

BHARAT HEAVY ELECTRICALS LIMITED

HIGH PRESSURE BOILER PLANT, TIRUCHIRAPALLI 620 014.

CONTROLS AND INSTRUMENTATION / FB



TECHNICAL SPECIFICATION

FOR

SENSOR ASSEMBLY & SONIC TUBE ASSEMBLY (AUTO PURGE)

OF
BHELSONIC SYSTEM

SPEC. REF:- CI:BS10:AUTOPURGE:STASA

REVISION HISTORY

Rev. No.	DATE	DESCRIPTION	PREPARED MVR	CHECKED MVR	APPROVED AKP
00	08.04.2014	Initial Release	-sd/MVR	-sd/MVR	-sd/AKP
01	28.06.2016	Sonic tube assembly drawing revised	-sd/mvr	-sd/mvr	-sd/AKP
02	02.03.2017	Sonic tube assembly accessories added	Ramany.	Ramany.	Apanth.

CONTENTS:

1. GENERAL INSTRUCTIONS TO VENDORS
2. DRAWING & DATA SHEET LIST
3. QUALITY PLAN & INSPECTION
4. DOCUMENTATION
5. PACKING
6. SPECIAL INSTRUCTIONS TO VENDORS

Annexure:

1. Drg. No. 3-97-585-21634/03 - Sensor assembly.
2. Drg. No. 1-97-585-01335/01- Sonic Tube assembly.

Note:-

Clarification required, if any, on the enclosed specification shall be referred to the purchaser within 10 days from the date of enquiry.

1.0 GENERAL INSTRUCTIONS TO VENDORS:

- 1.1 In the event of order, the entire specification will form part of purchase order for compliance during execution.
- 1.2 Deviation if any shall be clearly brought out in the "Deviation schedule". Otherwise it will be construed that the vendor is fully complying with the specification.

2.0 DRAWING & DATA SHEET LIST:

- 2.1 Vendor shall supply all the items as indicated in the following drawings as loose supply.
 - a) Drg. No. 3-97-585-21634/03 – STLD - Sensor assembly.
 - b) Drg. No. 1-97-585-01335/01 – STLD - Sonic Tube assembly.
 - c) Refer project specific datasheet for Air filter regulator & solenoid valve.
- 2.2 Vendor shall submit detailed Bill of Material, indicating break up prices for all items.
- 2.3 15 meter length of pig tail cable will be supplied for each sensor assembly. BHEL will provide the same as a "free issue" item in one length to the vendor for cutting & soldering with the cable connector.

3.0 QUALITY PLAN & INSPECTION

- 3.1 Quality plan BHEL SQP ref QA:CI:STD:QP:73 shall be followed.
- 3.2 Advance information shall be intimated to BHEL, 7 days ahead from the date of inspection for clearance/acceptance of material.

4.0 DOCUMENTS REQUIRED

A. Along with offer:

- i) Vendor to duly signed and stamped for compliance/confirmation for the BHEL specification

B. After Placement of Purchase Order:

Vendor shall manufacture sonic tube assembly and sensor assembly as per BHEL drawings.

5.0 PACKING:

Materials shall be packed as per packing procedure ref. No. QA:CI:STD:PR:04, Rev. 02 shall be followed.

Solenoid valve (SV) & Air filter regulator (AFR) shall be individually wrapped with bubbled polythene sheet, packed in moulded thermocole boxes, filled with tightly with thermocole beads and further packed suitable to avoid transport and storage damages.

6.0 SPECIAL INSTRUCTIONS TO VENDORS

6.1 Warranty: 18 months from the date of supply and 12 months from the date of commissioning.

6.2 Nothing in this specification shall be construed to relieve the vendor from his responsibility. This specification covers briefly the requirements of the system. It is the responsibility of the vendor to take care of other basic and essential requirements to manufacture a quality product and complete system.

