

# MF68...2050 Butterfly Valve Actuators

(MF68, MF200, MF550, MF700, MF1450, MF2050)



## Features

- Hand wheel for manual operation as standard
- Adjustable start/end point switch
- 2 additional auxiliary switches as standard
- Terminal connection
- Direct fit without any linkage kits
- Optical position display
- Suitable for outdoor and industrial environments (IP65)
- Very low maintenance
- Self-regulating heater to prevent condensation buildup within the actuator
- Adjustable positioning speed, 60 sec...360 sec (modulating models)
- Control signal sensitivity adjustment (modulation models)
- 0...10V Position Feedback (modulating models)

## Overview

The MF68...2050 is a heavy duty series of electric actuators for use with the VF209W and VF299W butterfly valves.

The series comprise 6 key actuator models between 68 Nm and 2050 Nm of torque to efficiently and reliably drive the valve between fully open and tightly closed.

Actuators are available for 2 position (On/Off), 3 point floating and modulating control signals.

Two position and floating is provided from the same base actuator and available in either 24 Vac or 230 Vac models.

Modulating models offer precise position of the butterfly disc for good proportional media control. All modulating models have position feedback.

## Product Selection

Control	Part Number	Torque	Supply Voltage	Power Consumption			Operating Time 90°	Suitable VF209W Valve Sizes	Suitable VF299W Valve Sizes
				Rest	Operation	Wire Sizing			
Floating & On/Off	MF68-24F	68 Nm	24 Vac	5 W	43	48 VA	60 sec	DN50-150	-
	MF200-24F	226 Nm	24 Vac	5 W	48	53 VA	60 sec	DN200	DN250
	MF550-24F	565 Nm	24 Vac	5 W	69	77 VA	60 sec	DN250-300	DN300-450
0(2)...10 Vdc Modulating	MF68-24M	68 Nm	24 Vac	7 W	45	50 VA	60 sec	DN50-150	-
	MF200-24M	226 Nm	24 Vac	7 W	50	55 VA	60 sec	DN200	DN250
	MF550-24M	565 Nm	24 Vac	7 W	71	79 VA	60 sec	DN250-300	DN300-450
Floating & On/Off	MF68-230F	68 Nm	230 Vac	5 W	140	155 VA	36 sec	DN50-150	-
	MF200-230F	226 Nm	230 Vac	5 W	108	120 VA	36 sec	DN200	DN250
	MF700-230F	735 Nm	230 Vac	5 W	232	258 VA	36 sec	DN250-350	DN300-500
	MF1450-230F	1470 Nm	230 Vac	5 W	275	305 VA	132 sec	DN400-450	-
	MF2050-230F	2034 Nm	230 Vac	5 W	315	350 VA	132 sec	DN500	-

