

Aura Inc.

“Process Control – Building the Core”

Aura Valves



ISO 9001:2000

www.aurainc.com

AURA VALVES

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**SECTION I
INTRODUCTION**

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
OVERVIEW AND SPECIFICATIONS

NEEDLE VALVES

OVERVIEW
HARD SEAT NEEDLE VALVES
SOFT SEAT MINIATURE NEEDLE VALVES
HARD SEAT NEEDLE VALVES
SOFT SEAT NEEDLE VALVES
PACKAGER STYLE NEEDLE VALVES
BLOCK & BLEED TERMINAL VALVES

BALL VALVES

OVERVIEW
SINGLE PIECE REDUCED PORT BALL VALVES
TWO PIECE FULL PORT BALL VALVES
THREE PIECE FULL PORT BALL VALVES
MINIATURE INSTRUMENT BALL VALVES

Aura's Comprehensive Range of Needle valves is generally engineered for Instrumentation use, but are also suitable for and are widely used in process plants. Built up of precision machined components, assembled to strict quality standards and 100% tested for leaks, Aura valves have achieved a proven record worldwide for quality, reliability and price performance.

The valves are available in plated Carbon Steel and 316 SS as a standard. Other materials are available on request.

Our standard range of valves incorporate the unique packing below thread design for trouble free services

- **MINIATURE NEEDLES VALVES**
1/8" and 1/4" sizes available both in CS and 316 SS body materials as well as Soft and Hard Seats.
- **Standard Needle valves**

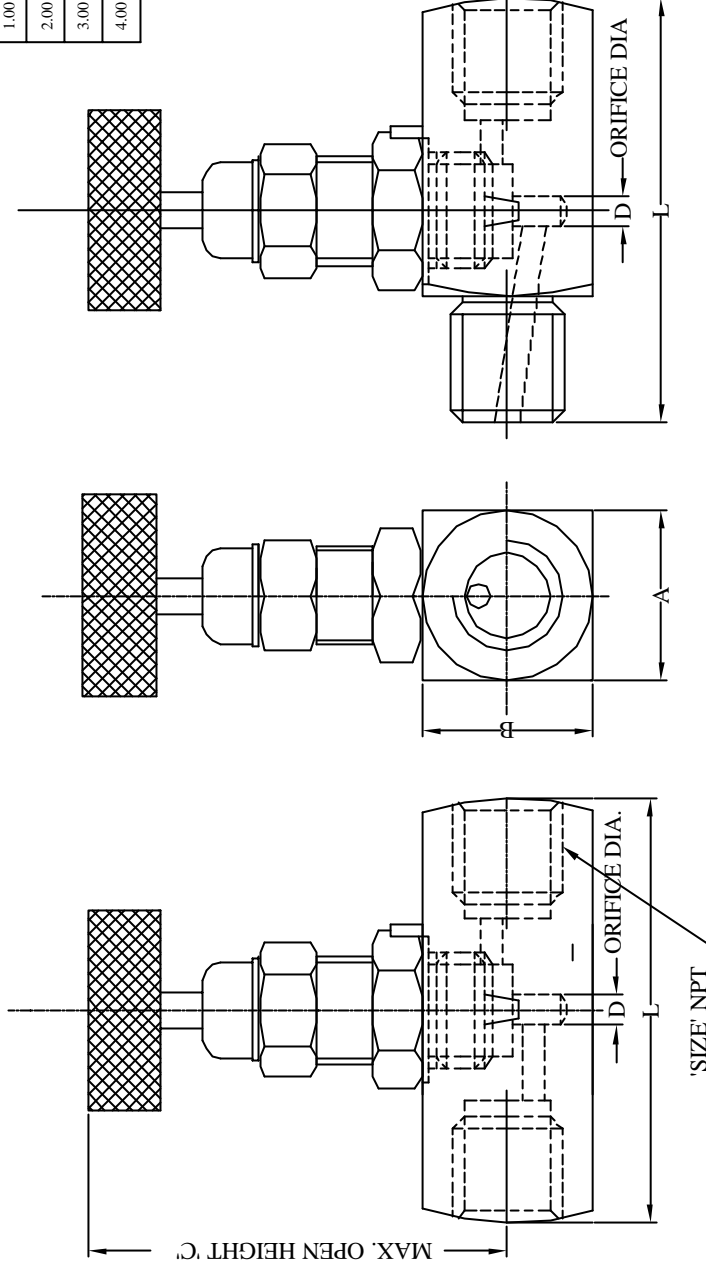
1/8" to 1" size available both in CS and 316 SS body materials as well as Soft and Hard Seats. Both Straight and angled pattern are available
- **'Packager' Needle Valves** are low cost compact design Hard Seat Needle Valves available in both CS and 316 SS body materials.
- **Block & bleed terminal valves** available in CS and 316 SS body materials.
- **Special purpose valves** engineered and built to client specifications.

AURA

HARD SEAT MINIATURE NEEDLE VALVE

SIZES	:	1/8" & 1/4"						
BODY	:	Barstock, CS-ASTM A 108 Plated, ASTM A 479 316 SS Straight Pattern						
END CONNECTIONS	:	Screwed / Compression ends.						
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS						
NEEDLE TIP	:	Hardened & Ground.						
GLAND BODY	:	SSL provided, CS, ASTM A 108 Plated or ASME SA-479 Type 316 SS						
GLAND PACKING	:	PTFE.						
SEAT	:	Delrin [®]						
HANDLE	:	Aluminum Anodized Thumb Wheel						
WASHER	:	ASME 479 Type 316 SS						
PRESSURE/TEMPERATURE	:	<table><thead><tr><th><u>TEMPERATURE</u></th><th><u>PRESSURE</u></th></tr></thead><tbody><tr><td>Room Temp.</td><td>6,000 psi</td></tr><tr><td>500 °F</td><td>4,000 psi</td></tr></tbody></table>	<u>TEMPERATURE</u>	<u>PRESSURE</u>	Room Temp.	6,000 psi	500 °F	4,000 psi
<u>TEMPERATURE</u>	<u>PRESSURE</u>							
Room Temp.	6,000 psi							
500 °F	4,000 psi							
TEST PRESSURES	:	Body : Hydrostatic at 6,000 psi Seat & Gland : 1,000 psi, With Nitrogen						
OPTIONS	:	'T' Bar Handle						
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 ASME – B16.10 F To F Dimension of Valve.						
REFERENCE DRAWING	:	AI-MNV-001, AI-WGI-MNV-001						

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL. FOR MANU.	08.17.99	D.K.D.	G.G.A.
1.00	ALFA TECHNICA	11.15.01	D.K.D.	G.G.A.
2.00	DESIGN UPGRADE	12.10.02	D.K.D.	G.G.A.
3.00	ADDED Cv INFORM.	10.03.03	D.K.D.	G.G.A.
4.00	CHANGED HANDLE	10.04.05	D.K.D.	G.G.A.



PRESSURE RATING	6,000PSI
TEMPERATURE RATING	200 °F

PATTERN A = ANGLED, G = STRAIGHT

PART NO.	SIZE	PATTERN	ENDS	MATL	A	B	C	L	D	Cv
ANV0311	1/8"	G	FF	316SS	22.0	22.0	62.0	48.0	3.2	0.25
ANV0312	1/4"	G	FF	316SS	22.0	22.0	62.0	48.0	3.2	0.25
ANV0332	1/4"	G	MF	316SS	22.0	22.0	62.0	48.0	3.2	0.25
ANV0511	1/8"	G	FF	CS	22.0	22.0	62.0	48.0	3.2	0.25
ANV0512	1/4"	G	FF	CS	22.0	22.0	62.0	48.0	3.2	0.25
ANV0532	1/4"	G	MF	CS	22.0	22.0	62.0	48.0	3.2	0.25

ALL DIMENSIONS ARE IN MM.

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

PROJECT/CLIENT	Aura Inc. D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA. www.aurainc.com
	TITLE
	MINIATURE HARD SEAT NEEDLE VALVE

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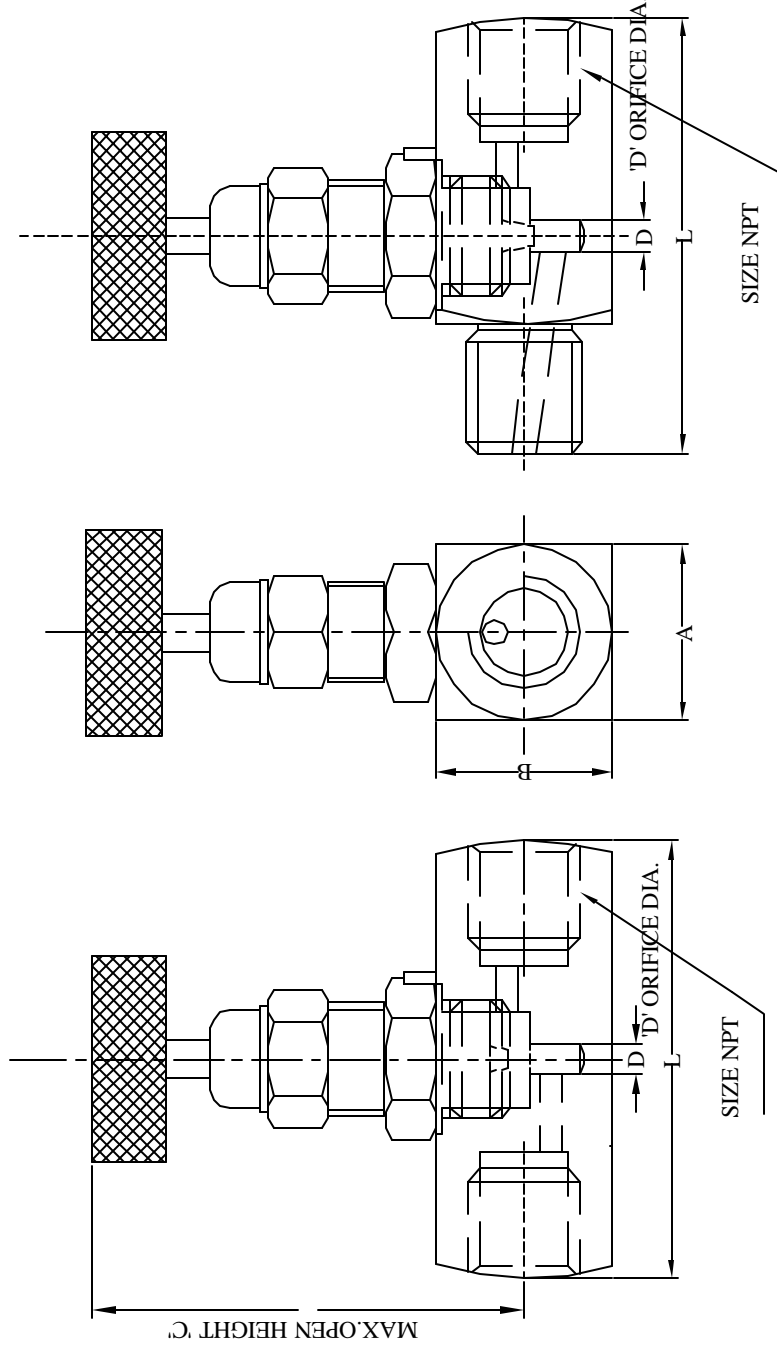
DRG. NO : AI-MNV-001

