

TECHNICAL SPECIFICATION

B6M Series 2-Way – Normally Closed

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PRODUCT DESCRIPTION

The B6M series of valves are normally closed direct lift solenoid valves. The B6M series uses a seal on the end of the plunger to seal off the valve orifice directly. This design enables the valve to open with zero pressure drop across the valve orifice.

Typical Applications

The B6M valves are general purpose valves for controlling flow of air, gas, water, and light oil.

PRINCIPLE OF OPERATION

Functionality

The B6M series of valves are solenoid operated. The valve is opened by the application of a suitable electric power supply to the solenoid coil. This coil provides magnetic flux to the solenoid which causes an armature (plunger) to move towards an opposing pole face (iron top) within the solenoid. The plunger end has a seal attached which seats on the valve orifice, sealing the valve inlet from the outlet when the plunger is in the closed position. When the coil is energized, the plunger is lifted off the valve orifice allowing fluid to flow freely through the valve. When the coil is de-energised, the plunger is freed from the magnetic flux and moves back to its closed position under the influence of a return spring.

PERFORMANCE

Flow Performance

See table below

Pressure Rating

See table below

Temperature Rating

Ambient temperature range: -34°C to 25°C (-29°F to 77°F), specific approvals may have different temperature ranges.

Fluid Temperature range: -34°C to 82°C (-29°F to 180°F), for standard seal materials. FMK and EPDM may be used to 100°C (212°F), specific approvals may have different temperature ranges.

Fluid Media

Water, light oil, air, gas

Power Consumption & Duty Cycle

See *How To Order* guide for coil options. All coils are continuous duty rated.

Unit Weight

Model	Pipe size mm (inches)	Pressure kPa (psi)	Cv/Kv	Orifice mm (inches)	Weight kg (lbs)	Height mm (inches)	Width mm (inches)	Length mm (inches)
1B6M	6 (1/4)	0-2100 (0-300)	0.1/0.09	1.6 (0.063)	0.58 (1.28)	74.6 (2.93)	49.2 (1.93)	88.9 (3.5)
2B6M	6 (1/4)	0-1200 (0-175)	0.2/0.18	2.4 (0.093)	0.58 (1.28)	74.6 (2.93)	49.2 (1.93)	88.9 (3.5)
4B6M	6 (1/4)	0-1000 (0-150)	0.3/0.26	2.8 (0.109)	0.58 (1.28)	74.6 (2.93)	49.2 (1.93)	88.9 (3.5)
5B6M	6 (1/4)	0-400 (0-60)	0.5/0.43	4.8 (0.188)	0.58 (1.28)	74.6 (2.93)	49.2 (1.93)	88.9 (3.5)
6B6M	6 (1/4)	0-200 (0-30)	0.7/0.60	6.3 (0.250)	0.58 (1.28)	74.6 (2.93)	49.2 (1.93)	88.9 (3.5)

APPROVALS

Approvals Carried

AGA (Australian Gas Association):

Various models are approved as automatic shutoff valves class 1. Certificate numbers are 2735, 11.92; 2870, 12.90. Please contact your nearest Goyen representative for further details.

ALPGA (Australian Liquid Petroleum Gas Association):

Various models are approved as fuel lock-off valves. Certificate numbers are 3239, 6.93; 4001, 10.93. Please contact your nearest Goyen representative for further details.

CE:

Applicable only to coil, see coil performance specification.

UL (Underwriters Laboratories):

Various models are approved as electrically operated valves. Listed General Purpose Valve, file MH9011, section 2.07. Recognised components, MH9011, section 1.08. Please contact your nearest Goyen representative for further details.

WaterMark:

Licence W172

CONSTRUCTION

Body

Machined DR brass as standard. See How To Order guide for body material options.

Diaphragm & Seals

Nitrile rubber as standard, FMK, EPDM and Neoprene are optional.

Solenoid Operator

Stainless steel (300 and 400 series), valves designed for AC operation will contain a copper shading ring. Stainless steel and nickel plated valves have a silver shading ring instead of copper.

Screws

Stainless steel.

Enclosure

See How To Order guide for coil enclosure options.

DIMENSIONAL DETAILS

Envelope Size

See below table for envelope dimensions.

