

Pressure Independent Balancing and Modulating Control Valve

TA Series 7MP



08.55



½ – 1 ¼"/DN15 – DN32



1 ½ – 2"/DN40 – DN50



2 ½ – 8"/73.0 mm – DN200

1.0 PRODUCT DESCRIPTION

Available Sizes

- ¾ – 8"/DN10 – DN200

Maximum Working Pressure

- ¾ – 2"/DN10 – DN50: 230 psi/1586 kPa/16 bar
- 2 ½ – 8"/73.0 mm – DN200: Flanges according to ASME 7 ANSI B16.42 Class 150
- Maximum differential pressure:
 - ¾ – 2"/DN10 – DN32: 87 psi/600 kPa/6 bar
 - ¾ – 2"/DN10 – DN25 (with Δp insert in PPS): 58 psi/400 kPa/4 bar
 - 1 ½ – 2"/DN40 – DN50: 58 psi/400 kPa/4 bar
 - 2 ½ – 8"/73.0 mm – DN200: 116 psi/800 kPa/8 bar
- Minimum differential pressure:
 - ¾ – ¾"/DN10 – DN20: 2.2 psi/15 kPa/0.15 bar
 - 1 – 1 ¼"/DN25 – DN32: 3.3 psi/23 kPa/0.23 bar
 - 1 ½ – 6"/DN40 – DN150: 4.4 psi/30 kPa/0.30 bar
 - 2 ½ - 3" HF/DN65 - DN80: 6.5 psi/45 kPa/0.45 bar
 - 4" HF – 5" HF/DN100 HF – DN125 HF: 8.0 psi/55 kPa/0.55 bar
 - 6 – 8" HF/DN150 – DN200 HF: 8.7 psi/60 kPa/0.60 bar

Operating Temperature Range

- ¾ – 1 ¼"/DN10 – DN32 and 2 ½ – 8"/73.0 mm – DN200: -4°F to +248°F/-20°C to +120°C
- ¾ – 1 ¼"/DN10 – DN25 (with Δp insert in PPS) and 1 ½ – 2"/DN40 – DN50: +14°F to +194°F/-10°C to +90°C

Application

- Hydronic heating and cooling systems

Function

- EQM control
 - Modulating (EMO TM; TA Slider 160 Family; TA Slider 500 Family; TA Slider 750 and 750 Plus; TA Slider 1600 and 1600 Plus)
 - With optional TA Slider fail-safe actuators, the TA Series 7MP valve can be programmed to return to any given position (full open, full closed, or anywhere in the travel) on loss of power
- Balancing via pre-setting (max. flow)
- Measuring (ΔH , T, q)
- Shut-off (for isolation during system maintenance up to maximum rated differential pressure)

ALWAYS REFER TO ANY NOTIFICATIONS AT THE END OF THIS DOCUMENT REGARDING PRODUCT INSTALLATION, MAINTENANCE OR SUPPORT.



2.0 CERTIFICATION/LISTINGS

Not applicable – contact Victaulic with any questions.

3.0 SPECIFICATIONS – MATERIAL

TA Series 7MP Pressure Independent Balancing and Modulating Control Valve

$\frac{3}{8}$ – 1 $\frac{1}{4}$ "/DN10 – DN32

Valve Body: Non-ferrous AMETAL® DZR brass copper alloy

Valve Insert: AMETAL® and polyphenylsulphide (PPS)

Valve Plug: Stainless steel

Spindle: Stainless steel

Spindle Seal: EPDM O-ring

Δp Insert: PPS and AMETAL® or PPS

Membrane: EPDM

Spring: Stainless steel

O-Ring: EPDM

1 $\frac{1}{2}$ – 2"/DN40 – DN50

Valve Body: Non-ferrous AMETAL® DZR brass copper alloy

Valve Insert: AMETAL®

Valve Plug: AMETAL® and PTFE

Spindle: Stainless steel

Spindle Seal: EPDM O-ring

Δp Insert: PPS

Membrane: EPDM

Spring: Stainless steel

O-Ring: EPDM

2 $\frac{1}{2}$ – 8"/73.0 mm – DN200

Valve Body: Ductile iron EN-GJS-400

Valve Insert: Ductile iron EN-GJS-400 and brass

Valve Plug: Stainless steel and EPDM O-ring

Valve Seat: Stainless steel

Spindle: Stainless steel

Spindle Seal: EPDM

Δp Insert: Ductile iron EN-GJS-400, stainless steel and brass

Membrane: Reinforced EPDM

Spring: Stainless steel

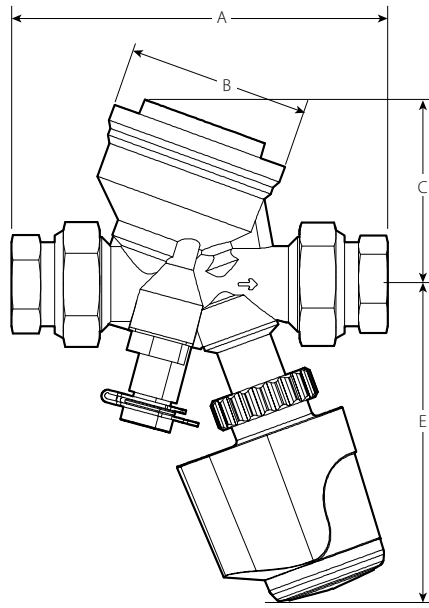
O-Ring: EPDM electrophoretic painted

NOTES

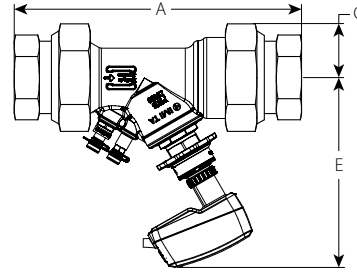
- AMETAL® is the dezincification-resistant brass alloy of IMI TA.
- Body material shall be ISO 6509 compliant.