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SOFT SEAT MINIATURE NEEDLE VALVE

SIZES	:	1/ 8” & ¼”						
BODY	:	Barstock single piece, CS, ASTM A 108 plated, ASTM A 479 316 SS Straight Pattern.						
END CONNECTIONS	:	Screwed / Compression ends.						
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS						
NEEDLE TIP	:	Hardened & Ground.						
GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS						
GLAND PACKING	:	SS Locking Pin provided, CS, ASTM A108 plated or ASME SA-479 Type SS						
GLAND PACKING	:	PTFE						
HANDLE	:	Aluminum Anodized Thumb wheel						
WASHER	:	ASME-SA-479 Type 316 SS						
PRESSURE / TEMPERATURE	:	<table><thead><tr><th><u>TEMPERATURE</u></th><th><u>PRESSURE</u></th></tr></thead><tbody><tr><td>200 °F</td><td>6,000 psi</td></tr><tr><td>500 °F</td><td>4,000 psi</td></tr></tbody></table>	<u>TEMPERATURE</u>	<u>PRESSURE</u>	200 °F	6,000 psi	500 °F	4,000 psi
<u>TEMPERATURE</u>	<u>PRESSURE</u>							
200 °F	6,000 psi							
500 °F	4,000 psi							
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat & Gland –1,000 psi with nitrogen						
OPTIONS	:	<ul style="list-style-type: none">• ‘T’ Bar handle						
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 ASME – B16.10 F To F Dimension of Valve.						
REFERENCE DRAWING	:	AI-MSSNV-001, AI-WGI-MSSNV-001						

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PRESSURE RATING	6,000PSI
TEMPERATURE RATING	200 F

ALL DIMENSIONS ARE IN MM.

PART NO.	SIZE	PATTERN	ENDS	MATL	A	B	C	L	D	Cv
ANV0632	1/4"X1/4"	G	MXF	CS	22.0	22.0	62.0	48.0	3.2	0.25
ANV0432	1/4"X1/4"	G	MXF	316SS	22.0	22.0	62.0	48.0	3.2	0.25

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PROJECT/CLIENT

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

TITLE

**MINIATURE SOFT SEAT
 NEEDLE VALVE**

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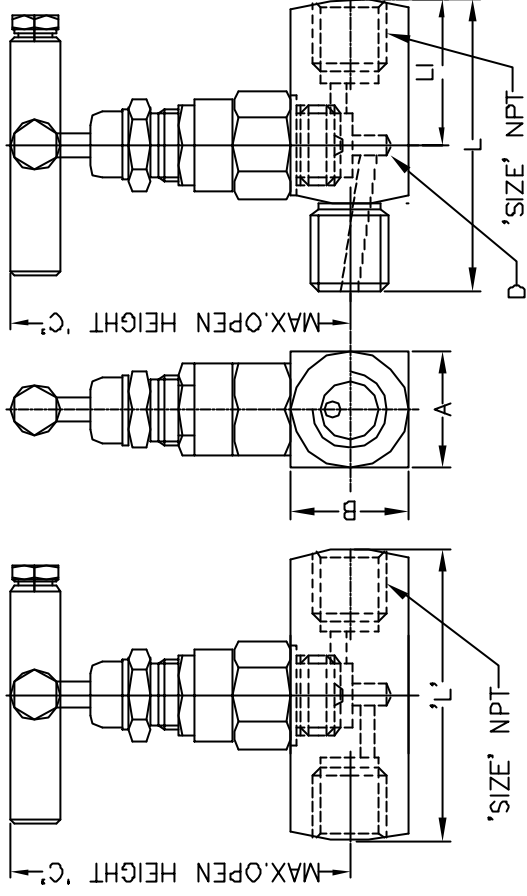
DRG.NO : AI-MSSNV-001

AURA

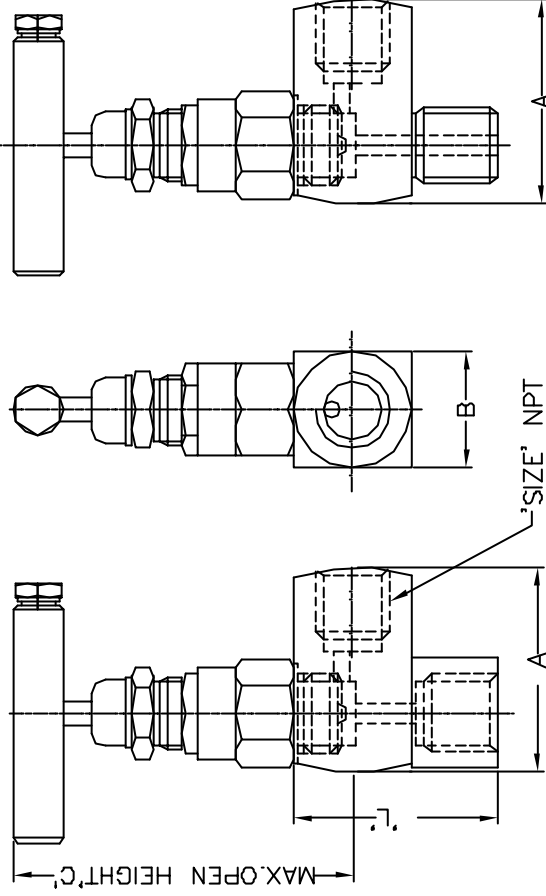
HARD SEAT NEEDLE VALVE

SIZES	:	1/8" to 1"						
BODY	:	Forged single piece CS, ASTM A 105 plated or ASTM A182 F 316SS Angled Angled / Straight pattern						
END CONNECTIONS	:	Screwed NPT						
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS						
NEEDLE TIP	:	Hardened & Ground. Self Centering , non rotating						
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp. below 400°F/Graphite for Temp above 400°F.						
SEAT	:	Integral Metal To Metal						
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS						
WASHER	:	ASME-SA-479 Type 316 SS						
PRESSURE/TEMPERATURE	:	<table><thead><tr><th><u>TEMPERATURE</u></th><th><u>PRESSURE</u></th></tr></thead><tbody><tr><td>200 °F</td><td>10,000 psi</td></tr><tr><td>500 °F</td><td>4,000 psi</td></tr></tbody></table>	<u>TEMPERATURE</u>	<u>PRESSURE</u>	200 °F	10,000 psi	500 °F	4,000 psi
<u>TEMPERATURE</u>	<u>PRESSURE</u>							
200 °F	10,000 psi							
500 °F	4,000 psi							
TEST PRESSURES	:	Body : Hydrostatic at 10,000 Seat & Gland : 1,000 psi with Nitrogen						
OPTIONS	:	<ul style="list-style-type: none">• Material of construction confirming to NACE MR-01-75• Other Materials available on request• Socket weld Ends• Compression Ends up to ½" size• Screwed Ends with BSP/ BSPT/ ISO/ Special Threads						
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 ASME – B16.10 F To F Dimension of Valve.						
REFERENCE DRAWING	:	AI-HSNV-001, AI-WGI-HSNV-001						

REV.	REASON FOR ISSUE.	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	08.17.99	D.K.D	G.G.A
1.00	ALFATECHNICA SRL.	11.15.01	D.K.D	G.G.A
2.00	DESIGN UPGRADE.	12.10.02	D.K.D	G.G.A
3.00	ADDED Cv INFORM.	10.03.03	D.K.D	G.G.A



STRAIGHT PATTERN



ANGLED PATTERN

PROJECT/CLIENT

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

TITLE

**HARD SEAT
NEEDLE VALVE**

PRESSURE RATING	10,000PSI
TEMPERATURE RATING.	500° F

PATTERN A= ANGLED,G =STRAIGHT

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SHEA 10F 2

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DRG.NO: AI-HSNV-001

REV.	REASON FOR ISSUE.	DATE	DRN.	CHKD.
0.00	REL.FORMANU.	08.17.99	DKD	GGA
1.00	ALFATECHNICA SRL.	11.15.01	DKD	GGA
2.00	DESIGN UPGRADE.	12.10.02	DKD	GGA
3.00	ADDED CV INFORM.	10.03.03	DKD	GGA