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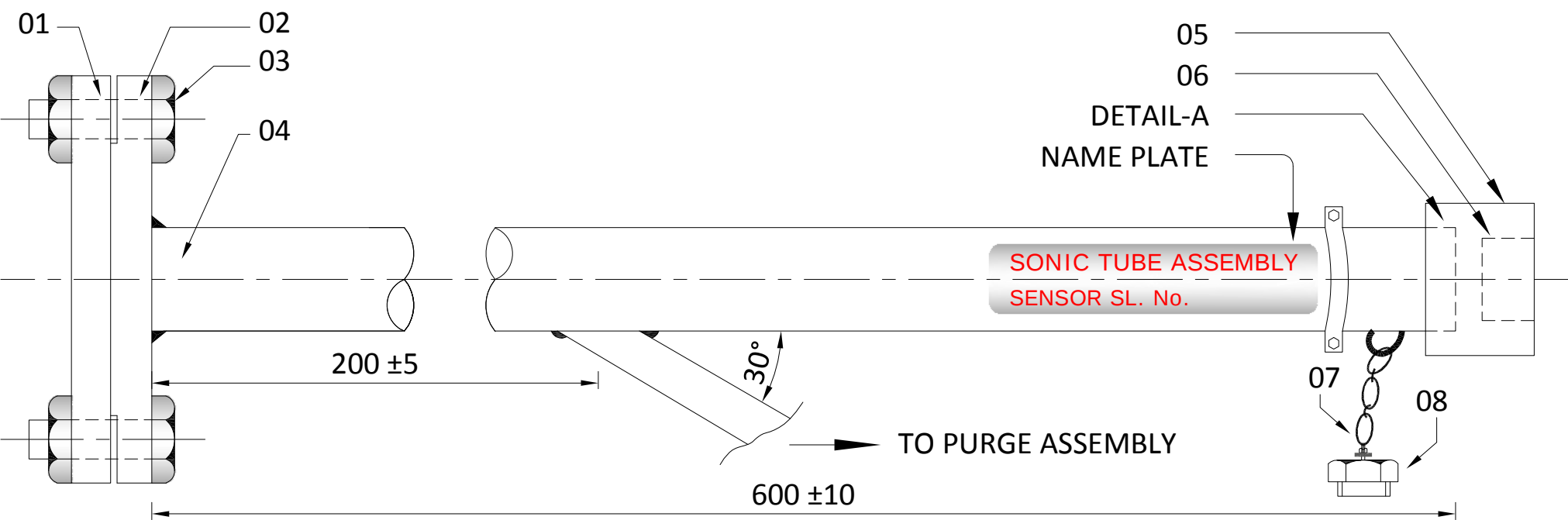
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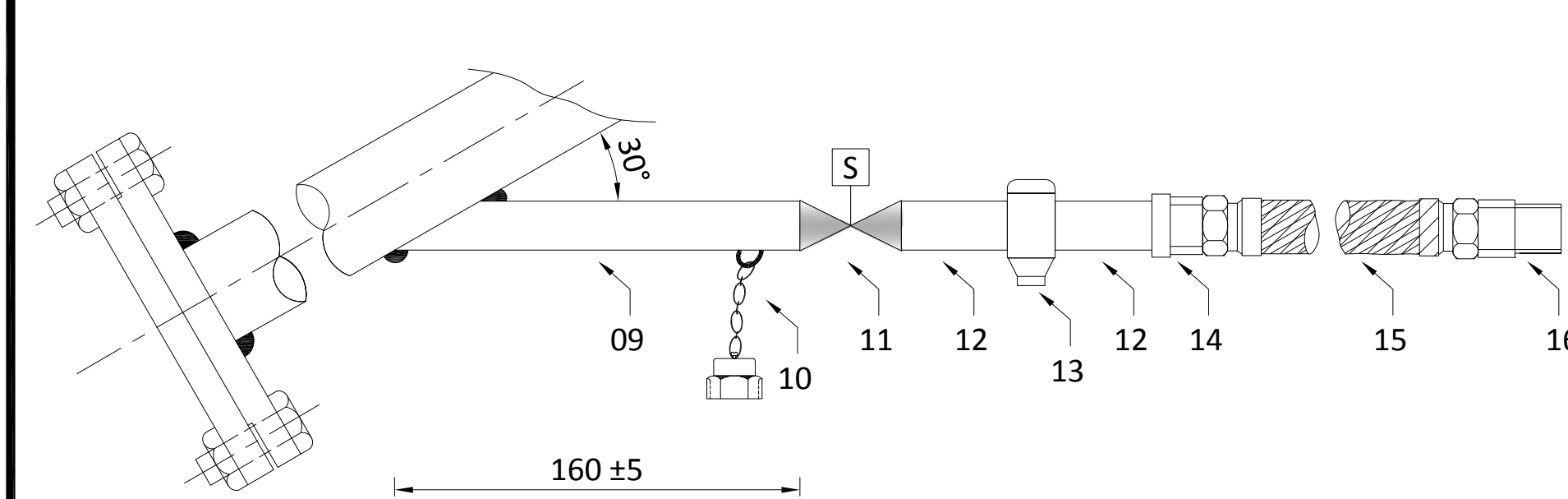
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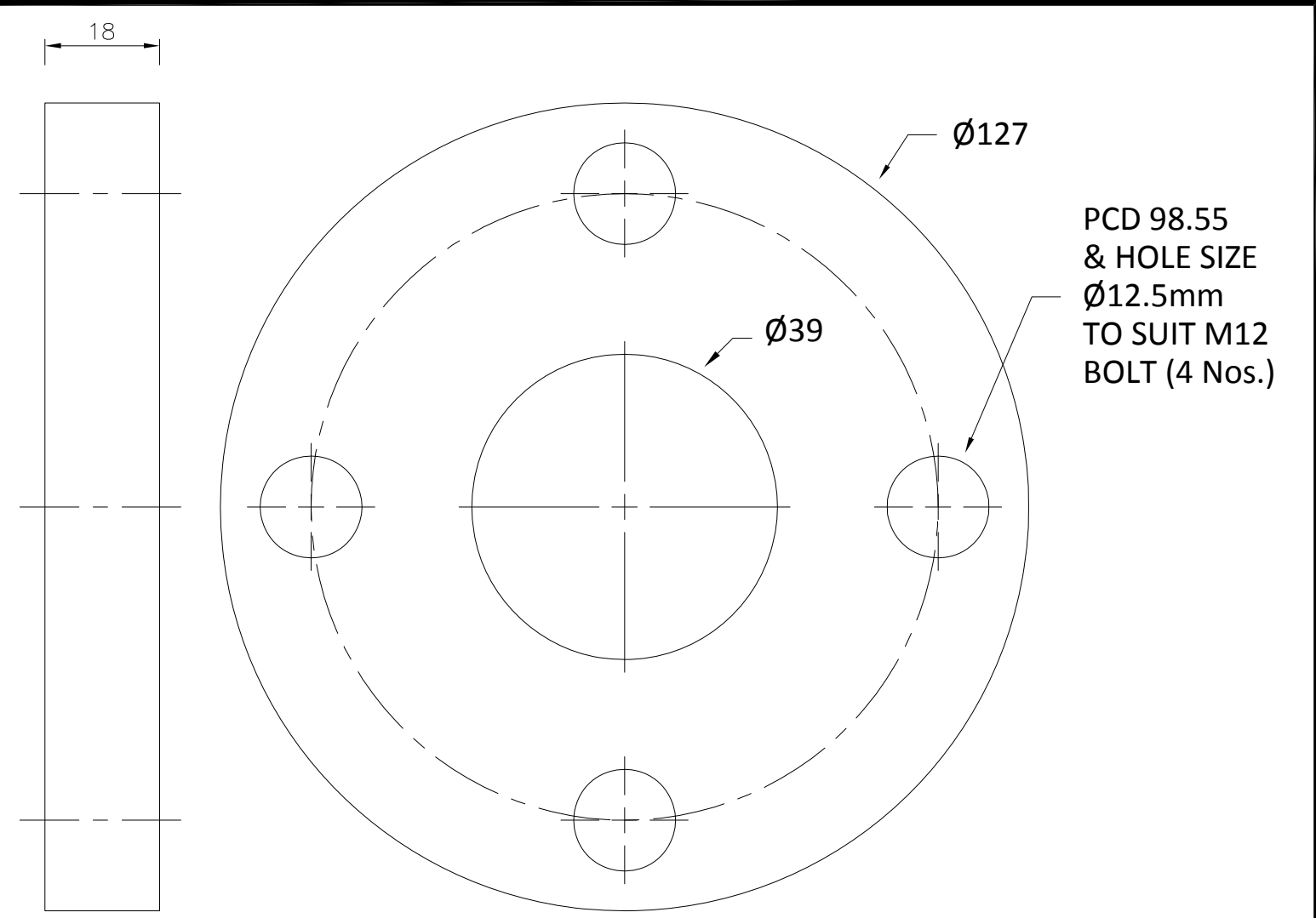
DRAWING NO.: 1-97-585-01335