4.0 DIMENSIONS

TA Series 7MP Pressure Independent Balancing and Modulating Control Valve



½ – 1 ¼"/DN15 – DN32



1 ½ – 2"/DN40 – DN50

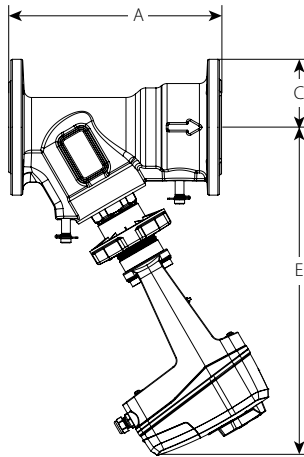
Size		Dimensions											Weight
Nominal inches DN	Actual Outside Diameter inches mm	A End to End inches mm	B inches mm	C inches mm	E EMO TM inches mm	E TA Slider 160 & 160 I/O inches mm	E TA Slider 160 Plus & 160 CO inches mm	E TA Slider 160 Fail-Safe & 160 BACNet inches mm	E TA Slider 500 & 500 I/O inches mm	E TA Slider 500 Plus inches mm	E TA Slider 500 Fail-Safe & 500 BACNet inches mm	Approx. (Each) lb kg	
¾ DN10	0.675 17.1	4.87 124	2.13 54	2.17 55	4.21 107	4.68 119	5.18 132	5.78 147	-	-	-	2.0 0.9	
½ LF DN15 LF	0.840 21.3	4.87 124	2.13 54	2.17 55	4.21 107	4.68 119	5.18 132	5.78 147	-	-	-	2.0 0.9	
½ DN15	0.840 21.3	4.87 124	2.13 54	2.17 55	4.21 107	4.68 119	5.18 132	5.78 147	-	-	-	2.0 0.9	
¾ DN20	1.050 26.9	5.17 131	2.52 64	2.52 64	4.21 107	4.68 119	5.18 132	5.78 147	-	-	-	2.3 1.0	
1 DN25	1.315 33.7	5.78 147	2.52 64	2.52 64	-	5.12 130	5.62 143	6.22 158	-	-	-	2.8 1.2	
1 ¼ DN32	1.660 42.4	7.05 179	3.07 78	3.07 78	-	5.24 133	5.74 146	6.34 161	-	-	-	4.3 2.0	
1 ½ DN40	1.900 48.3	9.88 251	-	1.80 46	-	-	-	-	8.35 212	8.75 222	9.45 240	7.7 3.5	
2 DN50	2.375 60.3	10.24 260	-	1.80 46	-	-	-	-	8.46 215	8.86 225	9.56 243	8.6 3.9	

NOTE

- Depending on union end types selected, length "A" may vary slightly.

4.0 DIMENSIONS (CONTINUED)

TA Series 7MP Pressure Independent Balancing and Modulating Control Valve



2 ½ – 8"/73.0 mm – DN200

Size		Dimensions				Weight
Nominal inches DN	Actual Outside Diameter inches DN	A End to End inches DN	C inches DN	E TA Slider 750 Family inches DN	E TA Slider 1600 Family inches DN	Approx. (Each) lb kg
2 ½	2.875 73.0	11.42 290	3.55 90	18.30 465	–	39.9 18.1
3 DN80	3.500 88.9	12.20 310	3.74 95	18.80 478	–	47.8 21.7
4 DN100	4.500 114.3	13.78 350	4.53 115	19.70 500	–	77.0 35.0
4 HF DN100 HF	4.500 114.3	13.78 350	4.53 115	–	19.70 500	77.0 35.0
DN125	5.500 139.7	15.75 400	5.02 128	20.00 508	–	104.0 47.3
DN125 HF	5.500 139.7	15.75 400	5.02 128	–	20.00 508	104.0 47.3
6 DN150	6.625 168.3	18.90 480	5.51 140	–	–	165.0 74.8
6 HF DN200 HF	6.625 168.3	18.90 480	5.51 140	–	–	165.0 74.8
8 DN200	13.500 342.95	23.62 599.87	6.75 171	–	–	302.0 136.9
8 HF DN200 HF	13.500 342.95	23.62 599.87	6.75 171	–	–	302.0 136.9

NOTE

- Depending on union end types selected, length "A" may vary slightly.

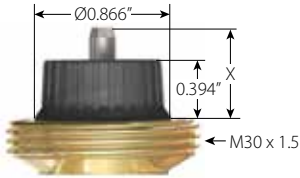
5.0 PERFORMANCE

The TA Series 7MP is designed to work together with the EMO TM, TA Slider 160 Family, TA Slider 500 Family, TA Slider 750 and 750 Plus, TA Slider 1600 and 1600 Plus modulating actuators (see section 4 for available sizes).

Actuators of other brands require a working range of:

- ½ – ¾": X (closed - fully open) = 0.46 – 0.62"/11.7 – 15.7 mm
- 1 – 1 ¼": X (closed - fully open) = 0.40 – 0.66"/10.1 – 16.8 mm

Closing force: Minimum 28 lbf (maximum 112 lbf) for ½ – ¾"; Minimum 43 lbf for 1 – 1 ¼" (maximum 112 lbf)



IMI TA and Victaulic will not be held responsible for the control function if actuators other than those listed above are used.

Actuation Speed	
Control Valve	Actuator Travel Speed
EMO TM	30 s/mm
TA Slider 160 Family	10 s/mm
TA Slider 500 Family	4 or 6 s/mm (Default setting is 4 s/mm)
TA Slider 750, 750 Plus, 1600 or 1600 Plus	3 to 16 s/mm

NOTE

- ½"/15 mm and ¾"/20 mm TA Series 7MP have 4 mm of travel.

