



Directional Control Valves

*G¹/₄, 3/2, 5/2, 3/3 and 5/3
Spool valves*



Directional control valves G¹/₄

3/2, 5/2, 3/3, 5/3 Spool Valves G¹/₄ Ports

This quality and proven range of valves feature a block form zinc diecast body passivated to prevent corrosion and designed to allow complete interchangeability of actuators and return mechanisms. The stainless steel spool is sealed by synthetic viton 'O' rings, with unique seal spacers to ensure full air flow through the open ports. Non corrosive materials are used on all operating parts exposed to the working fluid.

Individual valves may be mounted in any position, the block form construction is particularly convenient for compact banking. Valves may be serviced in-situ by removal of the actuator, facilitating extraction of the spool and 'O' rings.

Tell-tale indicators on both solenoid and pilot operated valves can be used to check the position of the main spool or as a manual over-ride.

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.

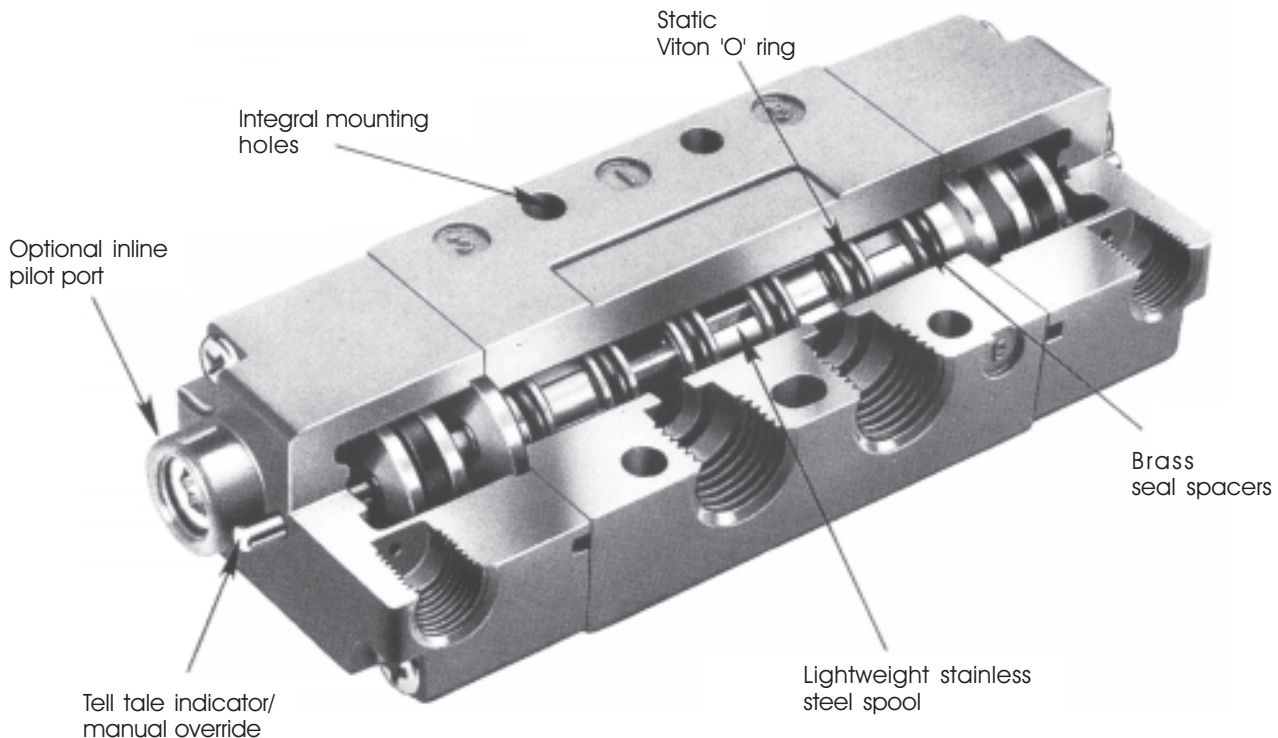
Centre position valves; either spring to centre or 3-position (detented mid-position) are available in the following configurations:

Neutral X - Spool in mid-position - all ports closed.

Negative Y - Spool in mid-position - Cylinder ports open to exhaust, inlet closed.

Positive Z - Spool in mid-position - both cylinder ports open to inlet, exhaust closed.

Features

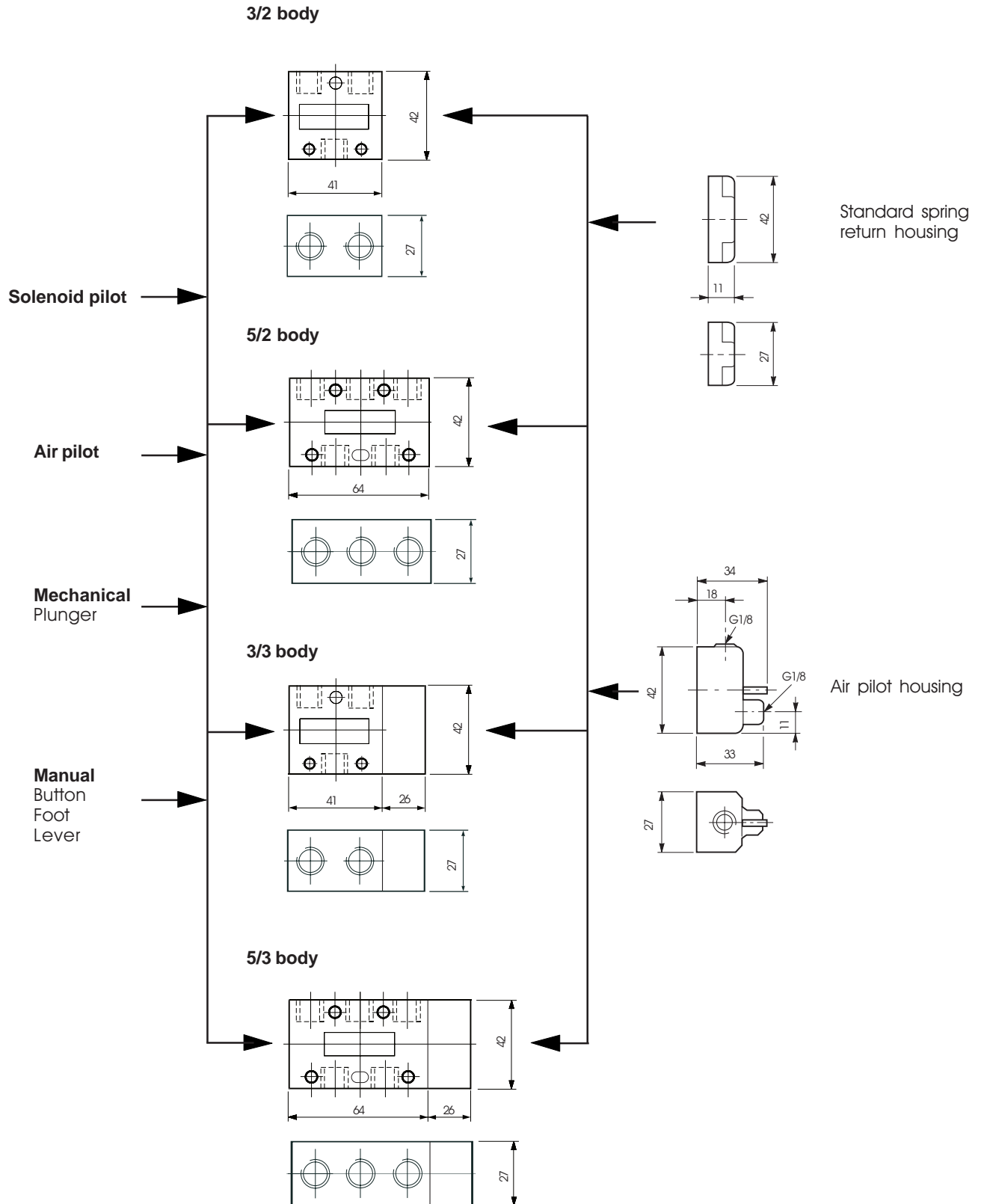


Basic body dimensions (mm)

Actuator mechanisms

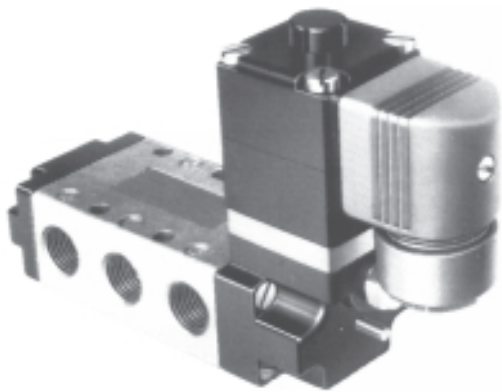
Basic bodies

Return mechanisms



Directional control valves G¹/₄, 3/2 - 5/2

Solenoid pilot operated 5 watt solenoid



Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₄
Mounting	Any plane
Temperature range	-10°C to +55°C

Pneumatic information

Pressure range	0 to 10 bar
Minimum pilot pressure	2,7 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

Electrical information

Power consumption	Inrush	Hold
AC	14VA	9VA
DC	5 Watt	
Rating	100% ED	
Isolating class	F	
Protection class	IP 65 (P 54) DIN 40 050	
Connection	DIN 43 650 Form B	

Voltage selection

Suffix	50 Hz	D.C.
T	10-13	5-6.5
TA	2-26	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

