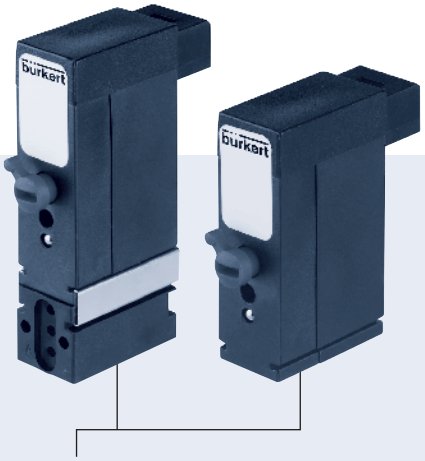
bürkert
FLUID CONTROL SYSTEMS

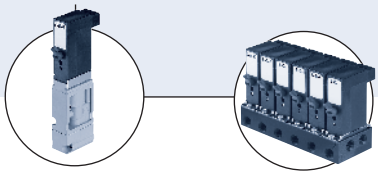
DTS 1000112361 EN Version: - Status: RL (released | freigegeben | validé) printed: 19.01.2015

3/2-way Flipper Solenoid Valve



- Direct-acting
- 0 to 145 PSI
- Low power consumption
- Sub-base connection
- 10mm width per station
- Standard, Ex ia Version

Type 6144 can be combined with...

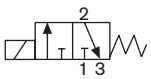


Type 6524
Servo-assisted pneumatic valve

Type 6144
Multiple manifolds (e.g. 6 valves)

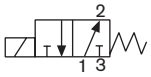
Type 6144 is a direct-action 3/2-way solenoid valve designed for neutral gases and liquids. Through the movement between the 2 end positions, the switching element (flipper) seals one of the two opposing valve seats and connects the other to the working port.
This movement is caused by the solenoids magnetic field pushing a permanent magnet that is fixed to the flipper element.
In addition to its exceptional performance characteristics, the flipper principle is especially marked by its very low switching noise and its low wear level.
Furthermore, integrated medium separation enables use above and beyond pneumatic applications.
Depending on the case of operation, various flange connections are available that are suitable for both individual and block mounting.
Installation advice: The valve must have a minimum distance of 5 mm from other ferromagnetic materials in order to avoid malfunctioning during operating conditions.

Circuit function C



3/2-way valve, direct acting, de-energized port 2 exhausted

Circuit function D



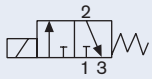
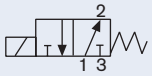
3/2-way valve, direct acting, de-energized port 2 pressurized

Technical data	
Body material	PPS (Polyphenylensulfide)
Seal material	FKM
Media	Compressed air lubricated, oil-free or dry; neutral gases and liquids (5µm filtering); technical vacuum
Media temperature	32°F to 131°F (0°C to +55°C)
Ambient temperature	32°F to 131°F (0°C to +55°C)
Port connection	· Bürkert flange · Lateral flange
Electrical connection	Rectangular plug as standard; on request: · Circular plug M8x1 · Flying lead 0.2 mm², 300 mm · Connector with raster 5.08 mm
Type of protection Standard version Ex versoion	 without II 2G Ex ia IIC T4 T5 T6 PTB01 ATEX 2048 IECEx PTB 07.0063
Operating voltage	24V/DC[1] 12V/DC[1] on request
Voltage tolerance	±10%[2]
Nominal power	0.8W
Switching function	Monostabile Bistabile (impulse) on request
Duty cycle	100% continuous rating
Installation	As required, preferably with actuator upright; 5mm minimum distance to ferromagnetic materials
Insulation class	3 acc. VDE 0580
Protection class	IP 40
Cycling rate	ca. 1000/min
Electrical control	with SPS possible
Response times Open (Pressure rise 0 to 10%) Close (Pressure rise 100 to 90%)	Measurement at the valve outlet, at 68°F (20°C) and 87 PSI inlet pressure, according to DIN ISO 12238: ca. 8 ms (Standard) ca. 14 ms (Ex version) ca. 10 ms (Standard) ca. 18 ms (Ex version)

[1] Battery voltage; observe polarity as shown on top of the valve
[2] Max. allowed ripple

Ordering chart, standard version (other versions on request)

All valves with rectangular plug, mounting screws and flange seal; without plug connection (see Accessories)

Circuit function	Port connection	Orifice [mm]	QNn value 1-2 air [l/min][1]	QNn value 2-3 air [l/min][1]	Pressure range[2] [PSI]	Manual override	Voltage [V]	Nominal power [W]	Item no.
C  3/2-way valve NC	Bürkert flange	0.6	7.0	8.5	0 - 145[3]	yes	24	0.8	181 367
	lateral flange	0.6	6.0	7.5	0 - 145	yes	24	0.8	175 682
	lateral flange	0.6	6.0	7.5	0 - 145	no	24	0.8	463 261
D  3/2-way valve NO	Bürkert flange	0.6	7.0	8.5	0 - 145	yes	24	0.8	175 653
	lateral flange	0.6	6.0	7.5	0 - 145	yes	24	0.8	179 098
	lateral flange	0.6	6.0	7.5	0 - 145	no	24	0.8	463 260