5.0 PERFORMANCE (CONTINUED)

TA Series 7MP – Actuator Only

Actuators	Actuator Code Option	Supply Voltage	Input Signal Options	Victaulic Part Code	
TA Slider160	S0	24 VAC/VDC	0(2)- 10 VDC	P0007MPS10	
TA Slider 160 BACNet	SB	24 VAC/VDC	via Bus or 0(2)-10 VDC	P0007MPS1B	
TA Slider 160 BACNet CO	BC	24 VAC/VDC	via Bus or 0(2)-10 VDC, with binary input, 2 connections for PT1000 temperature probe and relay 24V	P0007MPSBC	
TA Slider 160 CO	SC	24 VAC/VDC	0(2)-10VDC w/ binary input, relay with connector to TA-M106 actuator, VDC output	P0007MPSC0	
TA Slider 160 Fail-Safe I/O	SF	24 VAC/VDC	0(2)-10VDC w/ binary input, VDC output signal	P0007MPS1F	
TA Slider 160 Fail-Safe R24	SR	24 VAC/VDC	0(2)-10VDC w/ binary input, VDC output signal and relay 24V	P0007MPS1R	
TA Slider 160 I/O	SI	24 VAC/VDC	0(2)-10VDC w/ binary input, VDC output signal	P0007MPS1I	
TA Slider 160 Plus	SP	24 VAC/VDC	0(2)- 10 VDC with binary input, relay, VDC output	P0007MPS1P	
TA Slider 500	50	24 VAC/VDC	0(2)- 10 VDC	P0007MPS50	
TA Slider 500 Plus	5P	24 VAC/VDC	0(2)- 10 VDC with binary input, relay, VDC output	P0007MPS5P	
TA Slider 500 Fail-Safe I/O	5F	24 VAC/VDC	0(2)-10VDC w/ binary input, VDC output signal	P0007MPS5F	
TA Slider 500 Fail-Safe R24	5R	24 VAC/VDC	0(2)-10VDC w/ binary input, VDC output signal and relay 24V	P0007MPS5R	
TA Slider 500 BACNet	5B	24 VAC/VDC	via Bus or 0(2)-10 VDC, with binary input, 2 connections for PT1000 temperature probe and relay 24V	P0007MPS5B	
TA Slider 500 I/O	5I	24 VAC/VDC	0(2)-10VDC w/binary input, VDC output signal	P0007MPS5I	
TA Slider 750	70	24VACNDC	0(2)- 10 VDC, 0(4)-20 mA, 3-point, on-off	P0007FC070	
	G0	100-240VAC	0(2)- 10 VDC, 0(4)-20 mA, 3-point, on-off	P0007FC0G0	
TA Slider 750/24 Fail-Safe	7F	24VAC/VDC	0(2)-10VDC, 0(4)-20 mA, 3-point, on-off	P0007FC07F	
TA Slider 750/HV Fail-Safe w/Relay	7R	100-240 VAC	0(2)-10VDC, 0(4)-20 mA, 3-point, on-off	P0007FCR7F	
TA Slider 750 Plus	8A	24 VAC/VDC	With binary input, relays, mA output	P0007FC08A	
	HA	100-240 VAC	With binary input, relays, mA output	P0007FC0HA	
	8B	24 VAC/VDC	KNX-TP Twisted Pair with BUS communication (without binary input, relays, mA output)	P0007FC08B	
	8C		Modbus/RTU RS 485 with BUS communication (without binary input, relays, mA output)	P0007FC08C	
	8D		BACnet MS/TP RS 485 with BUS communication (without binary input, relays, mA output)	P0007FC08D	
	8E		Modbus/TCP Ethernet with BUS communication (without binary input, relays, mA output)	P0007FC08E	
	8F		KNX/IP Ethernet with BUS communication (without binary input, relays, mA output)	P0007FC08F	
	8G		BACnet/IP Ethernet with BUS communication (without binary input, relays, mA output)	P0007FC08G	
	HB		100-240 VAC	KNX-TP Twisted Pair with BUS communication (without binary input, relays, mA output)	P0007FC0HB
	HC			Modbus/RTU RS 485 with BUS communication (without binary input, relays, mA output)	P0007FC0HC
	HD	BACnet MS/TP RS 485 with BUS communication (without binary input, relays, mA output)		P0007FC0HD	
	HE	Modbus/TCP Ethernet with BUS communication (without binary input, relays, mA output)		P0007FC0HE	
	HF	KNX/IP Ethernet with BUS communication (without binary input, relays, mA output)		P0007FC0HF	
	HG	BACnet/IP Ethernet with BUS communication (without binary input, relays, mA output)		P0007FC0HG	
	8I	24 VAC/VDC	KNX-TP Twisted Pair with BUS communication, binary input, relays, mA output	P0007FC08I	
			Modbus/RTU RS 485 with BUS communication, binary input, relays, mA output	P0007FC08J	
			BACnet MS/TP RS 485 with BUS communication, binary input, relays, mA output	P0007FC08K	
			Modbus/TCP Ethernet with BUS communication, binary input, relays, mA output	P0007FC08L	
			KNX/IP Ethernet with BUS communication, binary input, relays, mA output	P0007FC08M	
			BACnet/IP Ethernet with BUS communication, binary input, relays, mA output	P0007FC08N	
	HI	100-240 VAC	KNX-TP Twisted Pair with BUS communication, binary input, relays, mA output	P0007FC0HI	
			Modbus/RTU RS 485 with BUS communication, binary input, relays, mA output	P0007FC0HJ	
			BACnet MS/TP RS 485 with BUS communication, binary input, relays, mA output	P0007FC0HK	
			Modbus/TCP Ethernet with BUS communication, binary input, relays, mA output	P0007FC0HL	
			KNX/IP Ethernet with BUS communication, binary input, relays, mA output	P0007FC0HM	
			BACnet/IP Ethernet with BUS communication, binary input, relays, mA output	P0007FC0HN	
	TA Slider 1600	J2	24 VAC/VDC	0(2)- 10 VDC, 0(4)-20 mA, 3-point, on-off	P0007MP0J2
		J1	100-240 VAC	0(2)- 10 VDC, 0(4)-20 mA, 3-point, on-off	P0007MP0J1

5.0 PERFORMANCE (CONTINUED)

TA Series 7MP – Actuator Only

Actuators	Actuator Code Option	Supply Voltage	Input Signal Options	Victaulic Part Code
TA Slider 1600 Plus	90	24 VAC/VDC	With binary input, relays, mA output	P0007MP090
	I0	100-240 VAC	With binary input, relays, mA output	P0007MP010
	9A	24 VAC/VDC	Modbus/RTU RS 485 with BUS communication (without binary input, relays, mA output)	P0007MP09A
	9B		BACnet MS/TP RS 485 with BUS communication (without binary input, relays, mA output)	P0007MP09B
	9C		Modbus/TCP Ethernet with BUS communication (without binary input, relays, mA output)	P0007MP09C
	9D		BACnet/IP Ethernet with BUS communication (without binary input, relays, mA output)	P0007MP09D
	IA	100-240 VAC	Modbus/RTU RS 485 with BUS communication (without binary input, relays, mA output)	P0007MP01A
	IB		BACnet MS/TP RS 485 with BUS communication (without binary input, relays, mA output)	P0007MP01B
	IC		Modbus/TCP Ethernet with BUS communication (without binary input, relays, mA output)	P0007MP01C
	ID		BACnet/IP Ethernet with BUS communication (without binary input, relays, mA output)	P0007MP01D
	9E	24 VAC/VDC	Modbus/RTU RS 485 with BUS communication, binary input, relays, mA output	P0007MP09E
	9F		BACnet MS/TP RS 485 with BUS communication, binary input, relays, mA output	P0007MP09F
	9G		Modbus/TCP Ethernet with BUS communication, binary input, relays, mA output	P0007MP09G
	9H		BACnet/IP Ethernet with BUS communication, binary input, relays, mA output	P0007MP09H
	FJ	100-240 VAC	Modbus/RTU RS 485 with BUS communication, binary input, relays, mA output	P0007MP01E
	FK		BACnet MS/TP RS 485 with BUS communication, binary input, relays, mA output	P0007MP01F
FL	Modbus/TCP Ethernet with BUS communication, binary input, relays, mA output		P0007MP01G	
FN	BACnet/IP Ethernet with BUS communication, binary input, relays, mA output		P0007MP01H	
TA-Slider 1600 Fail-Safe	2F	24VAC/VDC	SL1600/24 Fail-Safe, 0(2)-10VDC, 0(4)-20 mA, 3-point, on-off	P0007MP0J3
	2R	100-240 VAC	SL1600 /HV Fail-Safe w/Relay, 0(2)-10VDC, 0(4)-20 mA, 3-point, on-off	P0007MP0J4

5.1 PERFORMANCE

Maximum recommended differential pressure (ΔpV) for valve and actuator combination

The maximum recommended differential pressure for a valve and actuator combination for close off (ΔpV_{close}) and to fulfill all stated performances (ΔpV_{max}):

