

MOTOR ACTUATED BALL VALVE ABV12SV, 14SV and 20SV

FEATURES

The 304 stainless steel 2-way full flow ball valve ABV12-20SV provides the automatic shut-off function for pipeline systems for water and slightly corrosive fluids and gases. It is CE, UKCA, PED, EMC and RoHS approved. The ISO 5211, F03, F05 mounting pad enables the actuator to be directly mounted, saving space and time. The ABV12SV, 14SV and 20SV have a 12 month guarantee for up to 70,000 operations (Our in house 1 minute cycle dry destruction test achieved 977,762 cycles) and are IP67 protected for installation indoors or outdoors under shelter. Optional Failsafe Return via capacitor and precise modulating control (4-20mA, 0-10v or 0-5v).

AVAILABLE MODELS

304 stainless steel body, (option 316 stainless)

G thread connections (option NPT)

FKM/PTFE seals (Option EPDM WRAS approved)

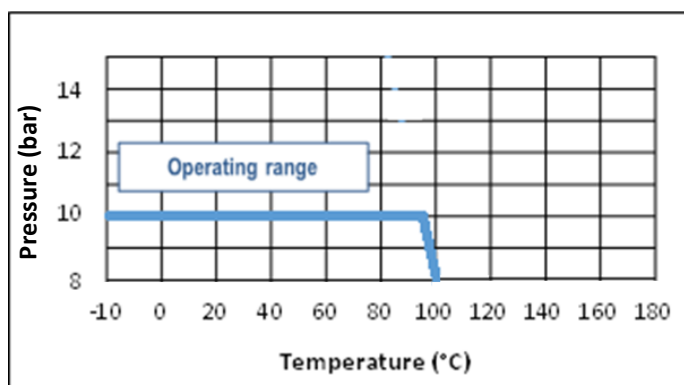
Supply voltages: 12-24vDC and 110-240vAC.

Power Open/Power Close, Failsafe or Modulating 4-20mA, 0-10v



LIMITS OF USE

Media Pressure:	10 Bar
Media Temperature:	0°C to +90°C
Ambient Temperature:	- 15°C to +60°C
Duty Cycle	100 %
Actuation Time Fully Closed – Fully Open	11 Seconds Max



DIRECTIVES AND MANUFACTURING STANDARDS

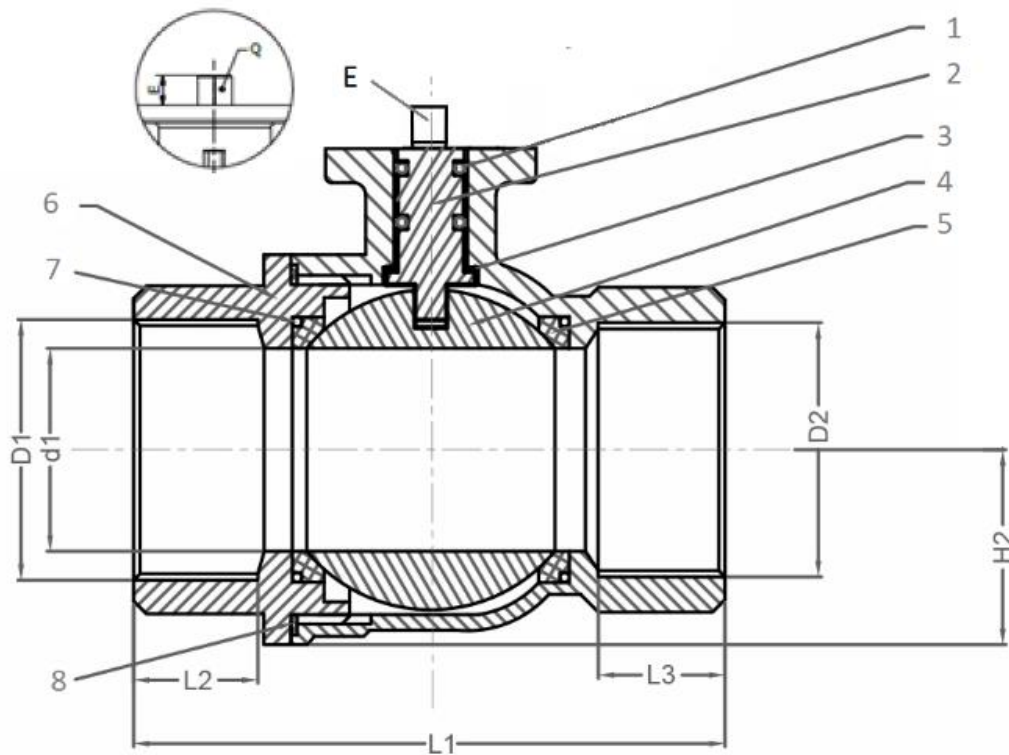
ISO5211 standard F03, F05	EMC Electromagnetic compatibility Test standards, EN55032-2015, EN55035-2017, EN61000-3-2:2014, EN61000-3-3:2013
Pressure Equipment Directive 2014/68/EC	CE approval test standards EN61000-6-3:2007 +A1:2011, EN61000-6-1:2007
Low voltage directive 2014/35/EU	RoHS Directive 2011/65/EU recasting 2002/95/EC
IP67 test standards EN60529:1991+A1:2001	

