

# MOTOR ACTUATED UPVC BALL VALVE ABVP04-20

## FEATURES

The UPVC double union full bore 2-way ball valve ABV04-20P provides the automatic shut-off function for pipeline systems for water and corrosive fluids and gases. It is CE, UKCA, PED, EMC and RoHS approved. The ISO 5211, F03, F05 actuator saves space and time and has a 12 month guarantee 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

UPVC Body, Ball + Stem

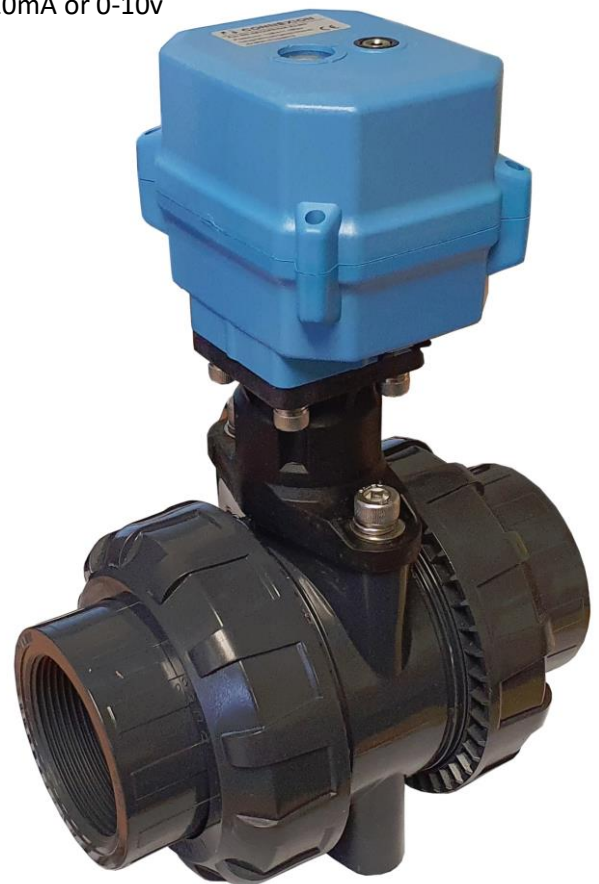
G thread connections (option metric socket)

EPDM/PTFE or FKM/PTFE

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

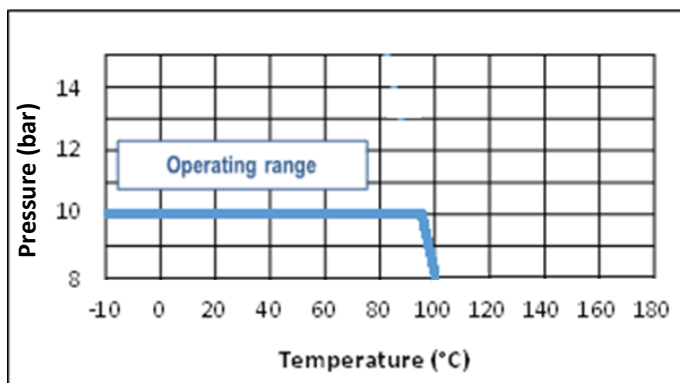
Port Sizes: 1/2, 3/4, 1, 1 1/4, 1 1/2 and 2 inch.

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



## LIMITS OF USE

<b>Media Pressure:</b>	10 Bar
<b>Media Temperature:</b>	+2°C to +90°C
<b>Ambient Temperature:</b>	+2°C to +60°C
<b>Duty Cycle</b>	100 %
<b>Actuation Time Fully Closed – Fully Open</b>	11 Seconds Max