Size		Maximum Recommended Differential Pressure						
Nominal inches DN	Actual Outside Diameter inches mm	E EMO TM		E TA Slider 160 Family		E TA Slider 500 Family	E TA Slider 750 Family	E TA Slider 1600/ Slider 1600 Plus Family
		(ΔpV_{close}) psi kPa	(ΔpV_{max}) psi kPa	(ΔpV_{close}) psi kPa	(ΔpV_{max}) psi kPa	(ΔpV_{close})/ (ΔpV_{max}) psi kPa	(ΔpV_{close})/ (ΔpV_{max}) psi kPa	(ΔpV_{close})/ (ΔpV_{max}) psi kPa
3/8 DN15	0.840 21.3	58 400	87 600	58 400	87 600	– –	– –	– –
1/2 DN15	0.840 21.3	58 400	87 600	58 400	87 600	– –	– –	– –
3/4 DN20	1.050 26.9	58 400	87 600	58 400	87 600	– –	– –	– –
1 DN25	1.315 33.7	– –	– –	58 400	87 600	– –	– –	– –
1 1/4 DN32	1.660 42.4	– –	– –	– –	87 600	– –	– –	– –
1 1/2 DN40	1.900 48.3	– –	– –	– –	– –	58 400	– –	– –
2 DN50	2.375 60.3	– –	– –	– –	– –	58 400	– –	– –
2 1/2	2.875 73.0	– –	– –	– –	– –	– –	116 800	– –
2 1/2 HF	2.875 73.0	– –	– –	– –	– –	– –	116 800	– –
3 DN80	3.500 88.9	– –	– –	– –	– –	– –	116 800	– –
3 HF DN80 HF	3.500 88.9	– –	– –	– –	– –	– –	116 800	– –
4 DN100	4.500 114.3	– –	– –	– –	– –	– –	116 800	– –
4 HF DN100 HF	4.500 114.3	– –	– –	– –	– –	– –	58 400	116 800
DN125	5.500 139.7	– –	– –	– –	– –	– –	116 800	– –
DN125 HF	5.500 139.7	– –	– –	– –	– –	– –	58 400	116 800
6 DN150	6.625 168.3	– –	– –	– –	– –	– –	– –	– –
6 HF DN150 HF	6.625 168.3	– –	– –	– –	– –	– –	– –	– –
8 DN200	13.500 342.9	– –	– –	– –	– –	– –	– –	116 800
8 HF DN200 HF	13.500 342.9	– –	– –	– –	– –	– –	– –	116 800
Closing Force		28 lbf		43 lbf		112 lbf	168 lbf	360 lbf

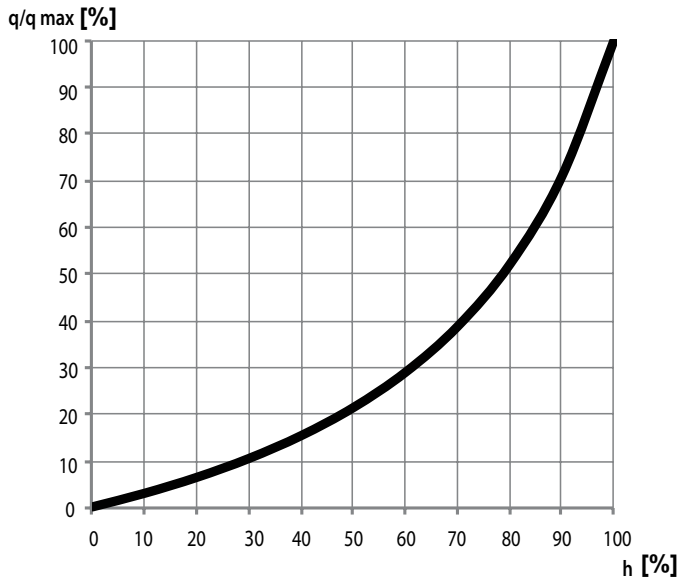
NOTES

- ΔpV_{close} = The maximum differential pressure that the valve can close against from an opened position, with a specified force by actuator, without exceeding leakage rate. Leakage flow $\leq 0.01\%$ of max. q_{max} (max. setting) and correct flow direction (Class IV according to EN 60534–4).
- ΔpV_{max} = The maximum allowed differential pressure over the valve, to fulfill all stated flow performances.

5.2 PERFORMANCE

Valve Characteristics

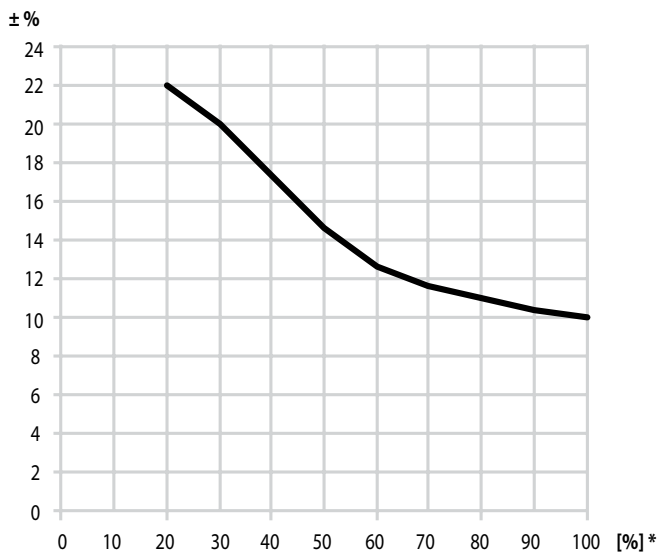
Nominal valve characteristics for all settings



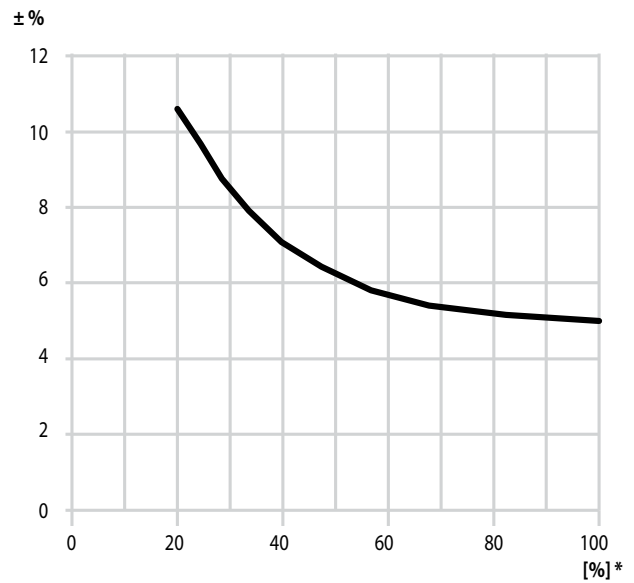
Measuring Accuracy

Maximum flow deviation at different settings

$\frac{3}{8}$ – $1\frac{1}{4}$ "/DN10 – DN32



$1\frac{1}{2}$ – 8"/DN40 – DN200



*Setting (%) of fully open valve.

5.3 PERFORMANCE

TA Series 7MP Sizing

Choose the smallest valve size that can obtain the maximum design flow. The setting should be as open as possible. Check that the available Δp_V is within the working range of 2.2 – 58/87 psi, 3.3 – 58/87 psi, 4.4 – 58 psi, or 4.4 – 116 psi.

