

#### **OVERVIEW**

UCT offers a broad line of 1,2,3,4,5 instrument manifolds, all available in a wide range of materials that are fully compatible with the requirements of the oil & gas, petro-chemical and chemical industries.

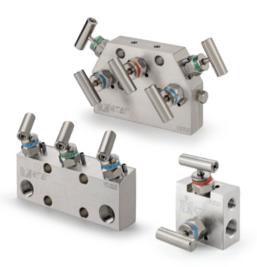
In addition to this standard range of products, UCT has over 3,500 different types of valves and manifolds available.

UCT has a solid engineering heritage, offering a broad range of products. Our portfolio includes valves and manifolds suitable for gas and liquid services as well as full-service solutions that include custom engineering, design and manufacture of instrument enclosures, modular mounting systems, hook-ups and interlocking solutions for critical conditions and temperatures.

As a customer-focused company, UCT provides high-quality products and engineering solutions that address our customers' business and technical requirements. For the UCT line, we can offer scalability to design:

- Choice of materials from AISI 316 to special alloy solutions for highly toxic areas
- Connections, pressure and temperature rating varieties
- · Bonnet assemblies offer different stem, seal and material selections
- Option for standard packing, o-ring sealing and fugitive emissions bonnets
- · Extensive range of valve configurations and flow schemes
- Fully equipped instrument enclosures

With over 50 years of designing and manufacturing reliable products and solutions, UCT has acquired an outstanding reputation for quality and customer service. We are always inspired by the need to evolve and stay ahead of the ever changing marketplace.





1|2|3|4|5
WAY MANIFOLDS



Our Manifolds are certified to ISO 15848-1, ensuring the lowest fugitive emissions rates and maximum safety for hydrogen handling.



#### MANIFOLD FEATURES AND BENEFITS

The following unique features of the UCT Line of Instrument Manifolds enable tailoring our high-quality products to the exact requirement of the customer and application.

#### NACE MR-01-75 / MR-01-03

All manifolds comply to NACE MR-01-75/MR-01-03 as standard.

#### **FULL TRACEABILITY**

All products are fully traceable to its components.

# WIDE VARIETY OF SEALING MATERIALS

- PTFE; Grafoil®
- Fluorocarbon FKM
- NBR
- EPDM
- Silicon perfluorelastomer provides wide coverage of application

#### CERAMIC STEM BALL TIP Al<sub>2</sub>O<sub>3</sub>

Superior hardness prevents deformation of the sealing tip and wear, significantly increasing the lifetime of the product for isolation purposes.



#### **BONNET SELECTIONS**

#### O-ring stem-seal bonnet

- 1. No packing adjustment
- 2. Extremely low operating torque
- 3. Compact design
- 4. Long life cycle
- 5. Sealing below stem thread
- 6. Metal-to-metal bonnet option

#### Packing stem-seal bonnet

- 1. Wide chemical compatibility range
- 2. High temperature option (Grafoil®)
- 3. Low operating torque
- 4. Sealing below stem thread

#### **STEM MATERIAL**

# SST. 316 Ti with chromium carbide diffusion coating

- 1. Long life cycle
- 2. Prevents galling

#### **Features**

- Certified for ISO 15848-1:2006(E), (with PEEK or polyimide seals)
- Blowout-proof stem
- Integrated back seat on stem for a secondary seal in the fully opened position
- · Safety stop pin prevents the bonnet from detaching due to vibration
- Stem seals below stem threads
- A choice of o-ring materials
- Oxygen clean per ASTM G-93 as an option
- 100% factory tested compliance with MSS-SP-99
- Direct mount flange design per IEC61518 / DIN19213 (MAWP 6,000 psig)
- Working pressure range up to 690 bar (10,000 psig)
- Working temperature range up to 550°C (1022°F)

Grafoil —TM GrafTech International Holdings, Inc.

#### **BONNET AND STEM CONCEPT**

# The special sealing design applied in all UCT instrument manifolds features a non-rotating ceramic ball tip.

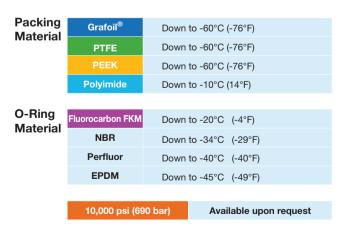
The chemical composition of a ceramic ball tip is superior in hardness and functionality to a metal ball tip, eliminating sealing tip deformation and significantly increasing the lifetime of the product. The stem threads are rolled and an integrated back seat design is applied to the packing type of bonnet

Applying a stainless steel 316 Ti stem with a chromium carbide diffusion coating results in maximum operation cycles and minimal risk of stem galling.

