Aura Inc.

“Process Control – Building the Core”

Aura Valve Manifolds

ISO 9001:2000

ww.aurainc.com

AURA VALVE MANIFOLDS

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INTRODUCTION

ABOUT US

AURA

ABOUT US

Aura designs , manufactures and provides Fluid Connectors, Needle Valves, Instrument Manifolds, RTD/Thermocouple sensors and it's associated accessories. **Aura** was founded in **1995** in **India** with a 100% owned subsidiary in the **United States**. Our customers range in size and scope across the globe : from upstream to down stream oil and gas refinery, Petrochemical complexes, Major Power and Utility companies, Biotech and Food Processing, Fertilizer and Chemicals, HVAC, Temperature and Pressure sensor OEM's. Our 100% owned **state of the art manufacturing** facilities in New Delhi – India spans 8000 square feet and uses **CNC** machines, Lathe, Traub and other special purpose machines to produce high precision products and "**custom built** " parts and has been **ISO 9001:2000** compliant since 2001 as certified by TUV Germany.

At Aura our **mission** is clear and unequivocal: to help our clients gain and sustain competitive advantage. We accomplish this goal through a continuous process of innovation and maintaining complete control of the entire supply chain: in house manufacturing and our owned warehousing and distribution in the United States and India. Complementing this we have our extensive network of distributors in Europe, Africa and Asia which allows us to service clients on the ground.

Our products meet almost all global standards and conform to **BS 4368 Part IV**, Alberta Boiler Safety Association (**ABSA**), Technical Safety and Standards Authority (**TSSA**)- Canada to name a few.

We service more than **145 clients** in the United States and Canada since 1997 and a proud list of clients in India, Europe and Middle East. Major approvals include: EIL, NTPC, BHEL, PDIL, Emerson, Yokogawa, ABB, Honeywell, Western Gauge, Gulf Petroleum, Aramco - Al Khaliji Joint Venture, Bangladesh Gas, Siirtec Nigi, Pyromation, to name a few.

Our Good Manufacturing Practices cover quality systems for design, manufacturing, packaging, labeling, storage, installation and shipping. At Aura we follow a **100% QA** procedure in that no parts are shipped without inspection and that all raw material are 3rd party spectrographic tested for specification. With Material tracing, internal stage wise documentation, web based order tracking systems, we have automated our supply chain and the effort persists.

Our management team has built three successful enterprises. We have hundreds of years of corporate experience at ABB, Yokogawa Electric Corporation, Emerson, Jacobs, Foster Wheeler, Rockwell Automation. Internally, we respect our talented personnel and their creative spirits and love them like our own family. We've learnt that greatest successes are achieved when vision and execution work hand in hand and that **personal** touch must always take priority over procedures when it comes to **customer service**. These virtues allows us to compete and stand tall against much larger global rivals and attain yet another year of stellar performance. Our dual development approach : leveraging facilities across multiple locations and time zones helps us achieve a 24x7 solution.

SECTION II

OVERVIEWAND SPECIFICATIONS

OVERVIEW

2 VALVE MANIFOLDS

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SPECIAL PURPOSE MANIFOLDS

AURA VALVE MANIFOLDS OVERVIEW

AURA range of Instrumentation Valve Manifolds cover 2 Valve, 3 Valve and 5 Valve Manifolds.

The Manifolds are available in Carbon Steel (plated) and 316 SS, both Carbon Steel and Stainless Steel manifolds are provided with Stainless Steel stems as standard to provide metal-to-metal seating with tight shutoff. Other trim combinations are available as options.

All valve manifolds are provided with PTFE packing as standard and graphite for high process temperatures.

AURA TWO VALVE MANIFOLDS

The basic valve consists of two valves in a integral unit for isolation and drain / calibration of pressure gauges, pressure switches, pressure transmitters, differential pressure transmitters etc.

AURA offers two mounting arrangements:

- **Integral type**
  Direct mounting to an instrument
- **Block & Bleed type**
  Line mounting remote from instrument

AURA THREE VALVE MANIFOLDS

Designed for use in conjunction with differential pressure transmitters. The basic three Valve manifold consists of two isolation valves and one equalizing valve in a single compact unit.

AURA offers three mounting arrangements

- **Separately mounted (R) type**
  Designed for remote line mounting to the instrument in any selected position between the process line and the instrument.

- **Single Flanged Integral (T) type**
  Designed for use with differential pressure transmitters that utilize 2 1/8(54 mm) center to center connection. On the process side two 1/2" NPT connections are provided. Two 1/4" NPT (F) purge connectors are standard with these units. 4 mounting bolts and 2 PTFE gaskets for installation are provided as standard.

- **Double Flanged Integral (H) type**
  These manifolds are flanged on both sides for mounting directly to differential pressure transmitters having 2-1/8" (54 mm) centre to centre connection. This model provides easy installation and comes complete with 4 mounting bolts and 2 PTFE gaskets for ready installation. Two 1/4" NPT (F) purge connectors are standard with these units.

AURA FIVE VALVE MANIFOLDS

Designed to allow access to all valves in a single compact unit with optimum ease of operation. The basic Five valve manifold consists of two pressure isolation valves, two integral drain / vent valves for purging and one equalizing valve.

These manifolds are available in three configurations:

- **Separately mounted (R) type**
  Designed for remote line mounting to the instrument in any selected position between the process line and the instrument.

- **Single Flange Integral (T) type**
  This model is designed for direct mounting on a transmitter. The manifolds mount directly to differential pressure transmitters having 2-1/8" (54 mm) centre-to-centre connections. Two 1/4" NPT (F) purge connectors are standard with these units. 4 mounting bolts and 2 PTFE gaskets for installation are provided as standard. The 'T' type manifold is available as s single block unit or as a unit with separately fitted drain valves.

- **Double Flanged Integral (H) type**
  These manifolds are flanged on both sides for mounting directly to differential pressure transmitters having 2-1/8" (54 mm) centre to centre connection. This model provides easy installation and comes complete with 4 mounting bolts and 2 PTFE gaskets for ready installation. Two 1/4" NPT (F) purge connectors are standard with these units.

- Aura has designed a 5 Valve Manifold for Natural Gas Services. This has truly 3/0" Full Bore with soft seats.

AURA SPECIAL PURPOSE MANIFOLDS

- **5 Valve Manifolds For Natural Gas Service**
  This manifold has been specially designed for natural gas services. It incorporates a ‘true’ 3/8” bore and has soft seats. Available in both flange to flange and flange to pipe configurations.

- **5 Valve Compact Manifolds For Natural Gas Service**
  These manifolds are a compact version of our standard natural gas manifolds. Available in Pipe to Pipe, Pipe to Flange and Flange to Flange configurations.

- **3 Valves Meter Manifolds**.
  Designed for use with Barton type and other similar design meters. Pipe connections for process and instrument.

- **2, 3 & 5 Valve Coplaner Manifold**
  Designed for use with Rosemount. 3051 and 3095 co-planer design transmitters, flangeless design, integrally mounted.

AURA — 2 VALVE MANIFOLD – INTEGRAL TYPE

DESCRIPTION	:	For use with pressure transmitters, Three Way – Instrument/Process/Drain. Integrally mounted on transmitter
CONNECTIONS	:	Instrument – Flanged. Process – 1/2" NPT (F) Drain – 1/4" NPT (F) with plug
BODY	:	Forged single piece CS, ASTM A-105 plated or ASTM A182 F 316SS
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Self centering, non-rotating, hardened & ground. ASME SA-479 Type 316 SS
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS

PRESSURE/TEMPERATURE :

TEMPERATURE	PRESSURE
200 ^{o}F	6,000 psi
500 ^{o}F	4,000 psi
1,000 ^{o}F	1,500 psi

TEST PRESSURES : Body: Hydrostatic at 6,000 psi
Seat & Gland: 1,000 psi with Nitrogen

OPTIONS :
- Material of construction conforming to NACE MR-01-75
- Other Materials available for corrosion resistance

PART NOS 1) Carbon Steel : A2 VM-INT-001-CS
2) 316 SS A2 VM-INT-001-316

AURA DRAWING REF. : A2VM-INT-001

DESIGN STANDARD :

A) Pressure Piping/Vessel codes
ANSI B31.1.0 – Power Piping
ANSI B11.20 – Fuel Gas Piping
ANSI B31.3 – Chemical Plant petroleum refinery piping
ASME Section VII-DIV1-Boiler & Pressure vessel code

B) Threads & Dimensional Codes
ANSI B2.1 – Pipe Threads
ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
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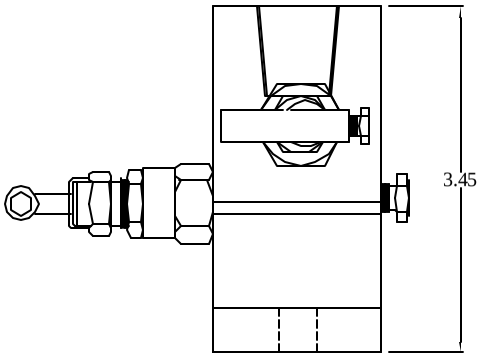
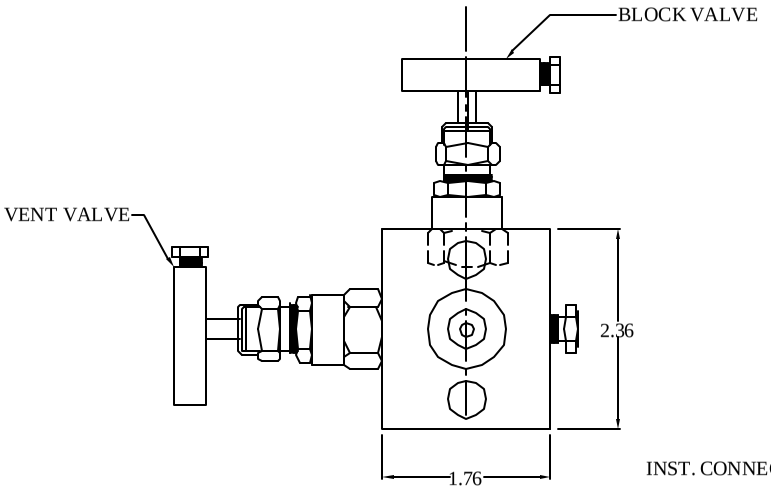
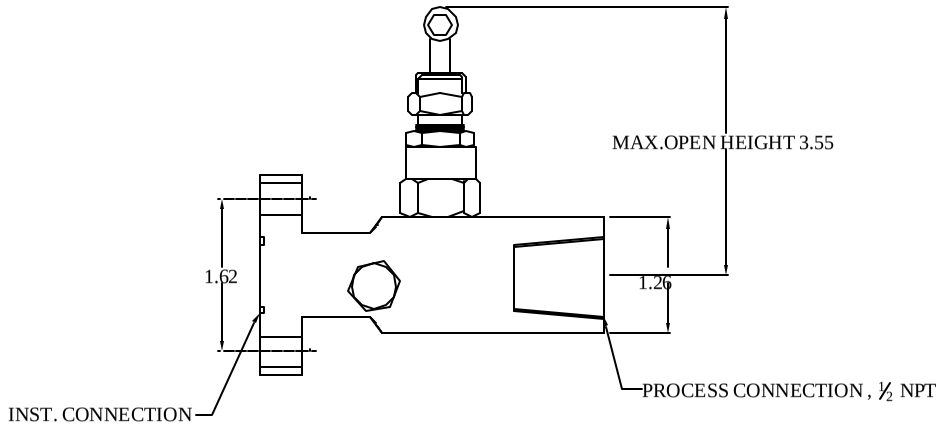
1.00	DESIGN CHANGE	15.8.05	D.K.D	G.G.A

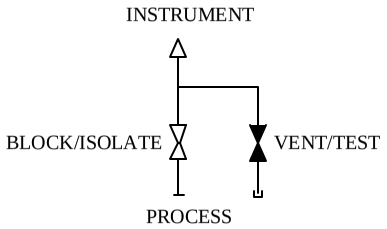






ALL DIMENSIONS ARE IN INCHES.

