



Motorised Valve Range

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Motorised Valves

Fail Safe Motorised Valves for Bio Diesel and Bio Fuels

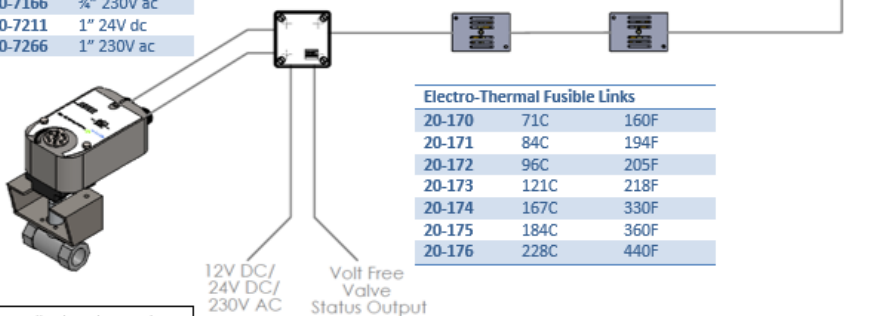


- ▶ The FEL Valves range of actuated ball valves are specifically designed for use with diesel or Bio Fuels.
- ▶ All valves have FPM (Viton) seats and stem seals as well as graphite impregnated PTFE secondary seats. FPM has an extremely good tolerance to diesel fuel and together with the impregnated PTFE secondary seat, this ensures continued valve use, preventing seat swelling, which is common to valves having standard PTFE seats and seals used with diesel fuel.
- ▶ The range is available from ½” to 2”, full bore, with screwed BSPP connections.

Motorised Valve Typical Application

Normally Closed Valve & Actuator Product Codes	
With Limit Switches	Without Limit Switches
20-701 ½” 24V dc	20-7011 ½” 24V dc
20-706 ½” 230V ac	20-7066 ½” 230V ac
20-711 ¾” 24V dc	20-7111 ¾” 24V dc
20-716 ¾” 230V ac	20-7166 ¾” 230V ac
20-721 1” 24V dc	20-7211 1” 24V dc
20-726 1” 230V ac	20-7266 1” 230V ac
20-731 1 ¼” 24V dc	
20-736 1 ¼” 230V ac	
20-741 1 ½” 24V dc	
20-746 1 ½” 230V ac	
20-751 2” 24V dc	
20-756 2” 230Vac	

All 24V dc actuators can be converted to 12V dc



Push Buttons & Break Glass Call Points	
20-155	230Vac/24V dc Emergency Knock Off
20-156	230Vac/24Vdc Knock Off c/w Key Release
20-196	Red Break Glass Call Point
20-197	Yellow Break Glass Call Point
20-198	Green Break Glass Call Point

Electro-Thermal Fusible Links	
20-170	71C 160F
20-171	84C 194F
20-172	96C 205F
20-173	121C 218F
20-174	167C 330F
20-175	184C 360F
20-176	228C 440F

Standard valves are configured as normally closed, energise to open with mechanical spring fail close.