## DIRECTIVES AND MANUFACTURING STANDARDS

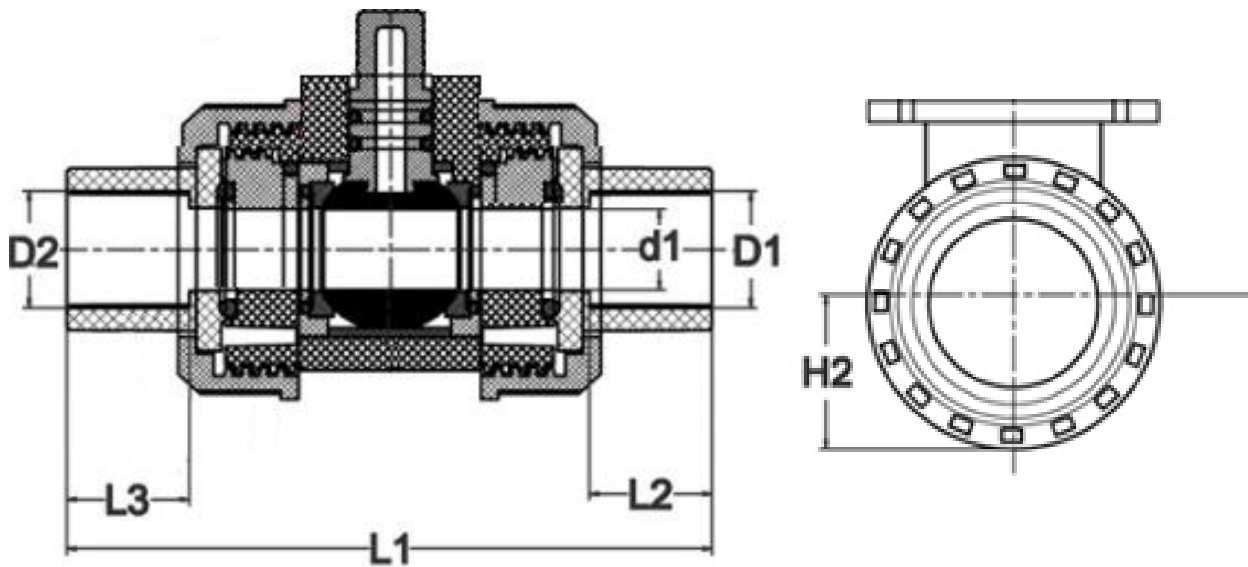
ISO5211 standard F03, F05	EMC Electromagnetic compatibility Test standards, EN55032-2015, EN55035-2017, EN61000-3-2:2014, EN61000-3-3:2013
Pressure Equipment Directive 2014/68/EC	
Low voltage directive 2014/35/EU	
IP67 test standards EN60529:1991+A1:2001	CE approval test standards EN61000-6-3:2007 +A1:2011,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

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## CONSTRUCTION

No.	Name	Material	No.	Name	Material
1	O Ring	EPDM or FKM	7	O Ring	EPDM or FKM
2	Sealing	PTFE	8	Gland	UPVC
3	Body	UPVC	9	Socket	UPVC
4	Ball	UPVC	10	O Ring	EPDM or FKM
5	O Ring	EPDM or FKM	11	Stem	UPVC
6	Bonnet	UPVC			

## DIMENSIONS (mm)



Port D1/D2	1/2 BSP	3/4 BSP	1 BSP	1 ¼ BSP	1 ½ BSP	2 BSP
<b>L1</b>	107	115	129	144	161	173
<b>L2/L3</b>	22.3	25.5	28.6	32	35	38
<b>H1</b>	130	134.5	146.3	156.8	163.6	179.6
<b>H2</b>	27	32	37	42	49	59