TEMP.	PRESSURE	ORIFICE DIA.'D'	Cv
ROOM T	6000PSI	0.138"	0.25 MAX.
500 DEG. F	4000PSI		
1000DEG.F	1500PSI		



PROJECT/CLIENT

TITLE

2 VALVE MANIFOLD INTEGRAL TYPE

Aura Inc.
D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.
www.aurainc.com

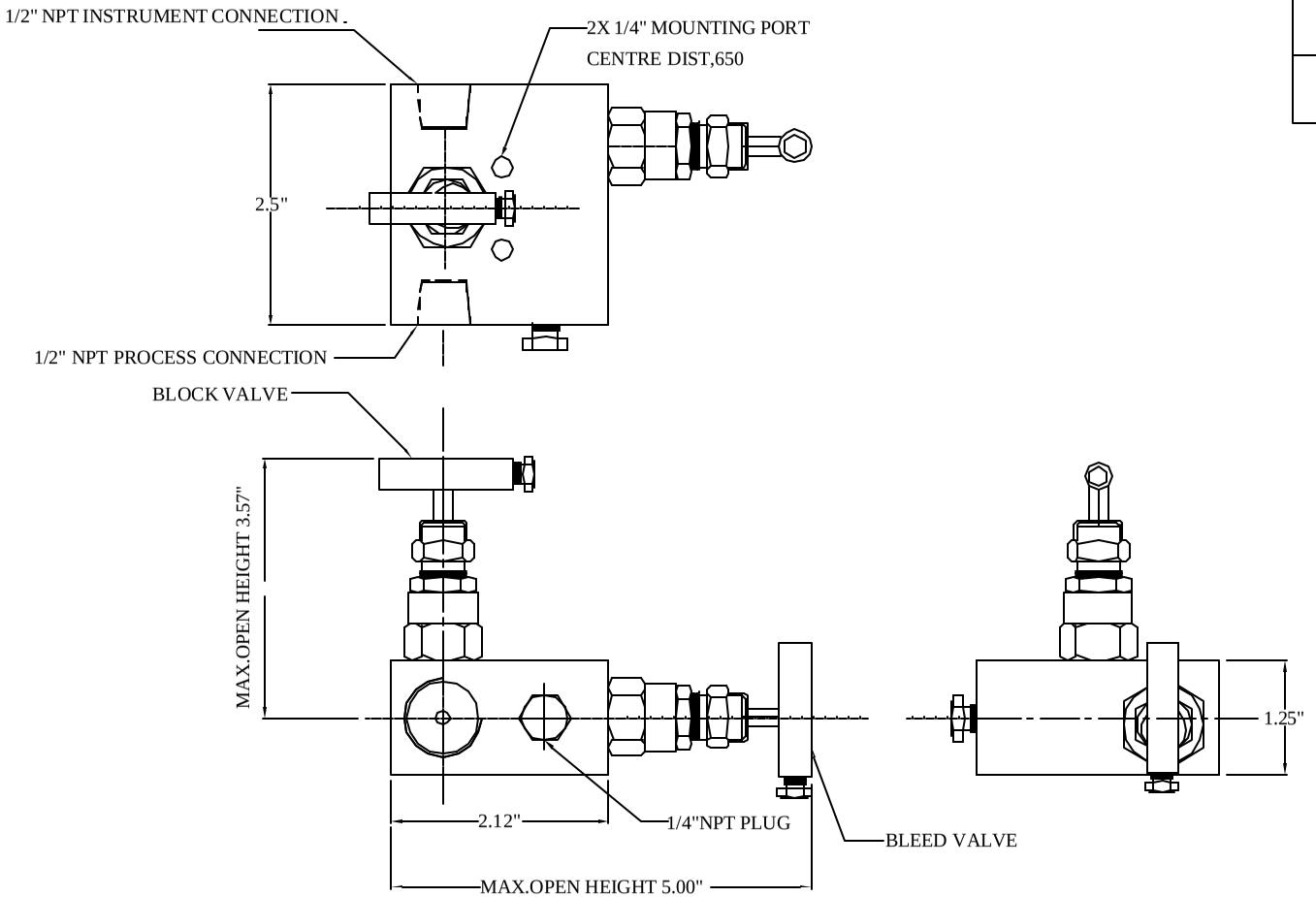
ALL DIMENSIONS ARE SUBJECT TO CHANGE WITOUT ANY PRIOR NOTICE, TO BE USED FOR REFERANCE ONLY.

DRG NO :A2VM-INT-001

AURA — 2 VALVE MANIFOLD – BLOCK & BLEED TYPE

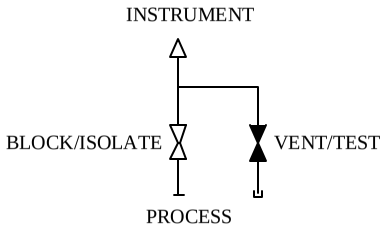
DESCRIPTION	:	For use with pressure transmitters / switches / gauges, Three Way – Instrument / Process / Drain.
CONNECTIONS	:	Instrument & Process – 1/2" NPT (F) Drain – 1/4" NPT (F) plugged
BODY	:	Barstock single piece, CS-A108 / A479 - 316 SS.
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Self-centering, non-rotating hardened & ground. ASME SA-479 Type 316
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE / PRESSURE 200 ^{o}F — 6,000 psi 500 ^{o}F — 4,000 psi 1,000 ^{o}F — 1,500 psi
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland: 1,000 psi with Nitrogen
PIPE MOUNTING FACILITY	:	Drilled holes provided for brackets
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance
PART NOS 1) Carbon Steel **2) 316 SS**	:	A2VM-B&B-001-CS A2VM-B&B-001-316
AURA DRAWING REF.	:	A2VM-B&B-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	14.05.03	D.K.D	G.G.A
1.00	DESIGN CHANGE	15.8.05	D.K.D	G.G.A



ALL DIMENSIONS ARE IN INCHES.

TEMP.	PRESSURE	ORIFICE DIA.'D'	Cv
ROOM T	6000PSI	0.138"	0.25 MAX.
500 DEG. F	4000PSI		
1000DEG.F	1500PSI		



PROJECT/CLIENT

TITLE

2 VALVE MANIFOLD BLOCK &BLEED TYPE

Aura Inc.
D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.
www.aurainc.com

ALL DIMENSIONS ARE SUBJECT TO CHANGE WITOUT ANY PRIOR NOTICE, TO BE USED FOR REFERANCE ONLY.

DRG NO :A2VM-B&B-001

AURA 3 VALVE MANIFOLD – SEPARATELY MOUNTED (R) TYPE

DESCRIPTION	:	For use with D/P transmitters. Remote mounted. Two process isolation valves, One equalizing valve.
CONNECTIONS	:	Instrument & Process – 1/2" NPT (F)
BODY	:	Barstock single piece, CS-A108 / A479 - 316 SS.
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Self centering, non-rotating, hardened & ground. ASME SA-479 Type 316 SS
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE / PRESSURE 200 ^{o}F / 6,000 psi 500 ^{o}F / 4,000 psi 1,000 ^{o}F / 1,500 psi
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland: 1,000 psi with Nitrogen
PIPE MOUNTING FACILITY	:	Drilled holes provided for brackets
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance • Soft seat
PART NOS. 1) Carbon Steel **2) 316 SS**	:	A3VM-SEP-001-CS A3VM-SEP-001-316
AURA DRAWING REF.	:	A3VM-SMR-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

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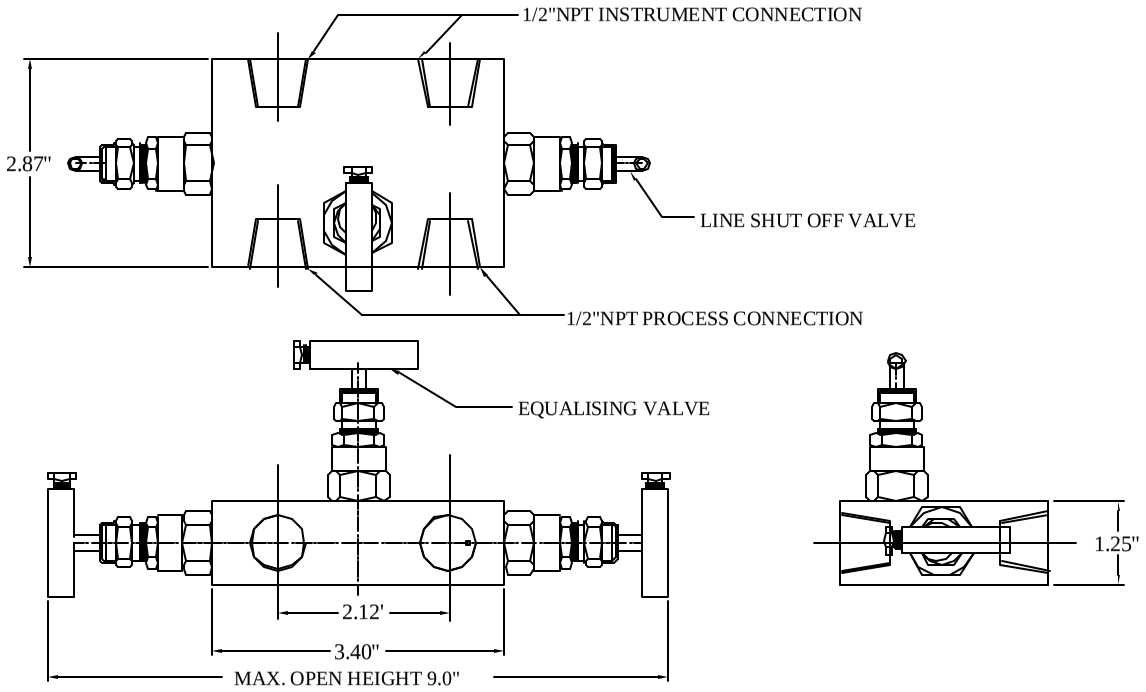
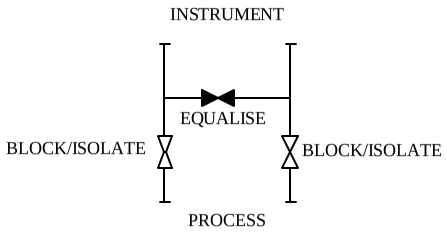


ALL DIMENSIONS ARE IN INCHES.

TEMP.	C.S	S.S	ORIFICE DIA 'D'	Cv
ROOM T	6000PSI	6000PSI	0.220"	0.65 MAX.
500 DEG. F	4000PSI	4000PSI		
1000DEG.F	1500PSI	1500PSI		



PROJECT/CLIENT

TITLE

3 VALVE MANIFOLD SEPARATE MOUNTED 'R' TYPE

Aura Inc.
D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.
www.aurainc.com

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DRG NO :A3VM-SMR-001

AURA 3 VALVE MANIFOLD–SINGLE FLANGED, INTEGRAL (T) TYPE

DESCRIPTION : For use with D/P transmitters. Direct mount to transmitter. Two process isolation valves, One equalizing valve

CONNECTIONS : Instrument Flanged, Process – 1/2" NPT (F)

BODY : Forged single piece CS, ASTM A-105 plated or ASTM A182 F 316SS

STEM : Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS

NEEDLE TIP : Self centering, non-rotating, hardened & ground. ASME SA-479 Type 316 SS

UPPER/LOWER GLAND BODY : SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS

GLAND PACKING : Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.

HANDLE : 'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS

WASHER : ASME-SA-479 Type 316 SS

PRESSURE/TEMPERATURE :

TEMPERATURE	PRESSURE
200 ^{o}F	6,000 psi
500 ^{o}F	4,000 psi
1,000 ^{o}F	1,500 PSI

TEST PRESSURES : Body: Hydrostatic at 6,000 psi
Seat & Gland: 1,000 psi with Nitrogen

PIPE MOUNTING FACILITY : Drilled holes provided for brackets

OPTIONS :
- Material of construction confirming to NACE MR-01-75
- Other Materials available for corrosion resistance
- Soft seat

PART NOS- 1) Carbon Steel : A3VM-SFT-001-CS

2) 316 SS A3VM-SFT-001-316

AURA DRAWING REF. : A3VM-SFT-001

DESIGN STANDARD :

A) Pressure Piping/Vessel codes
ANSI B31.1.0 – Power Piping
ANSI B11.20 – Fuel Gas Piping
ANSI B31.3 – Chemical Plant petroleum refinery piping
ASME Section VII-DIV1-Boiler & Pressure vessel code

B) Threads & Dimensional Codes
ANSI B2.1 – Pipe Threads
ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
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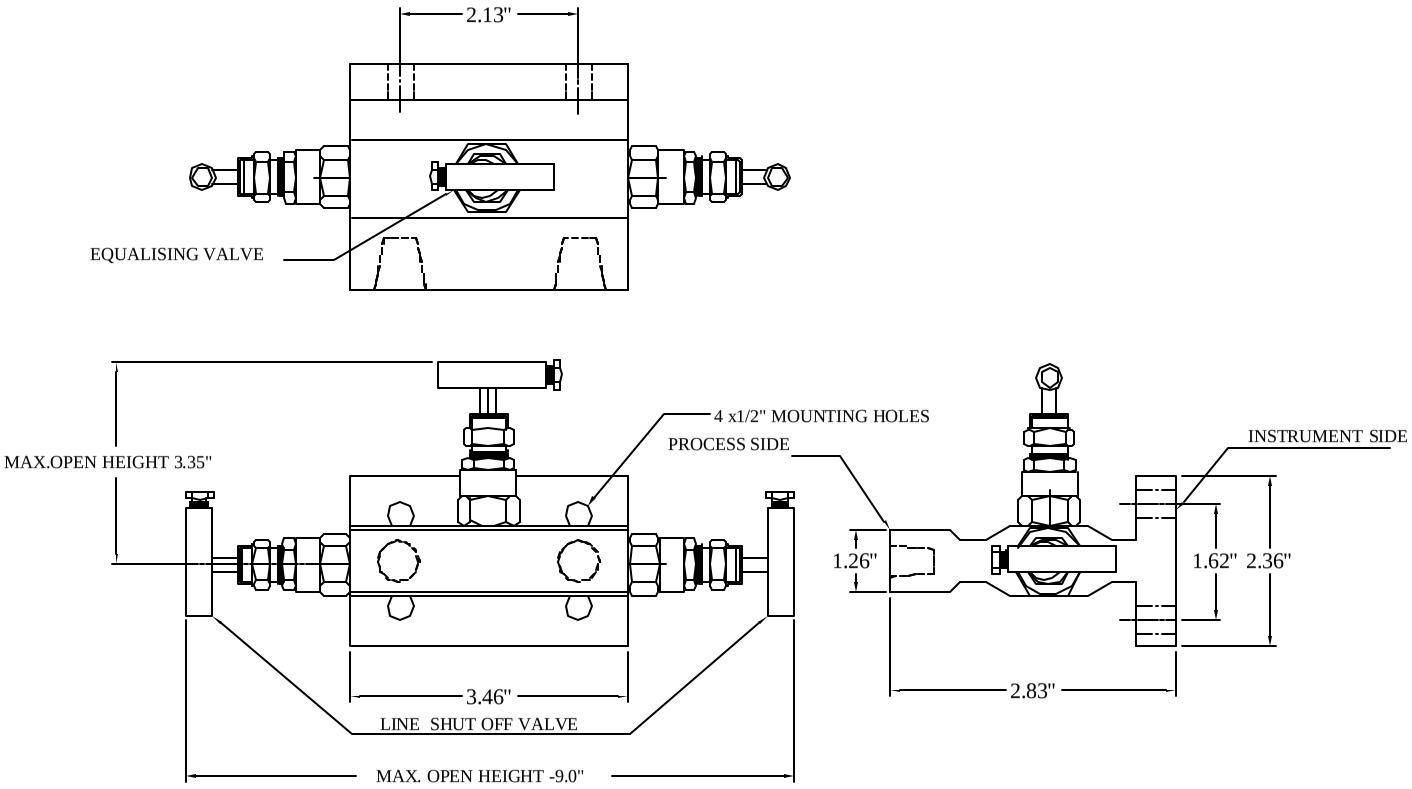
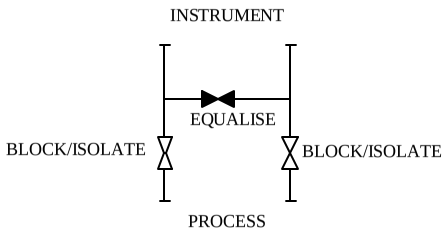


ALL DIMENSIONS ARE IN INCHES.