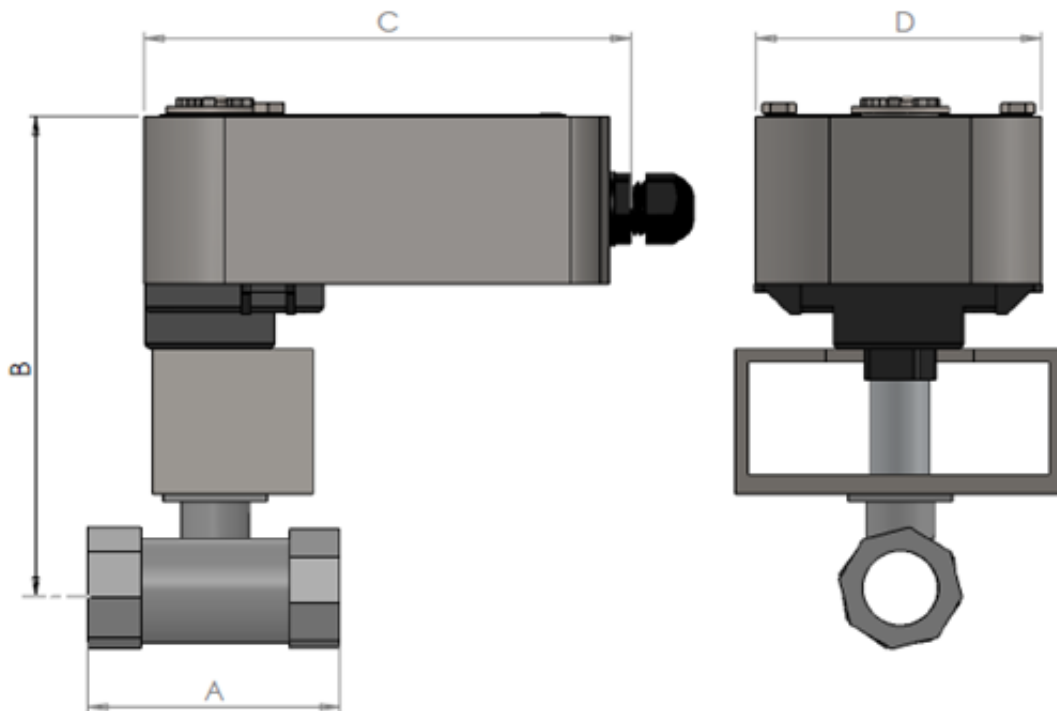
Normally open configuration, energise to close mechanical spring fail open, is also available. – Please add a suffix (O) to the above codes

- All valves have FPM (Viton) seats and stem seals as well as graphite impregnated PTFE secondary seats. FPM has an extremely good tolerance to diesel fuel and together with the impregnated PTFE secondary seat, this ensures continued valve use, preventing seat swelling, which is common to valves having standard PTFE seats and seals used with diesel fuel.
- The range is available from ½” to 2”, full bore, with screwed BSPP connections.
- Valves are rated to 40 bar cwp with a temperature rating from -20 to +170C.
- All actuators have a manual override as a standard feature and have optional end of travel limit switches capability.

- ▶ Valve motor open times are generally 90 seconds, with spring closure between 16 and 20 seconds.
- ▶ All actuators have a manual override as a standard feature and have optional end of travel limit switches capability.
- ▶ 24V dc or 230V ac Voltage options.
- ▶ Available in 'Motor Open/Spring Close' or 'Motor Close/Spring Open' configuration.
- ▶ Valves bodies are available with manual lever for use as isolating valves.
- ▶ For further information please contact us.



Fail Safe Motorised Valves



Size	A mm	B mm	C mm	D mm
½"	75	162	180	100
¾"	80	170	180	100
1"	90	170	180	100
1 ¼"	110	190	250	100
1 ½"	120	195	250	100
2"	140	210	250	100

20-700 Series
Motorised Valves

FEL Valves
01565 733137
sales@felvalves.com

Dimensions

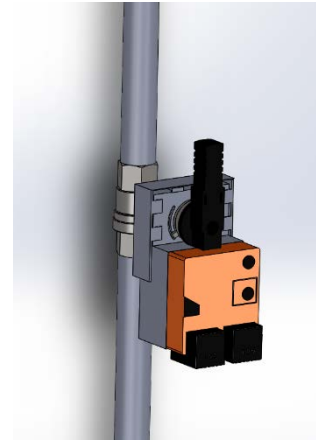


FEL Valves

Normally Closed Valve & Actuator Product Codes

Model No	Valve Size	24V dc	230V ac	With Limit Switches
20-701	1/2"	•		•
20-7011	1/2"	•		
20-706	1/2"		•	•
20-7066	1/2"		•	
20-711	3/4"	•		•
20-7111	3/4"	•		
20-716	3/4"		•	•
20-7166	3/4"		•	
20-721	1"	•		•
20-7211	1"	•		
20-726	1"		•	•
20-7266	1"		•	
20-731	1 1/4"	•		•
20-736	1 1/4"		•	•
20-741	1 1/2"	•		•
20-746	1 1/2"		•	•
20-751	2"	•		•
20-756	2"		•	•

