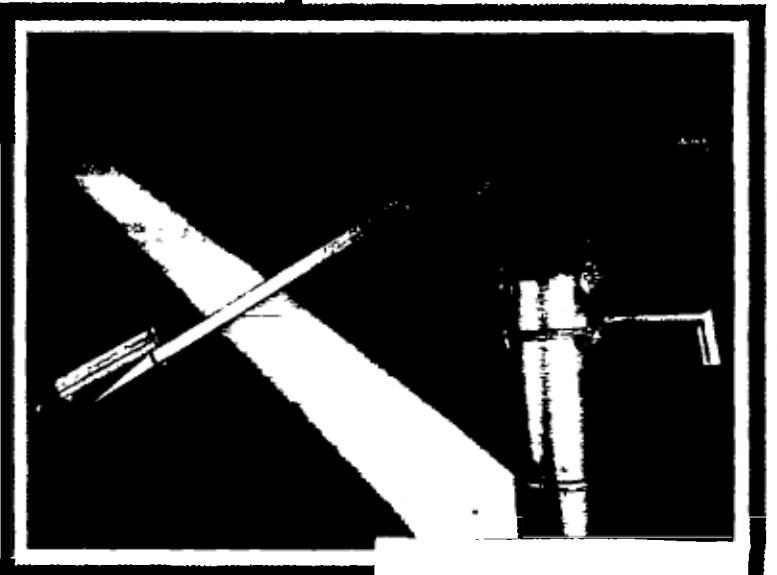
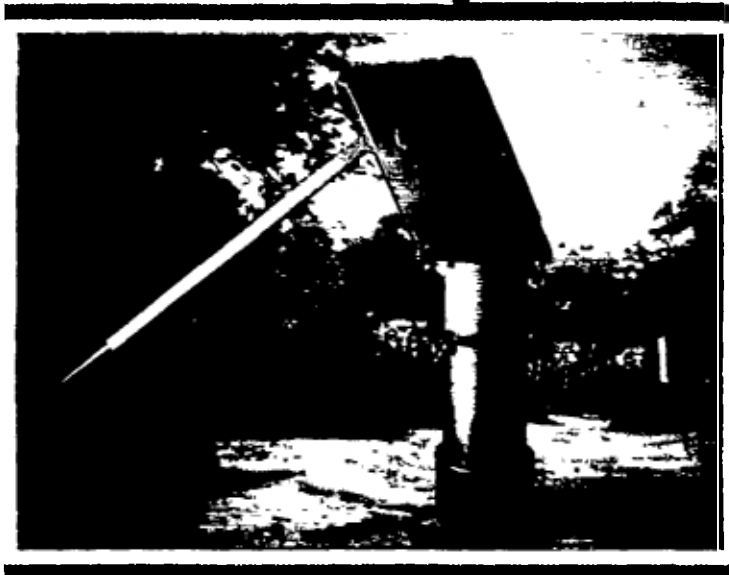


# MANUAL OF QUALITY CONTROL FOR HANDPUMPS AND SPARES

## VOLUME II







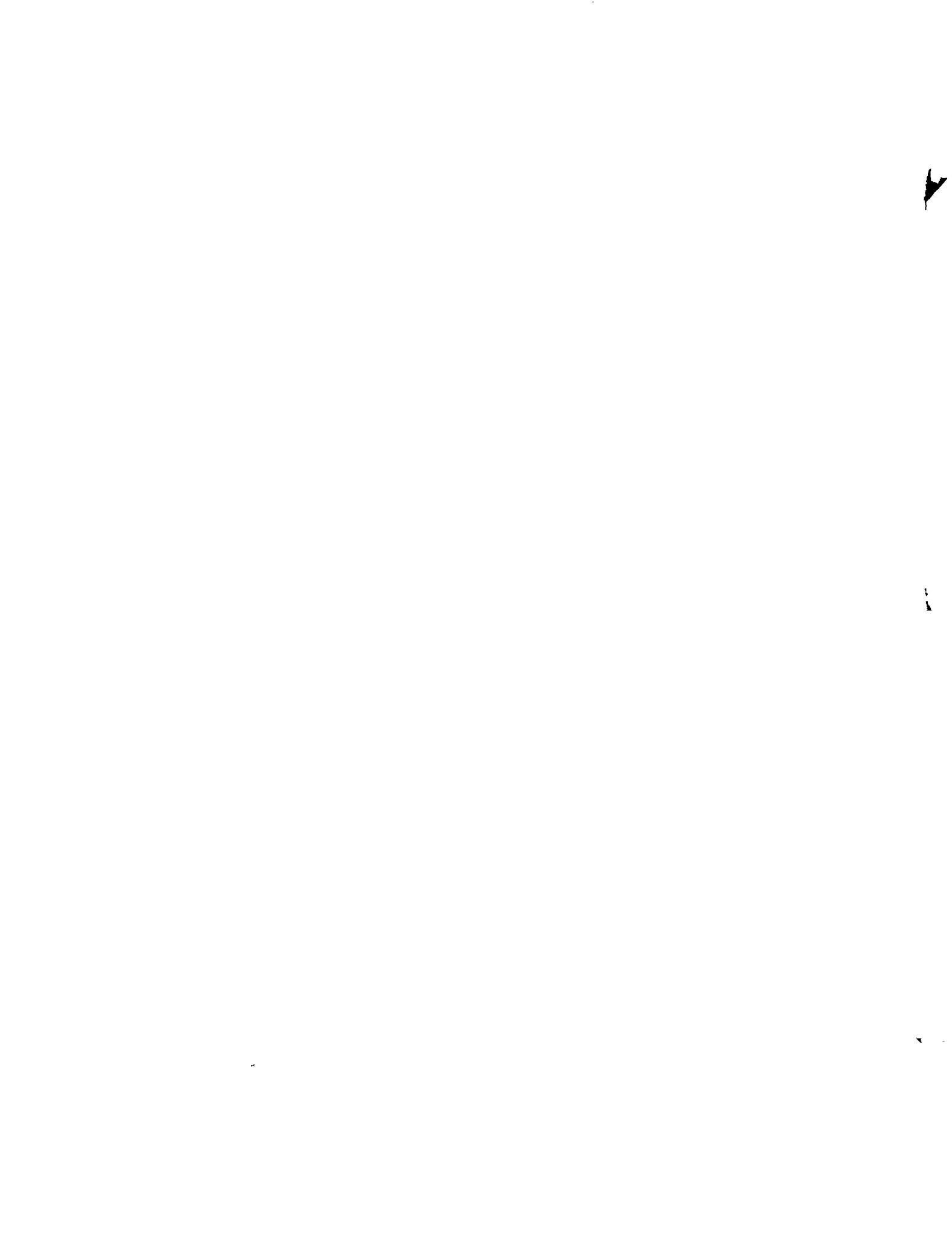
# MANUAL OF QUALITY CONTROL FOR HANDPUMPS AND SPARES

VOLUME II



LIBRARY, INTERNATIONAL REFERENCE  
CENTRE FOR COMMUNITY WATER SUPPLY  
AND SANITATION (IRC)  
P.O. Box 93190, 2509 AD The Hague  
Tel. (070) 814911 ext. 141/142

RN: 11866  
LO: 232.2 94MA (Vol II)





## INDEX

S. NO.	C O N T E N T S	P A G E N O.
1.	About this manual .....	3
2.	Pump Selection Chart .....	5
3.	India Mark II Handpump.....	7
4.	India Mark III (VLOM) Handpump .....	41
5.	Extra Deepwell Handpump.....	75
6.	Riser Pipe and Socket.....	109
7.	Direct Action (TARA) Handpump.....	111
8.	Suction Handpump.....	157
9.	India Mark II Special Tools.....	165
10.	India Mark III (VLOM) Special Tools.....	199
11.	Fishing Tools.....	233
12.	Platform Shuttering - Deepwell Handpump.....	249
13.	Platform Shuttering - Direct Action (TARA) Handpump.....	255
14.	List of Standards Referred.....	265

LIBRARY  
INTERNATIONAL REFERENCE CENTRE  
FOR COMMUNITY WATER SUPPLY AND  
SANITATION (IRC)



## **ABOUT THIS MANUAL**

This manual is prepared for the use of State Public Health Engineers, District Officers, Field/Stores Officers, Manufacturers, Inspection Agencies and Ancillary Manufacturing Group who are involved in the Purchase, Quality Control and Production of Handpumps, Tools and Accessories for Water Supply Programmes.

The manual is part of a Two Volume Series which explains/provides detailed engineering specifications of handpumps, components, assemblies and tools/accessories which the Bureau of Indian Standards has prepared for use by agencies, organisation and vendors deriving to produce or purchase Quality Handpumps, Spares and Tools/Accessories.

Each part of this Volume II gives complete assembly description, material requirements, details of dimensions and tolerances of materials which are required to be followed in production of handpump components. The manual also gives the nomenclature, general requirements, testing procedures and marking requirements for each category of handpumps along with a test of other referred Indian Standards as per the BIS in the case of Deepwell and Extra Deepwell Handpumps.

The TARA Direct Action and suction handpump design/dimension given as per UNICEF specifications which BIS has also circulated as draft BIS Standards and are provided in this document to assist purchasing organisations/group and inspection agencies to use them on a provisional basis until BIS approves the specification and brings these specification as a Standard. Similarly design/dimensions for special tools and platform shuttering as per Unicef Specifications are also provided in the document.

This document "Manual of Quality Control for Handpump and Spares - Volume II" is recommended to be read in conjunction with Vol. I by manufacturers, purchasing and Inspection Agencies in order to have a comprehensive overview of the handpump technology used in India and other developing countries.

## **ABOUT THIS MANUAL**

This manual is prepared for the use of State Public Health Engineers, District Officers, Field/Stores Officers, Manufacturers, Inspection Agencies and Ancillary Manufacturing Group who are involved in the Purchase, Quality Control and Production of Handpumps, Tools and Accessories for Water Supply Programmes.