TEMP.	C.S	S.S	ORIFICE DIA 'D'	Cv
ROOM T	6000PSI	6000PSI	0.220"	0.65 MAX.
500 DEG. F	4000PSI	4000PSI		
1000DEG.F	1500PSI	1500PSI		



PROJECT/CLIENT

TITLE

3 VALVE MANIFOLD
SINGLE FLANGED
'T' TYPE

Aura Inc.
D11/3,OKHALA IND. AREA,
PHASE II, NEW DELHI
INDIA.
www.aurainc.com

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DRG NO :A3VM-SFT-001

AURA 3 VALVE MANIFOLD–DOUBLE FLANGED, INTEGRAL (H) TYPE

DESCRIPTION	:	For use with D/P transmitters Direct mount to transmitter. Two process isolation valves, One equalizing valve
CONNECTIONS	:	Instrument and Process Flanged
BODY	:	Forged single piece CS, ASTM A-105 plated or ASTM A182 F 316SS
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Self centering, non-rotating, hardened & ground. ASME SA-479 Type 316 SS
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A106 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE — PRESSURE 200 ^{o}F — 6,000 psi 500 ^{o}F — 4,000 psi 1,000 0F — 1,500 psi
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland: 1,000 psi with Nitrogen
PIPE MOUNTING FACILITY	:	Drilled holes provided for brackets
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance • Soft seat
PART NOS 1) Carbon Steel 2) 316 SS	:	A3VM-DFH-001-CS A3VM-DFH-001-316
AURA DRAWING REF.	:	A3VM-DFH-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

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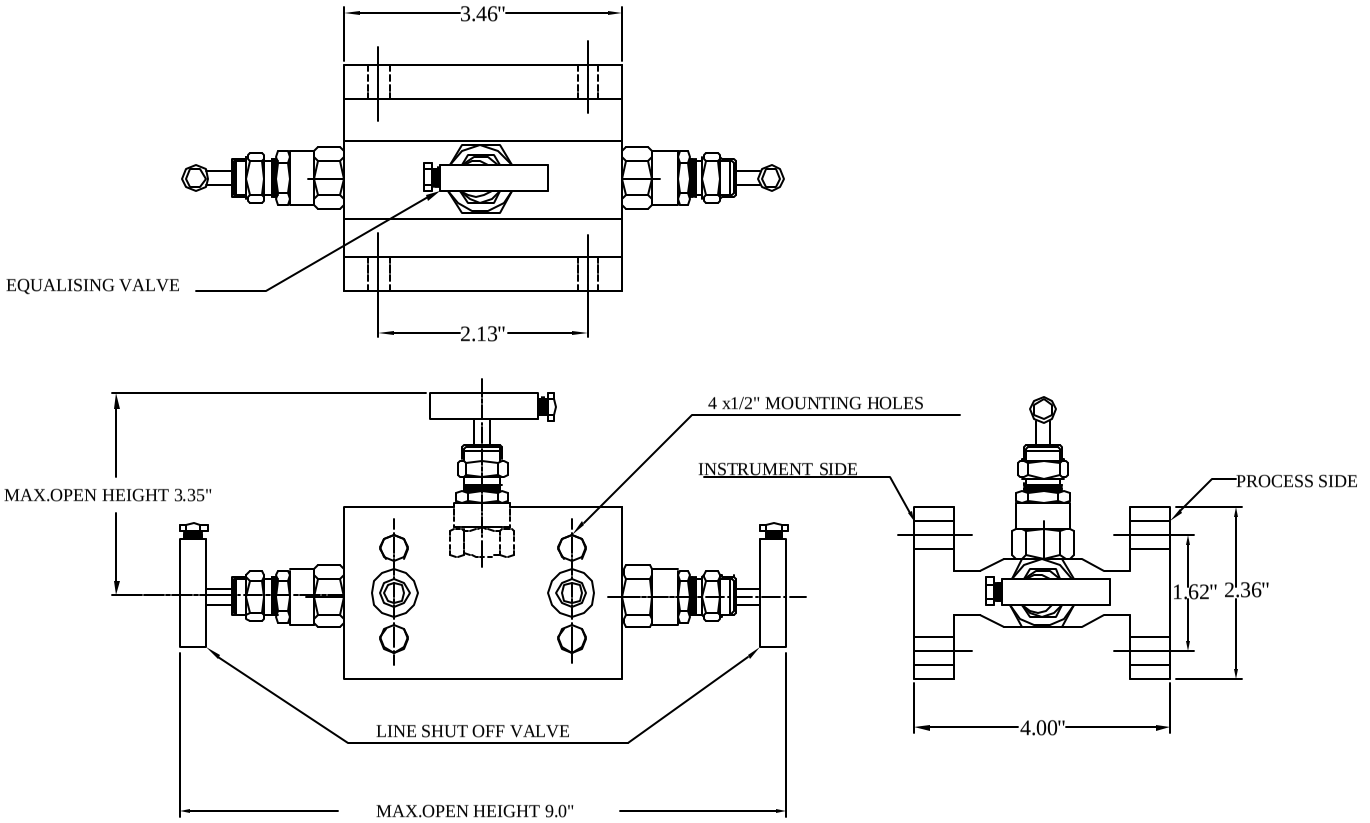
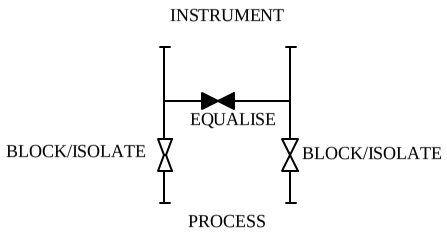


ALL DIMENSIONS ARE IN INCHES.

TEMP.	C.S	S.S	ORIFICE DIA 'D'	Cv
ROOM T	6000PSI	6000PSI	0.220"	0.65 MAX.
500 DEG. F	4000PSI	4000PSI		
1000DEG.F	1500PSI	1500PSI		



PROJECT/CLIENT

TITLE

3 VALVE MANIFOLD DOUBLE FLANGED 'H' TYPE

Aura Inc.
D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.
www.aurainc.com

ALL DIMENSIONS ARE SUBJECT TO CHANGE WITOUT ANY PRIOR NOTICE. TO BE USED FOR REFERENCE ONLY.

DRG NO :A3VM-DFH-001

AURA 5 VALVE MANIFOLD – SEPARATELY MOUNTED (R) TYPE

DESCRIPTION : For use with D/P transmitters. Remote mounted. Two process isolation valves, Two equalizing valves and One drain valve on a single block.

CONNECTIONS : Instrument & Process – 1/2" NPT (F)

BODY : Barstock single piece, CS-A108 / A479 - 316 SS.

STEM : Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS

NEEDLE TIP : Self centering, non-rotating, hardened & ground. ASME SA-479 Type 316 SS

UPPER/LOWER GLAND BODY : SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS

GLAND PACKING : Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.

HANDLE : 'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS

WASHER : ASME-SA-479 Type 316 SS

PRESSURE/TEMPERATURE :

TEMPERATURE	PRESSURE
200 ^{o}F	6,000 psi
500 ^{o}F	4,000 psi
1,000 ^{o}F	1,500 psi

TEST PRESSURES : Body: Hydrostatic at 6,000 psi
Seat & Gland: 1,000 psi with Nitrogen

PIPE MOUNTING FACILITY : Drilled holes provided for brackets

OPTIONS :
- Material of construction confirming to NACE MR-01-75
- Other Materials available for corrosion resistance
- Soft seat

PART NOS. 1) Carbon Steel : A5VM-SEP-001-CS
2) 316 SS A5VM-SEP-001-316

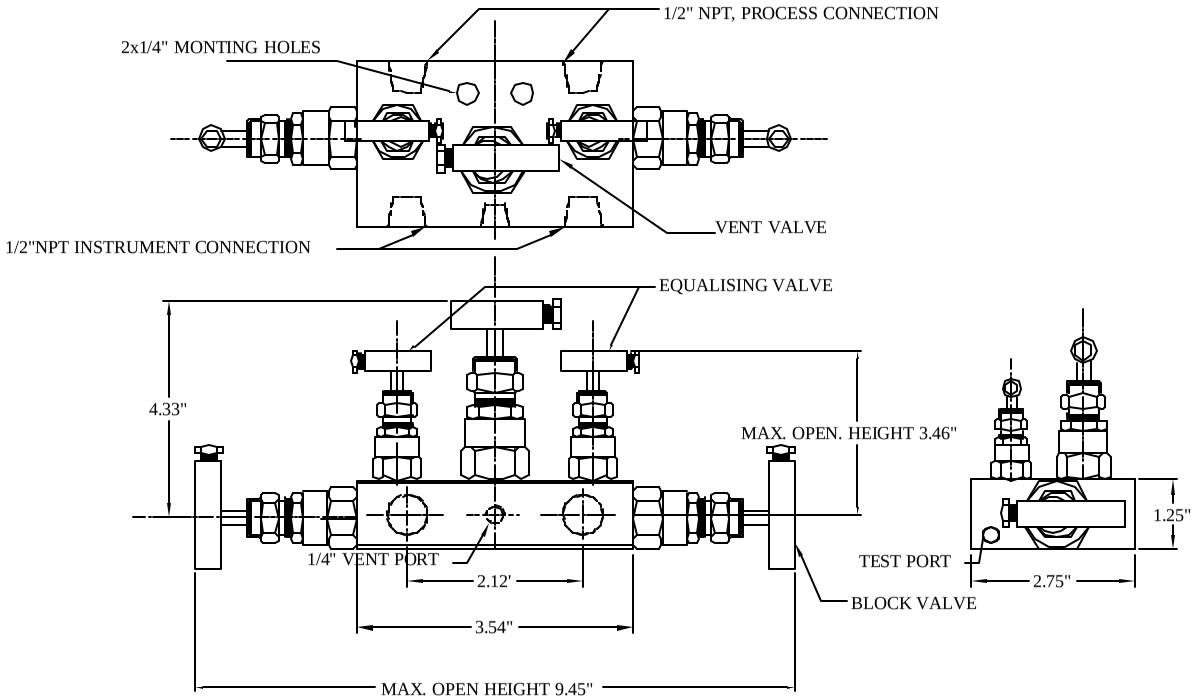
AURA DRAWING REF. : A5VM-SMR-001

DESIGN STANDARD :

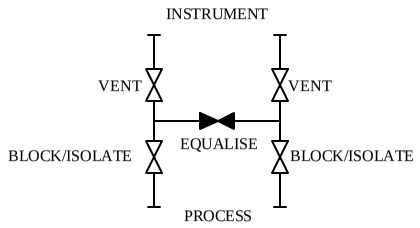
A) Pressure Piping/Vessel codes
ANSI B31.1.0 – Power Piping
ANSI B11.20 – Fuel Gas Piping
ANSI B31.3 – Chemical Plant petroleum refinery piping
ASME Section VII-DIV1-Boiler & Pressure vessel code

B) Threads & Dimensional Codes
ANSI B2.1 – Pipe Threads
ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.3.03	D.K.D	G.G.A
1.00	FLOW DIAGRAM CHANGED	12.11.05	D.K.D	G.G.A



TEMP.	C.S	S.S	ORIFICE DIA 'D'	Cv
ROOM T	6000PSI	6000PSI	0.220"	0.65 MAX.
500 DEG. F	4000PSI	4000PSI		
1000DEG.F	1500PSI	1500PSI		



ALL DIMENSIONS ARE IN INCHES.

