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Midget & Intermediate Manual and Mechanical Valves

G1/8 - G1/4 body ported

Catalogue PDE2623TCUK August 2009



ENGINEERING YOUR SUCCESS.

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**Important !**

Before carrying out any service work, ensure that the valve and manifold have been vented. Remove the primary supply air hose to ensure total disconnection of the air supply before dismantling valves or blank connection blocks.

**NB !**

All technical data in this catalogue is typical only. The air quality is decisive for the valve life: see ISO 8573.

**WARNING**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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Midget & Intermediate Manual and Mechanical Valves

Material specification

Valve body	Aluminium
Spool	Stainless steel
Seal spacers	Zinc die cast
Seals	Viton
Spring housing	Nylon
Spring	Zinc plated
End covers	Zinc die cast
Actuators	Zinc die cast
End cover screws	Zinc plated

Technical information

Type	Spool valves
Style	Body ported
Port size	G1/8 & G1/4
Mounting	Any plane
Pressure range	Vacuum to 10 bar
Temperature range	-10°C to +80°C
Flow acc. (to ISO 6358)	

Midget B43 series Intermediate B53 series

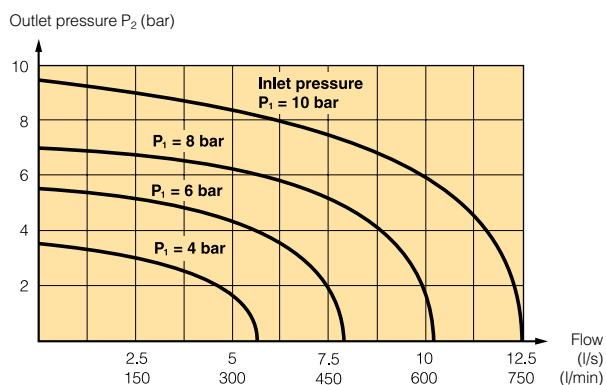
$c = 1.13 \text{ NI/s} \times \text{bar}$	$c = 3.69 \text{ NI/s} \times \text{bar}$
$b = 0.36$	$b = 0.33$
$Q_n = 5.5 \text{ l/s}$	$Q_n = 17.5 \text{ l/s}$
$Q_{\max} = 9.0 \text{ l/s}$	$Q_{\max} = 29 \text{ l/s}$
$C_v = 0.24$	$C_v = 1.02$

Flow characteristics

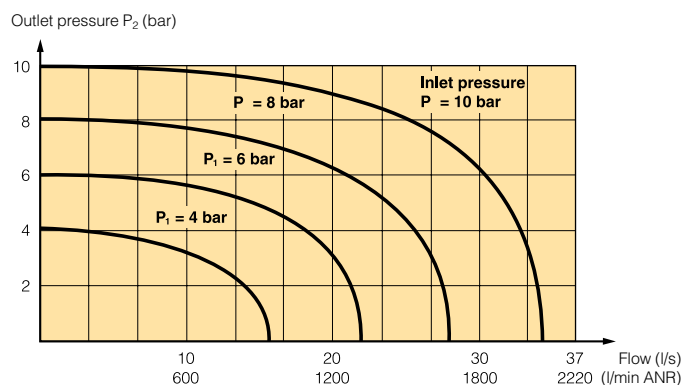
Flow capacities in accordance with ISO 6358

The flow curves shown below are typical.

Midget B43 series valves

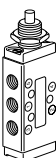
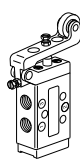
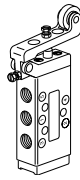
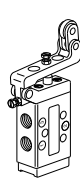
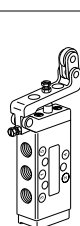
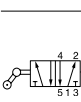


Intermediate B53 series valves



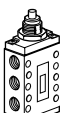
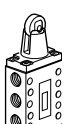


Midget mechanically operated valves, B43 series

	Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
		3/2	Plunger	Spring	36	G1/8	0,182	B43003CS
		3/2	Plunger	Air	14	G1/8	0,202	B43003CP
		5/2	Plunger	Spring	36	G1/8	0,222	B43004CS
		5/2	Plunger	Air	14	G1/8	0,242	B43004CP
		3/2	Roller Lever	Spring	20	G1/8	0,234	B43003RS
		3/2	Roller lever	Air	7	G1/8	0,254	B43003RP
		5/2	Roller Lever	Spring	20	G1/8	0,274	B43004RS
		5/2	Roller lever	Air	7	G1/8	0,294	B43004RP
		3/2	One way roller lever	Spring	20	G1/8	0,274	B43003RTS
		3/2	One way roller lever	Air	7	G1/8	0,294	B43003RTP
		5/2	One way roller lever	Spring	20	G1/8	0,314	B43004RTS
		5/2	One way roller lever	Air	7	G1/8	0,334	B43004RTP

 Indicates stocked product.

