	224
RPSL-S9-1/8-10	10	259	247

Material

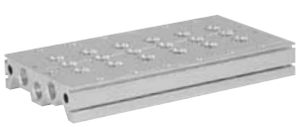
Description	Material
P-Manifold	Al anodized
Screws	Galvanized steel
O-Ring	NBR

Order Instructions and Weight

Order data		Number of valves	consisting of			Weight (kg)
Type	Order No.		Manifold	Screws	O-Ring	
RPSL-S9-1/8-2	PD 44813-0002	2	1	4	6	0.470
RPSL-S9-1/8-3	PD 44813-0003	3	1	6	9	0.570
RPSL-S9-1/8-4	PD 44813-0004	4	1	8	12	0.670
RPSL-S9-1/8-5	PD 44813-0005	5	1	10	15	0.770
RPSL-S9-1/8-6	PD 44813-0006	6	1	12	18	0.870
RPSL-S9-1/8-7	PD 44813-0007	7	1	14	21	0.970
RPSL-S9-1/8-8	PD 44813-0008	8	1	16	24	1.070
RPSL-S9-1/8-9	PD 44813-0009	9	1	18	27	1.170
RPSL-S9-1/8-10	PD 44813-0010	10	1	20	30	1.270

Accessories

Description	Order No.
Cover strip completely G1/8	PD 32956
Flow divider G1/8	PD 42483



RPS-Manifolds Series RPSL

for directional valves Series S9-G1/4

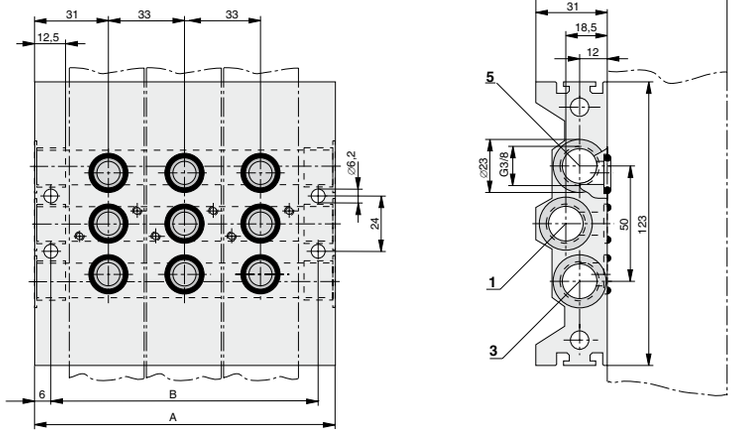
RPS-Supply manifolds reduce and simplify tubing. They allow a clear, space-saving design.
The RPS manifolds have a common compressed air supply (P) and common vent lines (R,S).

Valves can be mounted in groups of 2-10.
– RPS-Manifolds for more valves on request

The delivery includes:
RPS-supply manifold
Mounting screws
O-Rings

RPS-Supply Manifold – Type: RPSL-S9-1/4-..

Dimension A and B see Tabelle



Drawing shows: RPSL-S9-1/4-3

Material

Description	Material
P-Manifold	Al anodized
Screws	Galvanized steel
O-Ring	NBR

Accessories

Description	Order No.
Cover strip completely G1/4	PD 32957
Flow divider G1/4	PD 42483

Dimension Table (mm)

Type	Number of valves	A	B
RPSL-S9-1/4-2	2	95	83
RPSL-S9-1/4-3	3	128	116
RPSL-S9-1/4-4	4	161	149
RPSL-S9-1/4-5	5	194	182
RPSL-S9-1/4-6	6	227	215
RPSL-S9-1/4-7	7	260	248
RPSL-S9-1/4-8	8	293	281
RPSL-S9-1/4-9	9	326	314
RPSL-S9-1/4-10	10	359	347

Order Instructions and Weight

Order data		Number of	consisting of			Weight
Type	Order No.	valves	Manifold	Screws	O-Ring	(kg)
RPSL-S9-1/4-2	PD 44814-0002	2	1	4	6	0.845
RPSL-S9-1/4-3	PD 44814-0003	3	1	6	9	1.045
RPSL-S9-1/4-4	PD 44814-0004	4	1	8	12	1.245
RPSL-S9-1/4-5	PD 44814-0005	5	1	10	15	1.445
RPSL-S9-1/4-6	PD 44814-0006	6	1	12	18	1.645
RPSL-S9-1/4-7	PD 44814-0007	7	1	14	21	1.845
RPSL-S9-1/4-8	PD 44814-0008	8	1	16	24	2.045
RPSL-S9-1/4-9	PD 44814-0009	9	1	18	27	2.245
RPSL-S9-1/4-10	PD 44814-0010	10	1	20	30	2.445

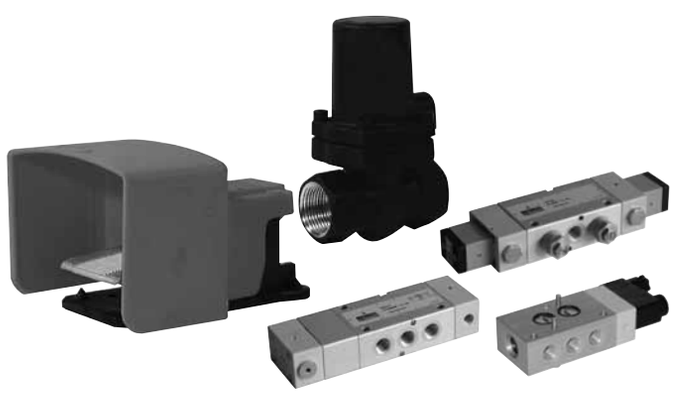
Overview for directional valves see page 70-77

Dimensions in mm

Special Valves

Connection size G1/8 to G2

Contents



Way Valves with NAMUR Connections

Characteristics for Standard Valves

Series S9 – G1/8, G1/4 NAMUR

Characteristics	Symbol	Unit	Series S9	
			G1/8	G1/4
Actuation			Electrically actuated	Electrically actuated
General Features				
Type			Spoolvalve	Spoolvalve
Mounting			2 Screws M5	2 Screws M6
Tube connection			Thread/NAMUR connections	Thread/NAMUR connections
Thread			G1/8 – 7,4 deep	G1/4 – 11 deep
Weight		kg	0.245 permanent signal version	0.600 permanent signal version
		kg	0.340 impulse version	0.700 impulse version
Installation			In any position	In any position
Ambient temperature range (1	$T_{min./max.}$	°C	-10 to +60	-10 to +60
Medium temperature range (1	$T_{min./max.}$	°C	-10 to +60	-10 to +60
Medium			Filtered compressed air	
Lubrication			With or without oil mist lubrication (We recommend the use of mineral oil type VG 32 to ISO 3448)	
Pneumatic Characteristics				
Nominal pressure	$p_{min./max.}$	bar	6	
Operating pressure range				
– permanent signal version	$p_{min./max.}$	bar	2–10	
– impulse version	$p_{min./max.}$	bar	1.5–10	
Nominal flow	Q_N	l/min	500	1300 (3
Actuation				
Electrical			Pilot operated	
Voltage type			Alternating current (50/60Hz)	Direct current
Nominal voltage				
– Standard version	Un	V	230 ±10%	24 ±10% other voltages on request
– Low wattage version	Un	V	230 ±10%	24 ±10% other voltages on request
Initial power consumption				
– Standard version		VA (W)	8.5	2.5
– Low wattage version		VA (W)	6.6	2.1
Continuous consumption				
– Standard version		VA (W)	6.0	2.5
– Low wattage version		VA (W)	3.9	2.1
Duty cycle	ED	%	100	
Electrical protection		IP	IP 65 to DIN 40050 (applise only to solenoid with connector)	
Connection			Plug to DIN EN 175301-803 form B – industrial standard (2	

(1 Note :
Please consult us for operating temperatures below 0° C

(2 Low wattage version connector DIN EN 175301-803 form A
(3 Version “middle position vented“ 1000 l/min

Way Valves with NAMUR Connections

Characteristics for Valves in EX Areas

Series S9 – G1/8, G1/4 NAMUR

Characteristics	Symbol	Unit	Series S9	
			G1/8	G1/4
Actuation			Electrically actuated	Electrically actuated
General Features				
Type			Spool valve	Spool valve
Mounting			2 Screws M5	2 Screws M6
Tube connection			Thread/NAMUR connections	Thread/NAMUR connections
Weight		kg	0.245 permanent signal version	0.600 permanent signal version
			0.340 impulse version	0.700 impulse version
Installation			In any position	In any position
Ambient temperature range ([1]	$T_{min./max.}$	°C	-10 to +60	-10 to +60
Medium temperature range ([1]	$T_{min./max.}$	°C	-10 to +60	-10 to +60
Medium			Filtered, unlibricated compressed air – free from water and dirt to ISO 8573-1 Solids: Class 7 particle < 40µm for gas Water content: pressure dew point +3°C, Class 4, but at least 5 °C below minimum operating temperature	
Pneumatic Characteristics				
Nominal pressure	$p_{min./max.}$	bar	6	
Operating pressure range				
– permanent signal version	$p_{min./max.}$	bar	2–8	
– impulse version	$p_{min./max.}$	bar	1.5–8	
Nominal flow	Q_N	l/min	500	1300 ([3
Actuation				
Electrical			Pilot operated	
Certification			EC Type Test Certificate for single valve: not required for mechanical units EC Type Test Certificate for solenoid coil: PTB-No. 03 Ex IEC 2019X and PTB 03 ATEX 2018X to T5	
Category, type of ignition protection			Single valve: Ⓔx II 2G c T4 T135°C -10°C≤Ta≤+60°C Solenoid/individual use: Ⓔx II 2G EEx m II T5 -20°C≤Ta≤+50°C Solenoid/manifold mounting: Ⓔx II 2G EEx m II T5 -20°C≤Ta≤+40°C	
Voltage type			Alternating current (50/60Hz)	Direct current
Nominal voltage	UN	V	230 ±10% 110 ±10% 24 ±10%	24 ±10% other voltages on request
Max. switching frequency		Hz	1	
Connection			G1/8, G1/4	G1/8, G1/4
Power rating at U_N		VA (W)	3.1 (230V) 3.0 (110V) 2.5 (24V)	3.3 (24V)
Max. power at U_N ([2		VA (W)	2.9 (230V) 2.8 (110V) 2.4 (24V)	3.0 (24V)
Electrical protection		IP	IP65 (applise only to solenoid with cable)	
Connection			Cable – cable lengths see Order Instructions	

([1 Note : Please consult us for operating temperatures below 0° C
([2 Maximum power if warmed up to thermal load limit
([3 Version “middle position vented“ 1000 l/min

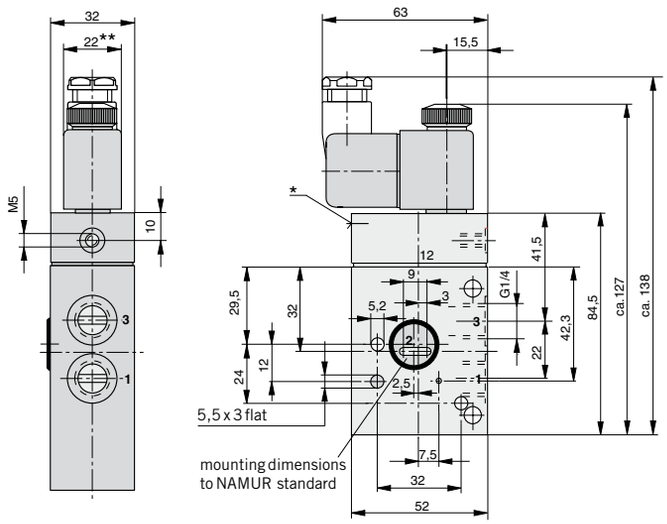
3/2 Way Valves Series S9

G1/4

Actuation systems:
– Electrical pilot operated

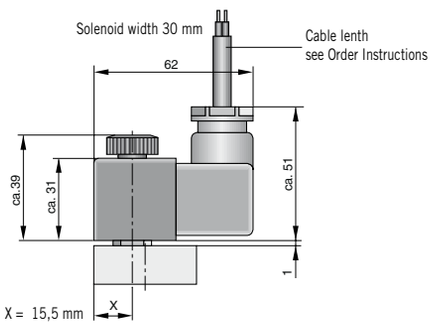
Versions:
– With NAMUR connections
– Version to ATEX Standard