## Specifications

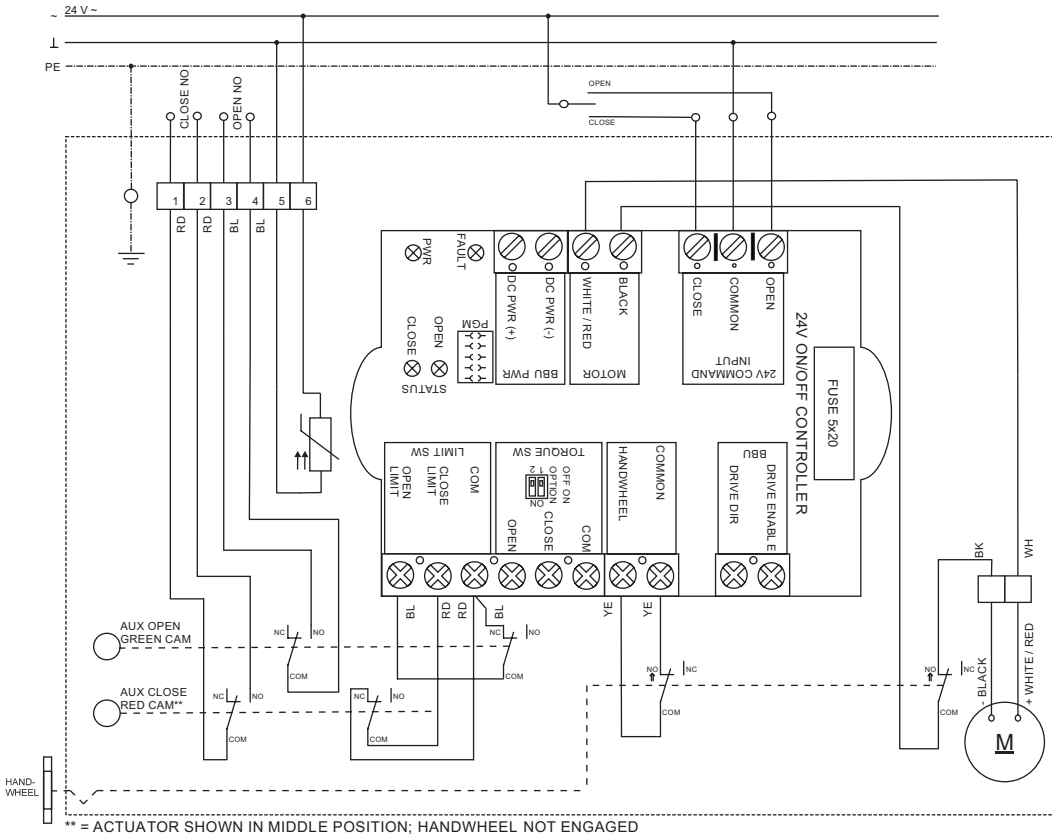
Control	2 Point, 3 Point	0...10 V Modulating
Input voltage	(230 Vac models) 230 Vac ± 10 %	(24 Vac models) 24 Vac ± 20 %
Frequency	50/60 Hz	
Protection class	IP65	
Ambient operating temperature	-29° C...65° C	
Ambient storage temperature	-40° C...65° C	
Humidity	95%, No condensation	
Noise level	max.70 dB(A)	
Control Signal Input	Nominal voltage	0(2)...10 Vdc, 0...5 Vdc, 4...20 mA
Position Feedback	-	0(2)...10 Vdc, 0...5 Vdc, 4...20 mA
Minium Response time	200 ms	-
Positioning	-	Up to 200 possible positions
Impedance	-	0(2)...10 Vdc, 0...5 Vdc, >10 MOhm, 4...20 mA, 200 Ohm
Duty Cycle	S2 25%	100%
Manual operation	Standard	
Conformity and approvals	Machine directive 2006/42/EC and 98/37/EC EMC directive 2004/108/EC Low voltage directive 2006/95/EC EN 60204-1:2006 EN 61010-1:2011-7 EN 6100-6-1...4 EN 60730-1 EN 60730-2-14	
Heating	Yes	Yes
Power (Heating)	5W	
Auxiliary switches	2 SPDT standard; 10A at 250 Vac; 0,5A at 24 Vdc	
Electrical connections	Screw terminals 0.35...4 mm <sup>2</sup>	Screw terminals 0.35...4 mm <sup>2</sup> for Nominal voltage supply 0.25...2.5 mm <sup>2</sup> for control
Servicing	No servicing required	

