



# Directional Control Valves

*G<sup>1</sup>/<sub>8</sub>, 3/2 and 5/2 Spool valves*

*Catalogue - - - - GB-can*



# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## Spool valves 3/2, 5/2 - G<sup>1</sup>/<sub>8</sub> 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.

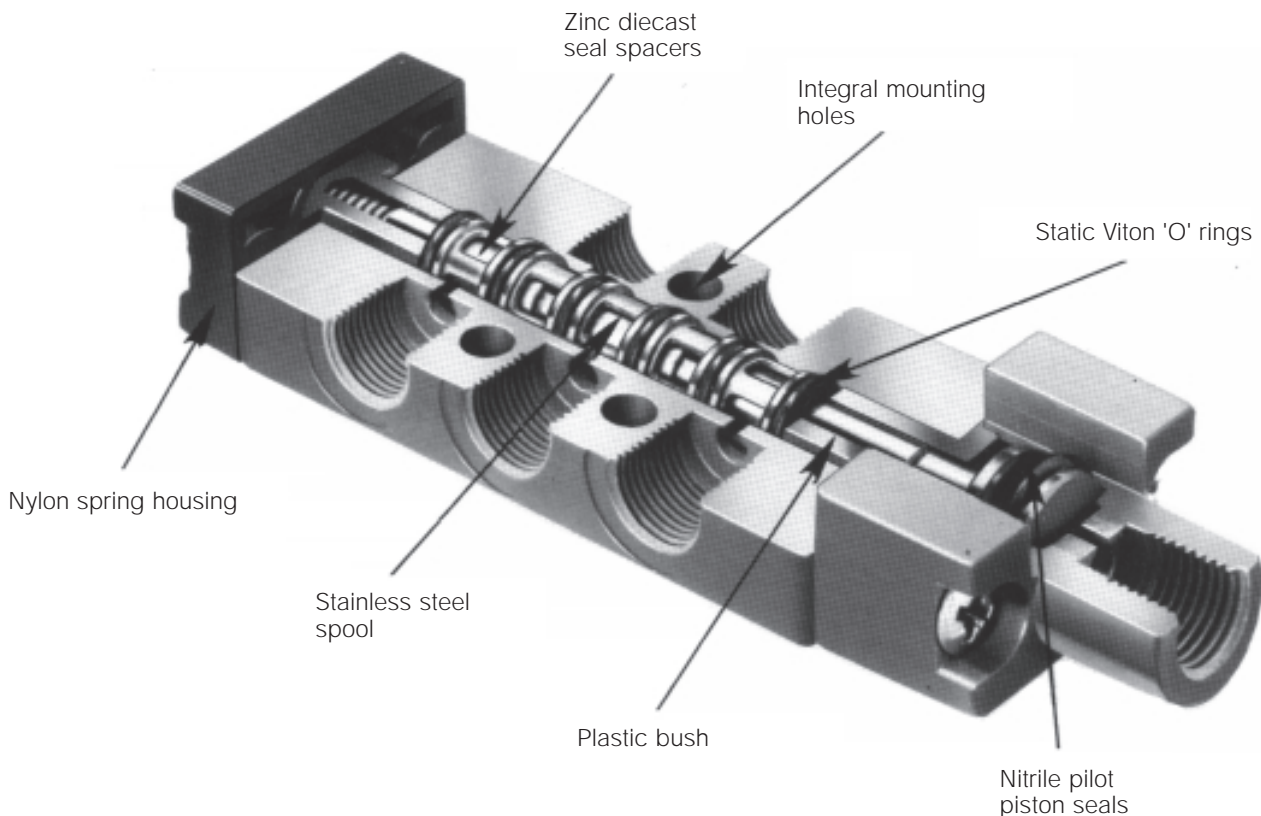
The body is a zinc alloy die-casting with stainless steel spool, sealed by viton rubber 'O' rings. All operating parts exposed to the working fluid are of non-corrosive material and all ports are threaded G<sup>1</sup>/<sub>8</sub> B.S.P. parallel. The block design of the body with its three mounting 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 G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## Basic body dimensions (mm)

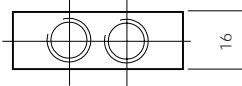
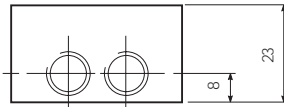
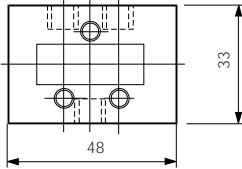
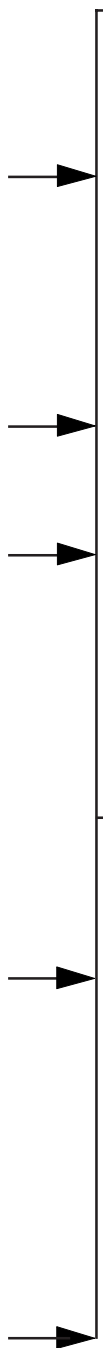
### Actuator mechanisms

### Basic bodies

### Return mechanisms

#### 3/2 body

#### Solenoid pilot



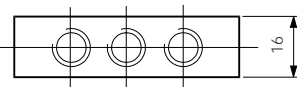
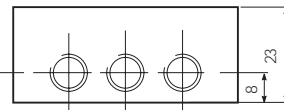
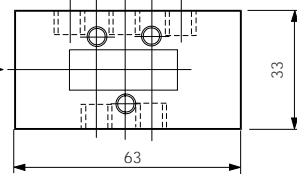
#### Air pilot

#### Mechanical

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



#### 5/2 body

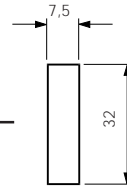


#### Manual

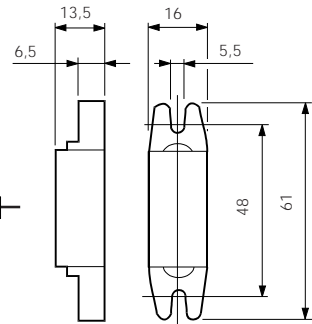
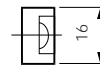
- Button
- Lock down lever
- Palm lever
- Foot



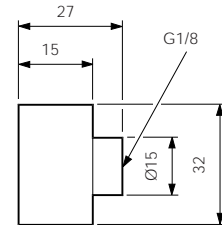
#### Facia actuators Ø22mm



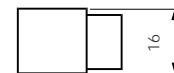
Standard spring return housing



Optional foot mounting spring return housing

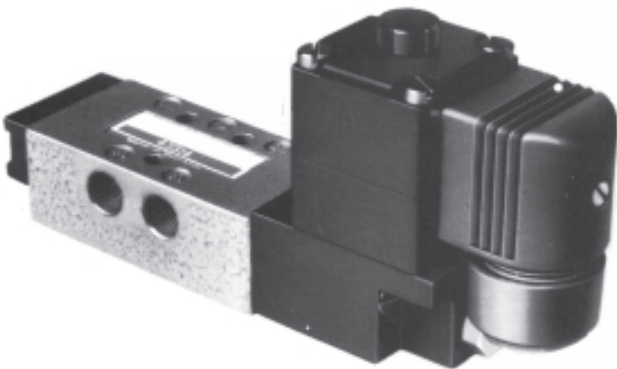


Air pilot housing



# Directional control valves G<sup>1</sup>/<sub>8</sub> 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 <sup>1</sup> / <sub>8</sub>
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 <sup>3</sup> /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