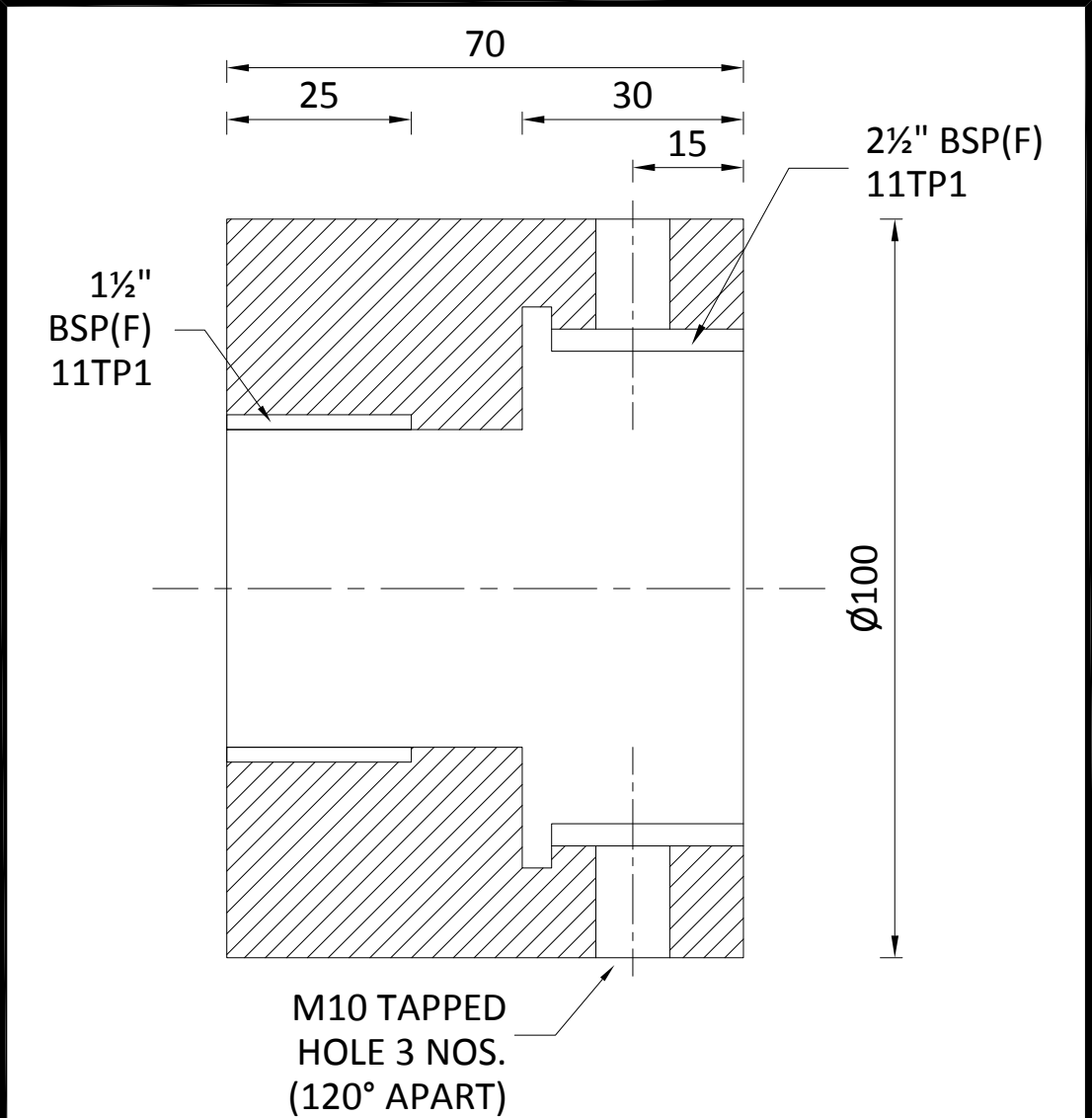
SONIC TUBE ASSEMBLY



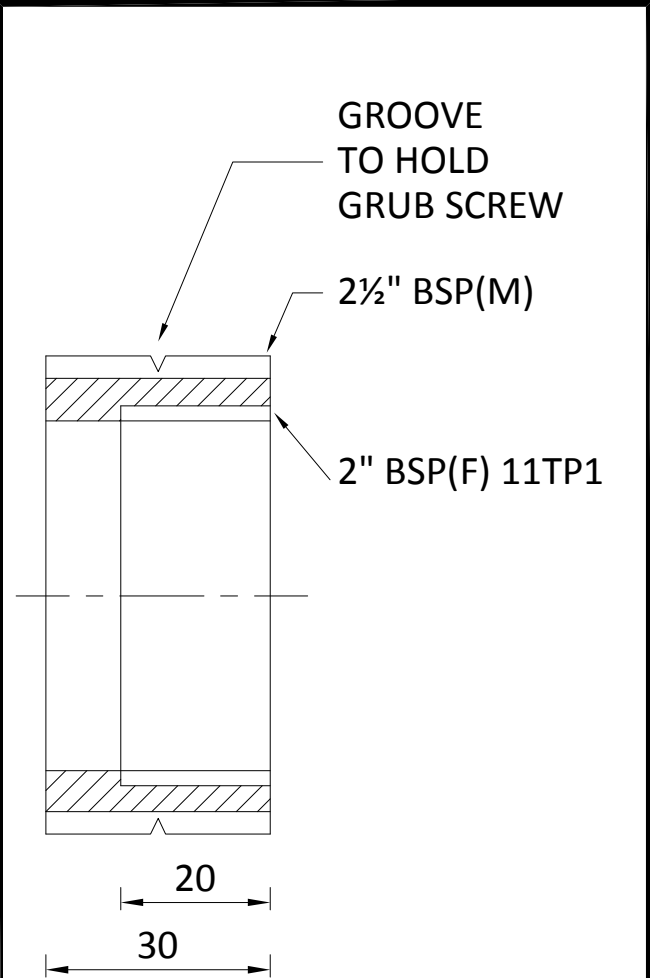
PURGE ASSEMBLY



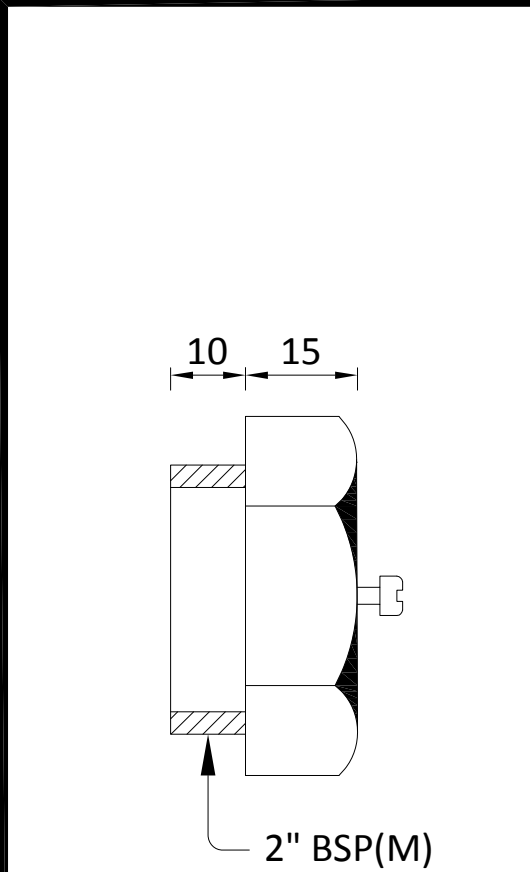
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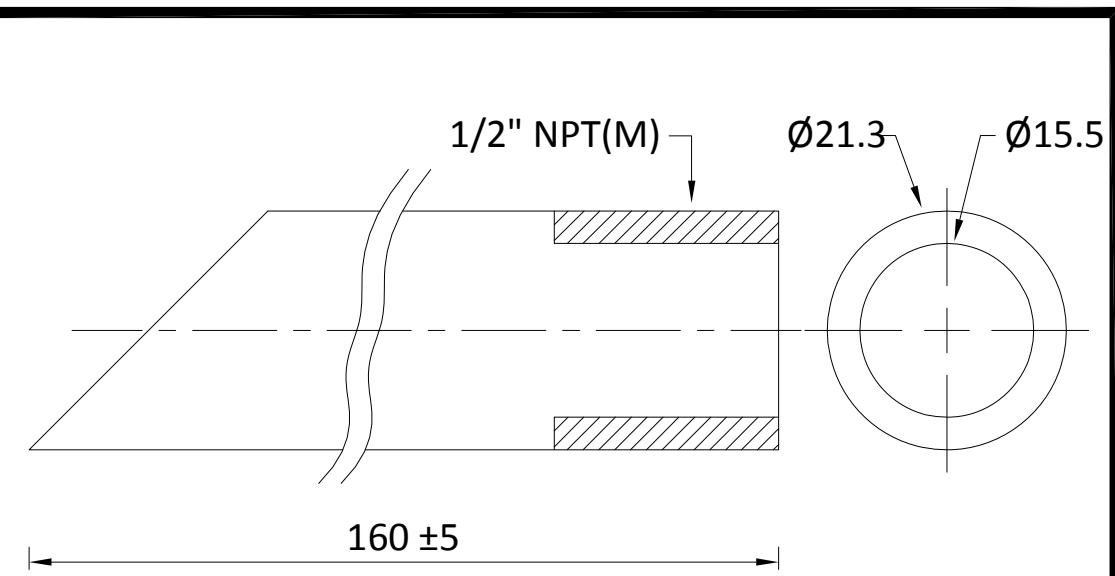
