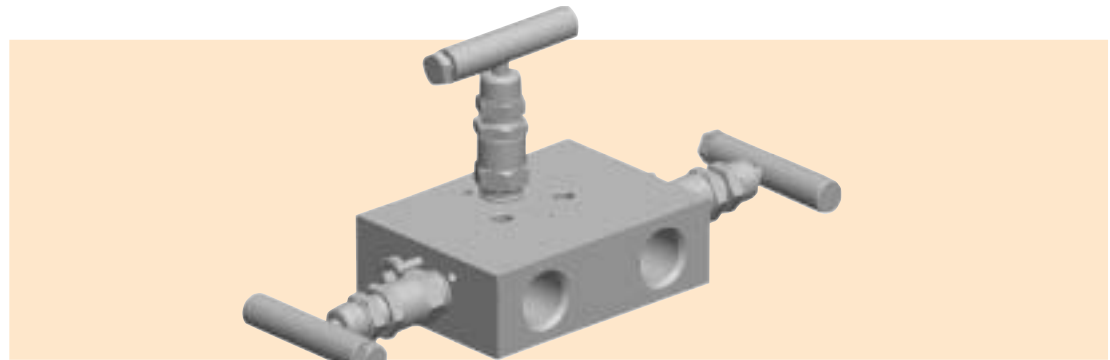


Kerotest KM1 & KM110 3-Valve Differential Pressure Manifolds



Product Brief

The KM1 is a 3-valve manifold designed for applications where direct mounting to an instrument is impractical or undesirable. This style manifold is mounted to the lines from the instrument and signal rather than directly to the instrument; a KMC Mount is also available. These manifolds are often used in conjunction with small differential pressure indicators, recording orifice meters, etc., that have connections other than the standard 2-1/8-inch (54 mm) distance between taps. A 3/16-inch (4.8 mm) orifice is provided. The standard manifold has integral metal seats, and soft seats (roddable) are available in various materials.

Features/Benefits

- **Isolated stem threads.** Adjustable packing below stem threads keeps process fluid away. Ensures leakproof, long service life.
- **Bubble-tight shutoff.**
- **Replaceable seat design.** Standard 3/16-inch diameter orifice.
- **Space-saving design.**
- **One valve does the work of three.** Saves money and labor.
- **Bonnet cap protection.** Increases valve life by protecting stem threads from atmospheric corrosion.
- **Rolled stem threads** for increased strength and life.
- **No more stem blowouts.** Backseat stem design prevents blowout problems.
- **Less parts** mean less leak points and less fugitive emissions.
- **1/4-inch test ports.**