PROJECT/CLIENT

TITLE

5VALVE MANIFOLD SEPARATE MOUNTED 'R' TYPE

Aura Inc.
D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.
www.aurainc.com

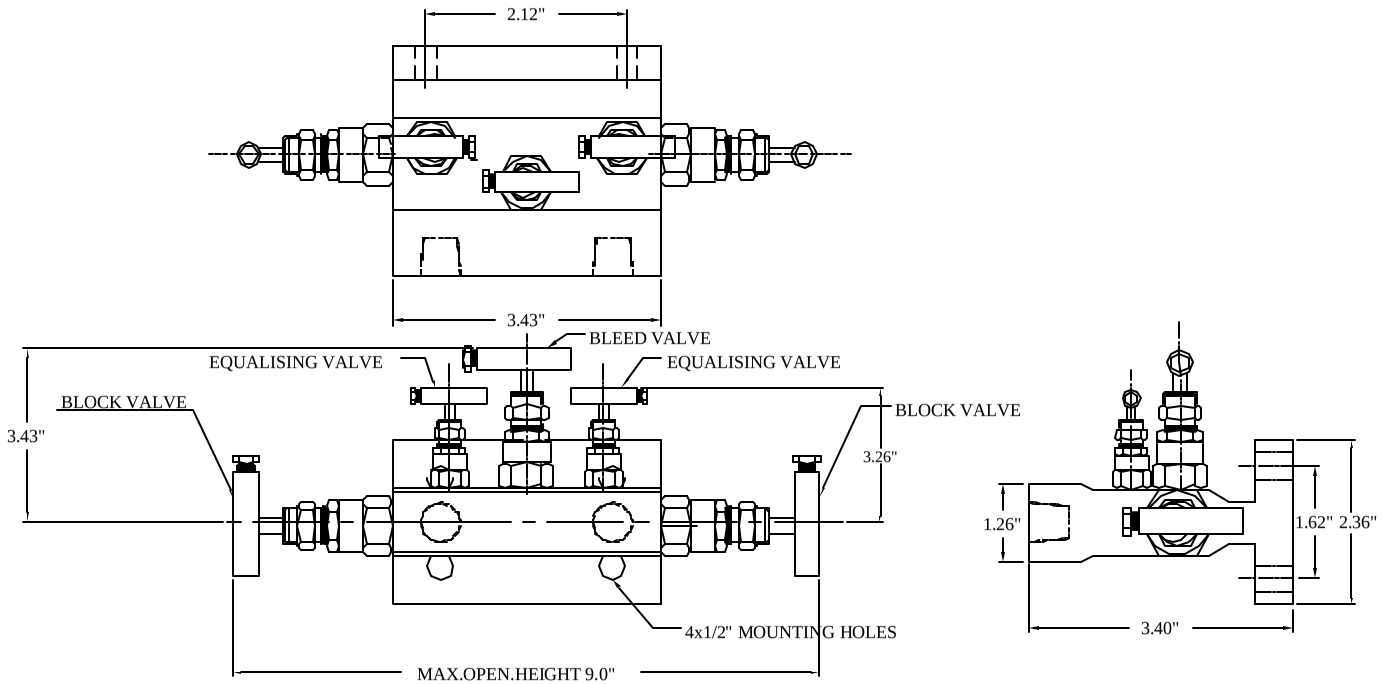
ALL DIMENSIONS ARE SUBJECTED TO CHANGE WITHOUT ANY PRIOR NOTICE. TO BE USED FOR REFERENCE ONLY.

DRG NO :A5VM-SMR-001

AURA 5 VALVE MANIFOLD–SINGLE FLANGED, INTEGRAL (T) TYPE

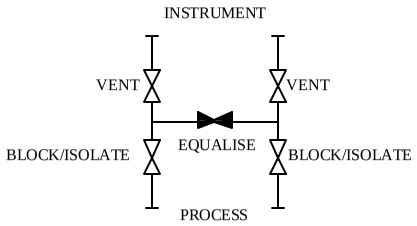
DESCRIPTION	:	For use with D/P transmitters Direct mount to transmitter. Two process isolation valves, Two equalizing valves and One drain valve on a single block.
CONNECTIONS	:	Instrument Flanged, Process – 1/2" NPT (F)
BODY	:	Forged single piece CS, ASTM A-105 plated or ASTM A182 F 316SS
STEM	:	Close tolerance surface finish, cold rolled- threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Self centering, non-rotating, hardened & ground. ASME SA-479 Type 316 SS or Titanium
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE – PRESSURE 200 ^{o}F – 6,000 psi 500 ^{o}F – 4,000 psi 1,000 ^{0} F – 1,500 psi
TEST PRESSURES	:	Body : Hydrostatic at 6,000 psi Seat & Gland: 1,000 psi with Nitrogen
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance • Soft seat
PART NOS 1) Carbon Steel 2) 316 SS	:	A5VM-SFT-001-CS A5VM-SFT-001-316
AURA DRAWING REF.	:	A5VM-SFT-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.3.03	D.K.D	G.G.A
1.00	FLOW DIAGRAM CHANGED	12.11.05	D.K.D	G.G.A



ALL DIMENSIONS ARE IN INCHES.

TEMP.	C.S	S.S	ORIFICE DIA 'D'	Cv
ROOM T	6000PSI	6000PSI	0.220"	0.65 MAX.
500 DEG. F	4000PSI	4000PSI		
1000DEG.F	1500PSI	1500PSI		



PROJECT/CLIENT

TITLE

5VALVE MANIFOLD SINGLE FLANGED 'T' TYPE

Aura Inc.
D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.
www.aurainc.com

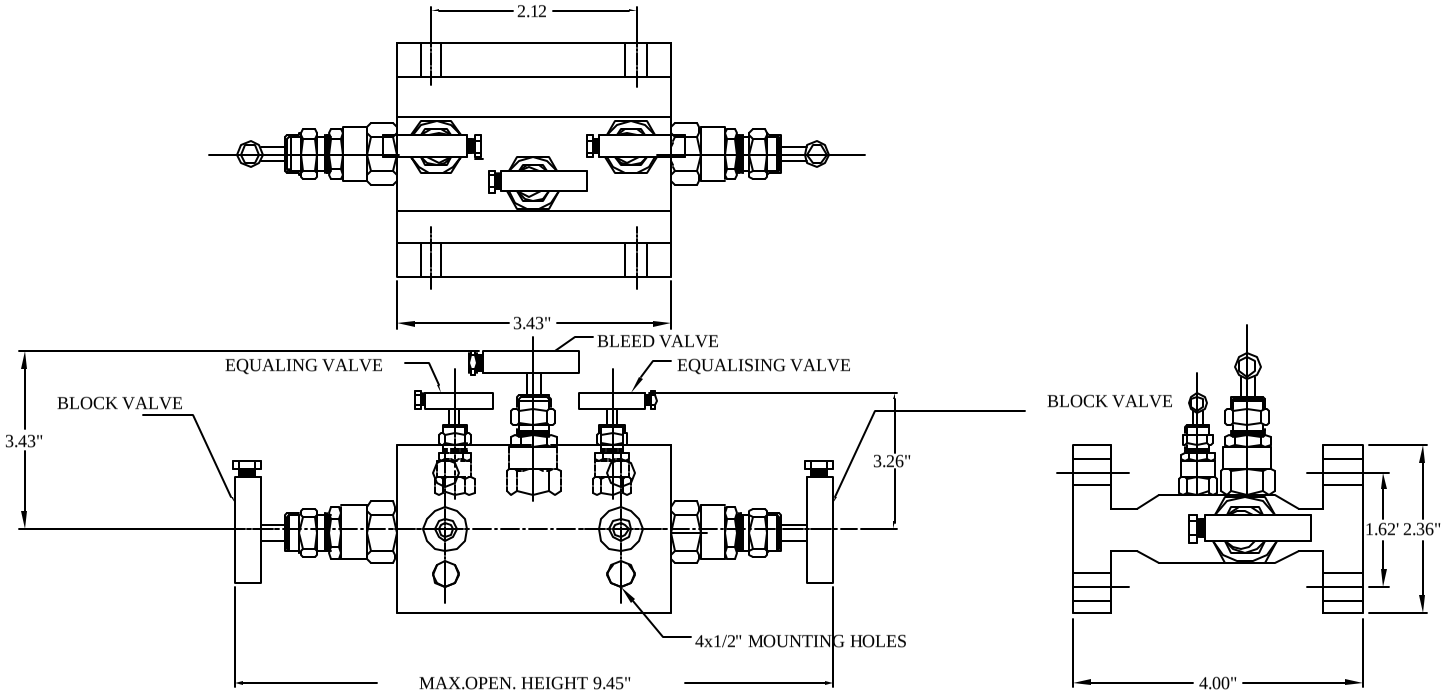
ALL DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT ANY PRIOR NOTICE. TO BE USED FOR REFERENCE ONLY.

DRG NO :A5VM-SFT-001

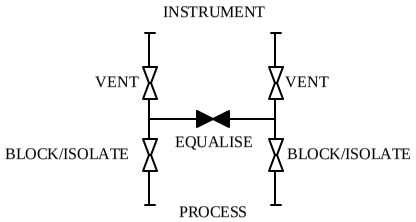
AURA 5 VALVE MANIFOLD–DOUBLE FLANGED, INTEGRAL (H) TYPE

DESCRIPTION	:	For use with D/P transmitters. Direct mount to transmitter. Two process isolation valves, Two equalizing valves and One drain valve on a single block.
CONNECTIONS	:	Instrument and Process Flanged
BODY	:	Forged single piece CS, ASTM A-105 plated or ASTM A182 F 316SS
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Self centering, non-rotating, hardened & ground. ASME SA-479 Type 316 SS
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp. below 400^{o}F / Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE / PRESSURE 200 ^{o}F / 6,000 psi 500 ^{o}F / 4,000 psi 1,000 0 F / 1,5000 psi
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland:1,000 psi with Nitrogen
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance • Soft seat
PART NOS 1) Carbon Steel	:	A5VM-DFH-001-CS-
2) 316 SS		A5VM-DFH-001-316
AURA DRAWING REF.	:	A5VM-DFH-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.3.03	D.K.D	G.G.A
1.00	FLOW DIAGRAM CHANGED	12.11.05	D.K.D	G.G.A



TEMP.	C.S	S.S	ORIFICE DIA 'D'	Cv
ROOM T	6000PSI	6000PSI	0.220"	0.65 MAX.
500 DEG. F	4000PSI	4000PSI		
1000DEG.F	1500PSI	1500PSI		



ALL DIMENSIONS ARE IN INCHES.

PROJECT/CLIENT

TITLE

5VALVE MANIFOLD DOUBLE FLANGED 'H' TYPE

Aura Inc.
D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.
www.aurainc.com

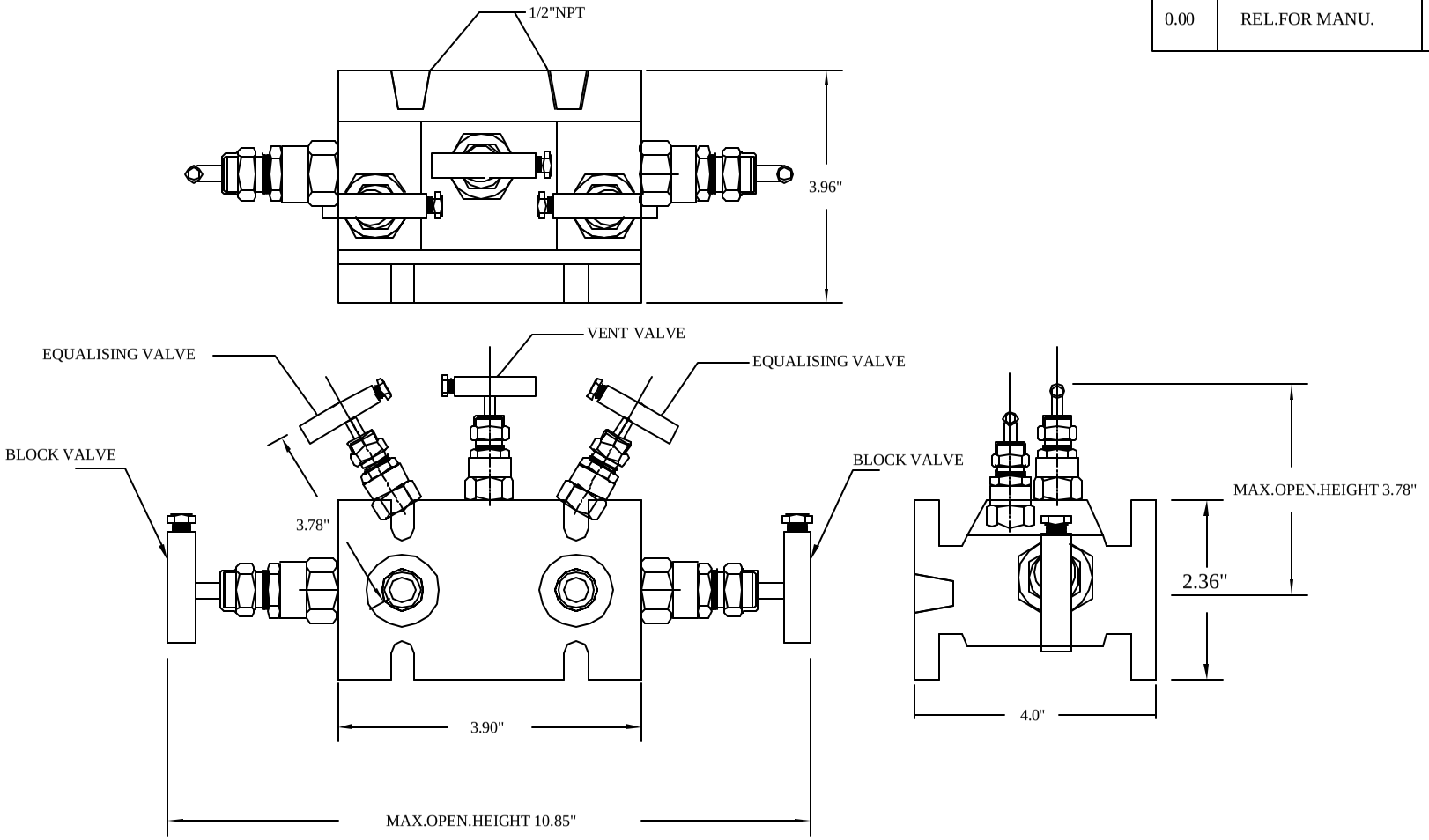
ALL DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT ANY PRIOR NOTICE. TO BE USED FOR REFERENCE ONLY.