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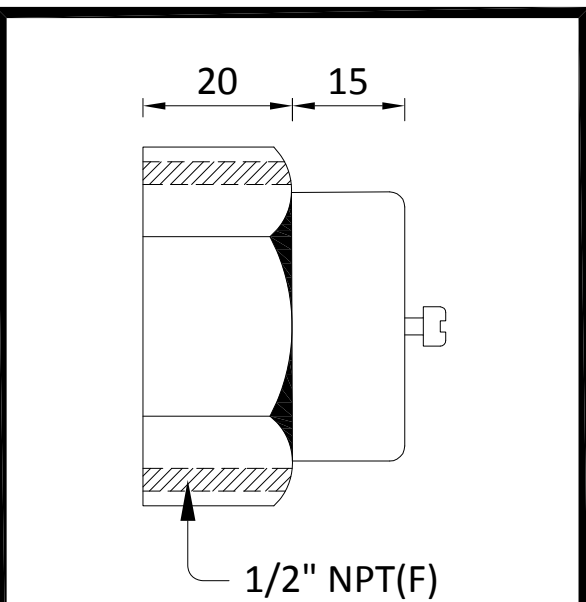
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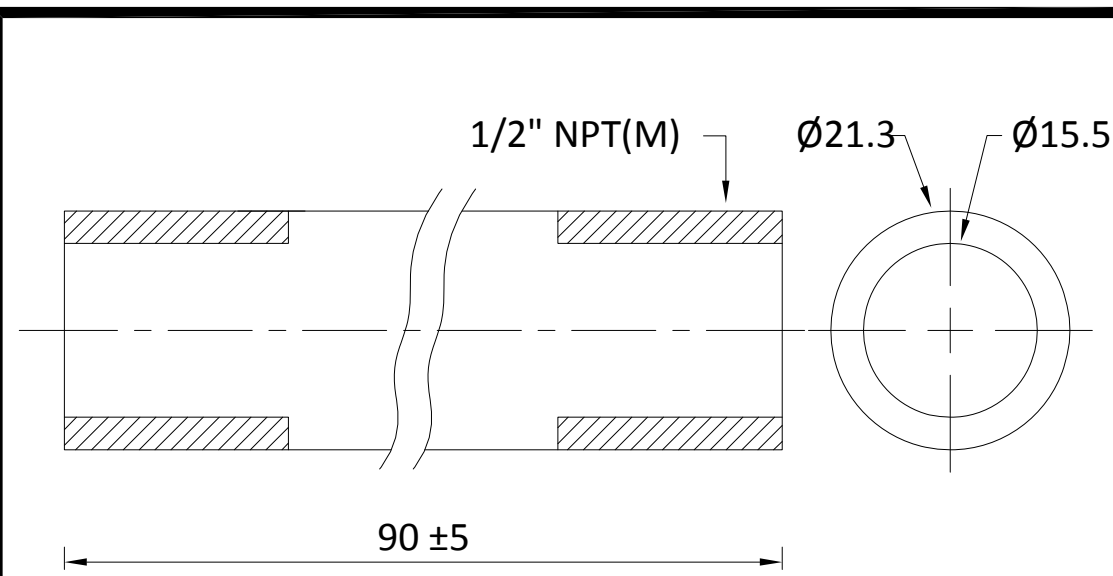
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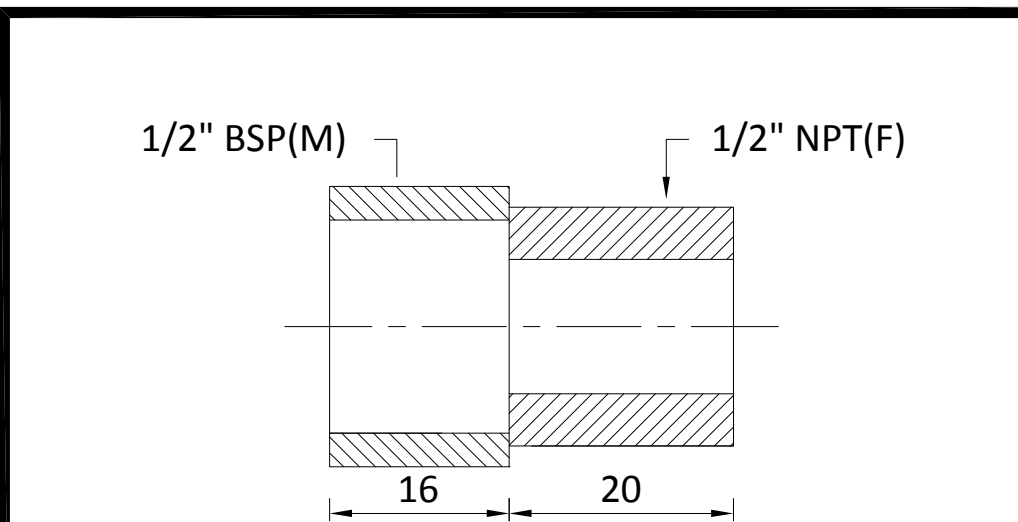
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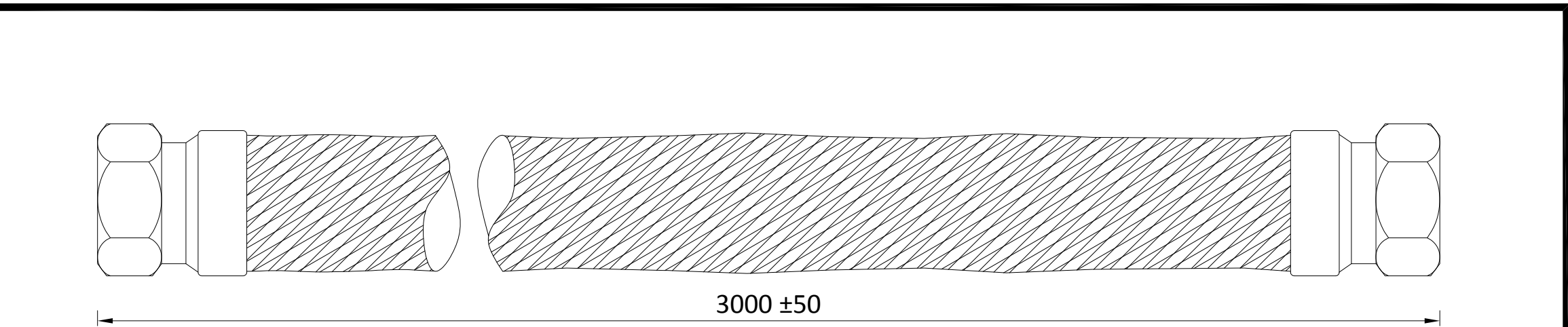
