



Directional control Valves

G¹/₈, 3/2 and 5/2 Spool valves

Catalogue no: 2131GB-ca



Directional control valves G¹/₈ 3/2 - 5/2

Spool valves 3/2, 5/2 - G¹/₈ Ports

Available in 3/2 or 5/2 versions, all valves including double pilot and double solenoid types may be mounted in any position. The balanced spool design ensures that operating forces remain unaffected by variations in inlet pressure.

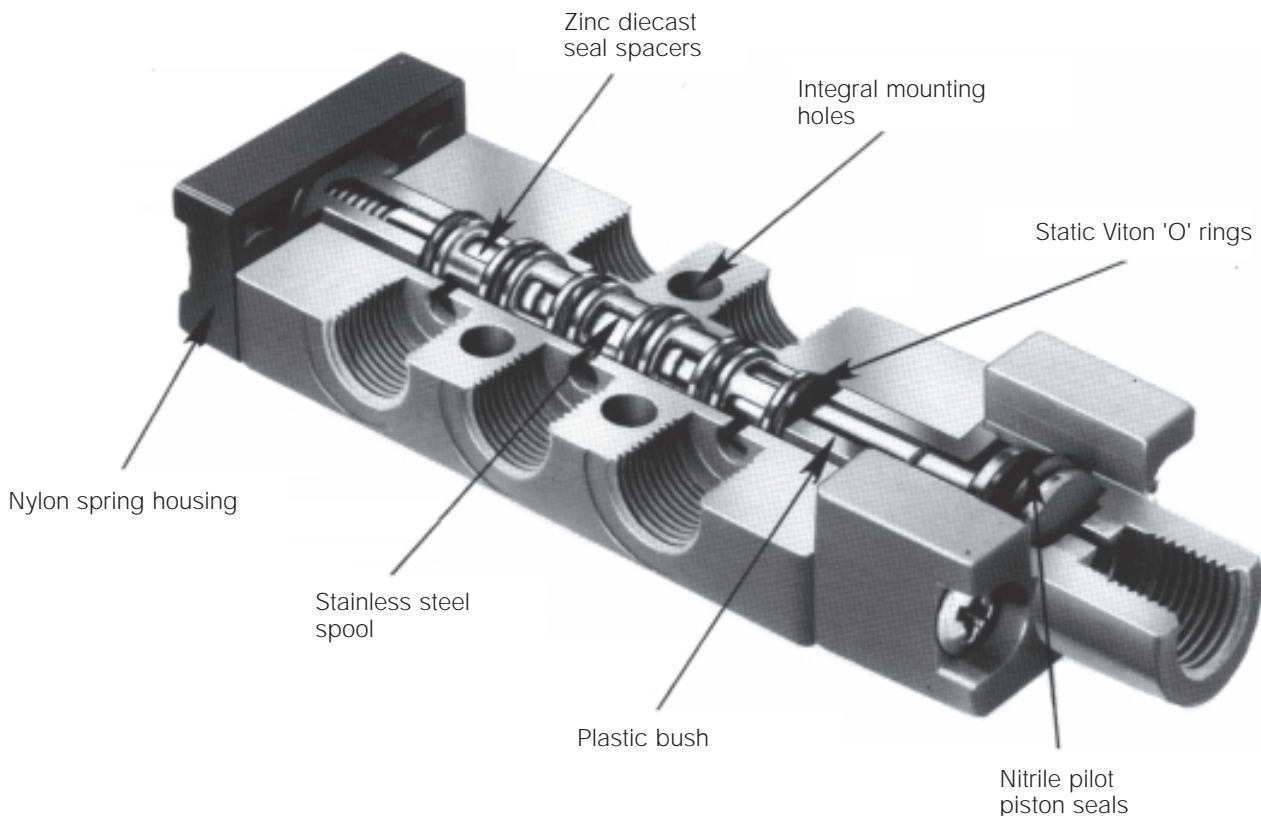
The body is a zinc alloy die-casting with stainless steel spool, sealed by viton rubber 'O' rings. All operating parts exposed to the working fluid are of non-corrosive material and all ports are threaded G¹/₈ B.S.P. parallel. The block design of the body with its three mounting holes is ideally suited to close banking and all valves may be serviced without disturbing the pipework simply by unscrewing the actuator and return assemblies.

The 3/2 valve can be piped normally open or closed simply by changing the air inlet from the normal inlet port to the exhaust port, and the 5/2 valve can be piped in different variations to suit the application required. Midget spool valves can also be used as impulse type valves, when the signal is required at the end of the cylinder stroke or when the tripping cylinder or machine cam is too small to clear the mechanical trip of the valve.

Operation of the actuator on the 5/2 valve opens the cylinder port nearest to the actuator. On the 3/2 version the inlet is piped to the port furthest away from the actuator for normally closed operation, and to the port nearest the actuator for normally open. Any of the actuators may be fitted with spring or pilot return mechanism. Valves may also be supplied with the same actuator at both ends; e.g. double roller. Roller versions are designed to give a common height on both 3/2 and 5/2 valves to ensure uniformity and efficiency in a multi-valve assembly.

The reasonably short travel and lightweight spool ensures that extremely high operating speeds are possible. A double pilot 5/2 valve has been tested at over 3000 cycles per minute, but for practical purposes the operating speed of the valve is determined by cylinder stroke and bore size.

Features



Directional control valves G¹/₈ 3/2 - 5/2

Basic body dimensions (mm)

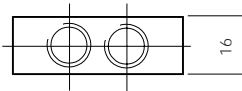
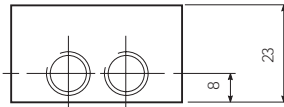
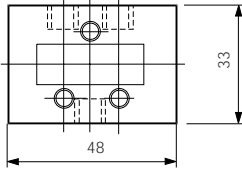
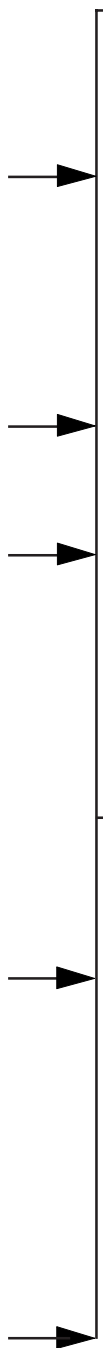
Actuator mechanisms

Basic bodies

Return mechanisms

3/2 body

Solenoid pilot

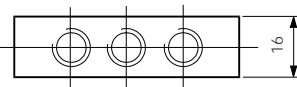
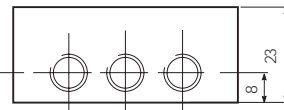
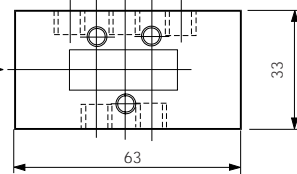


Air pilot

Mechanical

- Plunger
- Whisker
- Roller
- One way trip
- One way roller trip

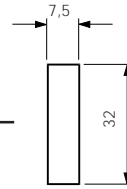
5/2 body



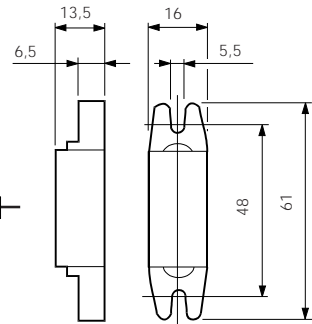
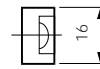
Manual

- Button
- Lock down lever
- Palm lever
- Foot

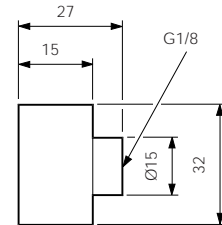
Facia actuators Ø22mm



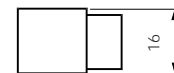
Standard spring return housing



Optional foot mounting spring return housing

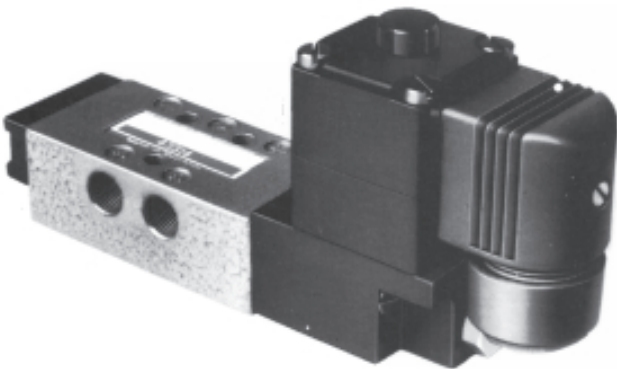


Air pilot housing



Directional control valves G¹/₈ 3/2 - 5/2

Solenoid pilot operated - spring return



Symbol



Materials

Body	Zinc diecast
Actuator	Zinc diecast
Spool	Stainless steel
Bushes	Brass
Seals	Viton (valve body) Nitrile (solenoid)
Spring housing	Plastic

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₈
Mounting	Any plane
Temperature range	-10°C to +55°C

Pneumatic information

Pressure range	Vacuum to 10 bar	
Minimum	Spring return	3 bar
Nominal Ø	3,2mm	
Nominal flow at 7 bar	7 dm ³ /s	
Cv factor	0,24	