PART NO.	SIZE	PATTERN	ENDS	MATL	A	B	C	L	L1	D	Cv
ANV1511	1/8"	G	FxF	CS	28.5	28.5	86.0	60.0		4.2	0.40
ANV1512	1/4"	G	FxF	CS	28.5	28.5	86.0	60.0		4.2	0.40
ANV1513	3/8"	G	FxF	CS	32.0	32.0	88.0	68.0		6.4	0.90
ANV1514	1/2"	G	FxF	CS	38.0	38.0	92.0	68.0		7.0	1.10
ANV1516	3/4"	G	FxF	CS	40.0	40.0	93.0	68.0		9.0	2.30
ANV1518	1"	G	FxF	CS	45.0	45.0	112.0	80.0		12.0	3.50
ANV1532	1/4"	G	MxF	CS	28.5	28.5	86.0	76.0	30.0	4.2	0.40
ANV1534	1/2"	G	MxF	CS	38.0	38.0	92.0	89.0	32.0	7.0	1.20
ANV1536	3/4"	G	MxF	CS	40.0	40.0	92.0	89.0	32.0	9.0	2.30
ANV1537	3/4"x1/2"	G	MxF	CS	40.0	40.0	93.0	89.0	32.0	7.0	1.90
ANV1538	1"	G	MxF	CS	45.0	45.0	112.0	105.0	43.0	12.0	3.5
ANV1551	1/8"	A	FxF	CS	42.0	28.0	86.0	42.0		4.2	0.70
ANV1552	1/4"	A	FxF	CS	42.0	28.0	86.0	42.0		4.2	0.80
ANV1553	3/8"	A	FxF	CS	42.0	28.0	86.0	42.0		6.4	1.60
ANV1554	1/2"	A	FxF	CS	50.0	32.0	92.0	50.0		7.0	2.2
ANV1556	3/4"	A	FxF	CS	50.0	36.0	92.0	50.0		9.0	2.2
ANV1558	1"	A	FxF	CS	60.0	46.0	112.0	60.0		12.0	2.2
ANV1572	1/4"	A	MxF	CS	42.0	28.0	86.0	42.0		4.2	0.60
ANV1574	1/2"	A	MxF	CS	50.0	32.0	86.0	50.0		7.0	1.50
ANV1311	1/8"	G	FxF	316SS	28.5	28.5	86.0	60.0		4.2	0.40
ANV1312	1/4"	G	FxF	316SS	28.5	28.5	86.0	60.0		4.2	0.40
ANV1313	3/8"	G	FxF	316SS	32.0	32.0	88.0	68.0		6.4	0.90
ANV1314	1/2"	G	FxF	316SS	38.0	38.0	92.0	68.0		7.0	1.10
ANV1316	3/4"	G	FxF	316SS	40.0	40.0	93.0	68.0		9.0	2.30
ANV1318	1"	G	FxF	316SS	45.0	45.0	112.0	80.0		12.0	3.50
ANV1332	1/4"x1/4"	G	MxF	316SS	28.5	28.5	86.0	76.0	30.0	4.2	0.40
ANV1336	3/4"x3/4"	G	MxF	316SS	40.0	40.0	93.0	89.0	32.0	9.0	2.30
ANV1337	3/4"x1/2"	G	MxF	316SS	38.0	38.0	93.0	89.0	32.0	7.0	1.20
ANV1338	1"x1"	G	MxF	316SS	45.0	45.0	112.0	105.0	43.0	12.0	3.5
ANV1334	1/2"x1/2"	G	MxF	316SS	38.0	38.0	92.0	89.0	32.0	7.0	1.20
ANV1351	1/8"	A	FxF	316SS	42.0	28.0	86.0	42.0		4.2	0.70
ANV1352	1/4"	A	FxF	316SS	42.0	28.0	86.0	42.0		4.2	0.80
ANV1353	3/8"	A	FxF	316SS	42.0	28.0	86.0	42.0		6.4	1.60
ANV1354	1/2"	A	FxF	316SS	50.0	32.0	92.0	50.0		7.0	2.2
ANV1356	3/4"	A	FxF	316SS	50.0	36.0	93.0	50.0		9.0	2.2
ANV1358	1"	A	FxF	316SS	60.0	46.0	112.0	60.0		12.0	2.2
ANV1372	1/4"	A	MxF	316SS	42.0	28.0	86.0	42.0		4.2	0.60
ANV1374	1/2"	A	MxF	316SS	50.0	32.0	86.0	50.0		7.0	1.50
ANV1534N	1/2"	G	MxF	C.S.NACE	38.0	38.0	92.0	89.0	32.0	7.0	1.20

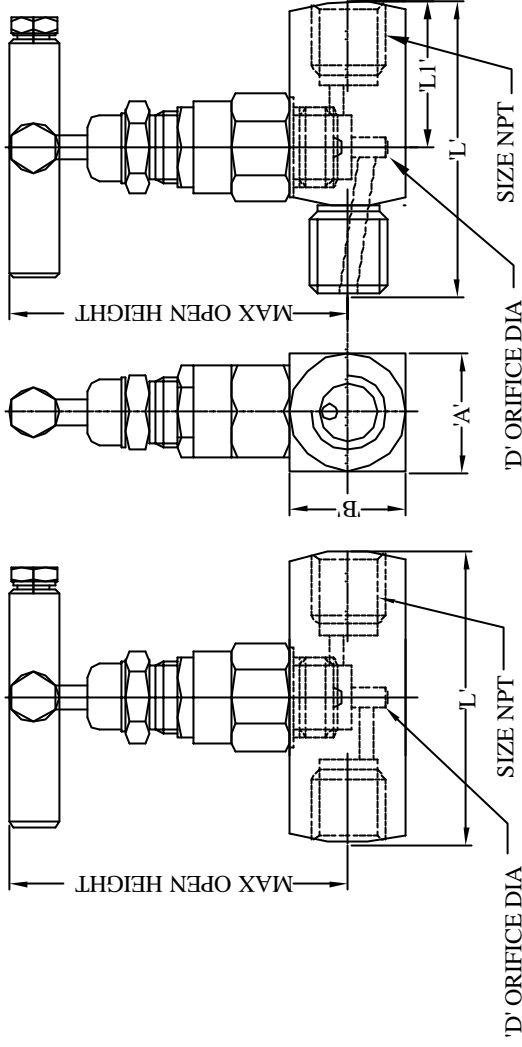
PROJECT/CLIENT	Aura Inc. D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA. www.aurainc.com					
	TITLE					
	HARD SEAT NEEDLE VALVE					
<table border="1"> <tr> <td>PRESSURE RATING</td> <td>10,000PSI</td> </tr> <tr> <td>TEMPERATURE RATING</td> <td>500° F</td> </tr> </table>	PRESSURE RATING	10,000PSI	TEMPERATURE RATING	500° F	PATTERN 'A' = ANGLED, 'G' =STRAIGHT	
PRESSURE RATING	10,000PSI					
TEMPERATURE RATING	500° F					
ALL DIMENSIONS ARE IN MM. ALL DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE, TO BE USED FOR REFERENCE ONLY.						
DRG.NO.:AI-HSNV-001						

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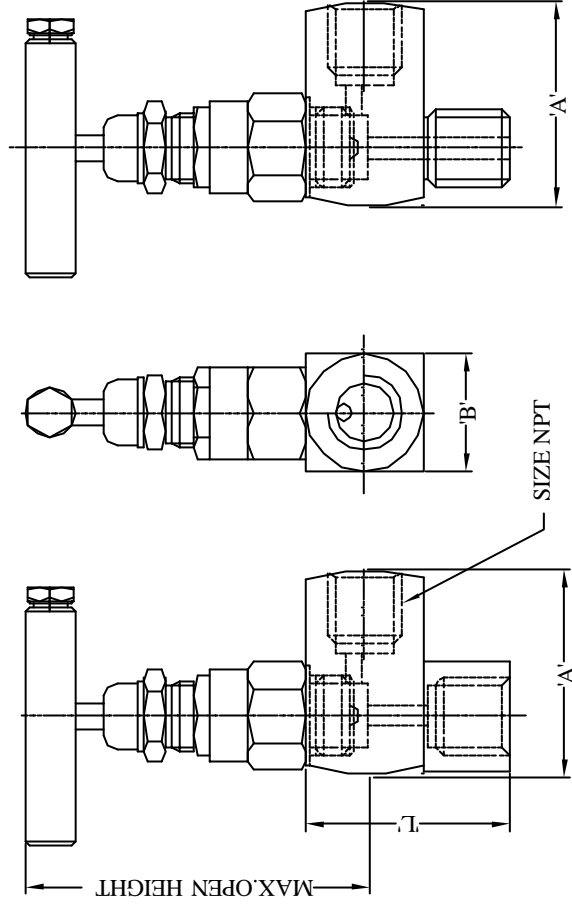
SOFT SEAT NEEDLE VALVE

SIZES	:	1/8" to 1"						
BODY	:	Forged single piece, CS, ASTM A 105 Plated, ASTM A182 F - 316 SS. Angled or Straight Pattern						
END CONNECTIONS	:	Screwed NPT						
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS						
NEEDLE TIP	:	Hardened & Ground, Self centering non -rotating.						
GLAND PACKING	:	Adjustable, below stem thread design (PBT), prevent process fluid contact with stem threads. PTFE for Temp below 400°F/Graphite for Temp above 400°F.						
SEAT	:	Delrin [®] Soft Seat						
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME-SA-479 Type 316 SS						
WASHER	:	ASME-SA-479 Type 316 SS						
PRESSURE/TEMPERATURE	:	<table><thead><tr><th><u>TEMPERATURE</u></th><th><u>PRESSURE</u></th></tr></thead><tbody><tr><td>200 °F</td><td>6,000 psi</td></tr><tr><td>500 °F</td><td>4,000 psi</td></tr></tbody></table>	<u>TEMPERATURE</u>	<u>PRESSURE</u>	200 °F	6,000 psi	500 °F	4,000 psi
<u>TEMPERATURE</u>	<u>PRESSURE</u>							
200 °F	6,000 psi							
500 °F	4,000 psi							
TEST PRESSURES	:	Body : Hydrostatic at 6,000 psi Seat & Gland : 1,000 psi with Nitrogen						
OPTIONS	:	<ul style="list-style-type: none">• Material of construction confirming to NACE MR-01-75• Other materials available on request• Compression Ends up to 1/2" Size• Screwed ends With BSP/ BSPT/ ISO/ Special Threads.						
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 ASME – B16.10 F To F Dimension of Valve.						
REFERENCE DRAWING	:	AI-SSNV-001 AI-WGI-SSNV-001						

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2.00	DESIGN UPGRADE.	12.10.02	D.K.D	G.G.A
3.00	ADDED C.V. INFORM.	10.03.03	D.K.D	G.G.A



STRAIGHT PATTERN



ANGLED PATTERN

PRESSURE RATING	6,000 PSI
TEMPERATURE RATING	200 F

PATTERN 'A' = ANGLED, 'G' = STRAIGHT

ALL DIMENSIONS ARE IN MM.