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CONSTRUCTION

No.	Name	Material	No.	Name	Material
1	O Ring	FKM	7	O Ring	FKM
2	Stem	304 Stainless Steel	8	Sealing	PTFE
3	Gasket	PTFE	Spherical Ball with floating PTFE sealing utilizing FKM backing O ring, greatly improves sealing and reduces required torque.		
4	Ball	304 Stainless Steel			
5	Sealing	PTFE			
6	Body	304 Stainless Steel			

DIMENSIONS (mm)



Port D1/D2	1 ¼ BSP	1 ½ BSP	2 BSP
d1	32	38	50
L1	102	115	130
L2/L3	23	25	25
H2	31	36	44.5
E	11	11	11
ISO5211	F05	F05	F05

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ABV12SV ABV14SV ABV20SV ELECTRIC MOTOR ACTUATOR

The ABV motor actuator proposed as standard comprises:

- IP67 plastic housing for actuator and steel gear box.
- a safety coefficient of 1.3 minimum compared to the nominal torque of the valve.
- an upstream / downstream pressure difference $\Delta P=10$ bar max.
- Thermal protection of the motor.
- The actuator's assembly is ISO5211 direct mount.

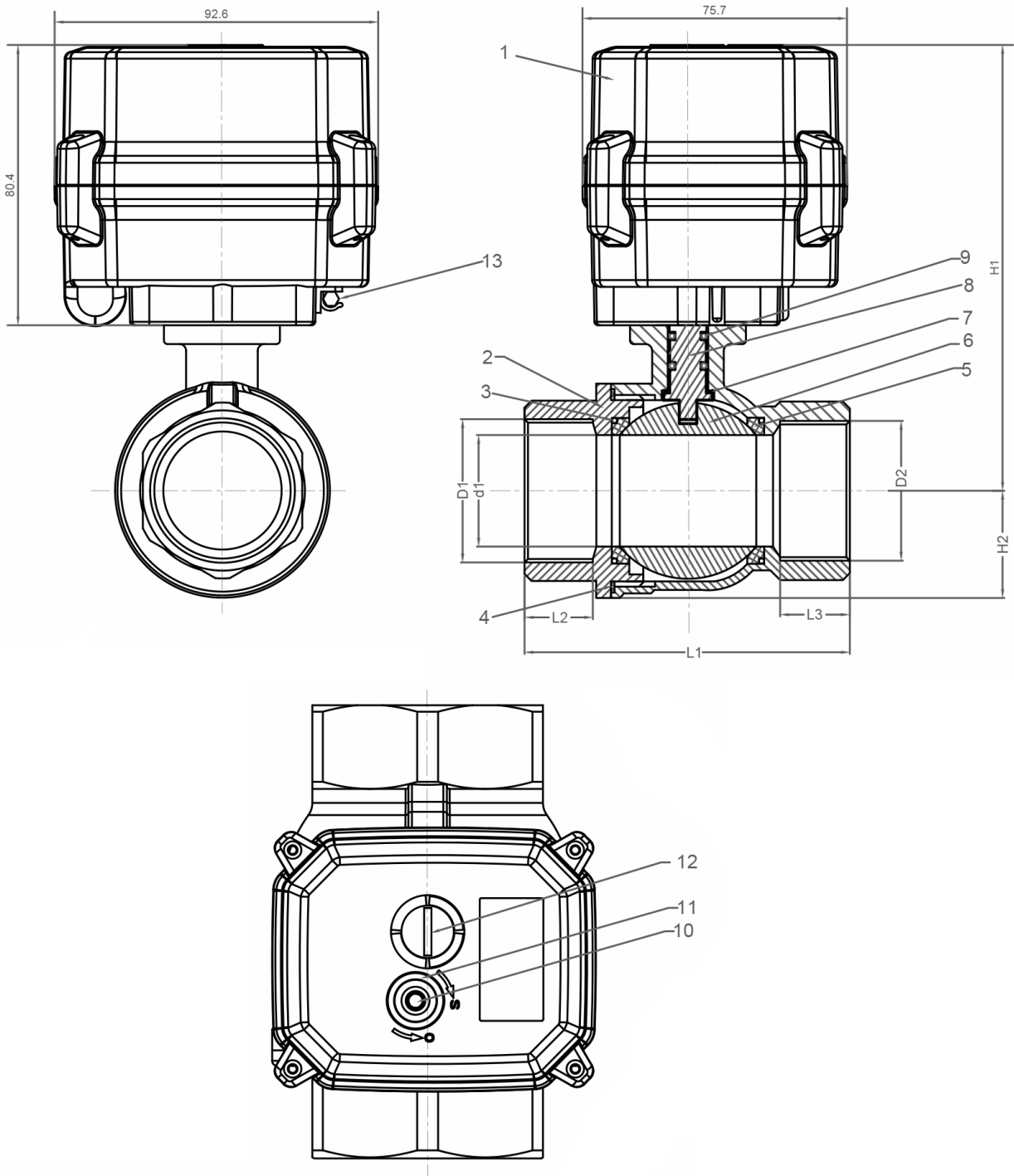
Power consumption with water at 20°C at 4 Bar Pressure