The manual is part of a Two Volume Series which explains/provides detailed engineering specifications of handpumps, components, assemblies and tools/accessories which the Bureau of Indian Standards has prepared for use by agencies, organisation and vendors deriving to produce or purchase Quality Handpumps, Spares and Tools/Accessories.

Each part of this Volume II gives complete assembly description, material requirements, details of dimensions and tolerances of materials which are required to be followed in production of handpump components. The manual also gives the nomenclature, general requirements, testing procedures and marking requirements for each category of handpumps along with a test of other referred Indian Standards as per the BIS in the case of Deepwell and Extra Deepwell Handpumps.

The TARA Direct Action and suction handpump design/dimension given as per UNICEF specifications which BIS has also circulated as draft BIS Standards and are provided in this document to assist purchasing organisations/group and inspection agencies to use them on a provisional basis until BIS approves the specification and brings these specification as a Standard. Similarly design/dimensions for special tools and platform shuttering as per Unicef Specifications are also provided in the document.

This document "Manual of Quality Control for Handpump and Spares - Volume II" is recommended to be read in conjunction with Vol. I by manufacturers, purchasing and Inspection Agencies in order to have a comprehensive overview of the handpump technology used in India and other developing countries.

## Pump Selection Chart



---

## **PUMP SELECTION CHART**

---

### **SUCTION PUMP :**

The Suction Handpump is suitable for hand dug/pipe driven borewell having static water level of 0 to 7 mtr.

### **DIRECT ACTION (TARA) HANDPUMP :**

This pump is suitable for borewells with static water level 0 to 20 mtr. and to be installed on hand bore/machine drilled tubewells.

### **INDIA MARK II / MARK III DEEPWELL HANDPUMP :**

These pumps are suitable for machine drilled holes/tubewells with static water level of 20 to 50 mtr.

### **EXTRA DEEPWELL HANDPUMP :**

This pump is suitable for static water levels of 50 to 90 mtr. and to be installed on machine drilled bore holes/tubewells.

**BRIEF TECHNICAL DATA**

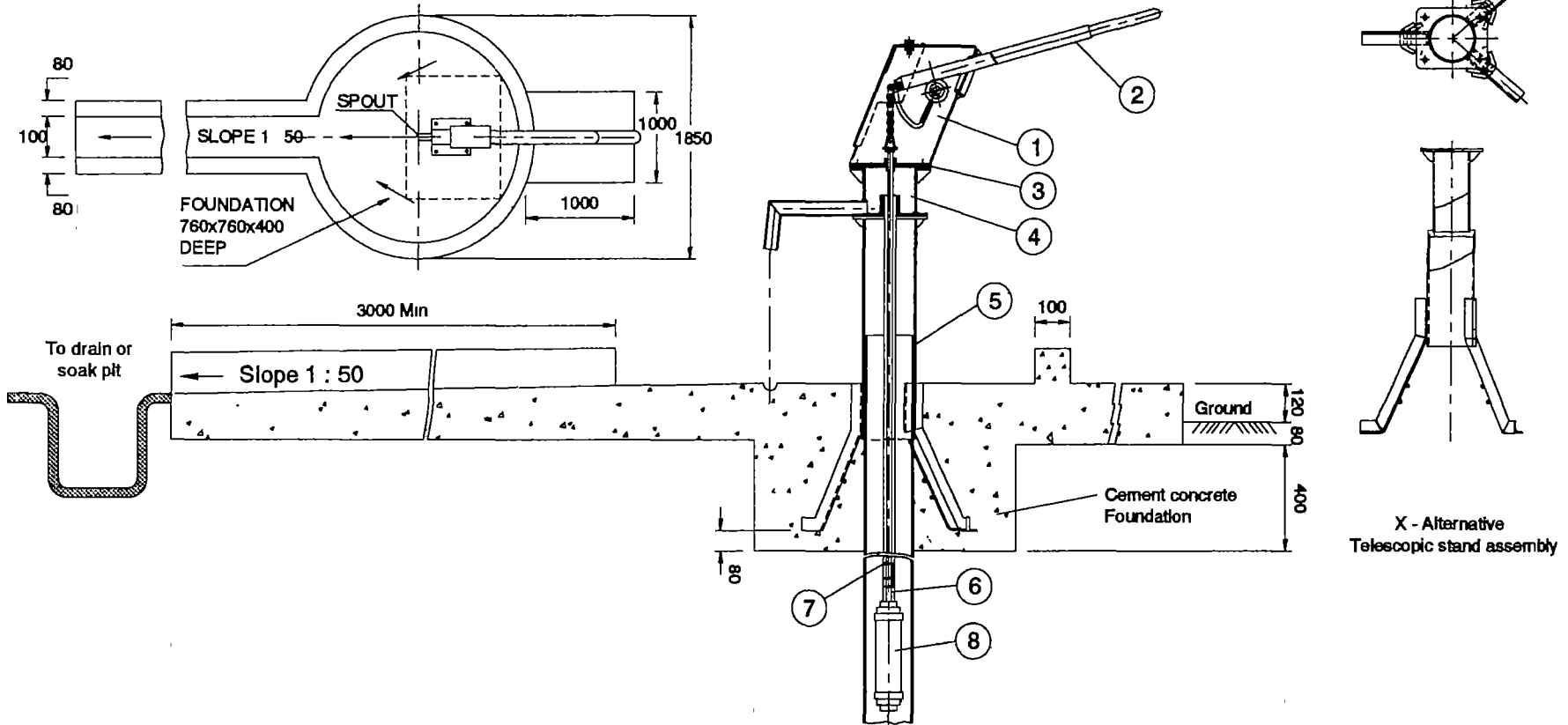
S. NO.	HANDPUMP TYPE	OPERATING RANGE MTRS	MINIMUM BORE DIA (NB) IN MM	RISER PIPE SIZE (NB) IN MM	MATERIAL USED
1.	SUCTION HANDPUMP	0 - 7	-	40	CAST IRON, MILD STEEL, RUBBER, PVC
2.	DIRECT ACTION (TARA) HANDPUMP	0 - 20	80	50	ERW PIPES, MILD STEEL ROUNDS AND PLATES, uPVC PIPES AND FITTINGS, HDPE, NITRILE RUBBER
3.	INDIA MARK II HANDPUMP	20 - 50	100	32	ERW PIPES, MILD STEEL PLATES/ SHEETS, ANGLE-IRON AND SQUARE BARS,
4.	INDIA MARK III HANDPUMP	20 - 50	125	65	CAST IRON, BRONZE, BRASS, BRIGHT BARS,
5.	EXTRA DEEPWELL HANDPUMP	50 - 90	100	32	STAINLESS STEEL NITRILE RUBBER



**India Mark II Handpump**



## INDIA MARK II HAND PUMP SYSTEM ASSEMBLY



**NOTE :**

1. The free end of the casing pipe shall be min. 300mm above the installation mark
2. Casing pipe is not required when the bore pipe passes through rocks.
3. Separate platform for washing clothes/utensils and cattle truffs may be provided if required.

8	1	Cylinder Assembly	-
7	-	Connecting Rod	-
6	-	Riser Pipe	-
5	1	Stand Assembly	-
4	1	Water Tank Assembly	-
3	1	Additional Flange	-
2	1	Handle Assembly	-
1	1	Head Assembly	-
Part No.	No. OFF	DESCRIPTION	MATERIAL

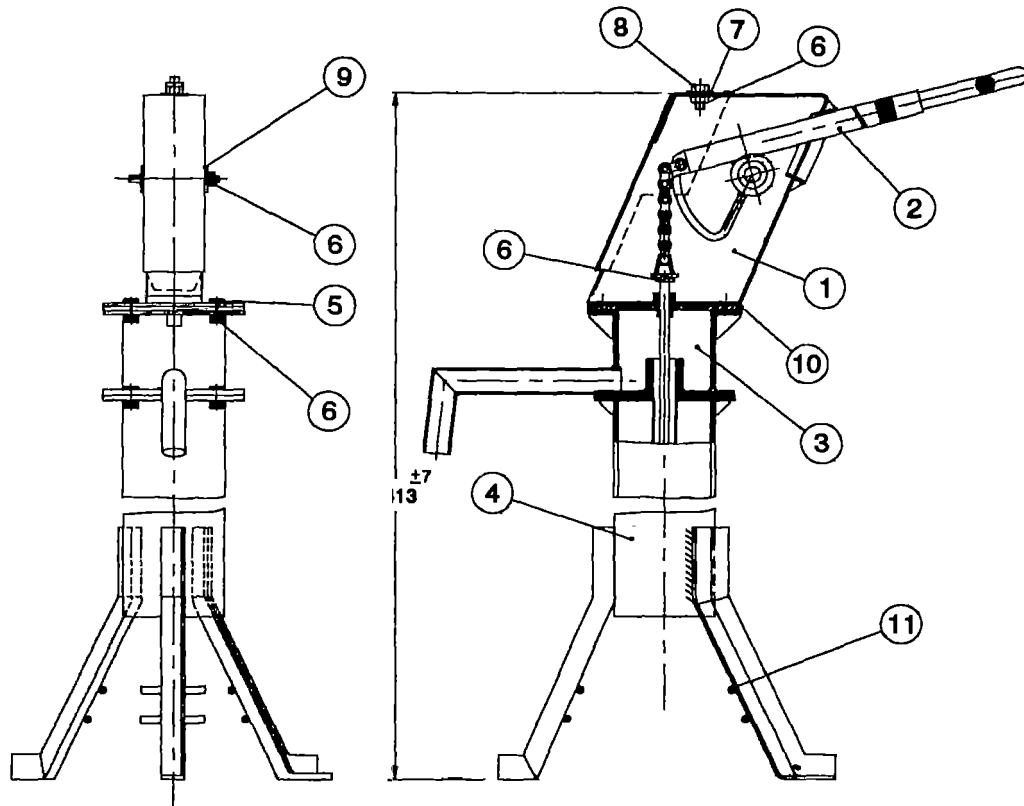
ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



TOLERANCE		DRAWING NO. IM II
U.O.S.	± 0.5	
SCALE	N.T.S.	

