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Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
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Липецк (4742)52-20-81

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Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
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Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37

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Самара (846)206-03-16
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Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
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Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97

Тверь (4822)63-31-35
Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
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Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

www.norgren.nt-rt.ru | | ner@nt-rt.ru

Технические характеристики на ручные и механические клапаны, поворотные регулирующие клапаны M/1700, Super X, VHLLA компании **IMI NORGREN**

- > **Port size: G1/4, G1/2**
- > **Rugged well proven range of valves suitable for panel mounting**
- > **Air assisted detent ensures positive location of valve and prevents spool movement due to vibration**
- > **Simple servicing and sub-base mounting for reduced down-time**



Technical features

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operation:

Spool valves, directly actuated

Operating pressure:

2 ... 10 bar (29 ... 145 psi)

Port size:

G1/4, G1/2

Mounting:

Valve should be mounted with the axis of the spool horizontal

Panel mounting size;

Panel hole: Ø 32 mm

Panel thickness: 3 mm maximum

Ambient/Media temperature:

-20°C ... +80°C (-4 ... +176°F)

Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

Materials:

Body and sub-base: pressure diecast zinc alloy

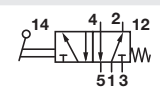
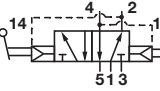
Spool: aluminium

Mechanism: steel and plastic

centring

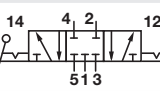
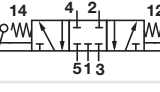
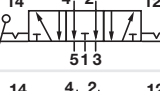
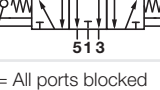
Seals: NBR

5/2 Manually actuated valves

Symbol	Port size	Function	Operator/return	Operating force (N)	Operating pressure (bar)	Flow (l/min)	Weight (kg)	Drawing No.	Model
	G1/4	5/2	Lever/spring	26	2 ... 10	1290	0,65	1	M/1702/86
	G1/2	5/2	Lever/spring	44	2 ... 10	3200	0,65	2	M/1704/86
	G1/4	5/2	Lever/lever *1)	37	2 ... 10	1290	0,95	1	M/1702/177
	G1/2	5/2	Lever/lever *1)	44	2 ... 10	3200	0,95	2	M/1704/177

*1) Air assisted detent - air supply must be connected to port 1

5/3 Manually actuated valves

Symbol	Port size	Function	Operator/return	Mid position	Operating force (N)	Operating pressure (bar)	Flow (l/min)	Weight (kg)	Drawing No.	Model
	G1/4	5/3	Lever/lever/lever *2)	APB	31	2 ... 10	1290	0,80	3	M/1702/87
	G1/2	5/3	Lever/lever/lever *2)	APB	37	2 ... 10	3200	0,80	4	M/1704/87
	G1/4	5/3	Lever/spring/lever *2)	APB	31	2 ... 10	1290	0,80	5	M/1702/687
	G1/2	5/3	Lever/spring/lever *2)	APB	42	2 ... 10	3200	0,80	6	M/1704/687
	G1/4	5/3	Lever/lever/lever *3)	COE	31	2 ... 10	1290	0,80	3	M/1712/87
	G1/2	5/3	Lever/lever/lever *3)	COE	37	2 ... 10	3200	0,80	4	M/1714/87
	G1/4	5/3	Lever/spring/lever *3)	COE	31	2 ... 10	1290	0,80	5	M/1712/687
	G1/2	5/3	Lever/spring/lever *3)	COE	42	2 ... 10	3200	0,80	6	M/1714/687

APB = All ports blocked

COE = Centre open exhaust

*2) Fully sealed mid-position

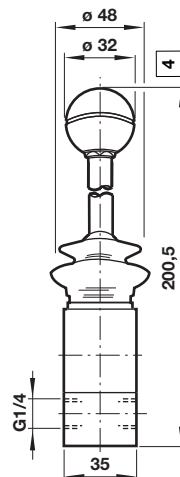
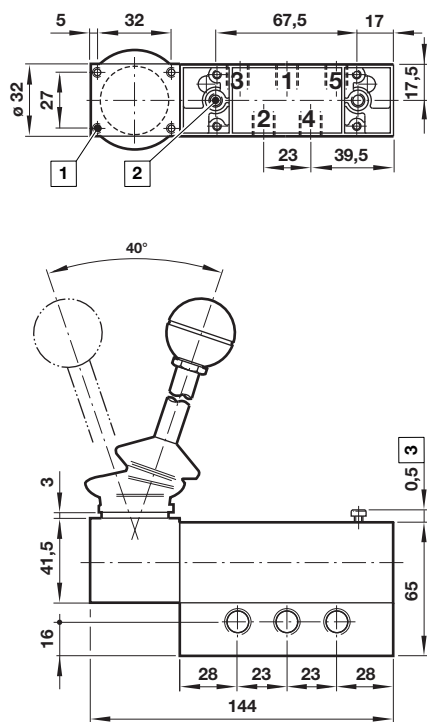
*3) Supply sealed mid-position

Dimensions

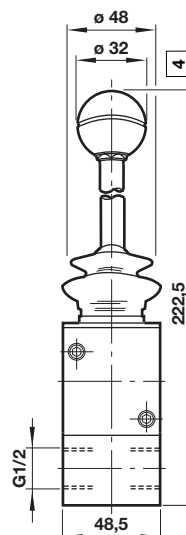
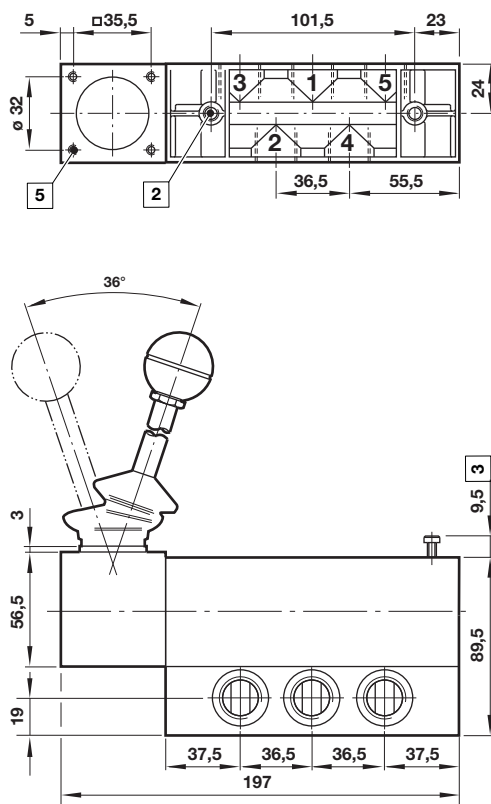
Dimensions in mm
Projection/First angle



1



2

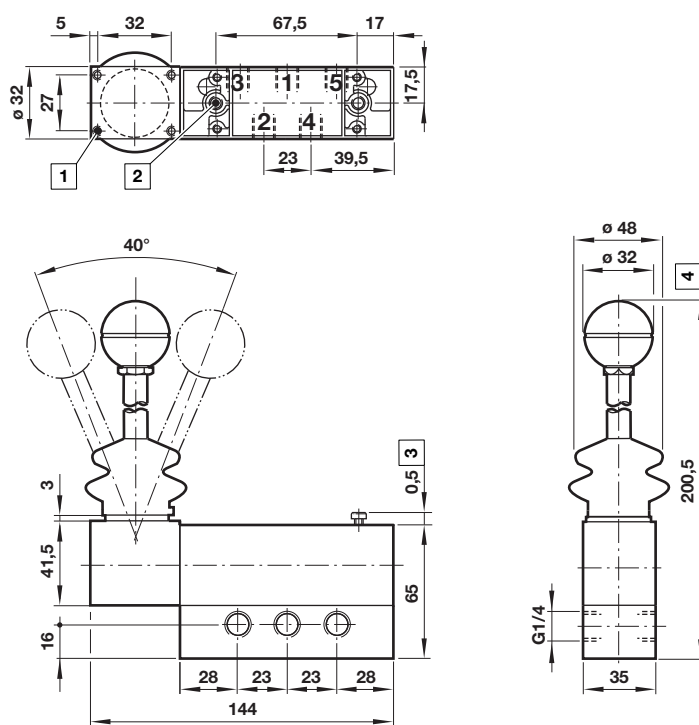


- 1 M4 - 7 mm deep
- 2 M6 through sub-base (M1702)
M8 through sub-base (M/1704)
- 3 Minimum
- 4 Maximum
- 5 M5 - 10 mm deep

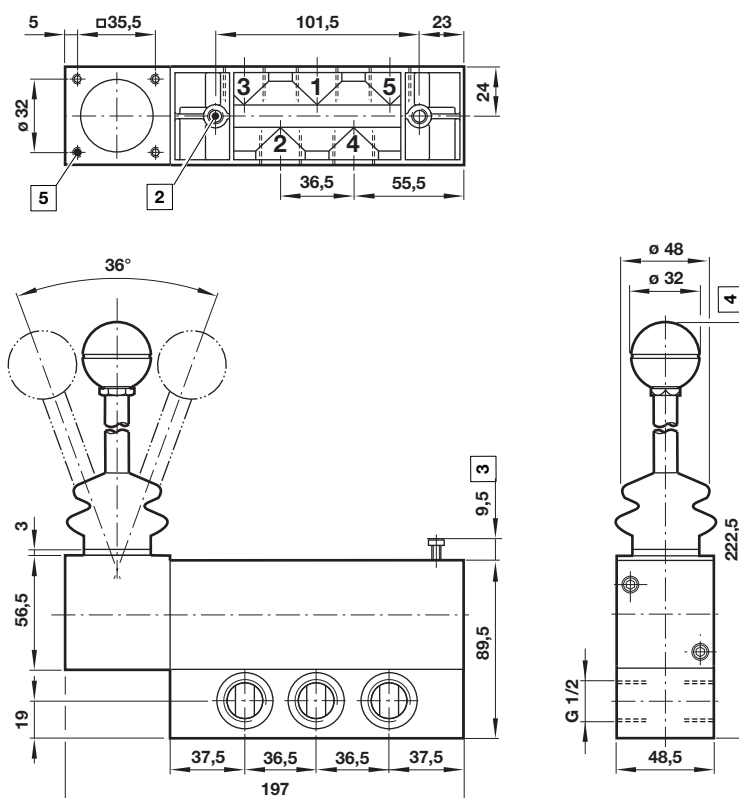
Dimensions in mm
Projection/First angle



3

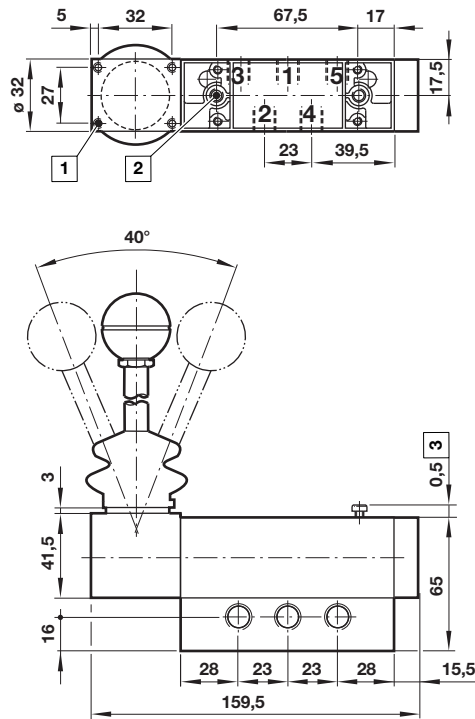


4



- 1 M4 - 7 mm deep
- 2 M6 through sub-base (M1702)
M8 through sub-base (M/1704)
- 3 Minimum
- 4 Maximum
- 5 M5 - 10 mm deep