Electrical information

Power consumption	Inrush	Hold
AC	9VA	6VA
DC	5 Watt	
Rating	100% continuous	
Isolating class	F	
Protection class	IP 65 (P 54) DIN 40 050	
Connection	ISO 4400, BS 56361	

Voltage selection

Suffix	50 Hz	D.C.
T	10-13	5-6.5
TA	20-26	10-13
TF	44-55	20-26
TC	85-110	44-55
S	94-120	47-60
TS	153-198	76-99
SA	204-264	102-132

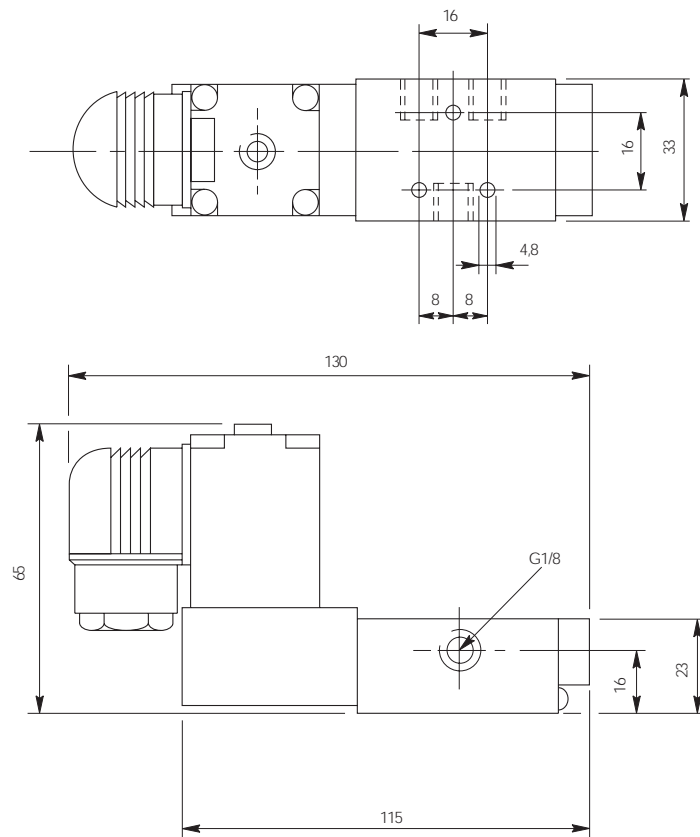
Ordering information

Part nos.	Type	Actuator	Return	Symbol
LB43313*	3/2	Solenoid pilot	Spring	
LB43314*	5/2	Solenoid pilot	Spring	

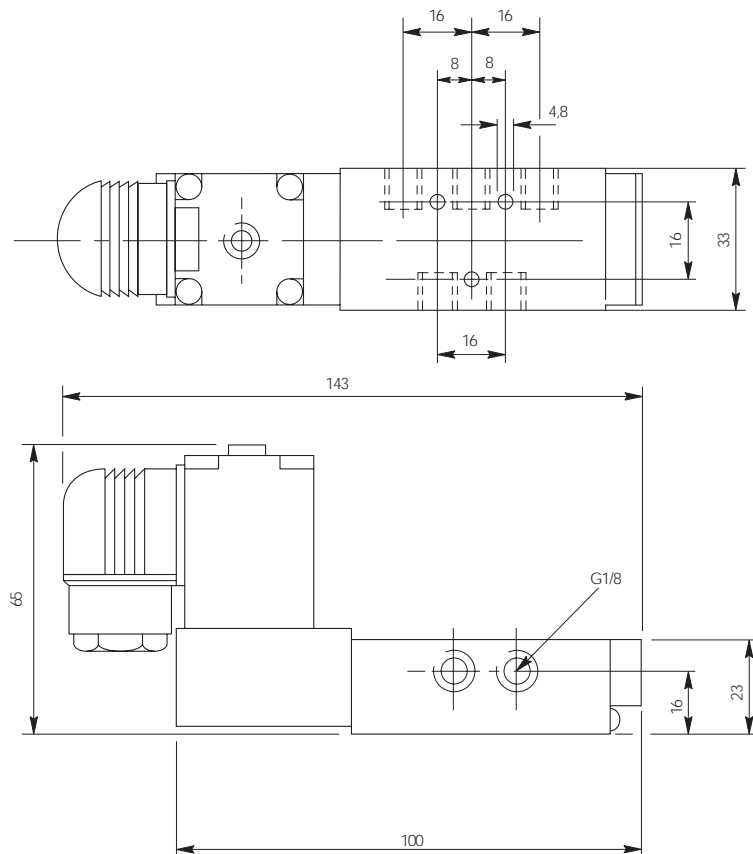
*Specify voltage and add suffix letters
For manual override add suffix M to part no.

Directional control valves G¹/₈ 3/2 - 5/2

3/2 valve dimensions (mm)

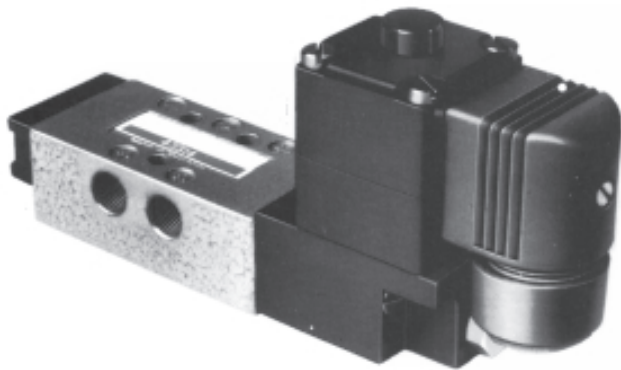


5/2 valve dimensions (mm)



Directional control valves G¹/₈ 3/2 - 5/2

Solenoid pilot operated - pilot return



Symbol



Materials

Body	Aluminium
Actuator	Zinc diecast
Spool	Stainless steel
Bushes	Brass
Seals	Viton (valve body) Nitrile (solenoid)

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₈
Mounting	Any plane
Temperature range	-10°C to +55°C

Pneumatic information

Pressure range	Vacuum to 10 bar
Minimum	Spring return 3 bar
Nominal Ø	3,2mm
Nominal flow at 7 bar	7 dm ³ /s
Cv factor	0,24

Electrical information

Power consumption	Inrush	Hold
AC	9VA	6VA
DC	5 Watt	
Rating	100% continuous	
Isolating class	F	
Protection class	IP 65 (P 54) DIN 40 050	
Connection	ISO 4400, BS 56361	

Voltage selection

Suffix	50 Hz	D.C.
T	10-13	5-6.5
TA	20-26	10-13
TF	44-55	20-26
TC	85-110	44-55
S	94-120	47-60
TS	153-198	76-99
SA	204-264	102-132

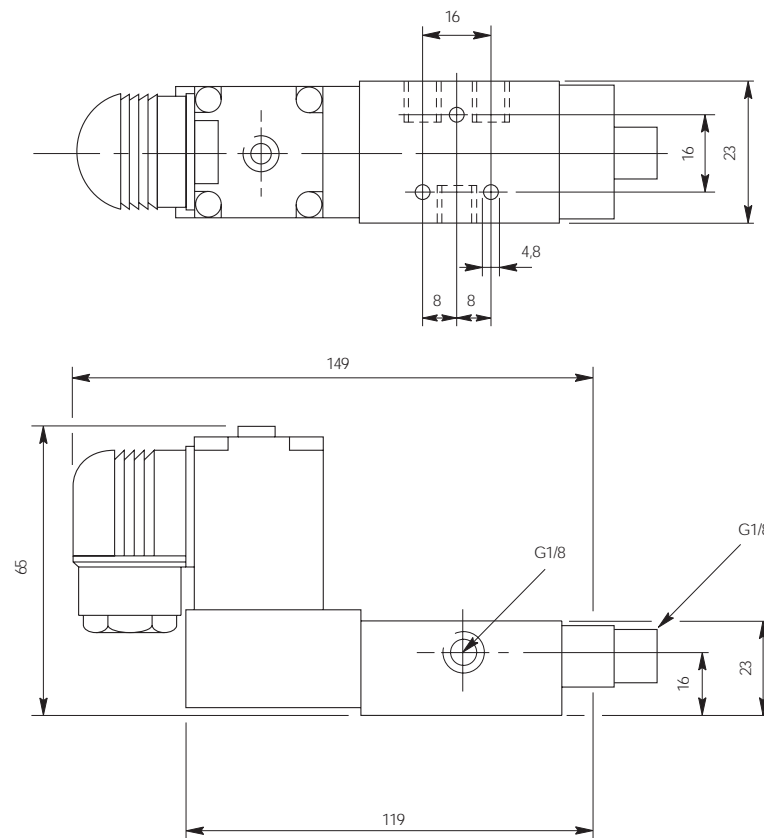
Ordering information

Part nos.	Type	Actuator	Return	Symbol
LB43333*	3/2	Solenoid pilot	Air pilot	
LB43334*	5/2	Solenoid pilot	Air pilot	