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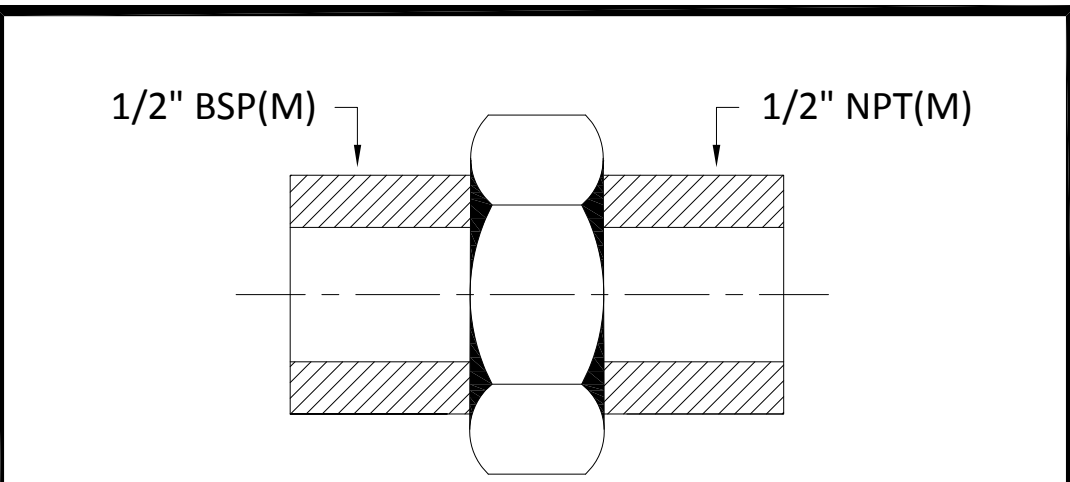
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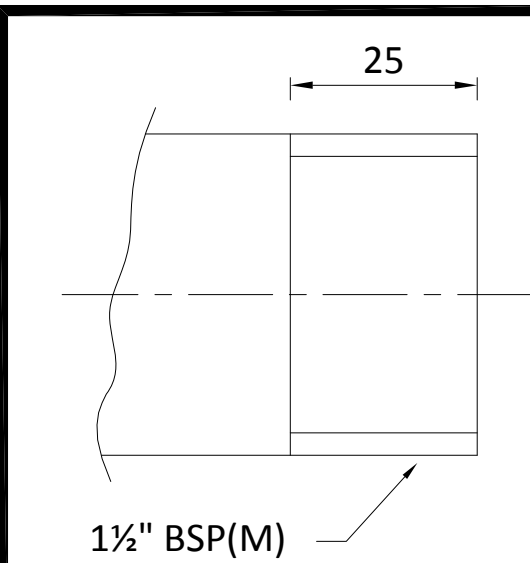
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ITEM NO. - 15