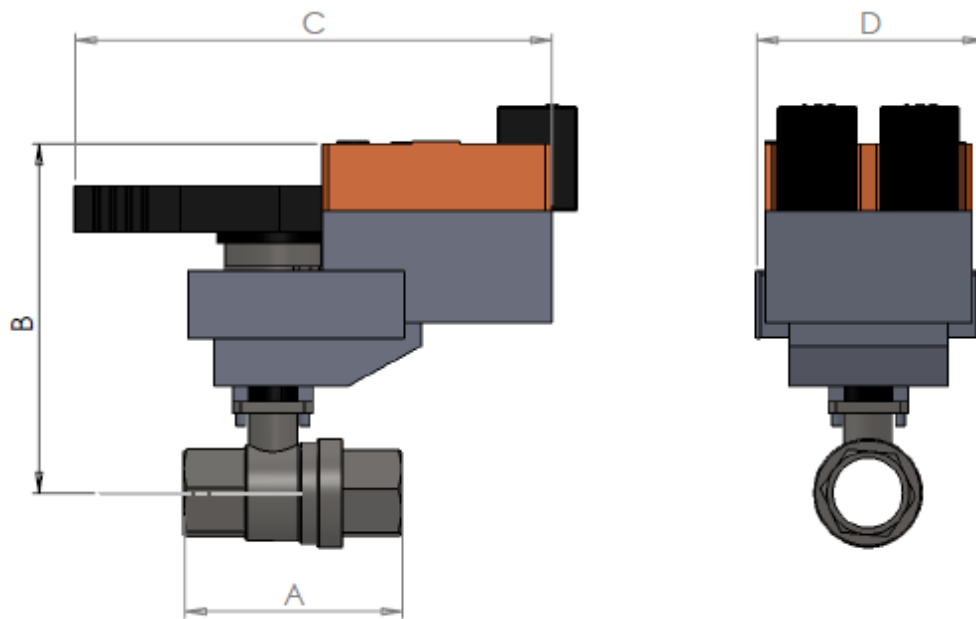
Motor-Open Motor-Close



- ▶ Valve motor open and closure times are generally 90 seconds.
- ▶ All actuators have a manual override as a standard feature and have optional end of travel limit switches capability.
- ▶ 24V dc or 230V ac Voltage options.
- ▶ Valves bodies are available with manual lever for use as isolating valves.
- ▶ For further information please contact us.



Motor-Open Motor-Close Motorised Valves



Size	A mm	B mm	C mm	D mm
1/2"	75	162	180	100
3/4"	80	170	180	100
1"	90	170	180	100
1 1/4"	110	190	250	100
1 1/2"	120	195	250	100
2"	140	210	250	100

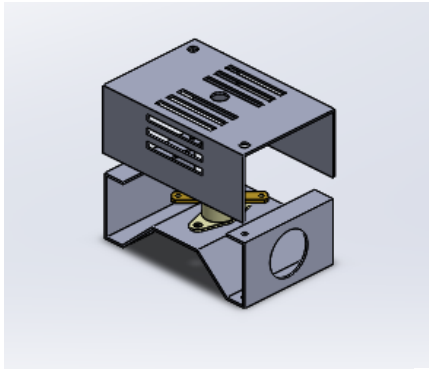
Motorised Valve
Dimensions

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01565 733137
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Motor-Open Motor-Close Valve Product Codes