DRG NO :A5VM-DFH-001

AURA 5 VALVE 'T' TYPE MANIFOLD FOR NATURAL GAS SERVICE

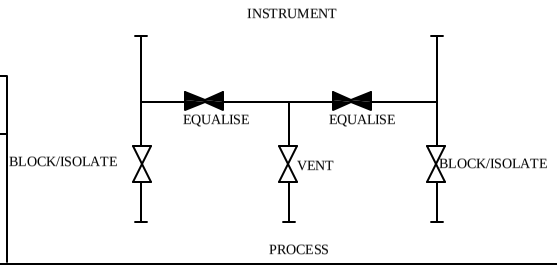
DESCRIPTION	:	Specifically for use with D/P transmitters for natural gas services. Direct mount to transmitter, Two process isolation valves, Two equalizing valves and One drain valve on a single block.
CONNECTIONS	:	Flange To Pipe
BODY	:	Forged single piece CS, ASTM A-108 plated or ASTM A182 F 316SS
SEAT	:	Delrin®
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Self-centering, non-rotating hardened & ground. ASME SA-479 Type 316 SS
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevents process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE — PRESSURE 200 ^{o}F — 6,000 psi 500 ^{o}F — 4,000 psi 1,000 ^{0}F — 1,5000 psi
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland: 1,000 Psi with Nitrogen
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance
PART NOS 1) Carbon Steel	:	A5VM-NGT-001-CS
2) 316 SS		A5VM-NGT-001-316
AURA DRAWING REF.	:	A5VM-SFT-NG-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.3.03	D.K.D	G.G.A



ALL DIMENSIONS ARE IN INCHES.

TEMP.	C.S	S.S	ORIFICE DIA 'D'	Cv
ROOM T	6000PSI	6000PSI	0.375"	3.00 MAX.
500 DEG. F	4000PSI	4000PSI		
1000DEG.F	1500PSI	1500PSI		



PROJECT/CLIENT

TITLE

5VALVE NATURAL GAS MANIFOLD SINGLE FLANGED 'T' TYPE

Aura Inc.

D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.

www.aurainc.com

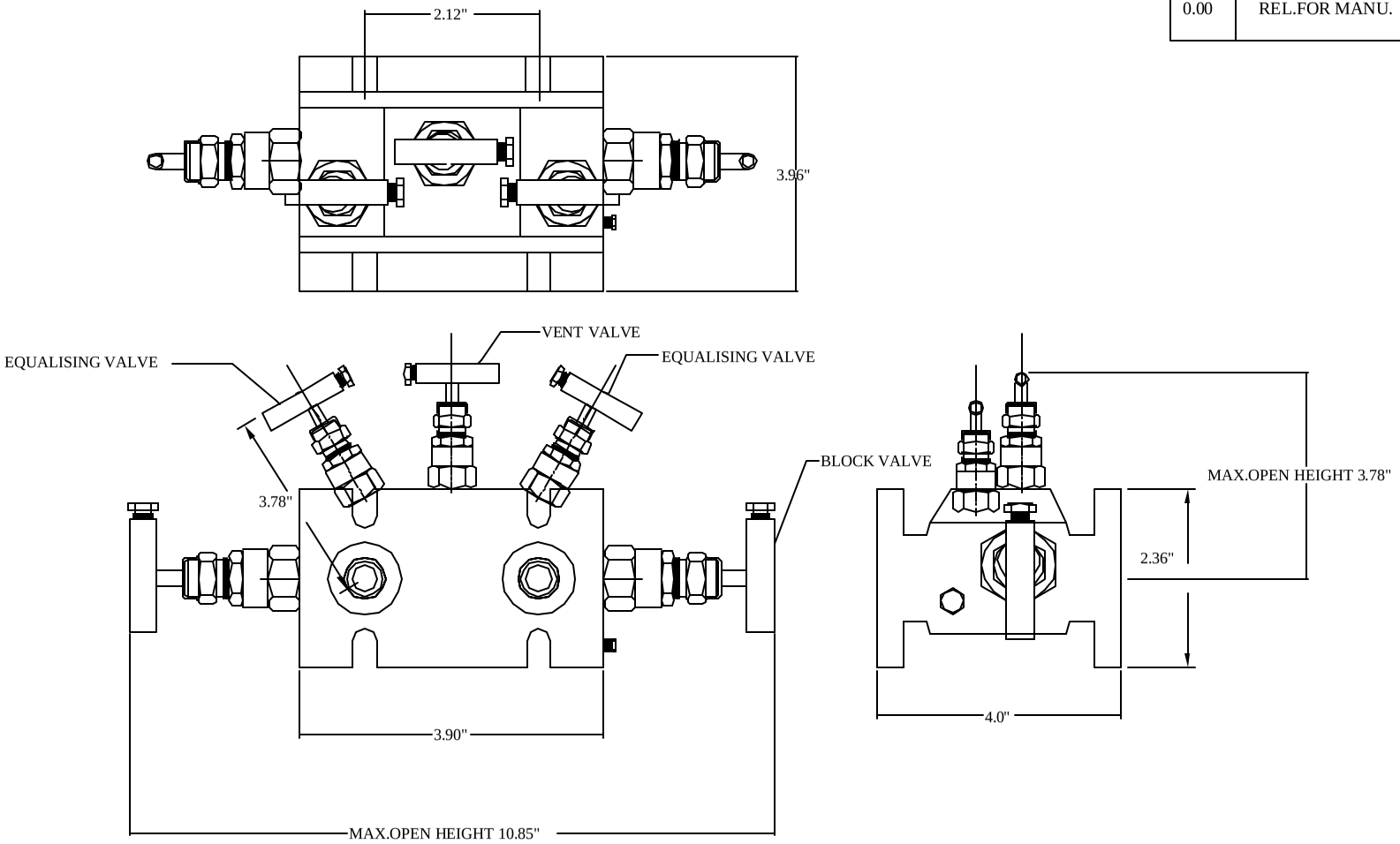
ALL DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT ANY PRIOR NOTICE. TO BE USED FOR REFERANCE ONLY.

DRG NO :A5VM-SFT-NG-001

AURA 5 VALVE 'H' TYPE MANIFOLD FOR NATURAL GAS SERVICE

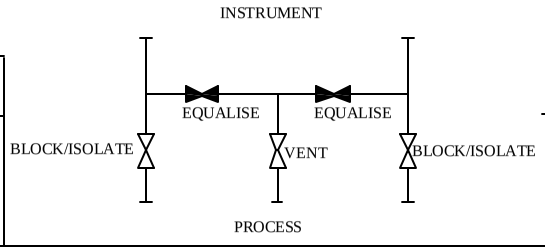
DESCRIPTION	:	Specifically for use with D/P transmitters for natural gas services. Direct mount to transmitter, Two Process isolation valves, Two equalizing valves and One drain valve on a single block.
CONNECTIONS	:	Flange To Flange
BODY	:	Forged single piece CS, ASTM A-105 plated or ASTM A182 F 316SS
SEAT	:	Derlin®
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Self-centering, non-rotating hardened & ground. ASME SA-479 Type 316 SS
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevents process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE — PRESSURE 200 ^{o}F — 6000 psi 500 ^{o}F — 4000 psi 1,000 ^{0}F — 1,500 psi
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland: 1,000 psi with Nitrogen
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance
PART NOS 1) Carbon Steel	:	A5VM-NGH-001-CS
2) 316 SS		A5VM-NGH-001-316
AURA DRAWING REF.	:	A5VM-DFH-NG-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.3.03	D.K.D	G.G.A



ALL DIMENSIONS ARE IN INCHES.

TEMP.	C.S	S.S	ORIFICE DIA 'D'	Cv
ROOM T	6000PSI	6000PSI	0.375"	3.00 MAX.
500 DEG. F	4000PSI	4000PSI		
1000DEG.F	1500PSI	1500PSI		



PROJECT/CLIENT

TITLE

5 VALVE NATURAL GAS MANIFOLD DOUBLE FLANGED 'H' TYPE

Aura Inc.

D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.

www.aurainc.com

ALL DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT ANY PRIOR NOTICE. TO USED FOR REFERENCE ONLY.

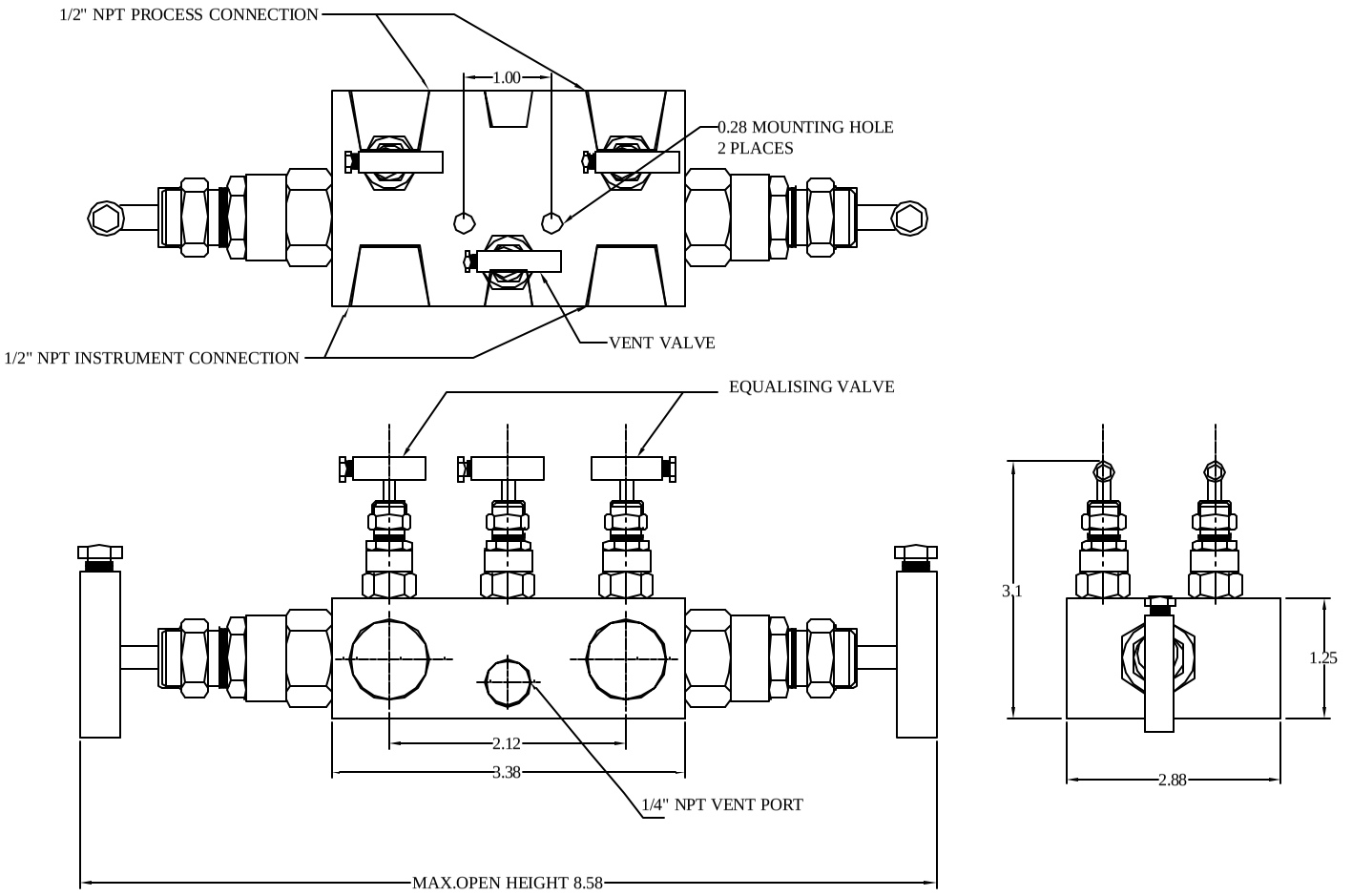
DRG NO :A5VM-DFH-NG-001

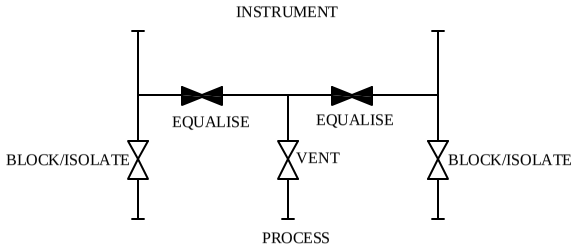
AURA

5 VALVE 'R' TYPE MANIFOLD FOR NG SERVICE - COMPACT DESIGN

DESCRIPTION	:	Specifically for use with D/P transmitters for natural gas services. Remote Mount, Two Process isolation valves, Two equalizing valves and One drain valve on a single block.
CONNECTIONS	:	Pipe to Pipe
BODY	:	Forged single piece CS, ASTM A-108 plated or ASTM A182 F 316SS
SEAT	:	Derlin®, 0.187" Orifice
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Hardened & ground. ASME SA-479 Type 316 SS
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT) for Isolation Valves, prevents process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE — PRESSURE 200 ^{o}F — 6000 psi 500 ^{o}F — 4000 psi 1,000 ^{0}F — 1,500 psi
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland: 1,000 psi with Nitrogen
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance
PART NOS 1) Carbon Steel **2) 316 SS**	:	A5VM-NGCR-001-CS / WM55514 A5VM-NGCR-001-316 / WM55314
AURA DRAWING REF.	:	A5VM-NGCR-001 / A5VM-WGI-NGCR-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.3.03	D.K.D	G.G.A
1.00	CHANGED PRESSURE AND TEMP. RATING	11.11.05	D.K.D	G.G.A





ALL DIMENSIONS ARE IN INCHES.

TEMP.RATING		PRESSURE RATING		ORIFICE DIA 'D'	Cv
C.S	316 SS	C.S	316 SS	0.187	0.65 MAX.
200 DEG. F	200 DEG. F	3,000PSI	3,000PSI		

PROJECT/CLIENT

TITLE

5VALVE COMPACT NATURAL GAS MANIFOLD PIPE TO PIPE

Aura Inc.
D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.
www.aurainc.com

ALL DIMENSIONS ARE SUBJECTED TO CHANGE WITHOUT ANY PRIOR NOTICE,TO BE USED FOR REFERENCE ONLY.