Size		Valve Position (q_max)									
Nominal	Actual Outside Diameter	1	2	3	4	5	6	7	8	9	10
inches DN	inches mm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm
3/8	0.750	0.075	0.12	0.17	0.22	0.27	0.33	0.39	0.44	0.49	0.53
DN10	21.3	0.28	0.45	0.64	0.83	1.02	1.25	1.48	1.67	1.85	2.00
1/2 LF	0.840	0.17	0.23	0.30	0.37	0.46	0.55	0.64	0.74	0.87	1.01
DN15	21.3	0.64	0.87	1.14	1.40	1.74	2.08	2.42	2.80	3.29	3.82
1/2	0.840	0.41	0.50	0.62	0.75	0.92	1.17	1.43	1.72	1.96	2.11
DN15	21.3	1.55	1.89	2.35	2.84	3.48	4.43	5.41	6.51	7.42	7.99
3/4	1.050	0.88	1.14	1.59	2.03	2.49	2.95	3.39	3.74	4.05	4.29
DN20	26.9	3.33	4.31	6.02	7.68	9.42	11.17	12.83	14.16	15.33	16.24
1	1.315	1.50	1.94	2.64	3.57	4.45	5.28	5.94	6.69	7.22	7.71
DN25	33.7	5.68	7.34	9.99	13.51	16.84	19.98	22.48	25.32	27.33	29.18
1 1/4	1.660	3.17	4.23	5.94	7.71	9.47	11.10	12.50	13.80	14.90	15.80
DN32	42.4	12.00	16.01	22.48	29.18	35.84	42.01	47.31	52.23	56.40	59.80

NOTES

- q_{max} = gpm (lpm) at each pre-setting and fully open valve plug.
- 1/2" HF, 3/4" HF and 1" HF use the 3/4", 1" and 1 1/4" valve position flow rates and have reducing female union tailpieces on both the inlet and outlet.

Size		Valve Position (q_max)												
Nominal	Actual Outside Diameter	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
inches DN	inches mm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm
1 1/2	1.900	4.40	5.46	6.73	8.10	9.68	11.31	13.29	15.18	17.42	20.00	22.90	25.50	28.60
DN40	48.3	16.68	20.69	25.51	30.70	36.69	42.86	50.37	57.53	66.02	75.80	86.79	96.65	108.39
2	2.375	9.46	11.62	14.17	16.68	19.49	22.70	26.40	30.20	34.30	38.70	42.90	46.70	49.30
DN50	60.3	35.85	44.04	53.70	63.22	73.87	86.03	100.06	114.46	130.00	146.67	162.59	176.99	186.85

NOTE

- q_{max} = gpm (lpm) at each pre-setting and fully open valve plug.

Size		Valve Position (q_max)												
Nominal	Actual Outside Diameter	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
inches DN	inches mm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm	gpm lpm
4	4.500	51.5	62.1	74.0	86.7	101	116	133	151	169	187	204	218	228
DN100	114.3	195.19	235.36	280.46	328.59	382.79	439.64	504.07	572.29	640.51	708.73	773.16	826.22	864.12
DN125	5.500	66	83	100	121	141	163	187	210	235	260	285	313	340
	139.7	250.14	313.81	379.00	458.59	534.39	617.77	708.73	795.90	890.65	985.40	1080.15	1186.27	1288.60

NOTE

- q_{max} = gpm (lpm) at each pre-setting and fully open valve plug.

5.3 PERFORMANCE (CONTINUED)

TA Series 7MP Sizing

Size		Valve Position (q_max)															
Nominal	Actual Outside Diameter	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
inches	inches	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm
DN	mm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm
2½ HF	2.500	32.8	42.2	51.0	59.7	68.2	77.2	86.4	95.8	105	113	123	131	138	147	153	161
DN60	63.5	124.16	159.74	193.06	225.98	258.17	292.23	327.05	362.64	397.46	427.75	465.61	495.89	522.39	556.46	597.17	609.45
3 HF	3.000	41.9	53.2	64.3	75.0	85.9	96.7	107	118	129	142	153	164	177	189	198	216
DN80	76.2	158.61	201.38	243.42	283.91	325.17	366.05	405.04	446.68	488.32	537.53	579.17	620.81	670.02	700.28	749.51	817.65
4 HF	4.500	79.3	99.5	119	137	155	173	191	209	227	245	263	280	296	311	324	334
DN100 HF	114.3	300.55	377.11	451.01	519.23	587.45	655.67	723.89	792.11	860.33	928.55	996.77	1061.20	1121.84	1178.69	1227.96	1265.86
DN125 HF	5.500	103	132	161	190	218	246	276	307	337	368	400	435	462	493	524	559
	139.7	390.37	500.28	610.19	720.10	826.22	932.34	1046.04	1163.53	1277.23	1394.72	1516.00	1648.65	1750.98	1868.47	1985.96	2118.61

NOTES

- qmax = gpm (lpm) at each pre-setting and fully open valve plug.
- HF = High flow

Size		Valve Position (q_max)										
Nominal	Actual Outside Diameter	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5
inches	inches	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm
DN	mm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm
6	6.625	-	-	-	-	-	115	136	150	183	213	239
DN150	168.3	-	-	-	-	-	435.85	515.44	568.50	693.57	807.27	905.81
6 HF	6.625	171	209	240	275	311	347	380	414	449	480	515
DN150	168.3	648.09	792.11	909.60	1042.25	1178.69	1315.13	1440.20	1569.06	1701.71	1819.20	1951.85
8	-	-	-	-	-	-	154	193	237	288	342	399
DN200	-	-	-	-	-	-	582.96	730.58	897.14	1090.20	1294.61	1510.40
8 HF	-	-	-	322	392	462	530	599	669	738	812	885
DN200	-	-	-	1218.90	1483.88	1748.86	2006.26	2267.46	2532.44	2793.63	3073.75	3350.08

Size		Valve Position (q_max)										
Nominal	Actual Outside Diameter	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0
inches	inches	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm	gpm
DN	mm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm	lpm
6	6.625	272	305	337	379	418	453	493	528	555	-	-
DN150	168.3	1030.88	1155.95	1277.23	1436.41	1584.22	1716.87	1868.47	2001.12	2103.45	-	-
6 HF	6.625	542	577	612	643	678	713	753	788	837	-	-
DN150	168.3	2054.18	2186.83	2319.48	2436.97	2569.62	2702.27	2853.87	2986.52	3172.23	-	-
8	13.5	465	522	580	639	695	748	805	841	879	897	919
DN200	342.9	1760.27	1975.98	2195.54	2418.88	2630.86	2831.49	3047.26	3183.53	3327.38	3395.51	3478.80
8 HF	13.5	956	1025	1099	1166	1217	1261	1299	1325	1365	1401	1447
DN200	342.9	3618.85	3880.05	4160.16	4413.79	4606.84	4773.40	4917.24	5015.67	5167.09	5303.36	5477.49

NOTES

- qmax = gpm (lpm) at each pre-setting and fully open valve plug.
- HF = High flow.