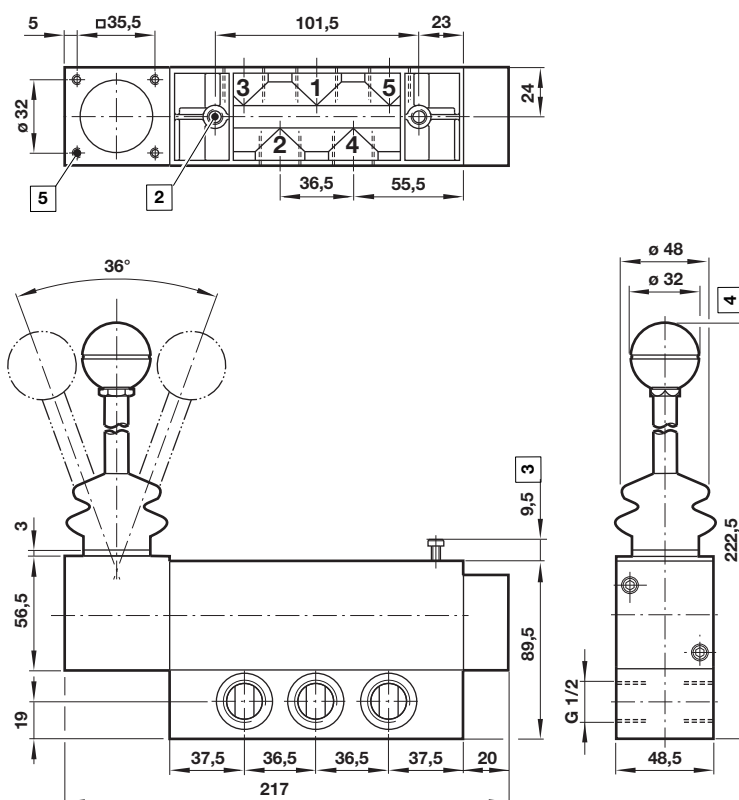
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Dimensions in mm
Projection/First angle



6



- 1 M4 - 7 mm deep
- 2 M6 through sub-base (M1702)
M8 through sub-base (M1704)
- 3 Minimum
- 4 Maximum
- 5 M5 - 10 mm deep

Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under

»Technical features/data«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult IMI NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

- > **Port size: G1/8 or G1/4, ø 6 mm PIF**
- > **Wide range of operators**
- > **Suitable for multi-directional flow and dual supply applications**
- > **High flow capacity**



Technical features

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operation:

Spool valve, directly and indirectly actuated

Ports:

1/8", ø 6 mm PIF (available on the PA range only) and 1/4"

Operating pressure:

Max. 10 bar (145 psi)

Flow:

Size	l/min	Cv	Kv
1/8"	335	0,34	0,295
1/4"	965	0,98	0,351

Ambient/Media temperature:

0 ... +70°C (+32 ... +158°F)

Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

Mounting:

Through-holes in valve body

3/2 way PA body valves

Metal versions are available on request

Port assembly torque:

Use recommended torque for fittings. This should not exceed 10 Nm, otherwise damage may occur to body.

PIF Ports:

The PIF fittings are suitable for PA 11 or 12, PU (92 to 98 shore) and other plasticised or unplasticised tubing which conforms to the tolerances specified in BS5409, Part 1, 1976, light and normal duty, DIN 73378, DIN74234, NFE 49-100. Tube is to be cut square and free of burrs.

Materials:

Plastic version for 3/2 way valves only

Body and end cover: PA6
Operators: Aluminium, steel, plastic etc.

Seals: NBR

Metal version

Body: diecast zinc

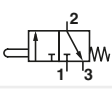
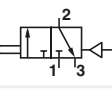
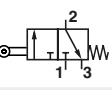
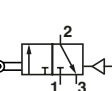
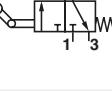
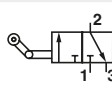
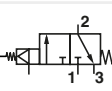
End cover:

aluminium or glass-filled nylon
Operators: Aluminium, steel, plastic etc.

Seals: NBR

Technical data

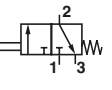
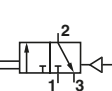
3/2 mechanical valves

Symbol	Port size	Actuation	Body	Operating pressure (bar)	Operating force (N)	Weight (kg)	Spares kit	Dimension No.	Model
	G1/8	Plunger/spring	PA6	-0,9 ... 10	31	0,06	03840802	1	03040002
	ø 6 mm	Plunger/spring	PA6	-0,9 ... 10	31	0,07	03840802	1	03040032
	G1/4	Plunger/spring	Zinc	-0,9 ... 10	53	0,34	03860202	23	03060002
	G1/8	Plunger/pilot	Zinc	-0,9 ... 10 *1)	18	0,20	03840802	2	03041702
	G1/8	Roller/spring	PA6	-0,9 ... 10	31	0,06	03840802	3	03040202
	ø 6 mm	Roller/spring	PA6	-0,9 ... 10	31	0,07	03840802	3	03040232
	G1/4	Roller/spring	Zinc	-0,9 ... 10	61	0,34	03860202	24	03060202
	G1/8	Roller/pilot	Zinc	-0,9 ... 10	18 *1)	0,18	03840802	4	03040902
	G1/4	Roller/pilot	Zinc	-0,9 ... 10	13 *1)	0,39	03861202	25	03060902
	G1/8	Roller lever/pilot	Zinc	-0,9 ... 10	9 *1)	0,25	03840802	6	03042702
	G1/4	Roller lever/pilot	Zinc	-0,9 ... 10	9 *1)	0,45	03861202	27	03062402
	G1/8	Roller lever/spring	PA6	-0,9 ... 10	31	0,09	03840802	5	03041102
	ø 6 mm	Roller lever/spring	PA6	-0,9 ... 10	31	0,10	03840802	5	03041132
	G1/4	Roller lever/spring	Zinc	-0,9 ... 10	45	0,41	03860202	26	03061102
	G1/8	Roller lever (heavy duty) /spring	PA6	-0,9 ... 10	31	0,12	03840802	7	03029302
	ø 6 mm	Roller lever (heavy duty)/spring	PA6	-0,9 ... 10	31	0,13	03840802	7	03029332
	G1/8	One way trip lever/spring	PA6	-0,9 ... 10	31	0,12	03840802	9	03041002
	G1/8	One way trip lever (heavy duty)/spring	PA6	-0,9 ... 10	31	0,15	03840802	10	03029402
	ø 6 mm	One way trip lever (heavy duty)/spring	PA6	-0,9 ... 10	31	0,16	03840802	10	03029432
	G1/8	Antenna/spring	PA6	-0,9 ... 10	0,3	0,10	03843202	11	03043202
	ø 6 mm	Antenna/spring	PA6	-0,9 ... 10	0,3	0,11	03843202	11	03043232
	G1/8	Sensitive roller/spring	Zinc	-0,9 ... 10	1	0,25	03847302	8	03042302

*1) At zero bar, reset pressure 2 bar minimum

Pressure for pilot function is the minimum pressure to operate the valve. The valve may switch below this pressure.

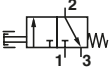
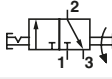
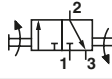
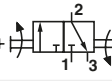
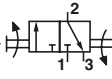
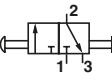
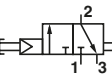
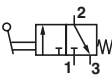
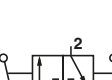
3/2 manual valves

Symbol	Port size	Actuation	Body	Colour	Operating pressure (bar)	Operating force (N)	Weight (kg)	Spares kit	Dimension No.	Model
	G1/8	Button/spring	PA6	Black	-0,9 ... 10	31	0,07	03840802	33	03040402
	ø 6 mm	Button/spring	PA6	Black	-0,9 ... 10	31	0,08	03840802	33	03040432
	G1/8	Button/spring	PA6	Green	-0,9 ... 10	31	0,07	03840802	33	03040502
	ø 6 mm	Button/spring	PA6	Green	-0,9 ... 10	31	0,08	03840802	33	03040532
	G1/8	Button/spring	PA6	Red	-0,9 ... 10	31	0,07	03840802	33	03040602
	ø 6 mm	Button/spring	PA6	Red	-0,9 ... 10	31	0,08	03840802	33	03040632
	G1/4	Knob/spring	Zinc	Black	-0,9 ... 10	53	0,41	03861202	67	03060402
	G1/8	Knob/spring	PA6	Black	-0,9 ... 10	18	0,07	03840802	44	03034502
	ø 6 mm	Knob/spring	PA6	Black	-0,9 ... 10	18	0,08	03840802	44	03034532
	G1/8	Button (palm)/spring	PA6	Red	-0,9 ... 10	31	0,13	03840802	35	03036602
	ø 6 mm	Button (palm)/spring	PA6	Red	-0,9 ... 10	31	0,14	03840802	35	03036632
	G1/8	Button (palm)/spring	PA6	Green	-0,9 ... 10	31	0,13	03840802	35	03036702
	ø 6 mm	Button (palm)/spring	PA6	Green	-0,9 ... 10	31	0,14	03840802	35	03036732
	G1/8	Button (palm)/spring	PA6	Black	-0,9 ... 10	31	0,13	03840802	35	03036802
	ø 6 mm	Button (palm)/spring	PA6	Black	-0,9 ... 10	31	0,14	03840802	35	03036832
	G1/8	Button/pilot	Zinc	Black	-0,9 ... 10 *1)	18	0,22	03840802	34	03040802
	G1/8	Button/pilot	Zinc	Green	-0,9 ... 10 *1	18	0,22	03840802	34	03042002
	G1/8	Button/pilot	Zinc	Red	-0,9 ... 10 *1	18	0,22	03840802	34	03042102
	G1/4	Button/pilot	Zinc	Black	-0,9 ... 10 *1	13	0,42	03861202	68	03060802

*1) At zero bar, reset pressure 2 bar minimum

Pressure for pilot function is the minimum pressure to operate the valve. The valve may switch below this pressure.