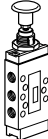
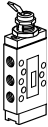
Intermediate mechanically operated valves, B53 series

	Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
		3/2	Plunger	Spring	53	G1/4	0,348	B53003CS
		3/2	Plunger	Air	27	G1/4	0,388	B53003CP
		5/2	Plunger	Spring	53	G1/4	0,478	B53004CS
		5/2	Plunger	Air	27	G1/4	0,518	B53004CP
		3/2	Roller	Spring	53	G1/4	0,350	B53003RS
		3/2	Roller	Air	27	G1/4	0,390	B53003RP
		5/2	Roller	Spring	53	G1/4	0,480	B53004RS
		5/2	Roller	Air	27	G1/4	0,520	B53004RP



Indicates stocked product.

Midget manually operated valves, B43 series

	Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
		3/2	Button, black	Spring	36	G1/8	0,200	B43003BXS
		3/2	Button, black	Button	13	G1/8	0,200	B43003HXS
		5/2	Button, black	Spring	36	G1/8	0,240	B43004BXS
		5/2	Button, black	Button	13	G1/8	0,240	B43004HXS
		3/2	Button, black	Air	13	G1/8	0,200	B43003BXP
		3/2	Button, black	Air or button	13	G1/8	0,200	B43003HXP
		5/2	Button, black	Air	13	G1/8	0,240	B43004BXP
		5/2	Button, black	Air or button	13	G1/8	0,280	B43004XHP
		3/2	Lock down lever	Spring	9	G1/8	0,202	B43003LS
		3/2	Lock down lever	Spring	9	G1/8	0,242	B43004LS
		3/2	Lock down lever	Air	3	G1/8	0,240	B43003LP
		3/2	Lock down lever	Air	3	G1/8	0,280	B43004LP

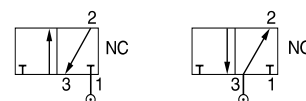
Note: The standard button colour is black (X)

For optional colour buttons change 8th character of order code
e.g. B43004HXS = Black button, B43004HXS = Green button,
B43004HYS = Red button.

X = Black

Z = Green

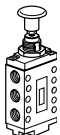
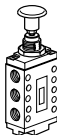
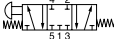
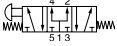
Y = Red



All 3/2 type B43 & B53 valves can be connected either as normally closed 3/2 valve (NC) or normally open 3/2 valve (NO) as required, by connecting the primary air supply to port 1 or port 3

 Indicates stocked product.

Intermediate manually operated valves, B53 series

	Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
		3/2	Button, black	Spring	53	G1/4	0,368	B53003HXS
		3/2	Button, black	Button	27	G1/4	0,368	B53003HX
		3/2	Button, black	Air	27	G1/4	0,380	B53003HXP
		5/2	Button, black	Spring	53	G1/4	0,498	B53004HXS
		5/2	Button, black	Button	27	G1/4	0,498	B53004HX
		5/2	Button, black	Air	27	G1/4	0,510	B53004HXP
		5/3	Button Closed centre position	Button Self centring	53	G1/4	0,623	B53004HXX
		5/3	Button Vented centre position	Button Self centring	53	G1/4	0,623	B53004HXY
		5/3	Button Pressurised centre position	Button Self centring	53	G1/4	0,623	B53004HXZ

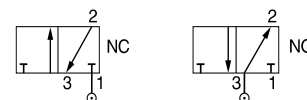
Note: The standard button colour is black (X)

For optional colour buttons change 8th character of order code
e.g. B43004HXS = Black button, B43004HZS = Green button,
B43004HYS = Red button.