TITLE	DATE
HAND PUMP SYSTEM ASSEMBLY	01/01/84



11	6	Spikes	IS 2062 Grade A
10	1	Third Plate	IS : 2062 Grade A
9	1	Axe Washer	IS 2062 Grade A
8	1	Hex. Bolt M12 x 20	IS : 1363 (Part -1) -1984
7	1	Washer (To Suit M12)	Type A - IS 2016 : 1967
6	20	Hex. Nut M12	IS : 1363 (Part -3) 1984
5	8	Hex. Bolt M12 x 40	IS : 1363 (Part -1) -1984
4	1	Stand Assembly	-
3	1	Water Tank Assembly	-
2	1	Handle Assembly	-
1	1	Head Assembly	-
Part No.	No. OFF	DESCRIPTION	MATERIAL

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



TOLERANCE

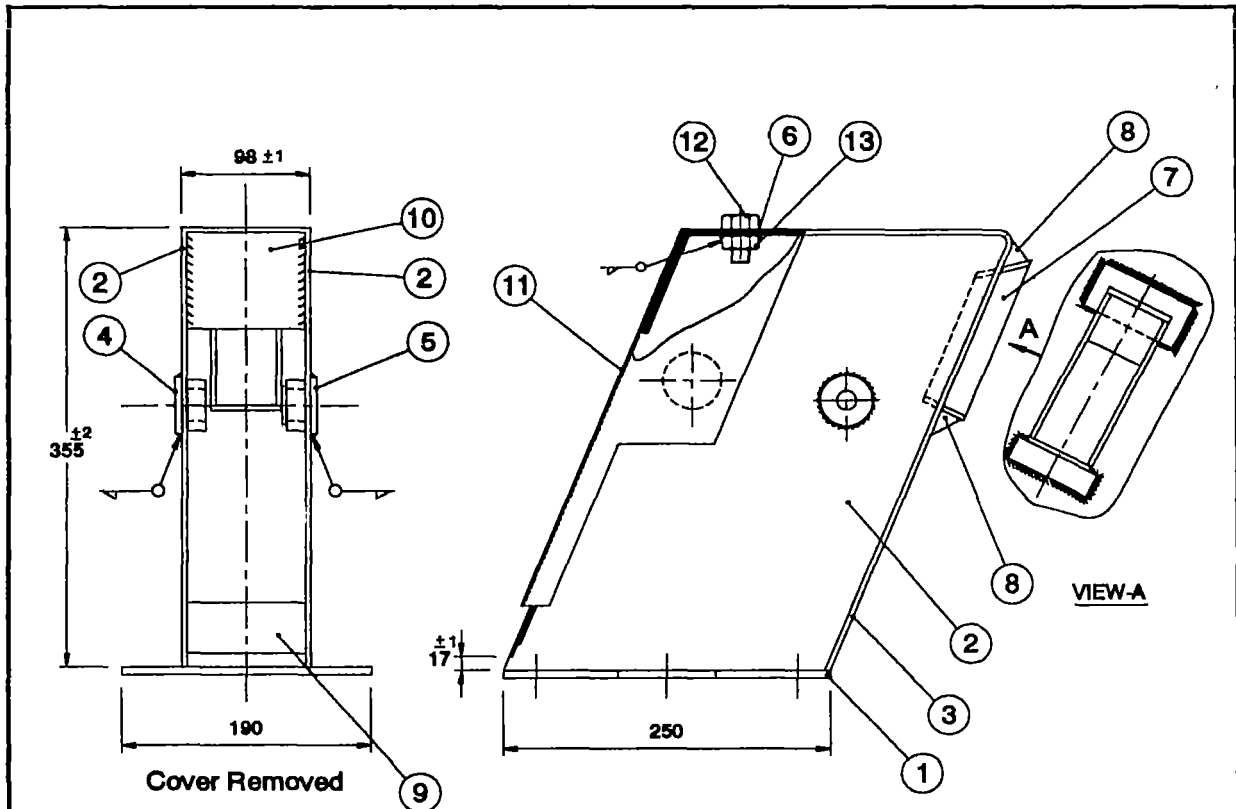
U.O.S.  $\pm 0.5$

SCALE N.T.S.

DRAWING NO. IMI-00

TITLE  
DEEP WELL HAND PUMP (MARK II)

DATE  
01/01/84



**NOTE:-**

1. Inside fillet welding of side plates and back plate to the flange should be 3.2mm min.
2. Welding fillets in other places should be 4 mm min.
3. The side plate shall be welded inside and outside as shown in the drawing.
4. The head assembly shall be welded from inside and outside. the outside seal welding run shall be ground smooth.
5. In-line reaming of left and right axle bushes shall be done to ensure alignment and internal Dimensions

13	1	Hex. Nut - M12	IS : 1363 (Part 3) 1984
12	1	Hex Bolt-M12x20	IS : 1363 (Part 1) 1984
11	1	Front Cover	Ordinary grade of IS : 513 1988
10	1	Front Top End Plate	IS : 2062 Grade A
9	1	Front Bottom End Plate	IS : 2062 Grade A
6	2	Gusset	IS : 2062 Grade A
7	1	Bracket	IS : 2062 Grade A
6	1	Washer (To suit M12 Bolt)	Type A IS : 2016 - 1967
5	1	Axle Bush (Left)	IS : 2062 Grade A
4	1	Axle Bush (Right)	IS : 2062 Grade A
3	1	Back Plate	IS : 2062 Grade A
2	2	Side Plate	IS : 2062 Grade A
1	1	Pump Head Flange	IS : 2062 Grade A
Part No.	No. OFF	DESCRIPTION	MATERIAL

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



TOLERANCE

U.O.S. ± 0.5

SCALE N.T.S.