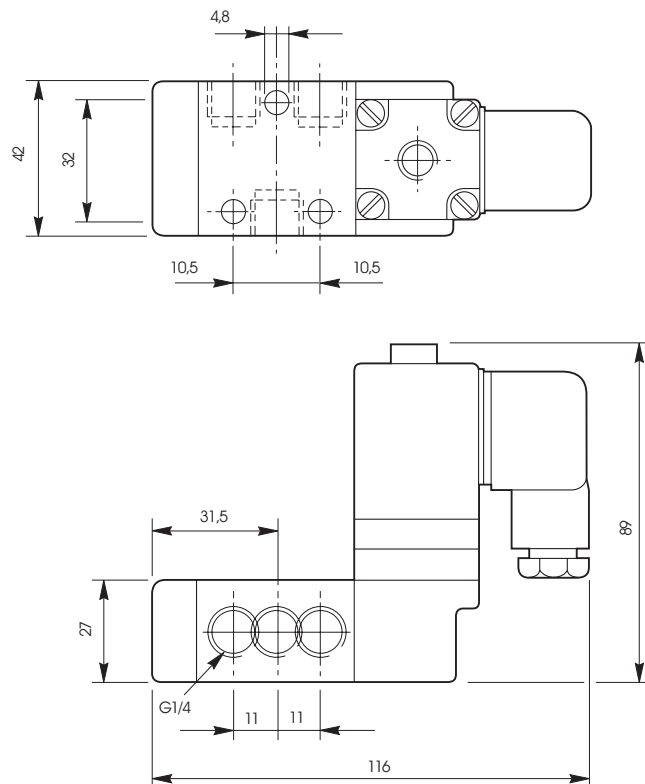
Ordering information

Part nos.	Type	Actuator	Return	Symbol
LB53013*	3/2	Solenoid pilot	Spring	
LB53014*	5/2	Solenoid pilot	Spring	

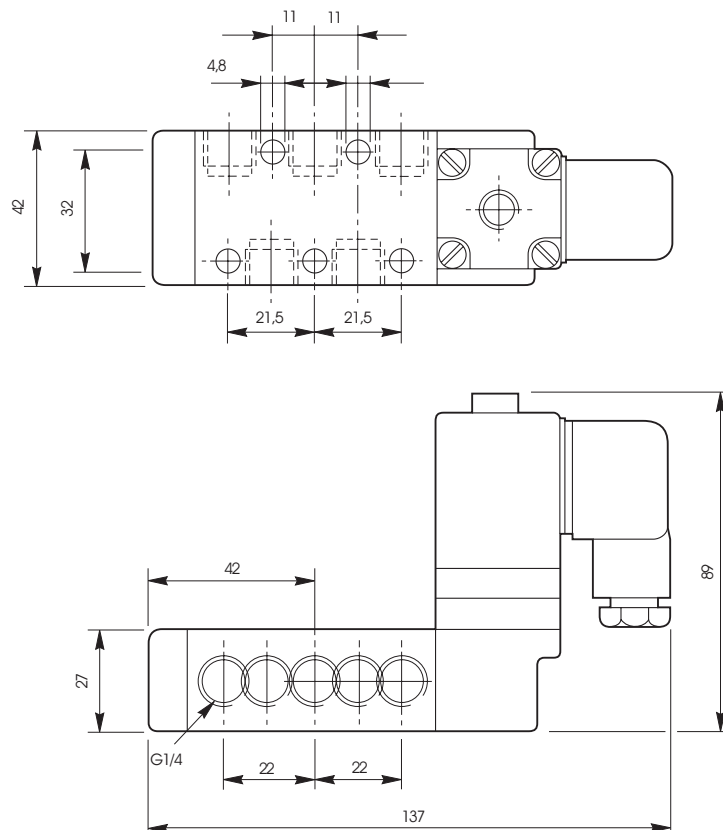
*Specify voltage and add suffix letters
For manual override add suffix M.

Directional control valves G¹/₄, 3/2 - 5/2

3/2 valve dimensions (mm)

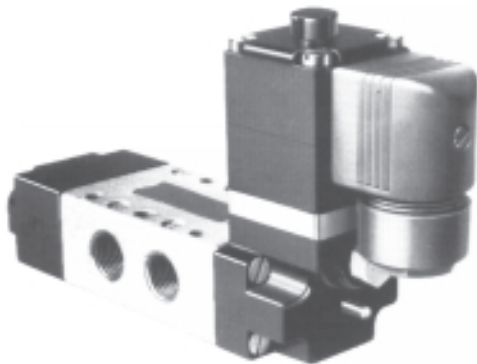


5/2 valve dimensions (mm)



Directional control valves G¹/₄, 3/2 - 5/2

Solenoid pilot operated 5 watt solenoid



Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₄
Mounting	Any plane
Temperature range	-10°C to +55°C

Pneumatic information

Pressure range	0 to 10 bar
Minimum pilot pressure	2,7 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

Electrical information

Power consumption	Inrush	Hold
AC	14VA	9VA
DC	5 Watt	
Rating	100% ED	
Isolating class	F	
Protection class	IP 65 (P 54) DIN 40 050	
Connection	DIN 43 650 Form B	

Voltage selection

Suffix	50 Hz	D.C.
T	10-13	5-6.5
TA	2-26	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

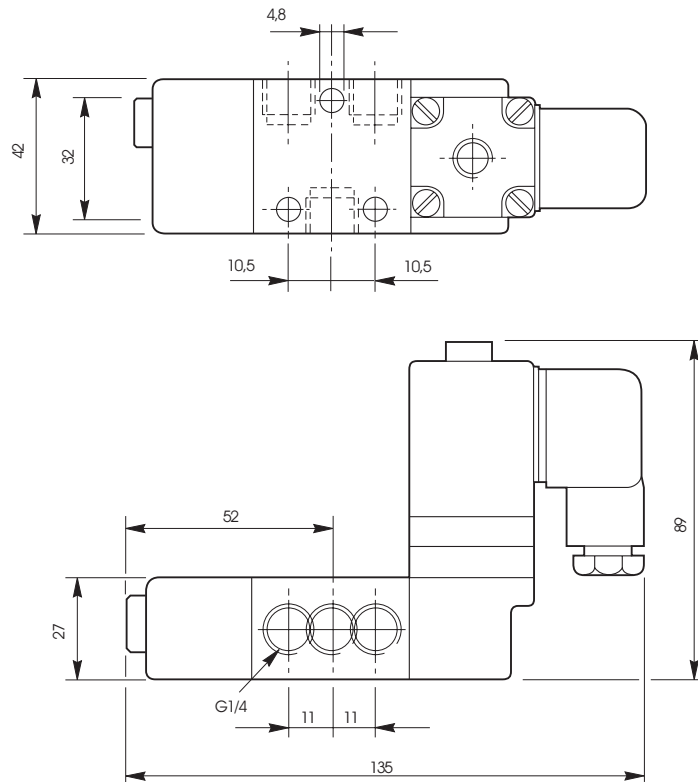
Ordering information

Part nos.	Type	Actuator	Return	Symbol
LB53033*	3/2	Solenoid pilot	Air pilot	
LB53034*	5/2	Solenoid pilot	Air pilot	

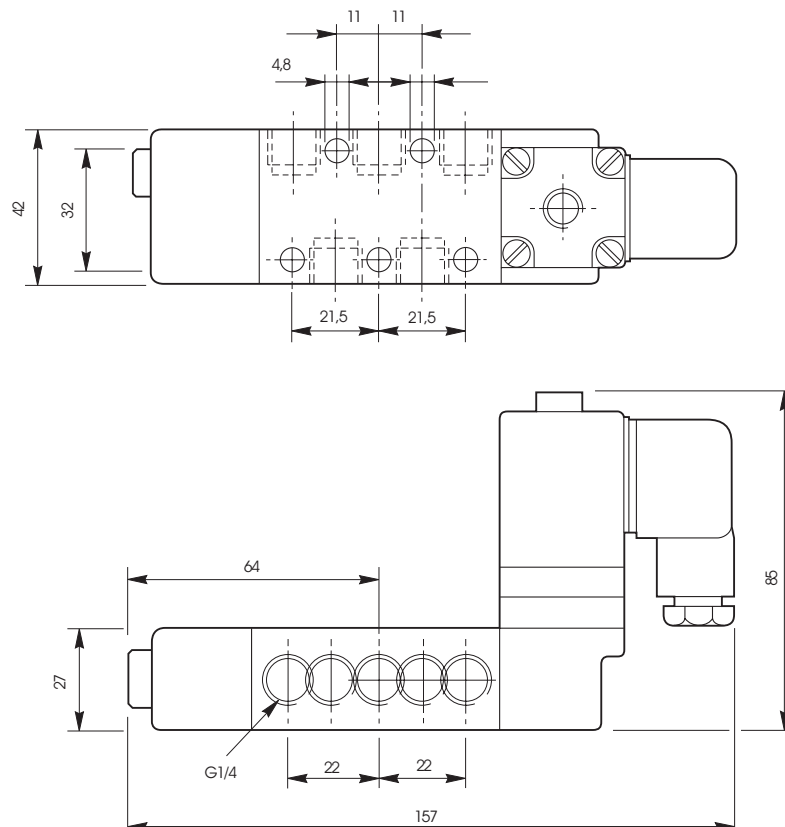
*Specify voltage and add suffix letters
For manual override add suffix M.