Both packing and o-ring bonnets are designed with sealing below stem threads for maximum protection of the stem threads.

For maximum safety, the bonnet design prevents stem blowout, and a locking pin prevents unintentional disassembling of the bonnet.

#### PRESSURE AND TEMPERATURE RATING Temperature (°F) 0 130 230 330 430 530 630 730 830 932 1030 1130 1230 690 10000 9000 600 8000 500 7000 6000 400 5000 300 4000 3000 200 2000 100 1000 n O 100 200 300 400 500 600 700 Temperature (°C)



## UCT'S VALVE BONNETS HAVE COLOR CODED RING LABELS FOR SERVICE IDENTIFICATION







Red: Vent Valves

Blue: Isolate Valves

Green: Equalize Valves

For severe service applications, UCT manifolds can be configured with a metal-to-metal seal below the bonnet thread. A dust-ring is attached to the bonnet thread or tack weld on the locking pin for extreme vibrating conditions.



\*Not included in order of Anti-Tampered bonnet manifold. This key should be separately ordered.

#### **HANDLE OPTIONS**

The standard handle of the UCT line of instrument manifolds is a stainless steel t-bar. for high pressure applications of 10,000 psi (690 bar) an extended t-bar or hand wheel can be applied. anti-tamper bonnet and key\* lock options assure that the manifold is operated by qualified personnel only.

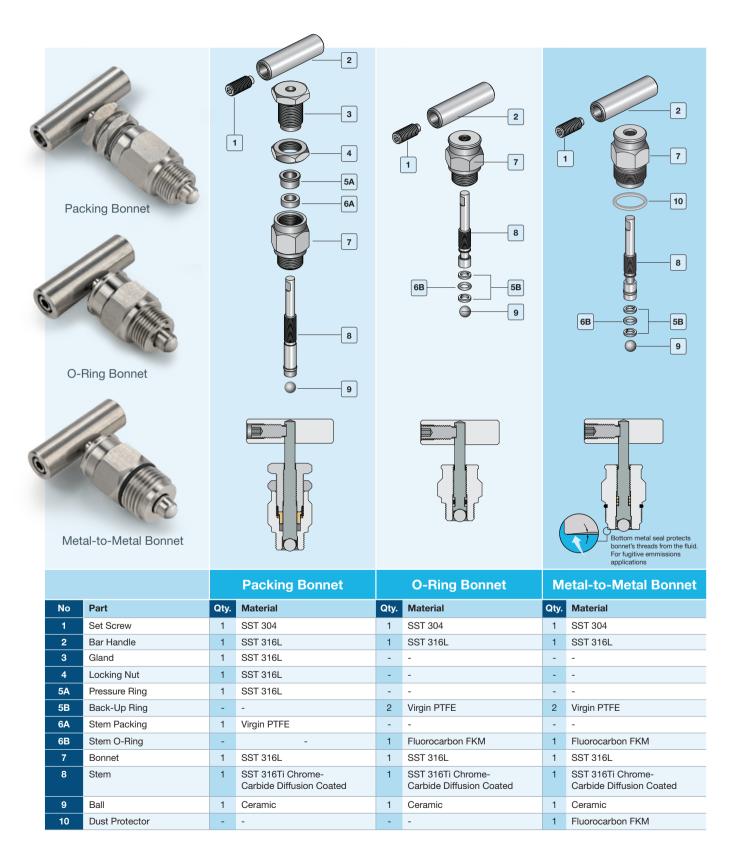
#### **CLEANING**

All UCT instrument manifolds are cleaned in accordance with ASTAVA cleaning procedure WIQ-016. Oxygen clean is available in accordance with ASTM G-93.

#### **TESTING**

All UCT instrument manifolds are factory tested with nitrogen at 800 psig (55 bar) based on MSS-SP-99. Seats have a maximum allowable leak rate of 0.1 std cm3/min. The hydrostatic and helium leak test is available upon request.

