



PRESSURE INDEPENDENT CONTROL VALVE

Maplef Green.3

40-50 mm / 1 1/2" - 2"



FEATURES / CHARACTERISTICS

Static pressure	: 2500 kPa / 360 psi
Ambient temperature	: +1°C to +50°C / +34°F to +122°F
Media temperature ¹	: -20°C to +120°C / -4°F to +248°F

Material:

Housing and covers	: Forged brass ASTM CuZn40Pb2 or Ductile iron ASTM A395 Grade 60-40-18
Composite components (internal)	: Glass-reinforced PSU/PPS/POM
Metal components (internal)	: Stainless steel
O-rings and seats	: EPDM
Diaphragm	: Hydrogenated acrylonitrile-butadiene-rubber
Stroke	: 6.2 mm / 0.24 in
Maximum close off pressure	: 800 kPaD / 116 psid
Maximum operational ΔP	: 600 kPaD / 87 psid
Control characteristic	: linear (may be converted to equal % on actuator)
Control range	: 1:1000 / IEC 60534
Rangeability	: 100:1
Turn down ratio	: 100:1
Shut-off leakage	: ANSI/FCI 70-2 2006, Class IV / IEC 60534-4, Class IV
Flow rate range	: 0.528-3.79 l/sec / 8.36-60.0 GPM
End connections ²	: ISO or NPT

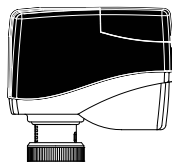
Note 1: Stated temperature rating is defined due to no external condensation.

Note 2: NPT only available ex. US-factory.



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Maple MFH/MFH.1 actuator

MAPLE ACTUATORS

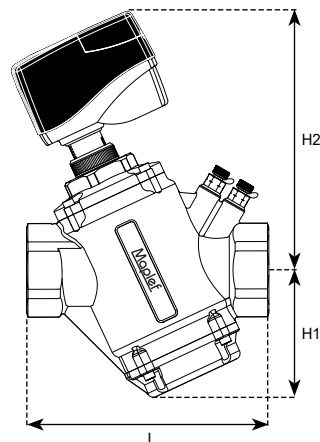
Maple [®] Actuator ³	Maple [®] MFH		Maple [®] MFH.1	
Supply Storage	24V AC/DC ±10%, 50/60 Hz			
Type	Electrical, bi-directional synchronous motor			
Power Consumption	AC: 8.5VA (6VA operating) / DC: 4.1W (2.6W operating)		AC: 9VA (7.9VA operating) / DC: 4.5W (3.7W operating)	
Control Signal	Analog 0(2)-10V DC	Digital 2-position / 3-point floating	Analog 0(2)-10V DC	Digital 2-po- sition with constant power supply
Feedback	Yes, control signal	Yes, 0-10V DC (2-position only)	Yes, control signal	Yes, 0-10V DC
Failsafe function	No	No	Yes	Yes
Operation Time	max 22 sec/mm		max 22 sec/mm (failsafe: 5 sec/mm)	
Ambient Temperature	0°C to +50°C / +32°F to +122°F			
Media Temperature	0°C to +120°C / +32°F to +248°F			
Humidity rating	0..85% rH, no condensation			
Protection	IP54: -90° to +90°; IP40: 180°			
Cable	Fixed, 5 wires x 0.50mm ² , 1.5 meter / 5 wires x AWG20, 4.9 ft			
Closing point detection	Yes			
Weight	0.30 kg / 0.67 lb		0.34 kg / 0.75 lb	

Note 3: Maple warranty is voided using other actuators than supplied by Maple.