X = Black

Z = Green

Y = Red

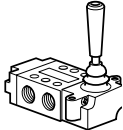
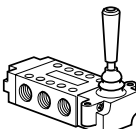


All 3/2 type B43 & B53 valves can be connected either as normally closed 3/2 valve (NC) or normally open 3/2 valve (NO) as required, by connecting the primary air supply to port 1 or port 3

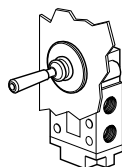


Indicates stocked product.

Intermediate lever operated valves, B53 series

	Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
		3/2	Lever	Spring	14	G1/4	0,504	B53003LS
		3/2	Lever	Air	9	G1/4	0,520	B53003LP
		3/2	Lever	Lever	9	G1/4	0,500	B53003LT
		3/3	Lever Closed centre position	Lever	9	G1/4	0,504	B53003L
		3/3	Lever Closed centre position	Lever Self centring	14	G1/4	0,780	B53003LX
		5/2	Lever	Spring	14	G1/4	0,506	B53004LS
		5/2	Lever	Air	14	G1/4	0,526	B53004LP
		5/2	Lever	Lever	14	G1/4	0,632	B53004LT
		5/3	Lever Closed centre position	Lever held in three positions	9	G1/4	0,640	B53004L
		5/3	Lever Vented centre position	Lever held in three positions	9	G1/4	0,640	B53004LW
		5/3	Lever Pressurised centre position	Lever held in three positions	9	G1/4	0,640	B53004LN
		5/3	Lever Closed centre position	Lever Self centring	14	G1/4	0,780	B53004LX
		5/3	Lever Vented centre position	Lever Self centring	14	G1/4	0,780	B53004LY
		5/3	Lever Pressurised centre position	Lever Self centring	14	G1/4	0,780	B53004LZ

Mounting kit



Panel mounting kit

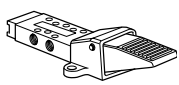
0,040

M53004L-10A

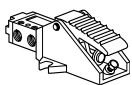
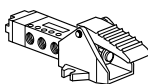
Kit includes panel plate and M5 counter sunk head screws

 Indicates stocked product.

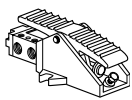
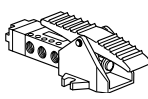
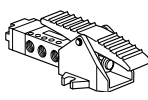
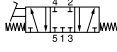
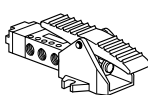
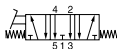
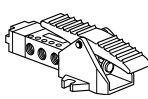
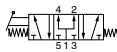
Midget foot operated valves, B43 series

	Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
		3/2	Foot pedal	Spring	16	G1/8	0,312	B43003FS
		5/2	Foot pedal	Spring	16	G1/8	0,370	B43004FS

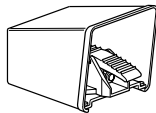
Intermediate foot operated valves, B53 series

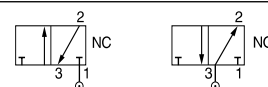
	Symbol	Type	Actuator	Return	Operating force at 6 bar, N	Size	Weight Kg	Order code
Single pedal operated								
		3/2	Foot pedal	Spring	95	G1/4	1,34	B53003FS
		5/2	Foot pedal	Spring	95	G1/4	1,48	B53004FS

Rocker pedal operated

		3/2	Foot pedal	Foot pedal	18	G1/4	1,38	B53003G
		5/2	Foot pedal	Foot pedal	18	G1/4	1,58	B53004G
		5/3	Foot pedal Closed centre position	Foot pedal Self centring	18	G1/4	1,68	B53004GX
		5/3	Foot pedal Vented centre position	Foot pedal Self centring	18	G1/4	1,68	B53004GY
		5/3	Foot pedal Pressurised centre position	Foot pedal Self centring	18	G1/4	1,68	B53004GZ

Accessories

			Foot guard kit				1,16	3117
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All 3/2 type B43 & B5/3 valves can be connected either as normally closed 3/2 valve (NC) or normally open 3/2 valve (NO) as required, by connecting the primary air supply to port 1 or port 3

 Indicates stocked product.