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

PROJECT/CLIENT

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

TITLE

**SOFT SEAT
 NEEDLE VALVE**

*This drawing is the property of Aura Inc.
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DRG. NO: AI-SSNV-001

REV.	REASON FOR ISSUE.	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	08.17.99	D.K.D	GGA
1.00	ALFATECHNICA SRL.	11.15.01	D.K.D	GGA
2.00	DESIGN UPGRADE.	12.10.02	D.K.D	GGA
3.00	ADDED CV INFORM.	10.03.03	D.K.D	GGA

PART NO.	SIZE.	PATTERN.	ENDS.	MATL..	A	B	C	L	L1	D	Cv
ANV5312	1/4"	G	FXF	316SS	28.5	28.5	86.0	60.0		4.2	0.60
ANV5314	1/2"	G	FXF	316SS	32.0	32.0	92.0	68.0		7.0	0.70
ANV5316	3/4"	G	FXF	316SS	40.0	40.0	93.0	68.0		9.0	2.35
ANV5318	1"	G	FXF	316SS	45.0	45.0	112.0	80.0		12.0	2.0
ANV5332	1/4"	G	MXF	316SS	28.5	28.5	86.0	76.0	30.0	4.2	0.80
ANV5334	1/2"	G	MXF	316SS	38.0	38.0	92.0	89.0	32.0	7.0	0.90
ANV5335	1/4"X1/2"	G	MXF	316SS	38.0	38.0	92.0	89.0	32.0	7.0	0.80
ANV5512	1/4"	G	FXF	CS	28.5	28.5	86.0	60.0		4.2	0.60
ANV5514	1/2"	G	FXF	CS	32.0	32.0	92.0	68.0		7.0	0.70
ANV5516	3/4"	G	FXF	CS	40.0	40.0	93.0	68.0		9.0	2.0
ANV5518	1"	G	FXF	CS	45.0	45.0	112.0	80.0		12.0	2.0
ANV5532	1/4"	G	MXF	CS	28.5	28.5	86.0	76.0	30.0	4.2	0.80
ANV5534	1/2"	G	MXF	CS	38.0	38.0	92.0	89.0	32.0	7.0	0.90
ANV5535	1/4"X1/2"	G	MXF	CS	38.0	38.0	92.0	89.0	32.0	7.0	0.80
ANV5572	1/4"	A	MXF	CS	42.0	28.0	86.0	42.0		4.2	0.70
ANV5574	1/2"	A	MXF	CS	50.0	32.0	92.0	50.0		7.0	0.70

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PROJECT/CLIENT	Aura Inc. D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA. www.aurainc.com	
	TITLE	
	SOFT SEAT NEEDLE VALVE	

6,000PSI
200°F
PATTERN 'A' - ANGLED, 'G' - STRAIGHT

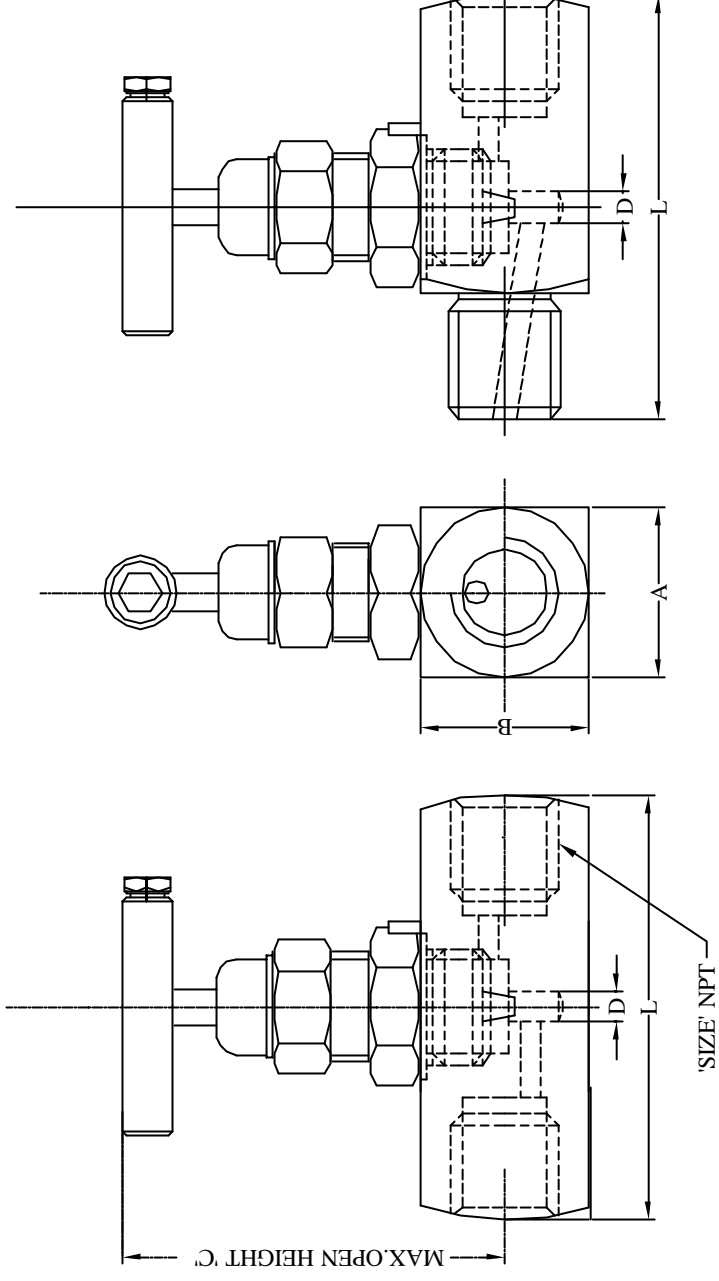
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DRG.NO: AI-SSNV-001

AURA PACKAGER SERIES HARD SEAT NEEDLE VALVES

SIZES	:	1/4", 1/2" and 3/4 x 1/2"						
BODY	:	Forged single piece CS, ASTM A-105 plated or ASTM A182 F 316 SS Brass Straight Pattern						
END CONNECTIONS	:	Screwed						
STEM	:	Close tolerance surface finish, cold rolled threads, ASME SA-479 Type 316 SS						
NEEDLE TIP	:	Hardened & Ground.						
UPPER/LOWER GLAND BODY	:	SS locking pin provided. CS, ASTM A108 plated or ASME SA-479 Type 316 SS						
GLAND PACKING	:	PTFE						
HANDLE	:	'T' bar handle. CS, ASTM A108 plated or ASME- SA-479 Type 316 SS						
WASHER	:	ASME-SA-479 Type 316 SS						
PRESSURE/TEMPERATURE	:	<table><thead><tr><th><u>TEMPERATURE</u></th><th><u>PRESSURE</u></th></tr></thead><tbody><tr><td>200 °F</td><td>6,000 psi</td></tr><tr><td>500 °F</td><td>4,000 psi</td></tr></tbody></table>	<u>TEMPERATURE</u>	<u>PRESSURE</u>	200 °F	6,000 psi	500 °F	4,000 psi
<u>TEMPERATURE</u>	<u>PRESSURE</u>							
200 °F	6,000 psi							
500 °F	4,000 psi							
TEST PRESSURES	:	Body: Hydrostatic at 6,000 psi Seat – 1,000 psi with Nitrogen						
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 ASME – B16.10 F To F Dimension of Valve.						
REFERENCE DRAWING	:	AI-PNV-001, AI-WGI-PNV-001						

REV.	REASON FOR ISSUE.	DATE	DRN.	CHKD.
0.00	REL. FOR MANU.	12.16.03	D.K.D	G.G.A



PROJECT/CLIENT		Aura Inc. D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA. www.aurainc.com	
TITLE		PACKAGER HARDSEAT NEEDLE VALVE	
PRESSURE RATING	6,000PSI	This drawing is the property of Aura Inc. Unauthorised reproduction is prohibited.	
TEMPERATURE RATING	200 ° F		
PATTERN 'A' =ANGLED, 'G' =STRAIGHT		ALL DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE ,TO BE USED FOR REFERENCE ONLY.	

