



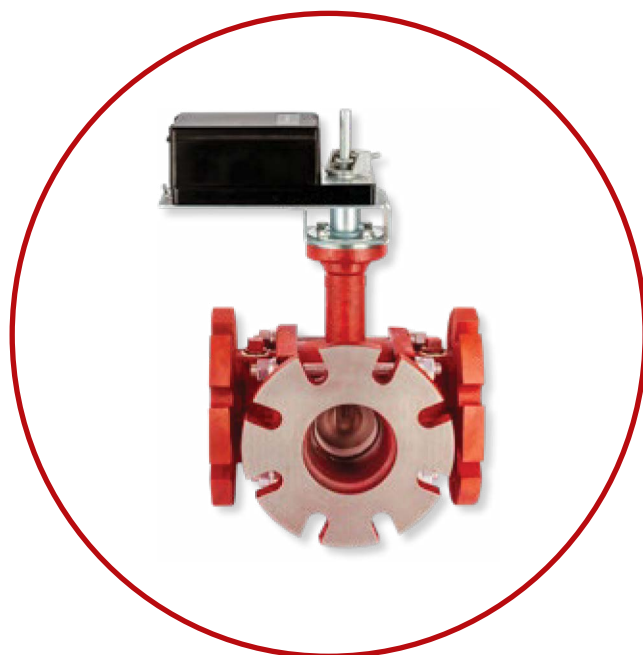
3-WAY VALVE

Maplef MF3WR

Actuated Control Valves

Mixing or Diverting

DN100-150 / 4"-6"



SPECIFICATIONS

Valve:

Static pressure:	1600 kPa / 240 psi
Ambient temperature:	-20°C to +50°C / -4°F to +122°F
Media temperature:	-20°C to +120°C / -4°F to +248°F
Material:	
- Housing:	Cast iron ASTM A395, 60-40-18
- Stem:	Stainless steel
- Ball valve:	Stainless steel
- Seals, stem:	EPDM O-rings
- Seals, ball:	Teflon seals
Rotation:	0°-90°
Maximum close-off pressure:	500 kPa / 70 psi
Shut-off leakage1:	ANSI / FCI 70-2 2006, Class III / IEC 60534-4, Class III
End connections:	Universal flange connections which can be used with both ISO and ANSI flanges. Mounting kits are not supplied by Maplef

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SPECIFICATIONS (...continued)

Maple [®] Actuator ²	MTM000		MTM020		MTT000		MTT020		MTT300		MTT320	
Supply voltage	24V AC / 30V DC				24V AC / 30V DC				230V AC			
Type	Electrical, bi-directional motor											
Power consumption	8VA				8VA				10VA			
Control signal	Analog 2-10V DC or 4-20mA				Digital 2-position / 3-point floating				Digital 2-position / 3-point floating			
Feedback	Analog 2-10V DC or 4-20mA				No				No			
Failsafe function	Fail in place				Fail in place				Fail in place			
Auxiliary switches	No		Yes		No		Yes		No		Yes	
Operation time	60-85 sec				60-85 sec				60-85 sec			
Ambient temperature	-18°C to +50°C / 0°F to +122°F											
Humidity rating	5..95% rH, no condensation											
Protection	IP22 / NEMA2, indoor use only - upgradable to IP54 / NEMA3R											
Cable (supply)	Not included, recommended 0.82 mm2/AWG18				Not included, recommended 0.82 mm2/AWG18				Not included, recommended 0.82 mm2/AWG18			
Cable (aux.)	-	Fixed 6 x 0.82 mm2, 1 m / 6 x AWG18, 3.3 ft			-	Fixed 6 x 0.82 mm2, 1 m / 6 x AWG18, 3.3 ft			No	Fixed 6 x 0.82 mm2, 1 m / 6 x AWG18, 3.3 ft		
Weight	2.0 kg / 4.5 lb				2.0 kg / 4.5 lb				2.3 kg / 5.0 lb			

Note 2: Maplef recommends actuators supplied by Maplef

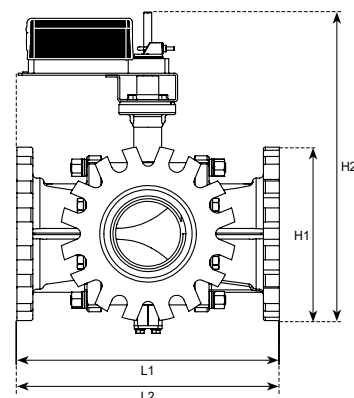
DIMENSIONS AND WEIGHTS (NOMINAL)