#### **MATERIALS OF CONSTRUCTION**

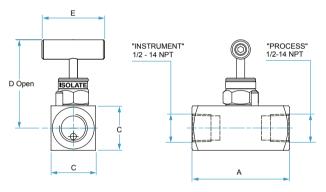


#### 1-WAY MANIFOLDS

Instrument Mount Type		End Connection		Ordering					Dimen	sions				
				Description	I	А В		3	(	;		)	E	
	Process Instrument Vent/Bleed			mm	in	mm	in	mm	in	mm	in	mm	in	
Remote	1/2" FNPT	1/2" FNPT	-	M-10S-10-8N-SS-V-T	70.0	2.76	-	-	32.0	1.26	63.0	2.48	45.0	1.77
Mount	1/2" FNPT	1/2" FNPT	-	M-10S-10-8N-SS-T-T	70.0	2.76	-	-	32.0	1.26	79.0	3.11	50.0	1.97
	1/2" MNPT	1/2" FNPT	1/2" FNPT	M-11S-85-8N-SS-V-T	110.0	4.33	38.0	1.50	32.0	1.26	63.0	2.48	45.0	1.77
	1/2" MNPT	1/2" FNPT	1/2" FNPT	M-11S-85-8N-SS-T-T	110.0	4.33	38.0	1.50	32.0	1.26	79.0	3.11	50.0	1.97

#### **NEEDLE VALVE**

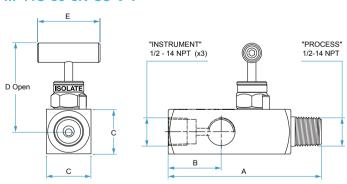
#### M-10S-10-8N-SS-V-T





#### **MULTIPORT VALVE**

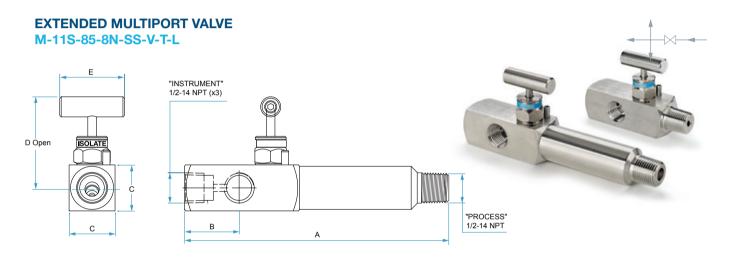
#### M-11S-85-8N-SS-V-T





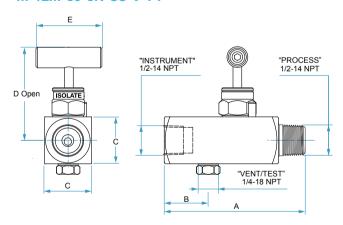
#### 1-WAY MANIFOLDS

Instrument Mount Type		End Connection		Ordering					Dimen	sions					
				Description	Į į	١.	E	3	C	;		)	E		
	Process	Instrument	Vent/Bleed		mm	in	mm	in	mm	in	mm	in	mm	in	
Remote	1/2" MNPT	1/2" FNPT	1/2" FNPT	M-11S-85-8N-SS-V-T-L	184.0	7.24	38.0	1.50	32.0	1.26	63.0	2.48	45.0	1.77	
Mount	1/2" MNPT	1/2" FNPT	1/2" FNPT	M-11S-85-8N-SS-T-T-L	184.0	7.24	38.0	1.50	32.0	1.26	79.0	3.11	50.0	1.97	
	1/2" MNPT	1/2" FNPT	1/4" FNPT	M-12M-85-8N-SS-V-T-P	100.0	3.54	30.0	1.18	32.0	1.26	63.0	2.48	45.0	1.77	
	1/2" MNPT	1/2" FNPT	1/4" FNPT	M-12M-85-8N-SS-T-T-P	100.0	3.54	30.0	1.18	32.0	1.26	79.0	3.11	50.0	1.97	



#### **GAUGE VALVE**

M-12M-85-8N-SS-V-T-P





**▼**⊥₩

#### **ORDERING INFORMATION**

1-WAY MANIFOLDS



#### TABLE A: FLOW SCHEMATIC AND VALVE POSITION

Designator	Flow Schematic	Sketch
0\$	<b>←</b> × <b>←</b>	Ξ
15	<b>+</b>	
2M	<del>▼_</del> ><	<u>-</u>

#### Warning!

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance.