[1] **QNn value air [l/min]:** Measurement with 68°F (+20°C), 87 PSI pressure on the valve input and 14.5 PSI pressure differential
[2] **Pressure values [PSI]:** Measured as overpressure to the atmospheric pressure
[3] Vacuum version on request

Mounting screws for Bürkert flange: M1.6x5 for Lateral flange: M1.6x20

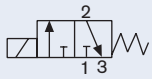
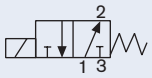
Further versions on request

Electrical connection
2 flying leads, circular plug or connector

Circuit functions
Circuit function A and B

Ordering chart, Ex version

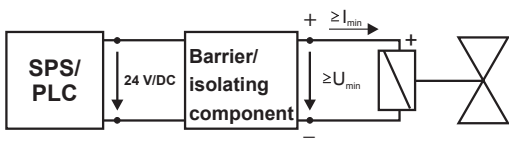
Approval acc. to II 2G Ex ia IIC T4 T5 T6 PTB01 ATEX 2048 and IECx PTB 07.0063
All valves with rectangular plug, mounting screws and flange seal; without plug connection (see Accessories)

Circuit function	Port connection	Orifice [mm]	QNn value 1-2 air [l/min][1]	QNn value 2-3 air [l/min][1]	Pressure range[2] [PSI]	Manual override	Voltage [V]	Minimum holding current [mA]	Item no.
C  3/2-way valve NC	Bürkert Flange	0.6	7	8.5	0 - 101.5	with	24	29	175 657
	Bürkert Flange	0.6	7	8.5	0 - 101.5	with	24	23	175 656
D  3/2-way valve NO	Bürkert Flange	0.6	7	8.5	0 - 101.5	with	24	29	183 550

[1] **QNn value air [l/min]:** Measurement with 68°F (+20°C), 87 PSI pressure on the valve input and 14.5 PSI pressure differential
[2] **Pressure values [PSI]:** Measured as overpressure to the atmospheric pressure
[3] Vacuum version on request

Mounting screws for Bürkert flange: M1.6x5 for Lateral flange: M1.6x20

Electrical data:



Functional values for valve switching function at 0 °C to +55°C		Permitted maximum values/ value pairs acc. to operating instructions
Min. holding current:	29mA	U_i 35V
Nominal coil resistance	320Ω ±4%	I_i 0.9A
Min. Holding current:	23mA	
Nominal coil resistance	510Ω ±4%	

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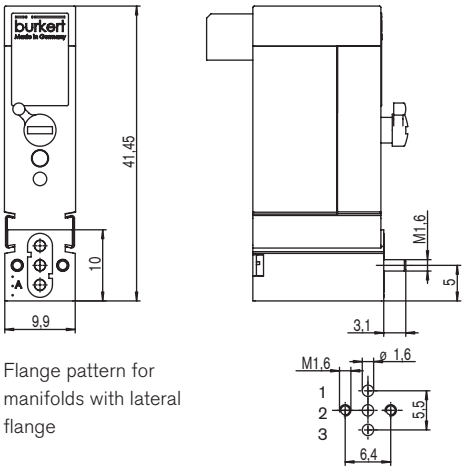
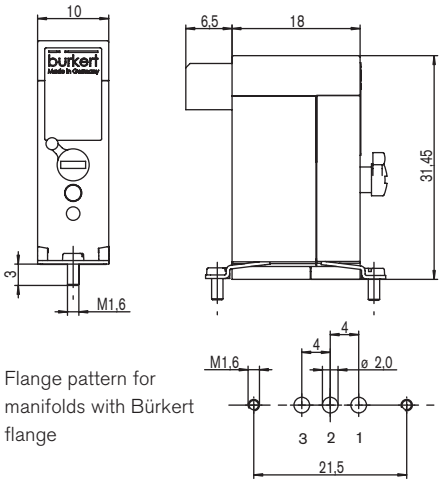
Dimensions [mm]

Type 6144 with lateral flange



Flange pattern for manifolds with lateral flange

Type 6144 with Bürkert flange



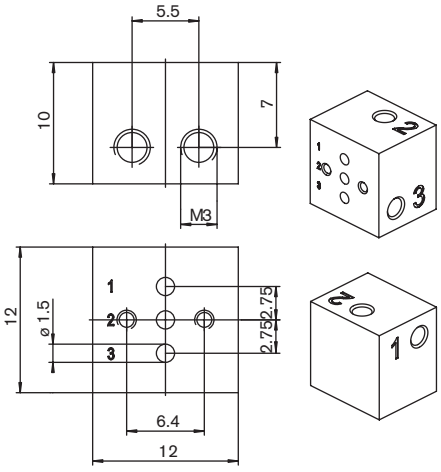
Flange pattern for manifolds with Bürkert flange

The valve can optionally be delivered with manual override on the left or right hand side (standard: opposite the electrical connection).