Electrically actuated – Type: S9 381RF-1/4-NC SO



* Manual override
** Solenoid width = 30 mm on low wattage coil version

Solenoid for use in EX areas
Dimensions



The delivery includes:
1 Valve
2 Mounting Screws
1 Coding pin
2 O-Rings

For more information on valves to ATEX standards
see page 46, 47, 107

Overview see page 107

Dimensions in mm

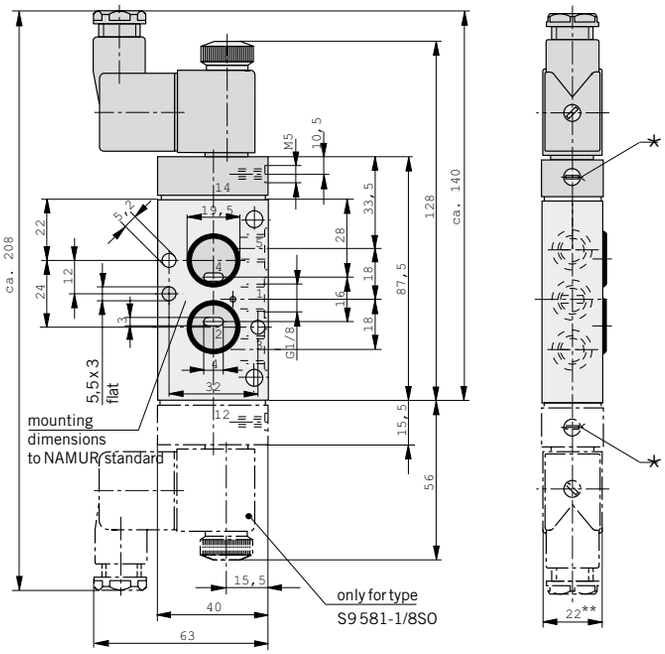
5/2 Way Valves Series S9

G1/8, G1/4

Actuation systems:
– Electrical pilot operated

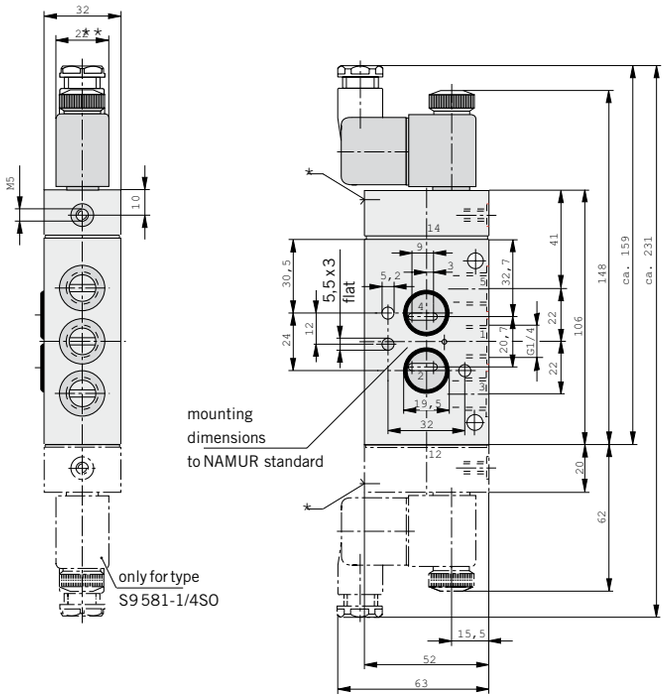
Versions:
– With NAMUR connections
– Version to ATEX standard

Electrically actuated – Type: S9 581..-1/8 SO



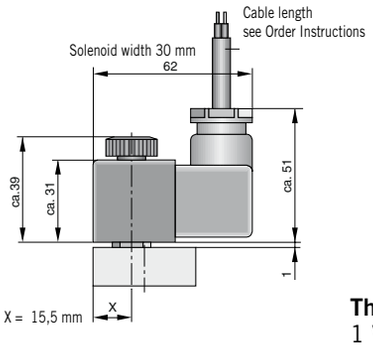
* Manual override
** Solenoid width = 30 mm on low wattage coil version

Electrically actuated – Type: S9 581..-1/4 SO



Solenoid for use in EX areas

Dimensions



For more information on valves to ATEX standards see page 46, 47, 107

* Manual override
** Solenoid width = 30 mm on low wattage coil version

The delivery includes:
1 Valve
2 Mounting Screws
1 Coding pin
2 O-Rings

Overview see page 107

Dimensions in mm

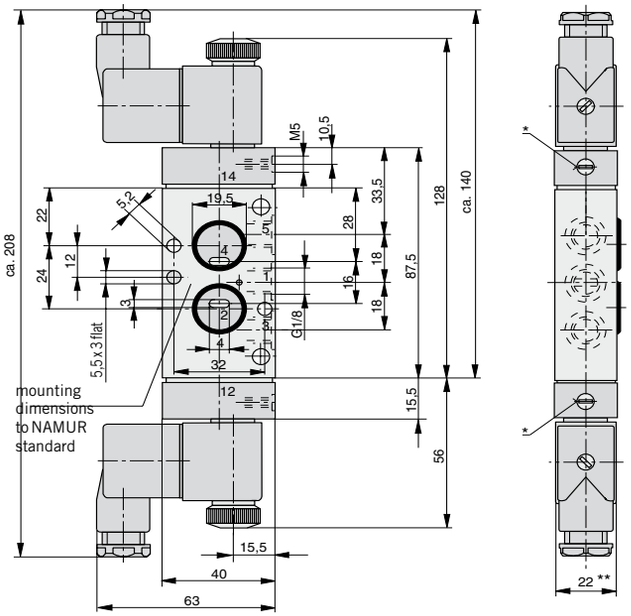
5/3 Way Valves Series S9

G1/8, G1/4

Actuation systems:
– Electrical pilot operated

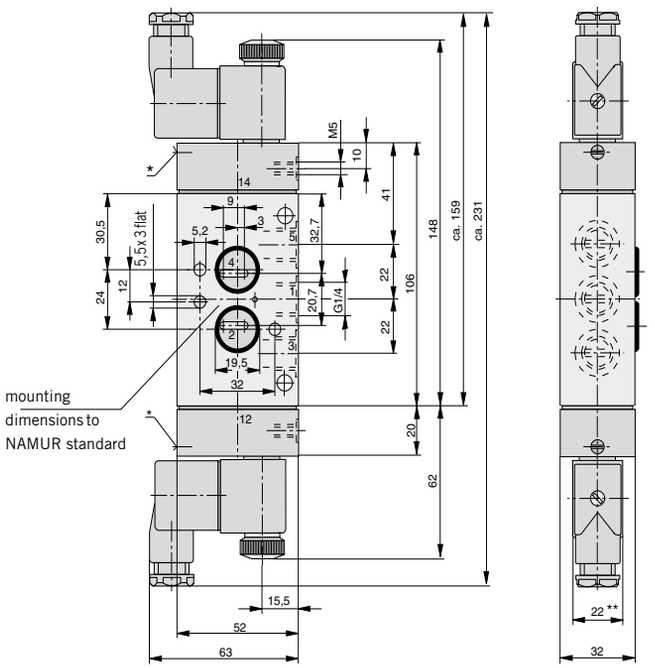
Versions:
– With NAMUR connections
– Version to ATEX Standard

Electrically actuated – Type: S9 581RF.-1/8-NC SO



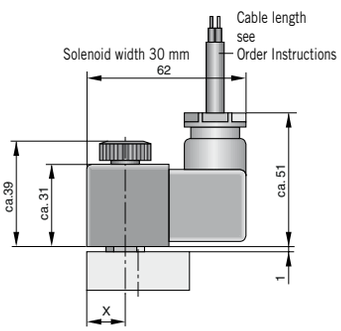
* Manual override
** Solenoid width = 30 mm on low wattage coil version

Electrically actuated – Type: S9 581RF.-1/4-NC SO



Solenoid for use in EX areas

Dimensions



For more information on valves to ATEX standards see page 46, 47, 107

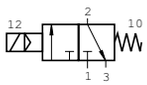
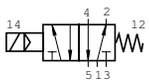
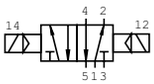
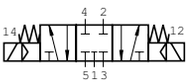
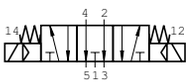
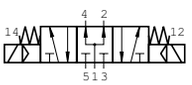
* Manual override
** Solenoid width = 30 mm on low wattage coil version

The delivery includes:
1 Ventil
2 Mounting Screws
1 Coding pin
2 O-Rings

Overview see page 107

Dimensions in mm

Order Instructions – 3/2, 5/2 and 5/3 Way Valves – with NAMUR connections

Actuation System	Symbol	Order Instructions Type	Order No.	Page
Electrical, permanent signal		S9 381RF-1/4NG SO-..	PD 33854-..33	104
Electrical, permanent signal		S9 581RF-1/8 SO-..	PD 34143-..33	105
		S9 581RF-1/4 SO-..	PD 34985-..33	105
Electrical, impulse		S9 581-1/8 SO-..	PD 34984-..33	105
		S9 581-1/4 SO-..	PD 34986-..33	105
Electrical, permanent signal spring return to middle position		S9 581RFG-1/8 SO-..	PD 40813-..33	106
		S9 581RFG-1/4 SO-..	PD 40808-..33	106
		S9 581RFE-1/8 SO-..	PD 40814-..33	106
		S9 581RFE-1/4 SO-..	PD 40618-..33	106
		S9 581RFB-1/8 SO-..	PD 40815-..33	106
		S9 581RFB-1/4 SO-..	PD 40809-..33	106

Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type additon
Standard version	230V 50/60Hz	110 V =	61	–
	24V =	60V 50/60Hz	02	–
Low wattage version	24V =		13	–
	230V 50/60Hz		69	–

EX Area versions to ATEX Standard
Category, type of ignition protection
Single valve: ⟨Ex⟩ II 2G c T4 T135°C -10°C≤Ta≤+60°C
Solenoid/individual use: ⟨Ex⟩ II 2G EEx m II T5 -20°C≤Ta≤+50°C
Solenoid/manifold mounting: ⟨Ex⟩ II 2G EEx m II T5 -20°C≤Ta≤+40°C

Solenoid version	Nominal voltage	Applicable for	Key code	ATEX Type additon
Solenoid – with cable 1.2 m	24V =		48	ATEX
– with cable 3 m	24V =		45	ATEX
– with cable 5 m	24V =		46	ATEX
– with cable 10 m	24V =		47	ATEX
– with cable 1.2 m	24V 50/60Hz		99	ATEX
– with cable 1.2 m	110V 50/60Hz		97	ATEX
– with cable 1.2 m	230V 50/60Hz		98	ATEX

Example for valves in ATEX-Version:
– for valves Series S9-G1/8, S9-G1/4, S9-G1/2
Please add behind the standard order No. “ATEX“
Type: S9 581RFG-1/8SO-4633
Order No. PA34143-4633ATEX

5/2 Way Valve Series S9

G1/8, G1/4

Actuation System:
– Pneumatic
for two hand operation

2 hand operated valve for pneumatically controlled machines and equipment.

The 2-handed trip valves PD37173 and PD37673 are classed as category 1 in accordance with
DIN EN 954-1
(only in connection with suitable push button valves) and type IIIA in accordance with DIN EN 574.

ISO 13851:
Safety of machines; two-handed controls.

ISO 13849-1:
Safety of machines; safety-related parts of control systems.

Area of application:
The 2-handed safety valves are intended to be used where persons carry out manual control functions in areas that are subject to accident risks. These comprise primarily equipment with pneumatic cylinders, the operation of which requires that both hands are kept away from the danger zone. The valves can also be used to prevent unintended starts of pneumatic processes.