## Valve/Actuator Connection Details

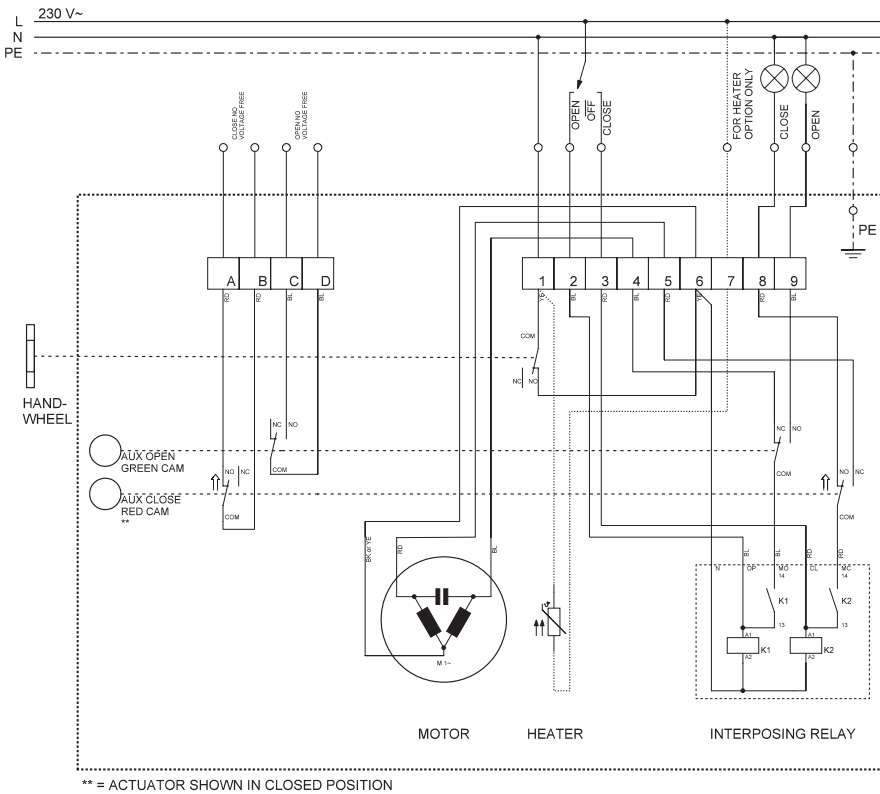
Part Number	Torque	Flange	Actuator Drive socket	Cable Entry	Weight	Stem Sleeve Adapter
MF68-xxx	68 Nm	F07	Ø 19 mm II 13 mm	2 x M20 * 1.5	6 kg	DN50-80 = S70MA1 DN100 = S70MB1 DN125+150 = Direct
MF200-xxx	226 Nm	F07, F12	Ø 30 mm II 22 mm	2 x M25 * 1.5	13 kg	DN200 = S70MD1 DN250 = Direct
MF550-xxx	565 Nm	F12, F16	Ø 50 mm 12 x 10	2 x M25 * 1.5	22 kg	DN250+300 = S70ME2 DN350-450 = S70MF1
MF700-xxx	735 Nm	F12, F16	Ø 50 mm 12 x 10	2 x M25 * 1.5	22 kg	DN250+300 = S70ME2 DN350-500 = S70MF1
MF1450-xxx	1470 Nm	F12, F16	Ø 50 mm 12 x 10	2 x M25 * 1.5	54 kg	DN400 = S70MF1 DN450 = Direct
MF2050-xxx	2034 Nm	F12, F16	Ø 50 mm 12 x 10	2 x M25 * 1.5	54 kg	DN500 = direct