DIMENSIONS AND WEIGHTS (NOMINAL)

Model No	Valve Model	Valve Size mm (in)	L mm (in)	H1 mm (in)	H2 mm (in)	Weight ⁴ Brass Kg (lb)	Weight ⁴ Ductile Iron Kg (lb)	Kvs ⁵ (Cvs ⁵)m ³ /hr (GPM)
MP.3.X2.40.X.X	Green.3	40 (1 1/2)	191.0 (7.5)	100.2 (3.9)	194.7 (7.7)	4.6 (10.1)	4.3 (9.5)	34.1 (39.6)
MP.3.X2.50.X.X		50 (2)				4.2 (9.3)	3.8 (8.4)	

Note 4: Weight does not include actuator.
Note 5: For complete unit based on min. ΔP .



Maple Green DN40/50 (1 1/2"-2")
with Maple MFH/MFH.1 actuator



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MODEL NUMBER SELECTION

MP.3. _____ **I**

Insert type of actuator:
52=MFH
62=MFH.1
if **no actuator** is required please leave blank

Insert size and material of housing:
40=DN40 / 1 1/2" (Forged brass)
41=DN40 / 1 1/2" (Ductile iron)
50=DN50 / 2" (Forged brass)
51=DN50 / 2" (Ductile iron)

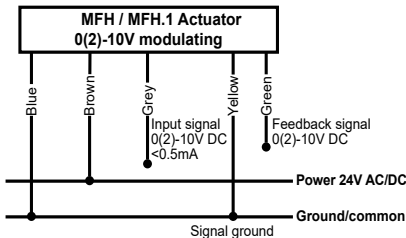
Insert p/t plug requirements:
B=pressure/temperature plugs **P**=taps plugged - leave blank if no p/t plugs required

Insert connections standard:
I=ISO

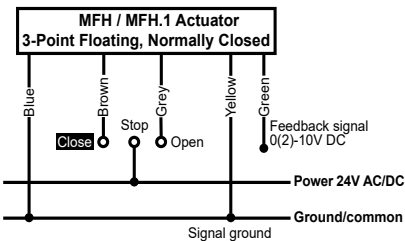
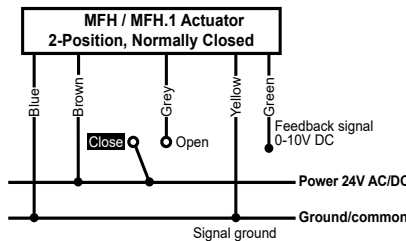
Example: MP.3.52.40.B.I=40mm (1 1/2") Maplef Green (forged brass) with a 24V electrically modulating actuator, p/t plugs and ISO female-female threaded.

WIRING INSTRUCTION

Maplef MFH (analog)



Maplef MFH (digital)





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DESCRIPTION

The Maplef Green is a series of pressure independent control valves that are two-way, modulating to accept digital or analog input signals. The valves accept 0(2)-10V, 3-point floating or ON/OFF input signals provided by the same actuator. Each valve has an adjustable maximum flow rate setting maintaining a full stroke to enable flow limitation and balancing to the coil or zone that the valve is controlling.

For use in fan-coil units, air-handling units, VAV applications and cooling ceilings for activation of heating or cooling.