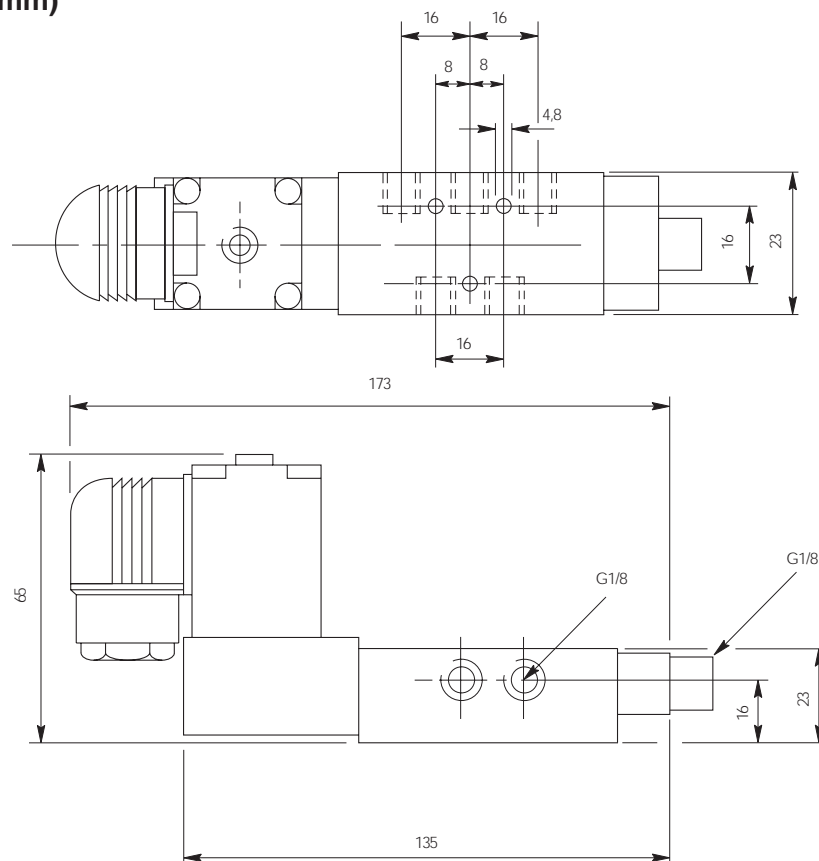
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For manual override add suffix M to part no.

Directional control valves G¹/₈ 3/2 - 5/2

3/2 valve dimensions (mm)

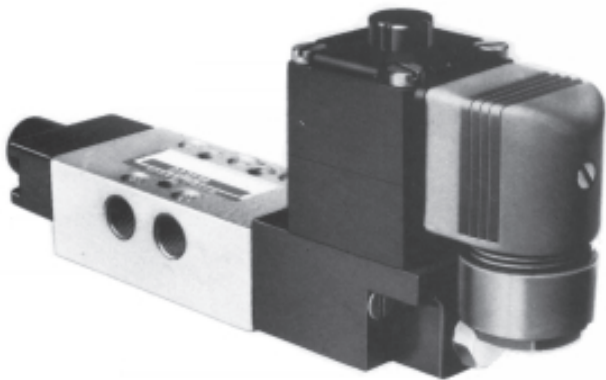


5/2 valve dimensions (mm)

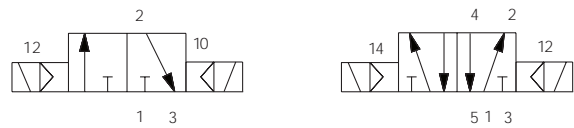


Directional control valves G¹/₈ 3/2 - 5/2

Double solenoid pilot operated valves



Symbol



Materials

Body	Zinc diecast
Actuator	Zinc diecast
Spool	Stainless steel
Bushes	Brass
Seals	Viton (valve body) Nitrile (solenoid)

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₈
Mounting	Any plane
Temperature range	-10°C to +55°C

Pneumatic information

Pressure range	Vacuum to 10 bar	
Minimum	Spring return	3 bar
Nominal Ø	3,2mm	
Nominal flow at 7 bar	7 dm ³ /s	
Cv factor	0,24	

Electrical information

Power consumption	Inrush	Hold
	AC 9VA	6VA
	DC 5 Watt	
Rating	100% continuous	
Isolating class	F	
Protection class	IP 65 (P 54) DIN 40 050	
Connection	ISO 4400, BS 56361	

Voltage selection

Suffix	50 Hz	D.C.
T	10-13	5-6.5
TA	20-26	10-13
TF	44-55	21-26
TC	85-110	43-55
S	94-121	54-69
TS	153-242	94-121
SA	204-264	102-132

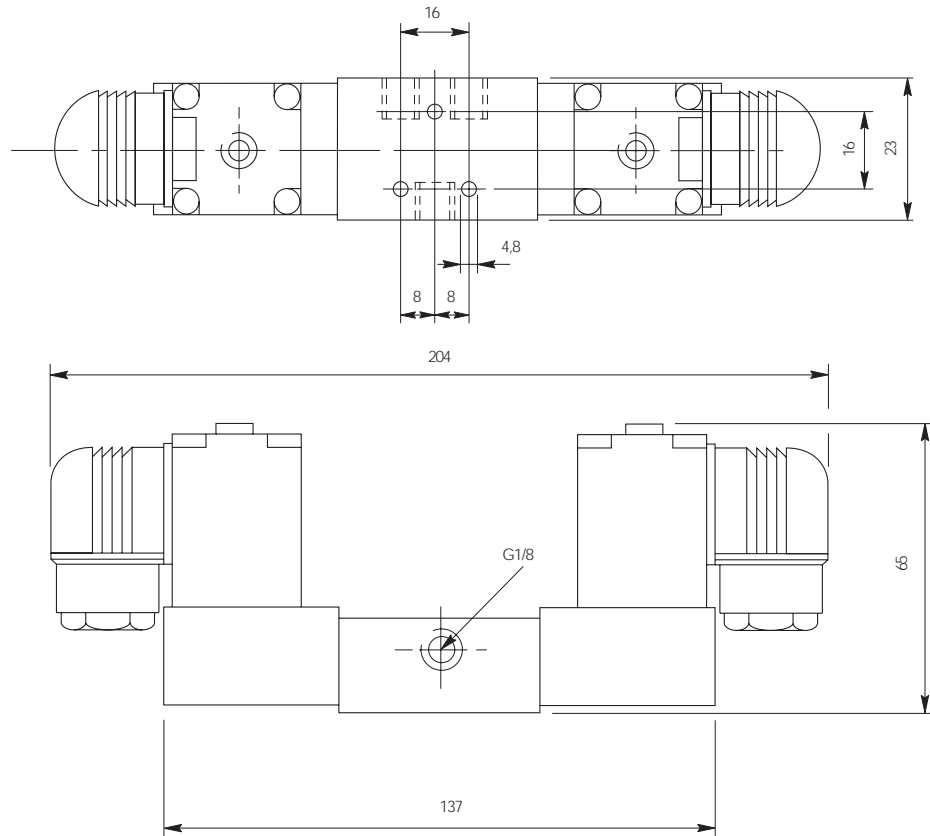
Ordering information

Part nos.	Type	Actuator	Return	Symbol
LB43323*	3/2	Solenoid pilot	Solenoid pilot	
LB43324*	5/2	Solenoid pilot	Solenoid pilot	

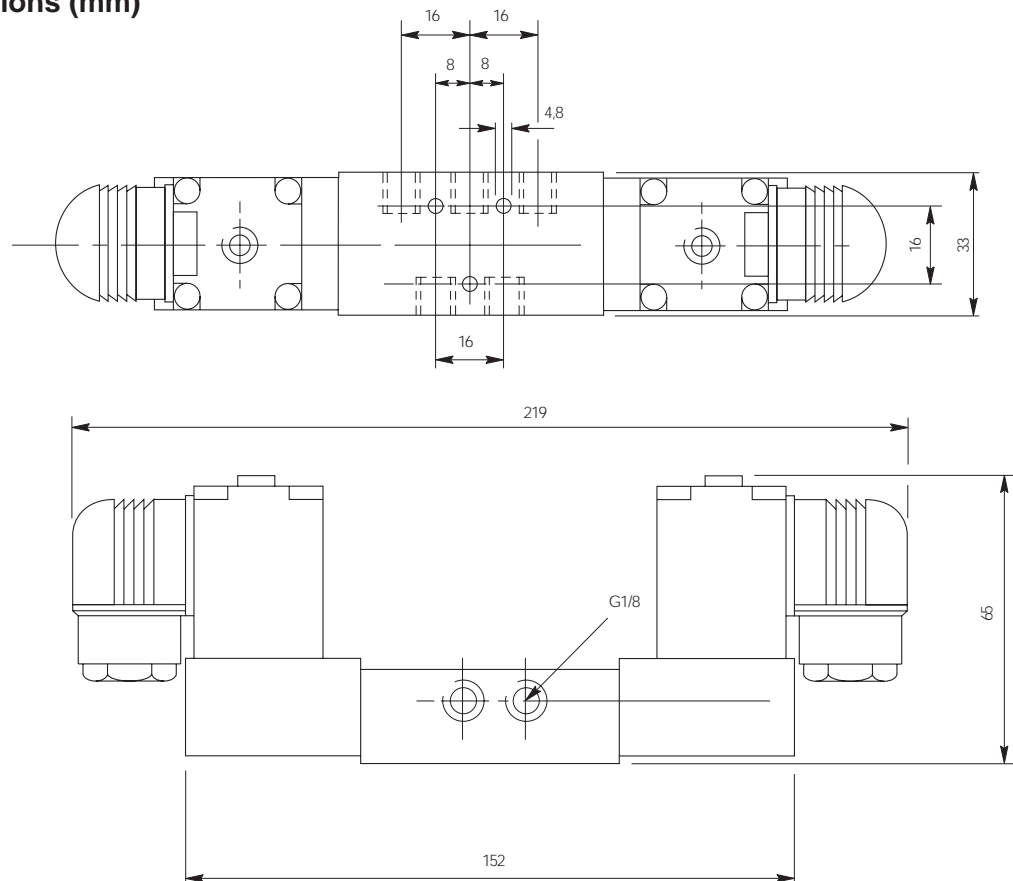
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For manual override add suffix M to part no.