# MOTOR ACTUATED UPVC BALL VALVE ABVP04-20

## ABV04P-ABV06P-ABV08P-ABV12P-ABV14P-ABV20P 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 with bracket.

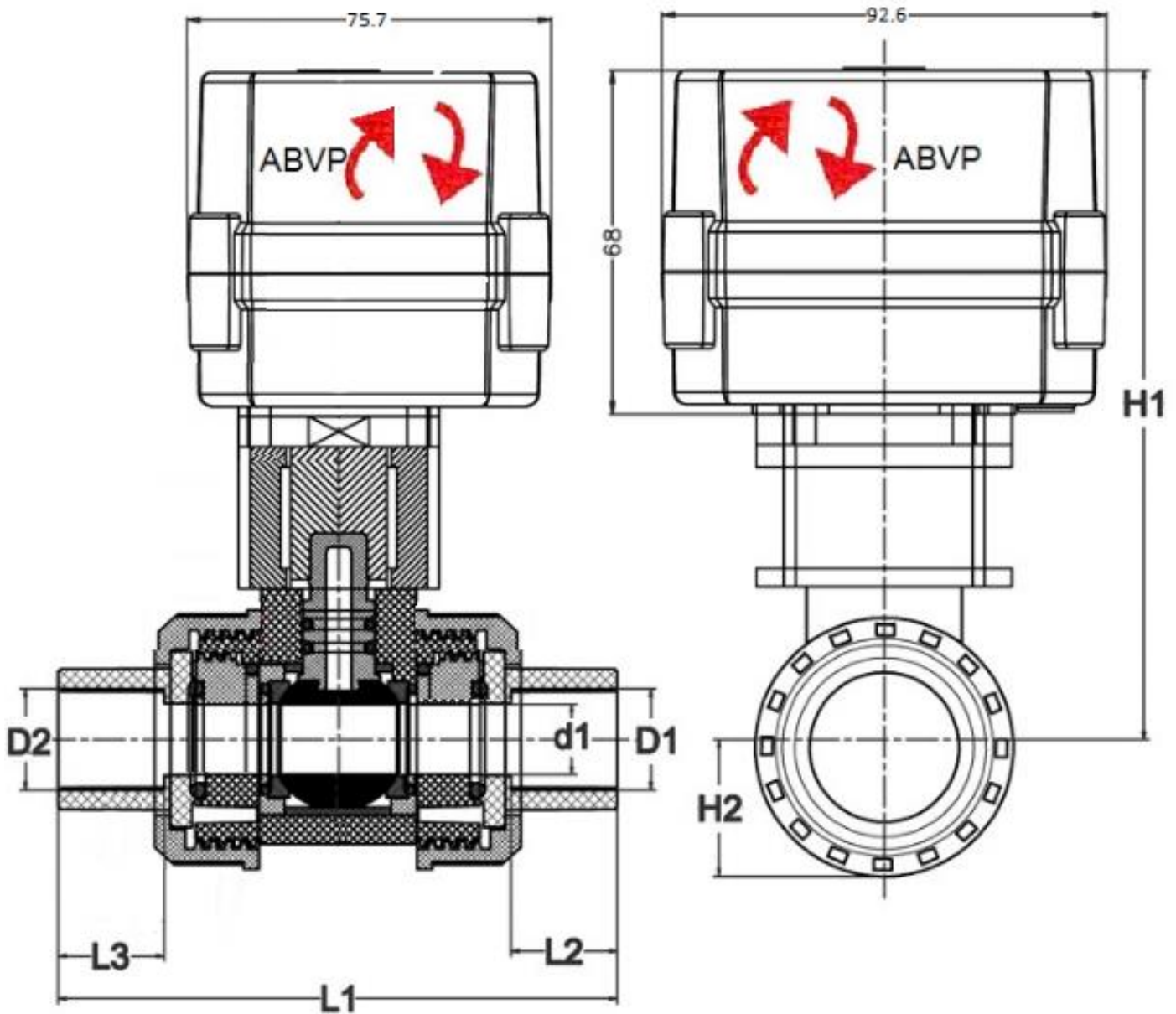
### Power consumption with mains water 20°C at 4 Bar Pressure

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.

# MOTOR ACTUATED UPVC BALL VALVE ABVP04-20

## ASSEMBLED VALVE DIMENSIONS (mm)



Description	Port	L1	L2/L3	H1	H2	Kg
ABV04P	1/2	107	22.3	130	27	0.8
ABV06P	3/4	115	25.5	134.5	32	0.88
ABV08P	1	129	28.6	146.3	37	1.04
ABV12P	1 1/4	144	32	156.8	42	1.46
ABV14P	1 1/2	161	35	163.6	49	1.45
ABV20P	2	173	38	179.6	59	1.88

# MOTOR ACTUATED UPVC BALL VALVE ABVP04-20

## 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 a 16.3 to 27 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

Power Open/Power Close, Failsafe or Modulating Control

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

## LIMITS OF USE

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



## MECHANICAL FEATURES

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



## ELECTRICAL FEATURES

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

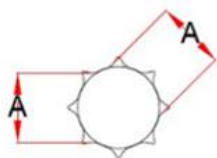
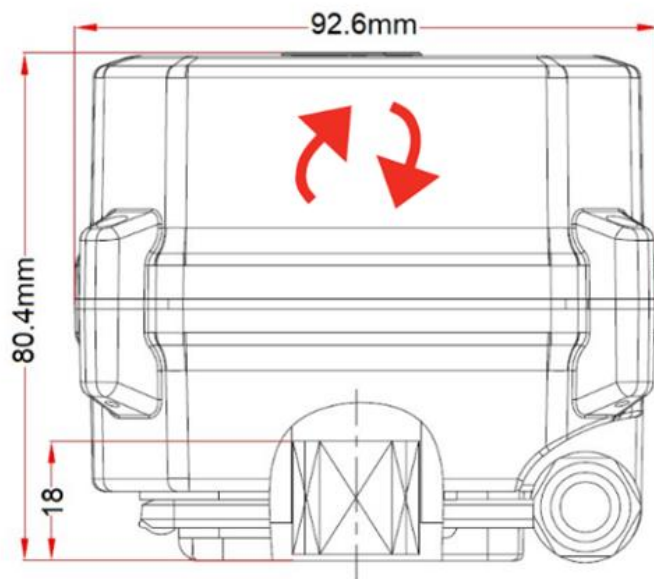
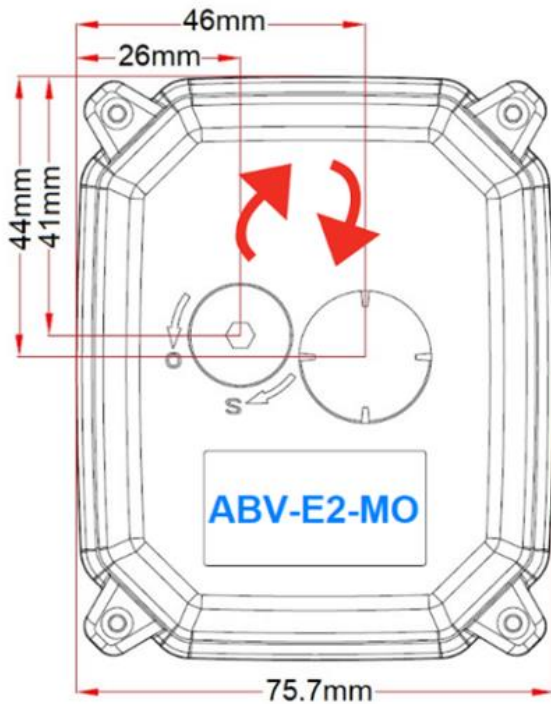