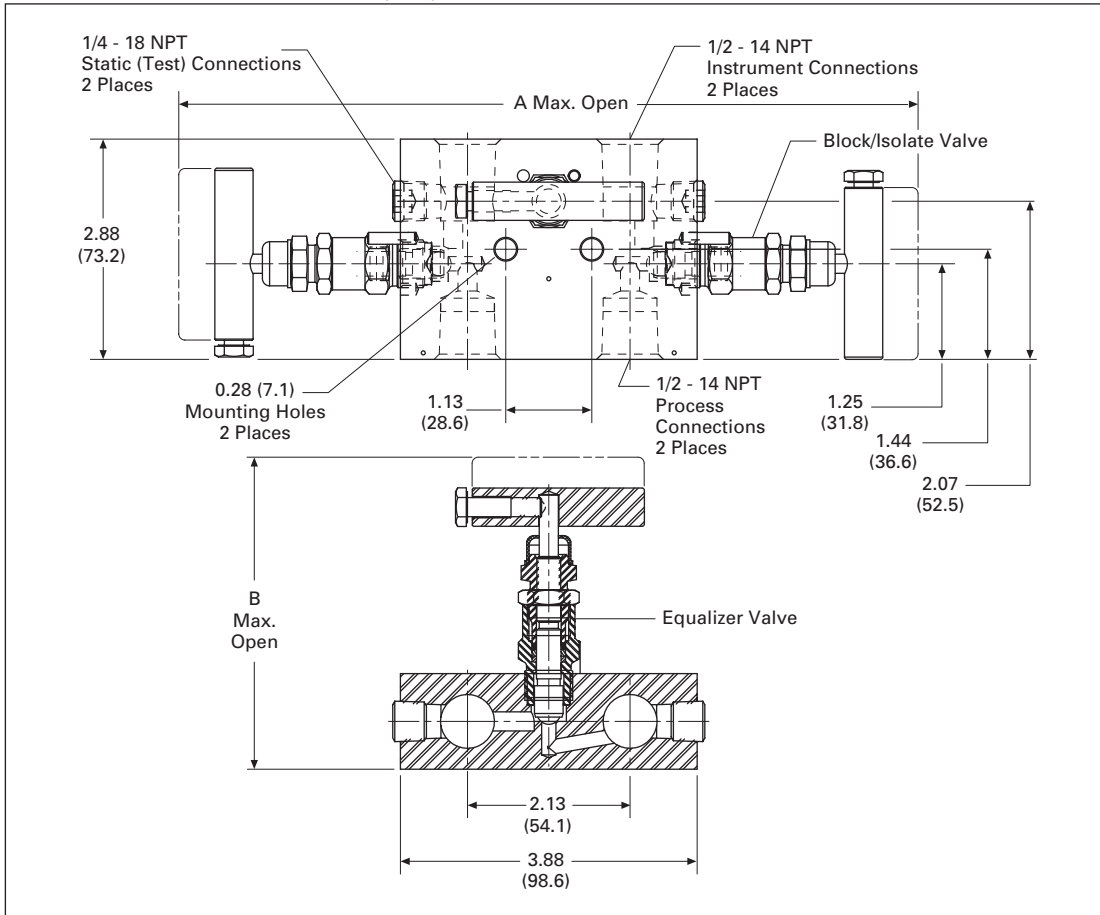


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Kerotest KM1 & KM110 3-Valve Differential Pressure Manifolds

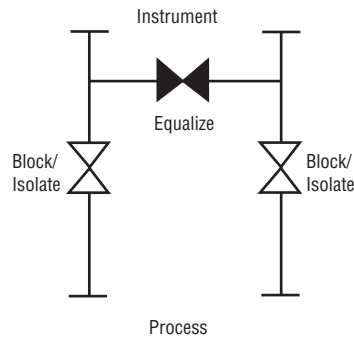
KM1 Specifications

Metal Seat Dimensions in Inches (mm)



Dimensions in Inches (mm)