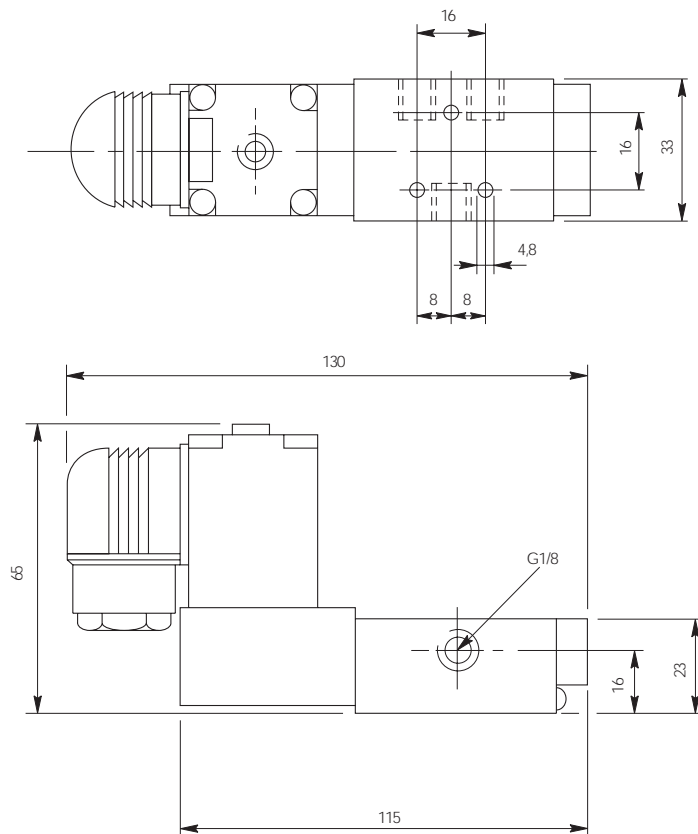
## Ordering information

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

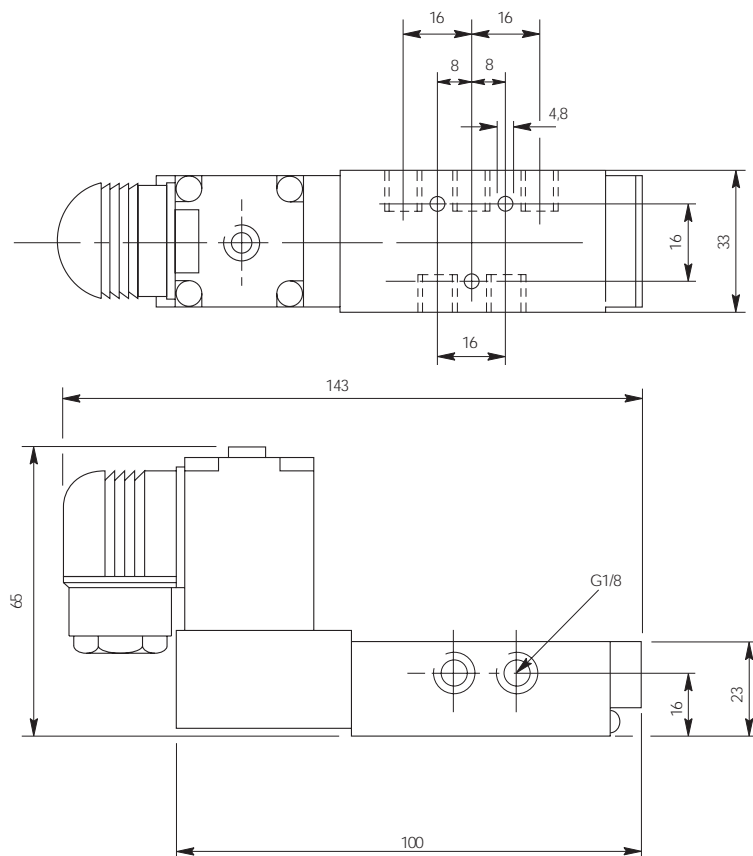
\*Specify voltage and add suffix letters  
For manual override add suffix M to part no.

# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 3/2 valve dimensions (mm)

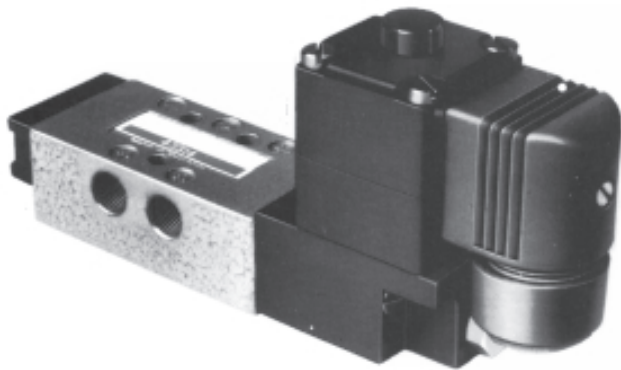


## 5/2 valve dimensions (mm)



# Directional control valves G<sup>1</sup>/<sub>8</sub> 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 <sup>1</sup> / <sub>8</sub>
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 <sup>3</sup> /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