Directional control valves G¹/₈ 3/2 - 5/2

3/2 valve dimensions (mm)

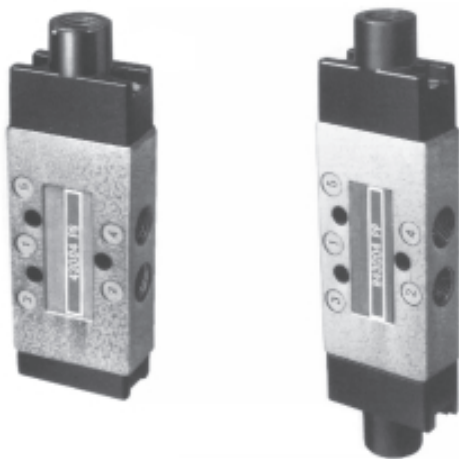


5/2 valve dimensions (mm)

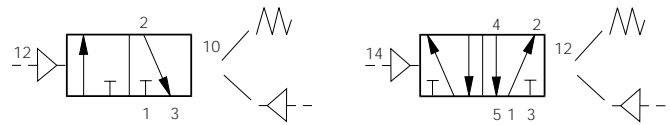


Directional control valves G¹/₈ 3/2 - 5/2

Air pilot operated valves



Symbol



Materials

Body	Zinc diecast
Actuator	Zinc diecast
Spool	Stainless steel
Bushes	Brass
Seals	Viton (valve body)
Spring housing	Nylon

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₈
Mounting	Any plane
Temperature range	-10°C to +80°C

Pneumatic information

Pressure range	Vacuum to 10 bar	
Minimum pilot pressure	Spring return Air pilot return	3 bar 2 bar
Nominal Ø	3,2mm	
Nominal flow at 7 bar	7 dm ³ /s	
Cv factor	0,24	

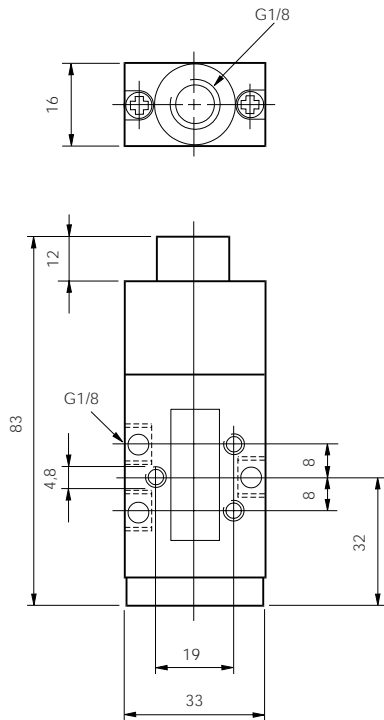
Ordering information

Part nos.	Type	Actuator	Return	Symbol
B43003PS	3/2	Air pilot	Spring	
B43004PS	5/2	Air pilot	Spring	
B43003PP	3/2	Air pilot	Air pilot	
B43004PP	5/2	Air pilot	Air pilot	

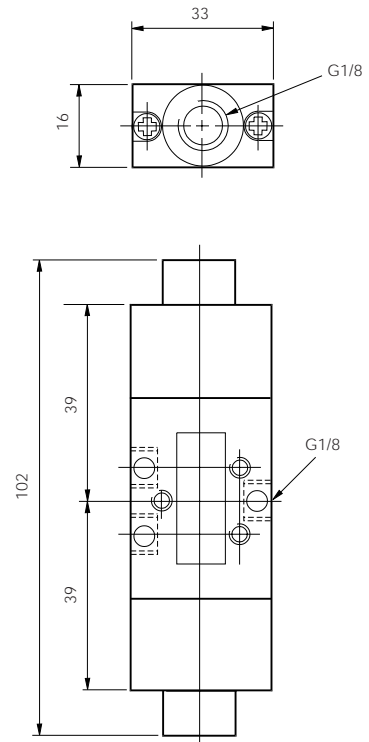
Directional control valves G¹/₈ 3/2 - 5/2

3/2 valve dimensions (mm)

Air pilot operated
spring return

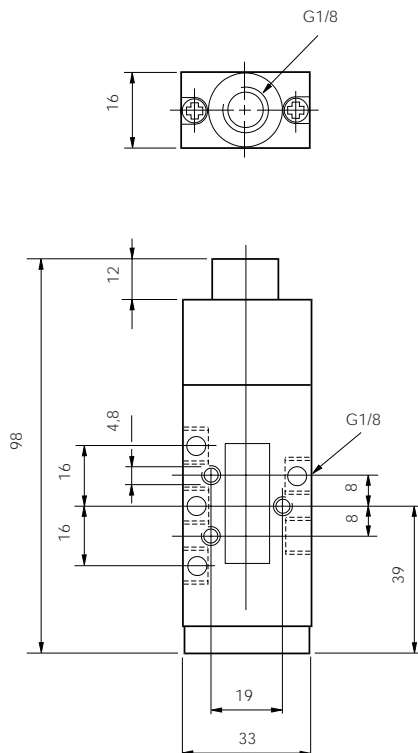


Air pilot operated
Air pilot return

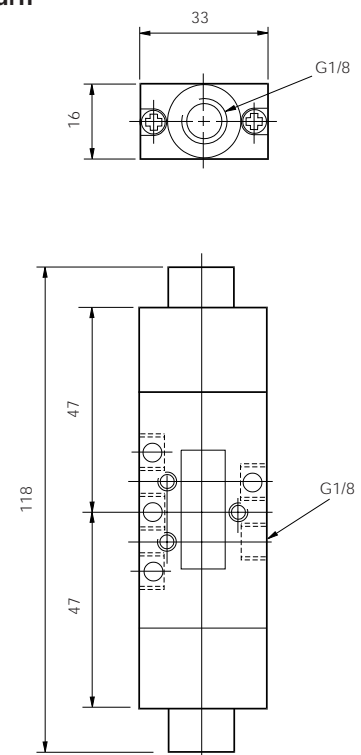


5/2 valve dimensions (mm)

Air pilot operated
spring return



Air pilot operated
Air pilot return

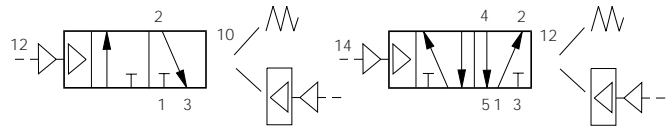


Directional control valves G¹/₈ 3/2 - 5/2

Diaphragm operated valves



Symbol



Materials

Body	Zinc diecast
Actuator	Zinc diecast
Spool	Stainless steel
Bushes	Brass
Seals	Viton
Spring housing	Zinc diecast
Diaphragm	Nitrile

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₈
Mounting	Any plane
Temperature range	-10°C to +80°C

Pneumatic information

Pressure range	Vacuum to 10 bar	
Minimum pilot pressure	Spring return	0,3 bar
	Diaphragm return	0,13 bar
Nominal Ø	3,2mm	
Nominal flow at 7 bar	7 dm ³ /s	
Cv factor	0,24	

Ordering information

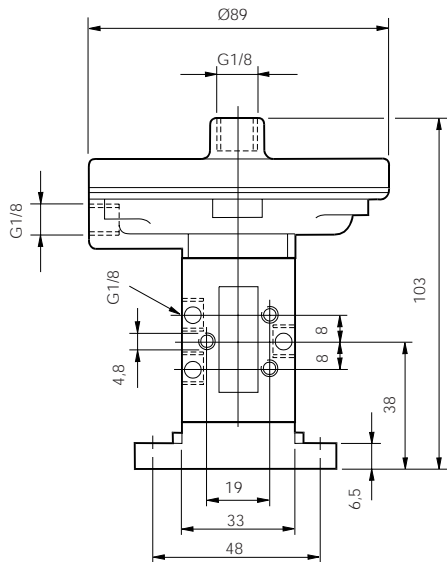
Part nos.	Type	Actuator	Return	Symbol
B43003DF	3/2	Diaphragm	Spring	
B43004DF	5/2	Diaphragm	Spring	
B43003DD	3/2	Diaphragm	Diaphragm	
B43004DD	5/2	Diaphragm	Diaphragm	
B43004D-50	Mounting bracket kit			