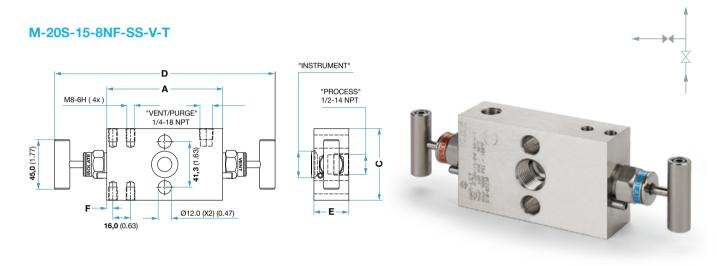
Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

#### **STANDARD CONFIGURATION DIMENSIONS**

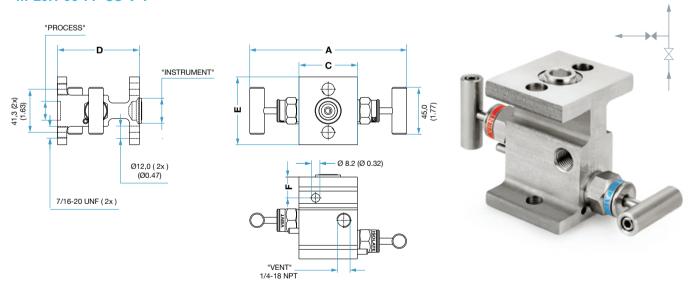
#### **2-WAY DIRECT MOUNT**

Instrument Mount Type		End Connection	Ordering Description		_				Dimer							
				Description	<i>F</i>	4		5	,	;		,	E F mm in mm in 32.0 1.26 5.0 0.20			
	Process	Instrument	Vent / Bleed		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
Direct	1/2" FNPT	Flange*	1/4" FNPT	M-20S-15-8NF-SS-V-T	85	3.35	-	-	65.0	2.56	182	7.17	32.0	1.26	5.0	0.20
Mount	*Flange	Flange*	1/4" FNPT	M-20H-90-FF-SS-V-T	153	6.02	-	-	56.0	2.20	78	3.07	65.0	2.56	20.0	0.79

<sup>\*</sup> Flange Standard per IEC 61518-A



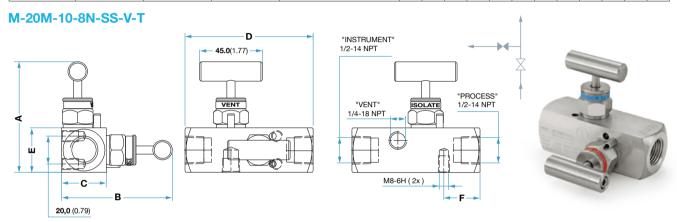
#### M-20H-90-FF-SS-V-T

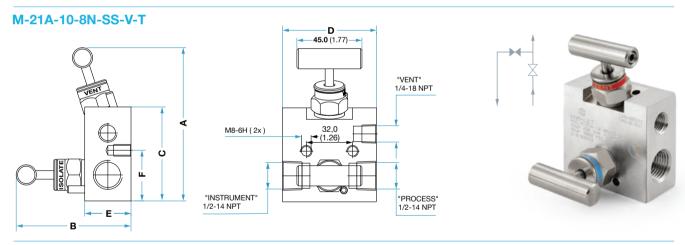


#### **STANDARD CONFIGURATION DIMENSIONS**

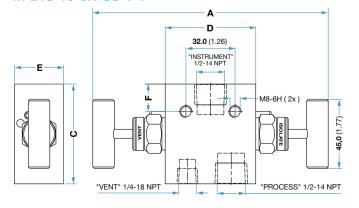
**2-WAY REMOTE MOUNT** 

Instrument Mount Type		End Connection	Ordering Description		Dimensions  A B C D E F											
	Process Instrument Vent / Bleed			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
Remote	1/2" FNPT	1/2" FNPT	1/4" FNPT	M-20M-10-8N-SS-V-T	79	3.11	79.0	3.11	32.0	1.26	92.0	3.62	32	1.26	26	1.02
Mount	1/2" FNPT	1/2" FNPT	1/4" FNPT	M-21A-10-8N-SS-V-T	107	4.21	79.4	3.13	65.0	2.56	65.0	2.56	32	1.26	35	1.38
	1/2" FNPT	1/2" FNPT	1/4" FNPT	M-21S-10-8N-SS-V-T	156	6.14	-	-	65.0	2.56	59.0	2.32	32	1.26	18	0.71