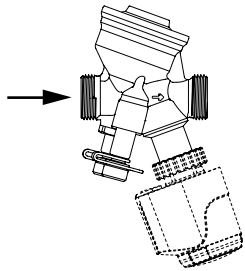
Correction Factors

The flow calculations are valid for water (68°F/20°C). For other liquids with approximately the same viscosity as water (≤ 20 cSt = $3^\circ E = 100S.U.$), it is only necessary to compensate for the specific density. However, at low temperatures, the viscosity increases and laminar flow may occur in the valves. This causes a flow deviation that increases with small valves, low settings and low differential pressures. Correction for this deviation can be made with the software HySelect or directly in IMI TA's balancing instruments. The TA Series 734 scope balancing instrument or the HyTools app may be used to convert differential pressure measurements to flow rates based on valve position.

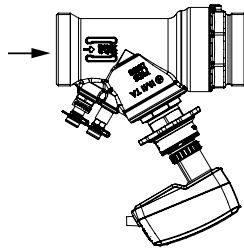
5.4 PERFORMANCE

Installation

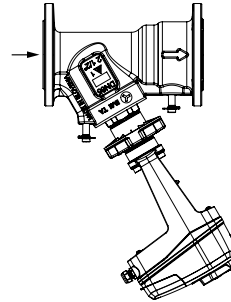
Flow Direction



½ – 1¼"/DN15 – DN32



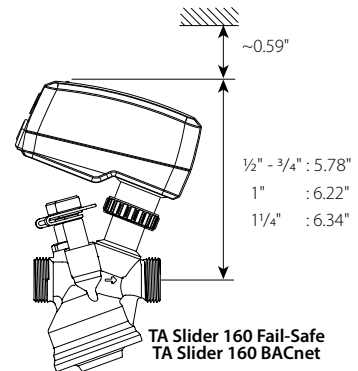
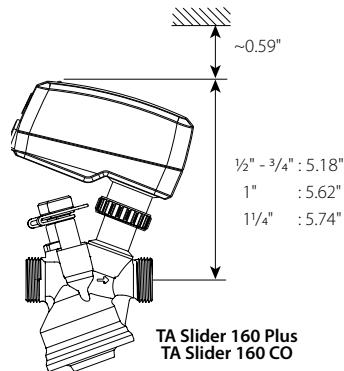
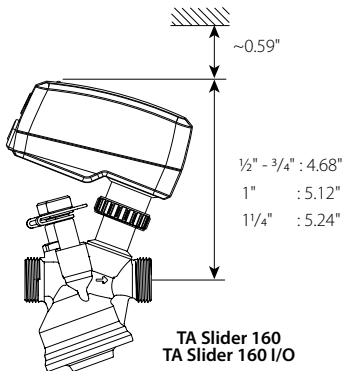
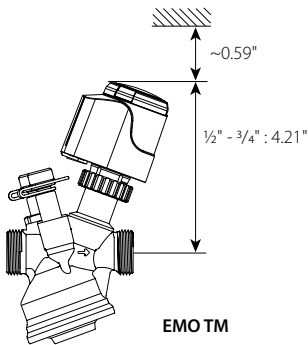
1½ – 2"/DN40 – DN50



2½ – 6"/73.0 mm – DN150

Installation of Actuator

Approximately 0.60 in of free space is required above the actuator to allow for actuator removal and valve setting adjustment once installed.

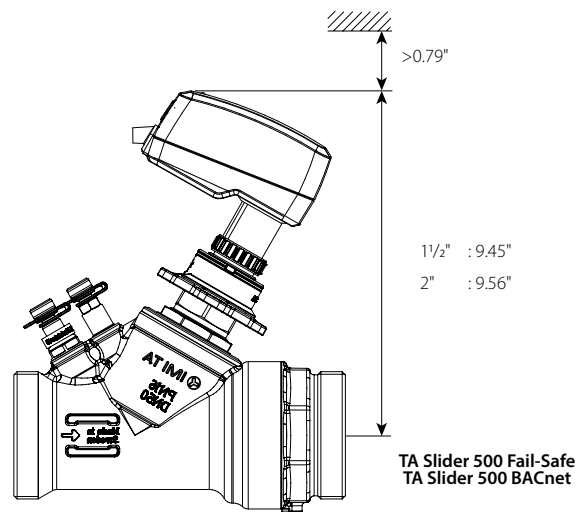
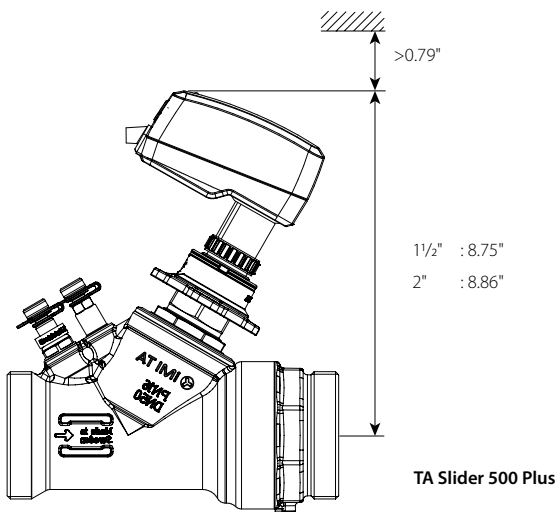
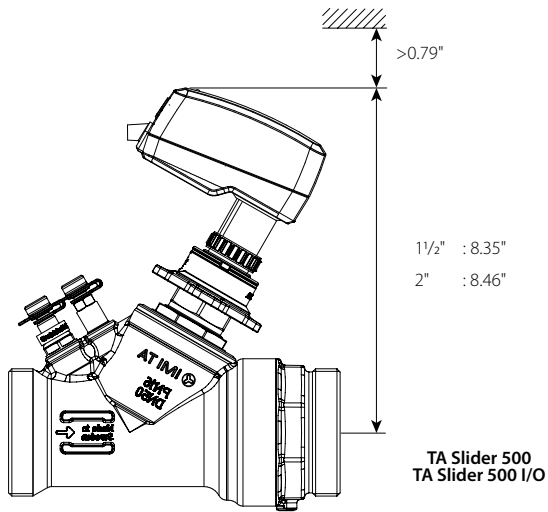