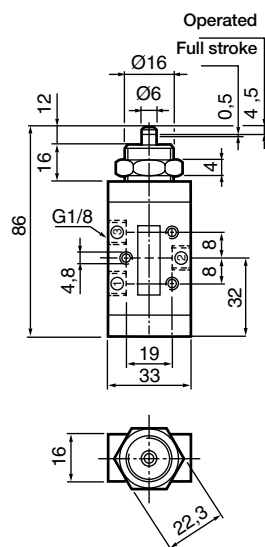
Dimensions, G1/8 ported spool valves

All dimensions in mm unless otherwise stated

Mechanically operated valves

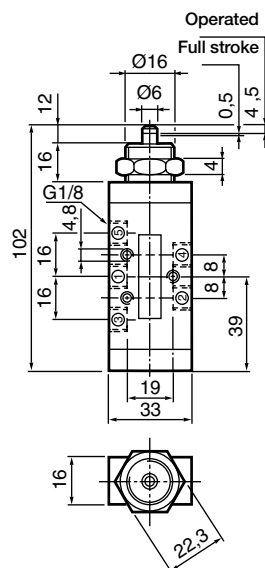
3/2 valves

Plunger operated spring return



5/2 valves

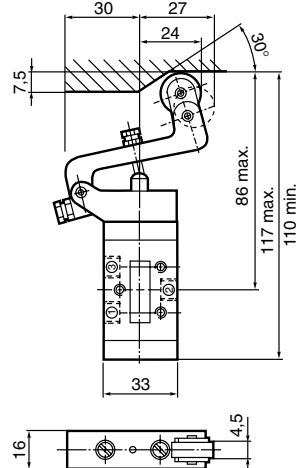
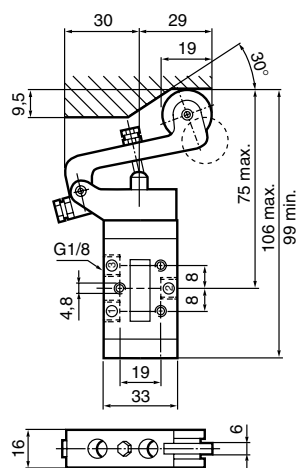
Plunger operated spring return



3/2 valves

Roller operated spring return

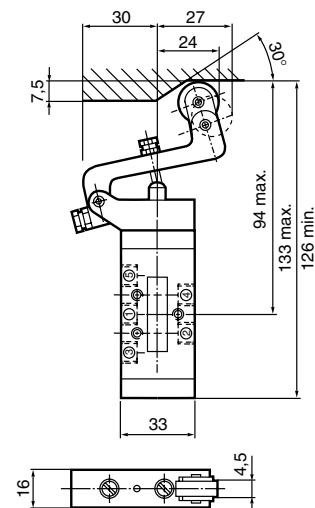
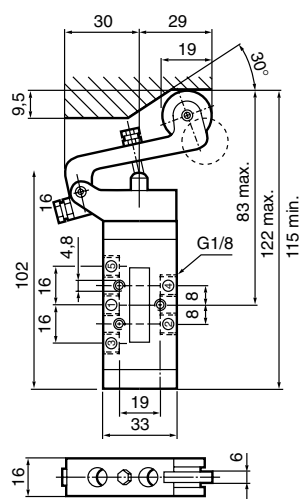
One way roller trip operate
spring return



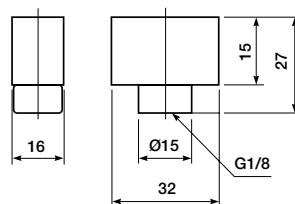
5/2 valves

Roller operated spring return

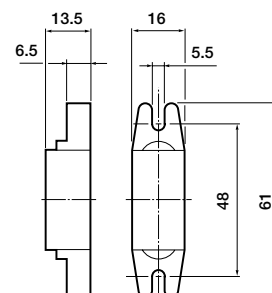
One way roller trip operate
spring return