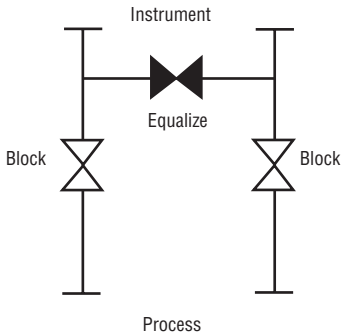
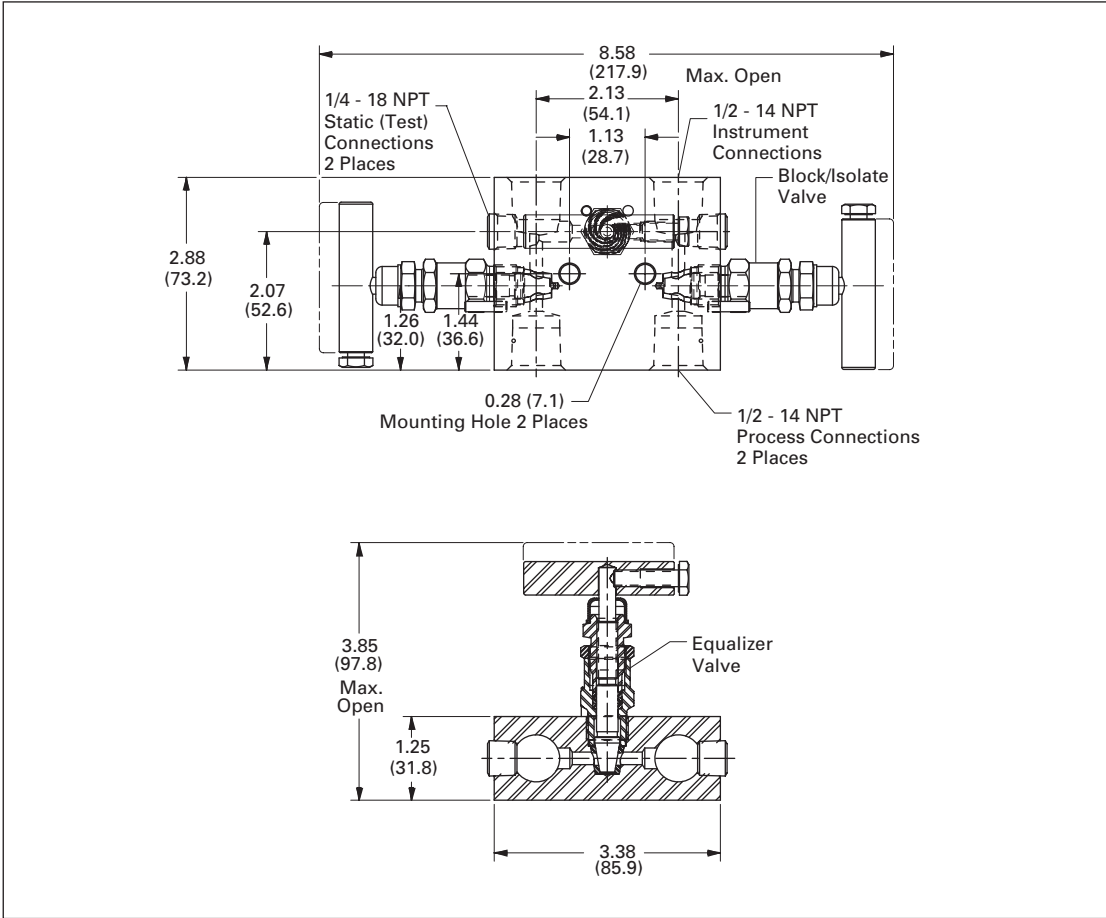
Packing	A	B
GRAFOIL®/Low Emissions Graphite	10.38 (263.7)	4.50 (114.3)
Teflon®	9.08 (230.6)	3.85 (97.8)



Kerotest KM1 & KM110 3-Valve Differential Pressure Manifolds

KM1 Specifications

Soft Seat Dimensions in Inches (mm)



Kerotest KM1 & KM110 3-Valve Differential Pressure Manifolds

KM1 Standard Materials

Metal Seat

Valve ①	Packing	Body and Bonnet	Stem and Ball
CS ②	Teflon, O-ring	A108 Body A108 Bonnet	A581-303 Stem 17-4PH Ball
CS ①	GRAFOIL/Low Emissions Graphite	A105 Body A105 Bonnet	A581-303 Stem 17-4PH Ball
SS	Teflon, O-ring	A479-316 Body A479-316 Bonnet	A276-316 Stem 316 SS Ball
SS	GRAFOIL/Low Emissions Graphite	A479-316 Body A479-316 Bonnet	A276-316 Stem 316 SS Ball
Monel®	Teflon	Monel 400 Body Monel R405 Bonnet	Monel 400 Stem Monel K500 Ball
Monel	GRAFOIL/Low Emissions Graphite	Monel 400 Body Monel R405 Bonnet	Monel 400 Stem Monel K500 Ball
SG ③, SG3 ④	Teflon	A479-316 Body A479-316 Bonnet	Monel 400 Stem Monel K500 Ball
SG ③, SG3 ④	GRAFOIL/Low Emissions Graphite	A479-316 Body A479-316 Bonnet	Monel 400 Stem Monel K500 Ball

Soft Seat

Valve ①	Packing	Body and Bonnet	Stem	Seat
CS ②	Teflon or Viton® O-ring w/ Teflon backup	A108 CS	A581-303	Delrin® ⑤
SS	Teflon or Viton O-ring w/ Teflon backup	A479-316	A276-316	Delrin ⑤
SG ③	Teflon	A479-316	Monel 400	Delrin ⑤
SG3 ④	Teflon	Hastelloy® C276	Hastelloy C276	Delrin ⑤

- ① Approximate valve weight: 4.0 lb (1.8 kg).
0.187-inch (4.8 mm) diameter orifice.
Metal Seat: Cv = .52, full open.
Soft Seat: Cv = .83, full open.
- ② CS parts are zinc cobalt-plated to prevent corrosion.
- ③ SG (Sour Gas) meets the requirements of NACE MR0175-2002.
- ④ SG3 (Sour Gas) meets the requirements of NACE MR0175-2003.
- ⑤ PCTFE (Polychlorotrifluoroethylene is equivalent of Kel-F®), PEEK and Teflon are also available.