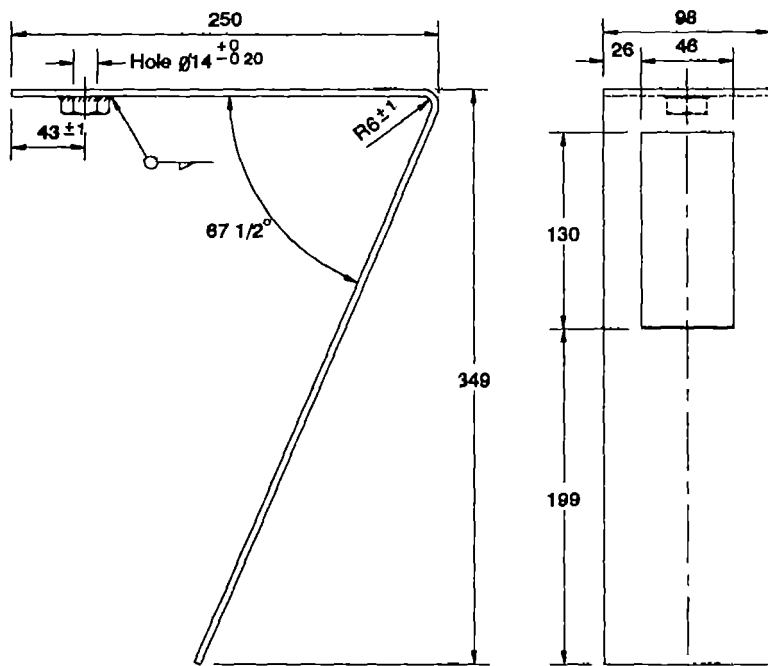
DRAWING NO. IMI-01

TITLE

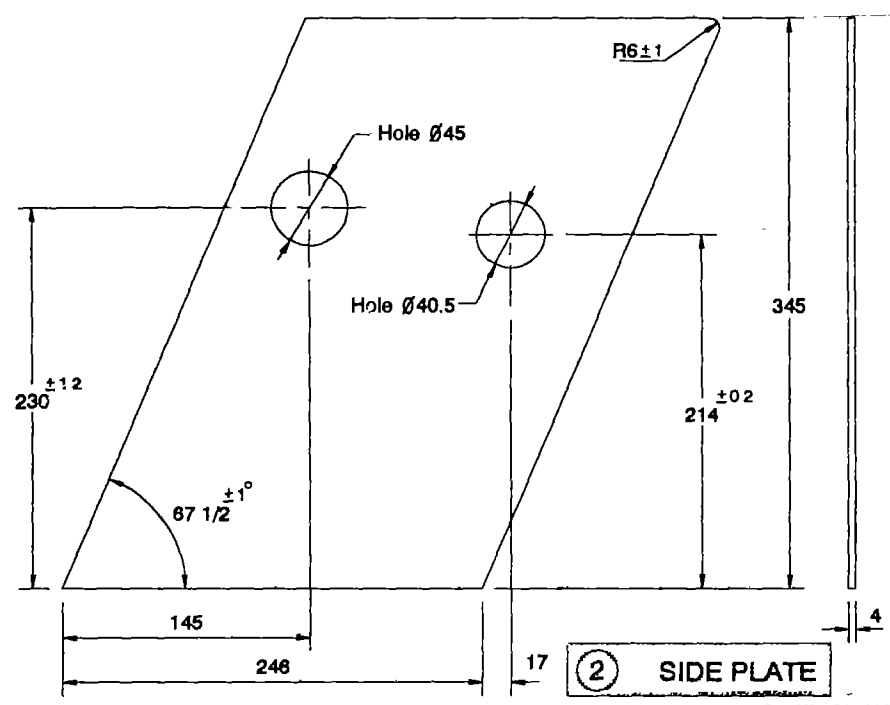
HEAD ASSEMBLY

DATE

01/01/84




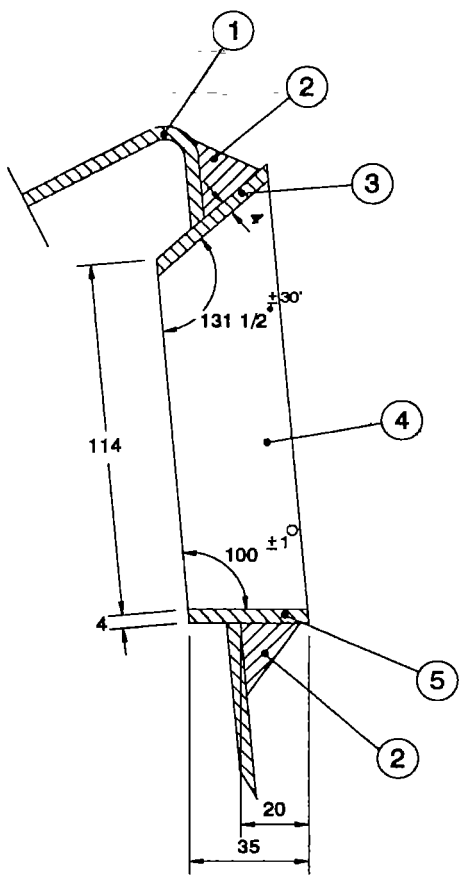
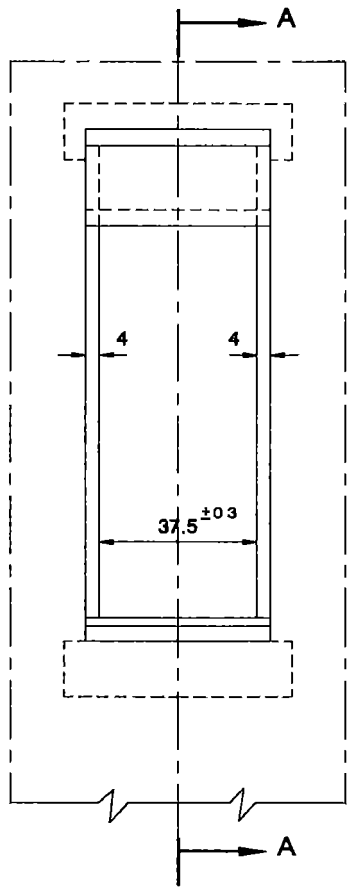
① BACK PLATE



② SIDE PLATE

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO. IMII-01-01	
				SCALE N.T.S.			
2	2	SIDE PLATE	IS 2062 Grade A				
1	1	BACK PLATE	IS . 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE	
				HEAD ASSEMBLY PARTS		01/01/84	

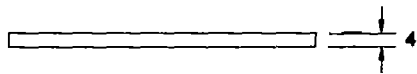
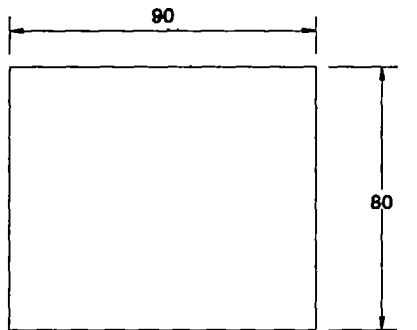


SECTION A-A

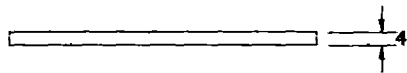
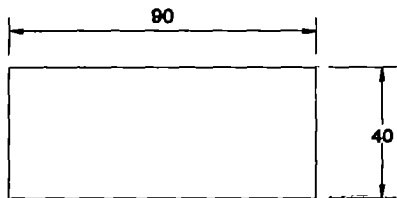
**BRACKET**

ALL DIMENSIONS ARE IN MILLIMETRES

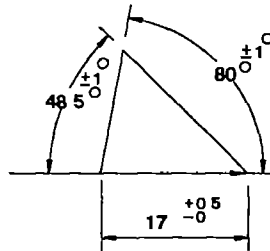
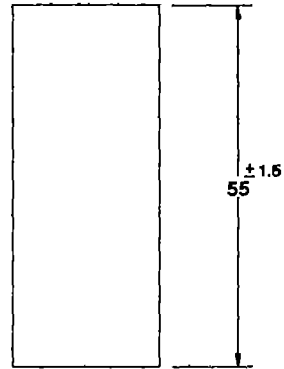
5	1	Bracket Bottom Plate	IS . 2062 Grade A	<b>Unicef</b> INDIA 	TOLERANCE U.O.S. ± 0.5 SCALE N T.S.	DRAWING NO. IMII-01-02
4	2	Bracket Side Plate	IS : 2062 Grade A			
3	1	Bracket Top Plate	IS . 2062 Grade A			
2	2	Gusset	IS 2062 Grade A			
1	1	Back Plate	IS 2062 Grade A			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE	
				HEAD ASSEMBLY PARTS	01/01/84	



① FRONT TOP END PLATE




② FRONT BOTTOM END PLATE

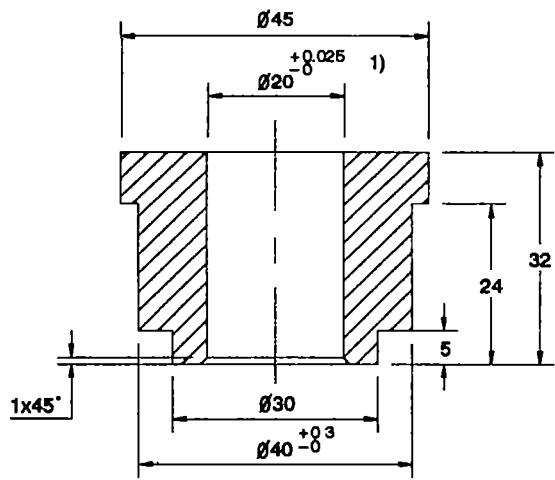


③ GUSSET

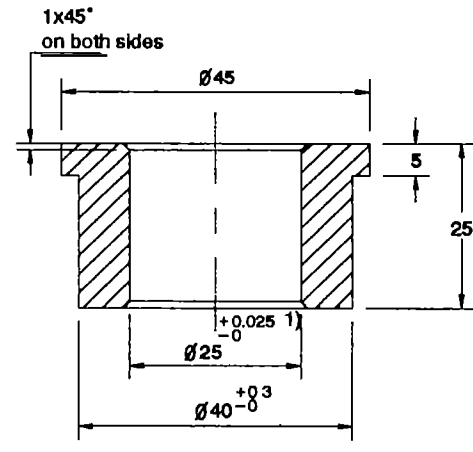
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
3	1	Gusset	IS : 2062 Grade A	TOLERANCE		DRAWING NO. IMII-01-03	
2	1	Front Bottom End Plate	IS : 2062 Grade A	U.O.S. + 0.5			
1	1	Front Top End Plate	IS : 2062 Grade A	SCALE N T S.			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE HEAD ASSEMBLY PARTS			DATE 01/01/94






① LEFT AXLE BUSH

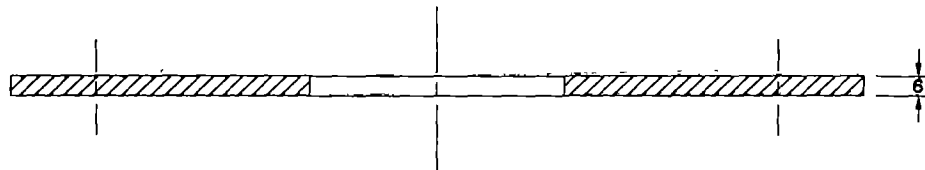
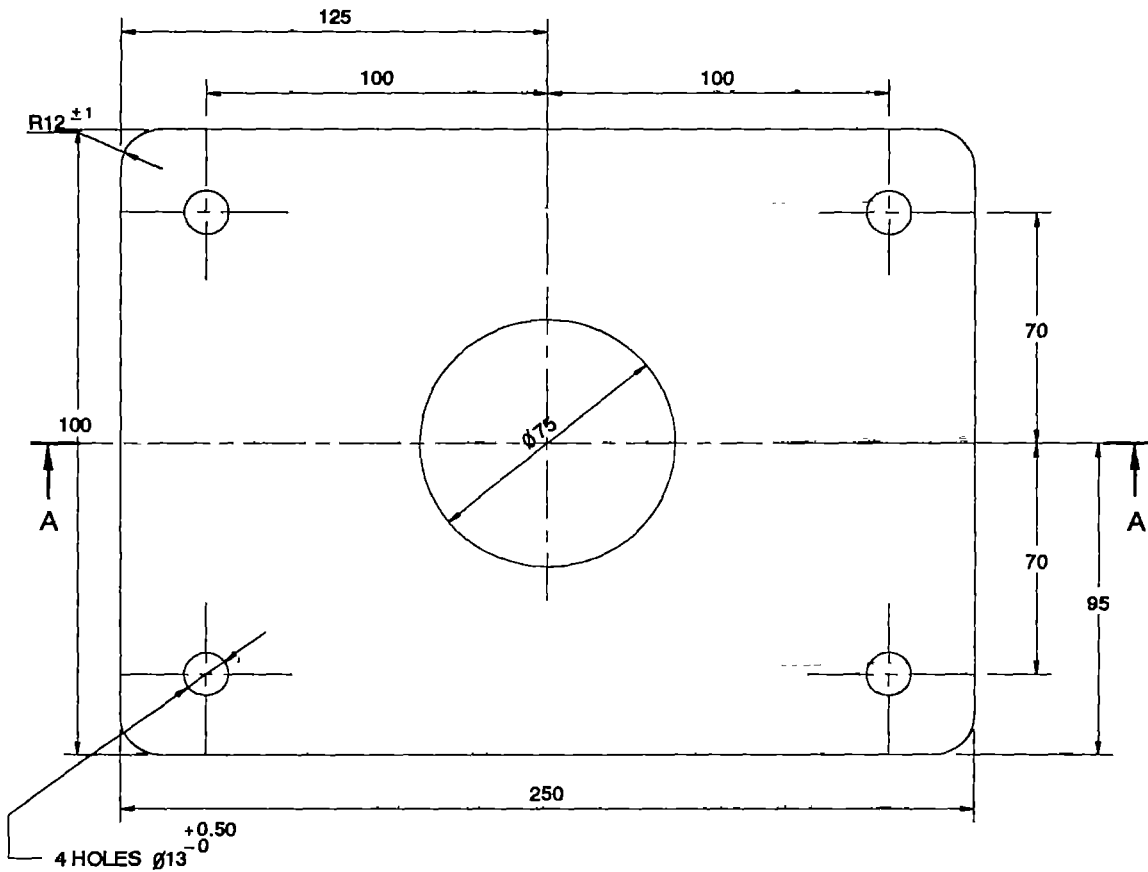