REV.	REASON FOR ISSUE.	DATE	DRN.	CHKD.
0.00	REL. FOR MANU.	12.16.03	D.K.D	G.G.A

PART NO.	SIZE	PATTERN	ENDS	MATL	A	B	C	L	D
ANV1612P	1/4"	G	FF	CS	22.0	22.0	62.0	54.0	3.2
ANV1632P	1/4"	G	MF	CS	22.0	22.0	62.0	54.0	3.2
ANV1612PN	1/4"	G	FF	CS NACE	22.0	22.0	62.0	54.0	3.2
ANV1632PN	1/4"	G	MF	CS NACE	22.0	22.0	62.0	54.0	3.2
ANV1412P	1/4"	G	FF	316SS	22.0	22.0	62.0	54.0	3.2
ANV1432P	1/4"	G	MF	316SS	22.0	22.0	62.0	54.0	3.2
ANV1614P	1/2"	G	FF	CS	28.5	28.5	68.0	76.0	03.2
ANV1614PN	1/2"	G	FF	CS NACE	28.5	28.5	68.0	76.0	03.2
ANV1634P	1/2"	G	MF	CS	28.5	28.5	68.0	76.0	03.2
ANV1634PN	1/2"	G	MF	CS NACE	28.5	28.5	68.0	76.0	03.2
ANV1414P	1/2"	G	FF	316SS	28.5	28.5	68.0	76.0	03.2
ANV1434P	1/2"	G	MF	316SS	28.5	28.5	68.0	76.0	03.2
ANV1637P	3/4"x1/2"	G	MF	CS	30.0	30.0	70.0	76.0	4.0
ANV1637PN	3/4"x1/2"	G	MF	CS NACE	30.0	30.0	70.0	76.0	4.0
ANV1437P	3/4"x1/2"	G	MF	316SS	30.0	30.0	70.0	76.0	4.0

ALL DIMENSIONS ARE IN MM.

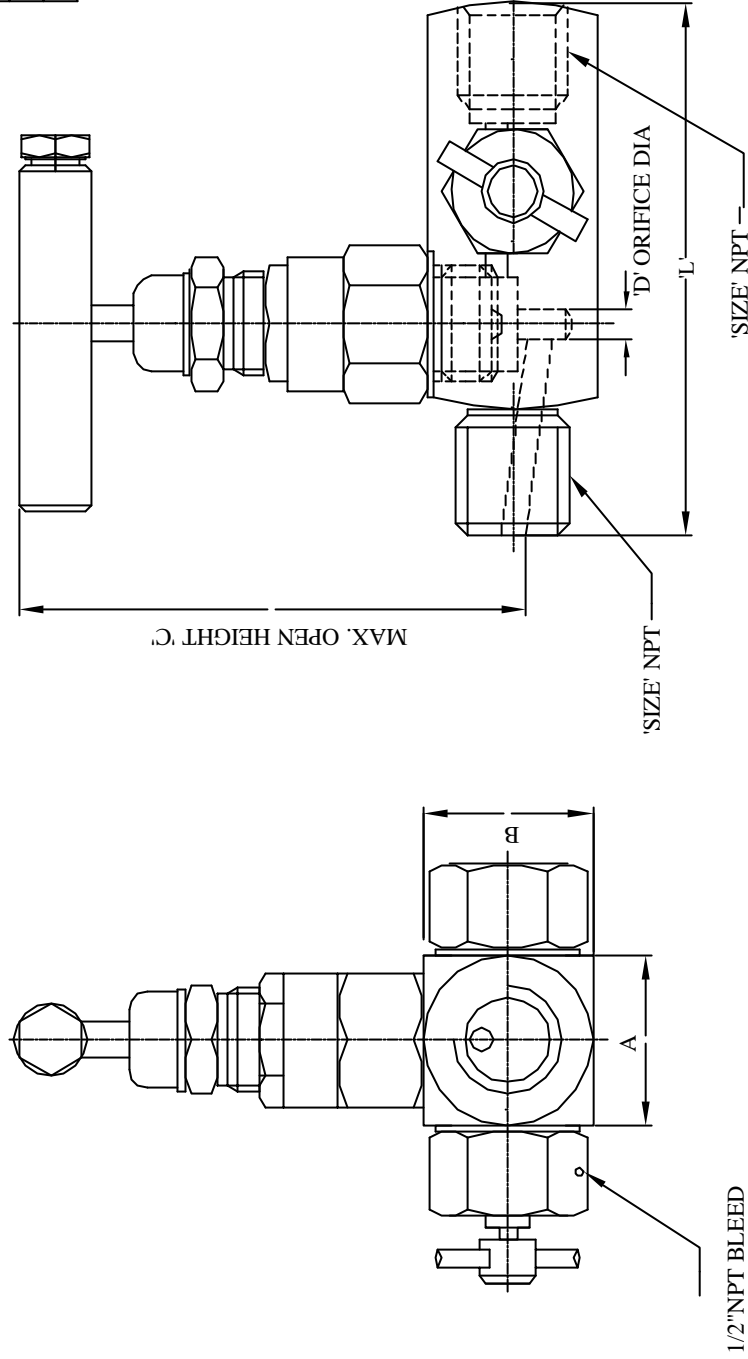
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PROJECT/CLIENT	Aura Inc. D11/3,OKHALA IND. AREA, INDIA. www.aurainc.com	
	TITLE	PACKAGER HARDSEAT NEEDLE VALVE
	PRESSURE RATING	6,000PSI
	TEMPERATURE RATING	200 °F
	PATTERN A = ANGLED, G = STRAIGHT	
This drawing is the property of Aura Inc. Unauthorised reproduction is prohibited.		
DRG. NO :AI- PNV-001		

AURA

BLOCK & BLEED TERMINAL VALVES

SIZES	:	1/2" & 3/4" x 1/2"
BODY	:	Forged Single piece, CS, ASTM A 105 Plated, ASTM A 182 F 316 SS Straight Pattern
END CONNECTIONS	:	Screwed
STEM	:	Close tolerance surface finish, cold rolled threads ASME-SA-479 Type 316 SS
NEEDLE TIP	:	Hardened & Ground, Self Centering, non – rotating
GLAND PACKAGING	:	Adjustable below stem thread design (PBT), prevents process fluid contact with stem threads, PTFE for temp, below 400 F/ Graphite for temp, above 400 F.
HANDLE	:	'T' bar handle CS, ASTM A 108 Plated or ASME-SA-479 Type 316 SS
WASHER	:	ASME-SA-479 Type 316 SS
PRESSURE / TEMPERATURE RATING	:	TEMPERATURE PRESSURE Room Temp. 10,000 psi 500 F 4,000 psi
TEST PRESSURES	:	Hydrostatic at 10,000 psi Seat & Gland –1,000 psi with Nitrogen
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 ASME – B16.10 F To F Dimension of Valve.
REFERENCE DRAWING	:	AI-BBTV-01, AI-WGI-BBTV-01 AI-HSNV-BPT-001, AI-WGI-ASNV-BPT-001 AI-HSNV-LL-01, AI-WGI-HSNV-LL-01



MAX. OPEN HEIGHT 'C'

1/2" NPT BLEED

PRESSURE RATING	10,000PSI
	500 F
TEMPERATURE RATING	

PART NO.	SIZE	ENDS	MATL.	A	B	C	L	D	Cv
ANV8534	1/2"x1/2"	MF	316SS	38.0	38.0	90.0	95.0	7.0	0.4
ANV8536	3/4"x1/2"	MF	316SS	38.0	38.0	90.0	95.0	7.0	0.4
ANV7534	1/2"x1/2"	MF	CS	38.0	38.0	90.0	95.0	7.0	0.4
ANV7536	3/4"x1/2"	MF	CS	38.0	38.0	90.0	95.0	7.0	0.4

ALL DIMENSIONS ARE IN MM.

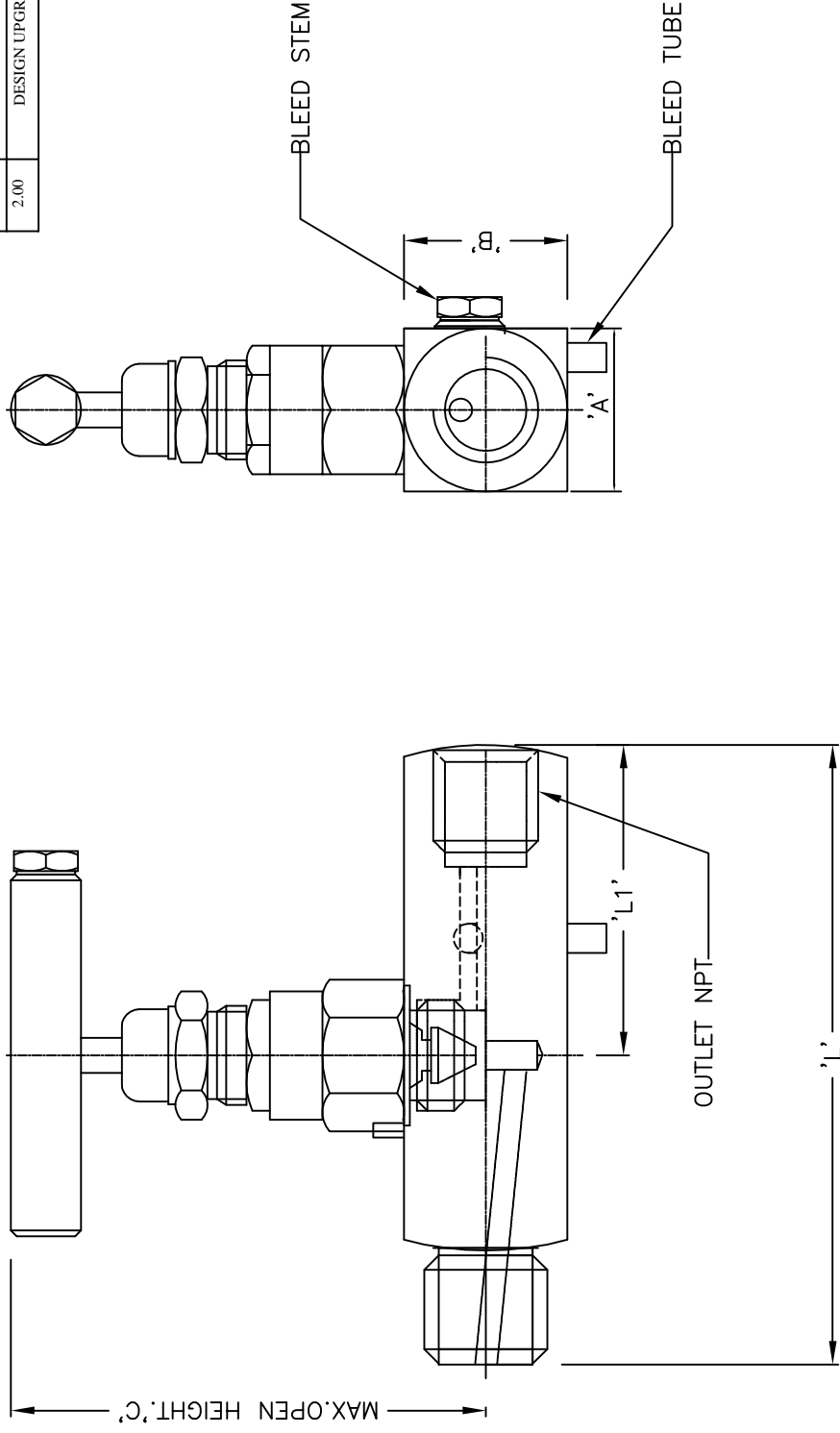
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REV.	REASON FOR ISSUE.	DATE	DRN.	CHKD.
0.00	REL FOR MANU.	08.17.99	D.K.D	G.G.A
1.00	ALFATECHNICA SRL.	11.15.01	D.K.D	G.G.A
2.00	DESIGN UPGRADE.	12.10.02	D.K.D	G.G.A
3.00	ADDED Cv INFORM.	10.03.03	D.K.D	G.G.A