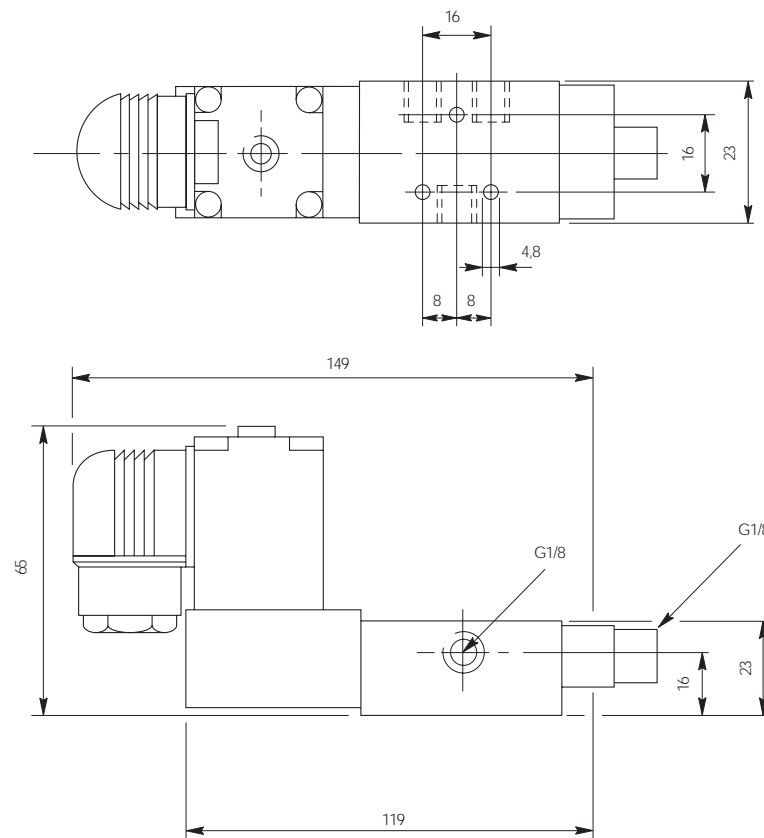
## Ordering information

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

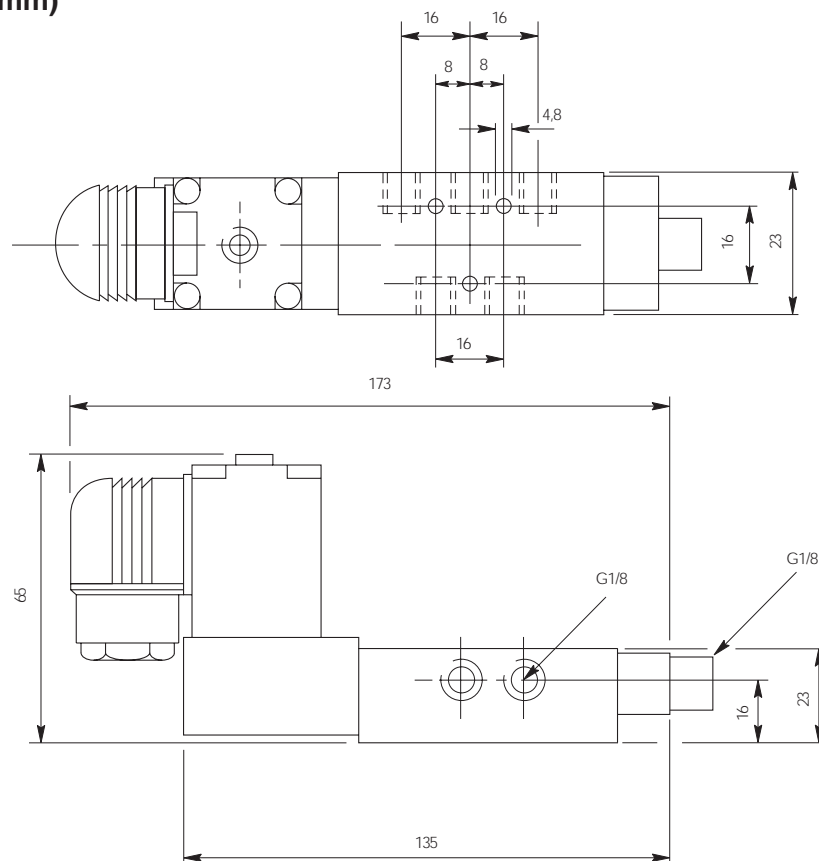
\*Specify voltage and add suffix letters  
For manual override add suffix M to part no.

# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 3/2 valve dimensions (mm)

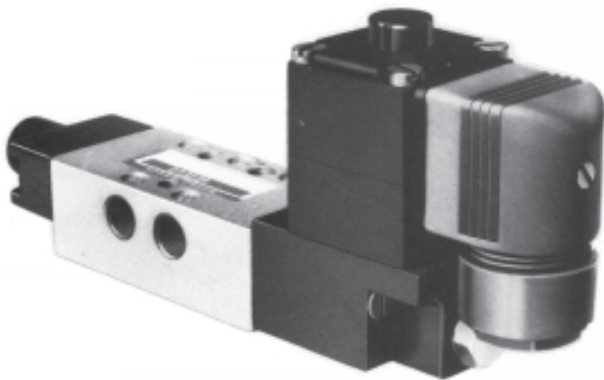


## 5/2 valve dimensions (mm)

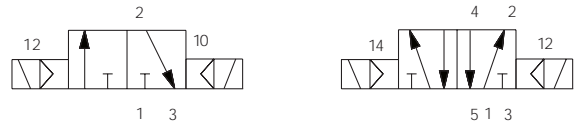


# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 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 <sup>1</sup> / <sub>8</sub>
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 <sup>3</sup> /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

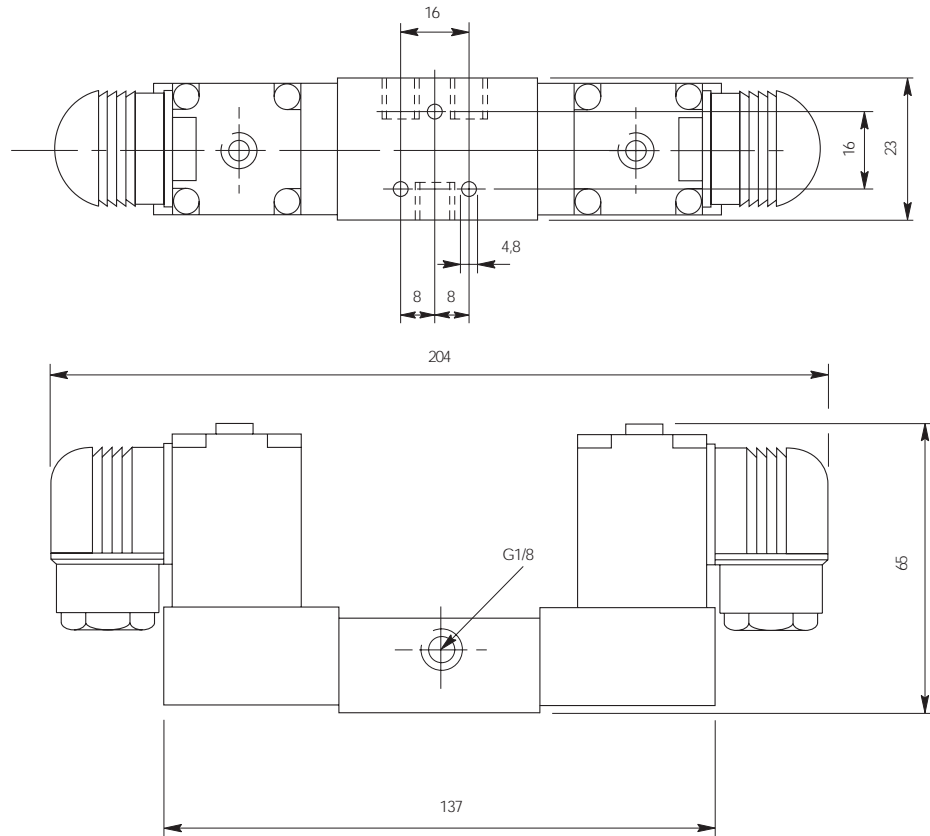
Part nos.	Type	Actuator	Return	Symbol
<b>LB43323*</b>	3/2	Solenoid pilot	Solenoid pilot	
<b>LB43324*</b>	5/2	Solenoid pilot	Solenoid pilot	

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

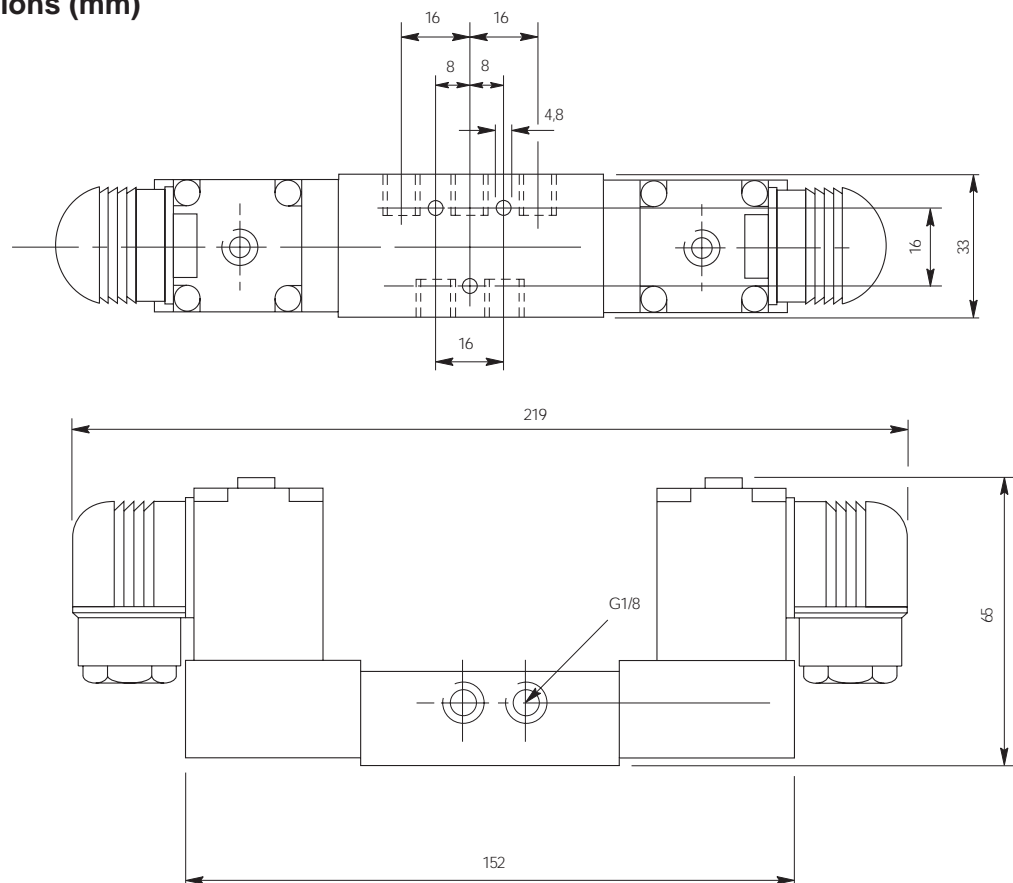


# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 3/2 valve dimensions (mm)