3/2 manual valves

Symbol	Port size	Actuation	Body	Colour	Operating pressure (bar)	Operating force (N)	Weight (kg)	Spares kit	Dimension No.	Model
	G1/8	Button (shrouded)/spring	PA6	Black	-0,9 ... 10	31	0,11	03840802	36	03041402
	ø 6 mm	Button (shrouded)/spring	PA6	Black	-0,9 ... 10	31	0,12	03840802	36	03041432
	G1/8	Button (shrouded)/spring	PA6	Green	-0,9 ... 10	31	0,11	03840802	36	03041502
	ø 6 mm	Button (shrouded)/spring	PA6	Green	-0,9 ... 10	31	0,12	03840802	36	03041532
	G1/8	Button (shrouded)/spring	PA6	Red	-0,9 ... 10	31	0,11	03840802	36	03041602
	ø 6 mm	Button (shrouded)/spring	PA6	Red	-0,9 ... 10	31	0,12	03840802	36	03041632
	G1/8	Emergency stop/twist reset	PA6	Red	-0,9 ... 10	18	0,15	03840802	37	03042802
	ø 6 mm	Emergency stop/twist reset	PA6	Red	-0,9 ... 10	18	0,16	03840802	37	03042832
	G1/8	Rotary knob/set reset	PA6	Black	-0,9 ... 10	—	0,14	03840802	46	03041902
	ø 6 mm	Rotary knob/set reset	PA6	Black	-0,9 ... 10	—	0,15	03840802	46	03041932
	G1/8	Button (palm)/key	PA6	Red	-0,9 ... 10	31	0,20	03840802	39	03033502801
	ø 6 mm	Button (palm)/key	PA6	Red	-0,9 ... 10	31	0,21	03840802	39	03033532801
	G1/8	Key/key	PA6	Red	-0,9 ... 10	—	0,16	03840802	48	030418 02801
	ø 6 mm	Key/key	PA6	Red	-0,9 ... 10	—	0,17	03840802	48	030418 22801
	G1/8	Knob/knob	PA6	Black	-0,9 ... 10	18	0,07	03840802	44	03042502
	ø 6 mm	Knob/knob	PA6	Black	-0,9 ... 10	18	0,08	03840802	44	03042532
	G1/8	Knob/knob or pilot	Zinc	Black	-0,9 ... 10	13	0,37	03860202	69	03062502
	G1/4	Knob/knob or pilot	Zinc	Black	-0,9 ... 10 *3)	13	0,41	03861202	70	03062702
	G1/8	Knob lever/spring	PA6	Black	-0,9 ... 10	18	0,09	03840802	43	03042602
	G1/8	Lever/spring	Zinc	Black	-0,9 ... 10	9	0,28	03840802	42	03043802
	G1/4	Lever/spring	Zinc	Black	-0,9 ... 10	15	0,48	03860202	71	03063802
	G1/8	Toggle/toggle	PA6	Black	-0,9 ... 10	28	0,06	03840802	41	03040302
	ø 6 mm	Toggle/toggle	PA6	Black	-0,9 ... 10	28	0,07	03840802	41	03040332
	G1/8	Lever/lever	PA6	Black	-0,9 ... 10	9	0,29	03840802	42	03043702
	G1/8	Lever/lever	Zinc	Black	-0,9 ... 10	13	0,17	03840802	40	03029602
	G1/4	Lever/lever	Zinc	Black	-0,9 ... 10	13	0,48	03860202	71	03063702
	G1/8	Pedal/spring	Zinc	Black	-0,9 ... 10	22	1,03	03840802	49	03048102
	G1/4	Pedal/spring	Zinc	Black	-0,9 ... 10	22	1,23	03860202	66	03068102
	G1/8	Pedal/pedal	Zinc	Black	-0,9 ... 10	22	1,07	03840802	49	03048302
	G1/4	Pedal/pedal	Zinc	Black	-0,9 ... 10	22	1,27	03860202	66	03068302

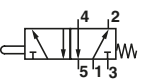
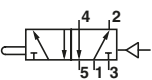
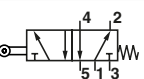
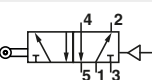
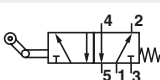
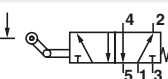
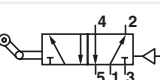
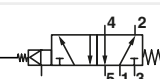
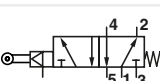
*3) Reset pressure: 4 bar minimum

Pressure for pilot function is the minimum pressure to operate the valve. The valve may switch below this pressure.

3/2 adaptor valves for Klöckner Möller actuators

Symbol	Port size	Actuation	Body	Operating pressure (bar)	Operating force (N)	Weight (kg)	Spares kit	Dimension No.	Model
	G1/8	Plunger/spring	PA6	-0,9 ... 10	31	0,60	03840802	78	03029502
	ø 6 mm	Plunger/spring	PA6	-0,9 ... 10	31	0,50	03840802	78	03029532

5/2 mechanical valves

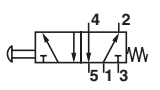
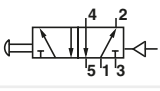
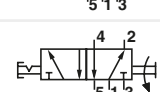
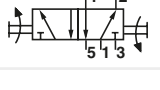
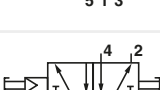
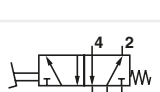
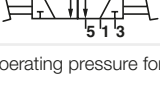
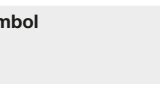
Symbol	Port size	Actuation	Operating pressure (bar)	Operating force (N)	Weight (kg)	Spares kit	Dimension No.	Model
	G1/8	Plunger/spring	-0,9 ... 10	54	0,25	03840802	12	X3044002
	G1/4	Plunger/spring	-0,9 ... 10	62	0,46	03860202	28	X3064002
	G1/8	Plunger/pilot	-0,9 ... 10	22 *1)	0,31	03840802	13	X3045702
	G1/8	Roller/spring	-0,9 ... 10	54	0,25	03840802	14	X3044202
	G1/4	Roller/spring	-0,9 ... 10	67	0,46	03860202	29	X3064202
	G1/8	Roller/pilot	-0,9 ... 10	22 *1)	0,29	03840802	15	X3044902
	G1/4	Roller/pilot	-0,9 ... 10	13 *1)	0,50	03861202	30	X3064902
	G1/8	Roller lever/spring	-0,9 ... 10	31	0,32	03840802	16	X3045102
	G1/4	Roller lever/spring	-0,9 ... 10	45	0,53	03860202	31	X3065102
	G1/8	Roller lever (heavy duty)/spring	-0,9 ... 10	31	0,29	03840802	18	X3039302
	G1/8	One-way trip/spring	-0,9 ... 10	31	0,32	03840802	20	X3045002
	G1/8	One-way trip (heavy duty)/spring	-0,9 ... 10	31	0,29	03840802	21	X3039402
	G1/8	Roller lever/pilot	-0,9 ... 10	9 *1)	0,36	03840802	17	X3046702
	G1/4	Roller lever/pilot	-0,9 ... 10	9 *1)	0,57	03861202	32	X3066402
	G1/8	Antennar/spring	-0,9 ... 10 *2)	0,3	0,30	N/A	22	X3047202
	G1/8	Sensitive roller/spring	-0,9 ... 10 *2)	1	0,36	N/A	19	X3046302

*1) At zero bar, reset pressure 2 bar minimum

*2) Constant pilot pressure supply: 3 bar minimum

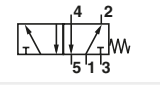
The operating pressure for pilot function is the minimum pressure to operate the valve. The valve may switch below this pressure.

5/2 manual valves

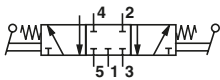
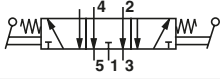
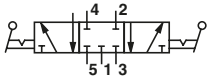
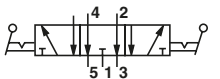
Symbol	Port size	Actuation	Colour	Operating pressure (bar)	Operating force (N)	Weight (kg)	Spares kit	Dimension No.	Model
	G1/8	Button (palm)/spring	Black	-0,9 ... 10	54	0,26	03840802	50	X3044402
	G1/8	Button (palm)/spring	Green	-0,9 ... 10	54	0,26	03840802	50	X3044502
	G1/8	Button (palm)/spring	Red	-0,9 ... 10	54	0,26	03840802	50	X3044602
	G1/4	Button/spring	Black	-0,9 ... 10	62	0,47	03860202	72	X3064402
	G1/8	Button (palm)/spring	Red	-0,9 ... 10	31	0,40	03840802	51	X3038602
	G1/8	Button (palm)/spring	Green	-0,9 ... 10	31	0,40	03840802	51	X3038702
	G1/8	Button (palm)/spring	Black	-0,9 ... 10	31	0,40	03840802	51	X3038802
	G1/8	Button (palm)/pilot	Black	-0,9 ... 10 *1)	22	0,34	03840802	53	X3044802
	G1/8	Button (palm)/pilot	Green	-0,9 ... 10 *1)	22	0,34	03840802	53	X3046002
	G1/8	Button (palm)/pilot	Red	-0,9 ... 10 *1)	22	0,34	03840802	53	X3046102
	G1/8	Button (shrouded)/spring	Black	-0,9 ... 10	54	0,32	03840802	52	X3045402
	G1/8	Button (shrouded)/spring	Green	-0,9 ... 10	54	0,32	03840802	52	X3045502
	G1/8	Button (shrouded)/spring	Red	-0,9 ... 10	54	0,32	03840802	52	X3045602
	G1/8	Emergency stop/twist reset	Red	-0,9 ... 10	18	0,54	03847302	51	X3046802
	G1/8	Button (palm)/key		-0,9 ... 10	—	0,48	03840802	55	X3037502
	G1/8	Key/key		-0,9 ... 10	—	0,47	03840802	64	X3045802801
	G1/8	Rotary knob/knob reset		-0,9 ... 10	—	0,48	03840802	54	X3045902
	G1/8	Knob/knob	Black	-0,9 ... 10	22	0,28	03840802	61	X3046502
	G1/4	Knob/knob	Black	-0,9 ... 10	13	0,49	03860202	74	X3066502
	G1/8	Knob, push/knob, pull or pilot	Black	-0,9 ... 10 *1)	22	0,32	03860202	62	X3046402
	G1/4	Knob, push/knob, pull or pilot	Black	-0,9 ... 10 *1)	13	0,54	03861202	73	X3064802
	G1/8	Knob lever/spring		-0,9 ... 10	31	0,35	03840802	60	X3046602
	G1/8	Lever/spring	Black	-0,9 ... 10	16	0,40	03840802	58	X3047802
	G1/4	Lever/spring	Black	-0,9 ... 10	15	0,60	03860202	75	X3067802
	G1/8	Toggle/toggle	Black	-0,9 ... 10	13	0,28	03840802	56	X3029602
	G1/8	Toggle/toggle	Black	-0,9 ... 10	48	0,27	03840802	57	X3044302
	G1/8	Toggle/lever	Black	-0,9 ... 10	13	0,40	03840802	58	X3047702
	G1/4	Toggle/lever	Black	-0,9 ... 10	13	0,61	03860202	75	X3067702
	G1/8	Pedal/spring	Black	-0,9 ... 10	22	1,12	03840802	65	X3048202
	G1/4	Pedal/spring	Black	-0,9 ... 10	22	1,33	03860202	77	X3068202
	G1/8	Pedal/pedal	Black	-0,9 ... 10	22	1,18	03840802	65	X3048402
	G1/4	Pedal/pedal	Black	-0,9 ... 10	22	1,27	03860202	76	X3068302

The operating pressure for pilot function is the minimum pressure to operate the valve. The valve may switch below this pressure.

5/2 adaptor valves for Klöckner Möller actuators

Symbol	Port size	Actuation	Operating pressure (bar)	Operating force (N)	Weight (kg)	Spares kit	Dimension No.	Model
	G1/8	Plunger/spring	-0,9 ... 10	54	0,25	03840802	79	X0039502

5/3 manual valves

Symbol	Port size	Actuation	Colour	Function	Operating pressure (bar)	Operating force (N)	Weight (kg)	Spares kit	Dimension No.	Model
	G1/8	Lever/spring/lever	Black	APB	-0,9 ... 10	15	0,85	03840802	60	X3343802
	G1/4	Lever/spring/lever	Black	APB	-0,9 ... 10	15	1,06	03860202	76	X3363802
	G1/8	Lever/spring/lever	Black	COE	-0,9 ... 10	15	0,85	03840802	60	X3347802
	G1/4	Lever/spring/lever	Black	COE	-0,9 ... 10	15	1,06	03860202	76	X3367802
	G1/8	Lever/lever/lever	Black	APB	-0,9 ... 10	12	0,44	03840802	60	X3343702
	G1/4	Lever/lever/lever	Black	APB	-0,9 ... 10	12	0,65	03860202	76	X3363702
	G1/8	Lever/lever/lever	Black	COE	-0,9 ... 10	12	0,44	03840802	60	X3347702
	G1/4	Lever/lever/lever	Black	COE	-0,9 ... 10	12	0,65	03860202	76	X3367702

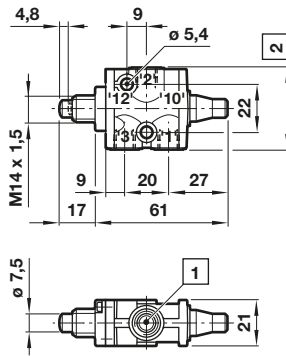
Dimensions

Dimensions in mm
Projection/First angle



1

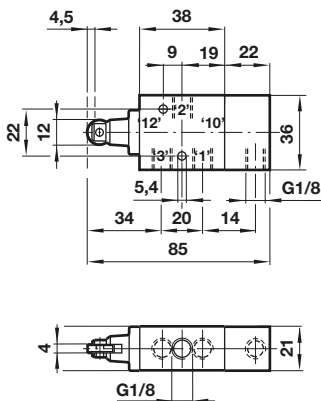
03040002, 03040032
3/2 Plunger actuated spring return valve