Directional control valves G¹/₄, 3/2 - 5/2

3/2 valve dimensions (mm)

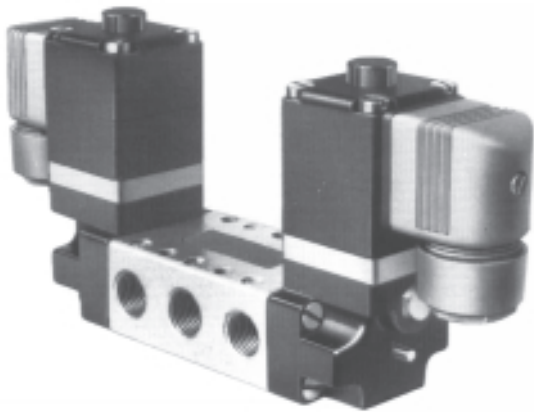


5/2 valve dimensions (mm)

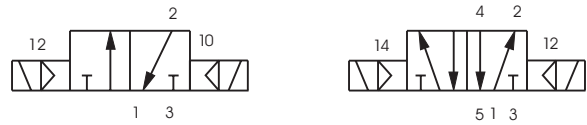


Directional control valves G¹/₄, 3/2 - 5/2

Solenoid pilot operated 5 watt solenoid



Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₄
Mounting	Any plane
Temperature range	-10°C to +55°C

Pneumatic information

Pressure range	0 to 10 bar
Minimum	Spring return 2,7 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

Electrical information

Power consumption	Inrush	Hold
AC	14VA	9VA
DC	5 Watt	
Rating	100% ED	
Isolating class	F	
Protection class	IP 65 (P 54) DIN 40 050	
Connection	DIN 43 650 Form B	

Voltage selection

Suffix	50 Hz	D.C.
T	10-13	5-6.5
TA	2-26	10-13
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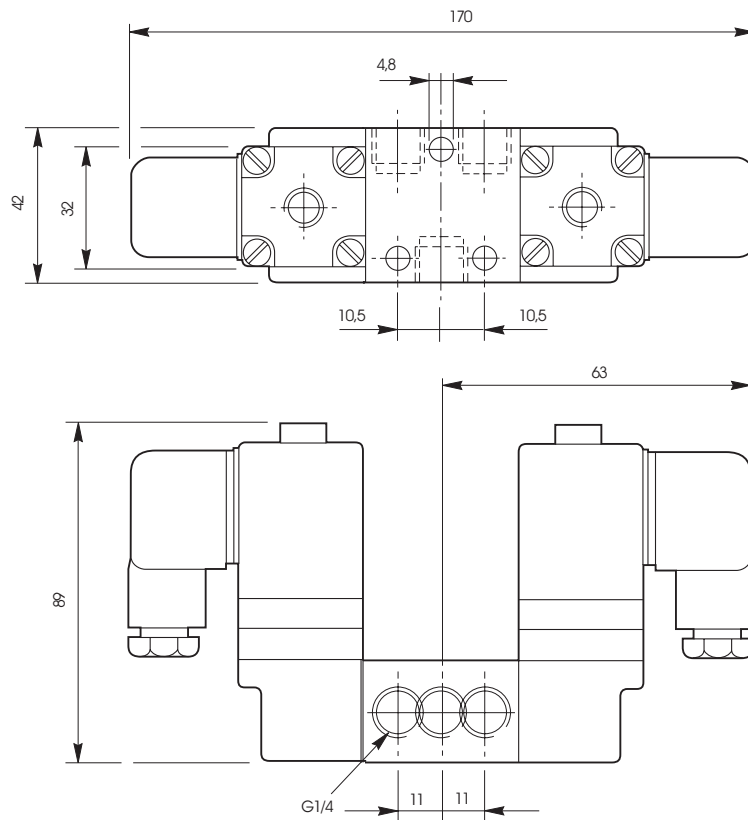
Ordering information

Part nos.	Type	Actuator	Return	Symbol
LB53033*	3/2	Solenoid pilot	Air pilot	
LB53034*	5/2	Solenoid pilot	Air pilot	

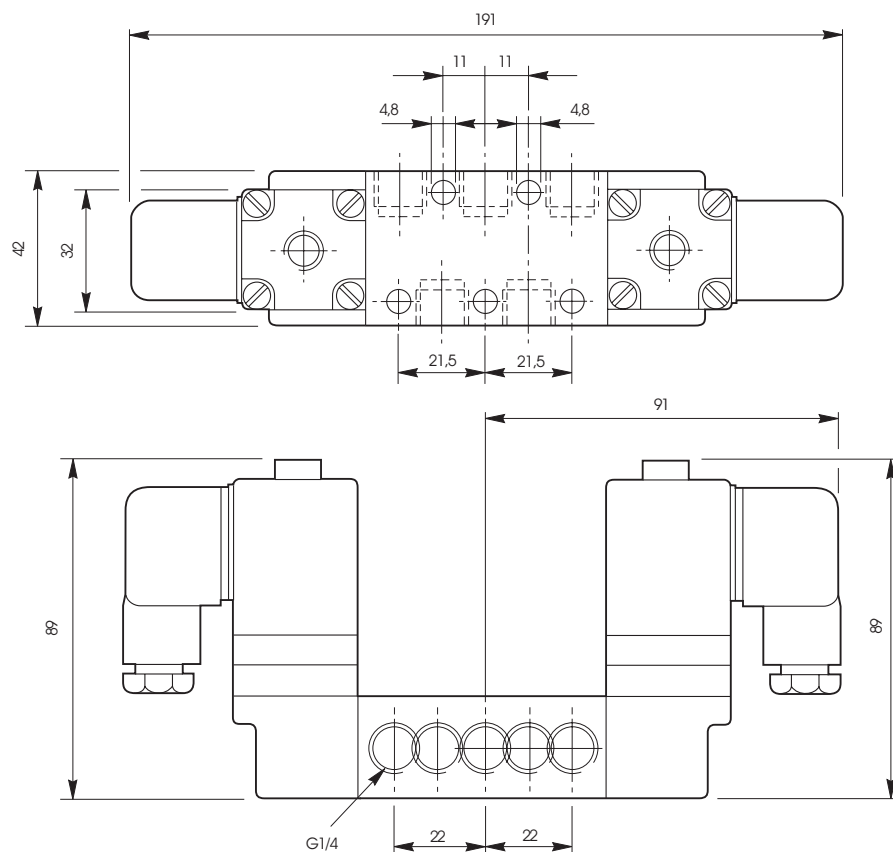
*Specify voltage and add suffix letters
For manual override add suffix M.

Directional control valves G¹/₄, 3/2 - 5/2

3/2 valve dimensions (mm)

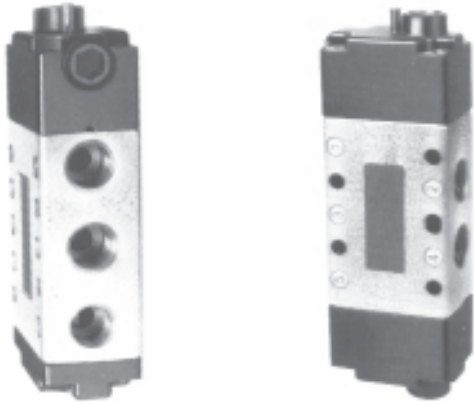


5/2 valve dimensions (mm)

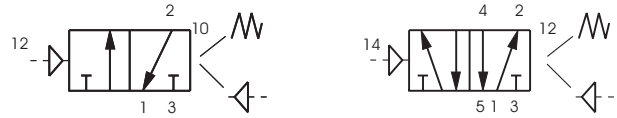


Directional control valves G^{1/4}, 3/2 - 5/2

Air pilot operated valves



Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ^{1/4}
Mounting	Any plane
Temperature range	-10°C to +80°C

Pneumatic information

Pressure range	0 to 10 bar
Minimum pilot pressure	Spring return 2,7 bar Air pilot return 1,3 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

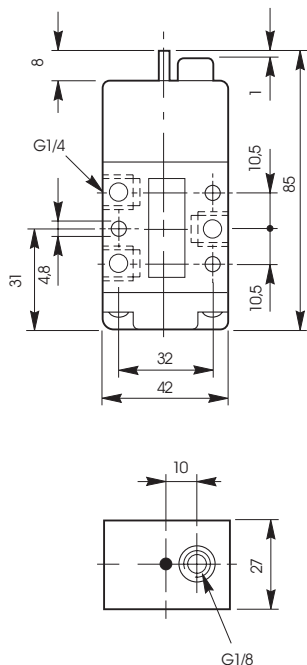
Ordering information

Part nos.	Type	Actuator	Return	Symbol
B53003PS	3/2	Air pilot	Spring	
B53004PS	5/2	Air pilot	Spring	
B53003PP	3/2	Air pilot	Air pilot	
B53004PP	5/2	Air pilot	Air pilot	
B53003J	3/2	Air pilot	Differential pilot	
B53004J	5/2	Air pilot	Differential pilot	

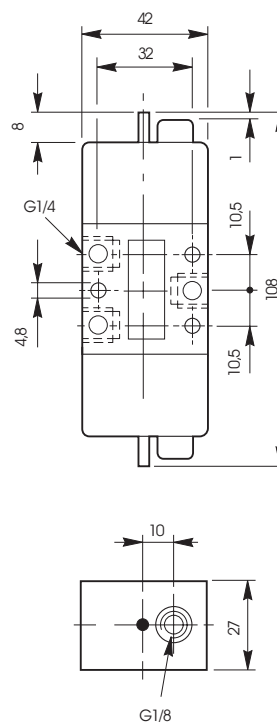
Directional control valves G¹/₄, 3/2 - 5/2

3/2 valve dimensions (mm)

Air pilot operated
spring return

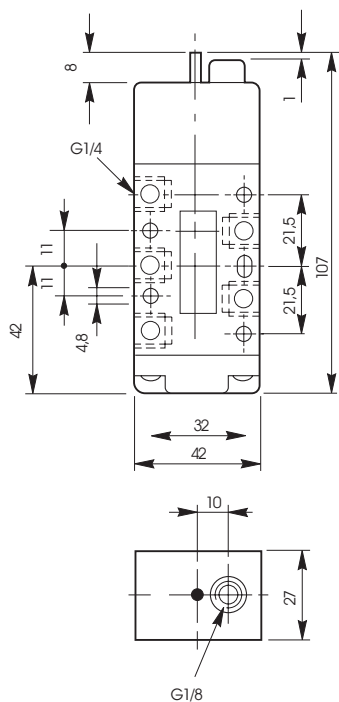


Double air pilot operated

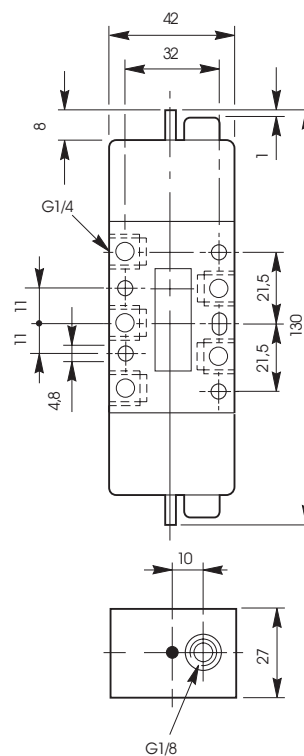


5/2 valve dimensions (mm)