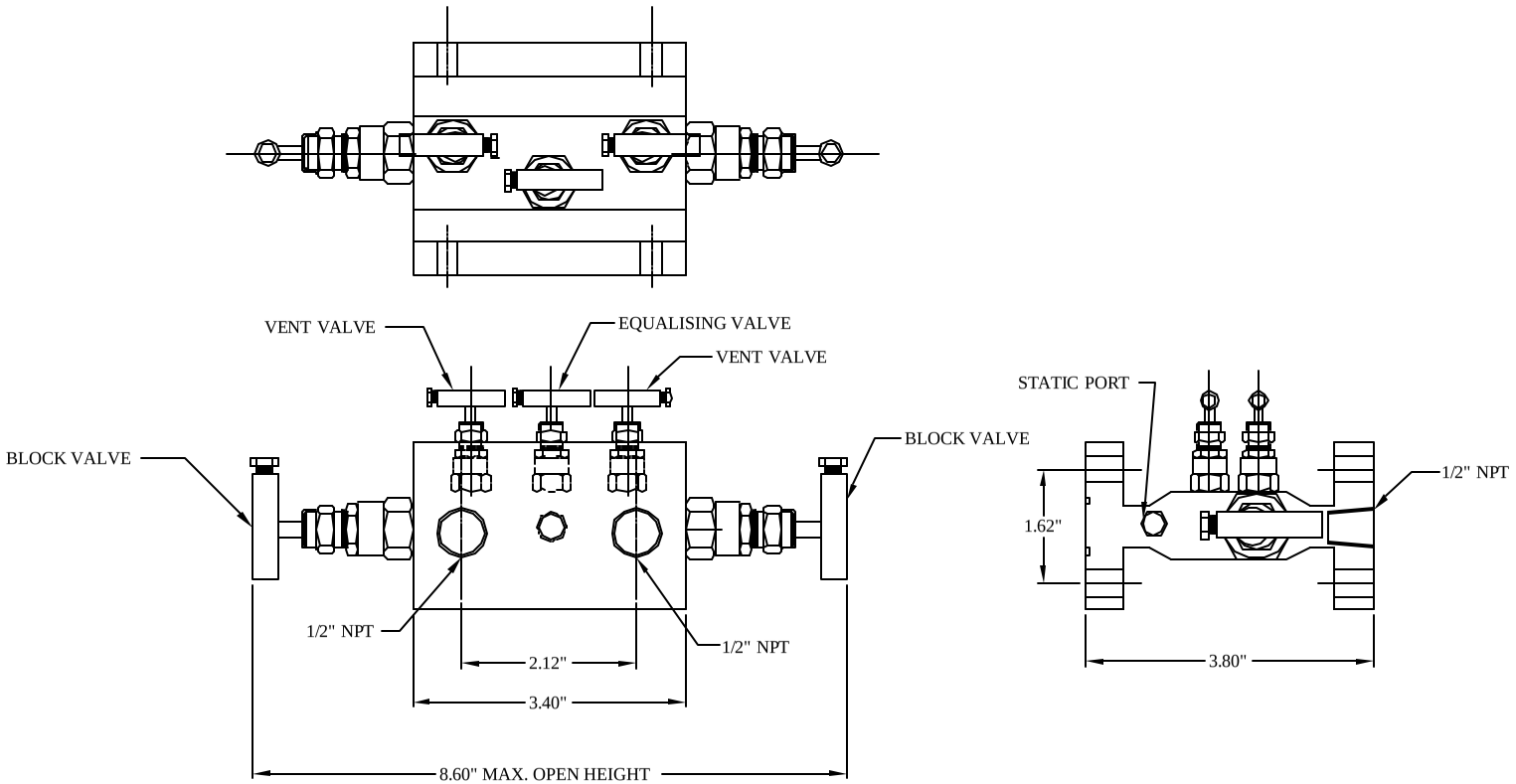
DRG NO :A5VM-NGCR-001

AURA

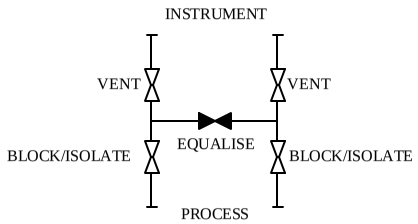
5 VALVE 'T' TYPE MANIFOLD FOR NG SERVICE - COMPACT DESIGN

DESCRIPTION	:	Specifically for use with D/P transmitters for natural gas services. Direct mount to transmitter, Two Process isolation valves, Two equalizing valves and One drain valve on a single block.
CONNECTIONS	:	Flange to Pipe
BODY	:	Forged single piece CS, ASTM A-108 plated or ASTM A182 F 316SS
SEAT	:	Derlin®, 0.187" Orifice
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Hardened & ground. ASME SA-479 Type 316 SS
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT) for Isolation Valves, prevents process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE — PRESSURE 200 ^{o}F — 6000 psi 500 ^{o}F — 4000 psi 1,000 ^{0}F — 1,500 psi
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland: 1,000 psi with Nitrogen
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance
PART NOS 1) Carbon Steel	:	A5VM-NGCT-001-CS / WM55514T
2) 316 SS		A5VM-NGCT-001-316 / WM55314T
AURA DRAWING REF.	:	A5VM-NGCT-001 /A5VM-WGI-NGCT-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.3.03	D.K.D	G.G.A
1.00	FLOW DIAGRAM CHANGED	12.11.05	D.K.D	G.G.A



TEMP.	C.S	S.S	ORIFICE DIA 'D'	Cv
ROOM T	6000PSI	6000PSI	0.220"	0.65 MAX.
500 DEG. F	4000PSI	4000PSI		
1000DEG.F	1500PSI	1500PSI		



ALL DIMENSIONS ARE IN INCHES.

PROJECT/CLIENT

TITLE

5VALVE COMPACT NATURAL GAS MANIFOLD FLANGE TO PIPE

Aura Inc.
D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.
www.aurainc.com

ALL DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT ANY PRIOR NOTICE. TO BE USED FOR REFERENCE ONLY.

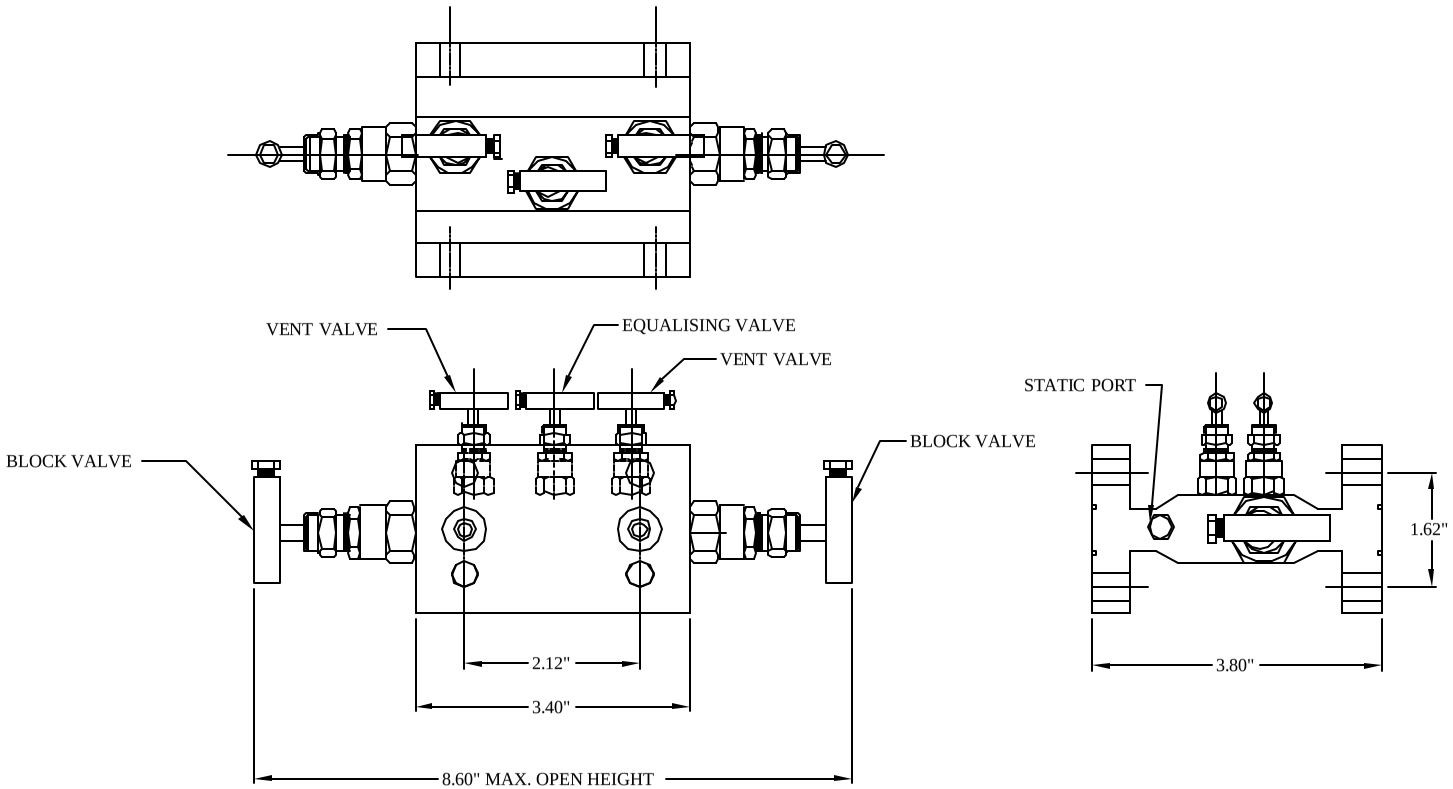
DRG NO :A5VM-NGCT-001

AURA

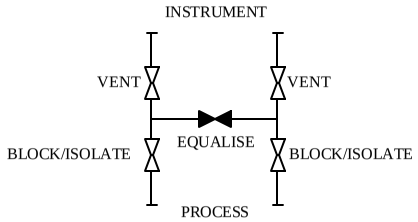
5 VALVE 'H' TYPE MANIFOLD FOR NG SERVICE - COMPACT DESIGN

DESCRIPTION	:	Specifically for use with D/P transmitters for natural gas services. Direct mount to transmitter, Two Process isolation valves, Two equalizing valves and One drain valve on a single block.
CONNECTIONS	:	Flange to Flange
BODY	:	Forged single piece CS, ASTM A-108 plated or ASTM A182 F 316SS
SEAT	:	Derlin®, 0.187" Orifice
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Hardened & ground. ASME SA-479 Type 316 SS
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT) for Isolation Valves, prevents process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE — PRESSURE 200 ^{o}F — 6000 psi 500 ^{o}F — 4000 psi 1,000 ^{0}F — 1,500 psi
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland: 1,000 psi with Nitrogen
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance
PART NOS 1) Carbon Steel **2) 316 SS**	:	A5VM-NGCH-001-CS / WM555T A5VM-NGCH-001-316 / WM553T
AURA DRAWING REF.	:	A5VM-NGCH-001 / A5VM-WGI-NGCH-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.3.03	D.K.D	G.G.A
1.00	FLOW DIAGRAM CHANGED	12.11.05	D.K.D	G.G.A



TEMP.	C.S	S.S	ORIFICE DIA 'D'	Cv
ROOM T	6000PSI	6000PSI	0.220"	0.65 MAX.
500 DEG. F	4000PSI	4000PSI		
1000DEG.F	1500PSI	1500PSI		



ALL DIMENSIONS ARE IN INCHES.

ALL DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT ANY PRIOR NOTICE. TO BE USED FOR REFERENCE ONLY.

PROJECT/CLIENT

TITLE

5VALVE COMPACT NATURAL GAS MANIFOLD FLANGE TO FLANGE

Aura Inc.
D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.
www.aurainc.com

DRG NO :A5VM-NGCH-001

AURA — 3 VALVE METER MANIFOLD

DESCRIPTION : For use with Bellows Meters
Separately mounted, Two equalizing valves, One vent valve.

CONNECTIONS : Instrument – 1/4" NPT(F), Process – 1/4" NPT (F), Vent – 1/4" NPT (F), 1/4" NPT (F) plugged ends.

BODY : Barstock single piece, roddable design, C.S. A108 plated / A479-316 SS

STEM : Close tolerance surface finish, cold rolled threads, A-479 - 316 SS

SEAT : Delrin / PTFE

NEEDLE TIP : Self centering, non-rotating, hardened & ground. A-479 - 316 SS

UPPER/LOWER GLAND BODY : CS, A108 / A-479 – 316 SS
SS locking pin provided.

GLAND PACKING : PTFE, adjustable, below stem thread (PBT), design prevent process fluid contact with stem threads.