The plunger on this valve is designed for axial loading only.
Nut and mounting washer kit supplied as optional extra part number 03 0430 00

4

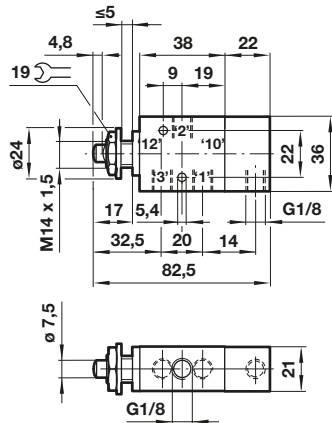
03040902
3/2 Roller actuated pilot return valve



Maximum recommended cam rise: 4,5 mm
Cam angle of approach: 30° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

2

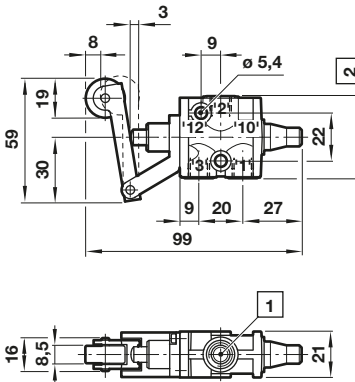
03041702
3/2 Plunger actuated pilot return valve



Full movement: 4,8 mm
Panel hole: Ø 15 mm
The plunger on this valve is designed for axial loading only. This valve can be panel mounted.

5

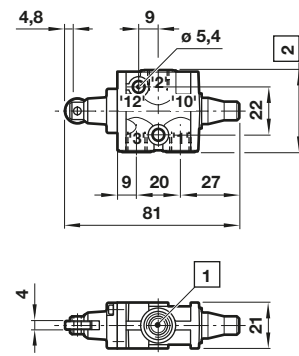
03041102, 03041132
3/2 Roller lever actuated spring
return valve



Operating travel: 8 mm
Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

(3)

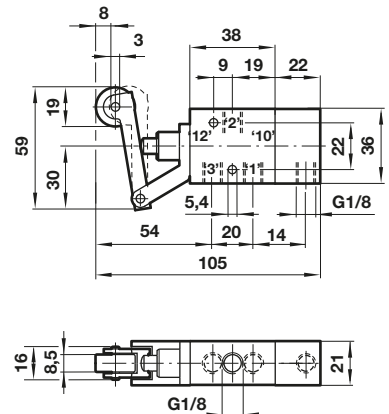
03040202, 03040232
3/2 Roller actuated spring return valve



Maximum recommended cam rise: 4,5 mm
Cam angle of approach: 30° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

(e)

03042702
3/2 Roller lever actuated pilot return valve



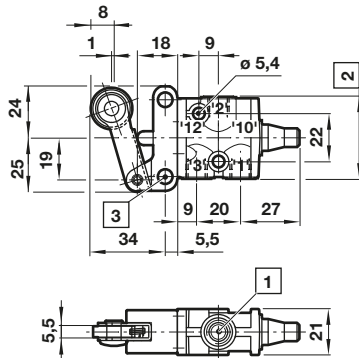
Operating travel: 8 mm;
Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

- 1** Port size G1/8 or $\varnothing$ 6 mm
- 2** 37 mm for G1/8 and 45 mm for $\varnothing$ 6 mm

7

03029302, 03029332

3/2 Heavy duty roller lever actuated spring return valve

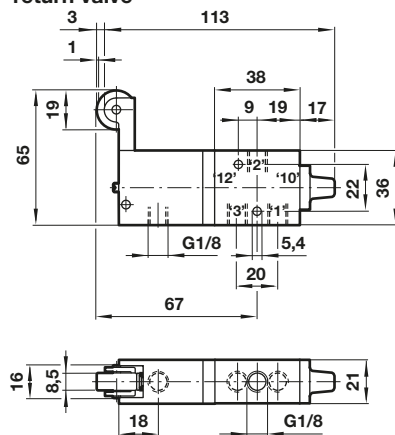


Operating Travel: 8 mm
 Over-travel: 1 mm
 Cam angle of approach: 45° maximum
 Cam speed: 8 m/min. maximum
 Operating speed: 300 cpm

8

03042302

3/2 Sensitive roller lever actuated spring return valve

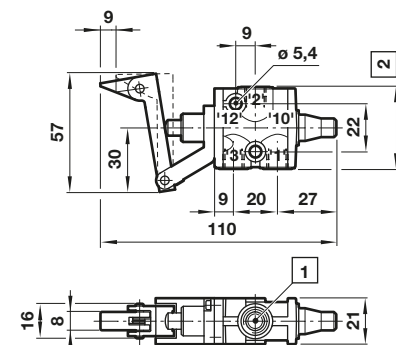


Pre-travel: 1 mm; Over-travel: 3 mm
 Cam angle of approach: 45° maximum
 Cam speed: 6,5 m/min. maximum

9

03041002

3/2 One-way trip actuated spring return valve

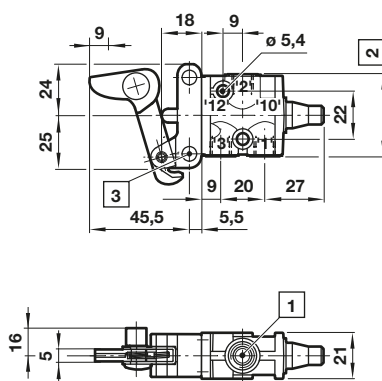


Cam rise: 9 mm
 Cam angle of approach: 90° maximum
 Cam speed: 2 m/min. maximum
 Operating speed: 120 cpm

10

03029402, 03029432

3/2 Heavy duty one-way trip actuated spring return valve

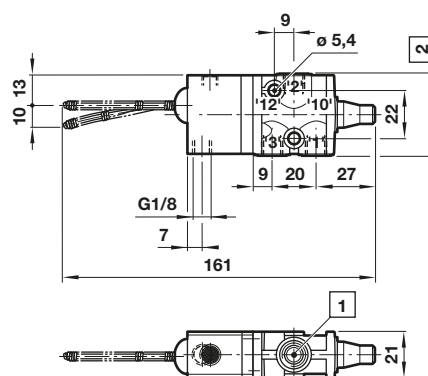


Cam rise: 9 mm
 Cam angle of approach: 90° maximum
 Cam speed: 2 m/min. maximum
 Operating speed: 120 cpm

11

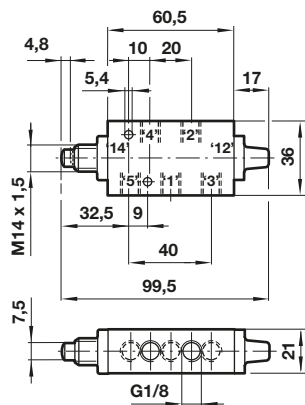
03043202, 03043232

3/2 Antenna actuated spring return valve

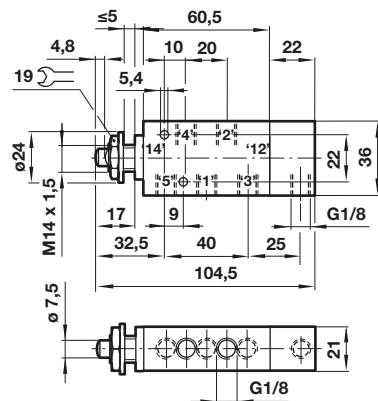


Operating movement:
 10 mm minimum in any direction.

- 1** Port size G1/8 or ø 6 mm
- 2** 37 mm for G1/8 and 45 mm for ø 6 mm
- 3** 0,7 mm thick spacing washer must be used if additional mounting holes are used.

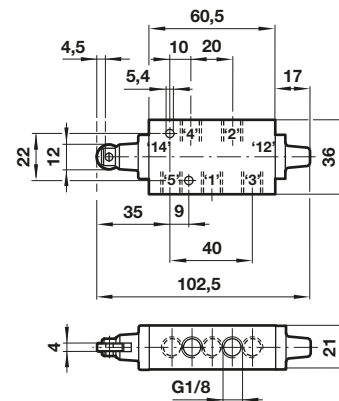
12
X3044002
5/2 Plunger actuated spring return valve


Full movement: 4,8 mm
 The plunger on this valve is designed for axial loading only.
 Nut and mounting washer kit supplied as optional extra part number 03 0430 00

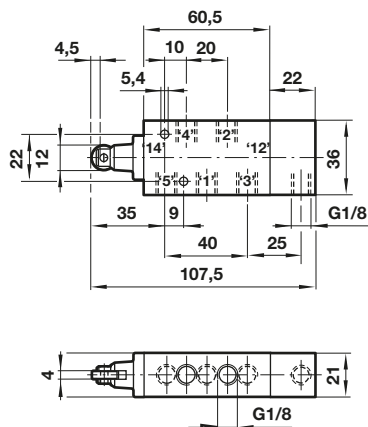
13
X3045702
5/2 Plunger actuated pilot return valve


Full movement: 4,8 mm
 Panel hole: Ø 15 mm
 The plunger on this valve is designed for axial mounting only. This valve can be panel mounted.

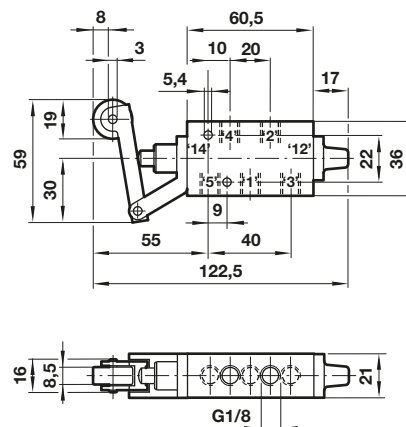
14
X3044202
5/2 Roller actuated spring return valve

 Dimensions in mm
 Projection/First angle


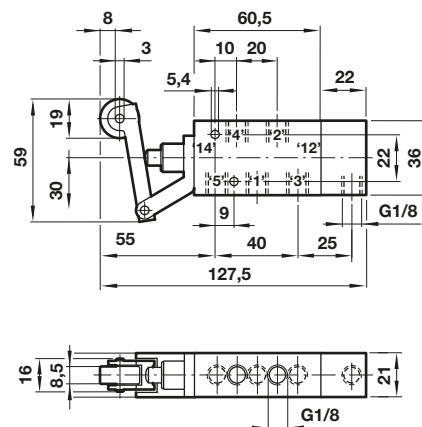
Maximum recommended cam rise: 4,5 mm
 Cam angle of approach: 30° maximum
 Cam speed: 8 m/min. maximum
 Operating speed: 300 cpm

15
X3044902
5/2 Roller actuated pilot return valve


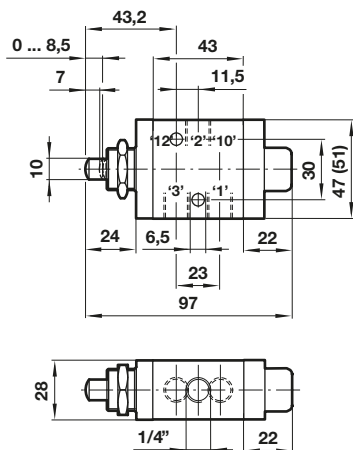
Maximum recommended cam rise: 4,5 mm
 Cam angle of approach: 30° maximum
 Cam speed: 8 m/min. maximum
 Operating speed: 300 cpm

16
X3045102
5/2 Roller lever actuated spring return valve


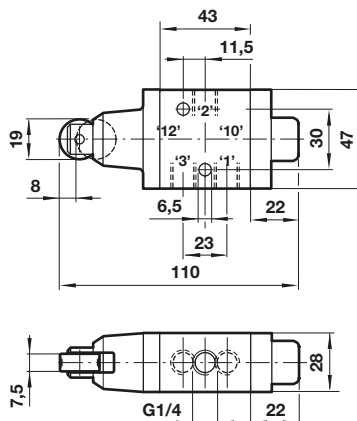
Operating travel: 8 mm
 Over-travel: 3 mm
 Cam angle of approach: 45° maximum
 Cam speed: 8 m/min. maximum
 Operating speed: 300 cpm

17
X3046702
5/2 Roller lever actuated pilot return valve


Operating travel: 8 mm; Over-travel: 3 mm
 Cam angle of approach: 45° maximum
 Cam speed: 8 m/min. maximum
 Operating speed: 300 cpm

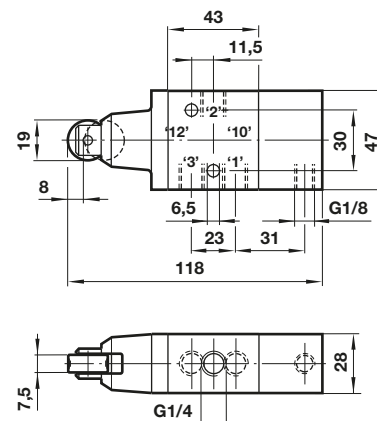
23
03060002
3/2 Plunger actuated spring return valve


Panel hole: Ø 21 mm
 The plunger on this valve is designed for axial loading only.