#### M-21S-10-8N-SS-V-T





#### ORDERING INFORMATION

2-WAY MANIFOLDS



Designator	Flow Schematic	Sketch
ОМ		4
Ol	<b>A</b>	<u>-</u>
ОН	<b>1</b>	<b>DD-</b>
0S		0:-
18		-d  -d
1A	*	

#### Warning!

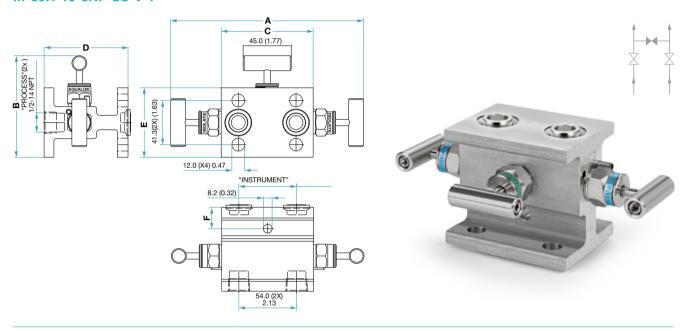
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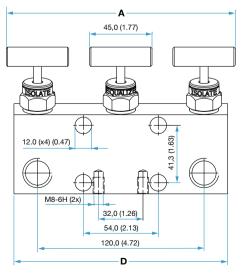
Instrument Mount Type		End Connecti	on	Ordering						Dimer	nsions					
				Description	A		E	3	(	;		)	E		F	•
	Process Instrument Vent/Bleed		Vent/Bleed		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
Direct	1/2" FNPT	Flange*	-	M-30H-15-8NF-SS-V-T	181.0	7.13	95.0	3.74	86.0	3.39	79.0	3.11	66.0	2.60	20.0	0.79
Mount	1/2" FNPT	Flange*	-	M-30I-15-8NF-SS-V-T	161.0	6.34	107.0	4.21	65.0	2.56	150.0	5.91	32.0	1.26	16.0	0.63

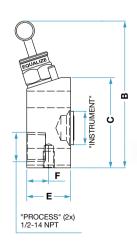
<sup>\*</sup> Flange Standard per IEC 61518-A

#### M-30H-15-8NF-SS-V-T



# M-30I-15-8NF-SS-V-T





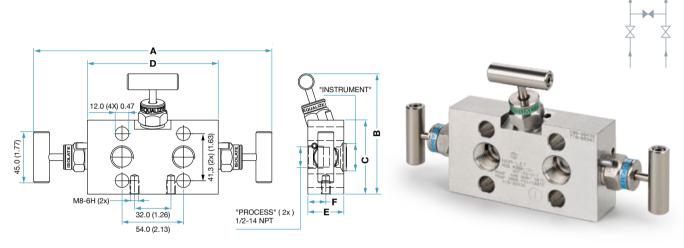




Instrument Mount Type		End Connecti	on	Ordering						Dimer	nsions					
				Description	A		E	3	(	;		)	E		F	=
	Process Instrument Vent / Bleed			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
Direct	1/2" FNPT	*Flange	-	M-30A-15-8NF-SS-V-T	210.0	8.27	106.0	4.17	65.0	2.56	115.0	4.53	32.0	1.26	16.0	0.63
Mount	*Flange	*Flange	-	M-30H-90-FF-SS-V-T	181.0	7.13	95.0	3.74	86.0	3.39	79.0	3.11	66.0	2.60	-	-