Comprises: 1 bracket, 3 bolts and nuts

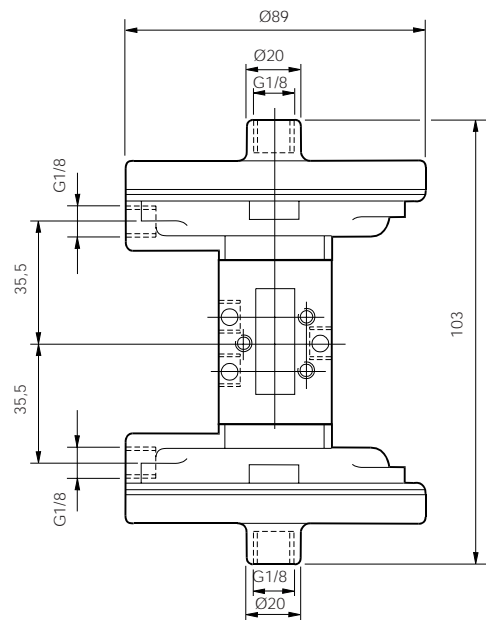
Directional control valves G¹/₈ 3/2 - 5/2

3/2 valve dimensions (mm)

Diaphragm operated
spring return

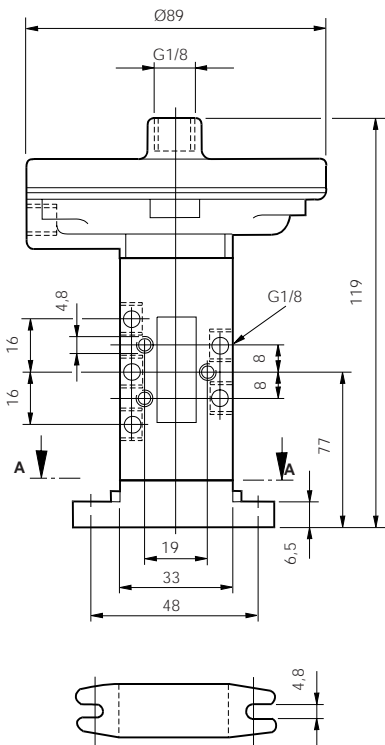


Diaphragm operated
Diaphragm return

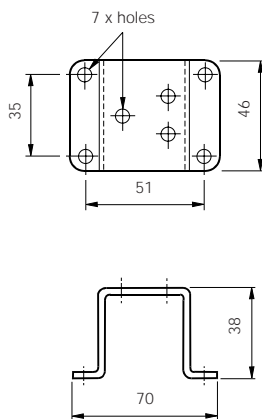


5/2 valve dimensions (mm)

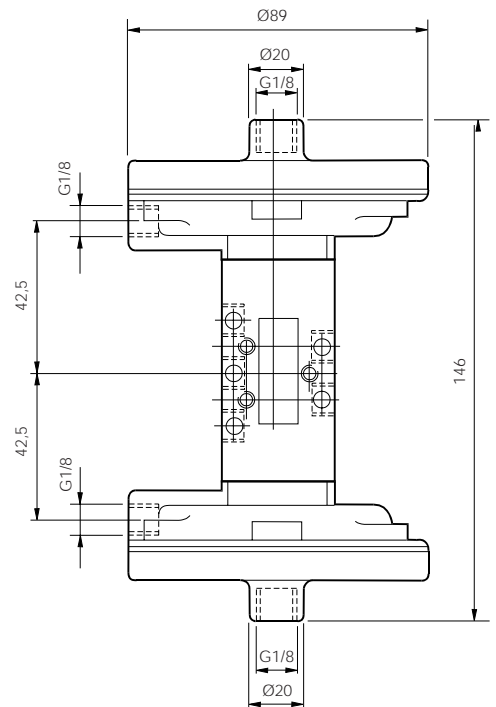
Diaphragm operated
spring return



Mounting brackets

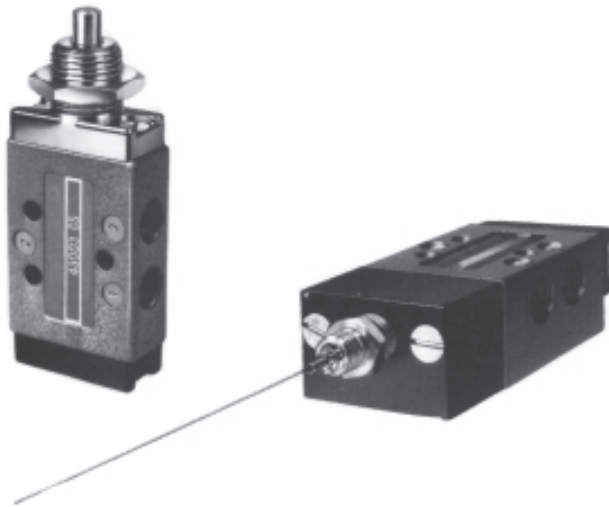


Diaphragm operated
Diaphragm return

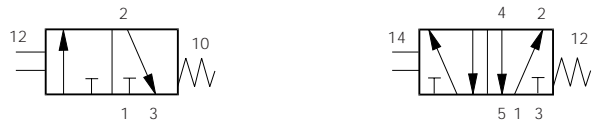


Directional control valves G¹/₈ 3/2 - 5/2

Mechanically operated valves



Symbol



Materials

Body	Zinc diecast
Actuator	Zinc diecast
Spool	Stainless steel
Bushes	Brass
Seals	Viton
Spring housing	Nylon

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₈
Mounting	Any plane
Temperature range	-10°C to +80°C

Pneumatic information

Pressure range	Vacuum to 10 bar
Minimum pilot pressure	3 bar
Nominal Ø	3,2mm
Nominal flow at 7 bar	7 dm ³ /s
Cv factor	0,24

Ordering information

Part nos.	Type	Actuator	Return	Symbol	Optional air pilot return
B43003CS	3/2	Plunger	Spring		
B43004CS	5/2	Plunger	Spring		
B43003W	3/2	Whisker normally closed	Spring		
B43004WO	5/2	Whisker normally open	Spring		
B43004W	5/2	Whisker	Spring		

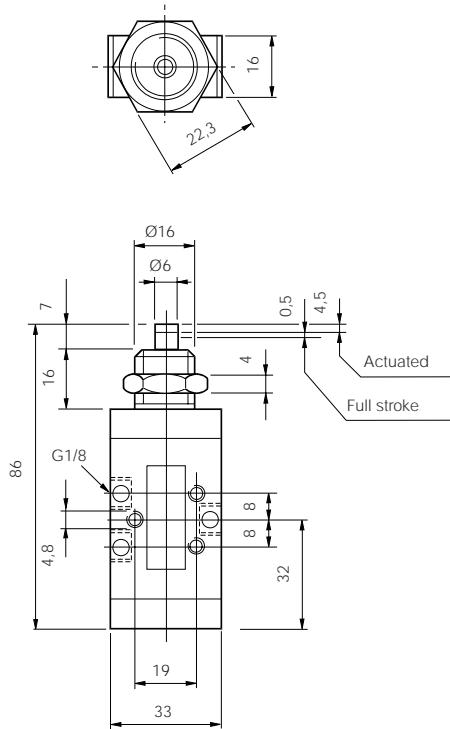
Note: All valves featured on this page are available with an air pilot return mechanism.

To order delete 'S' for spring and add 'P'. e.g. **B43003CP**
For dimensions of air pilot housing see page 3.

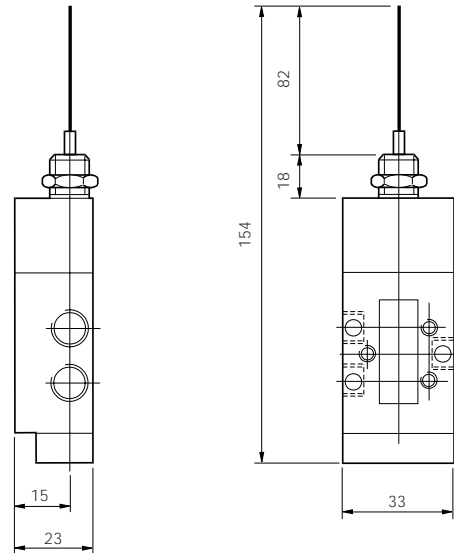
Directional control valves G¹/₈ 3/2 - 5/2

3/2 valve dimensions (mm)