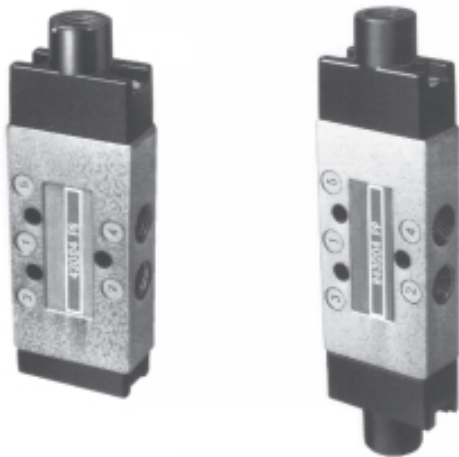


## 5/2 valve dimensions (mm)

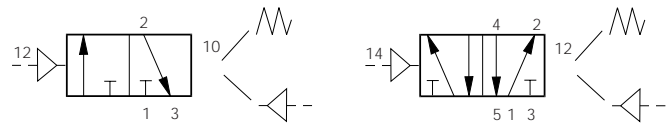


# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 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 <sup>1</sup> / <sub>8</sub>
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 <sup>3</sup> /s	
Cv factor	0,24	

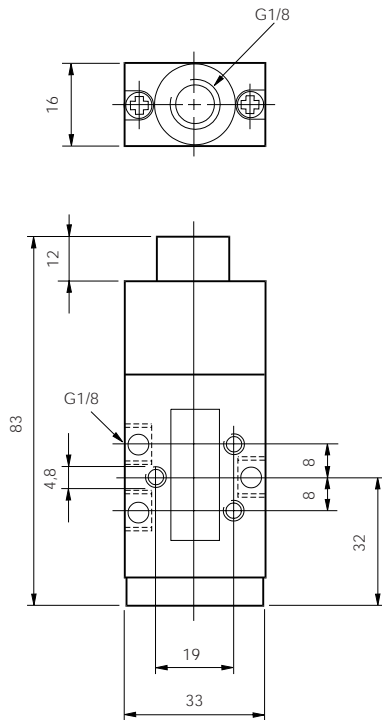
## Ordering information

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

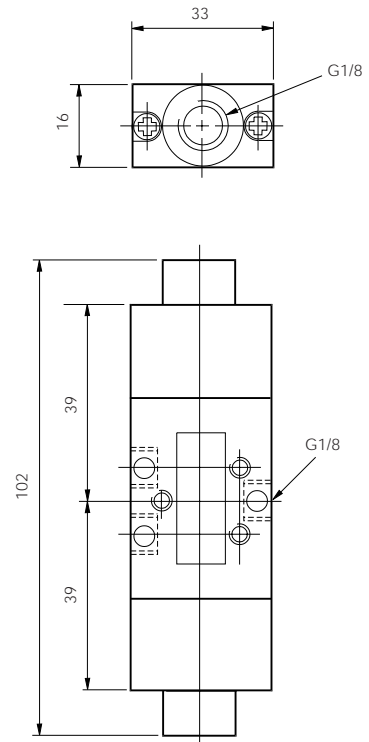
# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 3/2 valve dimensions (mm)

Air pilot operated  
spring return

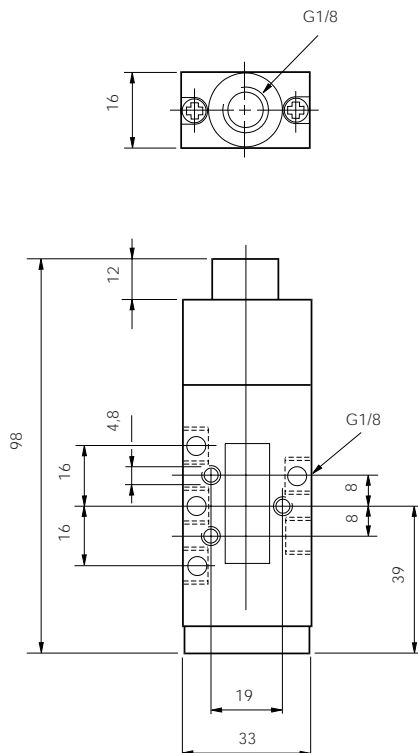


Air pilot operated  
Air pilot return

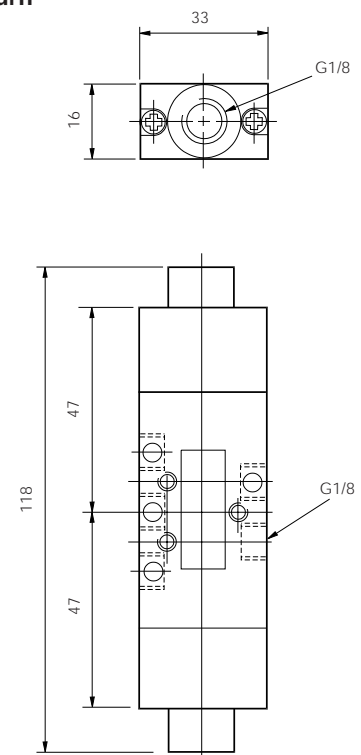


## 5/2 valve dimensions (mm)

Air pilot operated  
spring return



Air pilot operated  
Air pilot return

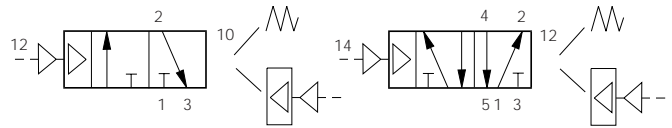


# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 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 <sup>1</sup> / <sub>8</sub>
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 <sup>3</sup> /s	
Cv factor	0,24	

## Ordering information

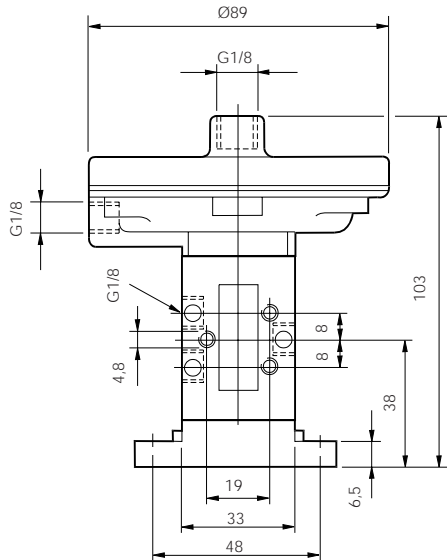
Part nos.	Type	Actuator	Return	Symbol
<b>B43003DF</b>	3/2	Diaphragm	Spring	
<b>B43004DF</b>	5/2	Diaphragm	Spring	
<b>B43003DD</b>	3/2	Diaphragm	Diaphragm	
<b>B43004DD</b>	5/2	Diaphragm	Diaphragm	
<b>B43004D-50</b>	Mounting bracket kit			