<sup>\*</sup> Flange Standard per IEC 61518-A

#### M-30A-15-8NF-SS-V-T



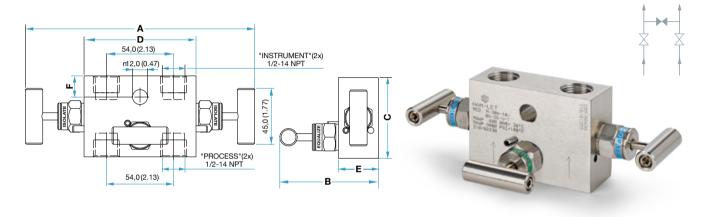
<sup>\*</sup> Optinal vent / test ports

# M-30H-90-FF-SS-V-T

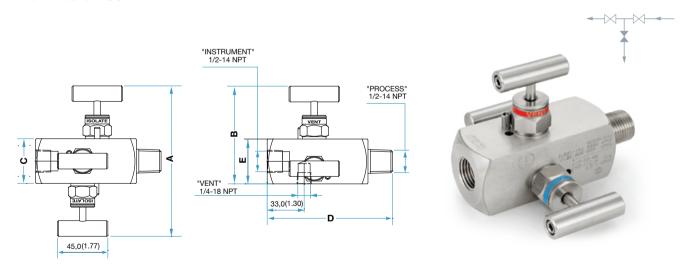


Instrument Mount Type		End Connection	on	Ordering						Dimer	nsions					
				Description	Α		В		(	;		)	E	•	F	:
	Process	Process Instrument Vent/Bleed			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
	1/2" FNPT	1/2" FNPT	-	M30S-10-8N-SS-V-T	185.0	7.28	79.0	3.11	65.0	2.56	90.0	3.54	32.0	1.26	17.0	0.67
Mount 1	1/2" MNPT	1/2"FNPT	1/4" FNPT	M32M-85-8N-SS-V-T	135.0	5.31	87.0	3.43	40.0	1.57	112.0	4.41	40.0	1.57	-	-

#### M-30S-10-8N-SS-V-T



#### M-32M-85-8N-SS-V-T-K







#### **TABLE A: FLOW SCHEMATIC AND VALVE POSITION**

Designator	Flow Schematic	Valves Position	Sketch
08		S	H
ОН	<b>+</b>	н	HÌH
OI	1	I	
0A		А	
11	<b>*</b>	I	
2M	<b>→</b> × <b>→</b> × <b>→</b>	М	₹

Size	
4	1/4"
6	3/8"
8	1/2"
12	3/4"
16	1" 16mm
M20	M20x1.5

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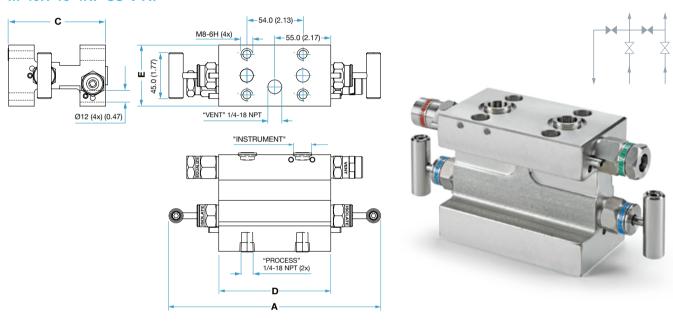


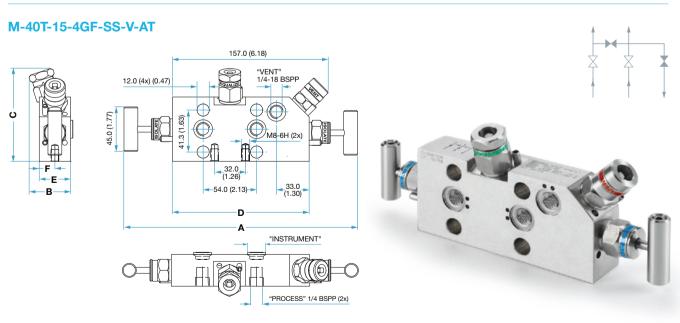


Instrument Mount Type		End Connection	on	Ordering						Dimer	nsions					
				Description	A		E	3	(	;		)	E		F	
	Process Instrument Vent/Bleed			mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
Direct	1/4" FNPT	Flange*	1/4" FNPT	M-40H-15-4NF-SS-V-AT	208.0	8.18	-	-	95.0	3.74	110.0	4.33	60.0	2.36	-	-
Mount	1/4" BSPP	Flange*	1/4" BSPP	M-40T-15-4GF-SS-V-AT	236.0	6.29	42.0	1.65	94.0	3.69	138.0	5.43	32.0	1.24	16.0	0.63