Wiring

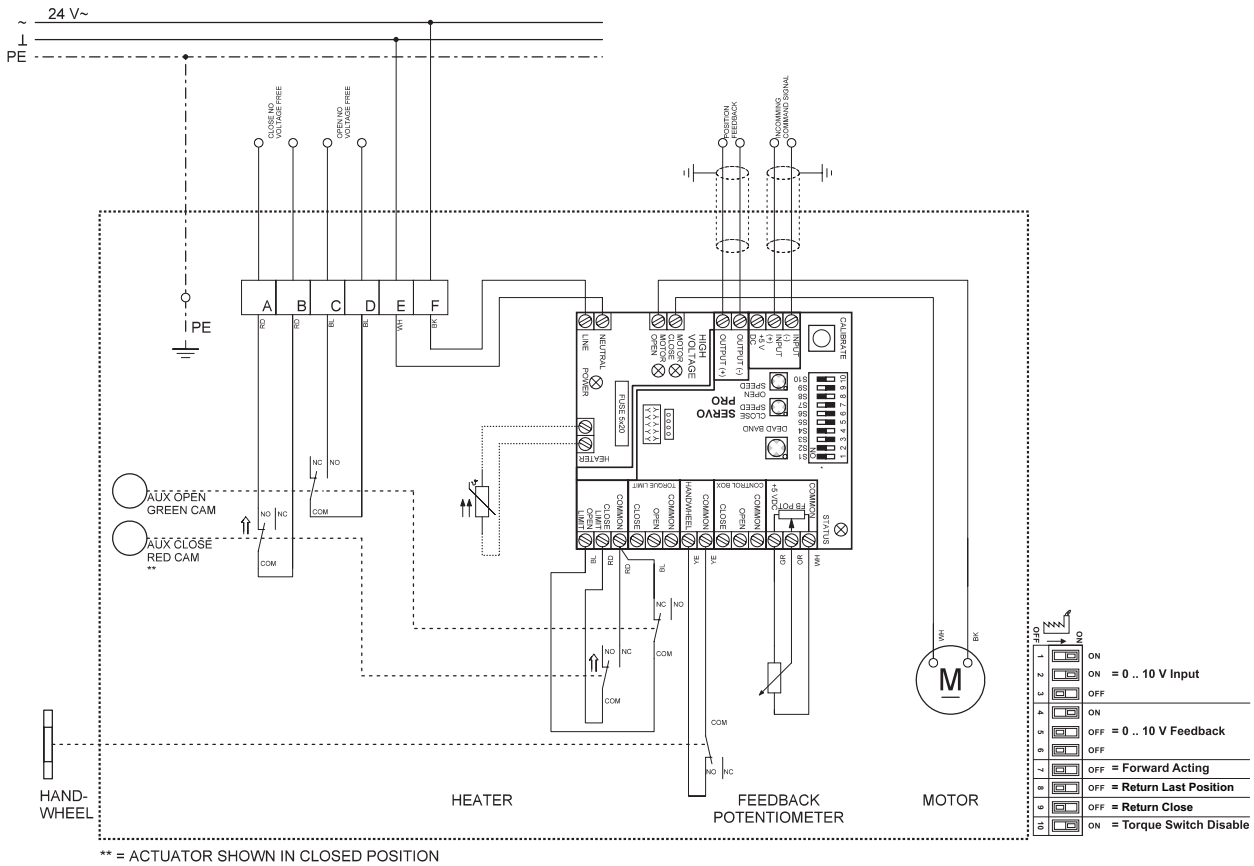
24V On/Off Floating



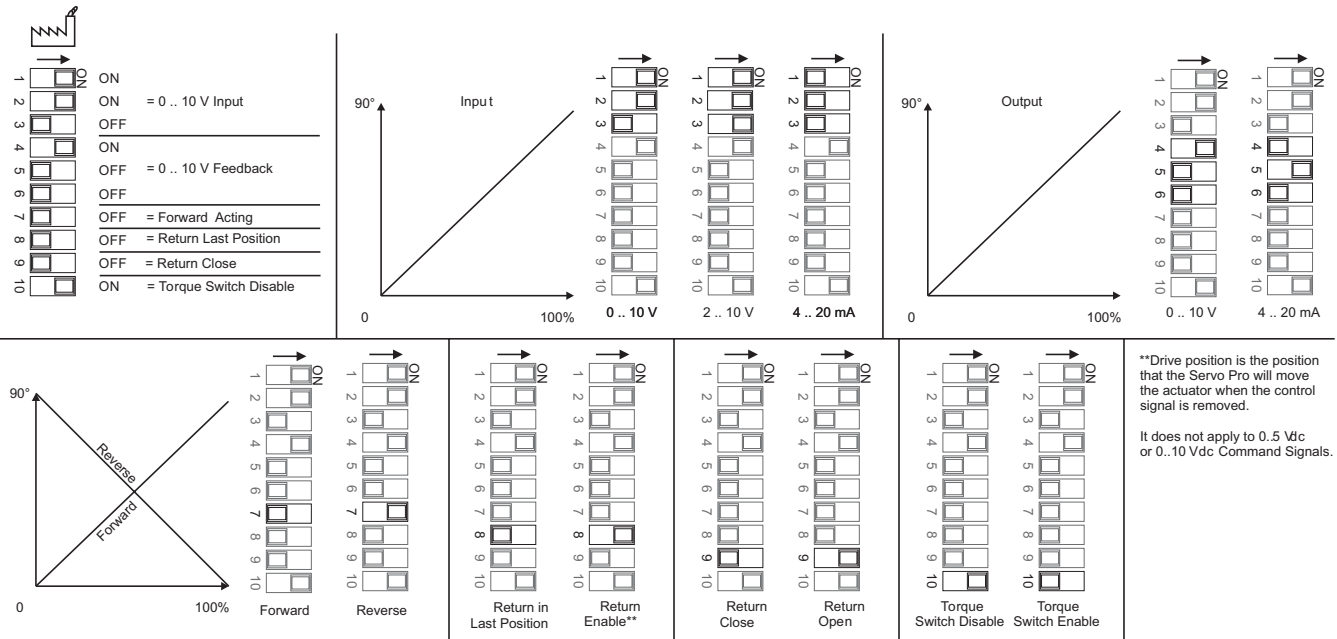
230 V On/Off (Floating)