② RIGHT AXLE BUSH

1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. IMII-01-04	
				U.O.S. ± 0.3			
				SCALE N.T.S.			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			DATE
2	1	Axle Bush (Right)	IS : 2062 Grade A	HEAD ASSEMBLY PARTS			01/01/94
1	1	Axle Bush (Left)	IS : 2062 Grade A				

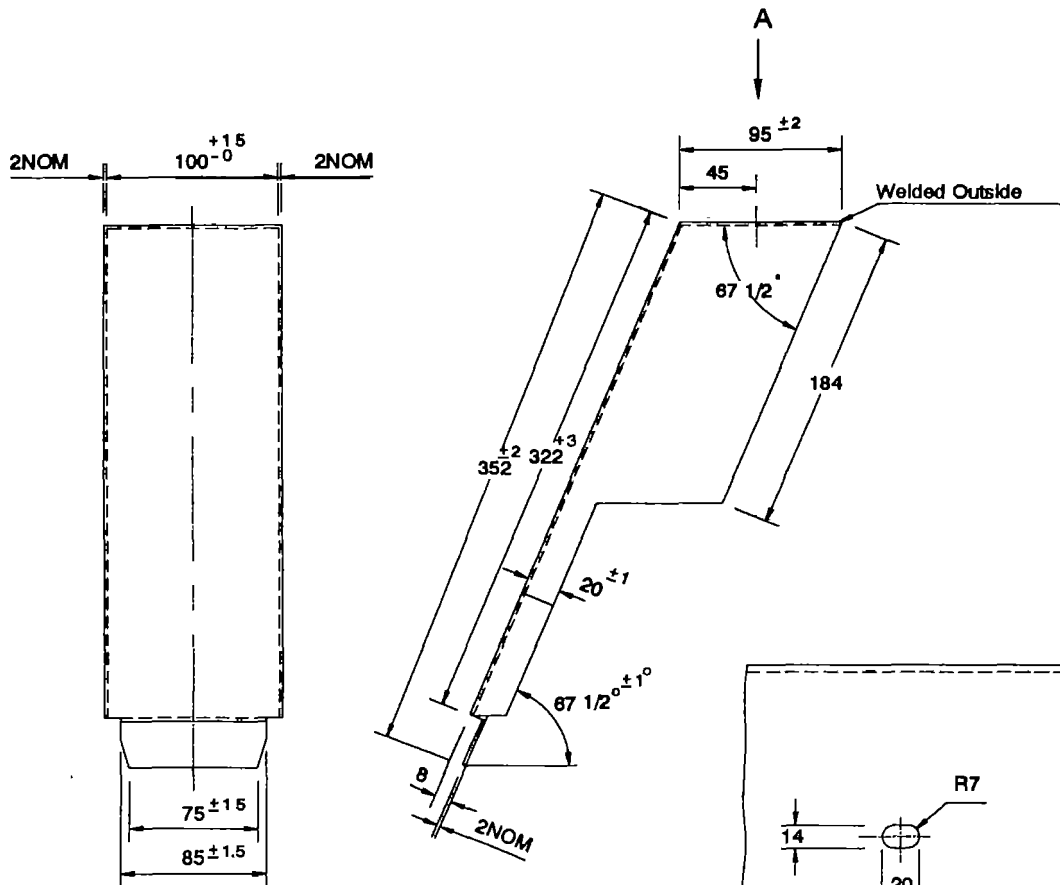


SECTION A-A

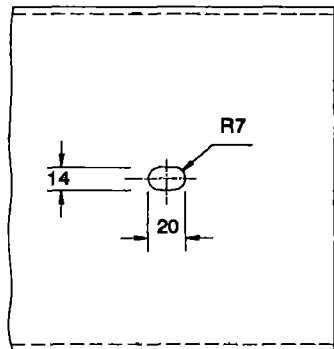
1 PUMP HEAD FLANGE

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N.T.S.	
				DRAWING NO. IMII-01-05	
1	1	Pump Head Flange	IS - 2062 Grade A		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				HEAD ASSEMBLY PARTS	01/01/04




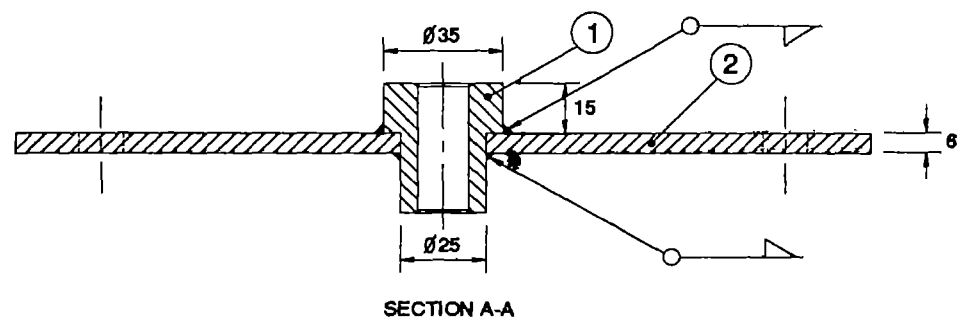
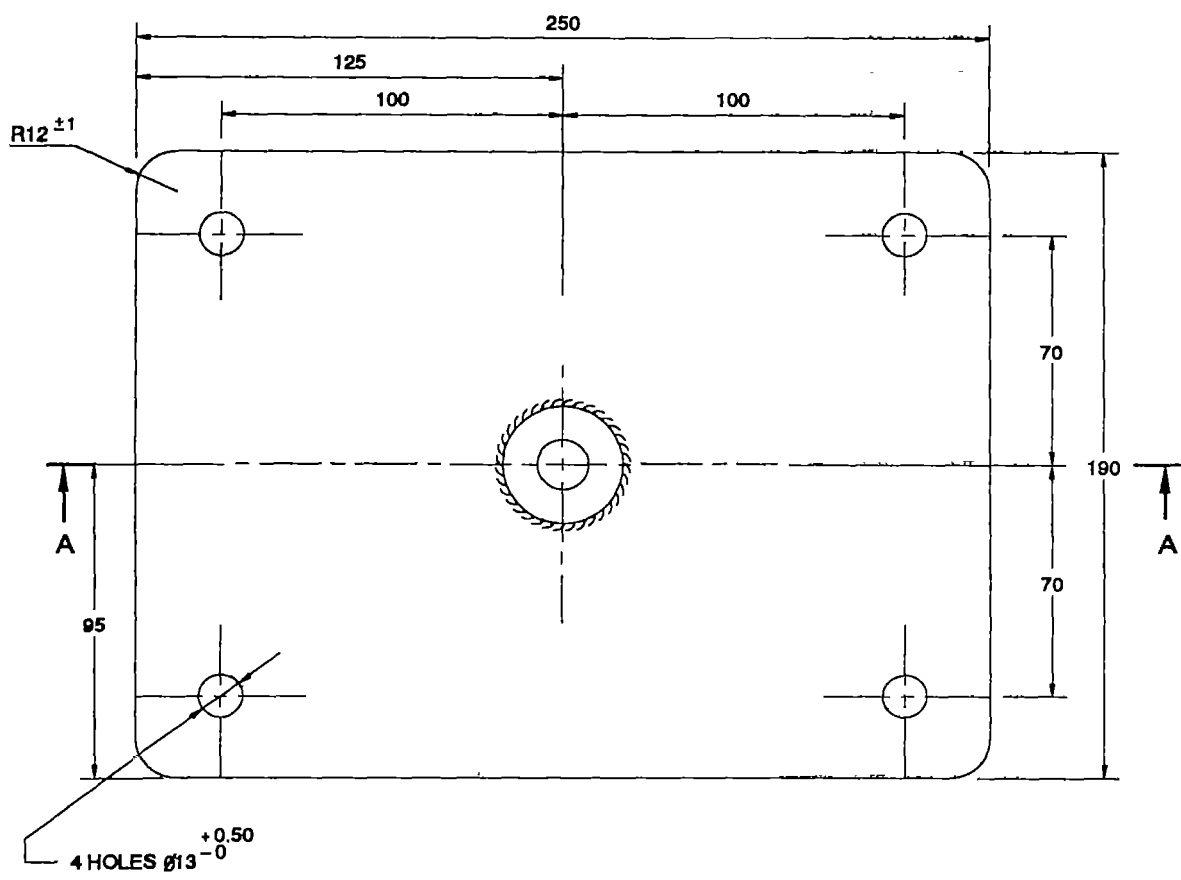
1 FRONT COVER