Characteristics – Pneumatically actuated with 2 hand operation and Time Delay Valve

Characteristics	Symbol	Unit	Description		
Version			Two Hand Operation		Time Delay Valve
Type			S9 563/65RF-1/8-SO	S9 563/65RF-1/4-SO	S9 361RF-1/8-SO
General Features					
Type			Spool valve	Spool valve	Spool valve
Mounting			2 Screws M5	2 Screws M6	2 Screws M5
Tube connection			Thread	Thread	Thread
Port size			G1/8	G1/4 (12.1 and 12.2: G1/8)	G1/8
Weight (mass)		kg	0.27	0.64	0.18
Installation			In any position		
Ambient temperature range	$T_{min/max}$	°C	-10 to +60 **		
Medium temperature range	$T_{min/max}$	°C	-10 to +60 **		
Medium			Filtered compressed air - free from water and dirt to ISO 8573-1 Solids: Class 6 particle <5µm for Gas gaswater content: pressure dew point +3°C, Class 4, but at least 5°C less than min. operating temperature		
Lubrication *			none or oil mist lubrication		
Pneumatic Characteristics					
Nominal pressure	p_n	bar	6		
Operating pressure range	$p_{min/max}$	bar	0 – 10		2-10
Nominal flow	Q_N	l/min	500	1300	450
Actuation					
Pneumatic			Direct		
Actuation pressure range	$p_{st\ min/max}$		2 – 10	3 – 10	2-10

* We recommend the use of mineral oil type VG 32 to ISO 3448
** Note: Please consult us for operating temperatures below 0° C

Function:
The valve only switches from outlet port 4 to outlet port 2 if both signal inlets are simultaneously actuated or are actuated within 0.5 s.
When the operator releases one or both control buttons, the valve switches back immediately.

In order to resume the switch function, both trip signals have to be cancelled first.

Note:
Not applicable for operating eccentric presses and presses of similar design.

Fitting Instructions:
If due to mechanical stopping and re-opening of the compressed air supply both control buttons are operated or possibly blocked at the same time, the 2-handed trip valve will continue the control function. The 2-handed trip valve is not suited to prevent the switching from port 4 to port 2 upon the compressed air being switched back on after it was shut off and/or permanently operated control buttons.
In order to prevent this process from happening, we advise users that it is necessary to install a time-delay valve in the supply line of one of the control buttons (line 12.1 or 12.2).

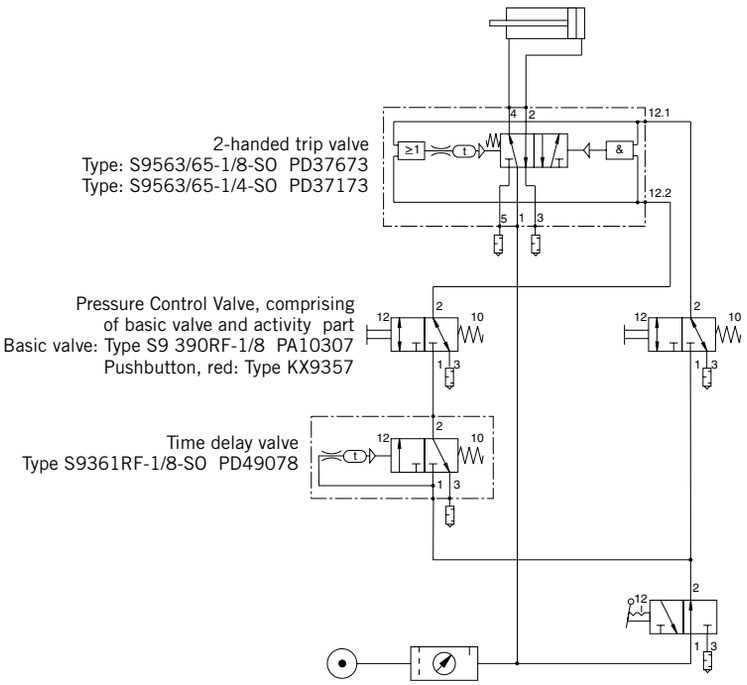
We recommend the following time-delay valve from our range: type PD49078.
As push button valve we recommend the basic valve PA10307 for control panel configuration, in combination with push button KX9357.

Characteristics of time-delay valve see table above.

Dimensions in mm

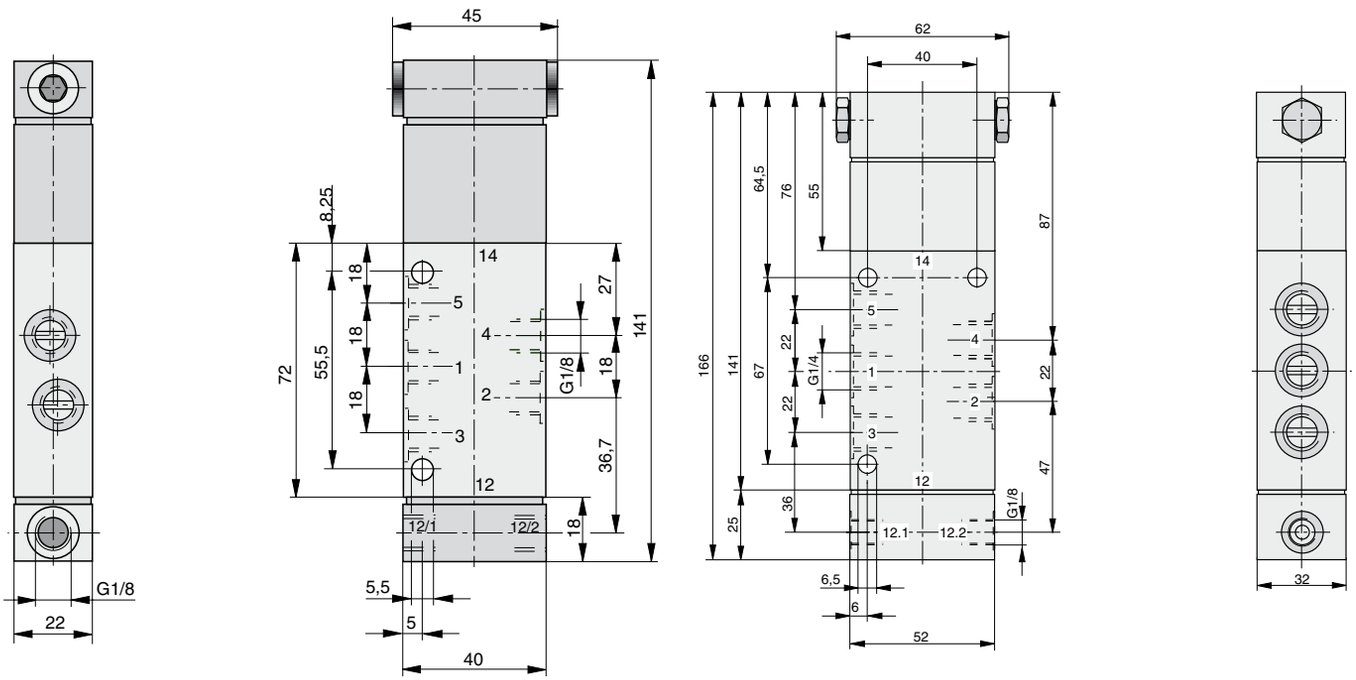
Safety switch diagram (example)
Usage of 2-hand-operation valve with cecessary time delay valve

In order to comply with safety requirements, plant and equipment with certain operating mechanisms require the installation of a time-delay valve in the pneumatic control system, as shown in the example.



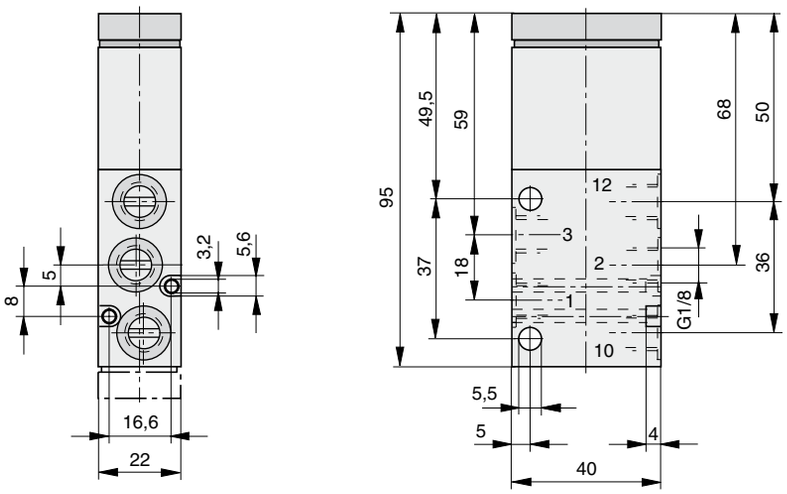
Pneumatically actuated by 2-handed trip valve
Type: S9 563/65RF-1/8-SO

Type: S9 563/65RF-1/4-SO



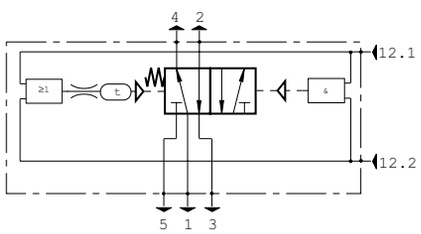
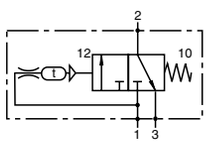
Dimensions in mm

Time-delay valve to 2-handed trip valve
Type: S9 361RF-1/8-SO



Note:
Suitable measures must be taken to protect the valves against ingress of dust and water.

Order Instructions

Actuation System	Symbol	Order Instructions	
		Type	Order No.
pneumatic, by 2-hand tripping		S9 563/65RF-1/8-SO	PD37673
		S9 563/65RF-1/4-SO	PD37173
Time Delay Valve for 2-Hand-safety related control		S9 361RF-1/8-SO	PD49078

Characteristics

Characteristics	Symbol	Unit	Description
General Features			
Type			Spool valve
Mounting			2 Screws M6 (M4)
Tube connection			Thread
Connection size			G1/4, 11 deep
Weight (mass)		kg	0.65
Installation			In any position
Ambient temperature range **	$T_{min/max}$	°C	-10 to +60
Medium temperature range **	$T_{min/max}$	°C	-10 to +60
Medium			Filtered and oiled or filtered, unoiled compressed air
Lubrication *			None or oil mist lubrication
Pneumatic Characteristics			
Nominal pressure	p_n	bar	6
Operating pressure range	$p_{min/max}$	bar	3 – 8
Nominal flow	Q_N	l/min	1300
Actuation			
Pneumatic			Direct
Actuation pressure range	$p_{st\,min/max}$		3 – 8

* We recommend the use of mineral oil type VG 32 to ISO 3448
** Note: Please consult us for operating temperatures below 0° C

5/2-Way Oscillating Valves Series S9

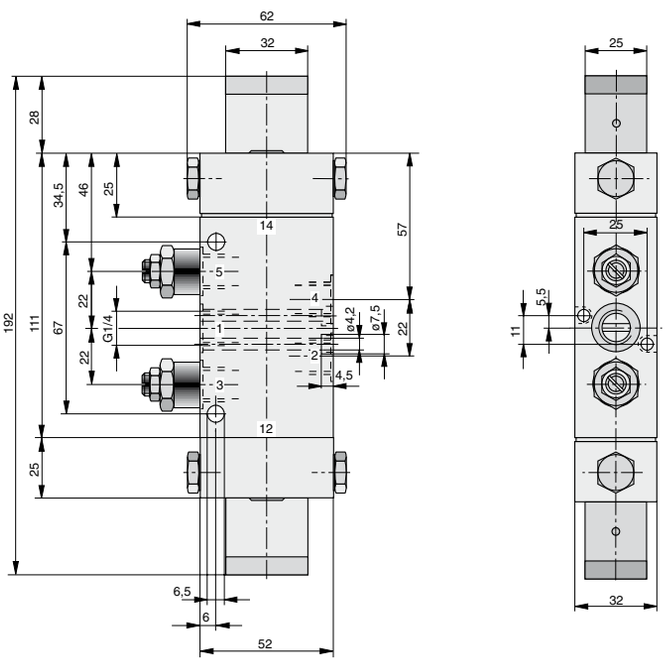
G1/4

Actuation System:
– Pneumatic

The oscillating valve generates oscillating movements such as e.g. shaking, hammering, plunging, feed motions etc.