HANDLE : 'T' bar handle. CS, ASTM A108 plated / ASME-SA-479 - 316 SS

WASHER : A-479 - 316 SS

PRESSURE/TEMPERATURE :

DELRIN SEAT		PTFE SEAT	
TEMP	PRESS	TEMP	PRESS
200 ^{o}F	6000 psi	150 ^{o}F	1,000 psi
500 0F	1,000 psi	500 ^{o}F	200 psi

TEST PRESSURES : Body: Hydrostatic at 6,000 psi
Gland & Seat –1,000 psi with Nitrogen

OPTIONS :

- Material of construction confirming to NACE MR-01-75
- Other Materials for corrosion resistance available
- Compression tube fittings as accessories

PART NOS **1) Carbon Steel** : A3VM-MET-001-CS

2) 316 SS A3VM-MET-001-316

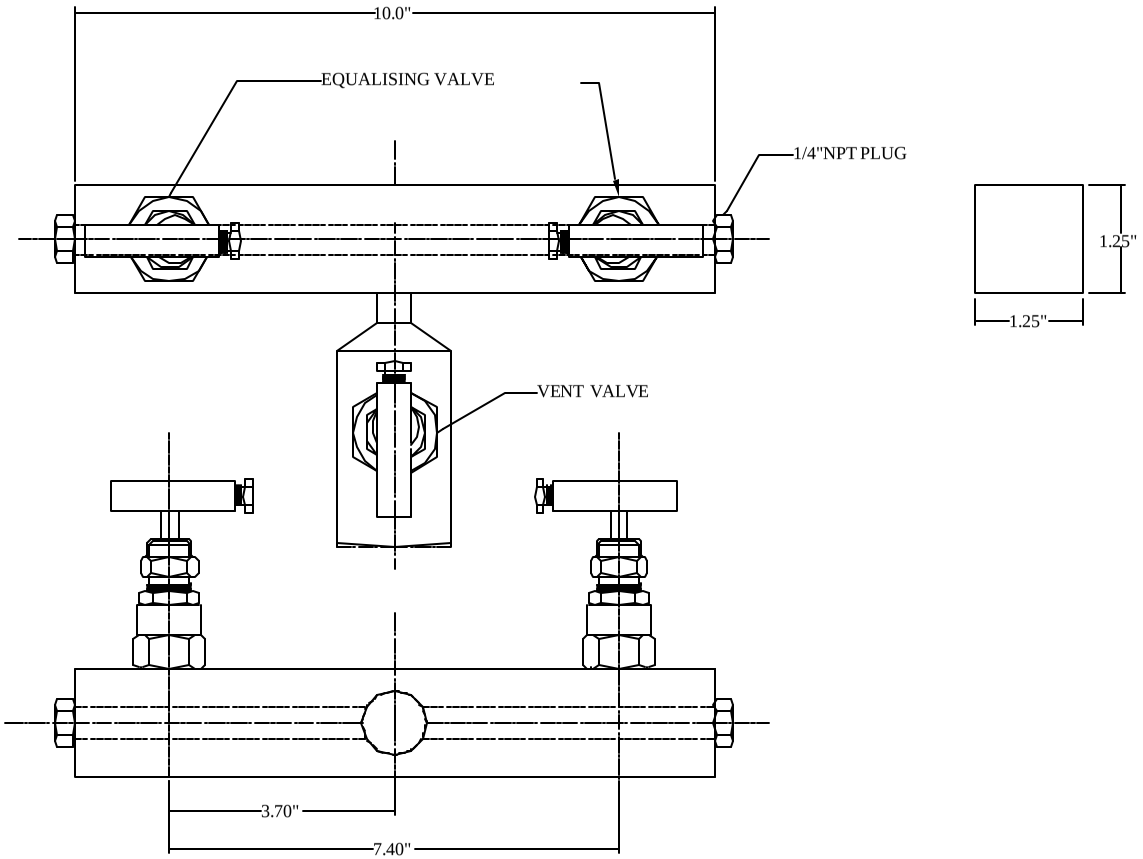
AURA DRAWING REF. : A3VM-MET-001

DESIGN STANDARD :

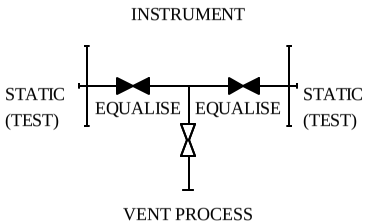
A) Pressure Piping/Vessel codes
ANSI B31.1.0 – Power Piping
ANSI B11.20 – Fuel Gas Piping
ANSI B31.3 – Chemical Plant petroleum refinery piping
ASME Section VII-DIV1-Boiler & Pressure vessel code

B) Threads & Dimensional Codes
ANSI B2.1 – Pipe Threads
ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.3.03	D.K.D	G.G.A



TEMP.	C.S	S.S	ORIFICE DIA 'D'	Cv
ROOM T	6000PSI	6000PSI	0.220"	0.65 MAX.
500 DEG. F	4000PSI	4000PSI		
1000DEG.F	1500PSI	1500PSI		



PROJECT/CLIENT

TITLE

3 VALVE METER MANIFOLD

Aura Inc.
D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.
www.aurainc.com

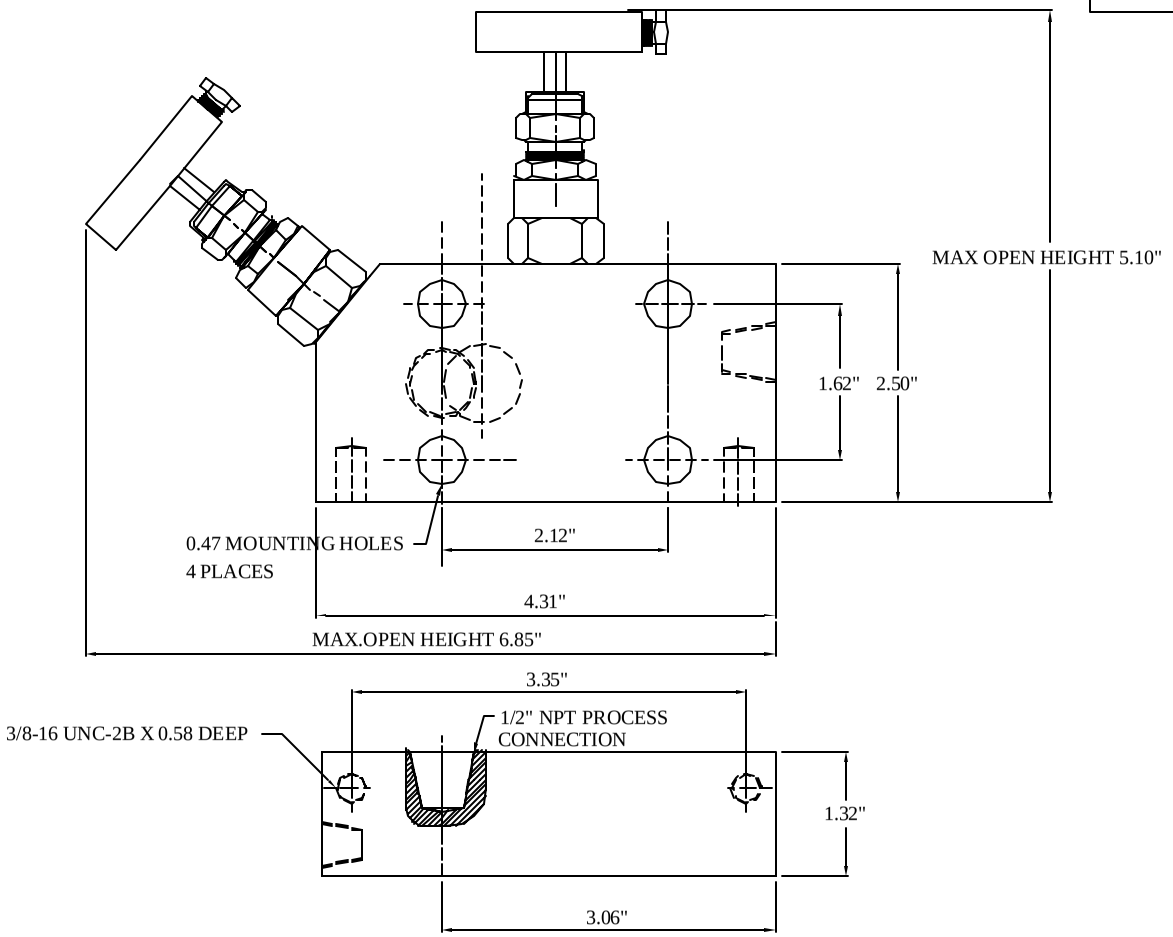
ALL DIMENSIONS ARE SUBJECT TO CHANGE WITOUT ANY PRIOR NOTICE. TO BE USED FOR REFERENCE ONLY.

DRG NO :A3VM-MET-001

AURA — 2 VALVE COPLANER MANIFOLD

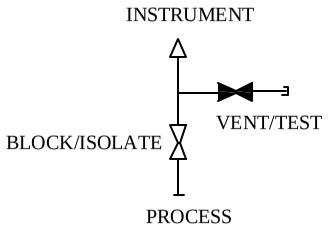
DESCRIPTION	:	For use with Rosemount 3051 and 3095 families, Co-planer design DP transmitters
TYPE	:	Flangeless, Integral, C-planer
BODY	:	Forged single piece CS, ASTM A-105 plated or ASTM A182 F 316SS
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Self centering, non-rotating, hardened & ground. ASME SA-479 Type 316 SS
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE — PRESSURE 200 ^{o}F — 6,000 psi 500 ^{o}F — 4,000 psi 1,000 0f — 1,500 psi
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland: 1,000 psi with Nitrogen
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance
PART NOS - 316 SS	:	A2VM-COP-001-316
AURA DRAWING REF.	:	A2VM-COP-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	14.05.03	D.K.D	G.G.A
1.00	DESIGN CHANGE	15.8.05	D.K.D	G.G.A



ALL DIMENSIONS ARE IN INCHES.

TEMP.	PRESSURE	ORIFICE DIA.'D'	Cv
ROOM T	6000PSI	0.156"	0.36 MAX.
500 DEG. F	4000PSI		
1000DEG.F	1500PSI		



PROJECT/CLIENT

TITLE

2 VALVE
COPLANAR MANIFOLD

Aura Inc.
D11/3,OKHALA IND. AREA,
PHASE II, NEW DELHI
INDIA.
www.aurainc.com

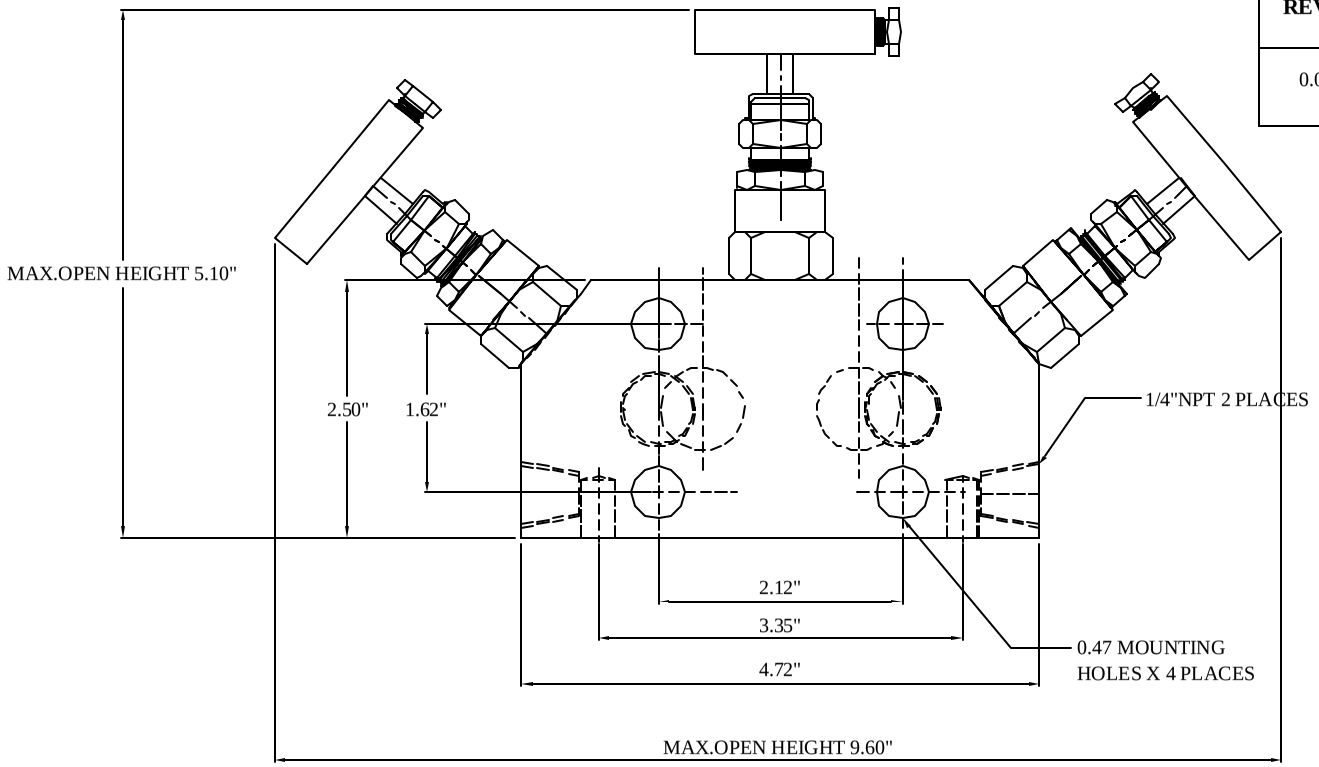
ALL DIMENSIONS ARE SUBJECT TO CHANGE WITOUT ANY PRIOR NOTICE, TO BE USED FOR REFERANCE ONLY.