Model no.	Valve size mm (in)	L1 mm (in)	L2 ³ max. length mm (in)	H1 mm (in)	H2 mm (in)	D (depth, not shown) mm (in)	Weight ⁴ kg (lb)	Kv ⁵ m ³ /hr
F3WR.J_	100 (4)	302 (11.9)	363 (14.3)	229 (9.0)	493 (19.4)	267 (10.5)	34.0 (75)	79 102 131 170 220 283
F3WR.K_	125 (5)	353 (13.9)	389 (15.3)	254 (10.0)	516 (20.3)	305 (12.0)	40.8 (90)	125 160 208 267 346
F3WR.L_	150 (6)	404 (15.9)	414 (16.3)	279 (11.0)	544 (21.4)	340 (13.4)	47.6 (105)	180 232 299 382 499 562

Note 3: L2 is maximum length, which is measured to end flange or mounting plate, whichever extends further.

Note 4: Weight does not include actuator.

Note 5: Kv is for straight through Kv (A to AB). Bypass Kv (B to AB) would be 70-80% of straight through Kv.



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FLANGE MATCH

Model no.	Flange size (inch)	ASME B16.1	ASME B16.5	Flange size (mm)	EN 1092-1			
		Class 125	Class 150		PN10	PN16	PN25	PN40
F3WR.J_	4	✓	✓	100	✓	✓	✓	✓
F3WR.K_	5	✓	✓	125	✓	✓	✓	✓
F3WR.L_	6	✓	✓	150	✓	✓	✓	✓

MODEL NUMBER SELECTION

Valve size:

J = DN100 / 4"

K = DN125 / 5"

L = DN150 / 6"

Kv ID-number:

A, B, C, D, E or **F** (see flow rate table page 5)

Actuator:

1 = Maplef

Control mode:

0 = no actuator

10 = 24V, digital

20 = 230V, digital

40 = 24V, digital incl. aux.switches

50 = 230V digital incl. aux.switches

60 = 24V modulating incl. aux.switches

70 = 24V modulating

ID tag

Empty = no ID tag

T = ID hanging tag

Example:

MF3WR.J.C.L.S.M.1.10.T = Maplef 3-way, DN100 (4") with Kv=131 m³/h, and Maplef 24V 2-position actuator and ID tag.