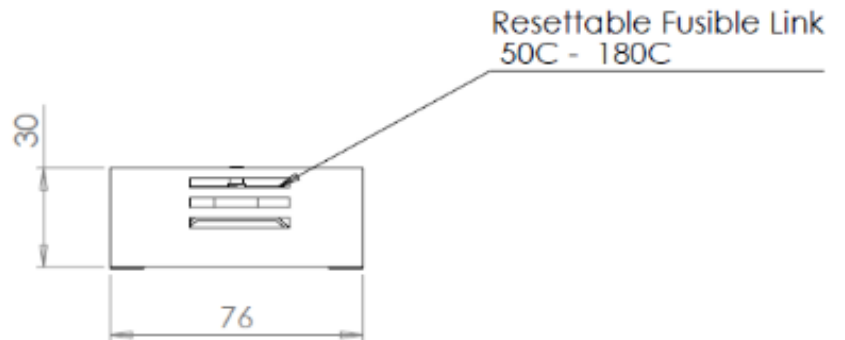
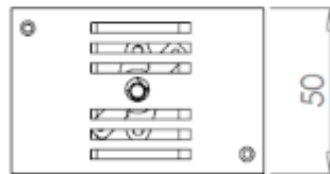
Model No	Valve Size	24V dc	230V ac	With Limit Switches
20-703	1/2"	•		•
20-7013	1/2"	•		
20-708	1/2"		•	•
20-7018	1/2"		•	
20-713	3/4"	•		•
20-7113	3/4"	•		
20-718	3/4"		•	•
20-7168	3/4"		•	
20-723	1"	•		•
20-7213	1"	•		
20-728	1"		•	•
20-7268	1"		•	
20-7333	1 1/4"	•		•
20-738	1 1/4"		•	•
20-743	1 1/2"	•		•
20-748	1 1/2"		•	•
20-753	2"	•		•
20-758	2"		•	•

Electro-Thermal Links



FEL Valves resettable electro-thermal link:

- ▶ Available in a wide range of temperature
- ▶ Simple push button reset once the assembly has cooled below trip temperature



Range and Product Number

Electro-Thermal Fusible Links		
20-170	71C	160F
20-171	84C	194F
20-172	96C	205F
20-173	121C	218F
20-174	167C	330F
20-175	184C	360F
20-176	228C	440F

Solenoid Valves

Two Way Normally Closed Direct Acting Solenoid Valve



- ▶ Product Number **20 – 640 to 20 - 646**
- ▶ Two Way Normally Close Direct Acting Lift Assisted Piston Solenoid Valve With Spring return
- ▶ Suitable for gaseous and liquid compatible with the body and seal materials specified
- ▶ Vacuum
- ▶ Suitable for zero differential applications
- ▶ Forged Brass, Nickel Plated Brass or 316 Stainless Steel Body (1/2" or 3/4" only)
- ▶ Stainless Steel internal moving parts
- ▶ Solenoid can be rotated 360°. Valve will operate in any position

Pressure Range: 0 to 16 bar max

Media Temperature: 155°C max

Ambient Temperature: -20° to +60 °C max

Media viscosity: 50 centistokes max

Mounting: coil upright

Opening/ Closing time: 50 mSec max

Pressure

Ø Port BSP	Ø Orifice (mm)	Flow Kv Ltr/ min	Min	Pressure Rating (bar)				Seals	Max Media Temp. °C	Part Number
				DC Coil		AC Coil				
				15 Watt	18.5 Watt	15 Watt	18.5 Watt			
3/8	13	35	0	5	12*	8.5	12*	Viton	120	20-640 + voltage
1/2	13	35	0	5	12*	8.5	12*	Viton	120	20-641 + voltage
3/4	20	72	0	5	16*	8.5	16*	Viton	120	20-642 + voltage
1	25	183	0	5	16*	7	16*	Viton	120	20-643 + voltage
1 1/4	35	400	0	-	7	-	10	Viton	120	20-644 + voltage
1 1/2	35	400	0	-	7	-	10	Viton	120	20-645 + voltage
2	51	580	0	-	5	-	7	Viton	120	20-646 + voltage

Options

- ▶ 22003 IP65 Coil & Connector PG9 – DIN 43650 A Connector
- ▶ WPG IP68 Coil (EN60529:1991+A1:2000) UL & CSA Approved
Coil + IP65 LED Connector PG11 DIN 43650A
- ▶ ATEX 22003EX Coil: ATEX EExmIIT4 II 2G & 2D IP65 T130 C
(Max P 3 Bar)
- ▶ NPT Thread
- ▶ *18.5 Watt High Power 22005 Coil (PU series only)
- ▶ Manual Over Ride (Base Mounted Screw T Bar for AD Series)