Air pilot operated
spring return



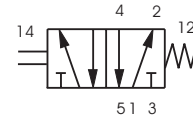
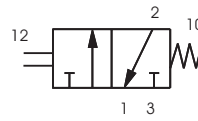
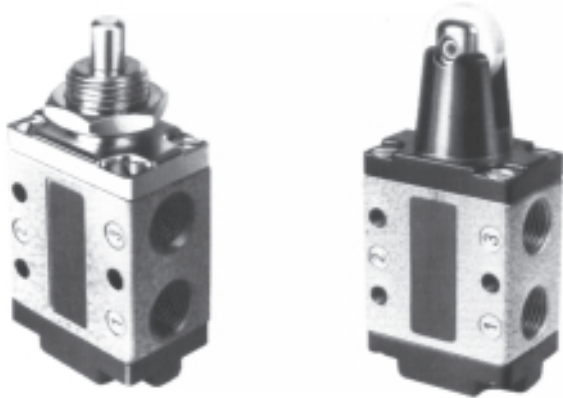
Double air pilot operated



Directional control valves G¹/₄, 3/2 - 5/2

Mechanically operated valves

Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₄
Mounting	Any plane
Temperature range	-10°C to +80°C

Pneumatic information

Pressure range	0 to 10 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

Ordering information

Part nos.	Type	Actuator	Return	Symbol	Optional air pilot return
B53003CS	3/2	Plunger	Spring		
B53004CS	5/2	Plunger	Spring		
B53003RS	3/2	Roller	Spring		
B53004RS	5/2	Roller	Spring		

Note: All valves featured on this page are available with air pilot return mechanisms. To order delete 'S' for spring and add 'P' e.g. **B53003CP**.

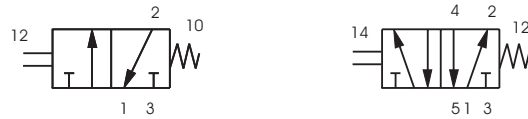
For dimensions of air pilot housing see page

Directional control valves G¹/₄, 3/2 - 5/2

Manually operated valves



Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₄
Mounting	Any plane
Temperature range	-10°C to +80°C

Pneumatic information

Pressure range	0 to 10 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

Ordering information

Part nos.	Type	Actuator	Return	Symbol	Optional air pilot return
B53003HXS	3/2	Button	Spring		
B53004HXS	5/2	Button	Spring		
B53003HX	3/2	Button	Spring		
B53004HX	5/2	Button	Spring		
B53003LS	3/2	Lever	Spring		
B53004LS	5/2	Lever	Spring		
B53003LT	3/2	Lock down lever			
B53004LT	5/2	Lock down lever			
M53004L-10A	Panel mounting plate				

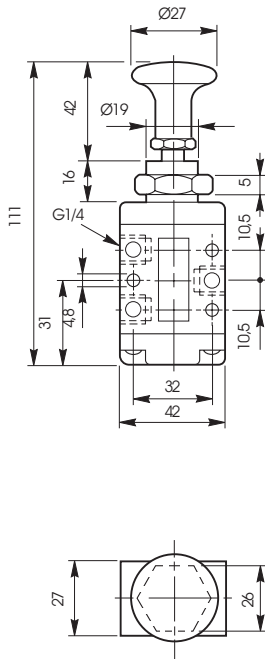
Note: All valves featured on this page are available with an air pilot return mechanism.

To order delete 'S' for spring and add 'P'. e.g. **B53003CP**
For dimensions of air pilot housing see page

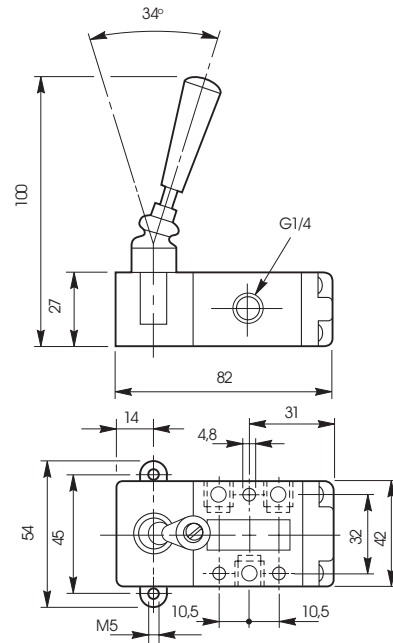
Directional control valves G¹/₄, 3/2 - 5/2

3/2 valve dimensions (mm)

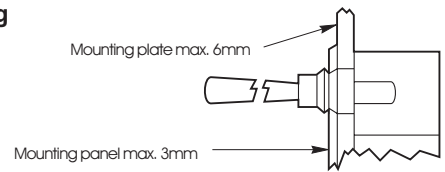
Button operated spring return



Lever operated spring return

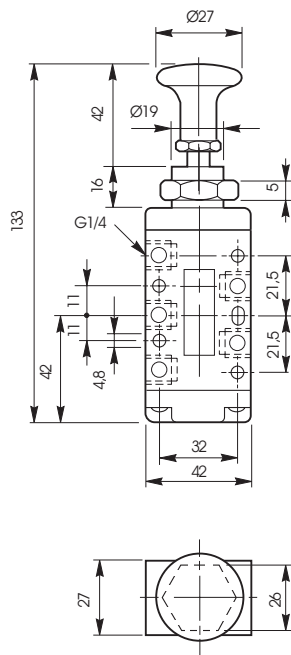


Panel mounting

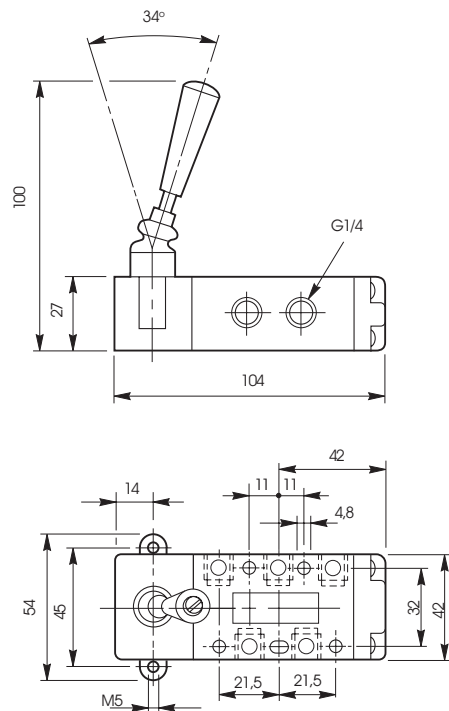


5/2 valve dimensions (mm)

Button operated spring return



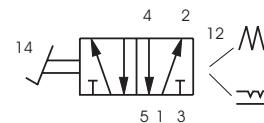
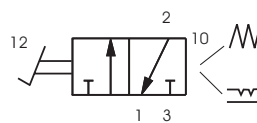
Lever operated spring return



Directional control valves G¹/₄, 3/2 - 5/2

Manually operated valves

Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₄
Mounting	Any plane
Temperature range	-10°C to +80°C

Pneumatic information

Pressure range	0 to 10 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

Ordering information

Part nos.	Type	Actuator	Return	Symbol	Optional air pilot return
B53003FS	3/2	Foot pedal	Spring		
B53004FS	5/2	Foot pedal	Spring		
B53003G	3/2	Foot pedal	Foot pedal		
B53004G	5/2	Foot pedal	Foot pedal		

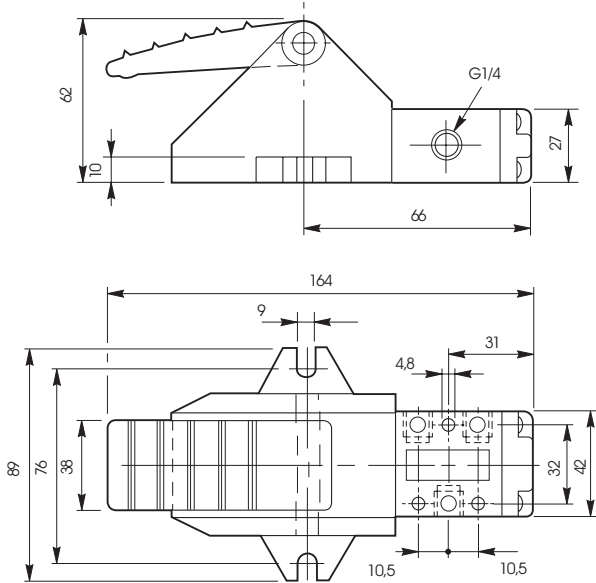
Note: For details of foot guard kits see page

Spring return valves are available with an air pilot return mechanism. To order delete 'S' for spring and add 'P'.
e.g. **B53003FP**

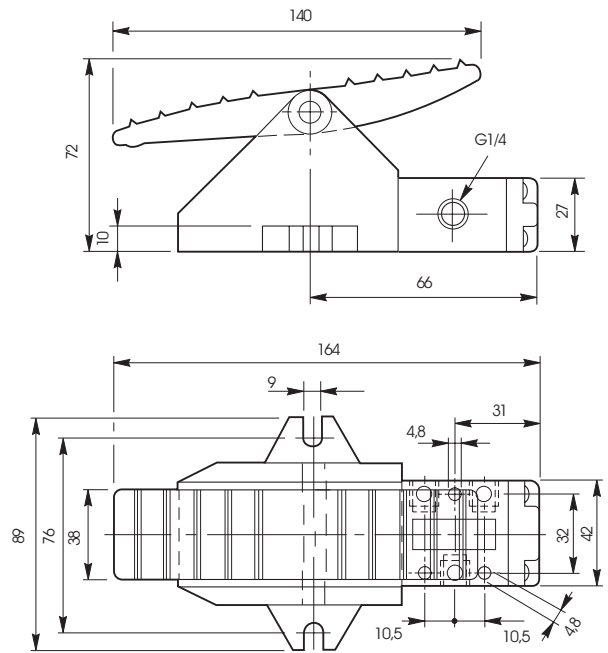
Directional control valves G¹/₄, 3/2 - 5/2