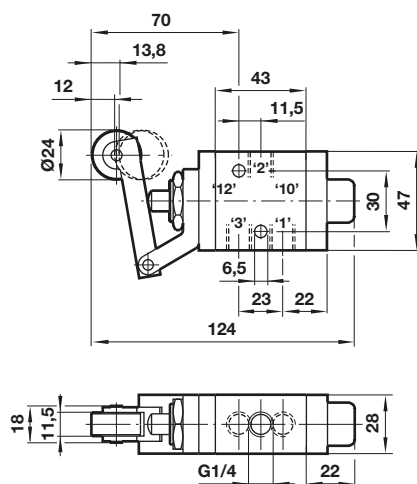
24
03060202
3/2 Roller actuated spring return valve


Cam angle of approach: 45° maximum
 Cam speed: 6 m/min. maximum
 Operating speed: 200 cpm

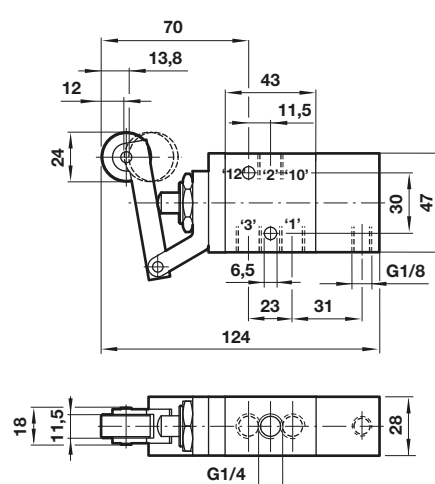
25
03060902
3/2 Roller actuated pilot return valve

 Dimensions in mm
 Projection/First angle


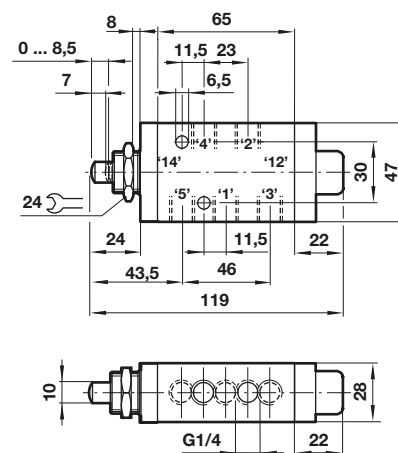
Cam angle of approach: 45° maximum
 Cam speed: 6 m/min. maximum
 Operating speed: 200 cpm

26
03061102
3/2 Roller lever actuated spring return valve


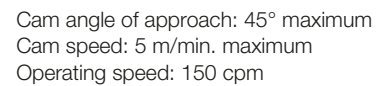
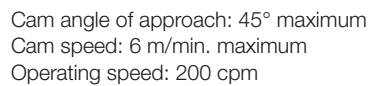
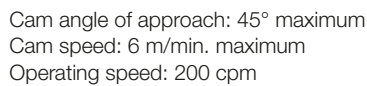
Cam angle of approach: 45° maximum
 Cam speed: 5 m/min. maximum
 Operating speed: 150 cpm

27
03062402
3/2 Roller lever actuated pilot return valve


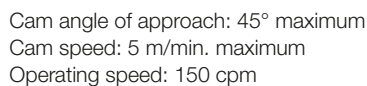
Cam angle of approach: 45° maximum
 Cam speed: 5 m/min. maximum
 Operating speed: 150 cpm

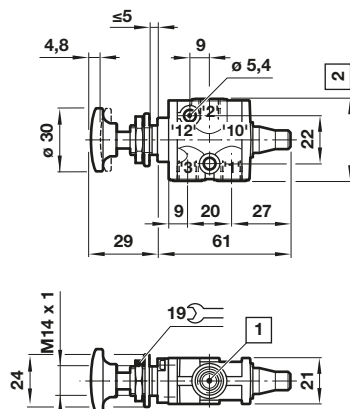
28
X3064002
5/2 Plunger actuated spring return valve


Panel hole: Ø 21 mm
 The plunger on this valve is designed for axial loading only.

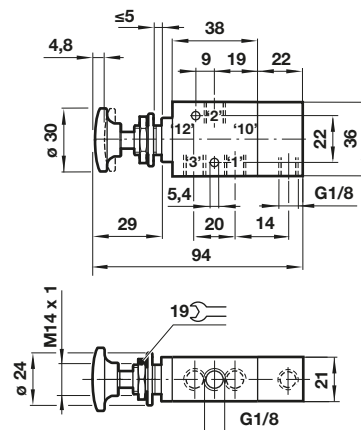


Dimensions in mm
Projection/First angle



33
03040402, 03040502, 03040602
3/2 Button operated spring return valves


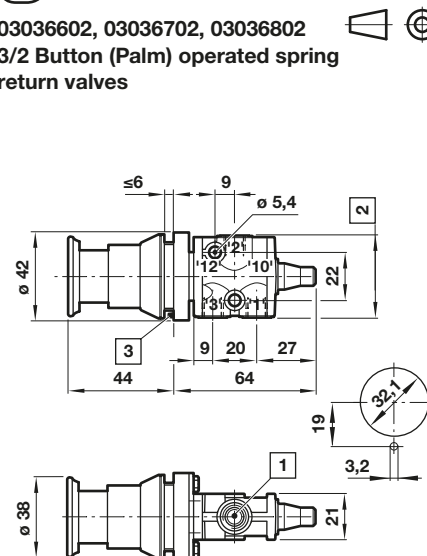
These valves are suitable for panel mounting by means of an optional nut and washer, reference 03 0430 00; a shrouded panel mounting kit is also available, reference 03 0429 00.

34
03040802, 03042002, 03042102
3/2 Button operated pilot return valve


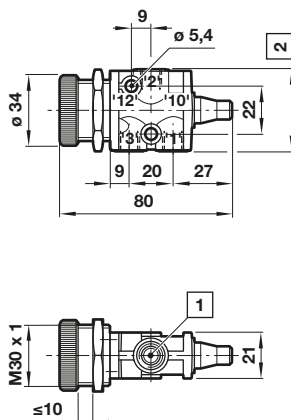
These valves are suitable for panel mounting by means of an optional nut and washer, reference 03 0430 00; a shrouded panel mounting kit is also available, reference 03 0429 00.

35
03036602, 03036702, 03036802
3/2 Button (Palm) operated spring return valves

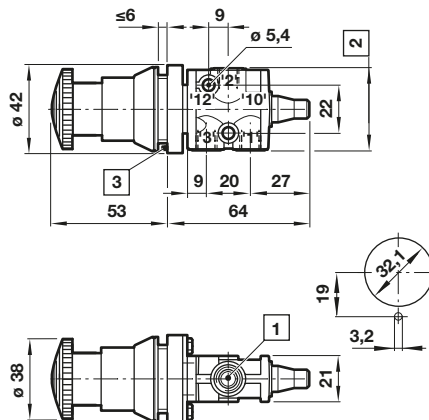
Dimensions in mm
Projection/First angle



These valves are suitable for panel mounting.

36
03041402, 03041502, 03041602
3/2 Button (Shrouded) operated spring return valves


These valves are suitable for panel mounting.

37
03042802, 03042832
3/2 Button (Palm) operated, twist return valve (Emergency stop)


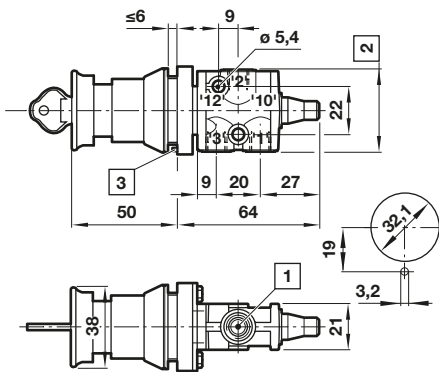
Valve latches when button is depressed and returns when the locking ring is rotated anti-clockwise.
This valve is suitable for panel mounting.

- 1 Port size G1/8 or 6 mm
- 2 37 mm for G1/8 and 45 mm for 6 mm

39

03033502, 03033532

3/2 Button (Palm) operated key return valve

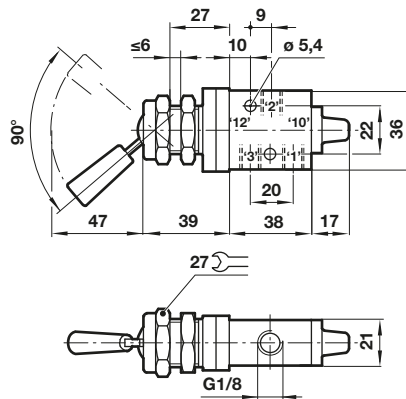


Valve latches when button is depressed.
 To reset, turn key. This valve is suitable for panel mounting.

40

03029602

3/2 Toggle operated toggle return valve



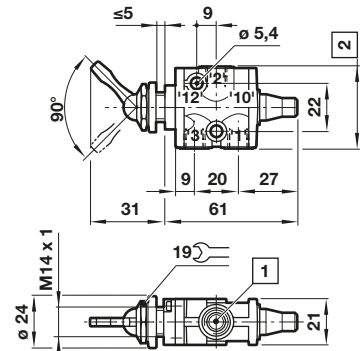
Panel hole: Ø 22,5 mm
 This valve is suitable for panel mounting.

41

03040302, 03040332

3/2 Toggle operated spring return valve

Dimensions in mm
 Projection/First angle

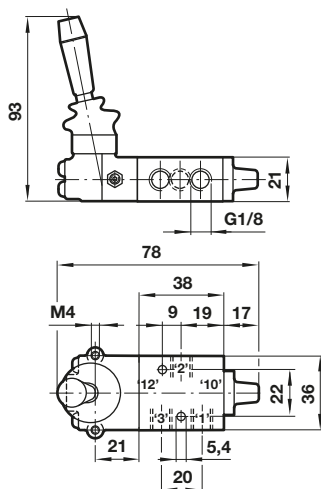


This valve is suitable for panel mounting.
 A fingertip extension is available for this valve, reference 07003301.