Air Pilot Return



Optional foot mounted -
Spring return housing



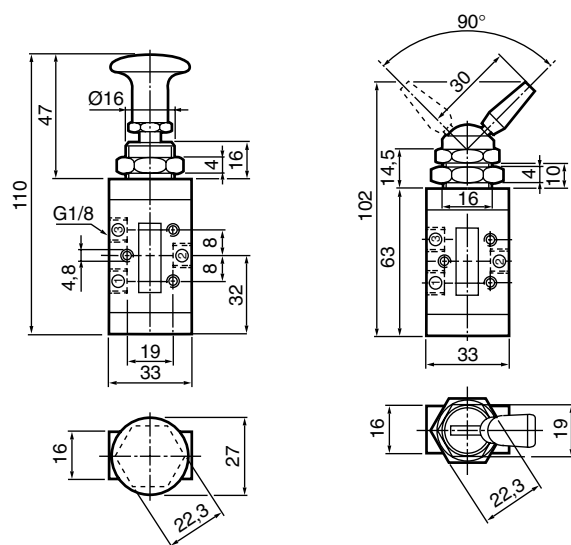
Dimensions, G1/8 ported spool valves

All dimensions in mm unless otherwise stated

Manually operated valves

3/2 valves

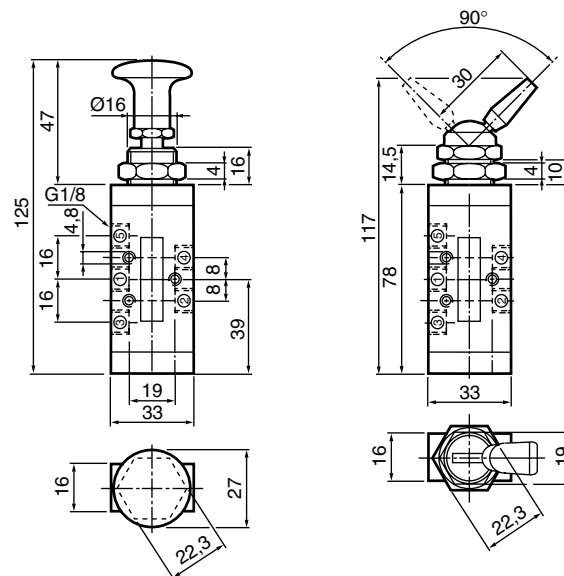
Button operated spring return
or button returned



Lock down lever
operated spring return

5/2 valves

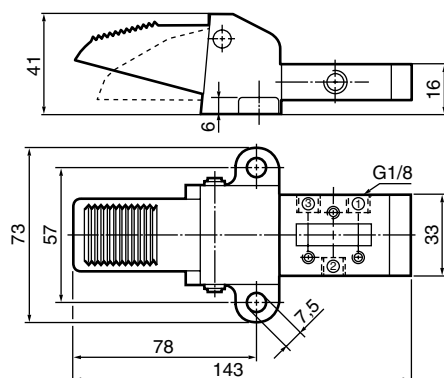
Button operated spring return
or button returned