ITEM NO. - 16



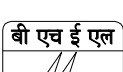
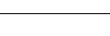
DETAIL - A

NOTE

- ALL DIMENSIONS HAVE ±1mm TOLERANCE, IF NOT MENTIONED IN THE DRAWING.
- ALL ITEMS ARE IN VENDOR SCOPE.
- DURING INSPECTION, THE SAME DRAWING SHALL ONLY BE REFERRED.
- PAINT COLOUR SHADE RAL-5012 & THICKNESS 70-80 MICRONS.
- SENSOR LOCKING ARRANGEMENT IS PROVIDED BY MEANS OF GRUB SCREWS.
- VENDOR CODE SHALL BE PUNCHED/ENGRAVED ON SONIC TUBE ASSEMBLY.

ITEM No.	DESCRIPTION	MATERIAL	QTY.
1.	TEFLON FLANGE	TEFLON	1 No.
2.	F L A N G E	SA106 GR.-B	1 No.
3.	M12x100mm(L) BOLTS, NUTS & WASHER	MS ZINC. PASSIVATED	4 SETS
4.	P I P E Ø48.3 x 3.68	SA106 GR.-B	1 No.
5.	TEFLON COUPLING WITH 3 Nos. OF HIGH SPEED STEEL MATERIAL GRUB SCREWS.	TEFLON	1 No.
6.	SS SLEEVE	SS304	1 No.
7.	250MM LENGTH CHAIN.	SS304	1 No.
8.	END CAP ADAPTER - 2" BSP(M) SUITABLE FOR ITEM-06.	TEFLON	1 No.
9.	160MM LONG PIPE WITH ONE SIDE SOCKET WELD & 1/2" NPT(M) ON OTHER SIDE (OD 21.3 x 3.15mm THICKNESS)	SA106 GR.-B	1 No.
10.	END CAP ADAPTER - 1/2" NPT(F) SUITABLE FOR ITEM-09 WITH 350MM LENGTH CHAIN.	SS304	1 No.
11.	SOLENOID VALVE, 1/2" NPT(F) ON BOTH SIDES	SS304	1 No.
12.	90MM LONG PIPE 1/2" NPT(M) ON BOTH SIDES (OD 21.3 X 3.15MM THICKNESS)	SA106 GR.-B	2 Nos.
13.	AIR FILTER REGULATOR 1/2" NPT(F) ON BOTH SIDES.	DIE CAST ALUMINIUM	1 No.
14.	ADAPTER 1/2" NPT(F) & 1/2" BSP(M)	SS304	1 No.
15.	1/2" SS BRAIDED HOSE OF 3 METER LENGTH WITH END FITTINGS OF 1/2" BSP(F) ON BOTH SIDES WITH FEMALE THREADED SWIVEL NUT, WORKING PR. = 7 KG/SQ.CM.	SS304	1 No.
16.	ADAPTER 1/2" NPT(M) & 1/2" BSP(M)	SS304	1 No.