3/2 valve dimensions (mm)

Foot pedal operated
spring return

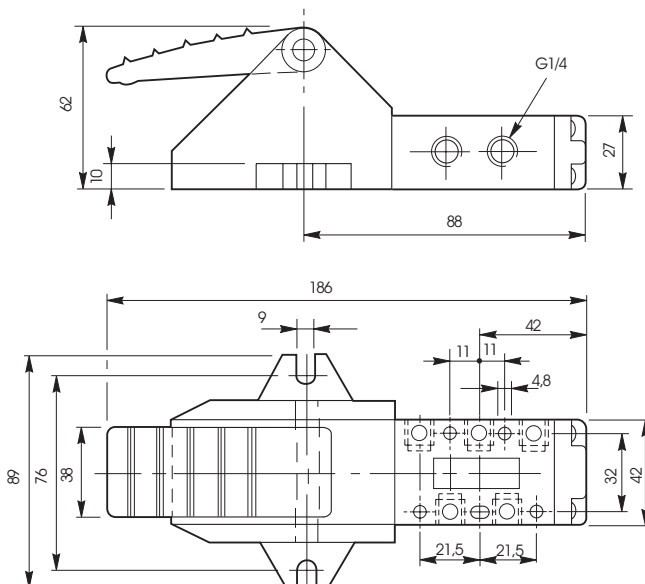


Foot pedal operated

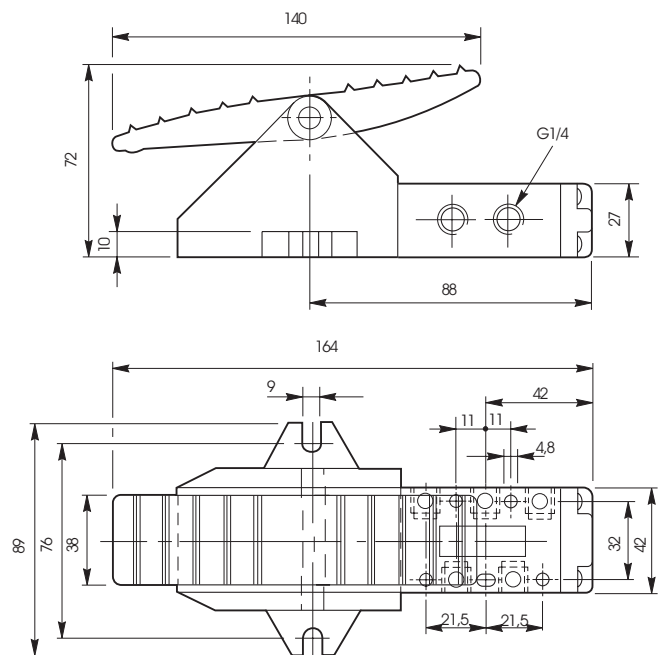


5/2 valve dimensions (mm)

Foot pedal operated
spring return

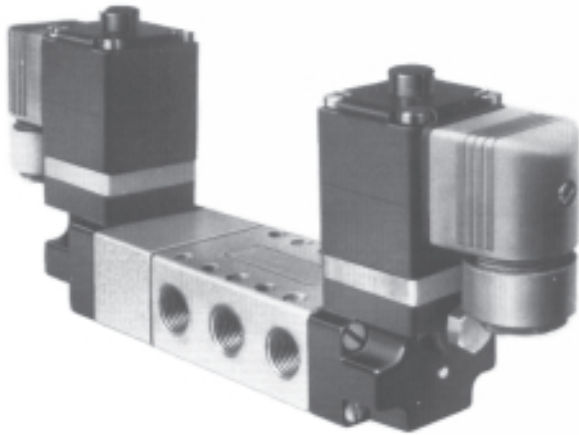


Foot pedal operated

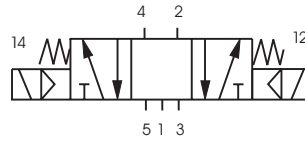


Directional control valves G¹/₄, - 5/3

**Double solenoid pilot operated
5 watt solenoid
Self centring valves**



Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₄
Mounting	Any plane
Temperature range	-10°C to +55°C

Pneumatic information

Pressure range	0 to 10 bar
Minimum Spring return	1,7 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

Electrical information

Power consumption	Inrush	Hold
	AC 14VA	9VA
	DC 5 Watt	
Rating	100% ED	
Isolating class	F	
Protection class	IP 65 (P 54) DIN 40 050	
Connection	DIN 43 650 Form B	

Voltage selection

Suffix	50 Hz	D.C.
T	10-13	5-6.5
TA	2-26	10-13
T F	44-55	21-26
T C	85-110	43-55
S	94-121	54-69
T S	153-242	94-121
SA	204-264	102-132

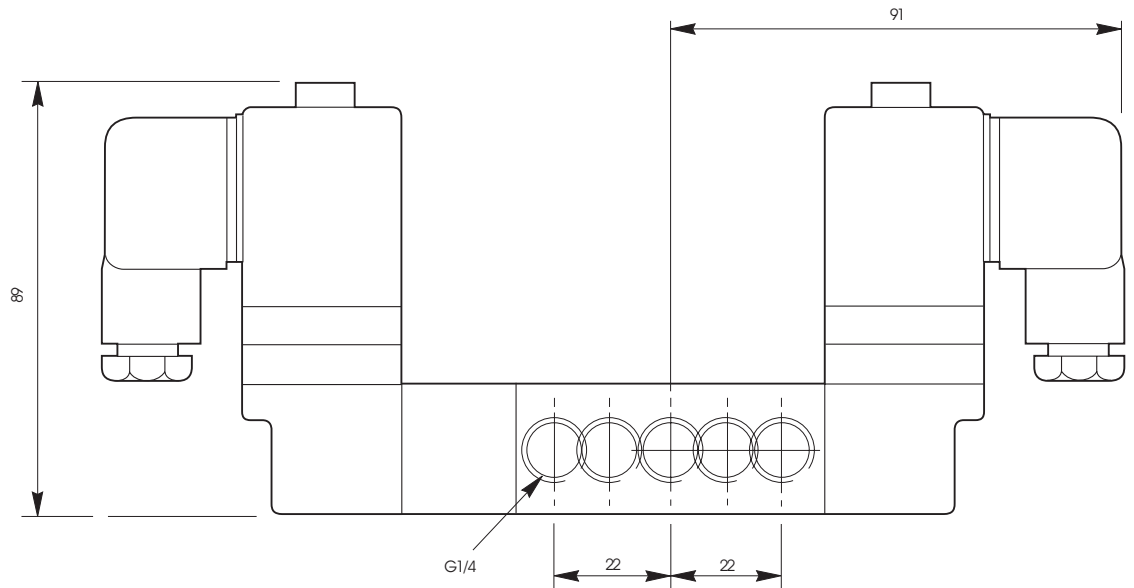
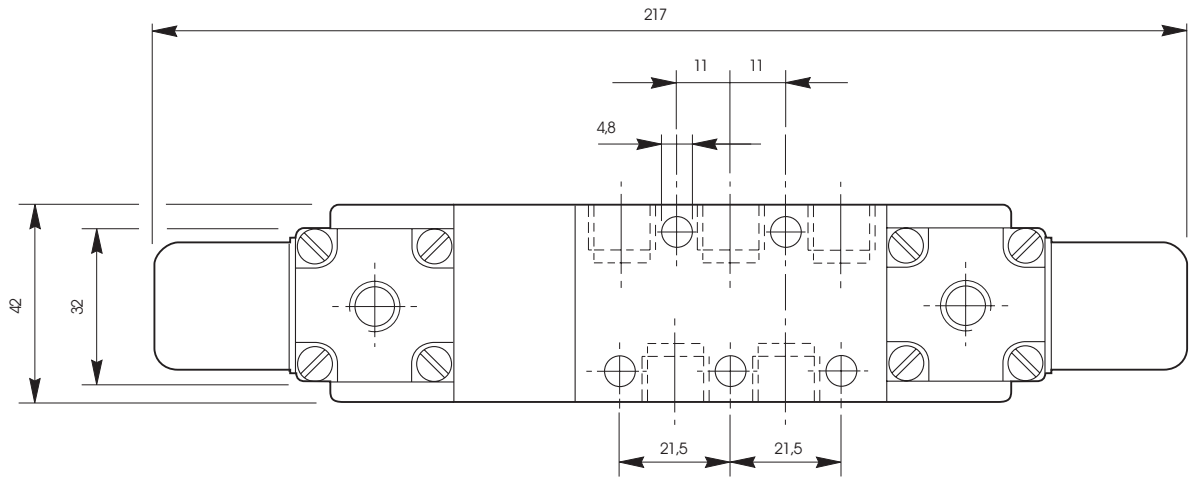
Ordering information

Part nos.	Type	Actuator	Return	Mid	Symbol
LB53024X*	5/3	Solenoid pilot	Solenoid pilot	Neutral	
LB53024Y*	5/3	Solenoid pilot	Solenoid pilot	Negative	
LB53024Z*	5/3	Solenoid pilot	Solenoid pilot	Positive	

*Specify voltage and add suffix letters
For manual override add suffix M.