Lock down lever
operated spring return

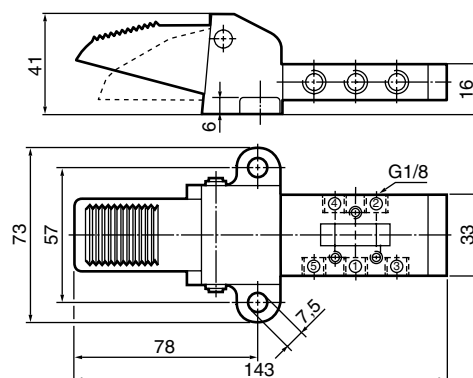
3/2 valves

Foot pedal operated spring return

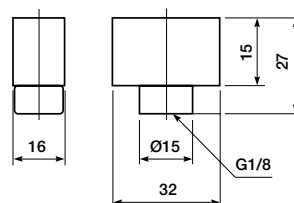


5/2 valves

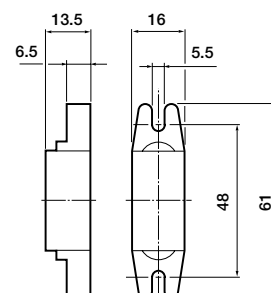
Foot pedal operated spring return



Air Pilot Return



Optional foot mounted -
Spring return housing



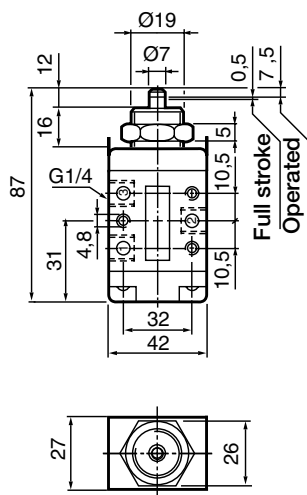
Dimensions, G1/4 ported spool valves

All dimensions in mm unless otherwise stated

Mechanically operated valves

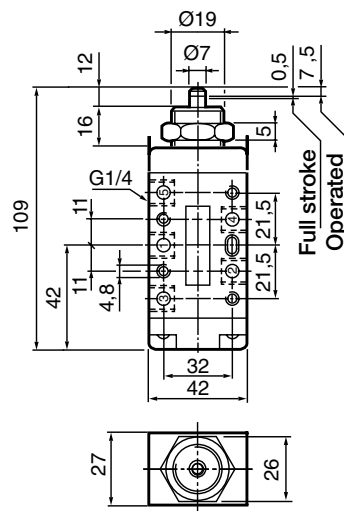
3/2 valves

Plunger operated spring return



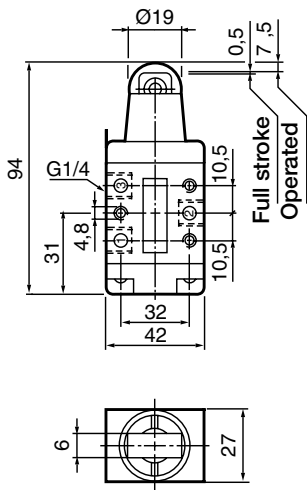
5/2 valves

Plunger operated spring return



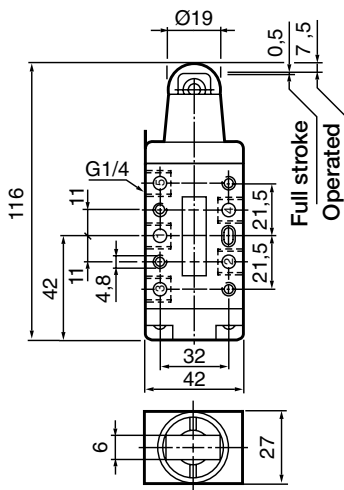
3/2 valves

Roller operated spring return

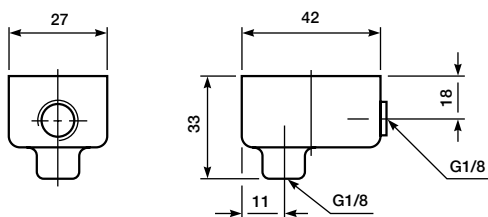


5/2 valves

Roller operated spring return



Air Pilot Return



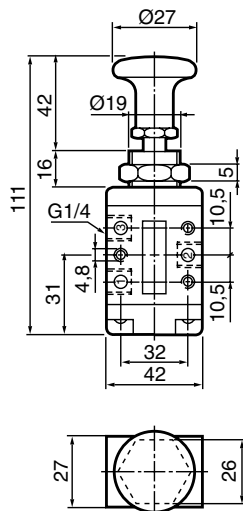
Dimensions, G1/4 ported spool valves

All dimensions in mm unless otherwise stated

Manually operated valves

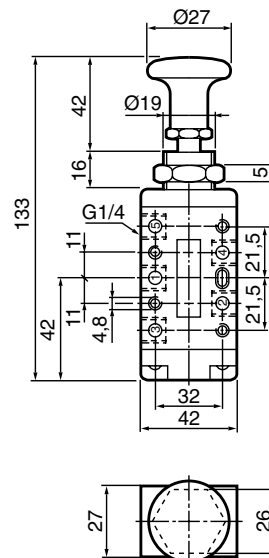
3/2 valves

Button operated spring return
or button returned



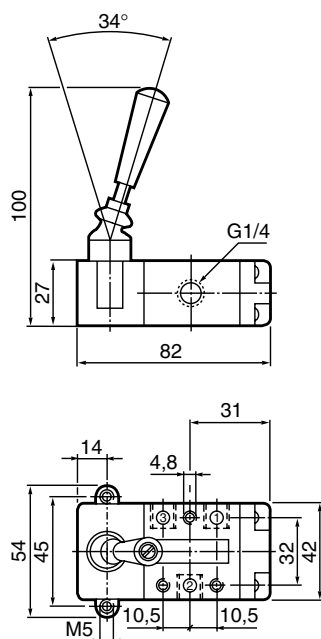
5/2 valves

Button operated spring return
or button returned



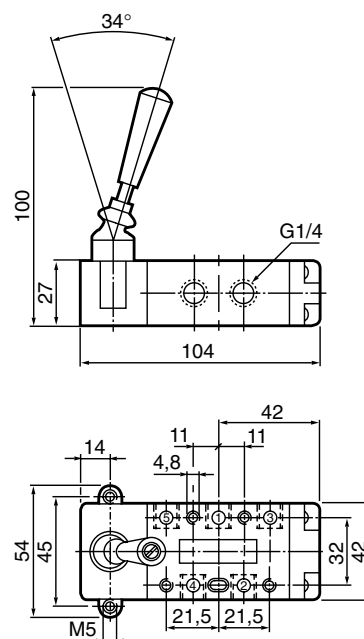
3/2 valves

Lever operated

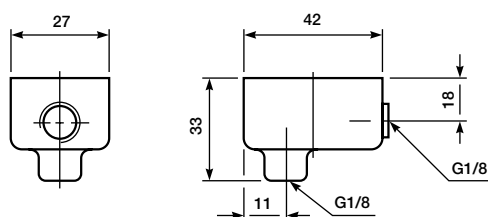


5/2 valves

Lever operated



Air Pilot Return



Service and Replacement Parts

B43 Series Manually Operated Valves

Order code	Actuator	Replacement actuator	Repair kit
B43003BXS	Button	43004BX-100	Body seal 43007A
B43004BXS	Button		
B43004HXS	Button, Push/Pull	43004H-100	
B43003LS	Lockdown lever	43004L-200	
B43004LS	Lockdown lever		

B53 Series Manually Operated Valves