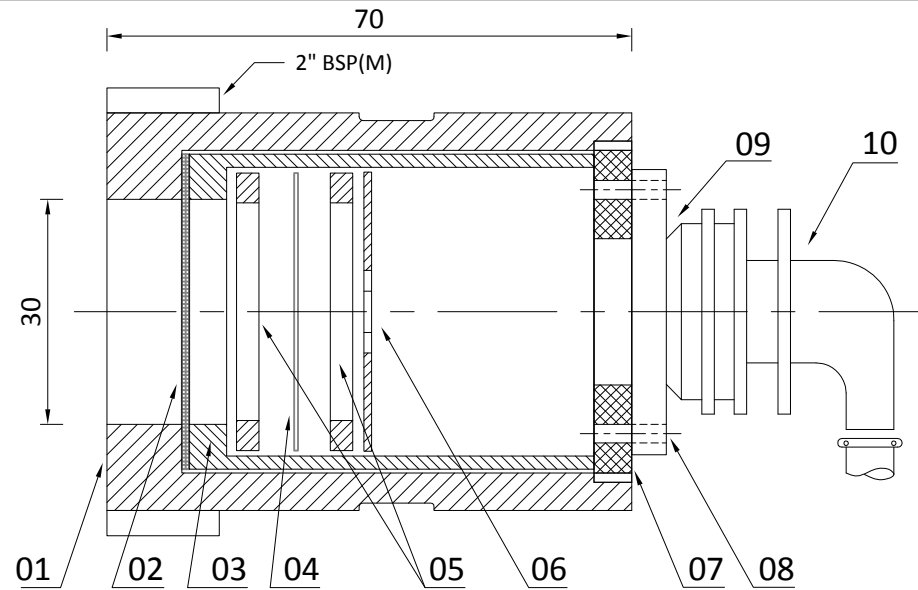
REV	DATE	ALTERED :
01	280217	CHD./APPD. :
ZONE	REVISED END CAP ADAPTER MATERIAL FOR ITEM NO-08 & 16.	

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be reproduced or used in any way detrimental to the interest of the company.	TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STANDARD							
			Bharat Heavy Electricals Ltd		DRN	NAME A. Thamburaj	SIGNATURE 	DATE 29-02-16	NO. OF VAR	
	UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPPALLI - 620014		CHD	M.Venkataramana	Sd. / MV		07-03-16			
			APPD	A.K.Panda	Sd. / AKP		07-03-16			
	DEPT. : C & I				ALL DIMENSIONS ARE IN MM	SCALE NTS	WEIGHT (Kg) _____	REF TO ASSY / OLD DWG _____	ITEM NO	NO OF ITEMS
	CODE : 392									
	TITLE BHELSONIC - ACOUSTIC STEAM LEAK DETECTION SYSTEM SONIC TUBE ASSEMBLY						CARD CODE U 01	DRAWING NO : 1-97-585-01335 01/01		REV 01

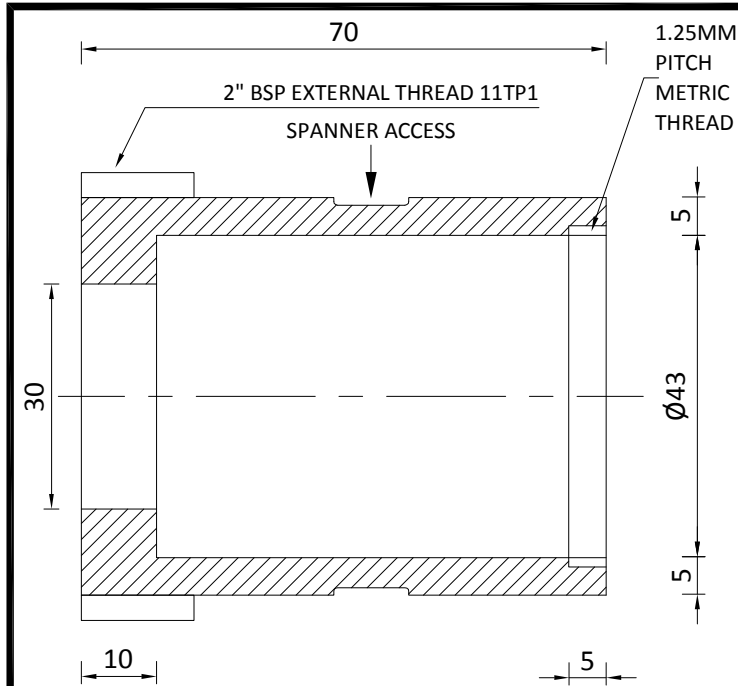
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3-97-585-21634

DRAWING NO.:



SENSOR ASSEMBLY

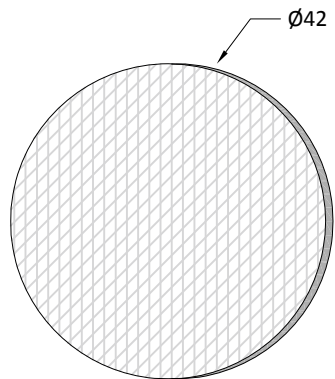


ITEM NO-01 (SENSOR HOUSING)

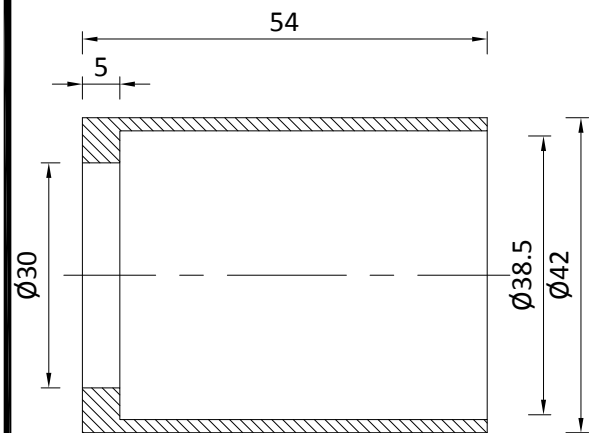
ITEM No.	DESCRIPTION	QTY.
01.	SENSOR HOUSING (SS 304)	1 No.
02.	WIRE MESH Ø42 (SS 304)	1 No.
03.	INNER SHIELD (TEFLON)	1 No.
04.	POLYESTER FILM, 1MIL THICKNESS (POLYESTER 100x100mm)	2 Nos.
05.	RUBBER BUSH (NEOPRENE)	2 Nos.
06.	PLASTIC DISC (TEFLON)	1 No.
07.	SS LID (SS 304)	1 No.
08.	SUITABLE FIXING SCREW, SS	4 SETS
09.	ALLIED CONNECTOR MS 3102R-14S-6S(FM)	1 No.
10.	ALLIED CONNECTOR MS 3108F-14S-6P(M)	1 No.