Kerotest KM1 & KM110 3-Valve Differential Pressure Manifolds

KM1 Pressure and Temperature Ratings

Metal Seat

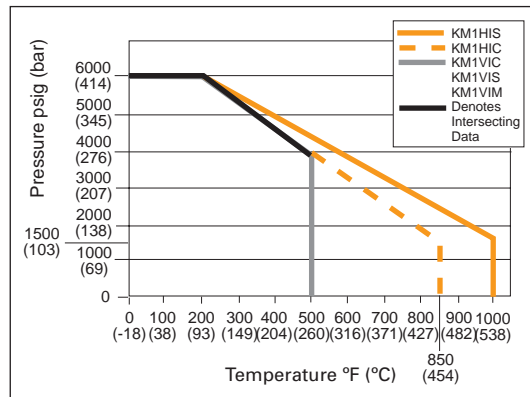
Valve	Packing	Ratings	
CS	Teflon, O-ring	6000 psig at 200°F (414 bar at 93°C)	4000 psig at 500°F (276 bar at 260°C)
CS	GRAFOIL/Low Emissions Graphite	6000 psig at 200°F (414 bar at 93°C)	1500 psig at 850°F (103 bar at 454°C)
SS, SG	Teflon, O-ring	6000 psig at 200°F (414 bar at 93°C)	4000 psig at 500°F (276 bar at 260°C)
SS, SG	GRAFOIL/Low Emissions Graphite	6000 psig at 200°F (414 bar at 93°C)	1500 psig at 1000°F (103 bar at 538°C)
Monel	Teflon	6000 psig at 200°F (414 bar at 93°C)	4000 psig at 500°F (276 bar at 260°C)
Monel	GRAFOIL/Low Emissions Graphite	6000 psig at 200°F (414 bar at 93°C)	1500 psig at 800°F (103 bar at 427°C)

Soft Seat

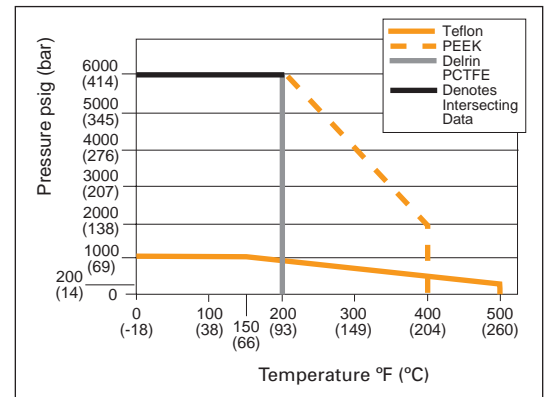
Seat	Ratings	
Delrin and PCTFE	6000 psig at 200°F (414 bar at 93°C)	
PEEK	6000 psig at 200°F (414 bar at 93°C)	2000 psig at 400°F (138 bar at 204°C)
Teflon	1000 psig at 150°F (69 bar at 66°C)	200 psig at 500°F (14 bar at 260°C)

Pressure vs. Temperature

Metal Seat



Soft Seat



Kerotest KM1 & KM110 3-Valve Differential Pressure Manifolds

Ordering Information – KM1 Metal Seat and Soft Seat

KM1	<u>H</u> 1.	<u>I</u> 2.	<u>S</u> 3.	– <u>4</u> –	<u>SG</u> 5.
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1. Packing

V – Teflon
H – GRAFOIL
E – Low Emissions Graphite
R – O-ring (Viton) (Soft Seat Only)

2. Seat

I – Integral (Body Material)
D – Delrin
V – Teflon
E – PEEK
K – PCTFE ①

3. Body Material ①

C – CS, A108 (Teflon Packed)
CS, A105 (GRAFOIL and Low Emissions Graphite Packed)