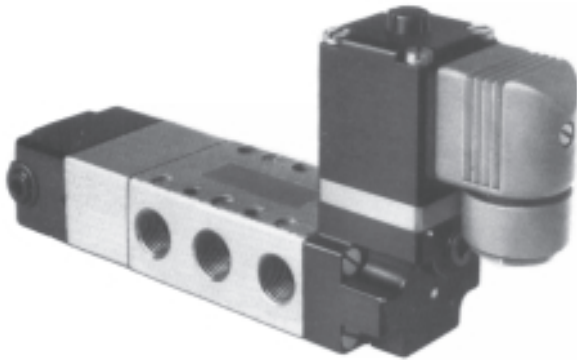
Directional control valves G¹/₄, - 5/3

5/3 valve dimensions (mm)

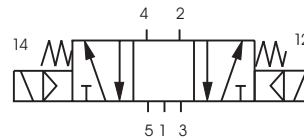


Directional control valves G¹/₄, - 5/3

Solenoid pilot operated 4 and 5 watt solenoids



Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₄
Mounting	Any plane
Temperature range	-10°C to +55°C

Pneumatic information

Pressure range	0 to 10 bar
Minimum Spring return	1,7 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

Electrical information

Power consumption	Inrush	Hold
4 watt solenoid	AC 9VA	6VA
	DC 4 Watt	
Power consumption	Inrush	Hold
5 watt solenoid	AC 14VA	9VA
	DC 5 Watt	
Rating	100% ED	
Isolating class	F	
Protection class	IP 65 (P 54) DIN 40 050	
Connection	DIN 43 650 Form B	

Voltage selection

Suffix	50 Hz	D.C.
T	10-13	5-6.5
TA	2-26	10-13
T F	44-55	21-26
T C	85-110	43-55
S	94-121	54-69
T S	153-242	94-121
SA	204-264	102-132

For 4 watt coils see page

Ordering information

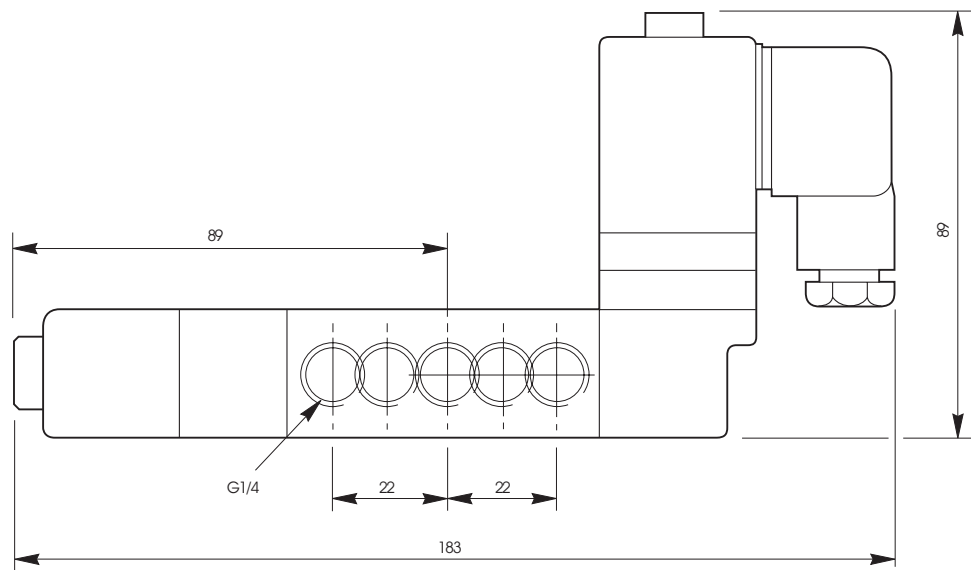
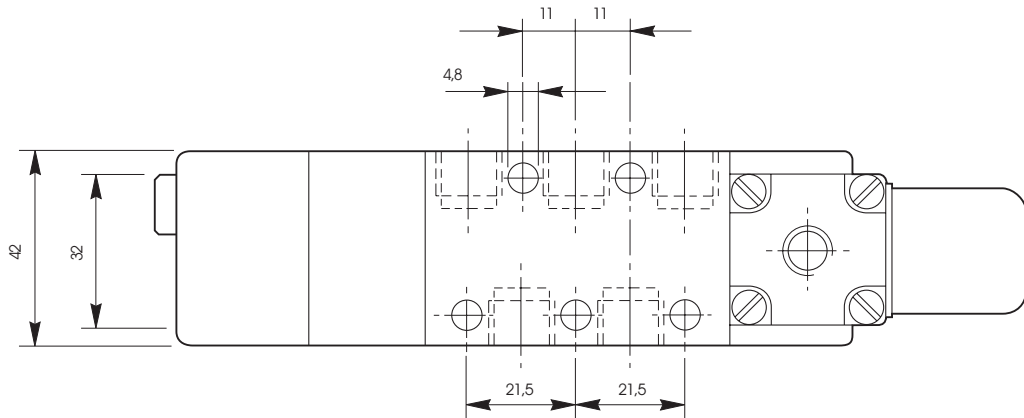
Part nos.	Type	Coil	Actuator	Return	Mid	Symbol
LB53434X*	5/3	4 watt	Solenoid pilot	Air pilot	Neutral	
LB53434Y*	5/3	4 watt	Solenoid pilot	Air pilot	Negative	
LB53434Z*	5/3	4 watt	Solenoid pilot	Air pilot	Positive	
LB53034X*	5/3	5 watt	Solenoid pilot	Air pilot	Neutral	
LB53034Y*	5/3	5 watt	Solenoid pilot	Air pilot	Negative	
LB53034Z*	5/3	5 watt	Solenoid pilot	Air pilot	Positive	

*Specify voltage and add suffix letters

For manual override add suffix M.

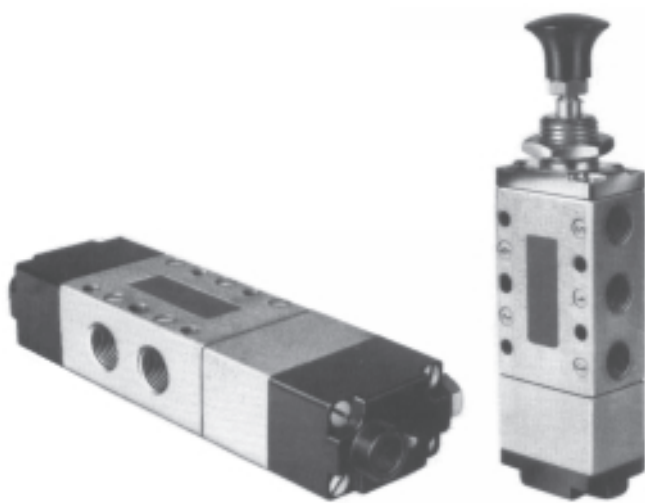
Directional control valves G¹/₄, - 5/3

5/3 valve dimensions (mm)

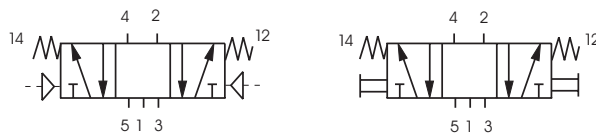


Directional control valves G¹/₄, - 5/3

Button and air pilot operated Self centring valves



Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₄
Mounting	Any plane
Temperature range	-10°C to +80°C

Pneumatic information

Pressure range	0 to 10 bar
Minimum Spring return	2,7 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

Button colours

X = Black (standard)
Y = Red
Z = Green

Ordering information

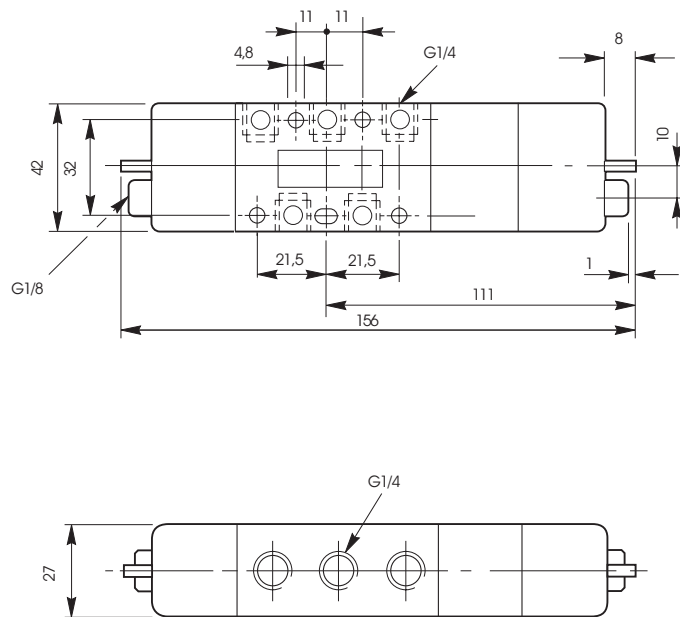
Part nos.	Type	Actuator	Return	Mid	Symbol	Optional pilot return
B53004PX	5/3	Air pilot	Spring	Neutral		
B53004PY	5/3	Air pilot	Spring	Negative		
B53004PZ	5/3	Air pilot	Spring	Positive		
B53004HXX	5/3	Button	Spring	Neutral		
B53004HXY	5/3	Button	Spring	Negative		
B53004HXZ	5/3	Button	Spring	Positive		