NOTE

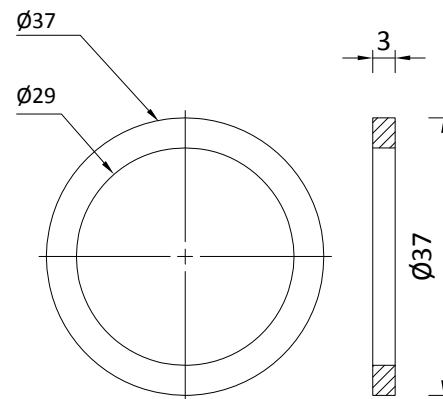
- PCD TO SUIT CONNECTOR.
- ALL DIMENSIONS HAVE ± 1 mm TOLERANCE.
- SUITABLE SPANNER ACCESS TO BE PROVIDED AT 180° APART.
- VENDOR CODE SHALL BE PUNCHED/ENGRAVED ON SONIC TUBE ASSEMBLY.



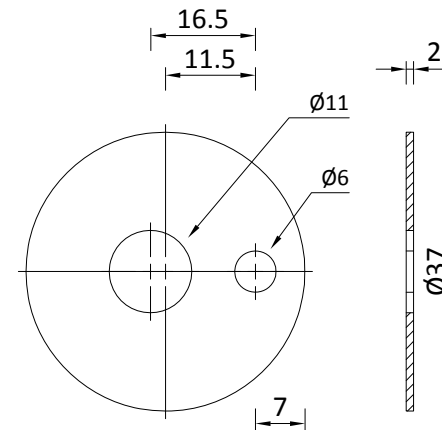
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(WIRE MESH)



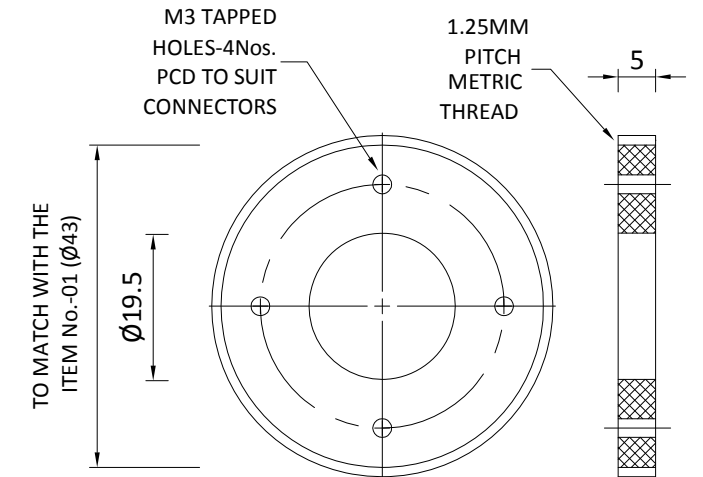
ITEM NO-03
(INNER SHIELD)



ITEM NO-05
(RUBBER BUSH)



ITEM NO-06
(PLASTIC DISC)



ITEM NO-07
(SS LID)

REV	DATE	ALTERED : <i>280416</i>
02	140915	CHD./APPD. : Sd./MV-AKP
ZONE	GENERAL REVISION	

REV	DATE	ALTERED : <i>280416</i>
03	280416	CHD./APPD. : <i>280416</i>
ZONE	REVISED AS PER FES FEED BACK LETTER REF. CI:FE:FB:2015-2016:002	
REV	DATE	ALTERED : <i>061213</i>
01	061213	CHD./APPD. : Sd./MV-AKP
ZONE	GENERAL REVISION	

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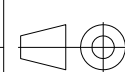
TYPE OF PRODUCT
OR NAME OF
CUSTOMER / PROJECT



Bharat Heavy Electricals Ltd
UNIT: HIGH PRESSURE BOILER PLANT
TIRUCHIRAPPALLI - 620014

DEPT. : C & I

CODE : 392



ALL
DIMENSIONS
ARE IN MM

SCALE
NTS

WEIGHT (Kg)

REF TO ASSY / OLD DWG

ITEM
NO

No OF
ITEMS

TITLE

**BHELSONIC - ACOUSTIC STEAM LEAK
DETECTION SYSTEM - SENSOR ASSEMBLY**

CARD
CODE
U 01

DRAWING NO.:

3-97-585-21634

Sheet 01 Of 01

REV

03

STANDARD

वी चै ई एल BHEL		Bharat Heavy Electricals Ltd UNIT: HIGH PRESSURE BOILER PLANT TIRUCHIRAPPALLI - 620014			DRN	NAME A . T h a m b u R a j	SIGNATURE <i>280416</i>	DATE 19-07-13	NO. OF VAR — —
					CHD	M.Venkataramana	Sd. / MV	20-07-13	
					APPD	A.K.Panda	Sd. / AKP	20-07-13	
DEPT. : C & I		ALL DIMENSIONS ARE IN MM	SCALE NTS	WEIGHT (Kg) —	REF TO ASSY / OLD DWG —			ITEM NO —	No Of ITEMS —
CODE : 392									
TITLE BHELSONIC - ACOUSTIC STEAM LEAK DETECTION SYSTEM - SENSOR ASSEMBLY				CARD CODE U 01	DRAWING NO : 3-97-585-21634 Sheet 01 Of 01				REV 03