42

03043802 & 03043702

3/2 Lever operated spring return valve



Model 03043702 features a positive detent in each position and is suitable for panel mounting by means of a bezel kit, reference 03343764.
 Panel hole: Ø 24 mm
 Panel thickness: 8 mm maximum

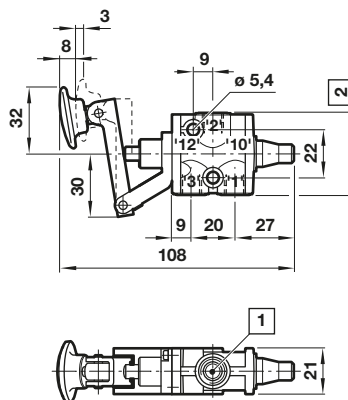
1 Port size G1/8 or ø 6 mm

2 37 mm for G1/8 and 45 mm for ø 6 mm

43

03042602

3/2 Knob lever operated spring return valve



This valve is suitable for panel mounting.
 Panel hole: Ø 24 mm;
 Panel thickness: 8 mm maximum

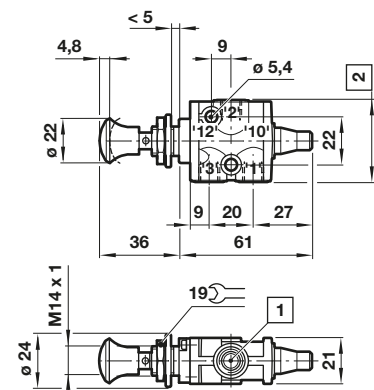
44

03034502, 03034532

3/2 Knob operated spring return valve

03042502, 03042532

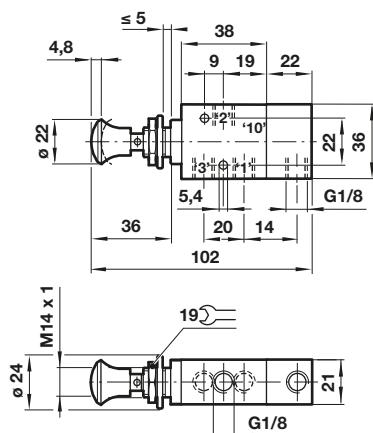
3/2 Knob operated knob return valve



This valve is suitable for panel mounting by means of an optional nut and washer, reference 03043000.

45

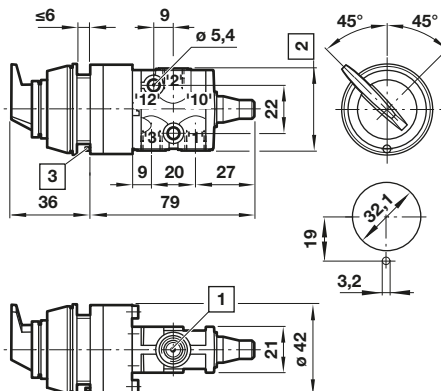
03042402
**3/2 Knob operated, knob or pilot
return valve**



This valve is suitable for panel mounting by means of an optional nut and washer, reference 03 0430 00.

46

03041902, 03041923
**3/2 Rotary knob operated rotary knob
return valve**

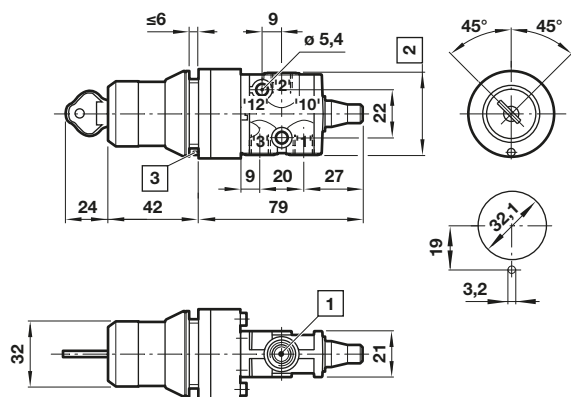


Switch shown in non-operated position
This valve is suitable for panel mounting.

Dimensions in mm
Projection/First angle


48

03041802801, 03041832801
3/2 Key operated key return valve



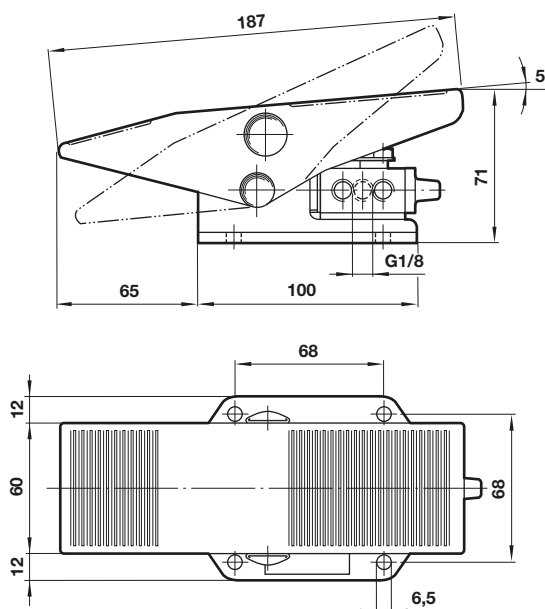
The key is removable in both positions.
Key slot shown in non-operated position.
Two keys are supplied.
This valve is suitable for panel mounting.

1 Port size G1/8 or $\varnothing$ 6 mm

2 37 mm for G1/8 and 45 mm for $\varnothing$ 6 mm

49

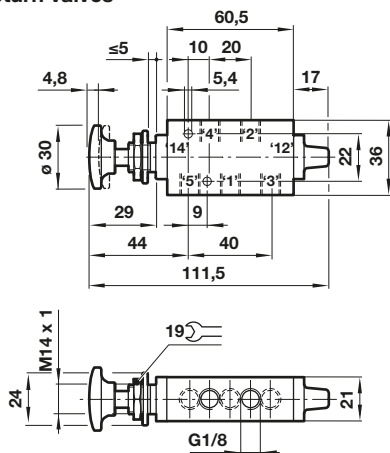
03048102
3/2 Pedal operated spring return valve
03048302
3/2 Pedal operated pedal return valve



A foot guard is available for this valve, reference 03 0480 60.

50

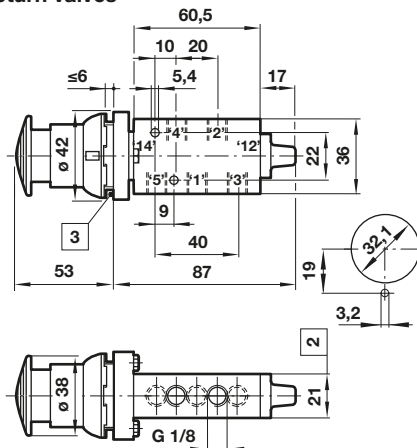
X3044402, X3044502, X3044602
5/2 Button (Palm) operated spring
return valves



Operating force: 54 N
 These valves are suitable for panel mounting by means of an optional nut and washer, reference 03043000; a shrouded panel mounting kit is also available, reference 03042900.

51

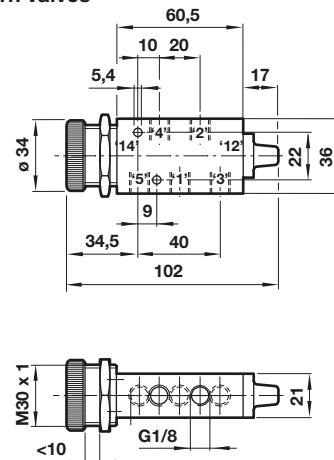
X3038602, X3038702, X3038802, X3046802
5/2 Button (Palm) operated spring
return valves



These valves are suitable for panel mounting.

52

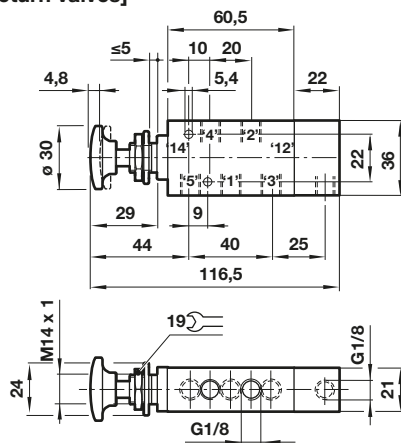
X3045402, X3045502, X3045602
5/2 Button (Shrouded) operated spring
return valves



These valves are suitable for panel mounting.

53

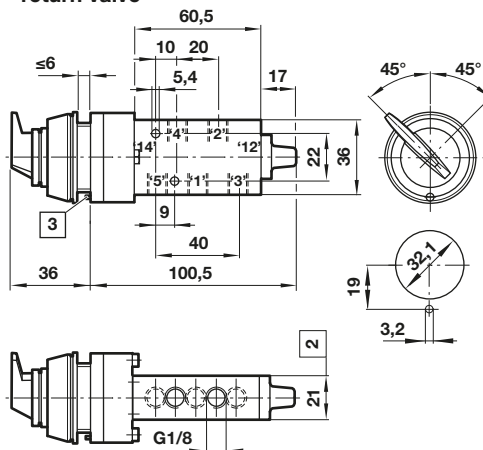
X3044802, X3046002, X3046102
5/2 Button (Palm) operated pilot
return valves]



These valves are suitable for panel mounting by means of an optional nut and washer, reference 03043000; a shrouded panel mounting kit is also available, reference 03042900.

54

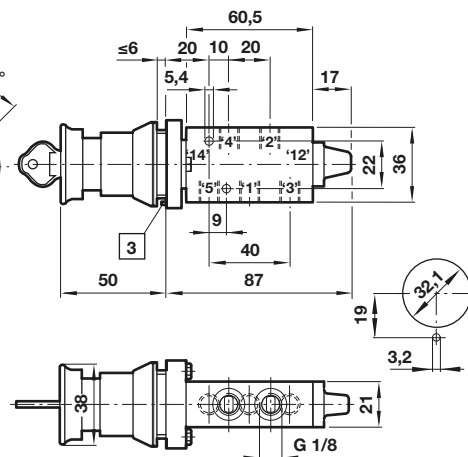
X3045902
5/2 Rotary knob operated rotary knob
return valve



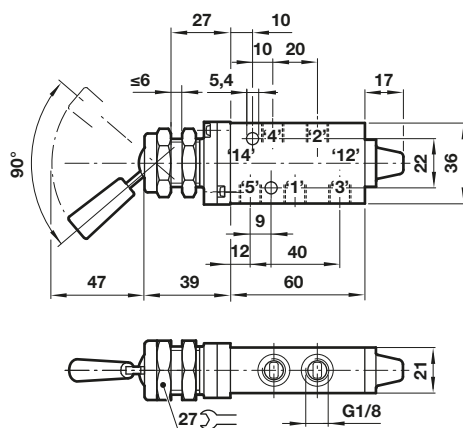
Switch shown in non-operated position
 This valve is suitable for panel mounting.

55

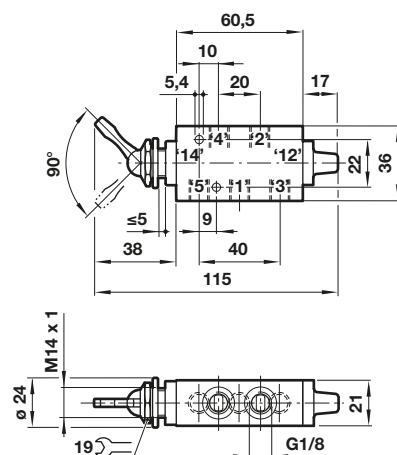
X3037502
5/2 Button (Palm) operated key return valve



Valve latches when button is depressed.
 To reset, turn key. This valve is suitable for panel mounting.