Voltage	Actuator Function	Torque NM	Power			Position switches Max applied Voltage / Current	Standard Equipment
			Start	Operating Watts	Static Watts		
12vDC	Failsafe	27	3.3A	9.96W	0.18	36vDC / 0.4A	2-wire control with failsafe capacitor return (Min 30sec recharging required) 2x limit switches
24vDC	Failsafe	24.1	1.2A	10.32	0.288	36vDC / 0.4A	2x dry auxiliary contacts Manual override with Allen key Position visual indicator
110-240vAC	Failsafe	21.9	125mA	10.19	0.5	240v / 0.4A	Anti-condensation heater Electrical connection: 1 x PE M12 + 0.5m cable (optional 3 meter)
12vDC	Power Open/Close	25.5	2.5A	2.1	0.06	36vDC / 0.4A	2-wire +1 control wire to open or close 2x limit switches
24vDC	Power Open/Close	26	1.2A	2.008	0.192	36vDC / 0.4A	2x dry auxiliary contacts Manual override with Allen key Position visual indicator
110-240vAC	Power Open/Close	16.3	90mA	2.29	0.4	240v / 0.4A	Anti-condensation heater Electrical connection: 1 x PE M12 + 0.5m cable (Optional 3 meter)

For any other operating conditions, please contact us.

ELECTRIC MOTOR ACTUATOR ABV12SV ABV14SV ABV20SV

ASSEMBLED VALVE DIMENSIONS (mm)



Description	D1/D2	d1	L1	L2/L3	H1	H2	Kg
ABV12SV	11/4 BSP	32	102	23	122	31	1.4
ABV14SV	11/2 BSP	38	115	25	130	36	1.7
ABV20SV	2 BSP	50	130	25	141.4	44.5	2.3

ELECTRIC MOTOR ACTUATOR ABV12SV ABV14SV ABV20SV

FEATURES

The ultra-compact ABV electric actuator is intended for electric actuation for on/off control with ¼ turn (90 degree) for valves with a torque of at most 15 Nm. Power is supplied via 2 wires for failsafe return via capacitor or 3 wire control for power open / power close function. With a compact construction and strong ABS plastic housing, low power low heat and multi voltage technology it is ideally suited for motor actuation for small and medium diameter ball valves and has IP67 ingress protection for indoor use and possibly outdoors under shelter.