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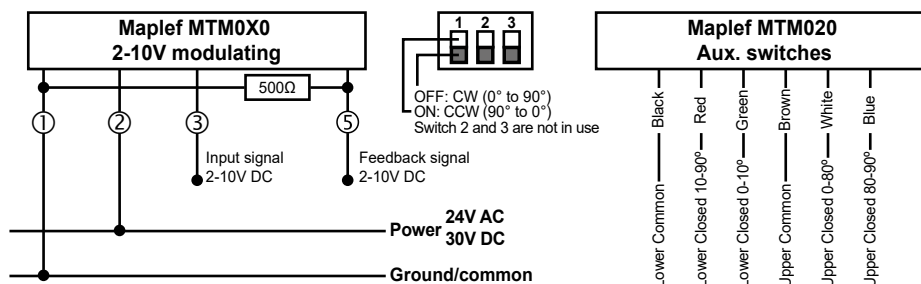
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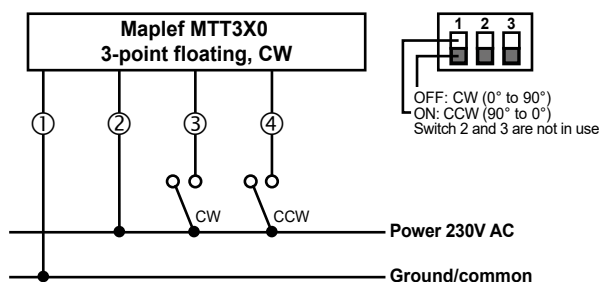
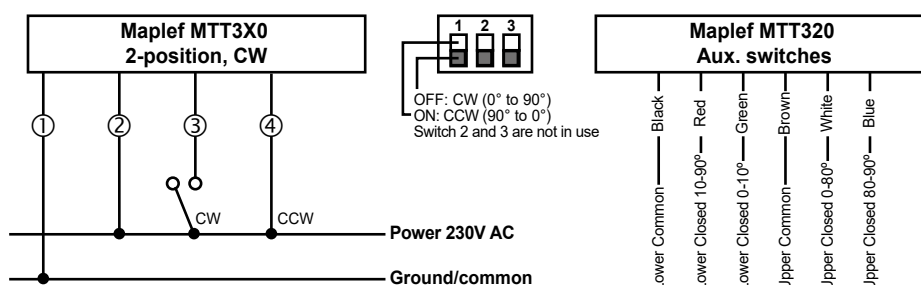
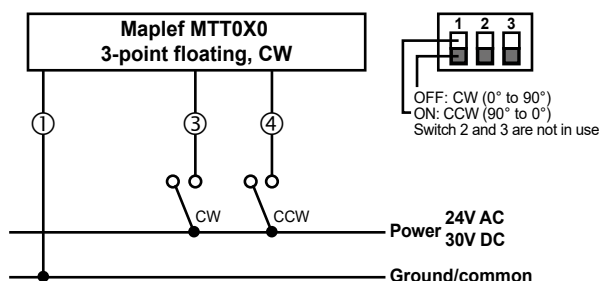
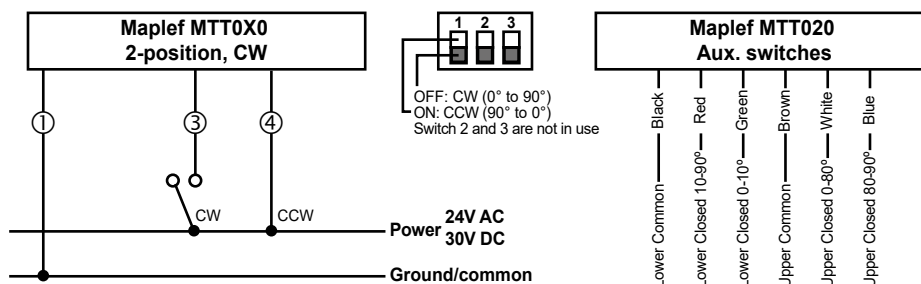


WIRING INSTRUCTION

Maplef MT Actuator (Analog)



Maplef MT Actuator (Digital)



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Kv SELECTION AND FLOW RATE TABLE

Valve size mm (in)	Model no	Close-off pressure ⁶ bar	Flow rate (l/hr) at stated pressure drop (kPaD) across valve												Kv ⁷ m ³ /hr	Kv ID-no
			5	10	15	20	25	30	40	50	60	70	80	90		
100 (4)	MF3WRJ.A	5	17700	25000	30600	35300	39500	43300	50000	55900	61200	66100	70700	74900	79	A
	MF3WRJ.B		22800	32300	39500	45600	51000	55900	64500	72100	79000	85300	91200	96800	102	B
	MF3WRJ.C		29300	41400	50700	58600	65500	71800	82900	92600	101000	110000	117000	124000	131	C
	MF3WRJ.D		38000	53800	65800	76000	85000	93100	108000	120000	132000	142000	152000	161000	170	D
	MF3WRJ.E		49200	69600	85200	98400	110000	120000	139000	156000	170000	184000	197000	210000	220	E
	MF3WRJ.F		63300	89500	110000	127000	142000	155000	179000	200000	219000 ⁸	-	-	209000 ⁶	283	F
125 (5)	MF3WRK.A	5	28000	39500	48400	55900	62500	68500	79100	88400	96800	105000	112000	119000	125	A
	MF3WRK.B		35800	50600	62000	71600	80000	87600	101000	113000	124000	134000	143000	152000	160	B
	MF3WRK.C		46500	65800	80600	93000	104000	114000	132000	147000	161000	174000	186000	197000	208	C
	MF3WRK.D		59700	84400	103000	119000	134000	146000	169000	189000	207000 ⁸	223000 ⁸	-	-	267	D
	MF3WRK.E		77400	109000	134000	155000	173000	190000	219000 ⁸	-	-	-	-	-	346	E
150 (6)	MF3WRL.A	5	40200	56900	69700	80500	90000	98600	114000	127000	139000	151000	161000	171000	180	A
	MF3WRL.B		51900	73400	89900	104000	116000	127000	147000	164000	180000	194000	208000 ⁶	220000 ⁶	232	B
	MF3WRL.C		66900	94600	116000	134000	150000	164000	189000	211000 ⁸	-	-	-	-	299	C
	MF3WRL.D		85200	120000	148000	170000	191000	209000 ⁸	-	-	-	-	-	-	381	D
	MF3WRL.E		112000	158000	193000	223000 ⁸	-	-	-	-	-	-	-	-	499	E
	MF3WRL.F		126000	178000	218000 ⁸	-	-	-	-	-	-	-	-	-	562	F

Note 6: Close-off pressure measured with 10 Nm actuator for DN100/125 and 15 Nm for DN150 up to 159000 l/hr and for larger flow rates a 20 Nm actuator is used.