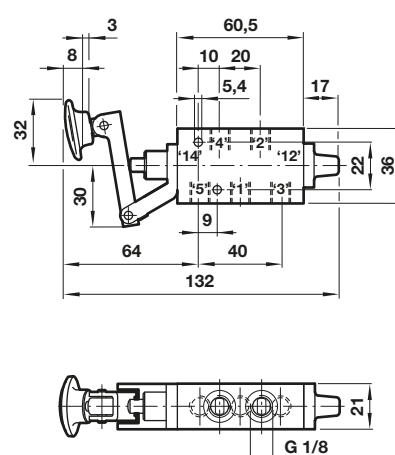
56
X3029602
5/2 Toggle operated return valve


Panel hole: Ø 22,5 mm
 This valve is suitable for panel mounting.

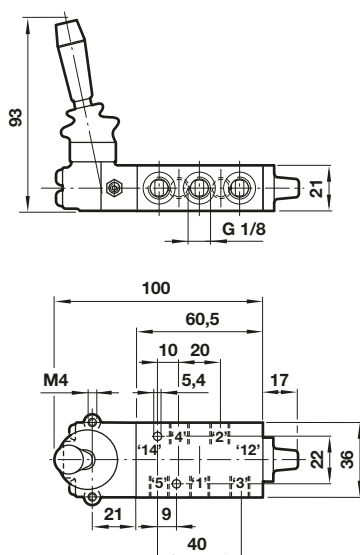
57
X3044302
5/2 Toggle operated spring return valve5


This valve is suitable for panel mounting.
 A fingertip extension is available for use
 on this valve, reference 07 0033 01.

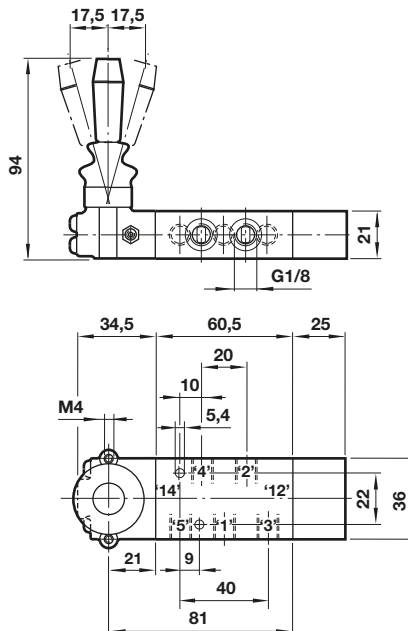
58
X3046602
5/2 Lever operated spring return valve

 Dimensions in mm
 Projection/First angle


This valve is suitable for panel mounting.
 Panel hole: Ø 24 mm;
 Panel thickness: 8 mm maximum

59
X3047802, X3047702
5/2 Lever operated valve


Both models are suitable for panel
 mounting by means of a bezel kit,
 reference 03 3437 64.
 Panel hole: Ø 24 mm
 Panel thickness: 8 mm maximum

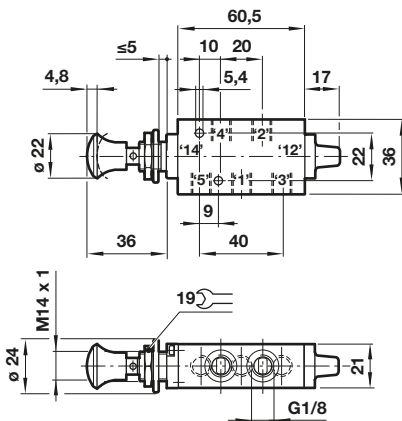
60
X3343802, X3347802, X3343702, X3347702
5/3 Lever operated valves


All models are suitable for panel mounting,
 by means of a bezel kit,
 reference 03 3437 64.
 Panel hole: Ø 24 mm
 Panel thickness: 8mm maximum

61

X3046502

5/2 Knob operated knob return valve

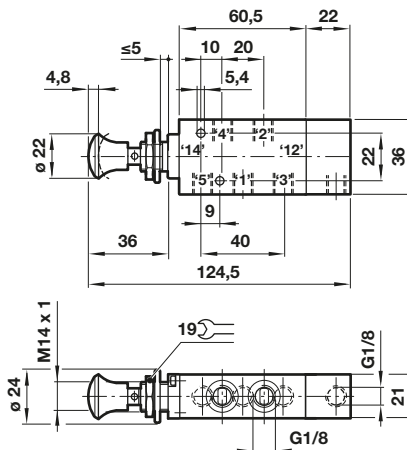


This valve is suitable for panel mounting by means of an optional nut and washer, reference 03043000.

62

X3046402

5/2 Knob operated, knob or pilot return valve

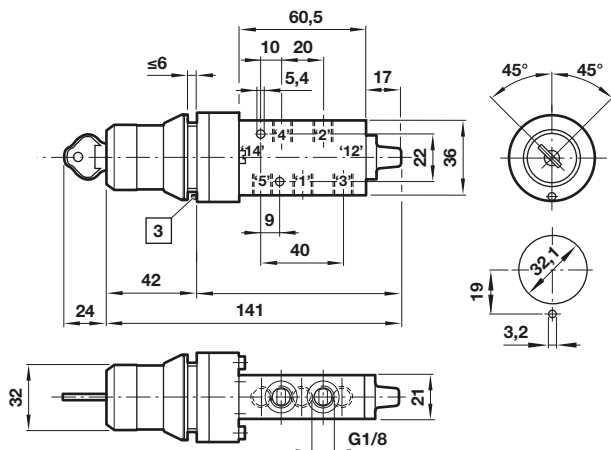


These valves are suitable for panel mounting by means of an optional nut and washer, reference 03043000.

64

X3045802801

5/2 Key operated key return valve



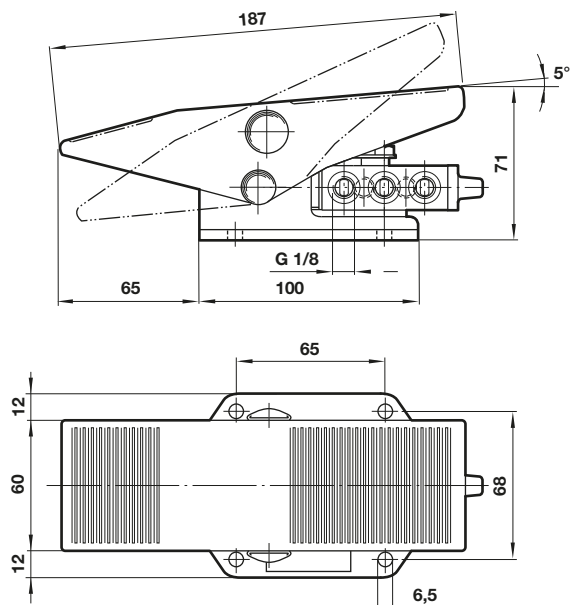
The key is removable in both positions.
 Key slot shown in non-operated position.
 Two keys are supplied.
 This valve is suitable for panel mounting.

Dimensions in mm
 Projection/First angle



65

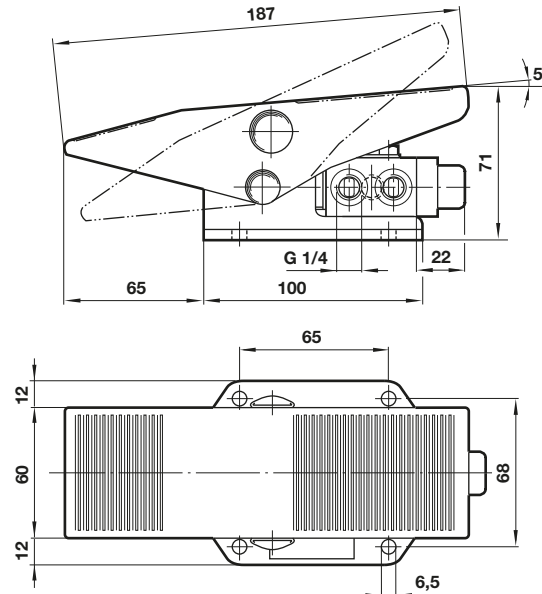
X3048202
5/2 Pedal operated spring return valve
X3048402
5/2 Pedal operated pedal return valve



A foot guard is available for this valve,
reference 03048060.

66

03068102
3/2 Pedal operated spring return valve
03068302
3/2 Pedal operated pedal return valve

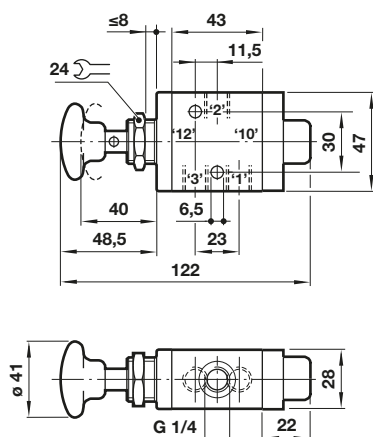


A foot guard is available for this valve,
reference 03048060.

Dimensions in mm
Projection/First angle


67

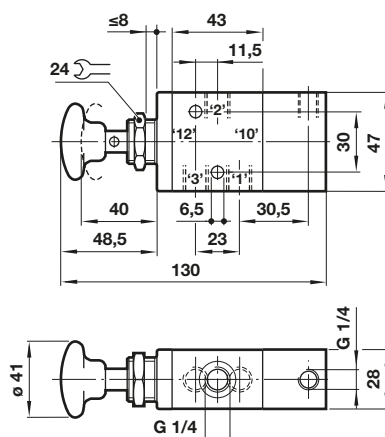
03060402
3/2 Button operated spring return valve



This valve is suitable for panel mounting
and includes a nut and washer.
Panel hole: Ø 21 mm

68

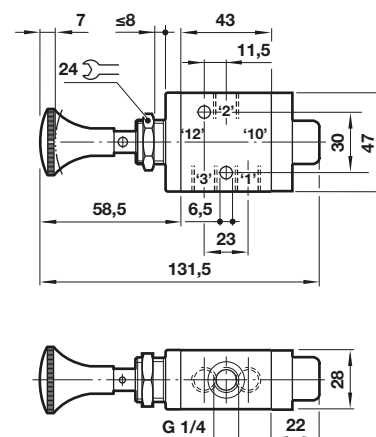
03060802
3/2 Button operated pilot return valve



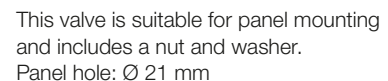
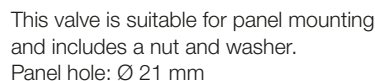
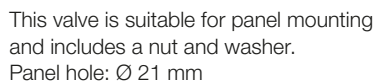
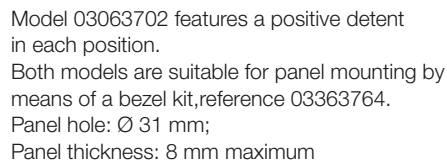
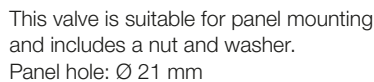
This valve is suitable for panel mounting
and includes a nut and washer.
Panel hole: Ø 21 mm

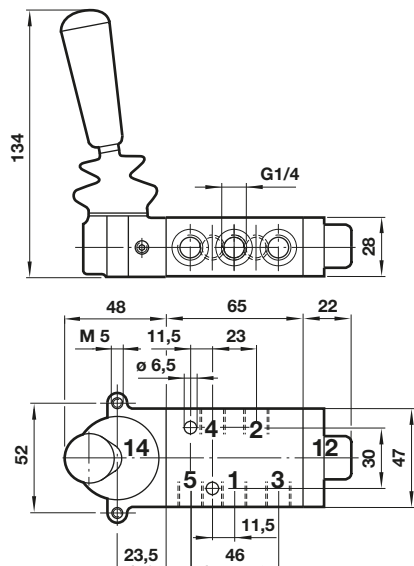
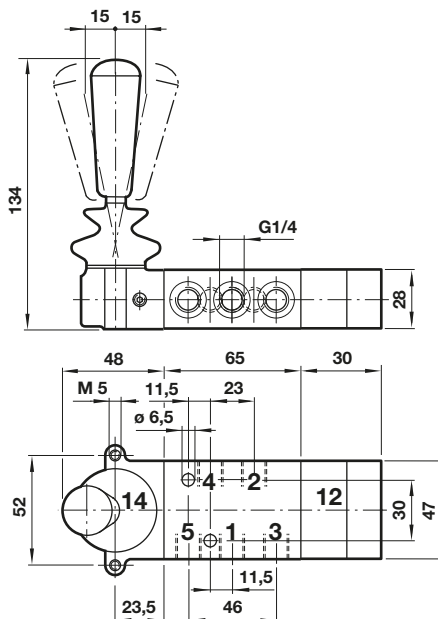
69

03062502
3/2 Knob operated knob return valve



This valve is suitable for panel mounting
and includes a nut and washer.
Panel hole: Ø 21 mm



75
X3067802, X3067702
5/2 Lever operated valve

76
X3363802, X3367802, X3363702, X3367702
5/3 Three position lever operated valves

Dimensions in mm
Projection/First angle


Model X3067702 features a positive detent in each position.