AVAILABLE MODELS

Supply voltages: 12-24vDC and 110-240vAC
Power Open/Close, Failsafe + Modulating Control

LIMITS OF USE

IP Ingress Protection	IP 67
Ambient Temperature	-15°C / +60°C
Cycle Duty	100%



MECHANICAL FEATURES

Gear Box	Treated steel pinions
Torque	16.3 to 27 Nm
Angle of rotation	90° +/- 2°
Operating time	11 seconds maximum
ISO 5211:	F03 / F05 – star 11.4mm
Declutching	Without
Override control	Using a hex key
Weight	1.000 kg



ELECTRICAL FEATURES

Starting Power	230vAC: 125mA	12vDC: 3.3A
Overheating	Thermal protection	
Limit switches	2 adjustable switches	
Auxiliary switches	2 dry contacts	
Anti-condensation	Included	
Electrical connection	PE M12 + 0.5-meter cable, Optional 3 meter	

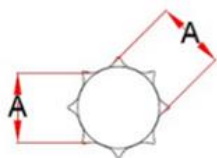
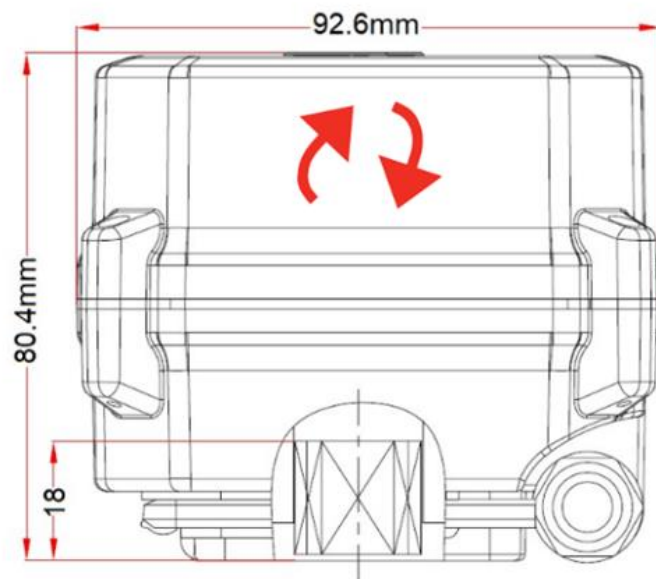
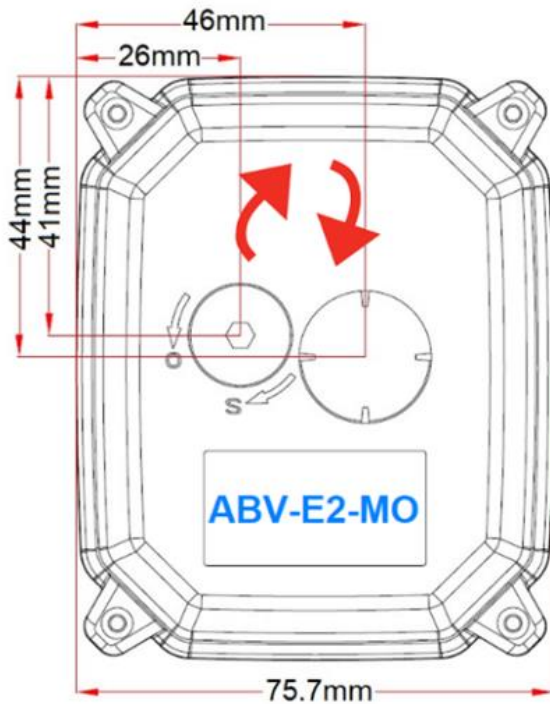


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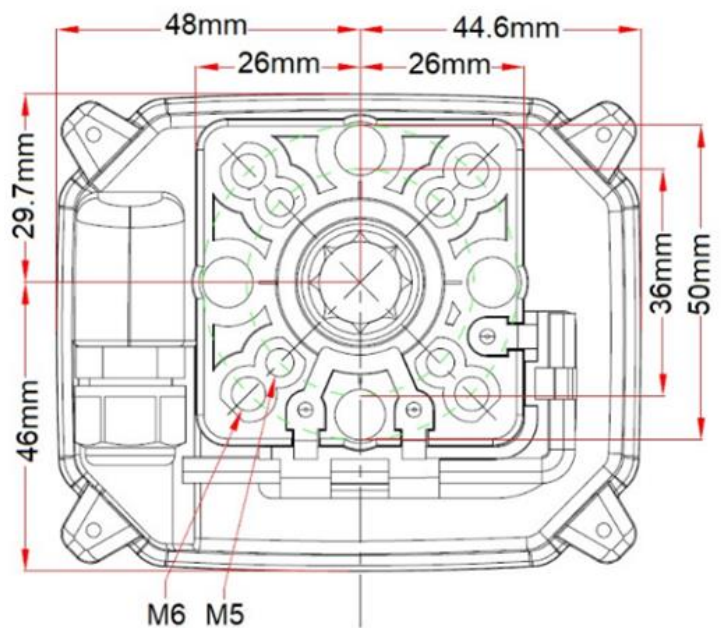
CONSTRUCTION