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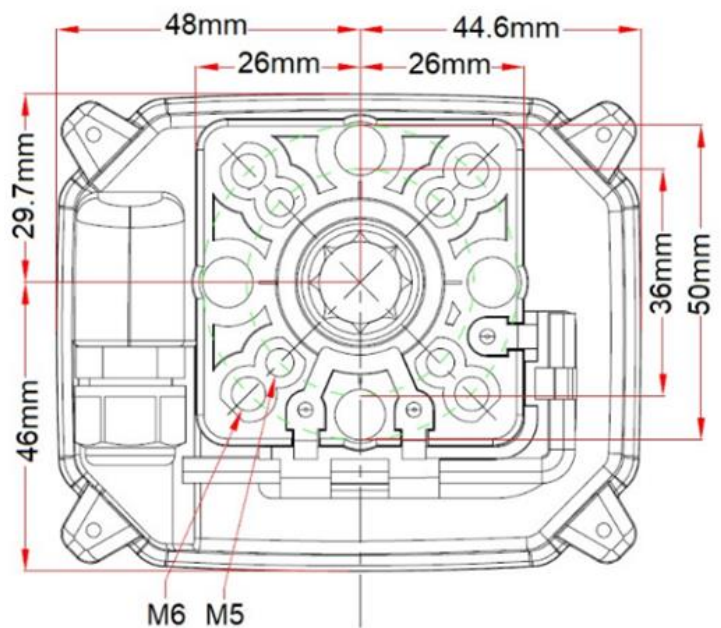
## CONSTRUCTION

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)



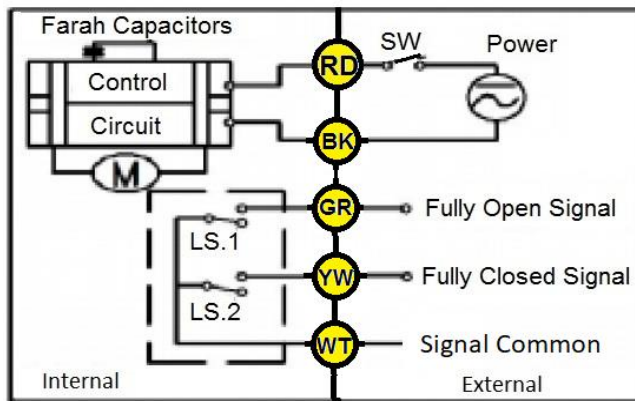
**A**  $\frac{11.4\text{mm}}{\text{Depth } 18\text{mm}}$



# MOTOR ACTUATED UPVC BALL VALVE ABVP04-20

## 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

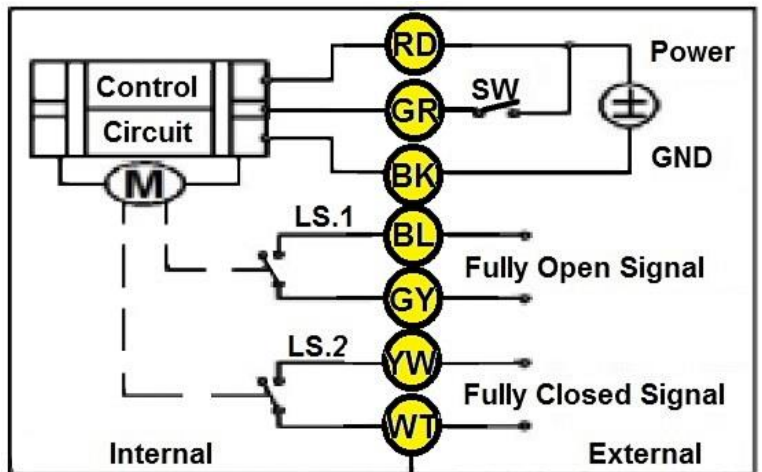


Failsafe Control: Power ON valve moves then Power OFF valve returns to start position.

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.