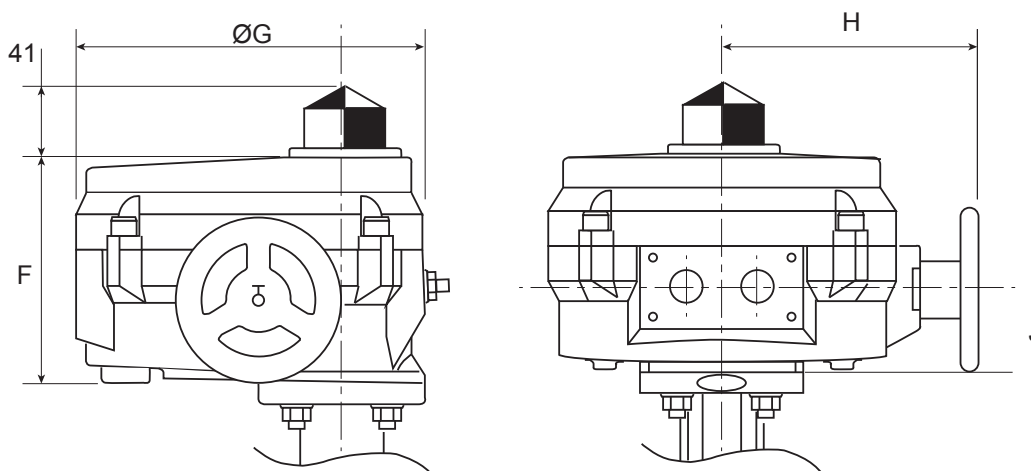
24 V Modulating



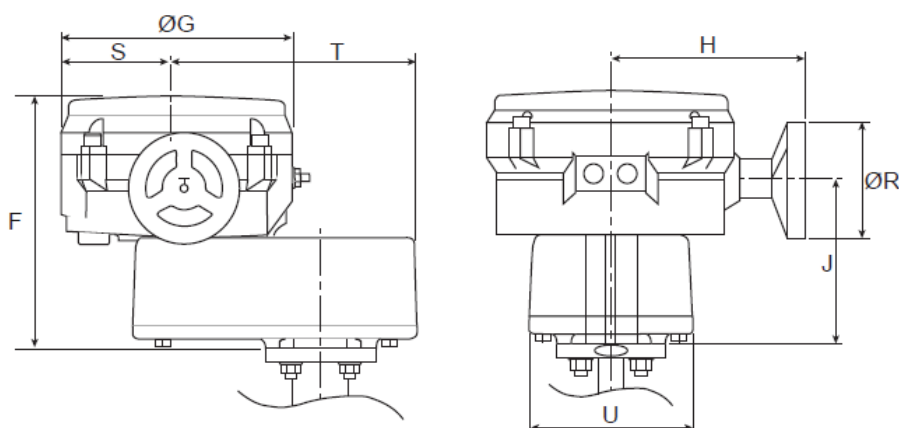
DIP Settings



MF Actuator Dimensions (MF68, MF220, MF550, MF700)



MF Actuator Dimensions (MF1450, MF2050)



Model	F	G	H	J	S	T	R	U	Mounting Flange
	(mm)								
MF68	130	191	142	48	-	-	89	-	F07
MF200_	165	257	198	64	-	-	203	-	F07/F12
MF550_	183	307	241	74	-	-	305	-	F12/F16
MF700_									
MF1450_	317	307	241	206	155	323	305	203	F12/F16
MF2050_									

**NOTE:** Verify there is adequate room for the valve package assembly to be fitted, operated and maintained in its pipe/system orientation and application.