Both models are suitable for panel mounting by means of a bezel kit, reference 03363764.

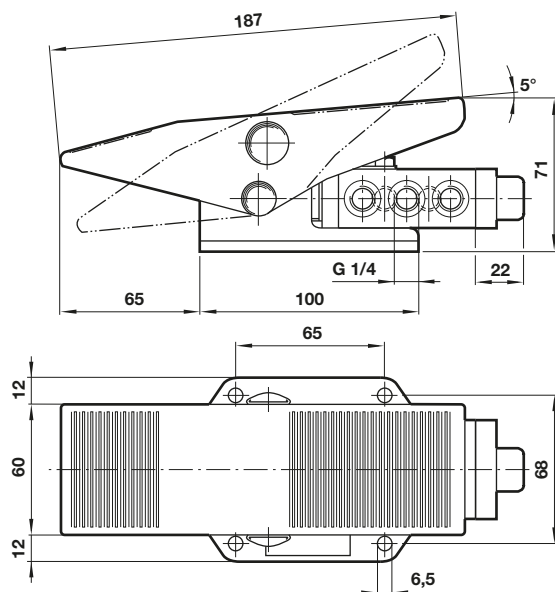
Panel hole: Ø 31 mm;

Panel thickness: 8 mm maximum,

These valves are suitable for panel mounting by means of a bezel kit, reference 03363764.

Panel hole: Ø 31 mm

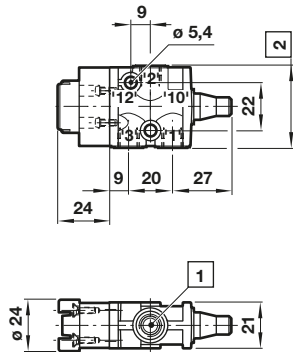
Panel thickness: 8 mm maximum

77
X3068202
5/2 Pedal operated spring return valve
X3068402
5/2 Pedal operated pedal return valve


A foot guard is available for this valve, reference 03048060.

78

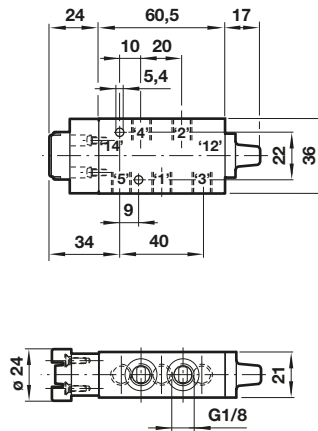
03029502, 03029532
3/2 Adapter valve



This valve is for use with standard electrical style operating heads. For details see below.

79

X3039502
5/2 Adapter valve



This valve is for use with standard electrical style operating heads. For details see below.

Dimensions in mm
 Projection/First angle

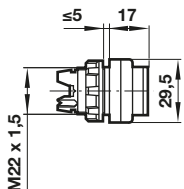


Operating heads for use with G1/8, 3/2 and 5/2 Adaptor valves

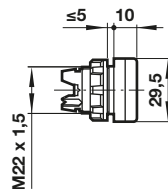
Panel hole: Ø 22,5 mm

Panel thickness: 6 mm maximum

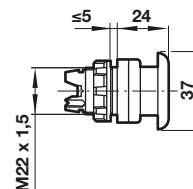
V11783-C01 (pink)
V11783-C02 (green)
V11783-C03 (black)
Button (palm) operated, spring return



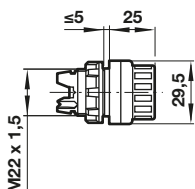
V11783-C04 (pink)
V11783-C05 (green)
V11783-C06 (black)
Button (shrouded) operated, spring return



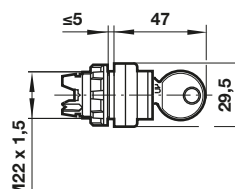
V11783-C07 (red)
V11783-C08 (green)
Button (mushroom) operated, spring return



V11783-C10
Rotary knob operated rotary knob return



V11783-C12
Key operated key return



Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/data**«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult IMI Precision Engineering, Norgren Ltd.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

- > **Port size: G 1/4 ... G 1/2**
- > **Aluminium die-cast design suitable for heavy duty applications**
- > **Detented centre position**
- > **High flow rates**
- > **Easy to grasp and rotate lever**
- > **Panel mounting option**



Technical features

Medium:

Compressed air, filtered, lubricated or non-lubricated

Port size:

G1/4, G3/8 and G1/2

Operating pressure:

0 ... 9,7 bar (0 ... 140 psi)

Flow:

400 ... 3100 l/min

Ambient/Media temperature:

-5 ... +60°C (+23 ... +140°F)

Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

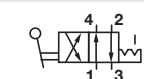
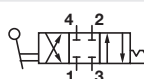
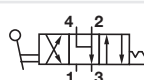
Other versions on request:

NPT, G1/8, G3/4 and bottom port versions available on request

Materials:

Body and cover: Aluminium alloy
Lever rod seat: Zinc alloy
Lever rod: Carbon steel
Lever: POM
Panel mounting nut: Rolled steel
Seals: NBR

Technical data

Symbol	Function	Flow (l/min)	Port size	Weight (kg)	Drawing No.	Model
	4/2	400	G1/4	0,28	1	VHLA202-02G
	4/2	1100	G3/8	0,42	2	VHLA302-03G
	4/2	3100	G1/2	1,1	3	VHLA402-04G
	4/3 APB	400	G1/4	0,28	1	VHLA200-02G
	4/3 APB	1100	G3/8	0,42	2	VHLA300-03G
	4/3 APB	3100	G1/2	1,1	3	VHLA400-04G
	4/3 COE	400	G1/4	0,28	1	VHLA201-02G
	4/3 COE	1100	G3/8	0,42	2	VHLA301-03G
	4/3 COE	3100	G1/2	1,1	3	VHLA401-04G

Caution:

These valves are not leak free, care should be taken with safety critical applications and where an APB valve is used to hold an actuator in a mid position.

Installation:

It is recommended that air pressure is applied only at port 1, otherwise leakage may occur - (ie. reverse porting is not recommended).

It is recommended that a silencer is fitted in the exhaust port, particularly in applications where dust is present.

Option selector

VHLA★0★-0★G

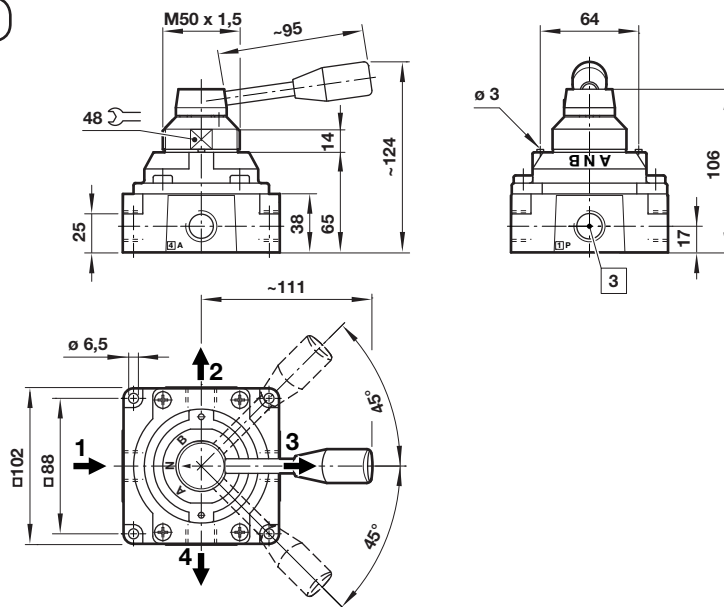
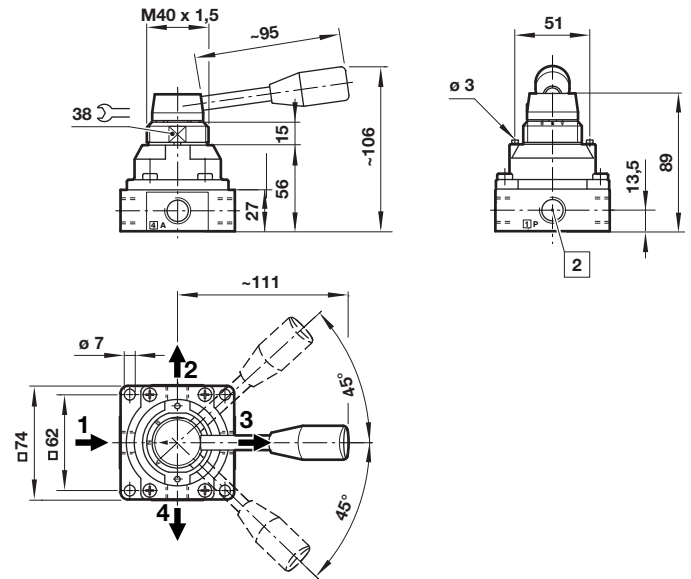
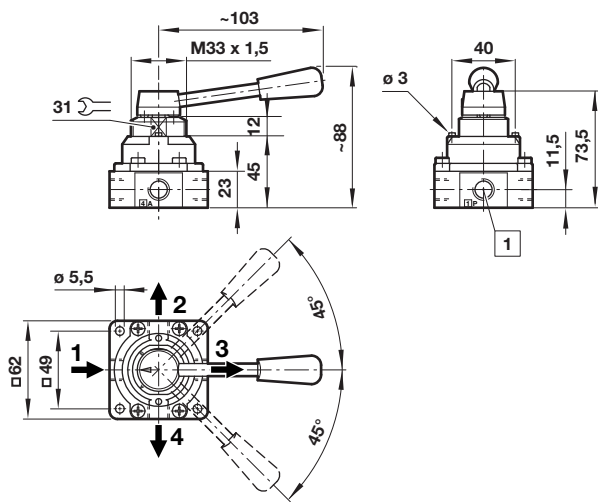
Body size	Substitute
1/4" (400 l/min)	2
3/8" (1100 l/min)	3
1/2" (3100 l/min)	4
Function	Substitute
4/3 way valve, APB	0
4/3 way valve, COE	1
4/2 way valve	2

Port size	Substitute
1/4	2
3/8	3
1/2	4

Accessories

Valve series	Panel mount nut
	
Page 2	
VHLA20..	VHLA-200N
VHLA30..	VHLA-300N
VHLA40..	VHLA-400N

1



- 1** All ports G1/4
- 2** All ports G3/8
- 3** All ports G1/2

BE

BE		KW	Weight	Model
M33x1,5	40	6	0,50 kg	VHLA-200N
M40x1,5	50	6	0,75 kg	VHLA-300N
M50x1,5	55	8	1,00 kg	VHLA-400N

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System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

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Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

www.norgren.nt-rt.ru | | ner@nt-rt.ru