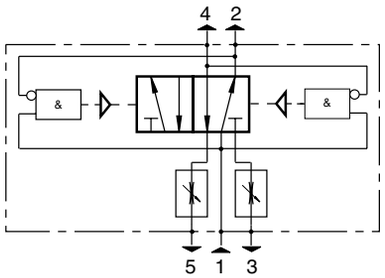
Function:
If compressed air is introducesed into inlet port 1, the outlet ports 4 and 2 are alternately supplied with compressed air.
The speed of the operated cylinder and also the stroke frequency are adjusted with two exhaust air throttles.

Pneumatic oscillating – Type: S9 568/68-1/4-SO



Dimensions in mm

Order Instructions

Actuation System	Symbol	Order Instructions	
		Type	Order No.
Pneumatic		S9 568/68-1/4-SO	PD 34796

Dimensions in mm

Characteristics

Characteristics	Symbol	Unit	Description
General Features			
Type			Poppet Valve
Mounting			4 Screws M8 (1
Tube connection			Thread
Port size			G1/4
Weight (mass)		kg	1.5
Installation			In any position
Ambient temperature range (3	$T_{min/max}$	°C	-10 to +55
Medium temperature range (3	$T_{min/max}$	°C	-10 to +60
Medium			Filtered and oiled or filtered, unoiled compressed air
Lubrication (2			Oil mist lubrication compatible with Buna N
Pneumatic Characteristics			
Nominal pressure	p_n	bar	6
Operating pressure range	$p_{min/max}$	bar	0 – 10
Nominal flow	Q_N	l/min	1400
Actuation			
Manual control			Direct
Stroke		mm	2
Actuation force	Fb	N	ca. 30

(1 After removing the rubber footing
(2 We recommend the use of mineral oil type VG 32 to ISO 3448
(3 Note: Please consult us for operating temperatures below 0° C

3/2 and 5/2 Way Valves Pedal actuated Series F

G1/4

Actuation System:
– Pedal

Connections for 3/2 way version:

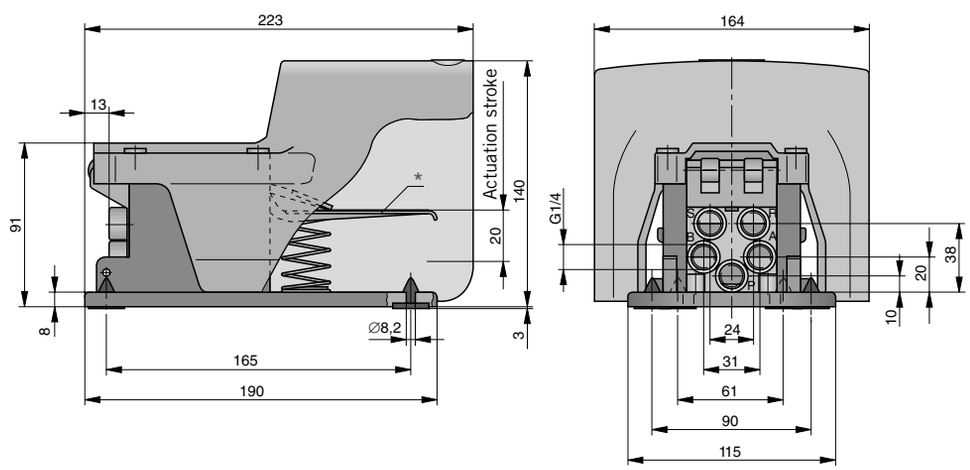
Version
„Normally closed“: P, B, S
„Normally open“: P, A, R

* Only for version “both switch positions indexed“
– return is only effected after actuating the locking pedal.

Mounting Instruction:
Use only screw connections with max. wrench size across flats of 15.

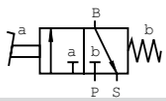
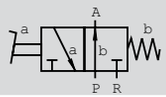
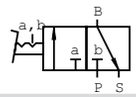
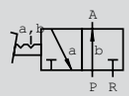
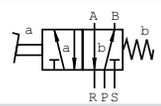
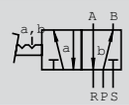
Connection designation:
A = 4 Outlet
B = 2 Outlet
R = 5 Exhaust
P = 1 Air supply
S = 3 Exhaust

Pedal actuated – Type: F331..-08.., F531..-08



Dimensions in mm

Order Instructions – 3/2 and 5/2 Way Valves

Actuation	Symbol	Order Instructions	
		Type	Order No.
Pedal with spring return		F 331RF-08NG*	KZ 4410
		F 331RF-08NO*	KZ 4411
Pedal without reset		F 331-08NG*	KZ 4408
		F 331-08NO*	KZ 4409
Pedal with spring return		F 531RF-08	KZ 4413
Pedal both switch positions indexed		F 531-08	KZ 4412

* NC – Version normally closed
NO – Version normally open

Dimensions in mm

2/2 Way Stop Valves Series ARKV

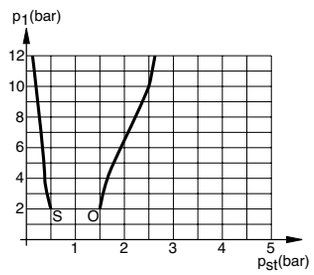
G1/2 to G2

Actuation System:
– Pneumatic

Characteristics

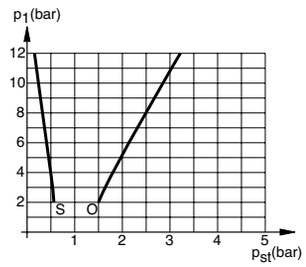
Characteristics	Symbol	Unit	Description				
General Features							
Description			2/2 Way Valve				
Type			Poppet valve normally closed				
Mounting			Direct in piping				
Tube connection			Thread				
Port size			G1/2	G3/4	G1	G1 1/2	G2
Weight (mass)		kg	0.745	1.115	1.365	2.695	4.290
Installation			In any position				
Ambient temperature range	$T_{min/max}$	°C	-20 to +80	Note: Please consult us for operating temperatures below 0° C			
Medium temperature range	$T_{min/max}$	°C	0 to +80				
Medium			Compressed air, neutral gases, presswater (for low flow- und valve closingspeed only)				
Actuating medium			filtered compressed air				
Pneumatic characteristics							
Nominal pressure	p_n	bar	6.3				
Operating pressure range	$p_{min/max}$	bar	0 – 10				
Nominal flow	Q_N	l/min	2200	5000	6900	22000	40000
Actuation							
Pneumatic			Direct				

Actuating Pressure
– Type: ARKV-15



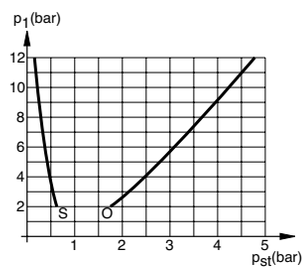
O = $p_{st\ min}$ to open
S = $p_{st\ max}$ to close

Actuating Pressure
– Type: ARKV-20



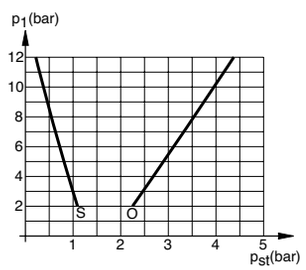
O = $p_{st\ min}$ to open
S = $p_{st\ max}$ to close

Actuating Pressure
– Type: ARKV-25



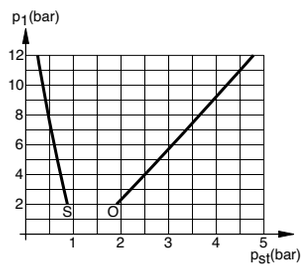
O = $p_{st\ min}$ to open
S = $p_{st\ max}$ to close

Actuating Pressure
– Type: ARKV-40



O = $p_{st\ min}$ to open
S = $p_{st\ max}$ to close

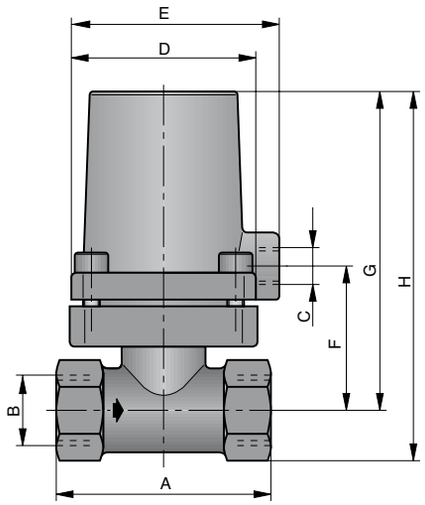
Actuating Pressure
– Type: ARKV-50



O = $p_{st\ min}$ to open
S = $p_{st\ max}$ to close

Dimensions in mm

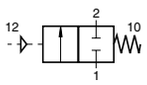
Pneumatically actuated – Type: ARKV-..



Dimension Table

Type	A	B	C	D	E	F	G	H
ARKV-15 NC	65	G1/2	G1/8	55	61	41.5	95	109.5
ARKV-20 NC	76	G3/4	G1/4	65	75	50	112	129
ARKV-25 NC	91	G1	G1/4	65	75	57	119	139
ARKV-40 NC	123	G11/2	G1/4	110	112	67	137	167.5
ARKV-50 NC	150	G2	G1/4	130	134	75	153	190

Order Instructions

Actuation System	Symbol	Order data	
		Type	Order No.
Pneumatic		ARKV-15 NC	PD 07334
		ARKV-20 NC	PD 07580
		ARKV-25 NC	PD 07581
		ARKV-40 NC	PD 07757
		ARKV-50 NC	PD 07765

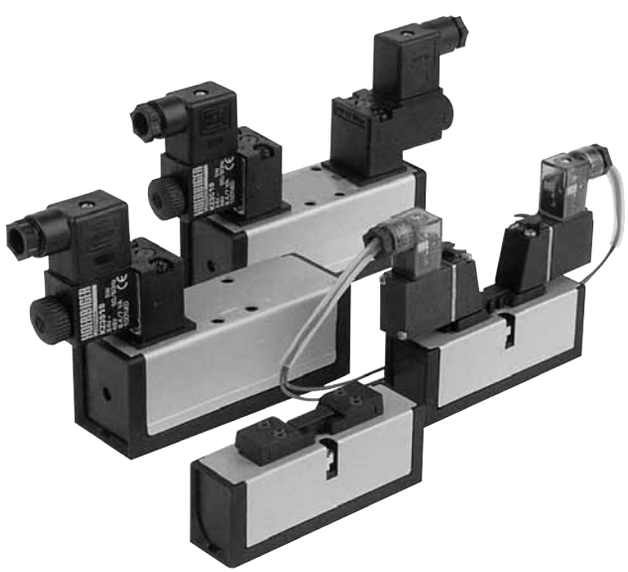
Dimensions in mm

Way Valves to VDMA 24563 and ISO5599

Series S20

Contents

will be replaced by ISOMAX DX...