For dimension of air housing see page

Directional control valves G¹/₄, - 5/3

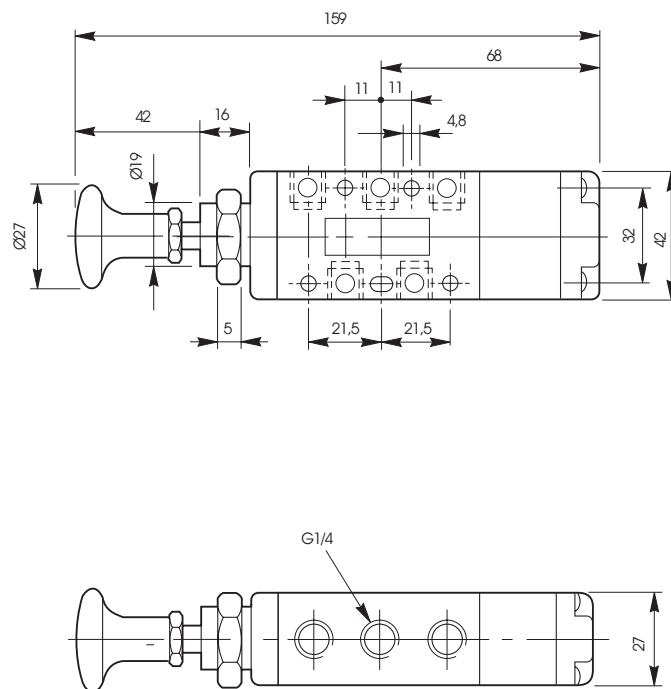
5/3 valve dimensions (mm)

Air pilot operated



5/3 valve dimensions (mm)

Button operated

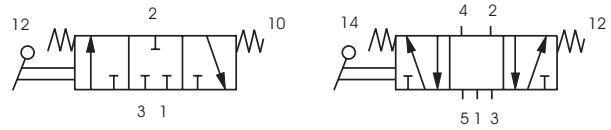


Directional control valves G¹/₄, 3/3 - 5/3

Lever operated Self centring valves



Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₄
Mounting	Any plane
Temperature range	-20°C to +80°C

Pneumatic information

Pressure range	0 to 10 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

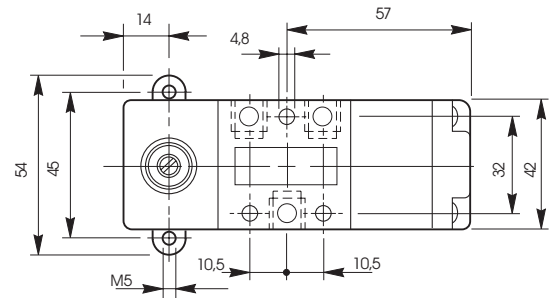
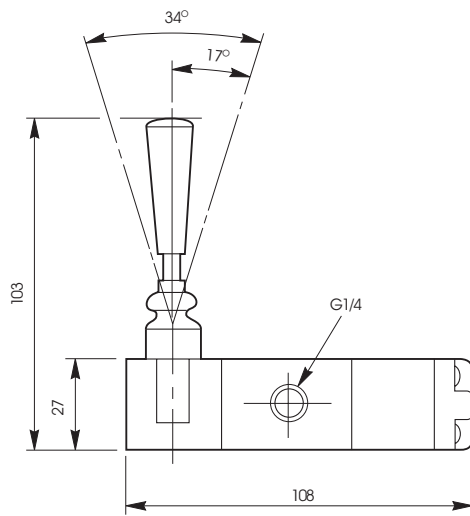
Ordering information

Part nos.	Type	Actuator	Return	Mid	Symbol	Optional air pilot return
B53003LX	3/3	Lever	Spring	Neutral		
B53004LX	5/3	Lever	Spring	Neutral		
B53003LY	5/3	Lever	Spring	Negative		
B53004LZ	5/3	Lever	Spring	Positive		
M53004L-10A	Panel mounting plate					

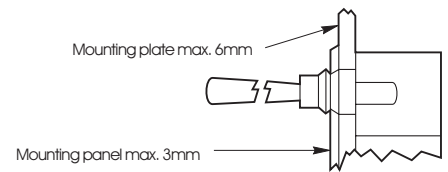
Directional control valves G¹/₄, 3/3 - 5/3

3/3 valve dimensions (mm)

Lever operated

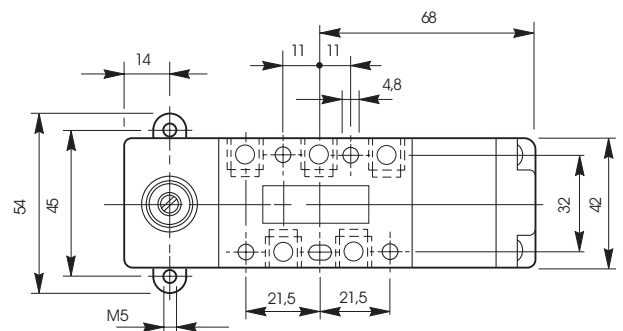
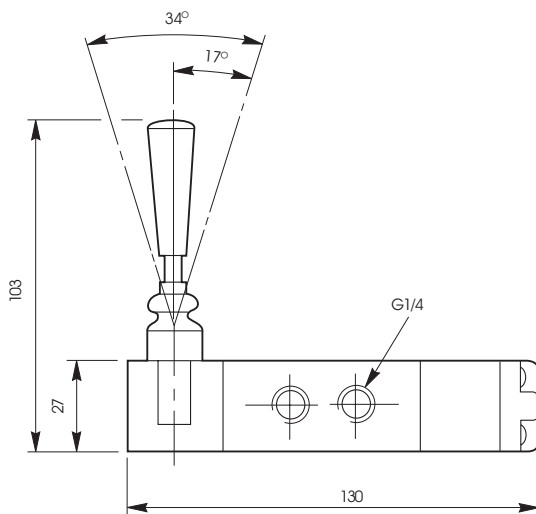


Panel mounting



5/3 valve dimensions (mm)

Lever operated

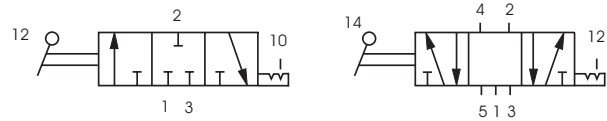


Directional control valves G¹/₄, 3/3 - 5/3

Lever operated 3 position



Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₄
Mounting	Any plane
Temperature range	-20°C to +80°C

Pneumatic information

Pressure range	0 to 10 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

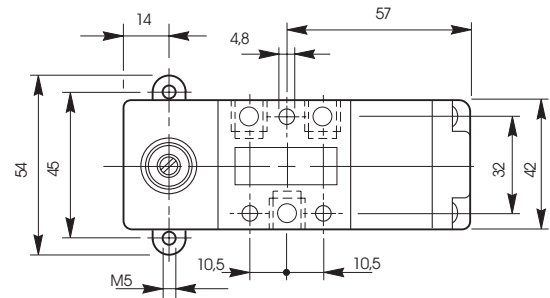
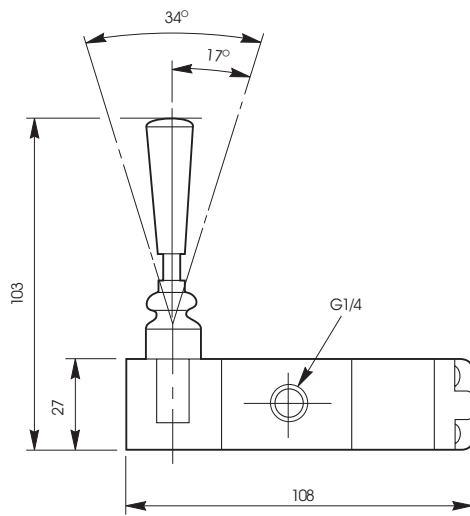
Ordering information

Part nos.	Type	Actuator	Return	Mid	Symbol	Optional air pilot return
B53003L	3/3	Lever	Lever	Neutral		
B53004L	5/3	Lever	Lever	Neutral		
B53003LW	5/3	Lever	Lever	Negative		
B53004LN	5/3	Lever	Lever	Positive		
M53004L-10A	Panel mounting plate					

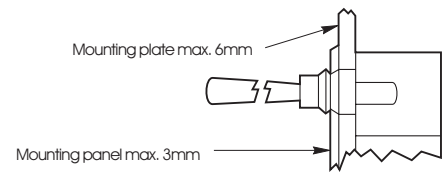
Directional control valves G¹/₄, 3/3 - 5/3

3/3 valve dimensions (mm)

Lever operated

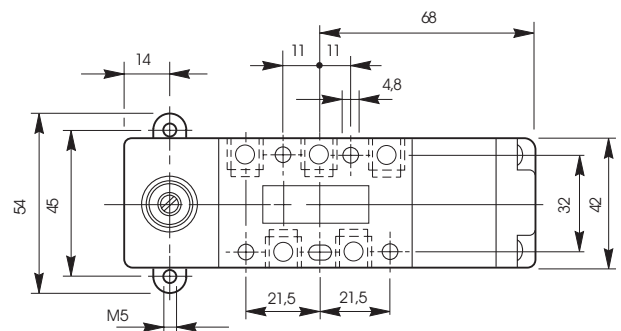
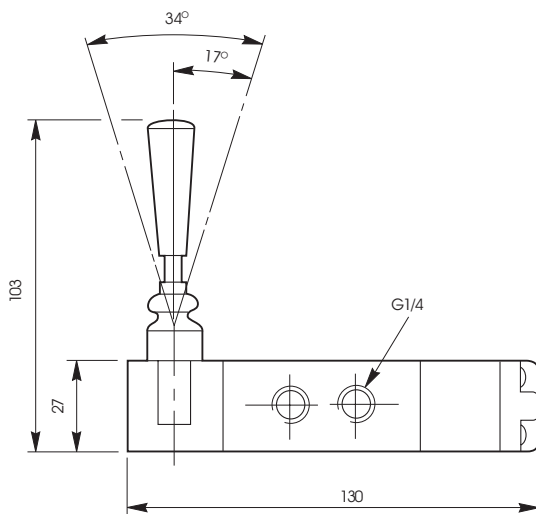


Panel mounting



5/3 valve dimensions (mm)