Dimensions manifolds [mm]

Single manifold for lateral flange

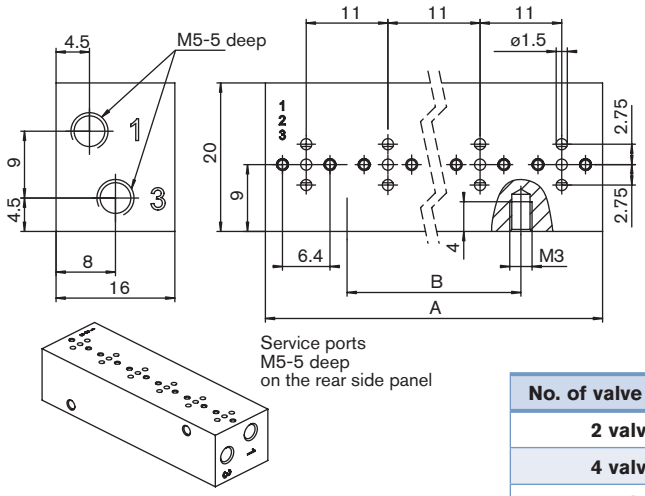
Material: Aluminium



Dimensions manifolds [mm]

Multiple manifolds for lateral flange

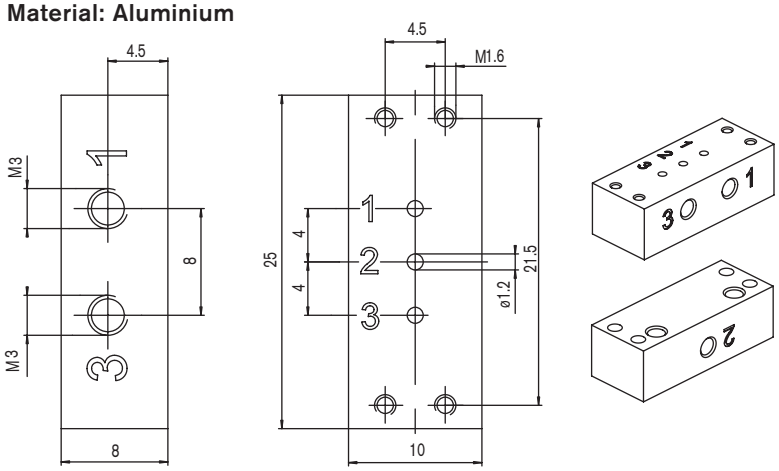
Material: Aluminium



No. of valve modules	A	B
2 valves	22	–
4 valves	44	22
6 valves	66	44

Single manifold for Bürkert flange

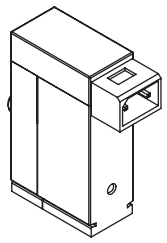
Material: Aluminium



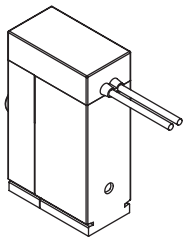
Ordering chart manifolds

Accessory	Characteristics	Item no.
Single manifold	for Bürkert flange, M3	639 873
Single manifold	for lateral flange, M3	639 234
Manifold 2 valves	for lateral flange, M5	641 915
Manifold 4 valves	for lateral flange, M5	641916
Manifold 6 valves	for lateral flange, M5	639 235
Blanking plate set	for unused lateral flange stations	645 513
Push-in fitting	Brass, straight, M3, for 4/2 mm tube	782 534
Push-in fitting	Brass, straight, M5, for 4/2 mm tube	787 810
Rectangular cable plug	with 3 m cable	133 486
Rectangular cable plug	with 300 mm flying leads	644 068
Rectangular cable plug	with 2 single contacts	644 067

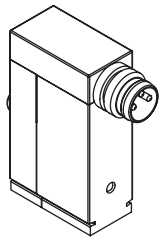
Options for the electrical connection, rectangular plug as standard, other connections on request



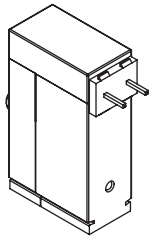
Rectangular plug
Raster 5.08 mm



2 Flying leads
0.2 mm^2, 300 mm long



Circular connector
M8x1, 3-pins



Connector
Raster 5.08 mm (e.g. for printed board mounting)

To find your nearest Burkert facility, click on the orange box ⟶

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