Way Valves to VDMA 24563 and ISO5599

Series S20

Characteristics

Characteristics	Symbol	Unit	Series S20 to VDMA 01		
Actuation			Pneumatic	Electrical	
General Features					
Type			Ceramic-Spool valve		
Mounting			Via base plate to VDMA 24563		
Tube connection			Base Plate		
Port size			G1/8 or G1/4 (base plate)		
Weight					
– permanent signal		kg	0.130	0.170	
– impulse version		kg	0.130	0.210	
Installation			In any position	In any position	
Ambient temperature range (1	$T_{min./max.}$	°C	-10 to +60	-10 to +60	
Medium temperature range (1	$T_{min./max.}$	°C	-10 to +55	-10 to +55	
Medium			Filtered compressed air		
Lubrication			With or without oil mist lubrication (We recommend the use of mineral oil type VG 32 to ISO 3448)		
Pneumatic Characteristics					
Nominal pressure	$p_{min./max.}$	bar	6	6	
Operating pressure range (2					
– permanent signal version	$p_{min./max.}$	bar	-0.9 – 10	2 – 10	
– impulse version	$p_{min./max.}$	bar	-0.9 – 10	2 – 10	
– with external pilot air	$p_{min./max.}$	bar	–	-0.9 – 10	
Maximum flow	$Q_{max.}$	l/min	1050	1050	
Actuation					
Pneumatic			Direct	–	
Actuation pressure range					
– permanent signal version	$p_{min./max.}$	bar	2 – 10	2 – 10	
– impulse version	$p_{min./max.}$	bar	2 – 10	2 – 10	
Electrical			Pilot operated		
Voltage type			AC 50/60Hz	Direct current	
Nominal voltage					
– Standard version	Un	V	230 ±10%	24 ±10%	
– Low wattage version	Un	V	–	–	
Initial power consumption					
– Standard version		VA (W)	2	2	Nominal Power
– Low wattage version		VA (W)	2	2	
Continuous consumption					
– Standard version		VA (W)	–	–	
– Low wattage version		VA (W)	–	–	
Duty cycle	ED	%	100		
Electrical protection		IP	IP65 to DIN 40050 (applise only to solenoid with connector)		
Connection			Plug to DIN EN 175301-803 form C		

(1 Note:
Please consult us for operating temperatures below 0° C
(2 16 bar Version for valves to ISO 5599 size 1, 2, 3 on request
(4 Low wattage version connector DIN EN 175301-803 form A

Series S20 to ISO 5599						
Size 1		Size 2		Size 3		
Pneumatic	Electrical	Pneumatic	Electrical	Pneumatic	Electrical	
Ceramic-Spool valve						
via base plate to ISO5599						
Base plate						
G1/4 (Base plate)		G3/8 (Base plate)		G1/2 (Base plate)		
0.350	0.410	0.600	0.650	1.100	1.150	
0.350	0.450	0.600	0.700	1.100	1.200	
In any position	In any position	In any position	In any position	In any position	In any position	
-10 to +60	-10 to +60	-10 to +60	-10 to +60	-10 to +60	-10 to +60	
-10 to +60	-10 to +60	-10 to +60	-10 to +60	-10 to +60	-10 to +60	
Filtered compressed air						
With or without oil mist lubrication (We recommend the use of mineral oil type VG 32 to ISO 3448)						
6	6	6	6	6	6	
-0.9 – 12	2 – 12	-0.9 – 12	2 – 12	-0.9 – 12	2 – 12	
-0.9 – 12	2 – 12	-0.9 – 12	2 – 12	-0.9 – 12	2 – 12	
–	-1 – 12	–	-1 – 12	–	-1 – 12	
1680	1680	4320	4320	6540	6540	
Direct	–	Direct	–	Direct	–	
2 – 12	2 – 10	2 – 12	2 – 10	2 – 12	2 – 10	
2 – 12	2 – 10	2 – 12	2 – 10	2 – 12	2 – 10	
Pilot operated						
Alternating current 50/60Hz		Direct current				
230 ±10%		24 ±10%		other voltages on request		
230 ±10%		24 ±10%				
11		4.8				
7.8		2.7				
8.5		4.8				
4.9		2.7				
100						
IP65 to DIN 40050 (applise only to solenoid with connector)						
Plug to DIN EN 175301-803 form B – industrial standard ([4]						

5/2 and 5/3 Way Valves Series S20

to VDMA 24563
Size 01

Actuation systems:
– Pneumatic
– Electrical pilot operated

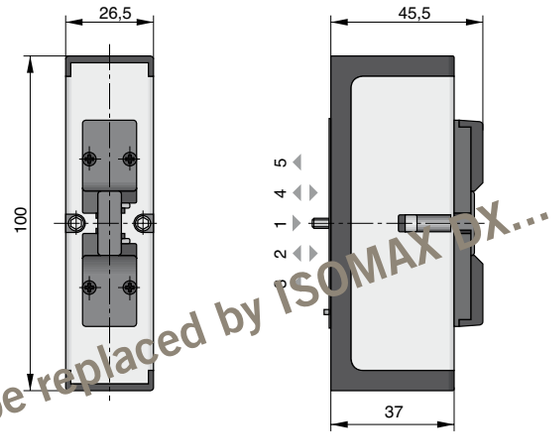
Versions:
– With external pilot air
– With biased position

Weight (mass) kg

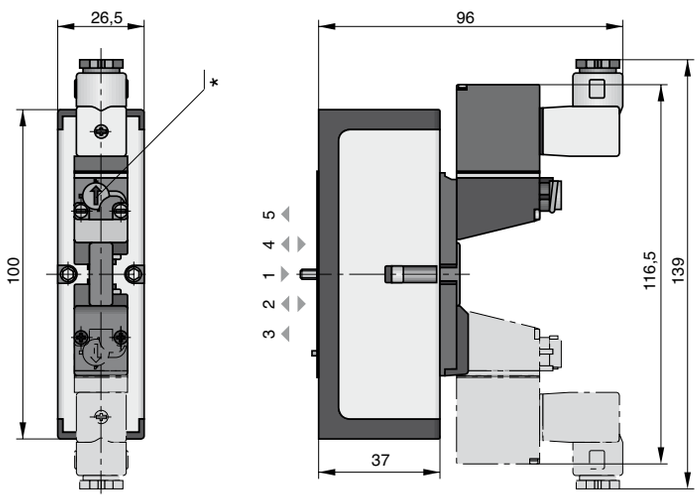
Description	Type	Weight (mass)
Pneumatic, by permanent signal	S20 561R..-01*	0.130
Pneumatic, by impulse	S20 561-01	0.130
Electrical, by permanent signal	S20 581R..-01*	0.170
Electrical, by permanent signal	S20 581S-R..-01*	0.170
Electrical, by impulse	S20 581-01	0.210
– with biased position	S20 582-01	0.210
Electrical, by impulse	S20 581S-01	0.210

* Type supplements for version with middle position
G = middle position closed
E = middle position exhausted
B = middle position pressurized

Pneumatically actuated – Type: S20 561...-01

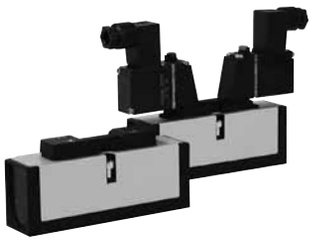


Electrical pilot operated – Type: S20 581...-01-.., S20 582...-01-.., S20 581S...-01-..



* Manual override

The delivery includes:
1 Valve with mounting screws
1 Gasket



Overview and order instructions see page 124, 125

Dimensions in mm

Weight (mass) kg

Description	Type	Weight (mass)
Pneumatic, by permanent signal	S20 561R..-1*	0.350
Pneumatic, by impulse	S20 561-1	0.350
Electrical, by permanent signal	S20 581R..-1*	0.410
Electrical, by permanent signal	S20 581S-R..-1*	0.410
Electrical, by impulse	S20 581-1	0.450
– with biased position	S20 582-1	0.450
Electrical, by impulse	S20 581S-1	0.450

* Type supplements for version with middle position

G = middle position closed
E = middle position exhausted
B = middle position pressurized

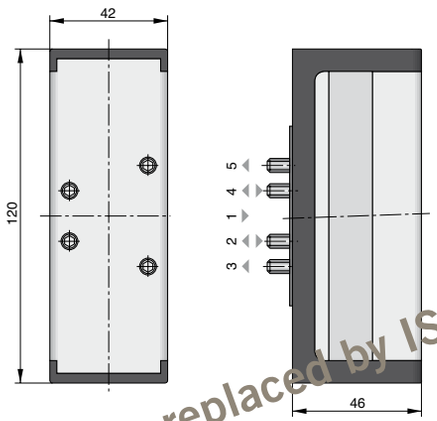
5/2 and 5/3 Way Walves Series S20

to ISO 5599
size 1

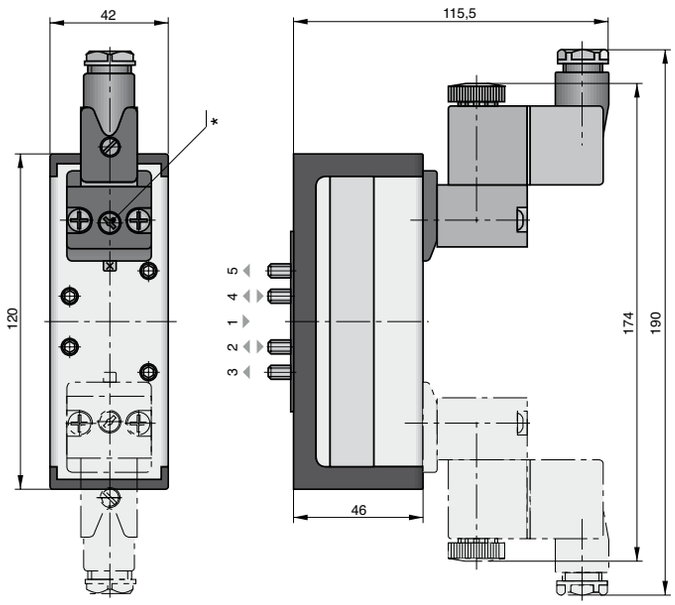
Actuation systems:
– Pneumatic
– Electrical pilot operated

Versions:
– With external pilot air
– With biased position
– Low wattage version

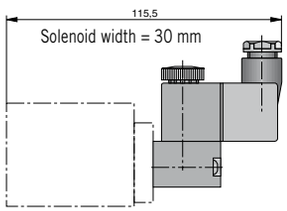
Pneumatically actuated – Type: S20 561...-1



Electrical pilot operated
Type: S20 581...-1-.., S20 582-1-.., S20 581S...-1-..



Magnet for low wattage version

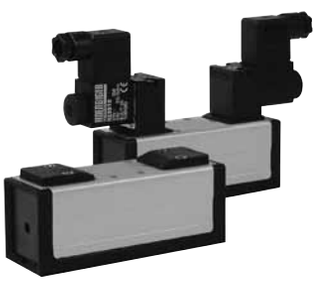


* Manual override

Overview and order instructions see page 124, 125

Dimensions in mm

The delivery includes:
1 Valve with mounting screws
1 Gasket



5/2 and 5/3 Way Valves Series S20

to ISO 5599
size 2

Actuation systems:
– Pneumatic
– Electrical pilot operated

Versions:
– With external pilot air
– With biased position
– Low wattage version

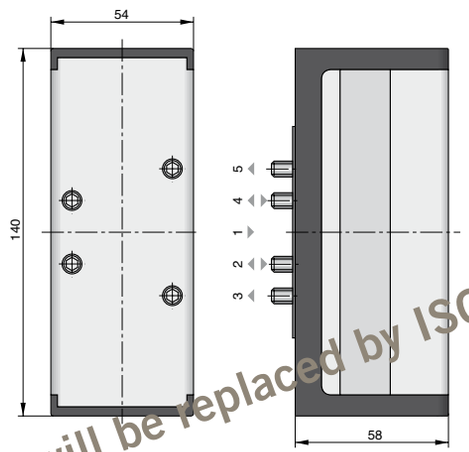
Weight (mass) kg

Description	Type	Weight (mass)
Pneumatic, by permanent signal	S20 561R..-2*	0.600
Pneumatic, by impulse	S20 561-2	0.600
Electrical, by permanent signal	S20 581R..-2*	0.650
Electrical, by permanent signal	S20 581S-R..-2*	0.650
Electrical, by impulse	S20 581-2	0.700
– with biased position	S20 582-2	0.700
Electrical, by impulse	S20 581S-2	0.700

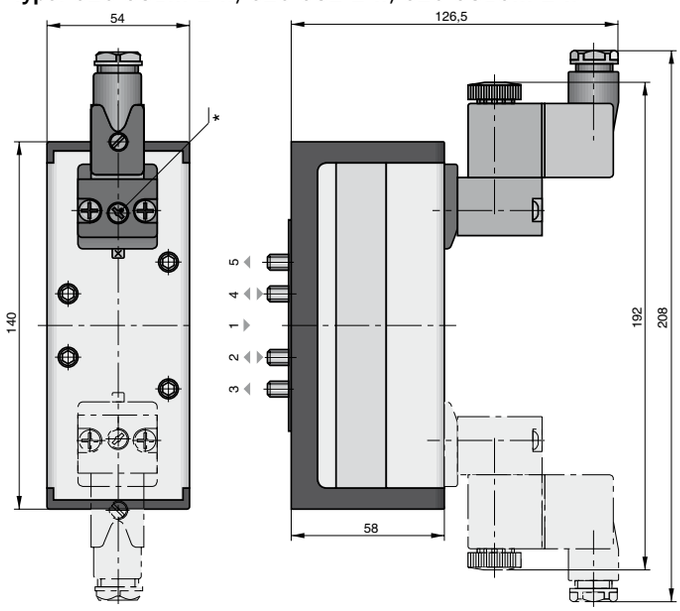
* Type supplements for version with middle position

G = middle position closed
E = middle position exhausted
B = middle position pressurized

Pneumatically actuated – Type: S20 561...-2

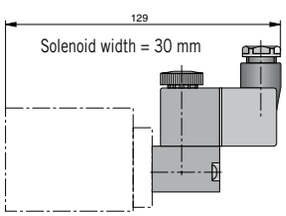


Electrical pilot operated
Type: S20 581...-2-.., S20 582-2-.., S20 581S...-2-..