PROJECT/CLIENT	Aura Inc. D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA. www.aurainc.com
TITLE	BLOCK/BLEED TERMINAL NEEDLE VALVE
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DRG.NO.AI-BBTV-001

DATE	REASON FOR ISSUE.	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	08.17.99	D.K.D	G.G.A
1.00	ALFATECHNICA SRL.	11.15.01	D.K.D	G.G.A
2.00	DESIGN UPGRADE.	12.10.02	D.K.D	G.G.A



PRESSURE RATING	10,000PSI
TEMPERATURE RATING	500°F

ALL DIMENSIONS ARE IN MM.

PART NO.	SIZE	PATTERN	ENDS	MATL.	A	B	C	L	LI	D	Cv
ANV3537	3/4" X 1/2"	G	MF	CS	38.0	38.0	90.0	95.0	47.0	7.0	1.20
ANV3337	3/4" X 1/2"	G	MF	316SS	38.0	38.0	90.0	95.0	47.0	7.0	1.20

PROJECT/CLIENT

TITLE	
HARD SEAT NEEDLE VALVE WITH BLEED PLUG&TUBE	

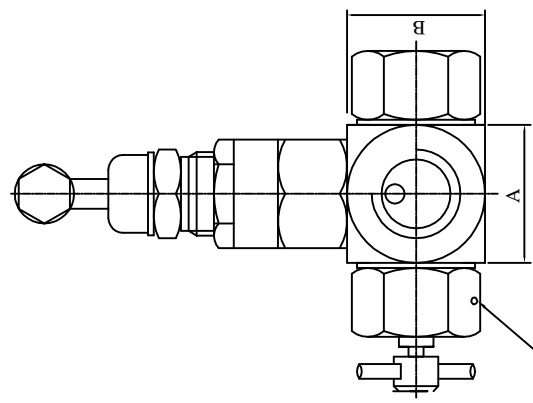
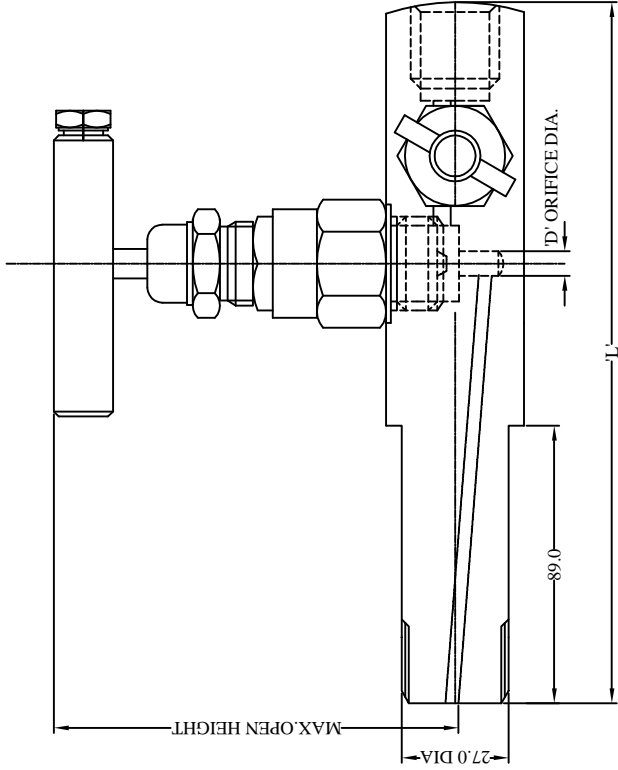
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D11/3,OKHALA IND. AREA,
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DRG.NO:AI-HSNV-BPT-001

DATE	REASON FOR ISSUE.	DATE	DRN.	CHKD.
0.00	REL. FOR MANU.	08.17.99	D.K.D	G.G.A
1.00	ALFATECHNICA SRL.	11.15.01	D.K.D	G.G.A
2.00	DESIGN UPGRADE.	12.10.02	D.K.D	G.G.A
3.00	ADDED Cv INFORM.	10.03.08	D.K.D	G.G.A



1/2" NPT BLEED

PROJECT/CLIENT	
Aura Inc. D11/3, OKHALA IND. AREA, PHASE II, NEW DELHI INDIA. www.aurainc.com	
TITLE	
MULTIPORT NEEDLE VALVE WITH LAGGING LENGTH	

PRESSURE RATING		10,000PSI							
TEMPERATURE RATING		500 °F							
PART NO.	SIZE	ENDS	MATL	A	B	C	L	D	Cv
ANV8536-3L	3/4"X1/2"	MF	316SS	38.0	38.0	90.0	180.0	7.0	1.20

ALL DIMENSIONS ARE IN MM.

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DRG.NO. :AI-HSNV-LL-001

Aura ball valves have a proven track record in various industries worldwide. Manufactured in our state of the art ISO 9001: 2000 certified manufacturing unit under stringent QA standards, these valves have proved to be a high quality reasonably priced product.

Standard valves are in either 316L or Brass bodies and 316 SS Ball and trim.. Aura offers a wide range of optional materials including Hastalloy, Monel, Duplex 2205 etc.

Current range of valves cover sizes of 1/4" to 1" with threaded, butt weld, socket weld and compression tube end connections.

SINGLE PIECE REDUCED PORT BALL VALVES

Machined from bar stock, the body is a single piece. Standard sizes are 1/4", 3/8" and 1/2" . End connections are threaded NPT (F). Available in 316L and Brass bodies. Pressure rated for 800 Psi

TWO PIECE FULL PORT BALL VALVES

Body consists of two sections screwed together. Standard sizes are 1/4", 3/8", 1/2", 3/4" and 1". End connections are threaded NPT (F). Pressure rating is 2,000 Psi. Available with 316L and Brass bodies

THREE PIECE FULL PORT BALL VALVES.

The unit consists of a central body block with end flanges bolted to the main body. The end connections could be either threaded NPT (F), Socket Weld or Butt Weld. Available in 1/2" 3/4" and 1" sizes . Standard body material is 316L. Pressure rating is 2,000 Psi.

MINIATURE INSTRUMENT BALL VALVES

Compact design with a molded nylon handle. Body material 316 SS. End connections are double ferrule compression tube ends. Standard sizes are 1/4", 3/8" and 1/2" OD

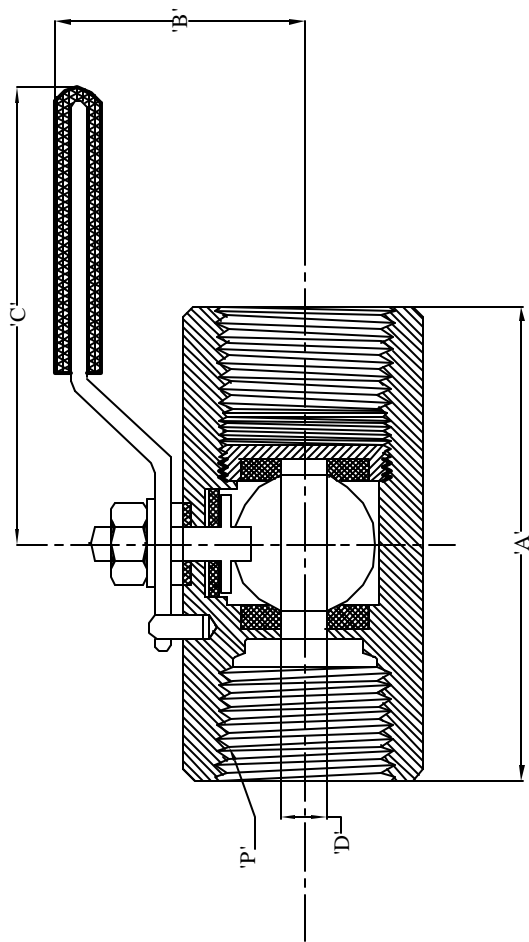
AURA

SINGLE PIECE REDUCED PORT BALL VALVES

DESCRIPTION	:	Medium pressure rating single piece body, reduced port ball valve.
CONNECTIONS	:	Threaded NPT conforming to ASME B1.20.1
BODY	:	Machined from 316L Bar Stock
BALL	:	Machined to close tolerances from 316 L material
RETAINER	:	316 SS
BALL SEAT	:	PTFE
BODY SEAL	:	PTFE
STEM	:	316 SS
HANDLE	:	304 SS With PVC sleeve
PRESSURE RATING	:	800 PSI
TEMPERATURE LIMIT	:	250 ⁰ F
SIZES	:	1/4", 3/8", 1/2"
TEST PRESSURES	:	Body : 1,500 Psi Seat and gland : 800psi
OPTIONS	:	Material of construction conforming to NACE MR-01-75 Brass body BSP Threads
AURA DRAWING REF.	:	ABV-1P-STD-001

AI: SPEC: BV:SP:REV 0 07/10/05

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.9.05	D.K.D	G.G.A



PART NO. BUILD UP						
ABV: AURA BALL VALVE						
IP: SINGLE PIECE						
XX: SIZE,04=1/4, 06=3/8, 08=1/2"	'A'	'B'	'C'	'D'		
XXX: MATERIAL ,316 L , BRASS	1.57	1.40	2.36	0.196		
TD: THREADED ENDS , NPT(F)	1.77	1.50	2.80	0.275		
	2.28	1.73	3.60	0.354		

ALL DIMENSIONS ARE IN INCHES.