**Comprises:** 1 bracket, 3 bolts and nuts

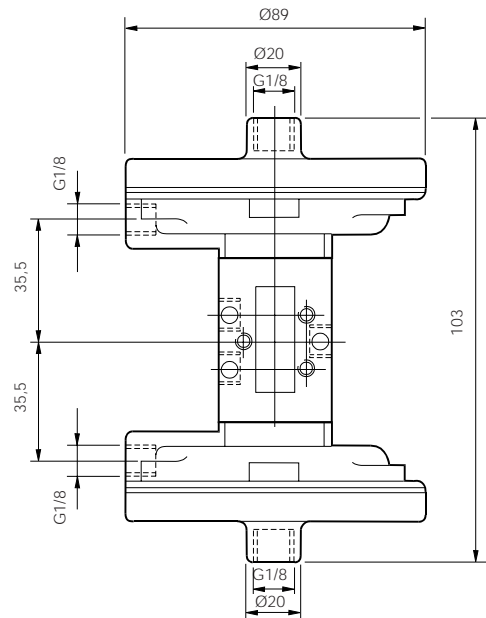
# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 3/2 valve dimensions (mm)

Diaphragm operated  
spring return

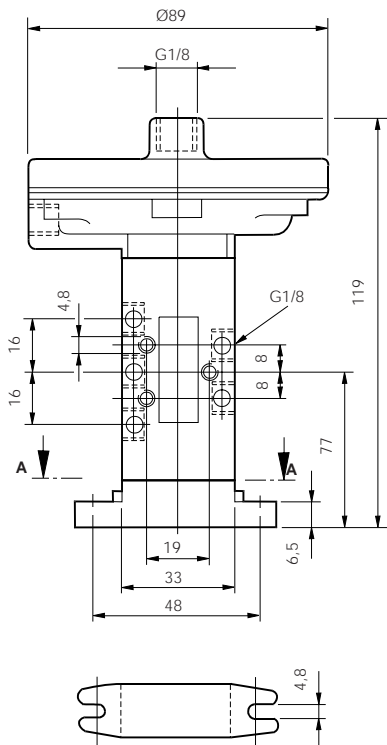


Diaphragm operated  
Diaphragm return

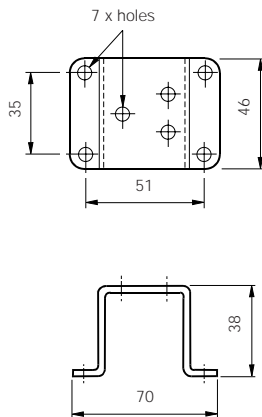


## 5/2 valve dimensions (mm)

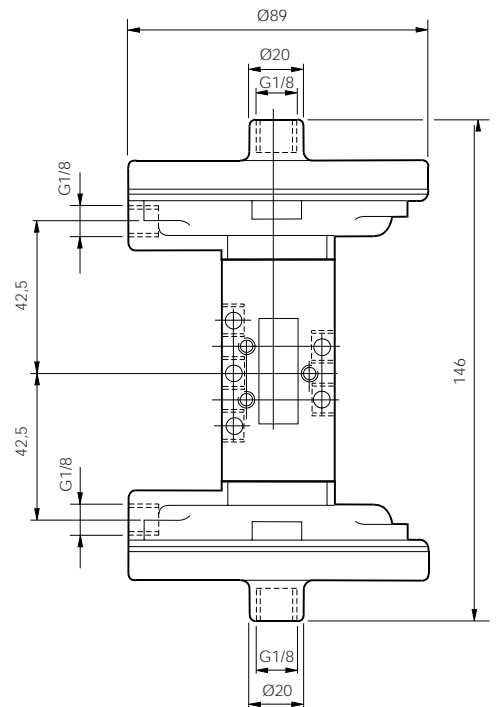
Diaphragm operated  
spring return



Mounting brackets

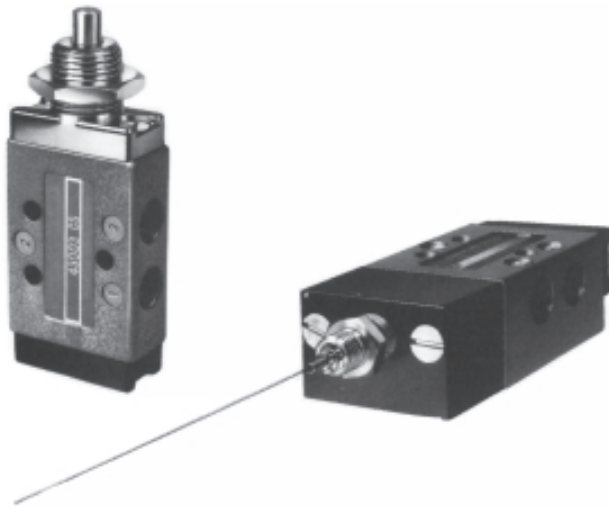


Diaphragm operated  
Diaphragm return

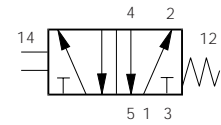
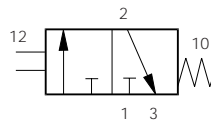


# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 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 <sup>1</sup> / <sub>8</sub>
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 <sup>3</sup> /s
Cv factor	0,24

## Ordering information

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

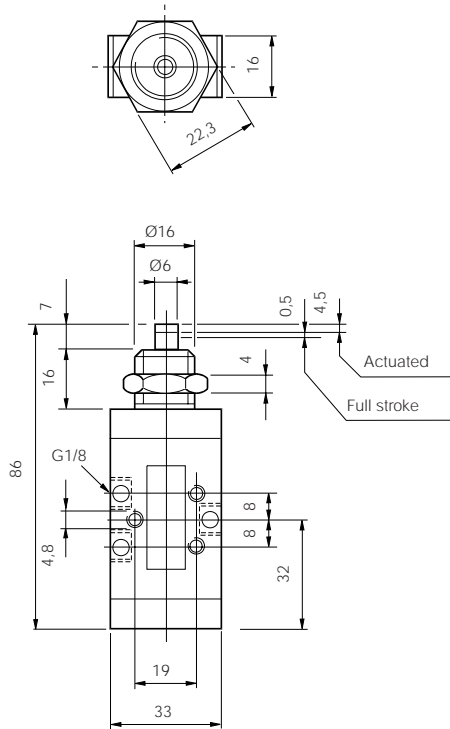
**Note:** All valves featured on this page are available with an air pilot return mechanism.

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

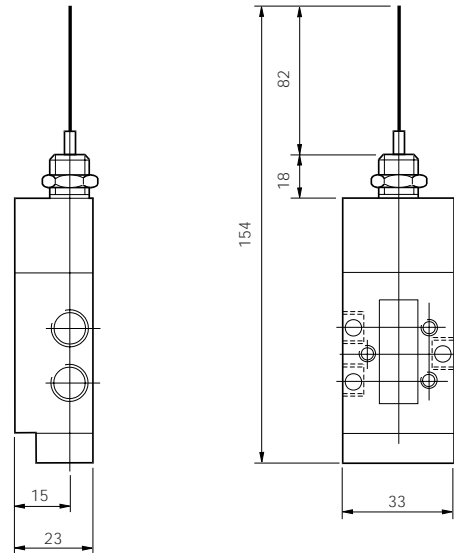
# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 3/2 valve dimensions (mm)