Housing	PA Plastic	Limit switch A	Steel
Gear box	Treated steel	Limit switch B	Steel
ISO mounting pad	Stainless Steel	Condenser	
Limit cams	Stainless Steel	Position indicator	

ACTUATOR DIMENSIONS (mm)



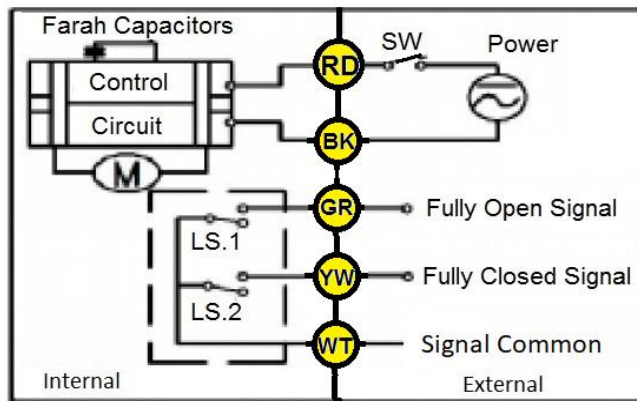
A 11.4mm
Depth 18mm



ELECTRIC MOTOR ACTUATOR ABV12SV ABV14SV ABV20SV

WIRING DIAGRAM - FAILSAFE RETURN

Wire Colour	Wiring	
RD	Red	+ve Power
BK	Black	-ve Power
GR	Green	Auxiliary switch "Open"
YW	Yellow	Auxiliary switch "Closed"
WT	White	Common contact

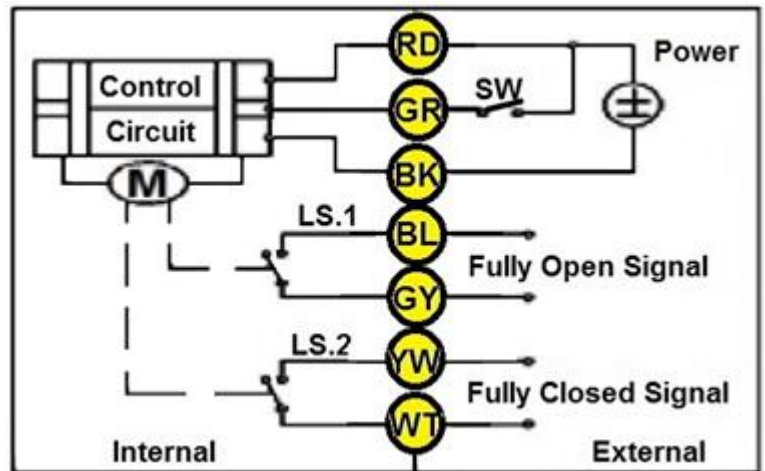


Failsafe Control: Power ON valve moves then Power OFF valve returns to start position.

Failsafe requires 30 second Power On after moving to recharge the Farah capacitors.

WIRING DIAGRAM POWER OPEN / CLOSE

	Wire Colour	Wiring
RD	Red	+ve Power
GR	Green	Power valve opens. Remove power valve closes
BK	Black	-ve Power
BL	Blue	Auxiliary switch "Open"
GY	Grey	Auxiliary switch "Open"
YW	Yellow	Auxiliary switch "Closed"
WT	White	Auxiliary switch "Closed"



3 Wire Control: Connect Power Red & Negative Black

Power to Green - Valve moves, remove power from Green - Valve Returns.

SWITCH SETTING

The cams are attached to the drive stem.

Clockwise rotation = valve closing. The micro-switch stops the actuator.

Anti-clockwise rotation = valve opening. The micro-switch stops the actuator.