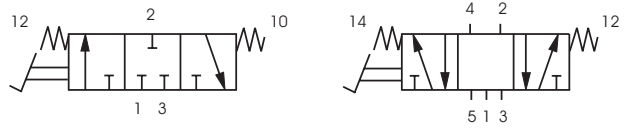
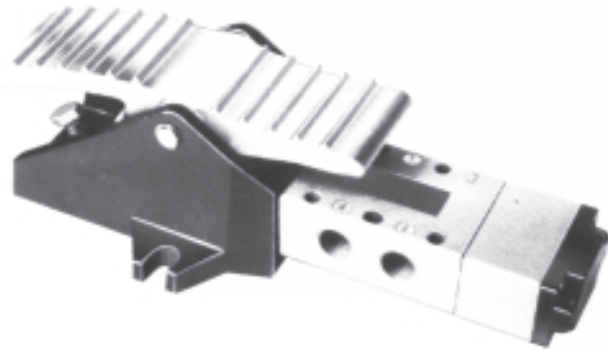
Lever operated



Directional control valves G¹/₄, 3/3 - 5/3

Manually operated valves

Symbol



Materials

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

Technical information

Type	Spool valve
Style	Body ported
Port size	G ¹ / ₄
Mounting	Any plane
Temperature range	-10°C to +80°C

Pneumatic information

Pressure range	0 to 10 bar
Nominal Ø	7mm
Nominal flow at 7 bar	26 dm ³ /s

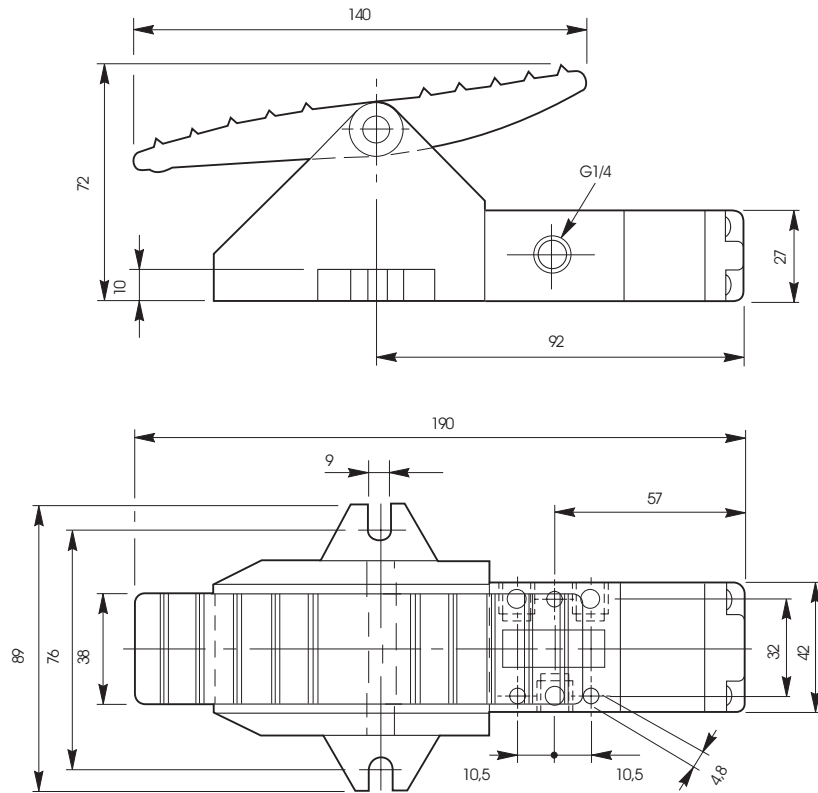
Ordering information

Part nos.	Type	Actuator	Return	Mid	Symbol	Optional air pilot return
B53003GX	3/3	Foot	Foot	Neutral		
B53004GX	5/3	Foot	Foot	Neutral		
B53004GY	5/3	Foot	Foot	Negative		
B53004GZ	5/3	Foot	Foot	Positive		

Directional control valves G¹/₄, 3/3 - 5/3

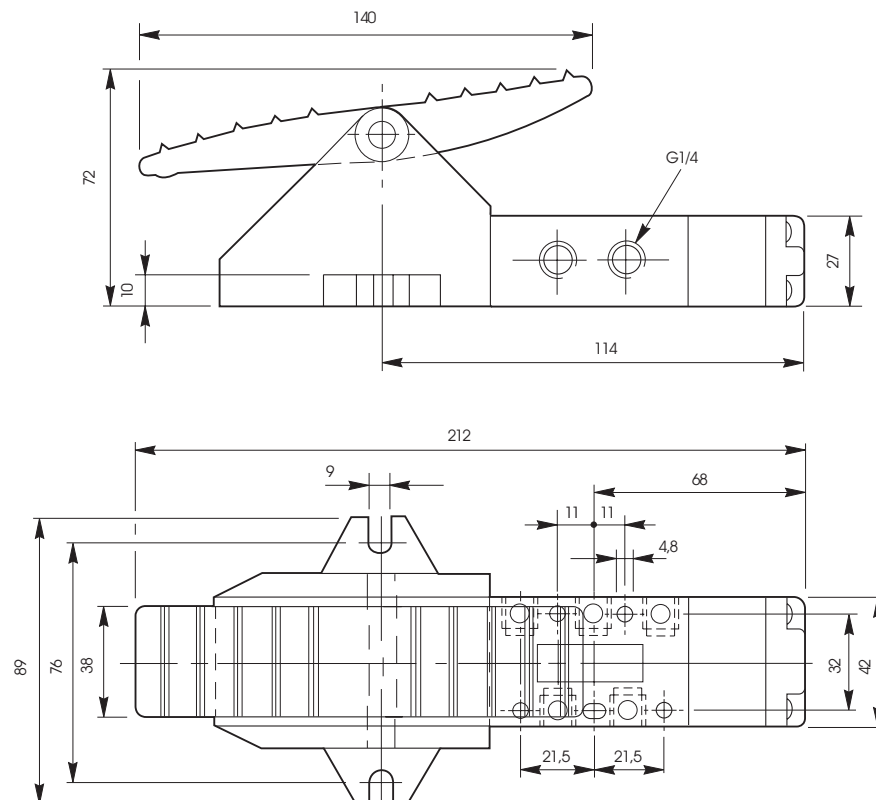
3/3 valve dimensions (mm)

Foot pedal operated
spring return



5/3 valve dimensions (mm)

Foot pedal operated
spring return

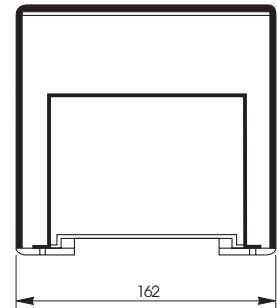
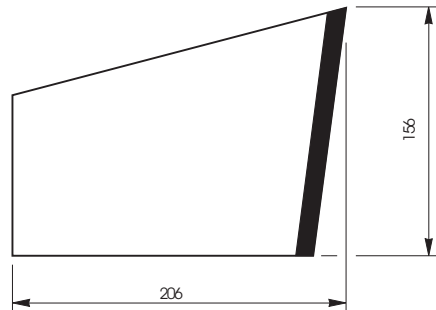
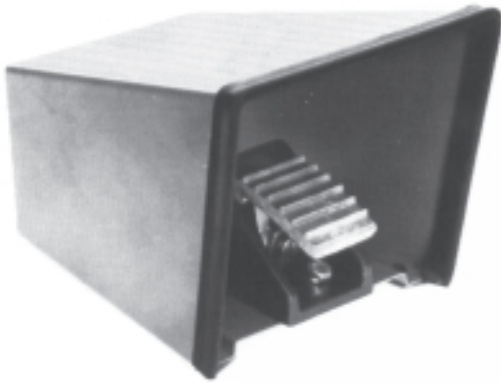


Directional control valves G¹/₄

Foot guard kit

To suit G¹/₄ foot operated spool valves:

B53003FS, B53004FS



The guard completely encloses the valve and is designed to prevent both accidental operation and protect the operators foot from small metal fragments, dirt and grease.

Manufactured in mild steel, the front edge is protected by a rubber strip.

All valve connections are made through the back of the guard, producing a clean design of modern appearance.

The guard kit is supplied complete with valve mounting bolts, nuts and washers.

Part no. **3117**

External air supplies

All solenoid-pilot operated valves have internal pilot air supply from a drilling within the valve, but are provided with an external port normally sealed by a blanking plug.

Internal pilot supply provides the same pressure for both main valve and pilot supply - with the use of external pilot supply variation of pressure on the solenoid operator is possible. When using solenoid valves with any medium other than air, then an external air supply must be made to the pilot to facilitate valve changeover.

If it is required to use external pilot supply, then the blanking plug should be removed from the port and the smaller plug contained underneath inserted into the internal counter bore drilling to seal off the internal air supply.

For applications using any medium other than air (i.e. vacuum or low pressure oil) we recommend you consult Technical Sales prior to operation.

Repair kits

Mechanically operated valves
Manually operated valves

Part no. **53007**

Air pilot operated valves
Differential pilot operated valves

Part no. **53007**

Part no. **53007JR**

Solenoid pilot operated valves

Part no. **53007S**

Lubricating oils

To ensure long life and trouble free service from valves, it is recommended the equipment should be adequately lubricated by means of lubricators which disperse oil into the system. Only paraffinic based oils can be used, and the following recommendations are given as a general guide to types of oil that are suitable for use with Parker Schrader Bellows airline equipment.

The list opposite does not preclude the use of oils manufactured by other companies but oils must be paraffinic based.

As a general guide, lubricator drip rates should be 1 drip/minute for every 5 litre/second (10 cubic feet per minute) passed through the equipment.

Oil company	Grade	Viscosity
Century oils	P.W.L.A.	32
Alexander Duckham	Zircon 4	32
Gulf oil (GB) Limited	Harmony 43 AW	32
Shell (UK) oil	Tellus 37	37
Burmah Castrol	Hyspin AWS 32	32
Edgar Vaughan	Y Hydrodrive HP 100	32
Esso Petroleum	Nuto H32	32
B.P.	HLP 32	32
Mobile Oil Company	DTE Oil - Light	32
Motul	VPI-A	32
Silkolene	Derwent 32	32