VIEW A

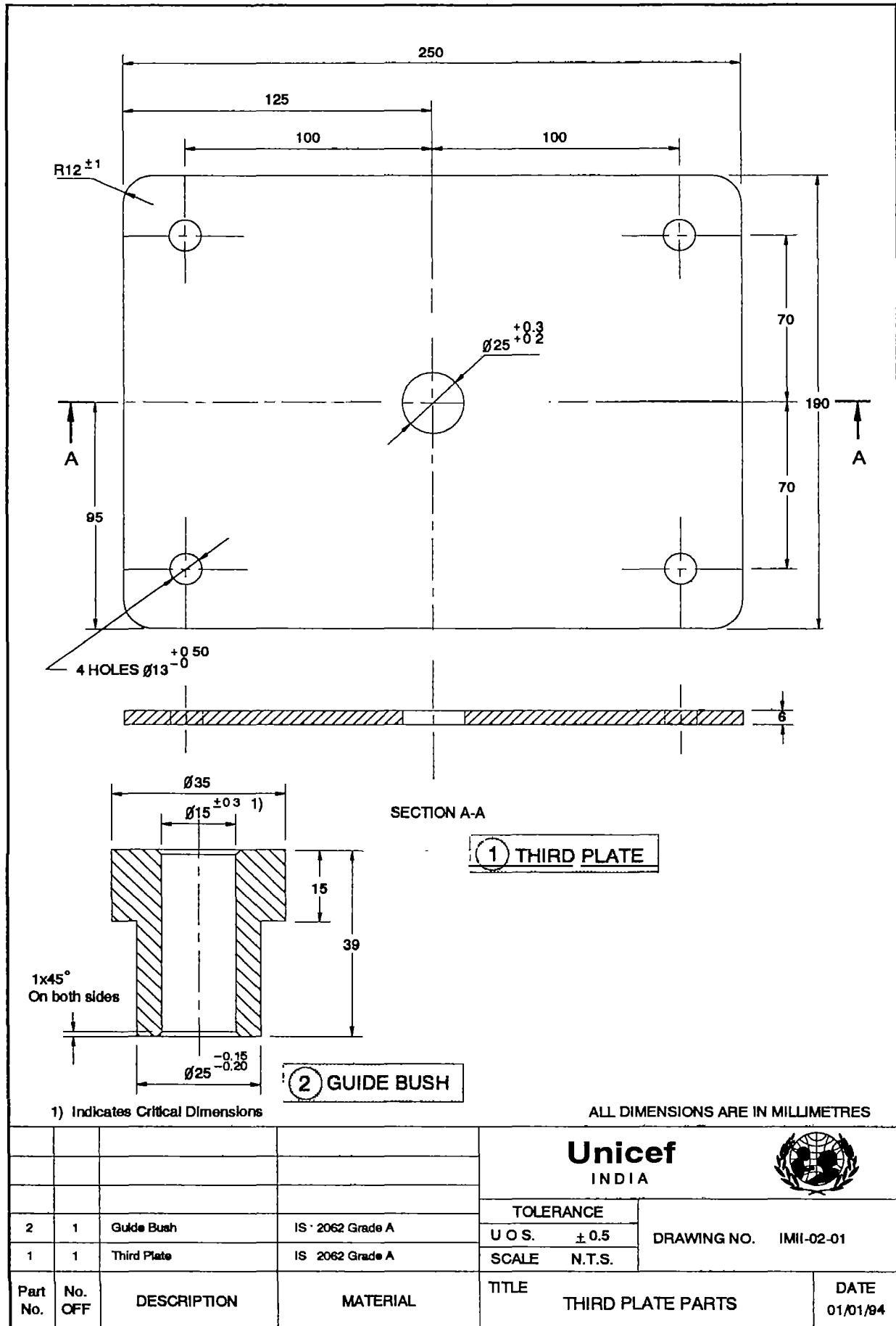
ALL DIMENSIONS ARE IN MILLIMETRES

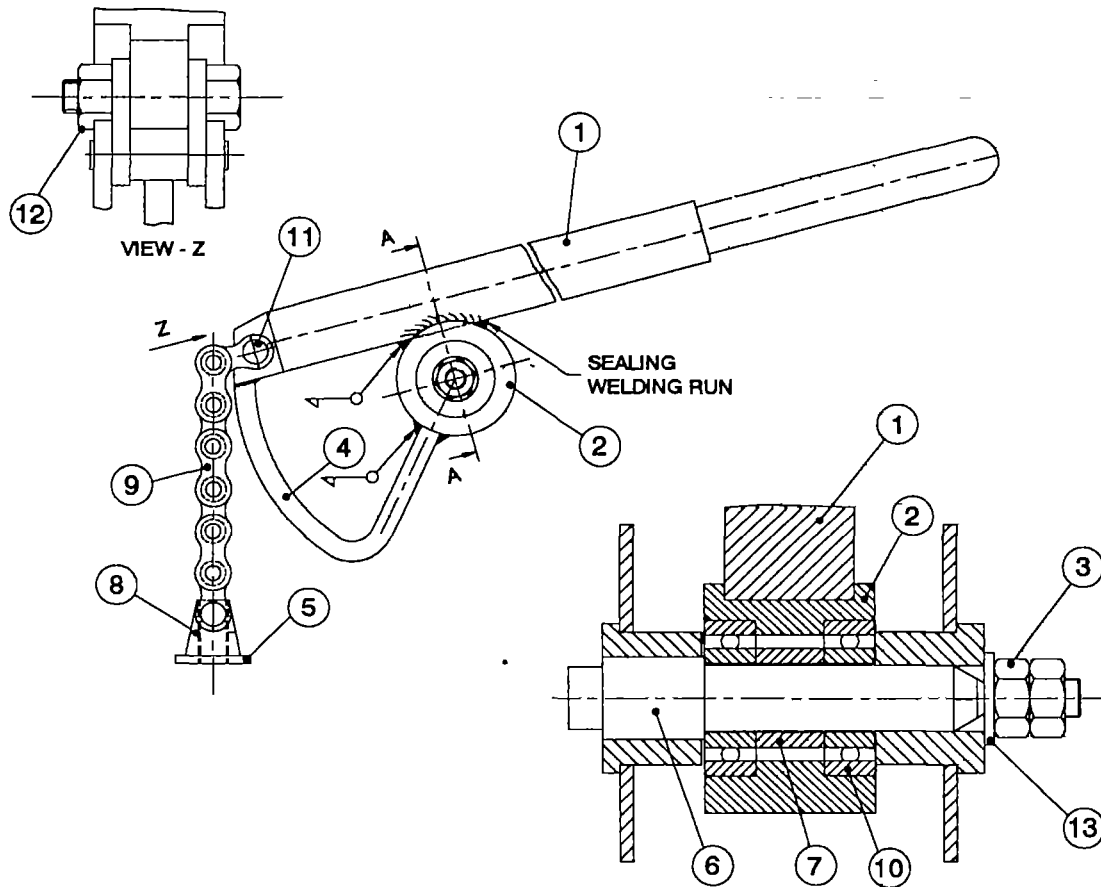
				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. IMII-01-08	
				U.O.S. ± 0.5			
				SCALE N.T.S			
1	1	Front Cover	IS : 513 1988 Ordinary Grade	TITLE		DATE	
Part No.	No. OFF	DESCRIPTION	MATERIAL	HEAD ASSEMBLY PARTS		01/01/94	



ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. IMII-02	
				U.O.S. $\pm 0.5$			
				SCALE N.T.S.			
2	1	Third Plate	IS : 2062 Grade A				
1	1	Guide Bush	IS : 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE THIRD PLATE ASSEMBLY			DATE 01/01/94





**NOTES :-**

1. Welding fillet shall not be less than 6mm at all places
2. Bearing housing shall be fully packed with lithium based grease

**SECTION A-A**

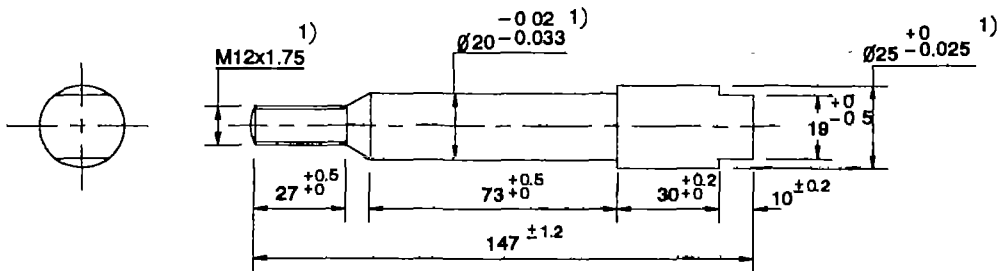
13	1	Washer (4mm thick) To suit M12	Type A IS 2016 1967
12	1	Hex. nyloc nut M10 x 1.5	IS : 7002 1972
11	1	Hex. bolt (M10 x 1.5 x 40)	IS : 1364 (PART 1) 1983
10	2	Single side Shielded bearing	Designation 20BC02 PP IS 6455 - 1972
9	1	Roller chain (25.4 mm pitch)	IS : 2403 1975
8	1	Chain with coupling	-----
7	1	Spacer	IS 2062 Grade A
6	1	Handle axle	NI CR STAINLESS STEEL Ni8% Min Cr 17% Min
5	1	Chain coupling	IS : 2004 : 1978 IS 2062 Grade A
4	1	Roller chain guide	IS 2062 Grade A
3	2	Hex. nut M12	IS : 1363 (PART 3) 1984
2	1	Bearing housing	IS : 2062 Grade A
1	1	Handle bar	IS 2062 Grade A

**Unicef**  
INDIA

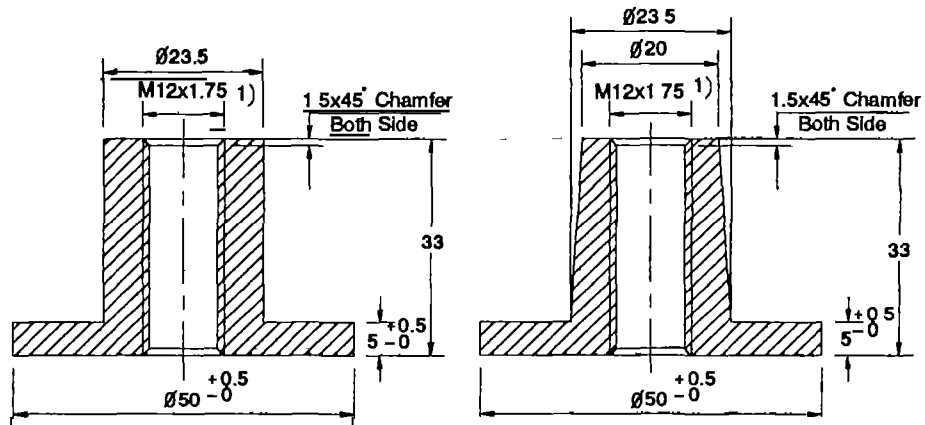


TOLERANCE		DRAWING NO IMII-03
U.O.S.	± 0.5	
SCALE	N.T.S.	