Plunger operated
spring return

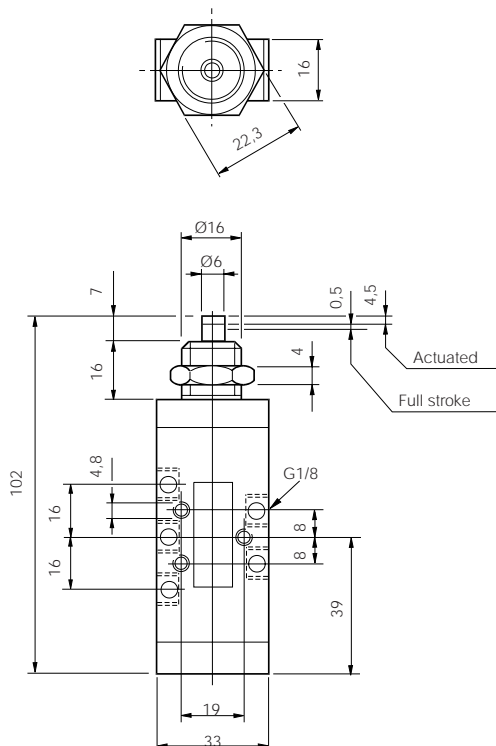


Whisker operated
spring return

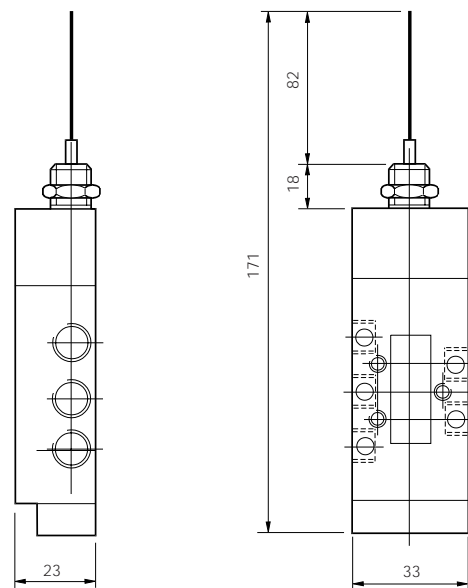


5/2 valve dimensions (mm)

Plunger operated
spring return

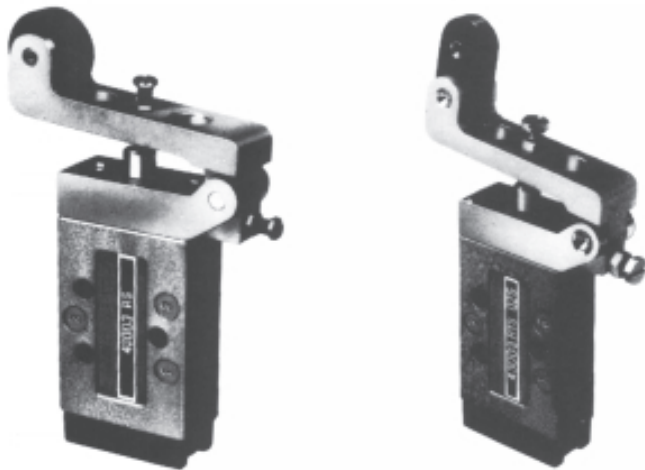


Whisker operated
spring return

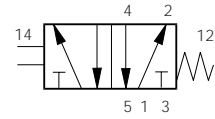
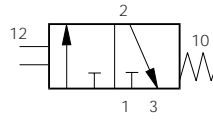


Directional control valves G¹/₈ 3/2 - 5/2

Mechanically operated valves



Symbol



Materials

Body	Zinc diecast
Actuator	Zinc diecast
Spool	Stainless steel
Bushes	Brass
Seals	Viton
Spring housing	Nylon

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₈
Mounting	Any plane
Temperature range	-10°C to +80°C

Pneumatic information

Pressure range	Vacuum to 10 bar
Minimum pilot pressure	3 bar
Nominal Ø	3,2mm
Nominal flow at 7 bar	7 dm ³ /s
Cv factor	0,24

Ordering information

Part nos.	Type	Actuator	Return	Symbol	Optional air pilot return
B43003RS	3/2	Roller	Spring		
B43004RS	5/2	Roller	Spring		
B43003RTS	3/2	One way roller trip	Spring		
B43004RTS	5/2	One way roller trip	Spring		
B43003RT	3/2	One way trip	Spring		
B43004RT	5/2	One way trip	Spring		

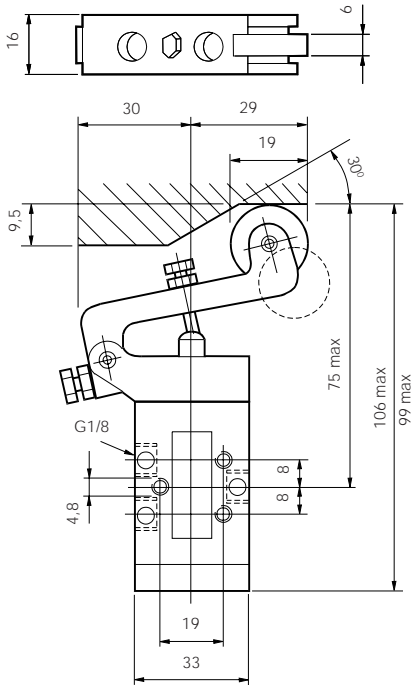
Note: All valves featured on this page are available with an air pilot return mechanism.

To order delete 'S' for spring and add 'P'. e.g. **B43003CP**
For dimensions of air pilot housing see page 3.

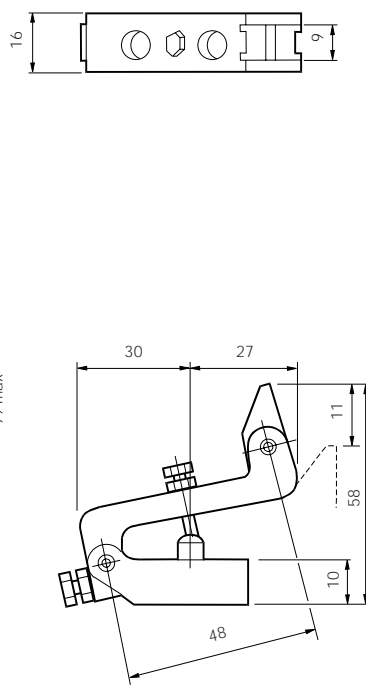
Directional control valves G¹/₈ 3/2 - 5/2

3/2 valve dimensions (mm)

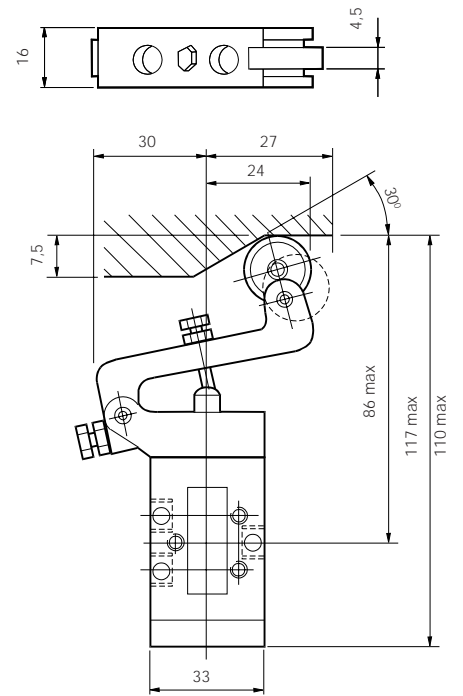
Roller operated
spring return



One way trip

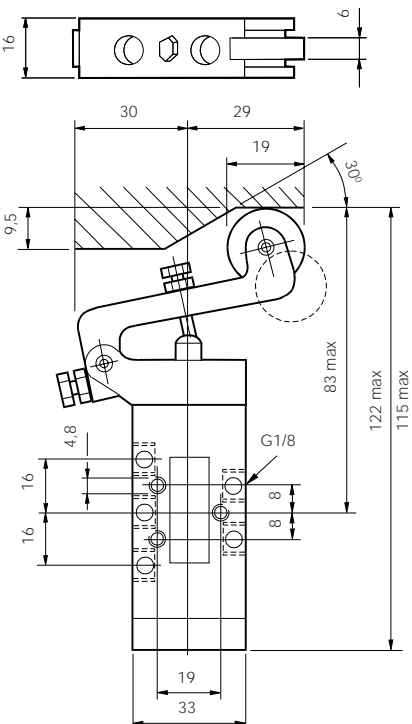


One way roller trip operated
spring return

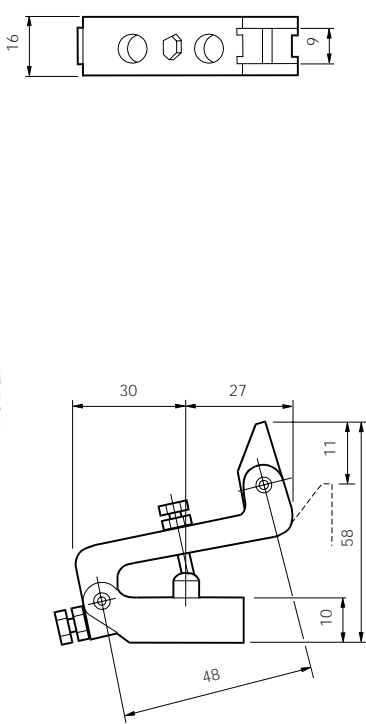


5/2 valve dimensions (mm)