PROJECT/CLIENT	Aura Inc. D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA. www.aurainc.com
TITLE	SINGLE PIECE REDUCED PORT BALL VALVE

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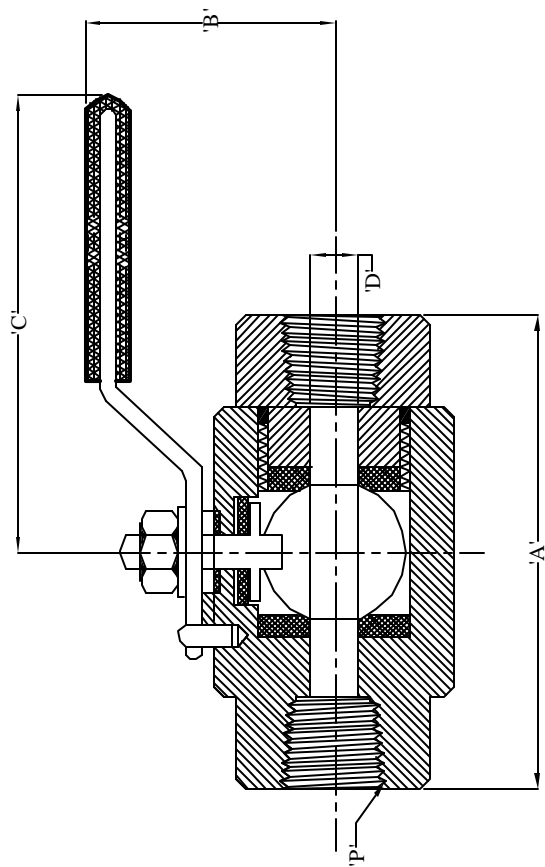
DRG NO : ABV - 1P - STD - 001

AURA

TWO PIECE FULL PORT BALL VALVES

DESCRIPTION	: High pressure rating two piece body full port ball valve
CONNECTIONS	: Threaded NPT conforming to ASME B1.20.1
BODY	: Machined from 316L Bar Stock
BALL	: Machined to close tolerances from 316 L material
RETAINER	: 316 SS
BALL SEAT	: PTFE
BODY SEAL	: PTFE
STEM	: 316 SS
HANDLE	: 304 SS With PVC sleeve
PRESSURE RATING	: 2,000 Psi
TEMPERATURE LIMIT	: 250 ⁰ F
SIZES	: 1/4" , 3/8" , 1/2" , 3/4" , 1"
TEST PRESSURES	: Body : 2,500psi Seat and gland : 2,000psi
OPTIONS	: Material of construction conforming to NACE MR-01-75 Brass Body BSP Threads
AURA DRAWING REF.	: ABV-2P-STD-001

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.8.05	D.K.D	G.G.A
1.00	DIM. CHANGED	21.11.05	D.K.D	G.G.A



PART NO. BUILD UP	SIZE 'P'	'A'	'B'	'C'	'D'
ABV: AURA BALL VALVE	1/4"	2.28	1.50	3.74	0.255
2P: TWO PIECE	3/8"	2.28	1.50	3.74	0.354
XX: SIZE,04=1/4, 06=3/8,08=1/2" 12=3/4"	1/2"	2.95	1.77	5.31	0.472
XXX: MATERIAL ,316 L,BRASS	3/4"	3.07	1.97	5.31	0.750
TD: THREADED ENDS , NPT(F)	1"	3.42	2.24	5.90	1.00

ALL DIMENSIONS ARE IN INCHES.

PROJECT/CLIENT	Aura Inc. D11/3,OKHALA IND. AREA, PHASE II, NEW DELHI INDIA. www.aurainc.com
TITLE	TWO PIECE FULL PORT BALL VALVE

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

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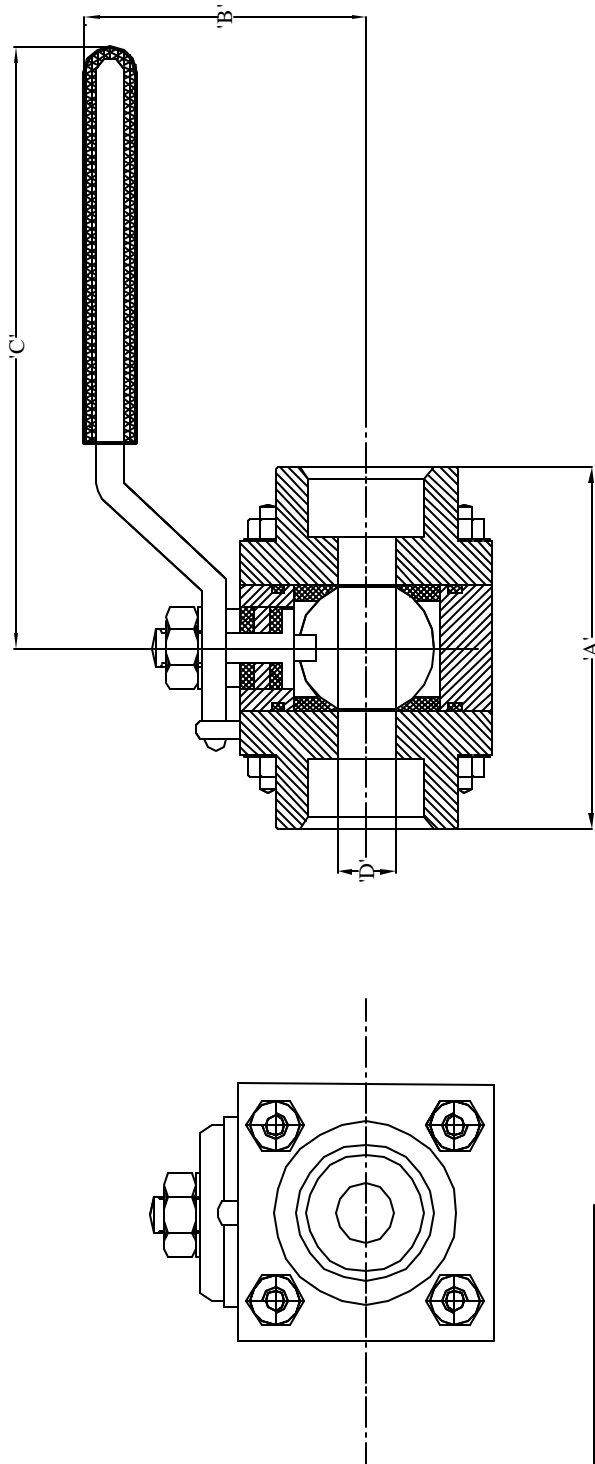
DRG NO :ABV -2P - STD - 001

AURA

THREE PIECE FULL PORT BALL VALVE

DESCRIPTION	: High pressure rating three piece body full port ball valve
CONNECTIONS	: Threaded NPT conforming to ASME B1.20.1
BODY & END FLANGES	: Machined from 316L Bar Stock
BALL	: Machined to close tolerances from 316 SS material
RETAINER	: 316 SS
BALL SEAT	: PTFE
BODY SEAL	: PTFE
STEM	: 316 SS
HANDLE	: 304 SS With PVC sleeve
PRESSURE RATING	: 2,000 Psi
TEMPERATURE LIMIT	: 250 ⁰ F
SIZES	: 1/2", 3/4", 1"
TEST PRESSURES	: Body : 2,500psi Seat and gland : 2,000psi
OPTIONS	: Material of construction conforming to NACE MR-01-75 Brass Body BSP Threads Socket weld and Butt weld ends
AURA DRAWING REF.	: ABV-3P-STD-001

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.3.03	D.K.D	G.G.A
1.00	DIM. CHANGED	21.11.05	D.K.D	G.G.A



PART NO. BUILD UP	
ABV: AURA BALL VALVE	
3P: THREE PIECE	
XX: SIZE,04=1/4, 06=3/8, 08=1/2"	
XXX: MATERIAL ,316 L , BRASS	
XX: END CONNECTION	
TD= THREADED ENDS , NPT(F)	
SW = SOCKET WELD	
BW= BUTT WELD	

ALL DIMENSIONS ARE IN INCHES.