* Manual override

Magnet for low wattage version



The delivery includes:
1 Valve with mounting screws
1 Gasket

Overview and order instructions see page 124, 125

Dimensions in mm

5/2 and 5/3 Way Valves Series S20

to ISO 5599
size 3

Actuation systems:
– Pneumatic
– Electrical pilot operated

Versions:
– With external pilot air
– With biased position
– Low wattage version

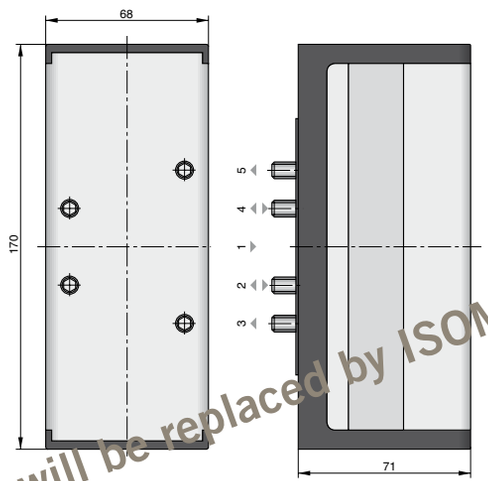
Weight (mass) kg

Description	Type	Weight (mass)
Pneumatic, by permanent signal	S20 561R..-3*	1.100
Pneumatic, by impulse	S20 561-3	1.100
Electrical, by permanent signal	S20 581R..-3*	1.150
Electrical, by permanent signal	S20 581S-R..-3*	1.150
Electrical, by impulse	S20 581-3	1.200
– with biased position	S20 582-3	1.200
Electrical, by impulse	S20 581S-3	1.200

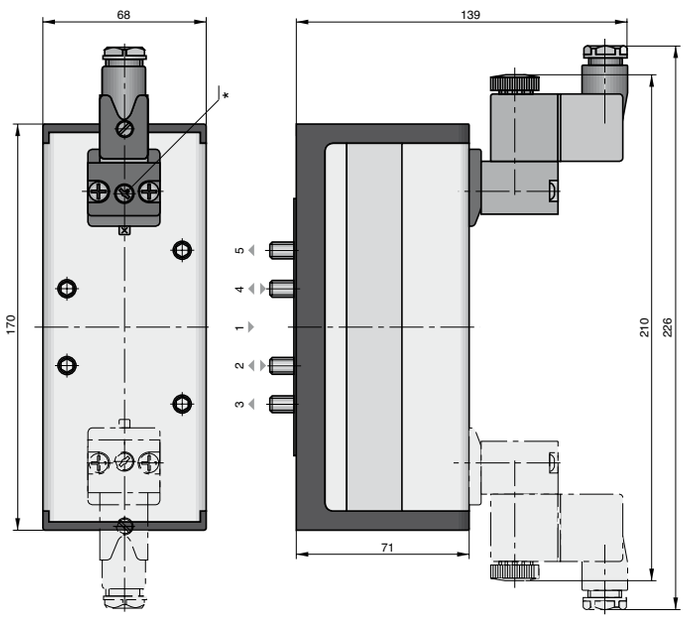
* Type supplements for version with middle position

G = middle position closed
E = middle position exhausted
B = middle position pressurized

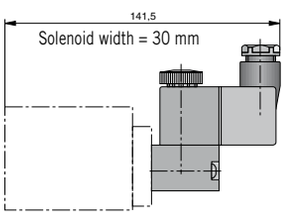
Pneumatically actuated – Type: S20 561...-3



Electrical pilot operated – Type: S20 581...-3-..



Magnet for low wattage version



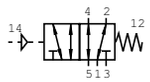
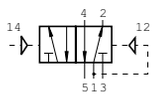
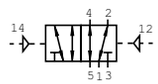
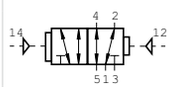
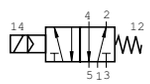
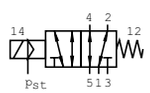
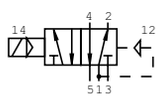
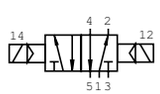
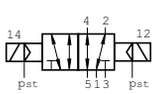
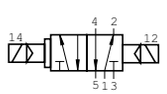
* Manual override

Overview and order instructions see page 124, 125

Dimensions in mm

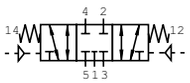
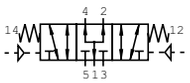
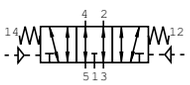
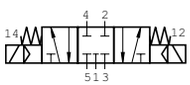
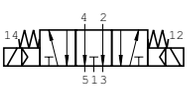
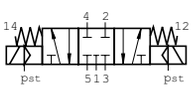
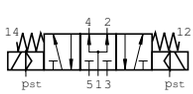
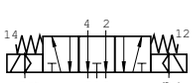
The delivery includes:
1 valve with mounting screws
1 Gasket

Order Instructions – 5/2 Way Valves

Actuation	Symbol	Standard / Size	Order Instructions		Page
			Type	Order No.	
Pneumatic by permanent signal, spring return		VDMA 24563 Gr. 01	S20 561RF-01	PA 12891	120
		ISO 5599 Größe1	S20 561RF-1	PA 12869	121
		ISO 5599 size 2	S20 561RF-2	PA 16425	122
		ISO 5599 size 3	S20 561RF-3	PA 16426	123
Pneumatic by permanent signal, air spring return		VDMA 24563 Gr. 01	S20 561R-01	PA 12892	120
		ISO 5599 size 1	S20 561R-1	PA 12870	121
		ISO 5599 size 2	S20 561R-2	PA 16428	122
		ISO 5599 size 3	S20 561R-3	PA 16429	123
Pneumatic by impulse		VDMA 24563 Gr. 01	S20 561-01	PA 12893	120
		ISO 5599 size 1	S20 561-1	PA 12868	121
		ISO 5599 size 2	S20 561-2	PA 16422	122
		ISO 5599 size 3	S20 561-3	PA 16423	123
Pneumatic by impulse with biased position		VDMA 24563 Gr. 01	S20 562-01	PA 12908	120
		ISO 5599 size 1	S20 562-1	PA 12905	121
		ISO 5599 size 2	S20 562-2	PA 12906	122
		ISO 5599 size 3	S20 562-3	PA 12907	123
Electrical by permanent signal, spring return with external pilot air		VDMA 24563 Gr. 01	S20 581RF-01-..	PA 12886-..33	120
		ISO 5599 size 1	S20 581RF-1-..	PA 12875-..33	121
		ISO 5599 size 2	S20 581RF-2-..	PA 16441-..33	122
		ISO 5599 size 3	S20 581RF-3-..	PA 16442-..33	123
		VDMA 24563 Gr. 01	S20 581S-RF-01-..	PA 12896-..33	120
		ISO 5599 size 1	S20 581S-RF-1-..	PA 12882-..33	121
		ISO 5599 size 2	S20 581S-RF-2-..	PA 16456-..33	122
		ISO 5599 size 3	S20 581S-RF-3-..	PA 16462-..33	123
Electrical by permanent signal, air spring return		VDMA 24563 Gr. 01	S20 581R-01-..	PA 12887-..33	120
		ISO 5599 size 1	S20 581R-1-..	PA 12876-..33	121
		ISO 5599 size 2	S20 581R-2-..	PA 16444-..33	122
		ISO 5599 size 3	S20 581R-3-..	PA 16445-..33	123
Electrical by impulse with external pilot air		VDMA 24563 Gr. 01	S20 581-01-..	PA 12888-..33	120
		ISO 5599 size 1	S20 581-1-..	PA 12874-..33	121
		ISO 5599 size 2	S20 581-2-..	PA 16438-..33	122
		ISO 5599 size 3	S20 581-3-..	PA 16439-..33	123
		VDMA 24563 Gr. 01	S20 581S-01-..	PA 12898-..33	120
		ISO 5599 size 1	S20 581S-1-..	PA 12880-..33	121
		ISO 5599 size 2	S20 581S-2-..	PA 16454-..33	122
		ISO 5599 size 3	S20 581S-3-..	PA 16460-..33	123
Electrical by impulse with biased position		VDMA 24563 Gr. 01	S20 582-01-..	PA 12904-..33	120
		ISO 5599 size 1	S20 582-1-..	PA 12901-..33	121
		ISO 5599 size 2	S20 582-2-..	PA 12902-..33	122
		ISO 5599 size 3	S20 582-3-..	PA 12903-..33	123

Type and additional order instructions see page 125

Order Instructions – 5/3 Way Valves

Actuation	Symbol	Standard / Size	Order Instructions Type	Order No.	Page
Pneumatic by permanent signal, spring return to middle position		VDMA 24563 Gr. 01	S20 561RFG-01	PA 12894	120
		ISO 5599 size 1	S20 561RFG-1	PA 12871	121
		ISO 5599 size 2	S20 561RFG-2	PA 16431	122
		ISO 5599 size 3	S20 561RFG-3	PA 16432	123
					
		ISO 5599 size 1	S20 561RFB-1	PA 12873	121
		ISO 5599 size 2	S20 561RFB-2	PA 16437	122
		VDMA 24563 Gr. 01	S20 561RFE-01	PA 12895	120
		ISO 5599 size 1	S20 561RFE-1	PA 12872	121
		ISO 5599 size 2	S20 561RFE-2	PA 16434	122
		ISO 5599 size 3	S20 561RFE-3	PA 16435	123
Electrical by permanent signal, spring return to middle position		VDMA 24563 Gr. 01	S20 581RFG-01	PA 12889-..33	120
		ISO 5599 size 1	S20 581RFG-1-..	PA 12877-..33	121
		ISO 5599 size 2	S20 581RFG-2-..	PA 16447-..33	122
		ISO 5599 size 3	S20 581RFG-3-..	PA 16448-..33	123
					
		ISO 5599 size 1	S20 581RFB-1-..	PA 12879-..33	121
		ISO 5599 size 2	S20 581RFB-2-..	PA 16453-..33	122
		VDMA 24563 Gr. 01	S20 581RFE-01	PA 12890-..33	120
		ISO 5599 size 1	S20 581RFE-1-..	PA 12878-..33	121
		ISO 5599 size 2	S20 581RFE-2-..	PA 16450-..33	122
		ISO 5599 size 3	S20 581RFE-3-..	PA 16451-..33	123
with external pilot air		VDMA 24563 Gr. 01	S20 581S-RFG-01..	PA 12900-..33	120
		ISO 5599 size 1	S20 581S-RFG-1-..	PA 12883-..33	121
		ISO 5599 size 2	S20 581S-RFG-2-..	PA 16457-..33	122
		ISO 5599 size 3	S20 581S-RFG-3-..	PA 16463-..33	123
					