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				HANDLE ASSEMBLY	01/01/84



**1) HANDLE AXLE**



**MACHINED**


**FORGED**

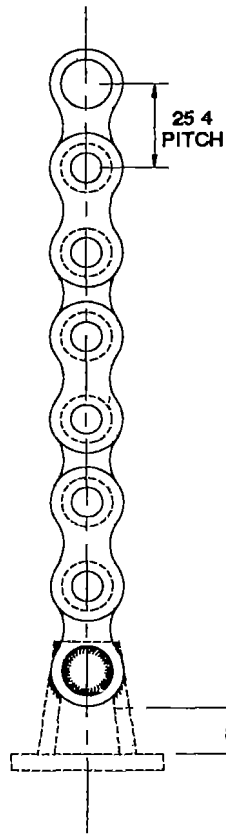
**2) CHAIN COUPLING**

1) Indicates Critical Dimensions

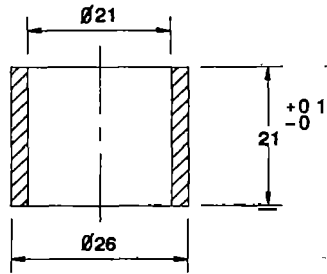
Note : Relief as per Type E of IS 3428 : 1981 shall be provided for Handle Axle

ALL DIMENSIONS ARE IN MILLIMETRES

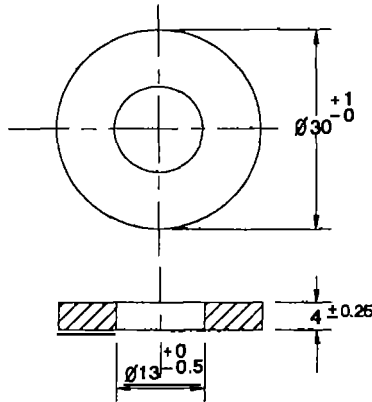
				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. IMII-03-01	
				U.O.S. ± 0.5			
				SCALE N.T.S.			
2	1	Chain Coupling	Class 2 of IS : 2004 : 1978 IS 2062 Grade A				
1	1	Handle Axle	Ni Cr Stainless Steel Ni Cr 8% Min Cr 17%				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE HANDLE ASSEMBLY PARTS			DATE 01/01/84



③ CHAIN WITH COUPLING




① SPACER



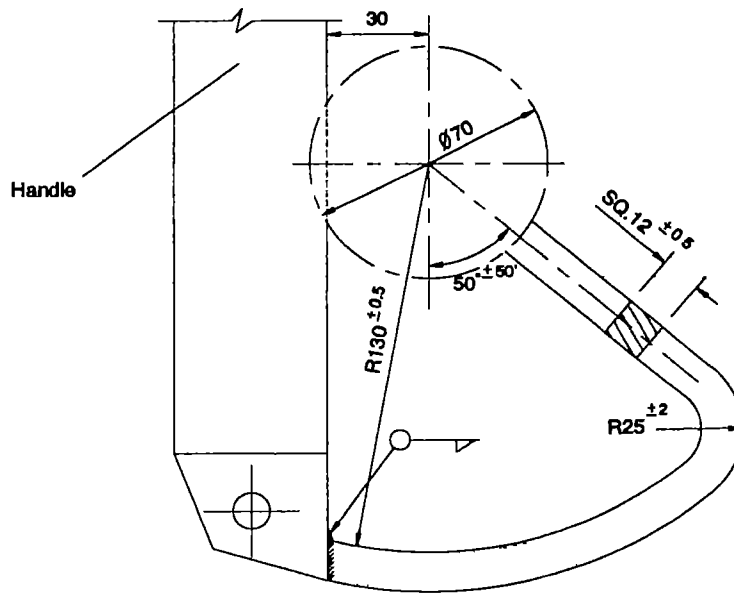
② AXLE WASHER

1) Indicates critical dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

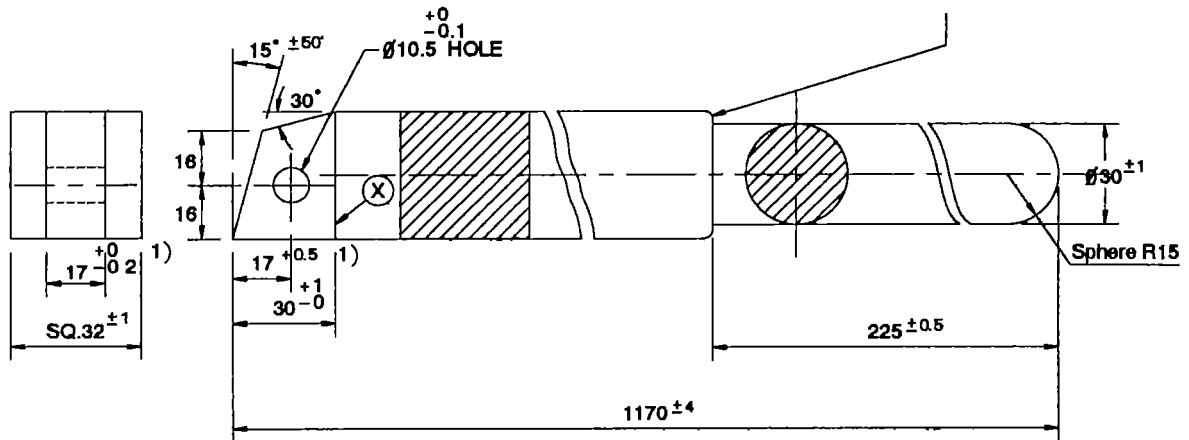
Part No.	No OFF	DESCRIPTION	MATERIAL	TITLE	DATE
3	1	Chain with coupling	IS : 2062 1992 Grade A	<b>Unicef</b> INDIA 	DRAWING NO. IMII-03-02
2	1	Axle Washer	IS : 2062 1992 Grade A		
1	1	Spacer	IS : 2062 1992 Grade A		
				- TOLERANCE U O S ± 0.1 SCALE N.T.S.	
				HANDLE ASSEMBLY PARTS	01/01/94





① ROLLER CHAIN GUIDE

Edges shall be properly chamfered to avoid to sharp corners




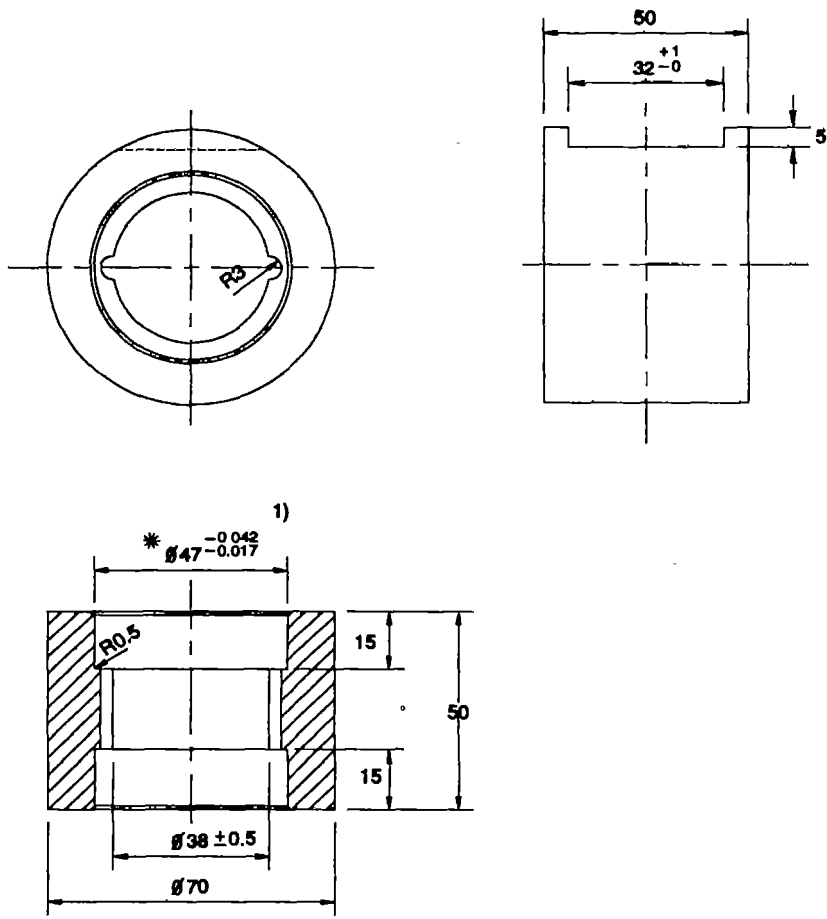
② HANDLE BAR

(X) This portion can be straight or can have any radius.