Plunger operated  
spring return

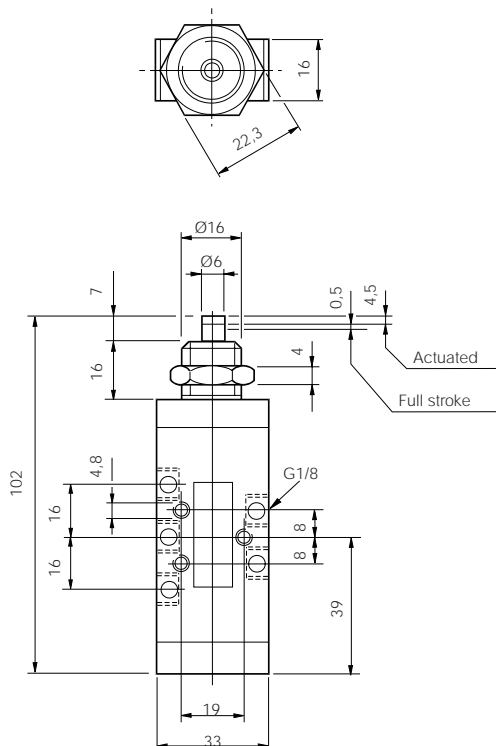


Whisker operated  
spring return

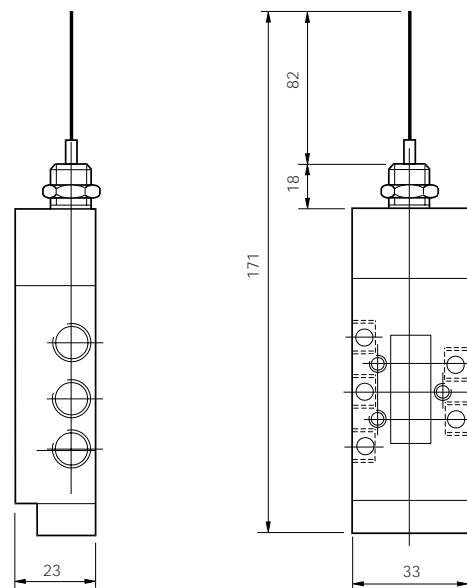


## 5/2 valve dimensions (mm)

Plunger operated  
spring return



Whisker operated  
spring return

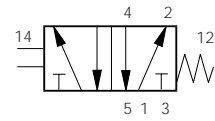
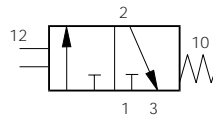


# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 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 <sup>1</sup> / <sub>8</sub>
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 <sup>3</sup> /s
Cv factor	0,24

## Ordering information

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

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

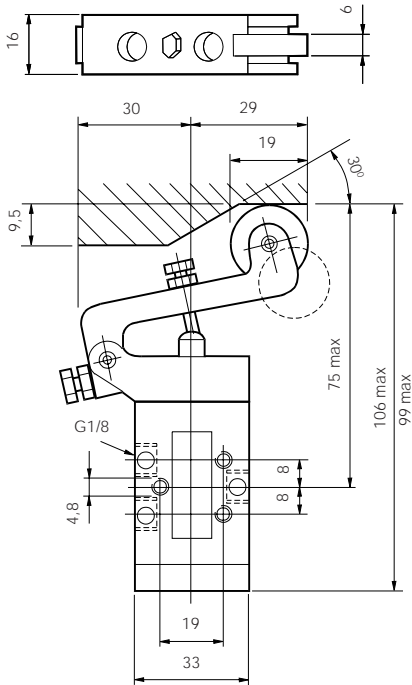
To order delete 'S' for spring and add 'P'. e.g. **B43003CP**  
For dimensions of air pilot housing see page 3.



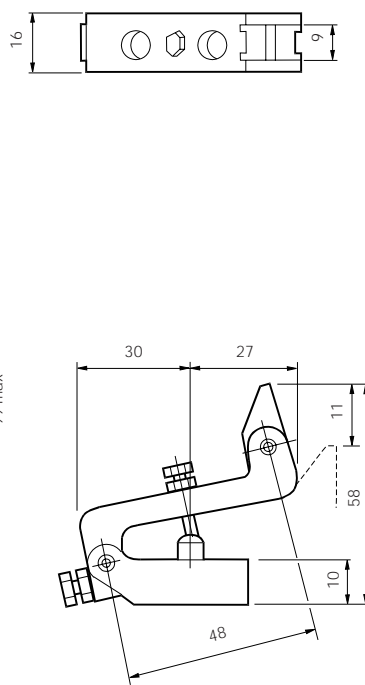
# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 3/2 valve dimensions (mm)

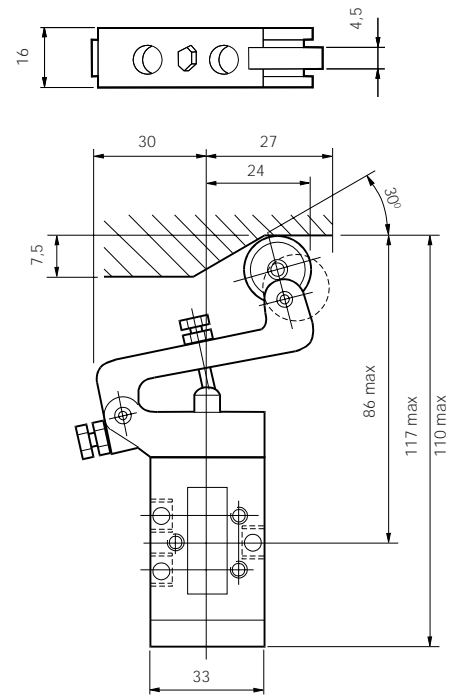
Roller operated  
spring return



One way trip

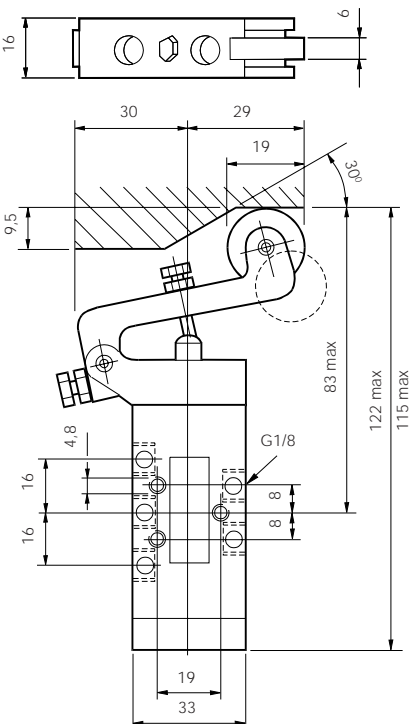


One way roller trip operated  
spring return

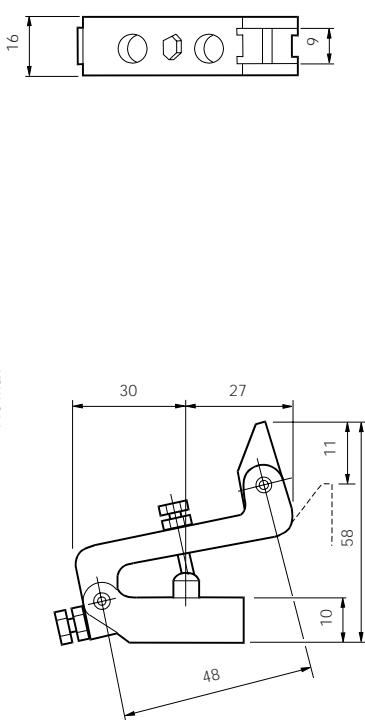


## 5/2 valve dimensions (mm)

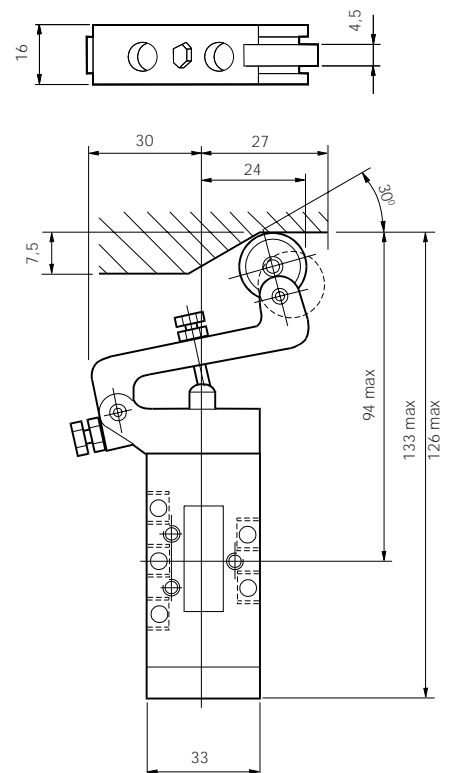
Roller operated  
spring return



One way trip



One way roller trip operated  
spring return

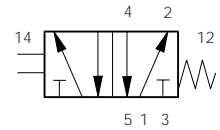
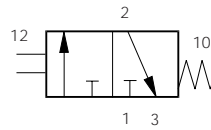


# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 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 <sup>1</sup> / <sub>8</sub>
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 <sup>3</sup> /s
Cv factor	0,24

## Ordering information

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

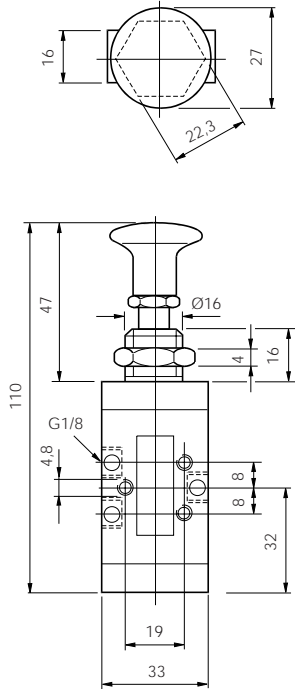
**Note:** All valves featured on this page are available with an air pilot return mechanism.

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

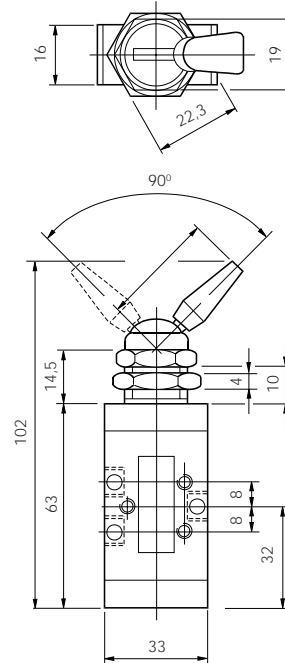
# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 3/2 valve dimensions (mm)

Button operated  
spring or button return

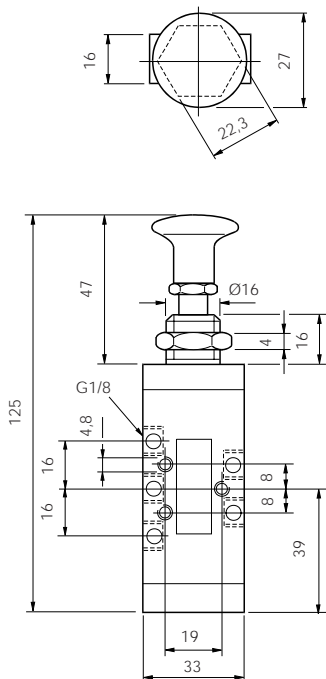


Lock down lever operated  
spring return

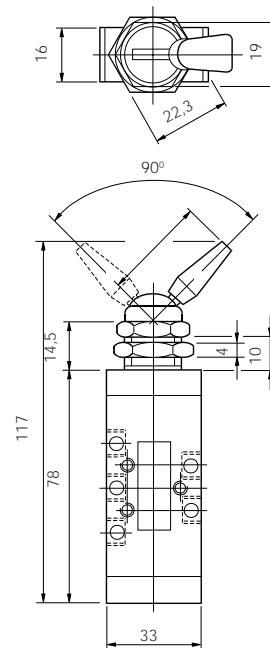


## 5/2 valve dimensions (mm)

Button operated  
spring or button return

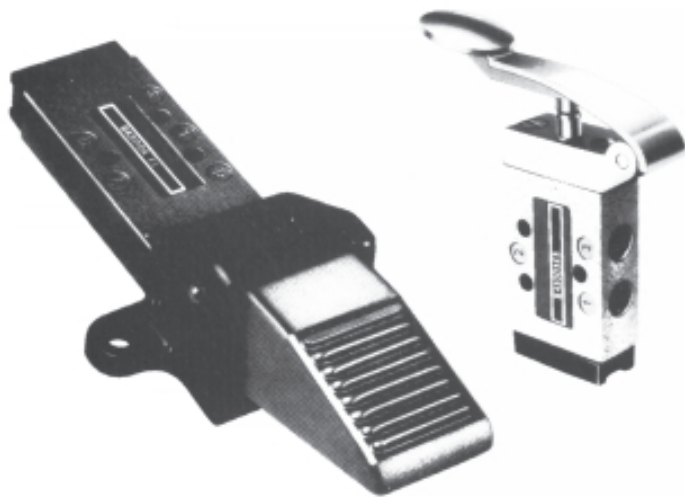


Lock down lever operated  
spring return

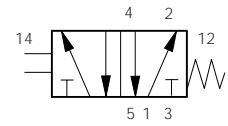
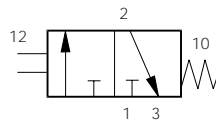


# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 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 <sup>1</sup> / <sub>8</sub>
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 <sup>3</sup> /s
Cv factor	0,24

## Ordering information

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

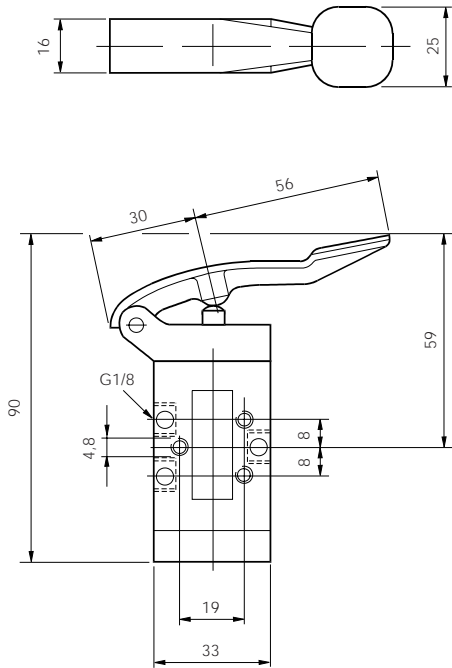
**Note:** All valves featured on this page are available with an air pilot return mechanism.

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

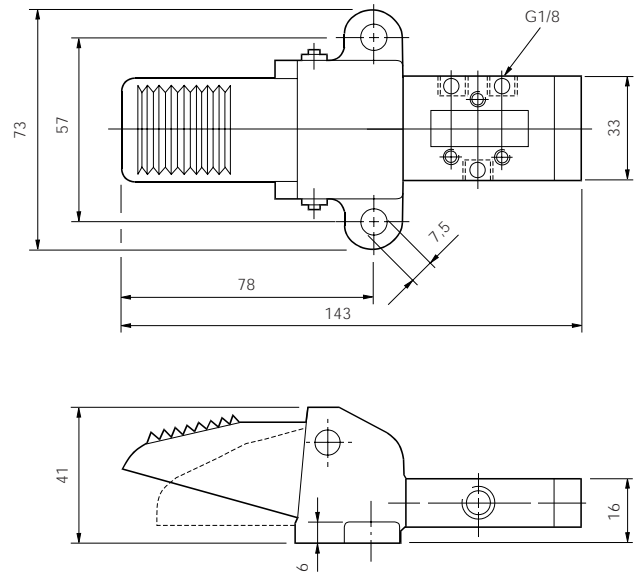
# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## 3/2 valve dimensions (mm)