		ISO 5599 size 1	S20 581S-RFB-1-..	PA 12885-..33	121
		ISO 5599 size 2	S20 581S-RFB-2-..	PA 16459-..33	122
		VDMA 24563 Gr. 01	S20 581S-RFE-01-..	PA 12899..33	120
		ISO 5599 size 1	S20 581S-RFE-1-..	PA 12884..33	121
		ISO 5599 size 2	S20 581S-RFE-2-..	PA 16458..33	122
		ISO 5599 size 3	S20 581S-RFE-3-..	PA 16464..33	123

Solenoid version	Nominal voltage	Applicable for	Key code
Standard version	230V 50/60Hz	110 V =	61
	24V =	60V 50/60Hz	02
Low wattage version	24V =		13
	230V 50/60Hz		69
Other voltages on request			

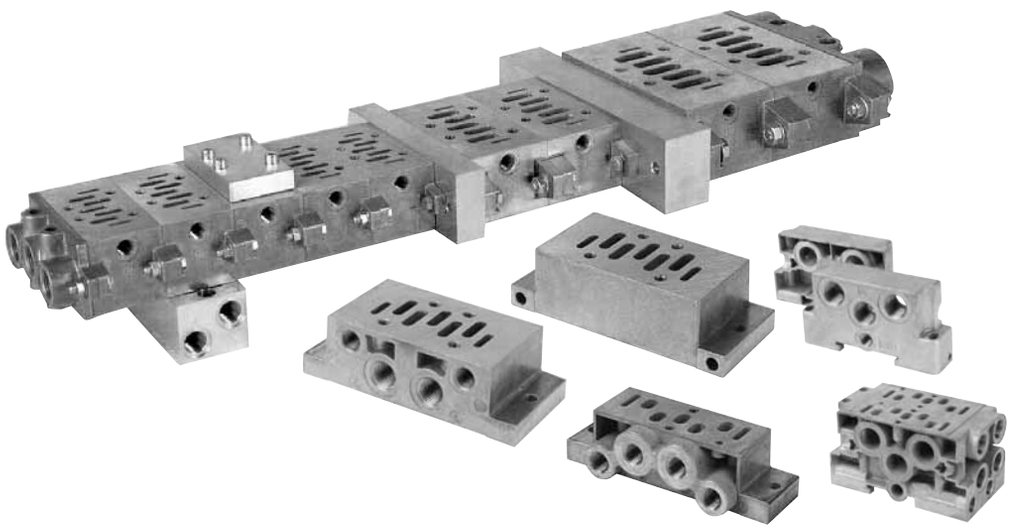
Contents

Single Base Plates

– *to VDMA 24563, Size 01*

– *to ISO 5599 Size 1, 2, 3*

will be replaced by ISOMAX DX...

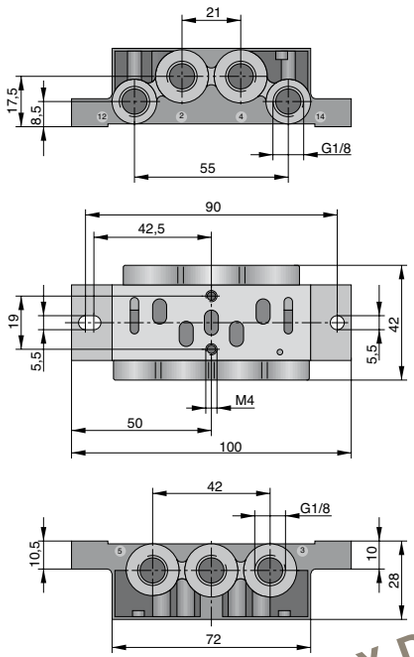


Single Base Plates

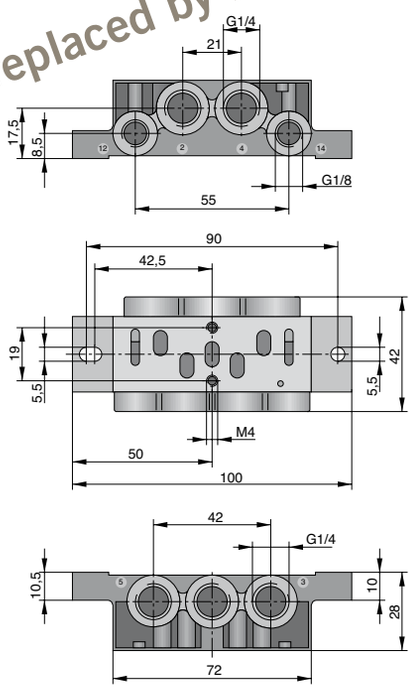
to VDMA 24563
Size 01, Form A

Port Size:
G1/8
G1/4

Single Base Plates Form A – Connection size G1/8 – Type: S20-01-1/8-A



Single Base Plates Form A – Connection size G1/4 – Type: S20-01-1/4-A



Order Instructions

Description	Port size	Weight (kg)	Order Instructions	
			Type	Order No.
Single Base Plate	G1/8	0.070	S20-01-1/8-A	KL8004
	G1/4	0.120	S20-01-1/4-A	KL8005

Dimensions in mm

Modules for Base Plate Combinations

to VDMA 24563
size 01

Modules:
- **End Plate set, Form D, for Intermediate Plate Form C**
- **Angle base plate, Form E, for Intermediate Plate Form C**
- **Accessories**

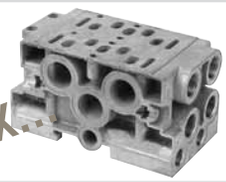
Port Size:
G1/8
G1/4

End Plate Set Form D for Intermediate Plate

Description	Size	Weight (kg)	Order Instructions		Figure
			Type	Order No.	
End Plate set Form D	VDMA 01	0.220	S20-01-D	KL8008	

The delivery includes: End Plate set, completely with screws

Intermediate Plate Form C

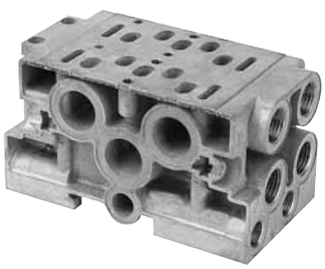
Description	Port (Port size)	Weight (kg)	Order Instructions		Figure
			Type	Order No.	
Intermediate Plate form C	VDMA 01 (G1/8)	0.080	S20-01-C	KL8006	
Intermediate Plate form C	VDMA 01 (G1/4)	0.100	S20-01-C	KL8007	

The delivery includes: Intermediate Plate, completely with O-Rings and screws

Dummy plate

Description	size	Weight (kg)	Order Instructions		Figure
			Type	Order No.	
Dummy Plate	VDMA 01	0.050	S20-01-BP	KL8009	

The delivery includes: Dummy Plate with gasket and screws



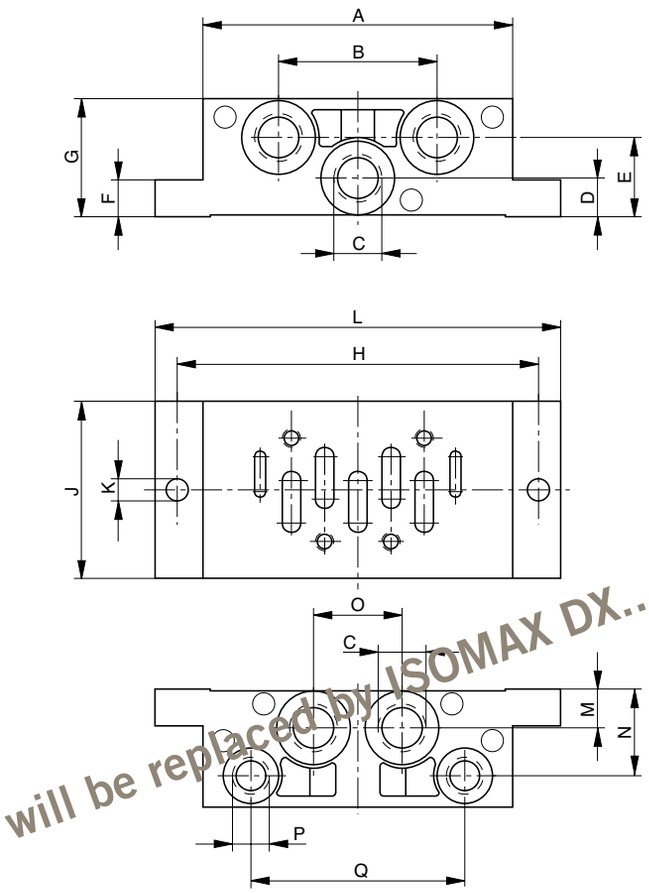
Dimensions in mm

Base Plates

to ISO 5599
Size 1, 2, 3

Versions:
– Single Base Plates to VDMA 24345 Form A

Single Base Plates Form A – Type: S9-.-A



Dimension Table Single Base Plates Form A

ISO-Size	A	B	C	D	E	F	G	H
1	84	43	G1/4	10.5	21.5	10	32	98
2	95	56	G3/8	14	26	13	40	112
3	119	68	G1/2	17	17	18	32	136

ISO-Size	J	K	L	M	N	O	P	Q
1	48	5,5	110	10.5	23,5	24	G1/8	58
2	57	6,6	124	14	30	30	G1/8	74
3	71	6,6	149	17	22	32	G1/8	90

Order Instructions Form A

ISO-Size	Weight (kg)	Order Instructions	
		Type	Order No.
1	0.160	S9-1-A	KX 9076
2	0.280	S9-2-A	KX 9433
3	0.570	S9-3-A	KX 9434

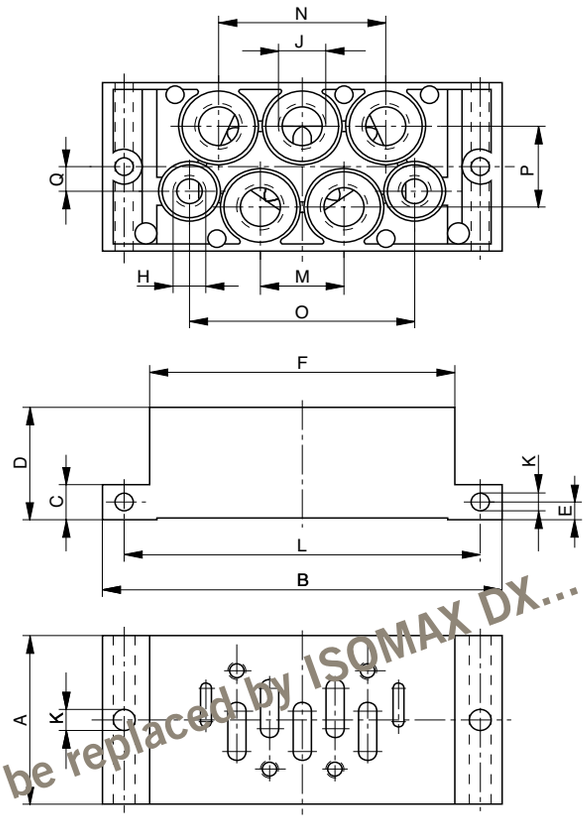
Dimensions in mm

Single Base Plates Form B – Type: S9 -.-B

Base Plates

to ISO 5599
Size 1, 2, 3

Versions:
– Single Base Plates to VDMA 24345 Form B



Dimension Table Single Base Plates Form B

ISO-Size	A	B	C	D	E	F	H	J
1	46	110	10	30	5	84	G1/8	G1/4
2	56	124	13	35	6,5	95	G1/8	G3/8
3	71	149	18	32	9	119	G1/8	G1/2

ISO-Size	K	L	M	N	O	P	Q
1	5,5	98	23	46	62	23	7.5
2	6,6	112	28	56	73	27	7.5
3	6,6	136	34	68	90	35	10