PROJECT/CLIENT	
TITLE	
THREE PIECE FULL PORT BALL VALVE	

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D11/3,OKHALA IND. AREA,
PHASE II, NEW DELHI
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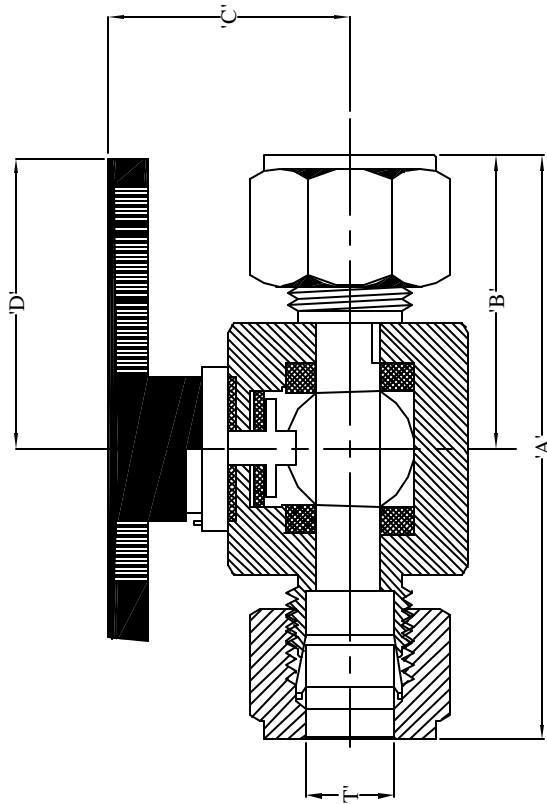
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DRG NO : ABV - 3P - STD - 001

AURA

MINIATURE INSTRUMENT BALL VALVE

DESCRIPTION	: High pressure rated miniature tube end ball valves in straight and angle patterns.
CONNECTIONS	: Double ferrule compression tube ends.
BODY	: 316 SS
BALL	: Machined to close tolerances from 316 material
RETAINER	: 316 SS
BALL SEAT	: PTFE
BODY SEAL	: PTFE
STEM	: 316 SS
HANDLE	: Nylon
PRESSURE RATING	: 2000 Psi
TEMPERATURE LIMIT	: 250 ⁰ F
SIZES	: 1/4", 3/8", 1/2"
TEST PRESSURES	: Body : 3,000 Psi Seat and gland : 2,000psi
OPTIONS	: Material of construction conforming to NACE MR-01-75 Brass body
AURA DRAWING REF.	: ABV-1PI-STD-001

REV.	REASON FOR ISSUE	DATE	DRN.	CHKD.
0.00	REL.FOR MANU.	12.9.05	D.K.D	G.G.A
1.00	DIM. CHANGED	21.11.05	D.K.D	G.G.A



PART NO. BUILD UP				
ABV: AURA BALL VALVE				
IPI: SINGLE PIECE INSTRUMENT				
XX: SIZE,04=1/4, 06=3/8,08=1/2"	'A'	'B'	'C'	'D'
	2.36	1.18	1.38	1.57
XXX: MATERIAL ,316 SS,BRASS	3.05	1.51	1.38	1.57
TB: TUBE ENDS	3.92	1.96	1.57	1.57

ALL DIMENSIONS ARE IN INCHES.

PROJECT/CLIENT

TITLE
MINIATURE INSTRUMENT BALL VALVE

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

This drawing is the property of Aura Inc. Unauthorised reproduction is prohibited.

DRG NO : ABV - IPI - STD - 001

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

SECTION III QUALITY

TOTAL QUALITY PROGRAM
TYPICAL QUALITY PLAN

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
Needle Valve	Material Composition	Relevant Std / Drawing	Chemical Analysis (Optional) Spot Test	NABL Accredited Lab Battery 9V & Electrolyte for detection of molybdenum solution	Sample	Material Test Report, Raw Material Report AI/QC/01	QC Inspector / Vendor
	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

COMPONENT CATEGORY OR OPERATION	PARAMETER	REFERENCE DOCUMENT	METHOD OF CHECKING	INSTRUMENTS / TEST EQUIPMENTS USED	FREQUENCY OF CHECKING	FORMAT OF RECORDING	RESPONSIBILITY
Needle Valve & 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 & Reassemble the connection (Process & Instrument) 10 times & follow as per SI#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
CERTIFICATIONS

ISO CERTIFICATE
ABSA CERTIFICATE
TSSA CERTIFICATES



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**

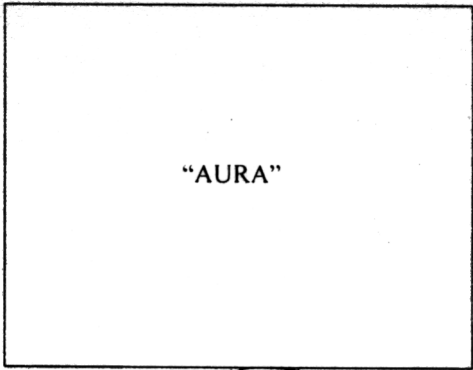


Essen, 10.12.2004



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

STATUTORY DECLARATION
Registration of Fittings



I, Niraj Sharan, President & CEO

Of

Aura Inc.

Located at

W-167(A), Greater Kailash-II, New Delhi-110 048, India

and

916 Commercial St., Palo Alto, CA, 94303, USA



do solemnly declare that the fitting listed hereunder, which are subject to the Safety Codes Act

Comply with the requirements of ASTM-A276, ASTM-A-182, ASTM-A-269, ASTM-A-182F 316SS, ASTM A 105/106, ASME-SA-479 etc which specifies the dimension, material of construction, pressure/temperature ratings and identification marking of the fittings, or + ASME STDS. PER AURA Inc's for # 2 May '02.

are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with as supported by the attached data which identifies the dimensions, material of construction, pressure/temperature ratings and the basis for such ratings, and the marking of the fittings for identification.

I further declare that the manufacture of these fittings is controlled by a quality control program which has been verified by the following authority ISO9001:2000 certified by TUV GERMANY (copy attached) as being suitable for the manufacture of these fittings to the stated standard. The fittings covered by this declaration, for which I seek registration, are Needle Valves. In support this application, the following information, calculations and/or test data are attached :

(a) Drawings/ Specifications- 3 Sets

(b) Quality Plan as per ISO 9001-2000- 3 Sets

(c) TUV Certificate for ISO 9001-2000 - 3 Sets

11 GF 94, Meghdoot Building
Mehru Plaza, New Delhi-110011



DECLARED before me at New Delhi in the Office of Public Notary

This First day of March 2002
(Month) (Year)

(print) Niraj Sharan

H. L. JAD

(Signature of Applicant)

(sign)

[Signature]

(A Commissioner of Oaths / Notary Public
H. L. JAD
Notary Public
Kalkaji (East)
New Delhi (India)
6091717

Valid Outside
India

My Commission
Expires on 19,9,2002

Regd. No. 531

For Office use only

1 MAR 2002

To the best of my knowledge and belief, the application meets the requirements of the Safety Codes Act and CSA Standard B51. Clause 4.2, and is accepted for registration in Category C

Registration Number:

005141.2

(For the Administrator /Chief Inspector of Alberta)

Desai B.C.

B.C. DESAI

Date Registered:

MAY 03 2002

Expiry Date: 2012 May 03

The information you provide is necessary only for the programs as required by the Alberta Safety Codes Act and Regulations in the Boiler Discipline.



**BOILERS AND PRESSURE VESSELS
SAFETY DIVISION**
3300 Bloor Street West
4th Floor, West Tower
Toronto, Ontario
CANADA M8X 2X4

Show facsimile of manufacturer's logo or trademark, as it will appear on the fitting, in the space below

"AURA"

**STATUTORY DECLARATION
Registration of Fittings**

Valid Outside India -
My terms expires on **8-4-2007**

I, **Niraj Sharan, President & CEO**
(Name & Position, e.g. President, Plant Manager, Chief Engineer)
of **Aura Inc.**
(Name of Manufacturer)
Located at **W-167(A), Greater Kailash - II, New Delhi, India AND 916 Commercial Street, Palo Alto, CA 94303, USA**
(Plant Address) **+91 11 2921 0762** (Telephone #) **+ 91 11 2921 0761** (Fax #)

- 6 JAN 2004

do solemnly declare that the fittings listed hereunder, which are subject to the Technical Standards and Safety Act, 2000, and Regulations for Boilers and Pressure Vessels comply with all of the requirements of **ASTM A-182, A-182F 316SS, A-105/106, ASME SA-479, ANSI B16.34 and ASME VIII, ASME B1-20 and ANSI B16.22, ASME B16.5**

(Title of recognized North American Standard) which specifies the dimensions, materials of construction, pressure/temperature ratings, identification marking the fittings and service;

or are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with as supported by the attached data which identifies the dimensions, material of construction, pressure/temperature ratings and the basis for such ratings, the marking of the fitting for identification and service.

I further declare that the manufacture of these fittings is controlled by a quality system meeting the requirements of **ISO 9001 : 2000** which has been verified by the following authority, **RWTUV**. The items covered by this declaration, for which I seek registration, are category '**C**' (**NEEDLE VALVES**) type fittings. In support of this application, the following information and/or test data are attached as follows:

Dwg/Specifications (3 sets), Quality plan as per ISO 9001 : 2000 - 3 sets, Existing registration with ABSA for Needle Valve : 3 sets

(Drawings, calculations, test reports, etc.)

Declared before me at **New Delhi** in the New Delhi of Country of India on the 6th day of January AD 2004.

Commissioner for Oaths:
(Printed name)

Solemnly Affirmed / Sworn Before **Regd. No.-2122**

Sharma

NOTARY PUBLIC, NEW DELHI (INDIA)

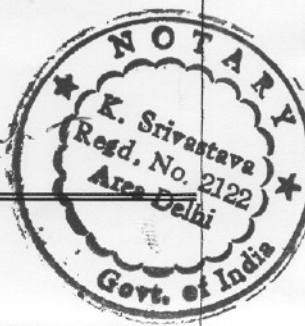
- 6 JAN 2004

Niraj Sharan

Niraj Sharan

(Signature)

(Signature of Declarer)



FOR OFFICE USE ONLY

To the best of my knowledge and belief, the application meets the requirements of the Technical Standards and Safety Act, 2000, and Regulations for Boilers and Pressure Vessels and CSA Standard B51 and is accepted for registration in Category C

CRN: OC 5141.25

Registered by: Yashwan

Dated: 2004.04.14

NOTE: This registration expires on March 11, 2013

[Revised August 24, 2001]

Technical Standards and Safety Authority
Boilers and Pressure Vessels Safety Division

REGISTERED

CRN: OC 5141.25 Page 10
Signed: Yashwan
Date: 2004.04.14

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Fax: (909) 394 1915
Toll Free: 1-877-AURAINC
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