5.4 PERFORMANCE (CONTINUED)

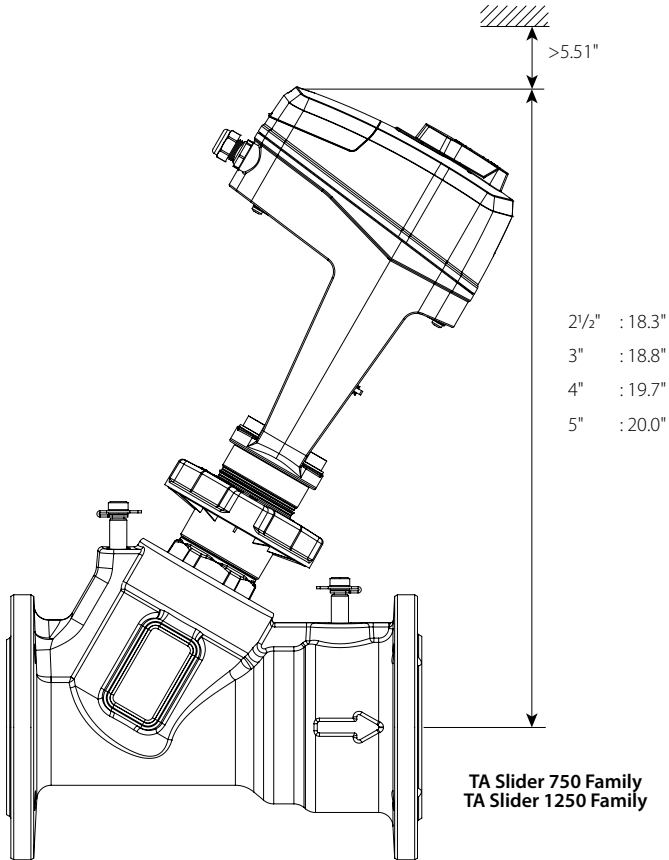
Installation

Installation of Actuator

See below graphics for needed free space required above the actuator to allow for actuator removal and valve setting adjustment once installed.

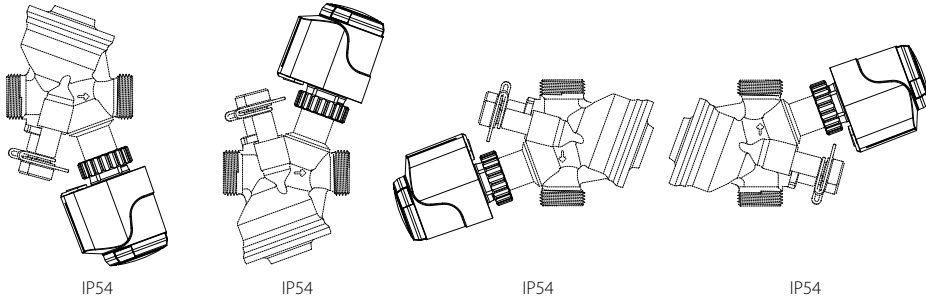


5.4 PERFORMANCE (CONTINUED)



5.5 PERFORMANCE

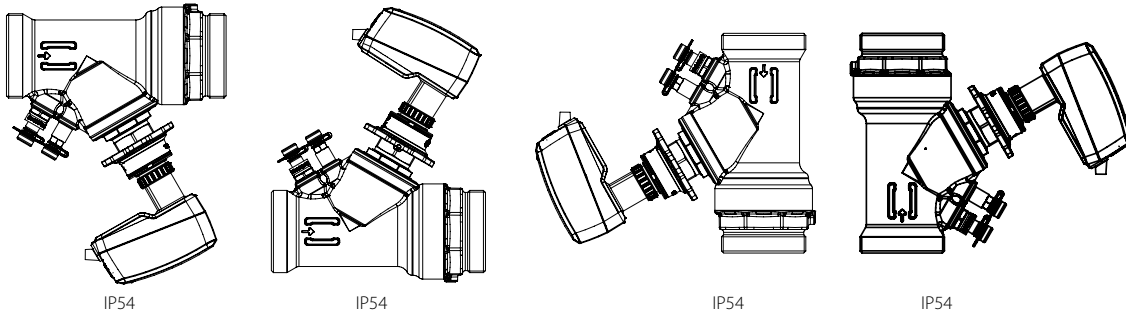
Acceptable Valve Piping Angles of Assembly for TA Series 7MP + EMO TM, TA Slider 160 Family, TA MC160 or TA MC253 SE



NOTE

- For chilled water applications, the valve and surrounding pipe should be insulated to prevent condensation from dripping onto actuator.

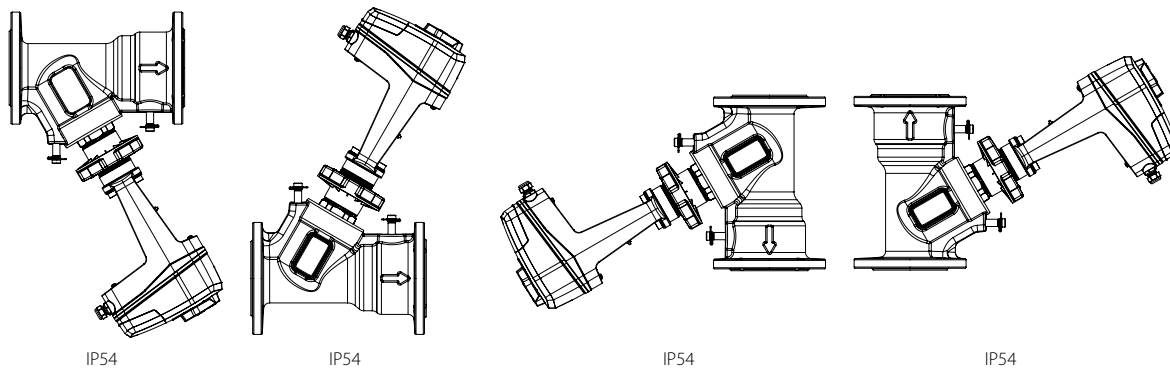
Acceptable Valve Piping Angles of Assembly for 1 ½ – 2" DN40 - DN50 TA Series 7MP + TA Slider 500 Family



NOTE

- For chilled water applications, the valve and surrounding pipe should be insulated to prevent condensation from dripping onto actuator.

Acceptable Valve Piping Angles of Assembly for 2 ½ – 8" / 73.0 mm - DN200 TA Series 7MP + TA Slider 750 Family or TA Slider 1600 Family

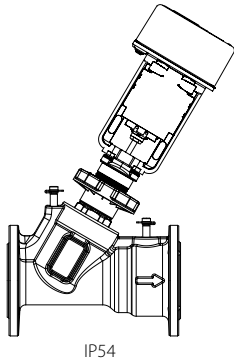


NOTE

- For chilled water applications, the valve and surrounding pipe should be insulated to prevent condensation from dripping onto actuator.