S – SS, A479-316
M – Monel (Metal Seat Only)
W – 316L SS
J – Hastelloy

4. Connection

4 – 1/2-Inch FNPT

5. Options

AL – Low Temperature Lubricant (Low Temperature Service -70°F) Not Available for CS Valves
AM – KMC Mount Kit for Pipestand Mounting
BC – Accessory Bracket – Mount Conduit with Option AM

BP – Accessory Bracket – Mount Purge Meters with Option AM
BL – Bonnet Lock Device
CL – Cleaned for Chlorine Service
OC – Cleaned for Oxygen Service
HD – Hydrostatic Testing (100 Percent) (MSS-SP-61)
MS – Monel Stem
PHB – Phenolic Black Handle
SG – Sour Gas Meets the Requirements of NACE MR0175-2002 (SS Valves Only) (Not Available for O-ring Packed Valves)
SG3 – Sour Gas Meets the Requirements of NACE MR0175-2003
ST – Stellite Ball Ended Stem
SP – Special Requirements – Please Specify

① Call Kerotest for optional materials.

Ordering Information – KM1 (Power Industry)

KM1HP	<u>S</u> 1.	– <u>4</u> –	<u>XP</u>	– <u>SP</u> 3.
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1. Body Material

C – CS, A105
S – SS, A479-316
W – 316L SS
J – Hastelloy

2. Connection

4 – 1/2-Inch FNPT x 1/2-Inch FNPT x 1/2-Inch FNPT

3TC4 – 3/8-Inch Tube Stub x 1/2-Inch FNPT x 1/2-Inch FNPT ①
3TB4 – 3/8-Inch Tube S.W. x 1/2-Inch FNPT x 1/2-Inch FNPT
4TC4 – 1/2-Inch Tube Stub x 1/2-Inch FNPT x 1/2-Inch FNPT ②
4TB4 – 1/2-Inch Tube S.W. x 1/2-Inch FNPT x 1/2-Inch FNPT
4B – 1/2-Inch FSW x 1/2-Inch FSW

3. Options

AM – KMC Mount Kit for Pipestand Mounting
SP – Special Requirements – Please Specify

① Tube stubs are 6-inch long x 0.065-inch wall.

② Tube stubs are 6-inch long x 0.095-inch wall.

Manifold ratings:

SST6000 psig @ 100°F (414 bar @ 38°C) 2915 psig @ 1000°F (201 bar @ 538°C)

STL6170 psig @ 100°F (425 bar @ 38°C) 3430 psig @ 800°F (236 bar @ 427°C)

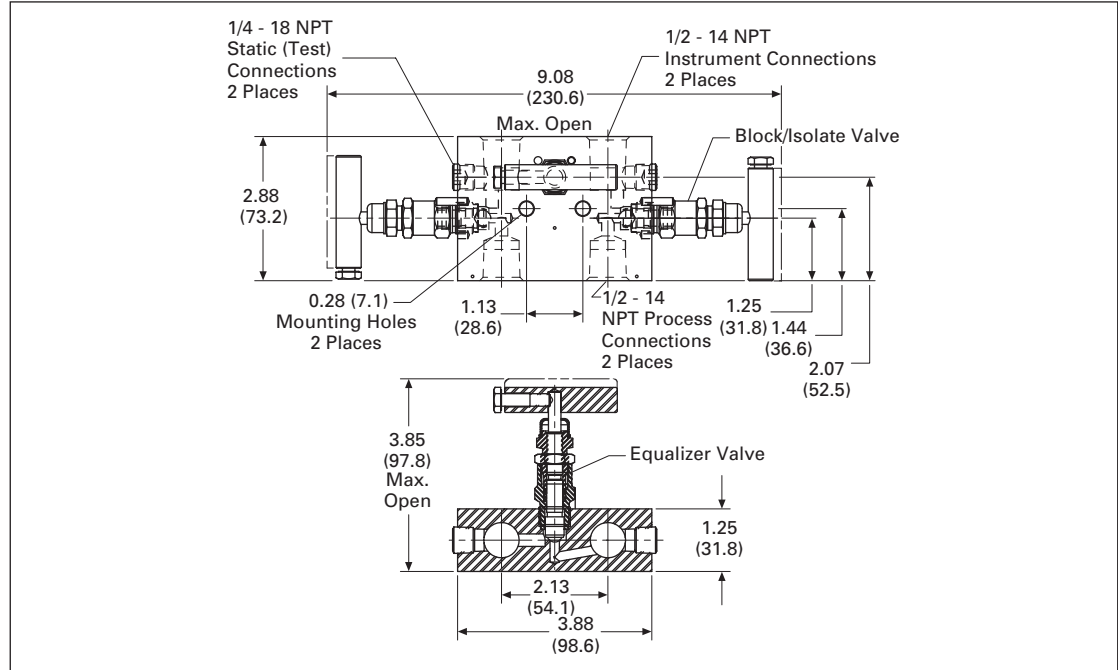
KM1 ASME B31.1 and B31.3 Specifications meet MSS-SP-105.