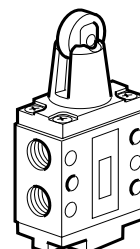
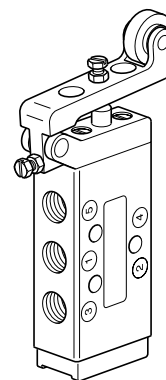
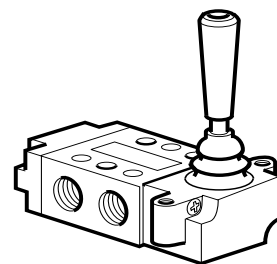
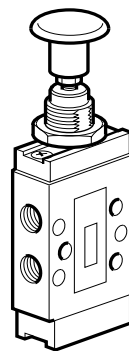
Order code	Actuator	Replacement actuator	Repair kit
B53003HXS	Button	53004HX-100	Body seal 53007
B53004HXS	Button		
B53003HX	Button, Push/Pull		
B53004HX	Button, Push/Pull		
B53004HXX	Button, Self centring		
B53004HXY	Button, Self centring		
B53004HXZ	Button, Self centring		
B53003FS	Foot	53004F-100	
B53004FS	Foot		
B53003LS	Lever	53004L-198	
B53004LS	Lever		
B53003LT	Lever, 2 positions	53004L-196	Body seal 53007
B53004LT	Lever, 2 positions		
B53004L	Lever, 3 positions	53004L-100	Lever kit 53004L-300R
B53004LW	Lever, 3 positions		
B53004LX	Lever, Self centring	53004L-198	
B53004LY	Lever, Self centring		

B43 Series Mechanically Operated Valves

Order code	Actuator	Replacement actuator	Repair kit
B43003CS	Plunger	43004C-100	Body seal 43007A
B43004CS	Plunger		
B43003RS	Roller Lever	43004R-200	
B43004RS	Roller Lever		

B53 Series Mechanically Operated Valves

Order code	Actuator	Replacement actuator	Repair kit
B53003CS	Plunger	53004C-100	Body seal 53007
B53004CS	Plunger		
B53003RS	Roller	53004R-100	
B53004RS	Roller		



 Indicates stocked product.

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 Pneumatic 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

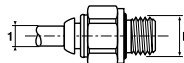
Accessories

Sintered bronze series



Port	Order code	Pack Qty
G1/8	9090050700	1
G1/4	P6M-BAA2	1

Male straight connectors - Parallel thread



Tube Ø1	Thread B	Order code	Box Qty
4	1/8	F4PMB4-1/8	20
6	1/8	F4PMB6-1/8	30
6	1/4	F4PMB6-1/4	30
8	1/8	F4PB8-1/8	40
8	1/4	F4PB8-1/4	30
8	3/8	F4PB8-3/8	20
10	1/4	F4PB10-1/4	20

 Indicates stocked product.