<sup>\*</sup> Flange standard per IEC 61518-A

#### M-40H-15-4NF-SS-V-AT



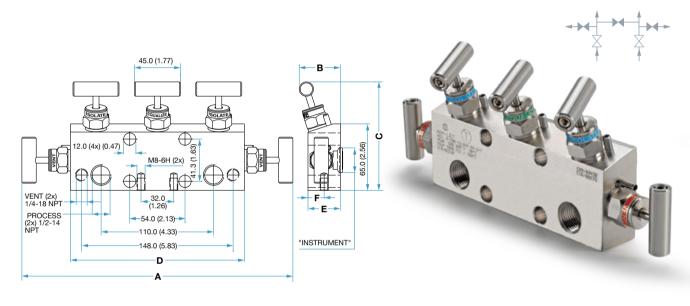


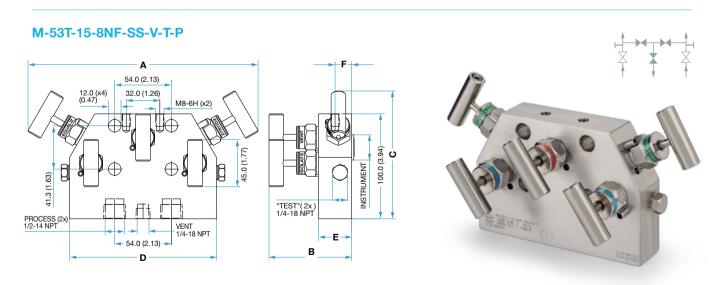


Instrument Mount Type	End Connection			Ordering	Dimensions												
				Description	A		В		С			)	E		F		
	Process	Instrument	Vent/Bleed		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
Direct	1/2" FNPT	Flange*	1/4" FNPT	M-50A-15-8NF-SS-V-T	265.0	10.43	41.0	1.61	106.0	4.17	170.0	6.69	32.0	1.26	16.0	0.63	
Mount	1/2" FNPT	Flange*	1/4" FNPT	M-53T-15-8NF-SS-V-T	220.0	8.66	79.0	3.11	122.0	4.80	140.0	5.51	32.0	1.26	16.0	0.63	

<sup>\*</sup> Flange standard per IEC 61518-A

#### M-50A-15-8NF-SS-V-T



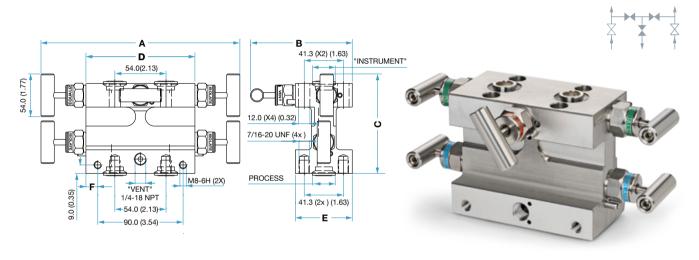




Instrument Mount Type End Conne			on	Ordering		Dimensions											
				Description	Α		В		С		D		E		F		
	Process	Instrument	Vent/Bleed		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
Direct Mount	Flange*	Flange*	1/4" FNPT	M-54H-90-FF-SS-V-T	210.0	8.27	108.0	4.25	105.0	4.13	115.0	4.53	60.0	2.36	12.5	049	

<sup>\*</sup> Flange Standard per IEC 61518-A

#### M-54H-90-FF-SS-V-T



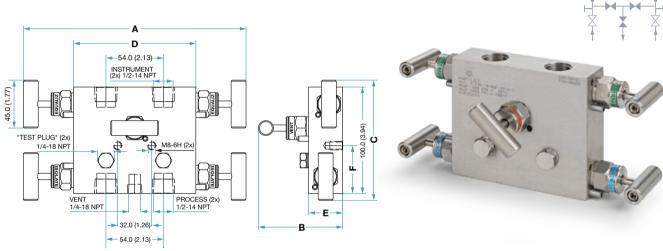
#### **STANDARD CONFIGURATION DIMENSIONS**

**5-WAY REMOTE MOUNT** 

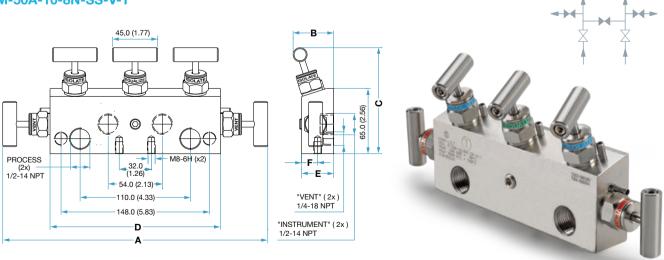


Instrument Mount Type		End Connecti	Ordering	Dimensions												
				Description	A		В		С		D		E		F	
	Process	Instrument	Vent/Bleed		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
Remote	1/2" FNPT	1/2" FNPT	1/4" FNPT	M-53S-10-8N-SS-V-T	210.0	8.27	80.0	3.15	113.0	4.45	115.0	4.53	32.0	1.26	45.0	1.77
Mount	1/2" FNPT	1/2" FNPT	1/4" FNPT	M-50A-10-8N-SS-V-T	265.0	10.43	41.0	1.61	106.0	4.17	170.0	6.69	32.0	1.26	16.0	0.63