Order Instructions Form B

ISO-Size	Weight (kg)	Order Instructions	
		Type	Order No.
1	0.370	S9-1-B	KX 9077
2	0.590	S9-2-B	KX 9436
3	0.900	S9-3-B	KX 9437

Dimensions in mm

Modules for Base Plate Combinations

to ISO 5599
Size 1, 2, 3

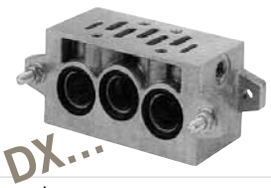
Versions
to VDMA 24345
– End Plate set, Form D, for Intermediate Plate, Form C
– Intermediate Plate, Form C
– Angle Base Plates Form E for for Intermediate Plate Form C
– Accessories

End Plate Set Form D for Intermediate Plate – Order Instructions and Weight

ISO-Size	Weight (kg)	Order Instructions		Figure
		Type	Order No.	
1	0.210	S9-1-D	KX 9078	
2	0.360	S9-2-D	KX 9421	
3	0.680	S9-3-D	KX 9422	

The delivery includes: End Plate Set, completely with screws

Intermediate Plate Form C – Order Instructions and Weight

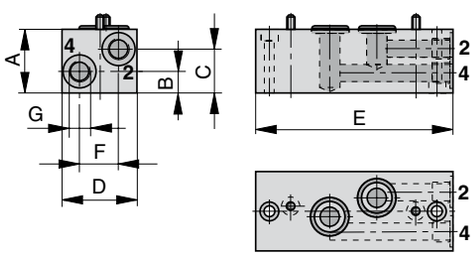
ISO-Size	Weight (kg)	Order Instructions		Figure
		Type	Order No.	
1	0.240	S9-1-C	KX 9079	
2	0.360	S9-2-C	KX 9419	
3	0.700	S9-3-C	KX 9420	

The delivery includes: Intermediate Plate, completely with O-rings and screws

Angle Base Plate Form E for Intermediate Plate Form C

Dimension Table

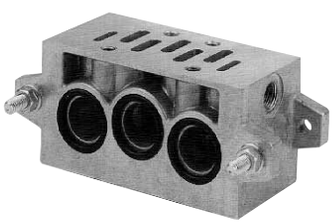
Figure



Order Instructions and Dimension Table (mm)

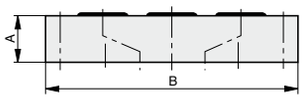
Order Instructions		ISO-Size	A	B	C	D	E	F	G
Type	Order No.								
S9-1-E	KX 9081	1	37	12	25	42	110	22	G1/4
–	–	2	–	–	–	–	–	–	–
S9-3-E	KX 9425	3	45	17	29	70	190	36	G1/2

The delivery includes: Angle Base Plate, completely with O-rings and screws



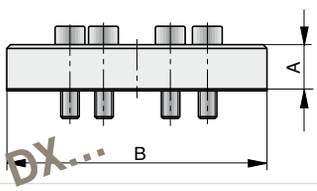
Dimensions in mm

Adapter Plate for Linkage of ISO-Sizes 1, 2, 3 – Dimension Table and Order Instructions

Order Instructions Type	Order No.	for ISO Size	A	B	Width	Figure
S9-1-2-KP	KX 9430	1 to 2	20	135	45	
S9-2-3-KP	KX 9431	2 to 3	25	190	55	
S9-1-3-KP	KX 9432	1 to 3	35	190	50	

The delivery includes: Adapter Plate with O-Rings and washers

Dummy Plate – Dimension Table and Order Instructions

Order Instructions Type	Order No.	for ISO Size	A	B	Width	Figure
S9-1-BP	KX 9082	1	12	70	40	
S9-2-BP	KX 9423	2	12	90	55	
S9-3-BP	KX 9424	3	12	110	70	

The delivery includes: Dummy Plate with gasket and screws

Plug – Order Instructions

Order Instructions Type	Order No.	for ISO Size	Figure
S9-1-VS	KX 5789	1	
S9-2-VS	KX 9426	2	
S9-3-VS	KX 9427	3	

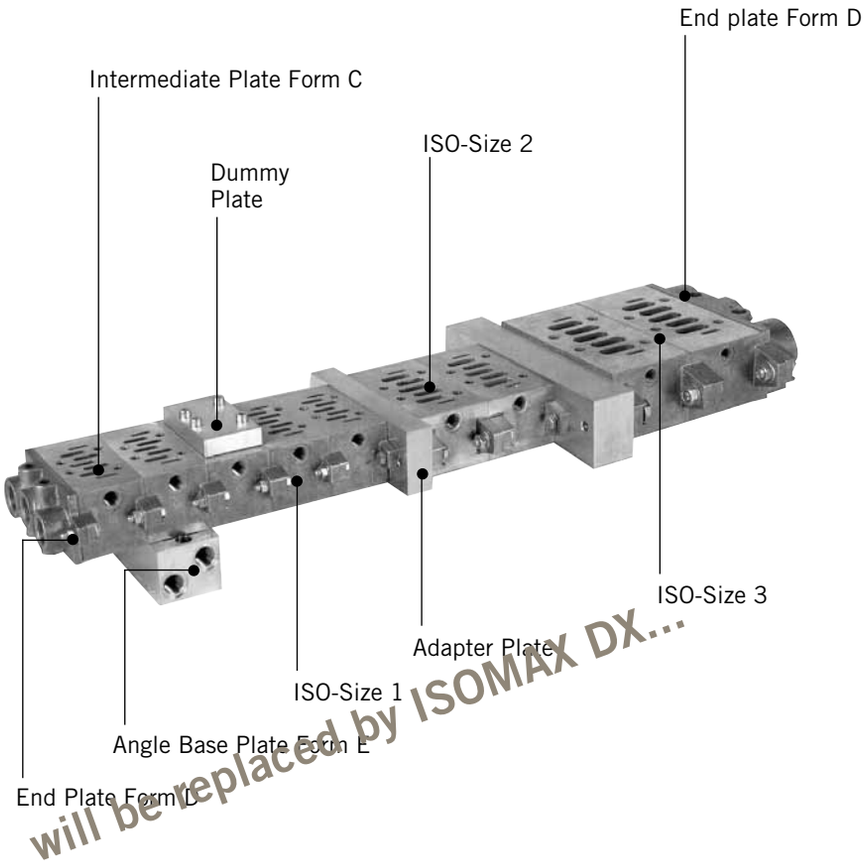
Dimensions in mm

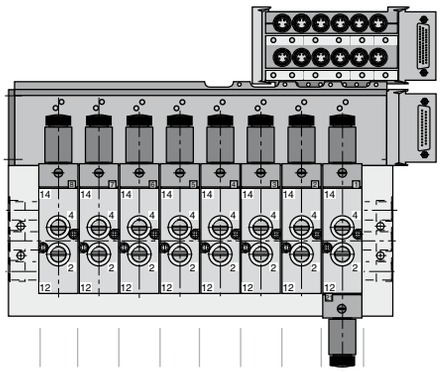
Connection-platten

to ISO 5599
size 1, 2, 3

Versions
to VDMA 24345
- **End Plate set Form D for Intermediate Plate Form C**
- **Intermediate Plate Form C**
- **Angle Base Plates Form E for Intermediate Plate Form C**
- **Accessories**

Example of Plate Combination





Ordering Code

neutral
for Valve Islands

Ident-No.	Electrical Connection	Valves	Valve position											Input module	Number of inputs	Channel divider	Position of channel divider
			1	2	3	4	5	6	7	8	9	10	11	12				

04 – 06 – 08 – 10 – 12

even number of valve positions only

Important: Please specify the code for the desired valve types

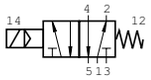
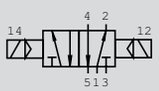
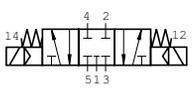
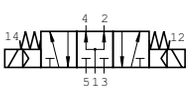
Valve Islands – Sizes	
PA 10381	Type: IM20-1/8 Connections: G1/8: valve outlets G1/4: base plate
PA12867	Type: IM20-1/4 Connections: G1/4: valve outlets G3/8: base plate

Electrical Connection	
Multipol-Version	
DS	with sub-D-conn.
HI	with industrial connector

Valves	
04	to 4 valves
06	5 and 6 valves
08	7 and 8 valves
10	9 and 10 valves
12	11 and 12 valves
14	13 and 14 valves
16	15 and 16 valves

Input Modules	
P	Pins IP20
S	Plug M8 IP65
04-08-12 16-20-24 28-32	Number of inputs

Dual Pressure Operating	
J	with channel divider in Connection 1 (P)
01 – 11	Position of channel divider to valve position

Ordering Code for Valves and Cover Plates		
Code	Symbol	Description
A	–	Blanking plate on valve position
M		5/2 way solenoid valve, permanent signal with spring return Type: S9 581RF-..
J		5/2 way solenoid valve, impulse Type: S9 581RF-..
G		5/2 way solenoid valve, spring return to middle position, middle position closed Type: S9 581RFG-..
B		5/2 way solenoid valve, spring return to middle position, middle position pressurized Type: S9 581RFB-..
E		5/2 way solenoid valve, spring return to middle position, middle position exhausted Type: S9 581RFE-..

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- Low-voltage electrical equipment (73/23/EWG, amended by 93/68/EWG)
- Machinery Directive (89/392/EWG, amended by 91/368/EWG, 93/44/EWG and 98/37/EG)
- Pressure Equipment Directive (97/23/EWG)
- Equipment and protective systems intended for use in potentially explosive atmospheres (ATEX Directive, 94/9/EG)
- Electromagnetic Compatibility Directive (EMV Directive, 89/336/EWG, amended by 92/31/EWG)

If a product comes within the scope of application of one of these Guidelines, then an EU Declaration of Conformity with CE mark (CE for Communauté Européenne) is required. This CE marking does not represent a quality feature but verifies that the conformity assessment procedure specified has been concluded successfully and the protective requirements of the relevant EU Directives have been observed.

Products which do not come under any of the above mentioned Directives may not bear the CE mark nor may any manufacturer's declaration according to the EU Machinery Directive or Declaration of Conformity be issued for these products.

If a product may not be CE marked according to the Machinery Directive, it must however be marked if it comes within the scope of application of any other Directive.
The following harmonized standards are applied in the design of ORIGA components and systems:

- DIN EN ISO 12100 Safety of machinery
- DIN EN 60204.1 Electrical equipment of machines
- DIN EN 983 Safety requirements for fluid power systems and their components

The following Directives are of particular significance to Parker Origa:

- ORIGA products in potentially explosive atmospheres, to which the above mentioned ATEX Directive applies, are treated according to the Directive and CE and EX marked.
- According to the Machinery Directive, ORIGA products are mainly components for installation in machines and therefore do not require an EU Declaration of Conformity with CE mark. Parker-ORIGA issues a manufacturer's declaration according to the Machinery Directive for these components. This declaration corresponds to a great extent to the Declaration of Conformity with the comment that commissioning is only permitted if the machine or system conforms to the Directives. This manufacturer's declaration impacts neither our product liability based on the product liability law nor warranty assurances according to our General Terms of Sale and Delivery. Neither does the manufacturer's declaration affect our quality assurance measures according to our Quality Management Manual nor our quality certification according to ISO 9001.
- According to the Pressure Equipment Directive, ORIGA products are components of low hazard potential, thus most of the products do not come under this Directive. The exceptions to this are maintenance equipment from a certain pressure/volume level onwards. These components are treated according to the Directive if required and bear the CE mark.

ORIGA products are excluded from the following EU Guidelines:

- End-of-life vehicles (2000/53/EG).
- Waste Electronic and Electrical equipment (WEEE, 2002/96/EG) and Restriction on Hazardous Substances (RoHS, 2002/95/EG).
- Pressure Equipment Directive (97/23/EWG) with the above mentioned exceptions.

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P- A4P026E 07/2009

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