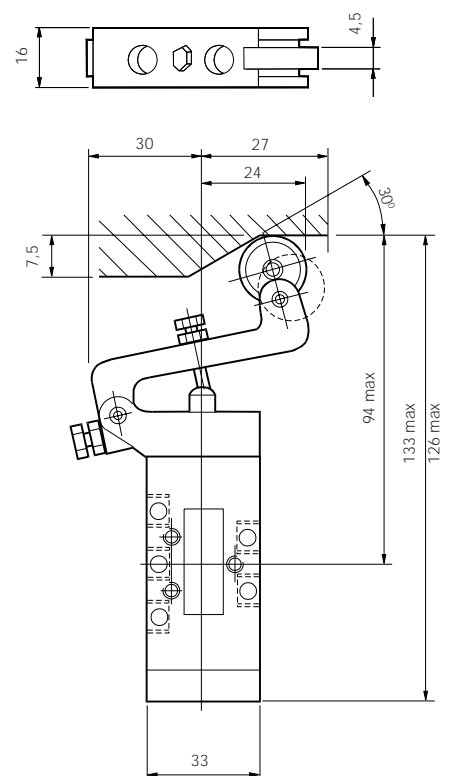
Roller operated
spring return



One way trip



One way roller trip operated
spring return



Directional control valves G¹/₈ 3/2 - 5/2

Manually operated valves



Symbol



Materials

Body	Zinc diecast
Actuator	Zinc diecast
Spool	Stainless steel
Bushes	Brass
Seals	Viton
Spring housing	Nylon

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₈
Mounting	Any plane
Temperature range	-10°C to +55°C

Pneumatic information

Pressure range	Vacuum to 10 bar
Minimum pilot pressure	3 bar
Nominal Ø	3,2mm
Nominal flow at 7 bar	7 dm ³ /s
Cv factor	0,24

Ordering information

Part nos.	Type	Actuator	Return	Symbol	Optional air pilot return
B43003BS	3/2	Button	Spring		
B43004BS	5/2	Button	Spring		
B43003HS	3/2	Button	Button		
B43004HS	5/2	Button	Button		
B43003LS	3/2	Lock down lever	Spring		
B43004LS	5/2	Lock down lever	Spring		

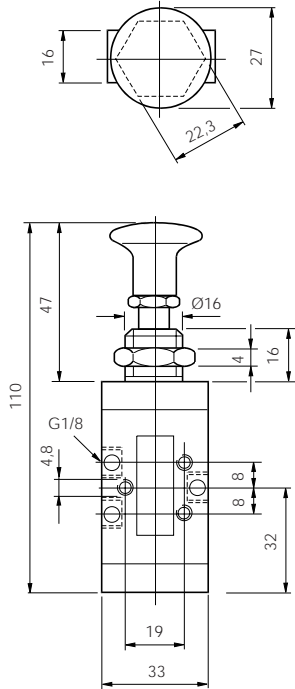
Note: All valves featured on this page are available with an air pilot return mechanism.

To order delete 'S' for spring and add 'P'. e.g. **B43003CP**
For dimensions of air pilot housing see page 3.

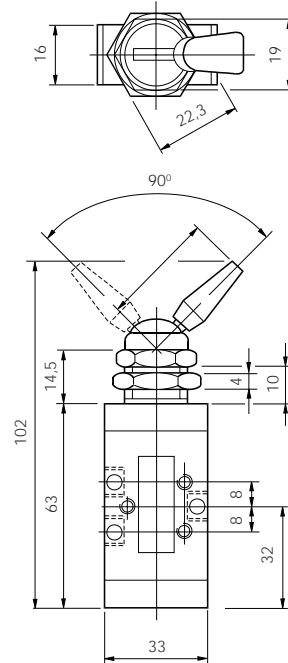
Directional control valves G¹/₈ 3/2 - 5/2

3/2 valve dimensions (mm)

Button operated
spring or button return

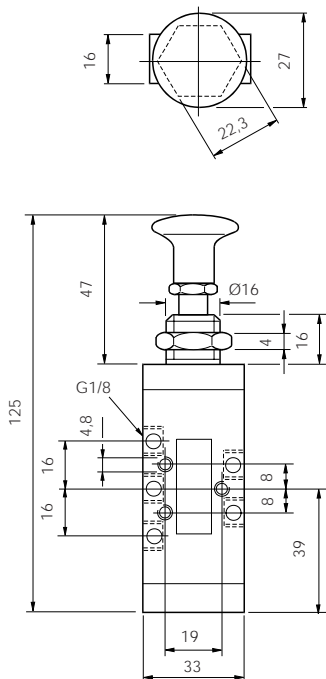


Lock down lever operated
spring return

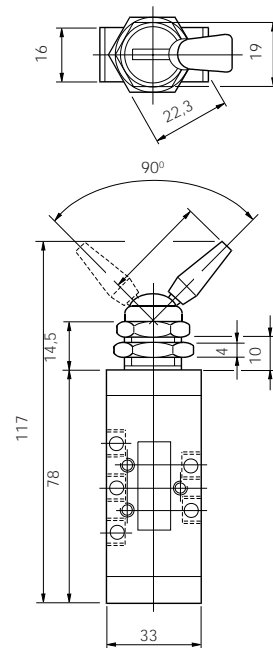


5/2 valve dimensions (mm)

Button operated
spring or button return

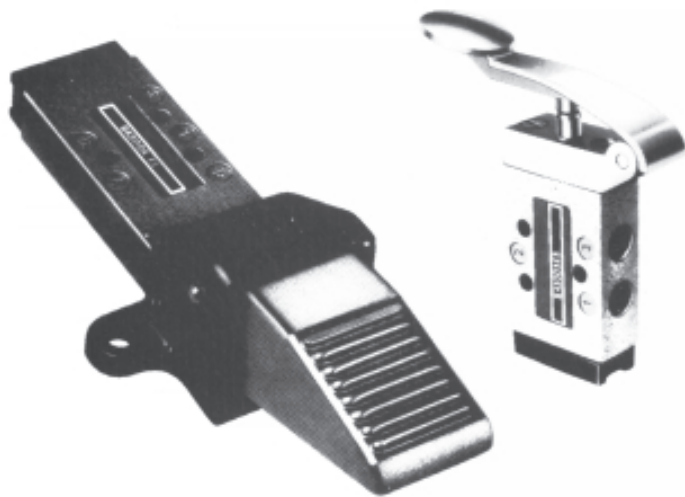


Lock down lever operated
spring return

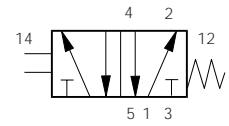
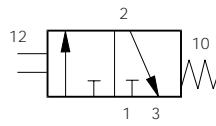


Directional control valves G¹/₈ 3/2 - 5/2

Manually operated valves



Symbol



Materials

Body	Zinc diecast
Actuator	Zinc diecast
Spool	Stainless steel
Bushes	Brass
Seals	Viton
Spring housing	Nylon

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₈
Mounting	Any plane
Temperature range	-10°C to +55°C

Pneumatic information

Pressure range	Vacuum to 10 bar
Minimum pilot pressure	3 bar
Nominal Ø	3,2mm
Nominal flow at 7 bar	7 dm ³ /s
Cv factor	0,24

Ordering information

Part nos.	Type	Actuator	Return	Symbol	Optional air pilot return
B43003ES	3/2	Palm lever	Spring		
B43004ES	5/2	Palm lever	Spring		
B43003FS	3/2	Foot pedal	Spring		
B43004FS	5/2	Foot pedal	Spring		

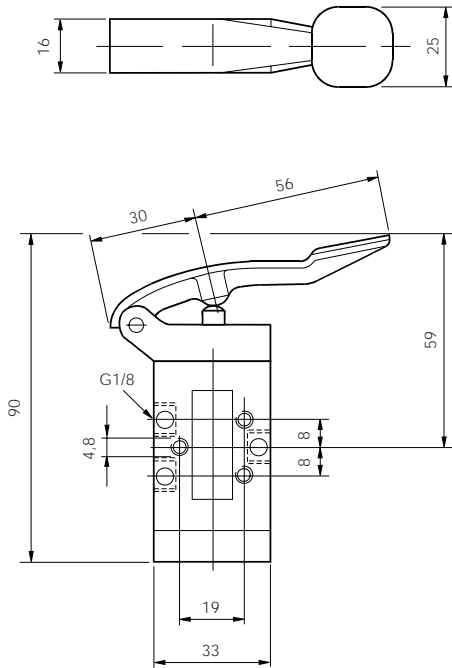
Note: All valves featured on this page are available with an air pilot return mechanism.

To order delete 'S' for spring and add 'P'. e.g. **B43003CP**
For dimensions of air pilot housing see page 3.