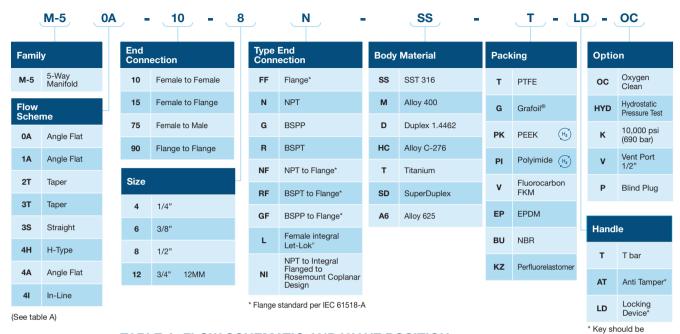
### M-53S-10-8N-SS-V-T-P



#### M-50A-10-8N-SS-V-T



separately ordered



#### **TABLE A: FLOW SCHEMATIC AND VALVE POSITION**

Designator	Flow Schematic	Sketch
0A	***	H
1A		
2Т	<b>→</b>	1-15-11
3T	H	
38	<b>↑ ↓ ↑</b>	E
4H		
4A		-NIB CHEST BIN-
41		

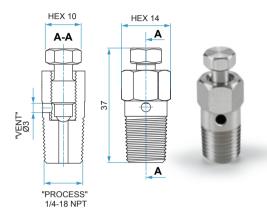
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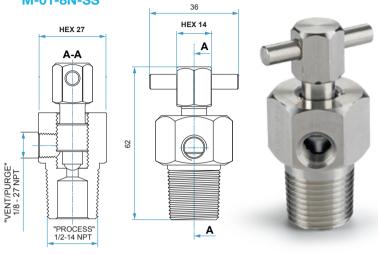
#### **BLEED VALVE**



1/4" MNPT M-01-4N-SS

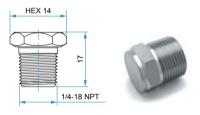


1/2" MNPT M-01-8N-SS

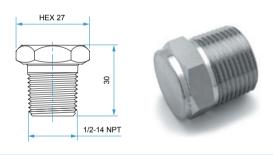


#### **BLIND PLUG**

1/4" MNPT M-02-4N-SS



1/2" MNPT M-02-8N-SS



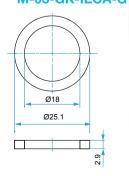
#### **MOUNTING GASKET IEC 61518-A**

PTFE M-03-GK-IECA-T



Kit contains: Two Gaskets

GRAFOIL® M-03-GK-IECA-G





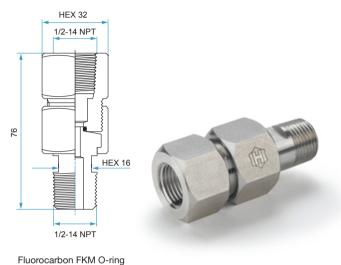


#### **GAUGE CONNECTOR**

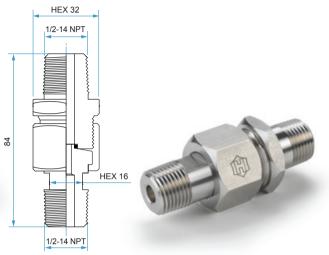


#### $360^{\circ}$ Positioning male to female

M-05-85-8N-SS-V



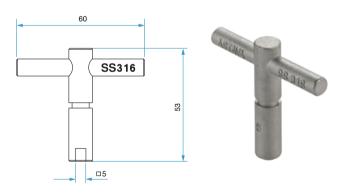
# 360° POSITIONING MALE TO MALE M-05-80-8N-SS-V



#### **ANTI TAMPER KEY**

#### **5 MM**

#### M-06-KEY-5MM-SS



Not included in order of anti-tampered bonnet manifold. This key should be separately ordered.