Palm lever operated  
spring return

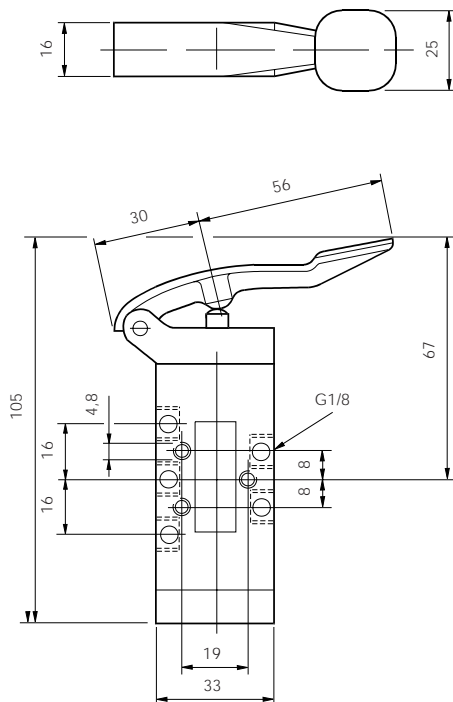


Foot pedal operated  
spring return

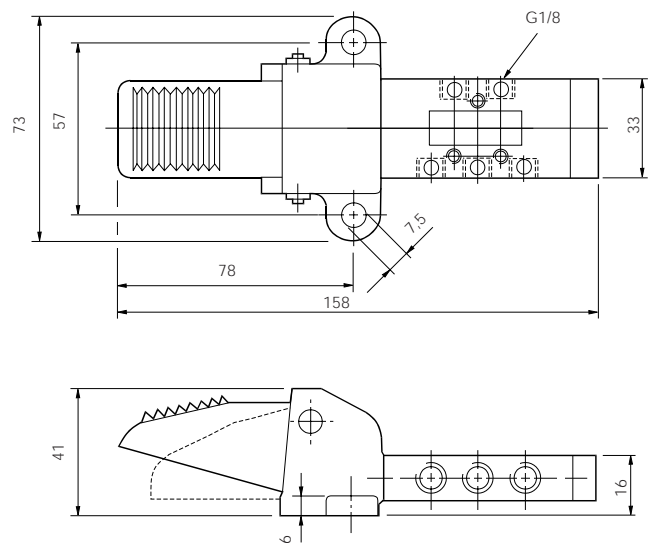


## 5/2 valve dimensions (mm)

Palm lever operated  
spring return

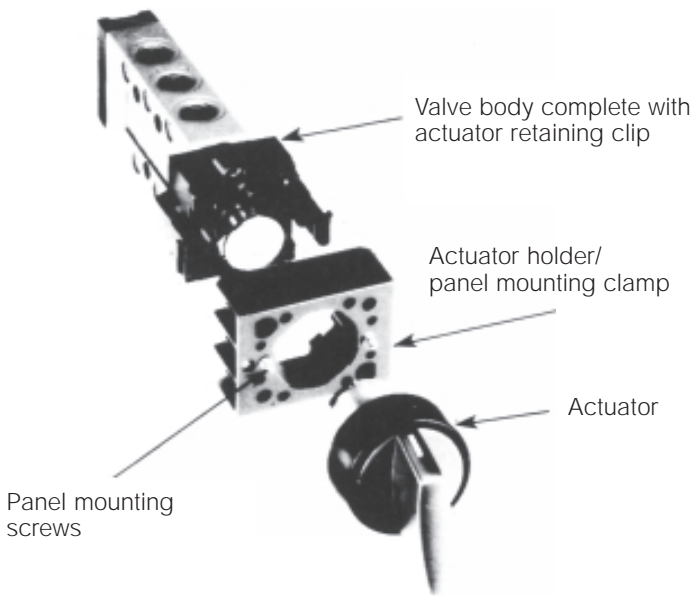


Foot pedal operated  
spring return

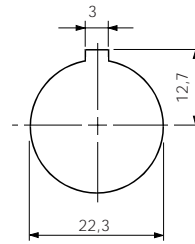


# Facia actuators Ø22mm, G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## The system



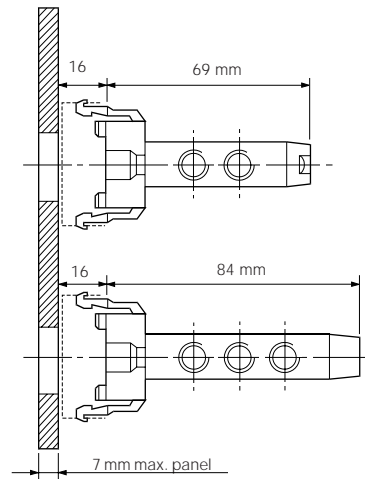
## Ø22mm



## Basic valve with adaptor

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

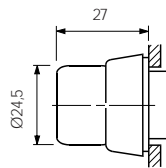
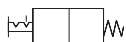
## Dimensions (mm)



## Mounting

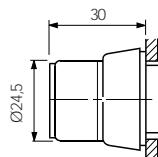
Assembly is simple; the actuators fit into the holder/panel mounting clamp with bayonet fixing. The panel mounting screws may then be tightened up to the panel as required and the valve body assembly clipped on. No seals or special tools are required, interchanging actuators or valve body assemblies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

## Latching trust button



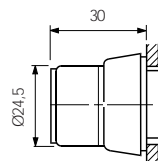
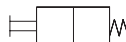
Colour	Order code
White	<b>33000-100UFWS</b>
Blue	<b>33000-100UFXS</b>

## Key switch latching



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

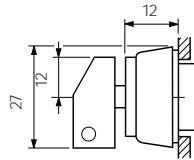
## Key switch non-latching



Locked position	Withdrawal position	Order code
Out	Un-locked	<b>33000-100KDS</b>
In	Locked	<b>33000-100KES</b>

# Directional control valves G<sup>1</sup>/<sub>8</sub> 3/2 - 5/2

## Key switch 'stay-put'



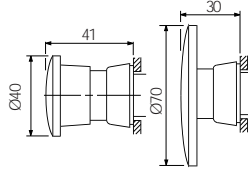
Withdrawal position

Order code

Either

**33000-100KFS**

## Emergency button



Colour Order code

Type

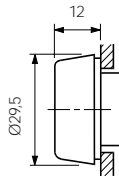
Red **33000-100BEYS** Ø40 Mushroom, key release

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**

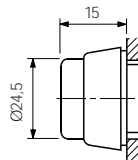
White **33000-100BAWS**

Black **33000-100BAXS**

Red **33000-100BAYS**

Green **33000-100BAZS**

## Raised push button



Colour

Order code

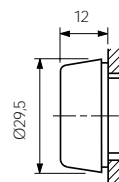
Yellow **33000-100BBTS**

Blue **33000-100BBUS**

Black **33000-100BBXS**

Red **33000-100BBYS**

## Push button with boot



Colour

Order code

Yellow **33000-100BCTS**

Blue **33000-100BCUS**

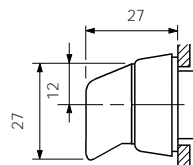
White **33000-100BCWS**

Black **33000-100BCXS**

Red **33000-100BCYS**

Green **33000-100BCZS**

## Latching selector knob



Colour

Order code

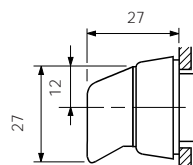
White **33000-100UAWS**

Black **33000-100UAXS**

Red **33000-100UAYS**

Green **33000-100UAZS**

## Non latching selector knob



Colour

Order code

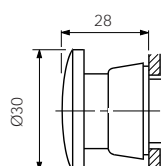
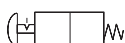
White **33000-100UBWS**

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**