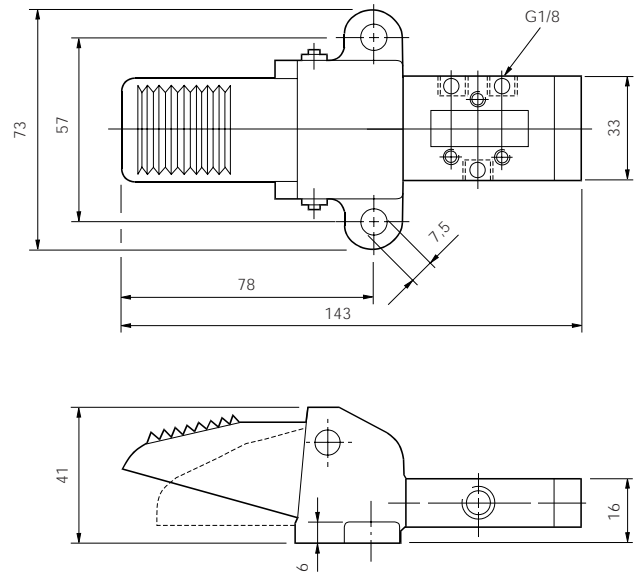
Directional control valves G¹/₈ 3/2 - 5/2

3/2 valve dimensions (mm)

Palm lever operated
spring return

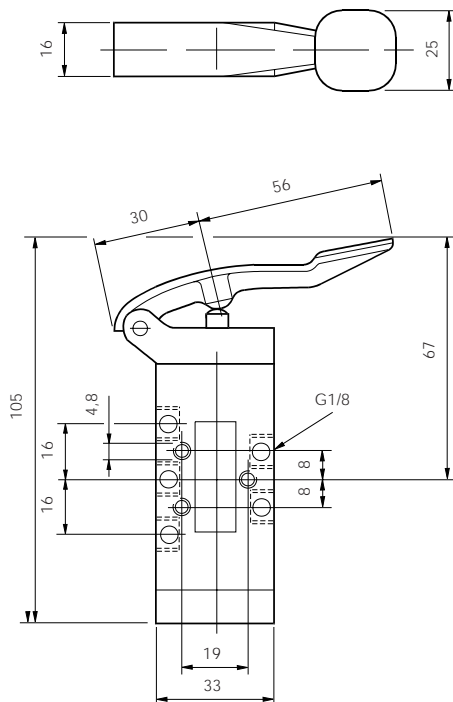


Foot pedal operated
spring return

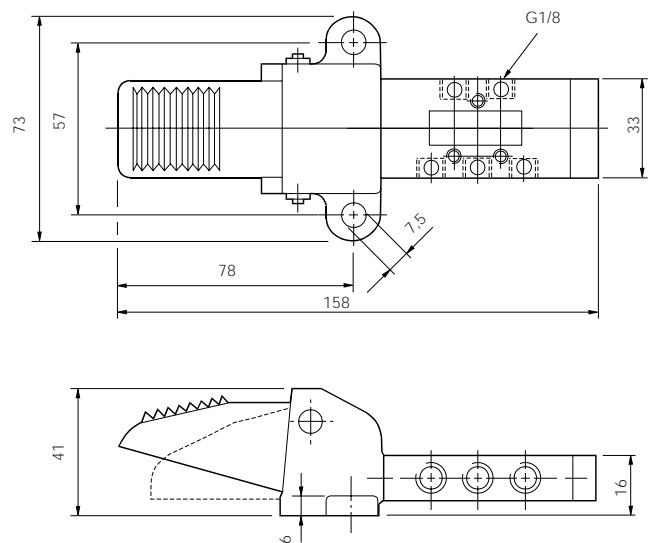


5/2 valve dimensions (mm)

Palm lever operated
spring return

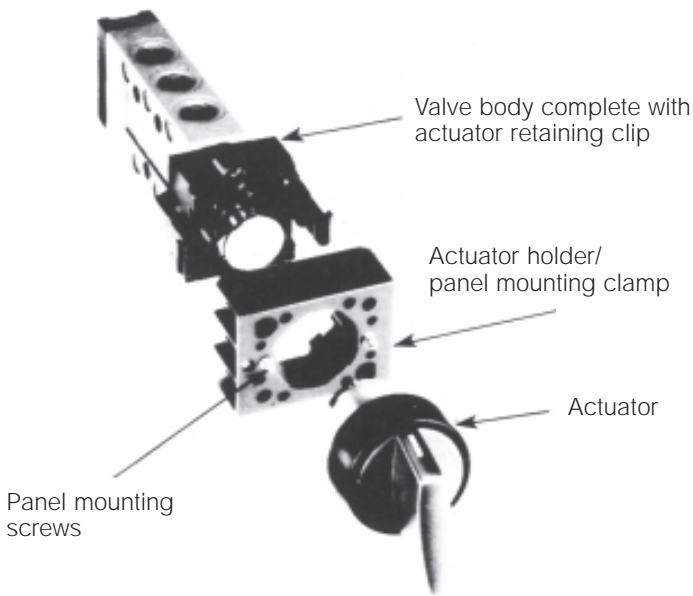


Foot pedal operated
spring return

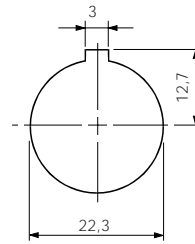


Facia actuators Ø22mm, G¹/₈ 3/2 - 5/2

The system



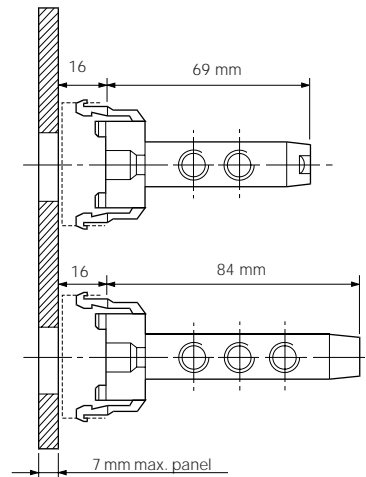
Ø22mm



Basic valve with adaptor

Part no.	Type	Symbol
B43003-100A	3/2	
B43004-100A	5/2	

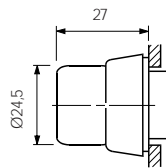
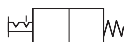
Dimensions (mm)



Mounting

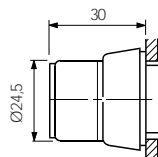
Assembly is simple; the actuators fit into the holder/panel mounting clamp with bayonet fixing. The panel mounting screws may then be tightened up to the panel as required and the valve body assembly clipped on. No seals or special tools are required, interchanging actuators or valve body assemblies is equally simple.

Latching trust button



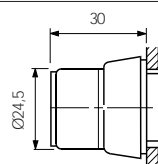
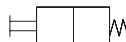
Colour	Order code
White	33000-100UFWS
Blue	33000-100UFXS

Key switch latching



Locked position	Withdrawal position	Order code
In or out	Either	33000-100KAS
In	Un-locked	33000-100KBS
Out	Locked	33000-100KCS

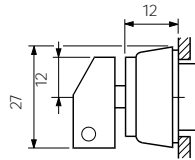
Key switch non-latching



Locked position	Withdrawal position	Order code
Out	Un-locked	33000-100KDS
In	Locked	33000-100KES

Directional control valves G¹/₈ 3/2 - 5/2

Key switch 'stay-put'



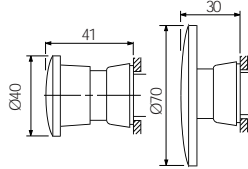
Withdrawal position

Order code

Either

33000-100KFS

Emergency button



Colour Order code

Type

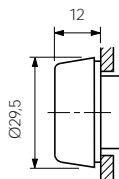
Red **33000-100BEYS** Ø40 Mushroom, key release

Red **33000-100BGYS** Ø40 Mushroom latching

Red **33000-100BPYS** Raised latching button

Red **33000-100BRYS** Ø70 Mushroom latching

Flush push button



Colour

Order code

Yellow **33000-100BATS**

Blue **33000-100BAUS**

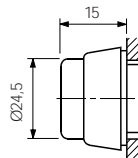
White **33000-100BAWS**

Black **33000-100BAXS**

Red **33000-100BAYS**

Green **33000-100BAZS**

Raised push button



Colour

Order code

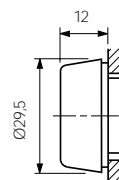
Yellow **33000-100BBTS**

Blue **33000-100BBUS**

Black **33000-100BBXS**

Red **33000-100BBYS**

Push button with boot



Colour

Order code

Yellow **33000-100BCTS**

Blue **33000-100BCUS**

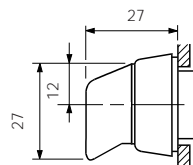
White **33000-100BCWS**

Black **33000-100BCXS**

Red **33000-100BCYS**

Green **33000-100BCZS**

Latching selector knob



Colour

Order code

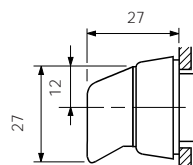
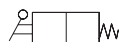
White **33000-100UAWS**

Black **33000-100UAXS**

Red **33000-100UAYS**

Green **33000-100UAZS**

Non latching selector knob



Colour

Order code

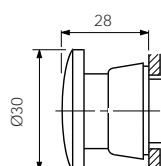
White **33000-100UBWS**

Black **33000-100UBXS**

Red **33000-100UBYS**

Green **33000-100UBZS**

Ø30mm Mushroom button



Colour

Order code

White **33000-100BDTS**

Black **33000-100BDXS**

Red **33000-100BDYS**

Green **33000-100BDZS**