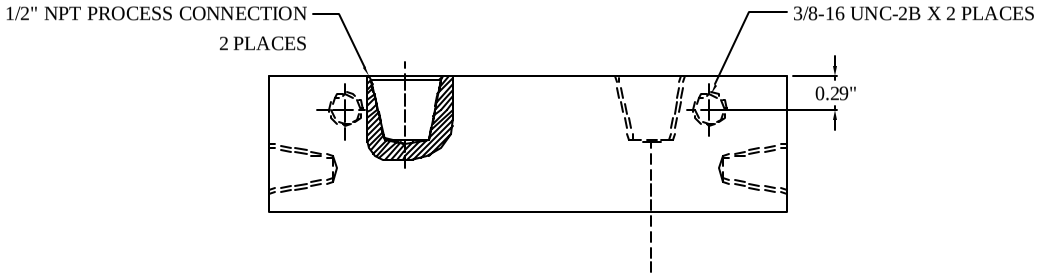
DRG NO :A2VM-COP-001

AURA — 3 VALVE COPLANER MANIFOLD

DESCRIPTION	:	For use with Rosemount 3051 and 3095 families, Co-planer design DP transmitters
TYPE	:	Flangeless, Integral, C-planer
BODY	:	Forged single piece CS, ASTM A-105 plated or ASTM A182 F 316SS
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Self centering, non-rotating, hardened & ground. ASME SA-479 Type 316 SS
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE — PRESSURE 200 ^{o}F — 6,000 psi 500 ^{o}F — 4,000 psi 1,000 0f — 1,500 psi
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland: 1,000 psi with Nitrogen
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance
PART NOS - 316 SS	:	A3VM-COP-001-316
AURA DRAWING REF.	:	A3VM-COP-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

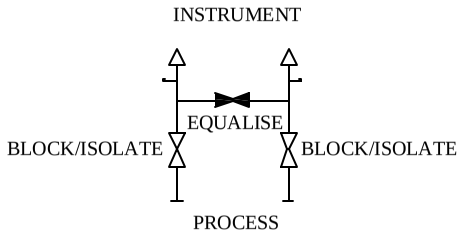
REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.3.03	D.K.D	G.G.A





ALL DIMENSIONS ARE IN INCHES.

TEMP.	C.S	S.S	ORIFICE DIA 'D'	Cv
ROOM T	6000PSI	6000PSI	0.156"	0.36 MAX.
500 DEG. F	4000PSI	4000PSI		
1000DEG.F	1500PSI	1500PSI		



PROJECT/CLIENT

TITLE

3 VALVE
COPLANAR MANIFOLD

Aura Inc.
D11/3,OKHALA IND. AREA,
PHASE II, NEW DELHI
INDIA.
www.aurainc.com

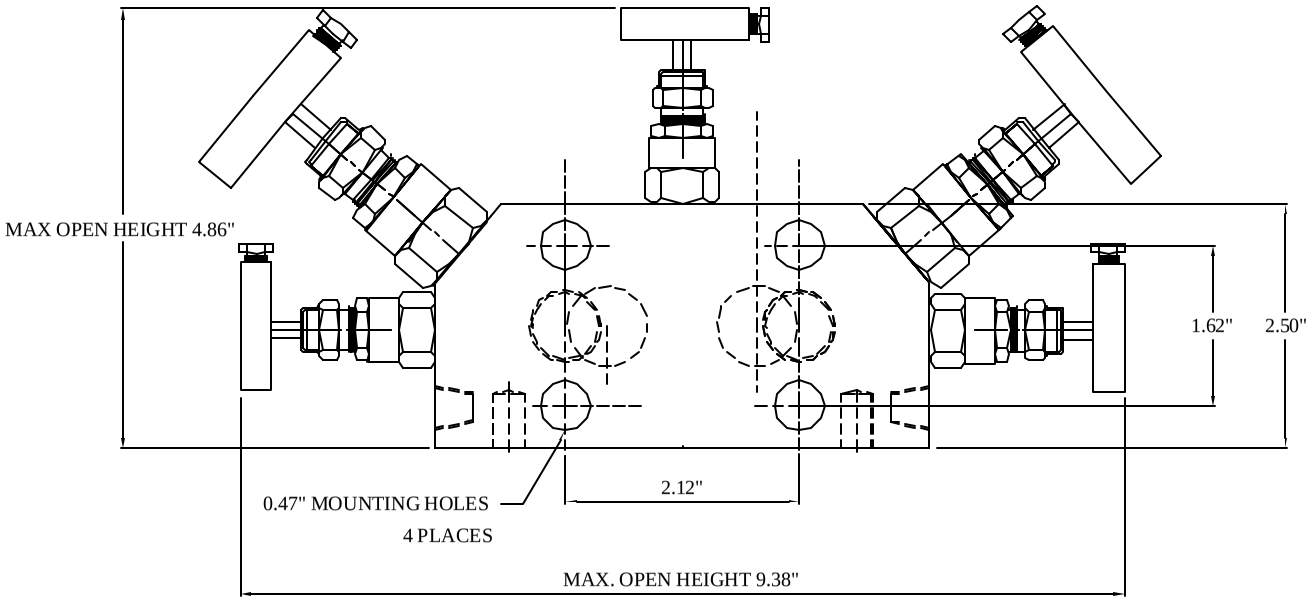
ALL DIMENSIONS ARE SUBJECT TO CHANGE WITOUT ANY PRIOR NOTICE. TO BE USED FOR REFERENCE ONLY.

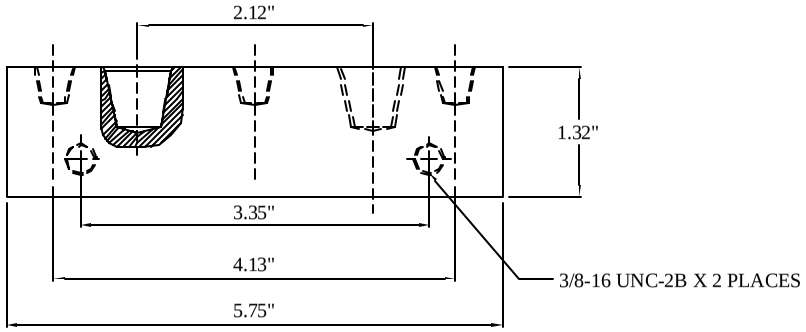
DRG NO :A3VM-COP-001

AURA — 5 VALVE COPLANER MANIFOLD

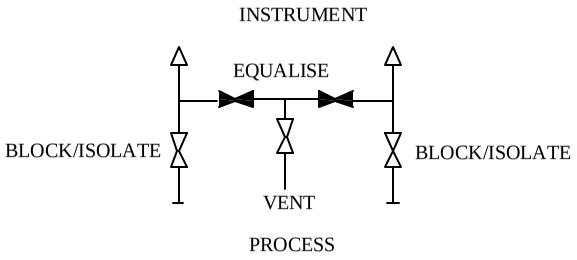
DESCRIPTION	:	For use with Rosemount 3051 and 3095 families, Co-planer design DP transmitters
TYPE	:	Flangeless, Integral, C-planer
BODY	:	Forged single piece CS, ASTM A-105 plated or ASTM A182 F 316SS
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS
NEEDLE TIP	:	Self centering, non-rotating, hardened & ground. ASME SA-479 Type 316 SS
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp. below 400^{o}F/Graphite for Temp. above 400^{o}F.
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE/TEMPERATURE	:	TEMPERATURE — PRESSURE 200 ^{o}F — 6,000 psi 500 ^{o}F — 4,000 psi 1,000 0f — 1,500 psi
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland: 1,000 psi with Nitrogen
OPTIONS	:	• Material of construction confirming to NACE MR-01-75 • Other Materials available for corrosion resistance
PART NOS - 316 SS	:	A5VM-COP-001-316
AURA DRAWING REF.	:	A5VM-COP-001
DESIGN STANDARD	:	**A) Pressure Piping/Vessel codes** ANSI B31.1.0 – Power Piping ANSI B11.20 – Fuel Gas Piping ANSI B31.3 – Chemical Plant petroleum refinery piping ASME Section VII-DIV1-Boiler & Pressure vessel code **B) Threads & Dimensional Codes** ANSI B2.1 – Pipe Threads ANSI B1.1 – Straight Threads

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	14.05.03	D.K.D	G.G.A
1.00	DESIGN CHANGE	15.8.05	D.K.D	G.G.A





TEMP.	PRESSURE	ORIFICE DIA.'D'	Cv
ROOM T	6000PSI	0.156"	0.36 MAX.
500 DEG. F	4000PSI		
1000DEG.F	1500PSI		



ALL DIMENSIONS ARE IN INCHES.

PROJECT/CLIENT

TITLE

5 VALVE COPLANAR MANIFOLD

Aura Inc.
D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA.
www.aurainc.com

ALL DIMENSIONS ARE SUBJECT TO CHANGE WITOUT ANY PRIOR NOTICE, TO BE USED FOR REFERANCE ONLY.

DRG NO :A5VM-COP-001

SECTION III
QUALITY

TOTAL QUALITY PROGRAM
TYPICAL QUALITY PLAN

AURA TOTAL QUALITY PROGRAM

The Total Quality Management System employed by Aura Inc. covers all aspects of Engineering, Documentation, Production Planning, Incoming Inspection, Stage Inspection, Final Product Inspection, Packing & Dispatch. The system ensures appropriate action in our Customer Service, Engineering and Manufacturing divisions, to produce and maintain adequate documentation and inspection systems capable of producing evidence that material or services conform to the specified requirements, through all stages of the company's operations.

Total Quality Management at Aura Inc. is an on-going process that is constantly upgraded and monitored to keep pace with the company's growth rate and diversification plans.

The Quality Program includes, but is not limited to, the following areas:

- Standard Operating Procedures and standard formats to ensure high degree of accuracy in interpreting and responding to client requirements for technical information and quotations.

- Order entry and production planning systems ensure that client orders are entered and processed with a clear understanding of client requirements so that the final product conforms to the Purchase Order requirements by way of product specifications and delivery.

- Documentation control and conformance to international standards & practices ensures a high degree of accuracy and quality of Engineering.

- Supervision of quality procedures at sub vendor's works to ensure that incoming materials are processed and manufactured to Aura's purchase specifications, thus ensuring that final production plans are on schedule.

- Quality plans for individual products covering all aspects of incoming, stage & final inspection including parameters to be checked, reference documents, methods of checking, instruments used, frequency of checking, format of recording and person responsible.

- Standard & procedures for packing and standard dispatch documentation ensure that products are adequately packed for the mode of shipment and documentation is accurate and meet requirements of client purchase orders, airlines/ shipping line & customs at the ports of dispatch and entry.

AURA

TYPICAL QUALITY PLAN

COMPONENT CATEGORY OR OPERATION	PARAMETER	REFERENCE DOCUMENT	METHOD OF CHECKING	INSTRUMENTS / TEST EQUIP-MENTS USED	FREQUENCY OF CHECKING	FORMAT OF RECORDING	RESPONSIBILITY
Valve Manifold	Material Composition	Relevant Std / Drawing	Chemical Analysis (Optional) Spot Test	NABL Accredited Lab		Material Test Report, Raw Material Report AI/QC/01	QC Inspector / Vendor
				Battery 9V & Electrolyte for detection of molybdenum solution	Sample		
	Form (Type Pattern)		Visual		100%	Inspection Report AI/QC/03	QC Inspector
	Seat		Visual		100%	-Do-	QC Inspector
	Finish						
	Dimensions						
	Length of Body		Measurement	Vernier Caliper	Sample	-Do-r	QC Inspector
	Width of Body		Measurement	Vernier Caliper	Sample	-Do-	QC Inspector
	Thickness of Body		Measurement	Vernier Caliper	Sample	-Do-	QC Inspector
	Threading (M)			Thread Ring Gauge	100%	-Do-	QC Inspector
	Threading (F)			Thread Plug Gauge	100%	-Do-	QC Inspector
	External Thread Length		Measurement	Vernier Caliper	Sample	-Do-	QC Inspector

AURA

TYPICAL QUALITY PLAN

COMPONENT CATEGORY OR OPERATION	PARAMETER	REFERENCE DOCUMENT	METHOD OF CHECKING	INSTRUMENTS / TEST EQUIP-MENTS USED	FREQUENCY OF CHECKING	FORMAT OF RECORDING	RESPONSIBILITY
Valve Manifold	Internal Thread Length		Measurement	Vernier Caliper	Sample	Inspection Report AI/QC/03	QC Inspector
	Orifice Dia		Measurement	Vernier Caliper / Std. Pin	Sample	-Do-	QC Inspector
	Max. Opening Height		Measurement	Vernier Caliper	Sample	-Do-	QC Inspector
	Test 1) Hydro Proof Pressure Test (For Body, Seat & Seal		Hydrostatic test to be carried at 1.5 time more than working Pressure for 5 minutes	Hydraulic Pump (Range : 0 - 18000 Psi) Make : Mercury Pump, Mumbai Model : 160-142-2	100%	Log Book	Operator / QC Inspector
	2) Dismantling & Reassembly Test		Dismantle & Re-assemble the connection (Process & Instrument) 10 times & follow as per Sl#1	Hydraulic Pump (Range : 0 - 18000 Psi) Make : Mercury Pump, Mumbai Model : 160-142-2	Sample	Log Book	QC Inspector
	3) Maximum Static Gas (Nitrogen) Pressure Test		All Valves & Manifold to be tested at 1000 Psi for min. 10 minutes	Gauge Cylinder & Pressure Gauge	Sample	Log Book	QC Inspector

SECTION IV
CERTIFICATES

ISO CERTIFICATE

TÜV CERT

CERTIFICATE

The TÜV CERT Certification Body for QM Systems of RWTÜV Systems GmbH

hereby certifies in accordance with TÜV CERT procedure that

AURA INC.

Head Office : W-167(A), Greater Kailash – II, New Delhi – 110 048
Works : D-11/3, Okhla Industrial Area, Phase – II,
New Delhi – 110 020, India

has established and applies a quality system for

Manufacture and supply of Instrument Fittings, Valves and Manifolds, Temperature Sensing Accessories and Precision Turned Components

An audit was performed, Report No. **2.5-1463/2001**

Proof has been furnished that the requirements according to

ISO 9001 : 2000

are fulfilled. The certificate is valid until **30 October 2007**

Certificate Registration No. **04100 2001 1698 – E3**

The company has been certified since 2001

Deutscher Akkreditierungs Rat
DAR
TGA-ZM-30-96-00

Essen, 10.12.2004

RWTÜV

The TÜV CERT Certification Body for QM Systems of RWTÜV Systems GmbH

10/014d neutral RWTÜV 2.00

IND, R

NORTH AMERICA

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WORKS

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