Port Sizes

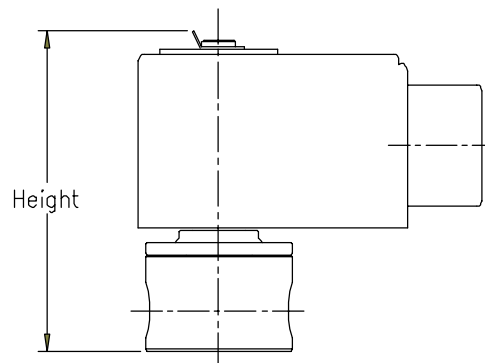
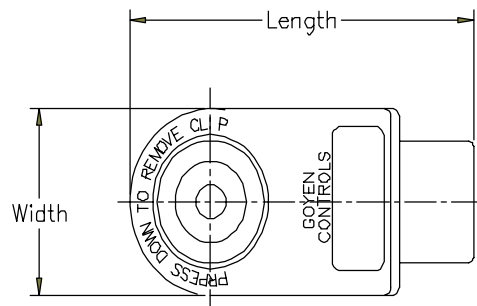
See How To Order guide for port thread options.

Electrical Connections

See How To Order guide for coil connection options.

Mounting Details

These valves are designed to be mounted in any position or orientation. It is preferable to mount the valve horizontally with the solenoid coil vertically uppermost. This will minimise the accumulation of sediment in the moving parts of the valve.



HOW TO ORDER

The example shows a 12QWJ2-ENBNT-7143 which may be described in words as:

A 12mm (1/2" ports), Q series coil, Pilot operated diaphragm with inline ports, design series 2, normally closed, No approvals, Forged brass, Nitrile seals, RC (BSPT) inlet and outlet threads, NEMA 1 enclosure, 240V 50Hz coil.

col 1	col 2	col 3	col 4	col 5	col 6	col 7	col 8	col 9	col 10	col 11
2	B6M	-	E	N	B	N	T	-	61	43

Col 1

Nominal Size	Description
1	1.5 mm orifice
2	2.3 mm orifice
4	3.2 mm orifice
5	4.7 mm orifice
6	6.3 mm orifice

Col 2

Valve Series	B6M
Description	Q coil, 1/4" ported direct lift type valve

Col 3 and Col 9

Dash Delimiter

Col 4

Key Design Feature	Description
A	AC or DC normally closed

Col 5

Approvals	Description
N	No approval
1	Class 1 AGA approved gas valve
3	Class 3 AGA approved gas valve
D	UL listed - safety shutoff
E	UL registered component - general purpose
F	UL registered component - safety shutoff
W	WaterMark

Col 6

Body Material	Description
A	Aluminium
B	Brass
H	Acetal
J	Nylon 6
K	Nylon 66
L	ABS
M	Polysulphone
N	Electroless nickel plated brass
S	Stainless steel

Col 7

Seal materials	Description
N	Nitrile
E	EPDM
V	FMK
R	Neoprene

Col 8

Port threads	Description
T	RC (BSPT)
A	NPT
P	RP (BSPP)

Col 11

Coil/Enclosure	Enclosure	Electrical connections	Conduit Thd.
61	NEMA 1	Screw terminals	M20 x 1.5
62	NEMA 1	Screw terminals	1/2" NPSC
67	NEMA 1	Flying leads	M20 x 1.5
68	NEMA 1	Flying leads	1/2" NPSC
63	Open C frame	Screw terminals	
64	Open C frame	Flying leads	
66	Open C frame	2 core cable	
60	Raintight	Standard DIN socket	Cable gland
6A	Raintight	Less DIN socket	Cable gland

Col 12

Coil Voltage	Description
51	220V/50Hz, 240V/60Hz, 8 watts, continuously rated
81	110V/50Hz, 120V/60Hz, 9 watts, continuously rated
43	240V/50Hz, 9 watts, continuously rated
27	24VDC, 15 watts, continuously rated
D7	12VDC, 15 watts, continuously rated

Spare Parts Kit

Valve Model	Seal Material		
	Nitrile	FMK	EPDM
B6M - AC	KM1349	KM1350	KM1408
B6M - DC	KM2447	KM2448	KM2449