Note: All manifolds come standard with GRAFOIL packing, integral seats, bonnet locks, and are subjected to hydrostatic testing.

Kerotest KM1 & KM110 3-Valve Differential Pressure Manifolds

KM110 Specifications

Dimensions in Inches (mm)



Standard Materials

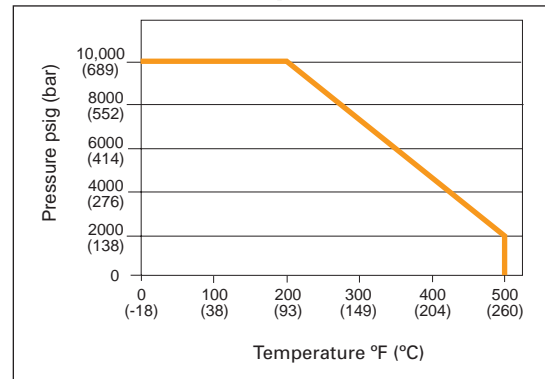
Valve ①	Body and Bonnet	Stem and Ball	Packing
SS	A479-316 Body A479-316 Bonnet	A276-316 Stem 316 SS Ball	Teflon
SG ②	A479-316 Body A479-316 Bonnet	Monel 400 Stem Monel K500 Ball	Teflon
SG3 ③	Hastelloy C276 A479-316 Bonnet	Hastelloy C276 A479-316 Bonnet	Teflon

Pressure and Temperature Ratings

Valve ①	Packing	Ratings
SS	Teflon	10,000 psig at 200°F (689 bar at 93°C) 4000 psig at 500°F (276 bar at 260°C)
SG ②	Teflon	10,000 psig at 200°F (689 bar at 93°C)
SG3 ③	Teflon	4000 psig at 500°F (276 bar at 260°C)

- ① Approximate valve weight: 4.0 lb (1.8 kg).
0.187-inch (4.8 mm) diameter orifice.
Cv = .52, full open.
- ② SG (Sour Gas) meets the requirements of NACE MR0175-2002.
- ③ SG3 (Sour Gas) meets the requirements of NACE MR0175-2003.

Pressure vs. Temperature



Kerotest KM1 & KM110 3-Valve Differential Pressure Manifolds

Ordering Information

KM110	V	I	S	-	4	-	SG
	1.	2.	3.		4.		5.

1. Packing	4. Connection	MS – Monel Stem PHB – Phenolic Black Handle SG – Sour Gas Meets the Requirements of NACE MR0175-2002 SG3 – Sour Gas Meets the Requirements of NACE MR0175-2003 ST – Stellite Ball Ended Stem SP – Special Options – Please Specify
V – Teflon	4 – 1/2-Inch FNPT	
2. Seat	5. Options	
I – Integral (Body Material)	AL – Low Temperature Lubricant (Low Temperature Service) AM – KMC Mount Kit for Pipestand Mounting BC – Accessory Bracket – Mount Conduit with Option AM BP – Accessory Bracket – Mount Purge Meters with Option AM BL – Bonnet Lock Device CL – Cleaned for Chlorine Service OC – Cleaned for Oxygen Service HD – Hydrostatic Testing (100 Percent) (MSS-SP-61)	
3. Body Material ①		
S – SS, A479-316		

① Call Kerotest for optional materials.

All product names referenced herein are trademarks of their respective companies.

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