5.5 PERFORMANCE (CONTINUED)

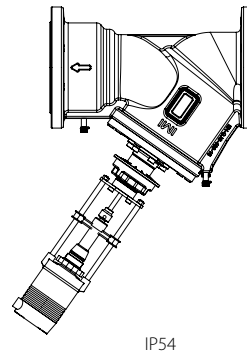
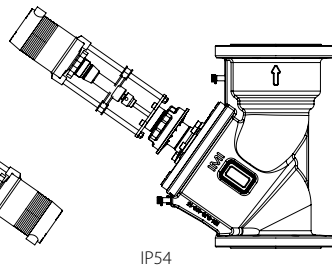
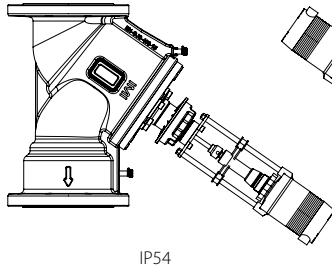
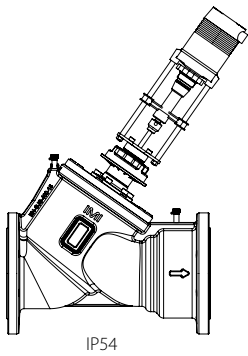
Acceptable Valve Piping Angles of Assembly for 2½ – 5"/73.0 mm – DN125 TA Series 7MP



NOTE

- For chilled water applications, the valve and surrounding pipe should be insulated to prevent condensation from dripping onto actuator.

Acceptable Valve Piping Angles of Assembly for 4"/DN100 – DN150 TA Series 7MP

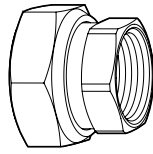


NOTE

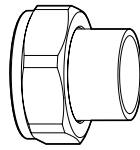
- For chilled water applications, the valve and surrounding pipe should be insulated to prevent condensation from dripping onto actuator.

5.7 PERFORMANCE

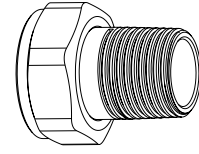
Accessories



Female NPT



Sweat



Male NPT

TA Series 7MP Tailpiece Accessories			
Size	Female	Sweat	Male
$\frac{3}{8}$ "	P0037CPF04	Not Available	Not Available
Gasket	G0037CPF04	Not Available	Not Available
$\frac{1}{2}$ "	P0047CPF04	P0047CPS04	P0047CTM04
Gasket	P0047CPGSK	P0047CPGSK	P0047CPGSK
$\frac{3}{4}$ "	P0067CPF06	P0067CPS06	P0067CTM06
Reducer $\frac{3}{4}$ " as $\frac{1}{2}$ "	P0067CPF04	Not Available	Not Available
Gasket	P0067CPGSK	P0067CPGSK	P0067CPGSK
1"	P0107CPF10	P0107CPS10	P0107CTM10
"Reducer 1" as $\frac{3}{4}$ "	P0107CPF06	Not Available	Not Available
Gasket	P0107CPGSK	P0107CPGSK	P0107CPGSK
$1\frac{1}{4}$ "	P0127CPF12	P0127CPS12	Not Available
Reducer $1\frac{1}{4}$ " as 1"	P0127CPF10	Not Available	Not Available
Gasket	P0127CPGSK	P0127CPGSK	Not Available
$1\frac{1}{2}$ "	P0147MPF14	P0147MPS14	Not Available
$1\frac{1}{2}$ " Gasket	P0147MPGSK	P0147MPGSK	Not Available
2"	P0207MPF20	P0207MPS20	Not Available
Reducer 2" as $1\frac{1}{2}$ "	P0207MPF14	Not Available	Not Available
2" Gasket	P0207MPGSK	P0207MPGSK	Not Available

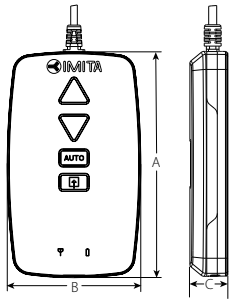
NOTE

- All tailpieces are one-piece union assemblies with a gasket.

5.7 PERFORMANCE (CONTINUED)

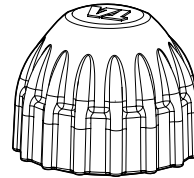
Accessories

Dongle



Size			Part Code
A	B	C	
inches	inches	inches	P0007MPDON
mm	mm	mm	
5.12	3.03	0.71	
130	77	18	

Protection Cap



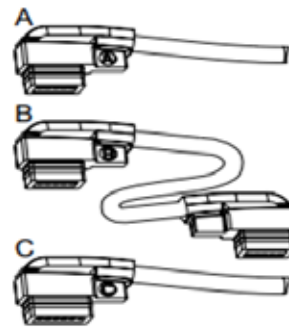
inches		Part Code
mm	Red	P0047CPCAP
$\frac{3}{8}$ – 1 $\frac{1}{4}$		
12 – 32		

Measuring Nipple



Description	Length	Part Code
	in mm	
Measuring Nipple Can be installed without draining the system	2.36 60	K000740012

Daisy Chain Cable



Cable A: To connect the first TA Slider 160/500 BACnet or Modbus of a daisy chain to the Bus.

Cable B: Between two actuators in a daisy chain.

Cable C: To enable hybrid mode or provide power supply if the daisy chain is long enough.

Daisy Chain Cable	Length	Part Code
	ft m	
Type A	4.9 1.5	P0007MPCA1
	16.4 5.0	P0007MPCA2
	32.8 10.0	P0007MPCA3
Type B	4.9 1.5	P0007MPCB1
	16.4 5.0	P0007MPCB2
	32.8 10.0	P0007MPCB3
Type C	4.9 1.5	P0007MPCC1
	16.4 5.0	P0007MPCC2
	32.8 10.0	P0007MPCC3

6.0 NOTIFICATIONS

⚠ WARNING



- Read and understand all instructions before attempting to install any Victaulic products.
- Always verify that the piping system has been completely depressurized and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Confirm that any equipment, branch lines, or sections of piping that may have been isolated for/during testing or due to valve closures/positioning are identified, depressurized, and drained immediately prior to installation, removal, adjustment, or maintenance of any Victaulic products.
- Wear safety glasses, hardhat, foot protection, and hearing protection.

Failure to follow these instructions could result in death or serious personal injury and property damage.

7.0 REFERENCE MATERIALS

[08.30: Victaulic Koil-Kit™ Coil Pack - Series 799/79V/79B/79A, Series 78Y/78T/78U and Coil Hoses](#)

[08.35: Victaulic Koil-Kit™ Coil Pack - Series 79C/79D](#)

[08.37: Victaulic Compact Pressure Independent Balancing and Control Valve \(Compact-P\) TA Series 7CP](#)

[08.38: Victaulic TBV Terminal Balancing and Control Valves TA Series TC/TCM](#)

[I-KOIL.KIT: Koil-Kit™ Coil Pack Installation and Maintenance Instructions](#)

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Each user bears final responsibility for determining the suitability of Victaulic products for their end-use application, in accordance with industry standards, project specifications, and Victaulic's published performance, maintenance, and safety data, as well as all warnings and installation instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any Victaulic employee, shall be deemed to alter, vary, supersede, or waive any provision of Victaulic Company's standard conditions of sale, warranty, installation instructions, or this disclaimer.

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Always refer to and follow the [Victaulic Installation Handbook](#) or installation instructions for the product you are installing. Handbooks are included with each shipment of Victaulic products, providing complete installation and assembly data, and are available in PDF format on our website at [victaulic.com](#).

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Refer to the Warranty section of the current Price List or contact Victaulic for details.

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