MAXIMUM FLOW RATE LIMITATION SETTINGS

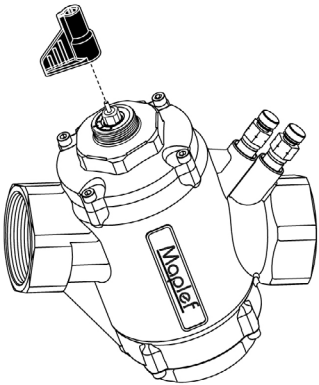
Maplef Green .3				Setting
	16-600 kPaD · 2.3-87 psid			
	l/sec	l/hr	GPM	
Nominal flow rate	0.528	1900	8.36	1.0
	0.633	2278	10.0	1.1
	0.738	2655	11.7	1.2
	0.843	3033	13.3	1.3
	0.947	3410	15.0	1.4
	1.05	3787	16.7	1.5
	1.16	4163	18.3	1.6
	1.26	4537	20.0	1.7
	1.36	4909	21.6	1.8
	1.47	5279	23.2	1.9
	1.57	5646	24.8	2.0
	1.67	6011	26.4	2.1
	1.77	6372	28.0	2.2
	1.87	6730	29.6	2.3
	1.97	7083	31.2	2.4
	2.06	7432	32.7	2.5
	2.16	7776	34.2	2.6
	2.25	8115	35.7	2.7
	2.35	8449	37.2	2.8
	2.44	8777	38.6	2.9
	2.53	9098	40.0	3.0
	2.61	9413	41.1	3.1
	2.70	9721	42.8	3.2
	2.78	10021	44.1	3.3
	2.86	10314	45.4	3.4
	2.94	10599	46.6	3.5
	3.02	10875	47.8	3.6
	3.10	11142	49.0	3.7
	3.17	11400	50.2	3.8
	3.24	11649	51.3	3.9
	3.30	11888	52.3	4.0
	3.37	12116	53.3	4.1
	3.43	12334	54.3	4.2
	3.48	12540	55.2	4.3
	3.54	12735	56.0	4.4
	3.59	12919	56.8	4.5
3.64	13090	57.6	4.6	
3.68	13249	58.3	4.7	
3.72	13395	58.9	4.8	
3.76	13527	59.5	4.9	
3.79	13647	60.0	5.0	

Nominal flow rate



A micrometer setting of 3.4 as illustrated above corresponds to a maximum flow rate of:

2.86 l/sec (45.4 GPM)



Use the special designed key (Maplef part no. ACC0007) for micrometer setting.

Accuracy: Greatest of either ±10% of controlled flow rate or ±5% of maximum flow rate.



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GENERAL SPECIFICATIONS

1. PRESSURE INDEPENDENT DYNAMIC CONTROL VALVE - MAPLEF GREEN.3

- 1.1. Contractor shall install the pressure independent dynamic control valves where indicated in drawings.
- 1.2. Valve shall be an electronic, dynamic, modulating, 2-way, pressure independent control device.
- 1.3. Pressure independent dynamic control valve shall accurately control flow, independent of system pressure fluctuation.
- 1.4. Maximum flow setting shall be adjustable to 41 different settings within the range of the valve size.
- 1.5. Valve housing shall be permanently marked to show direction of flow.

2. VALVE ACTUATOR - MAPLEF MFH

- 2.1. Actuator housing shall be rated to IP54. 360° mounting shall be acceptable.
- 2.2. Actuator shall be driven by 24V AC/DC and accept 0(2)-10V DC, 3-point floating or 2-position control signal.
- 2.3. Actuator shall use full stroke and provide full authority.
- 2.4. Actuator shall have visible indication of stroke position.
- 2.5. Feedback signal equal to control signal shall be standard on 24V versions.
- 2.6. Failsafe version shall be available.
- 2.7. Auto stroke function shall be available.
- 2.8. Override shall be possible.

3. VALVE HOUSING - MAPLEF GREEN.3

- 3.1. Valve housing DN40-DN50 (1 1/2"-2") female-female shall consist of forged brass ASTM CuZn40Pb2 or Ductile iron ASTM A395 Grade 60-40-18, rated at no less than 2500 kPa (360 psi) static pressure at +120°C (+248°F).
- 3.2. Pressure/temperature test plugs for verifying accuracy of flow performance shall be available for all valve sizes.

4. FLOW REGULATION UNIT

- 4.1. Flow regulation unit shall consist of glass-reinforced PPS, PSU and POM with HNBR diaphragm and EPDM sealings.
- 4.2. Flow regulation unit shall be externally adjustable to 1 of 41 different flow rates without limiting the stroke length; minimum range shall be capable of being activated by minimum 16 kPaD (2.3 psid) and shall be capable of controlling the flow within $\pm 10\%$ of controlled flow or $\pm 5\%$ of maximum flow.

APPLICATION AND SCHEMATIC EXAMPLE