Electrical Data

	Voltage (-10% + 10%) Continuous duty 100%	Coil	Power Consumption		Insulation class	Enclosure	Electrical connections
			Inrush	Holding			
~	24 - 48 - 110 - 240 - 380 (50 or 60 Hz)	22-003	23VA	17VA	H 180°C	IP 65 with connector	3 spades DIN 43650A DIN 40050 VDE 0110
=	12 - 24 - 48 - 110 (DC)		15 Watts				
~	24 - 48 - 110 - 240 - 380 (50 or 60 Hz)	22-005	33VA	24VA	F 155°C		
=	12 - 24 - 48 - 110 (DC)		18.5 Watts				
~	24 - 110 - 230 (50 or 60 Hz)	WP-G2 20- Series	18.7VA	15.3VA			
=	12 - 24 (DC)		18 Watts				

Construction

Body: Brass

Tube and internal parts: Stainless steel

Seals and gaskets: Viton (Optional EPDM or NBR or Silicone)

Moulded coil: Resin

Repair Kit

Diaphragm seal

Valve part number + material

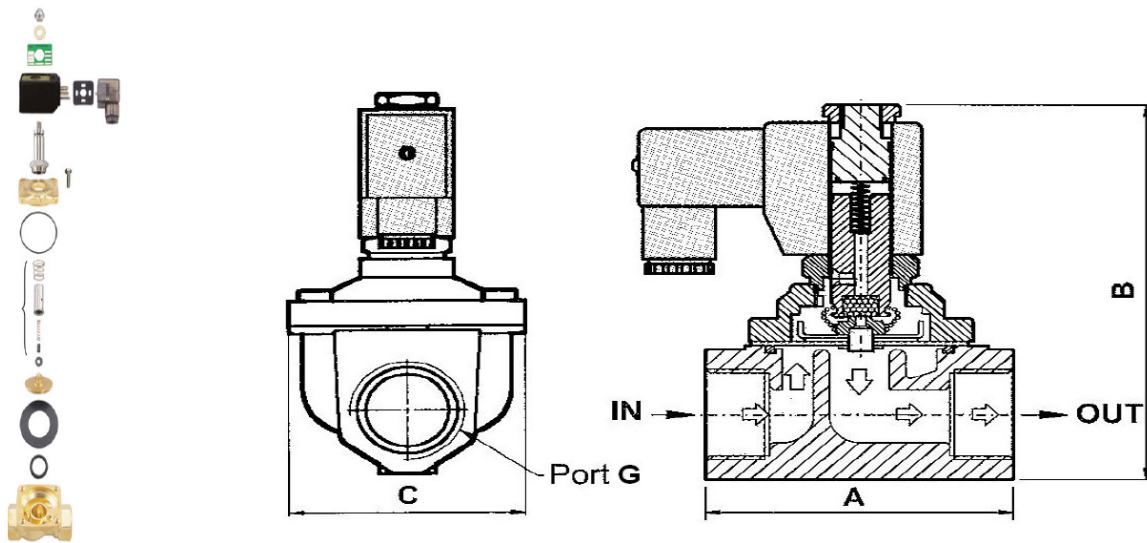
Coil

Coil size (22-003 or WPG2) + voltage

Complete plunger assembly

SP + Valve Part Number –ARMATURE

Overall Dimensions



Model	20 – 640	20 – 641	20 – 642	20 – 643	20 – 644	20 – 645	20 – 646
Port R	3/8	1/2	3/4	1	1 ¼	1 ½	2
A	66.5	66.5	71	96	120	120	150
B	101	101	107	120.5	140	140	160
C	48	48	58	70	90	90	120
Kg	0.74	0.715	0.945	1.485	2.87	2.77	4.81



FEL Valves

Did you know that we also supply the following –

- ▶ Float Switches
- ▶ Fill Point, Level Gauges, Controls
- ▶ Free Fall Fire Valves
- ▶ Pumps & Panels
- ▶ Fuel Polishers