The close-off pressure is the maximum allowable pressure drop across the valve housing when the valve is fully closed.

Do not use actuators with torque higher than 20 Nm.

Note 7: Kv is defined as the quantity of water in m³/hr at 15°C that will flow through a given valve with a pressure drop of 1 bar.

Hence, the Kv values above are equivalent to 1 bar ΔP.

Note 8: Due to high velocity, flow rates of 204000 l/hr and higher may result in water noise.



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ACCESSORIES

Watertight bushing: 1C50007

GENERAL SPECIFICATIONS

ACTUATED CONTROL VALVE - MAPLEF 3 WAY VALVE

- 1.1. Contractor shall install control valves where indicated in drawings.
- 1.2. Control valve shall include a universal mounting plate.
- 1.3. Control valve shall include blow-out proof stem.
- 1.4. Valve housing shall be permanently marked to show A and AB for mixing og diverting configuration.

2. VALVE ACTUATOR - MAPLEF MT

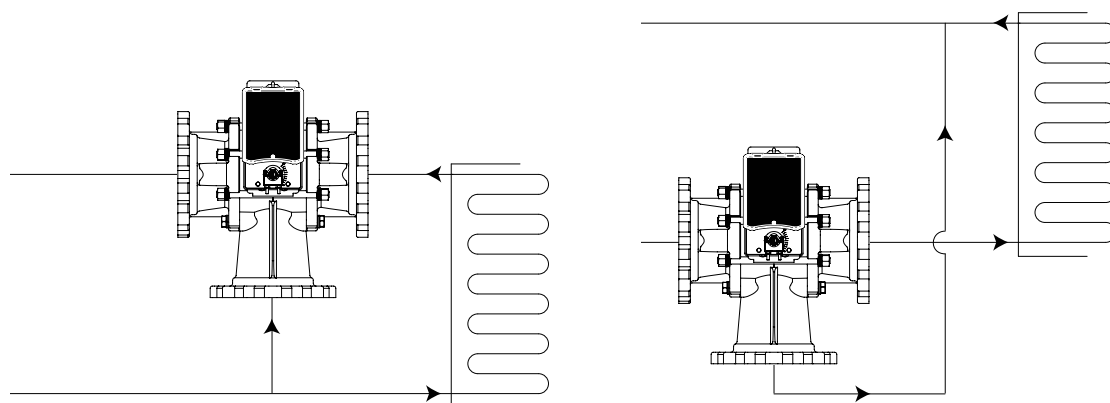
- 2.1. Actuator shall be rated to minimum IP22.
- 2.2. Actuator shall be driven by 24V AC/30V DC or 230V AC, and shall depending on actuator choice accept 2-10V, 4-20mA, 3-point floating or 2-position control signal.
- 2.3. Actuator shall have visible indication of position.
- 2.4. Actuator shall provide minimum torque for full valve shut-off position.
- 2.5. Optional auxiliary switch versions shall be available on all control types.
- 2.6. Manual override shall be possible.

3. VALVE HOUSING

- 3.1. Valve housing shall consist of cast iron ASTM A395, 60-40-18 rated at no less than 1600 kPa (240 psi) at 120°C (+248°C).
- 3.2. Housing shall be for installation between flanges.
- 3.3. Valve shall include a ball with laser cut paraolic opening to make flow control equal percentage; a minimum of 5 unique Kv values shall be available for each size.
- 3.4. Valve shall withstand a close-off pressure of at least 500 kPa (70 psi).
- 3.5. Valve ball and ball stem shall consist of stainless steel.
- 3.6. Identification tag shall be available; tag shall be indelibly marked with Kv, model number and location; tag shall be aluminum.

APPLICATION EXAMPLE

The 3-way ball allows the same 3-way valve to be installed in either a mixing or diverting configuration without sacrificing any performance or Kv.



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