1) Indicates critical dimensions


ALL DIMENSIONS ARE IN MILLIMETRES

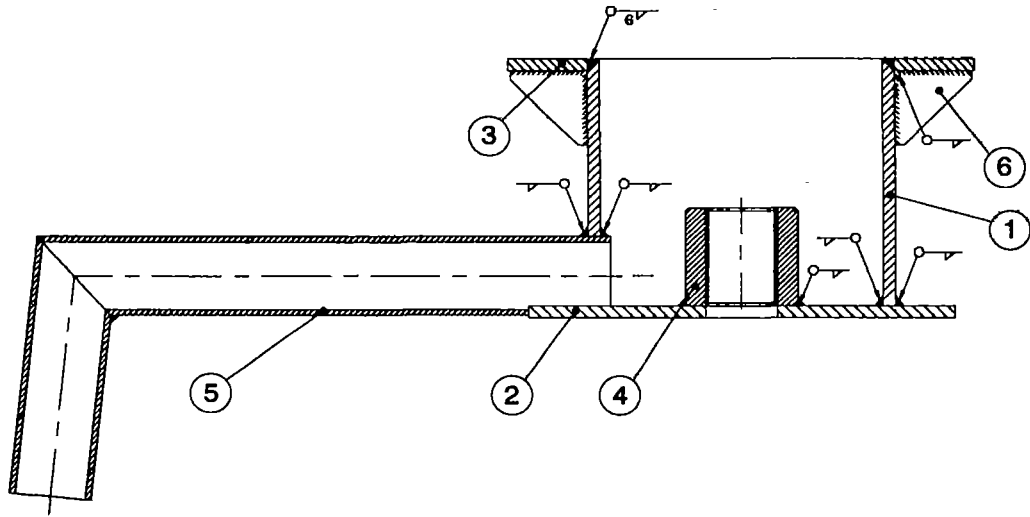
				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S    + 0.5		DRAWING NO.    IMI-03-03	
				SCALE    N.T.S.			
2	1	Handle Bar	IS . 2062 Grade A				
1	1	Roller Chain Guide	IS : 2062 Grade A				
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> HANDLE ASSEMBLE PARTS		<b>DATE</b> 01/01/94	



⊛ After welding  
 1) Indicates critical dimensions


ALL DIMENSIONS ARE IN MILLIMETRES

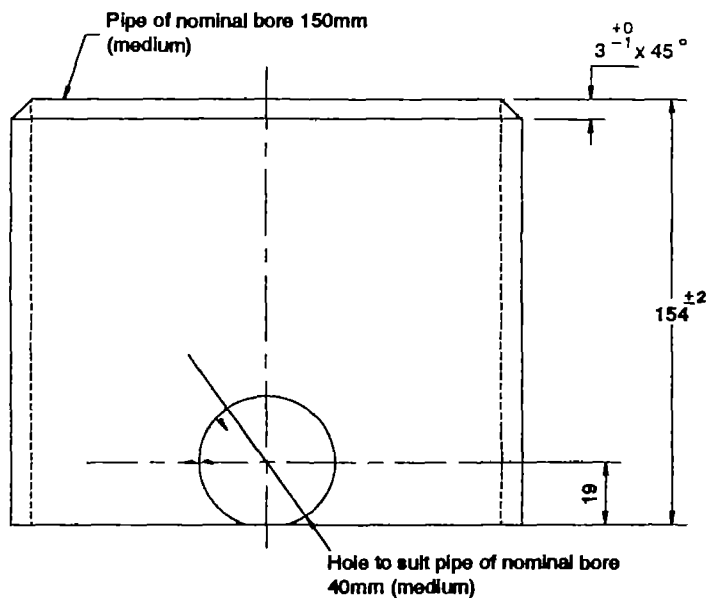
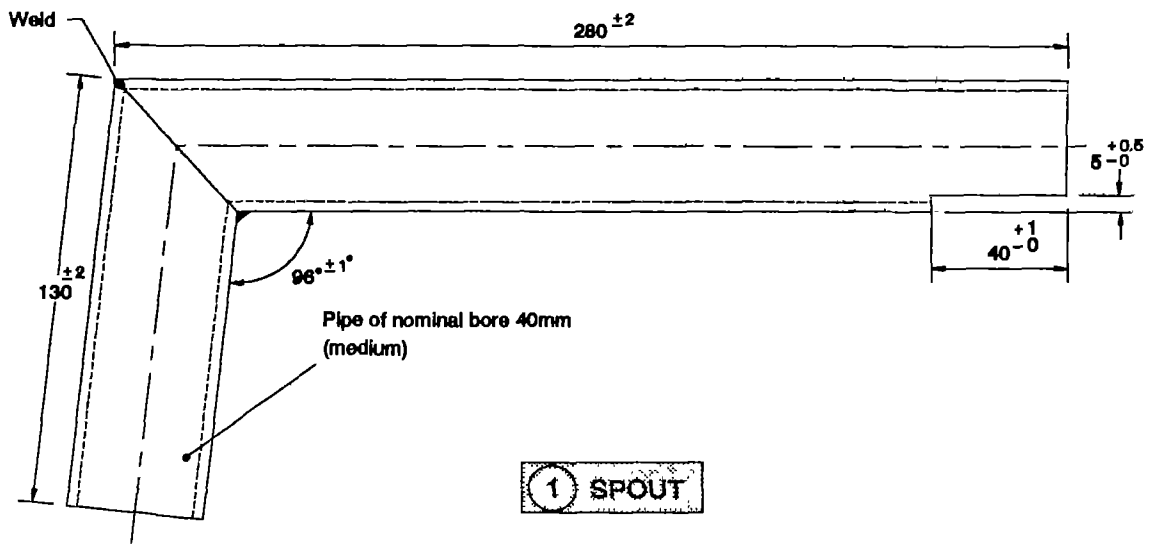
				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. $\pm 0.1$		DRAWING NO. IMI-03-04	
				SCALE N.T.S.			
1	1	Bearing Housing	IS : 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE HANDLE ASSEMBLE PARTS		DATE 01/01/84	




**NOTE :-**

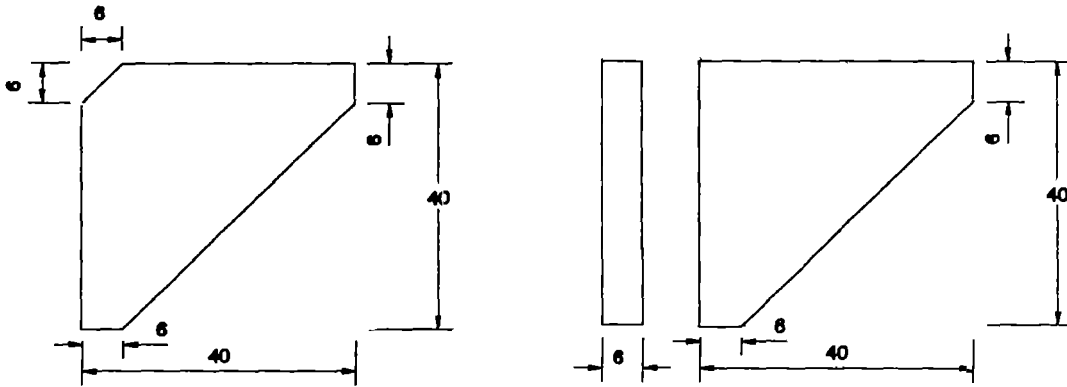
1. Fillet size of weld at all places shall be minimum 6mm excepting spout where it shall not be less than 4mm the inside welding of the tank pipe shall be given a sealing run.
2. One side of coupling to be faced
3. Sealing run on the top flange to be ground smooth

6	2	Gusset	IS : 2062 1992 Grade A	<b>Unicef</b> INDIA 	
5	1	Spout	IS : 1239 (PART 1) - 1979		
4	1	Riser pipe holder	IS : 2062 Grade A		
3	1	Tank top flange	IS : 2062 Grade A		
2	1	Tank bottom flange	IS 2062 Grade A		
1	1	Tank pipe	IS 1239 (PART 1) - 1979	TOLERANCE U.O.S. $\pm 0.5$ SCALE N.T.S.	DRAWING NO. IMII-04
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				WATER TANK ASSEMBLY	01/01/94



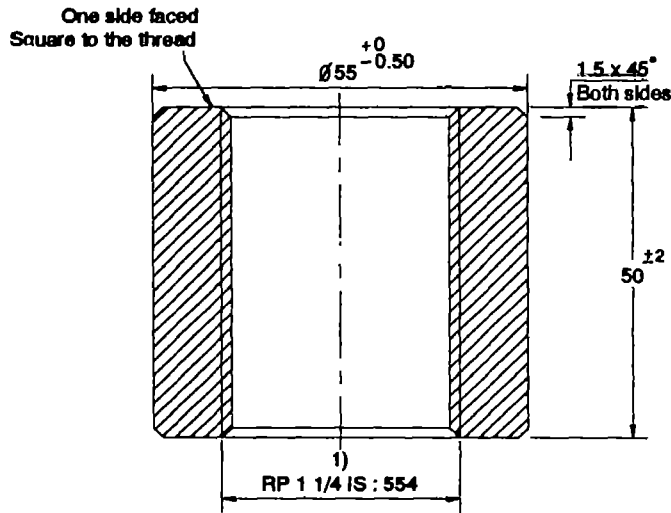
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. IMII-04-01	
				U.O.S. $\pm 0.5$			
				SCALE N.T.S.			
2	1	Tank pipe	IS : 1239 (Part 1) - 1979				
1	1	Spout	IS . 1239 (Part 1) - 1979				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE	
				WATER TANK ASSEMBLY PARTS		01/01/94	



① GUSSET


ALTERNATE DESIGN

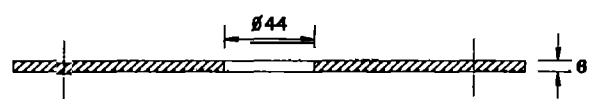
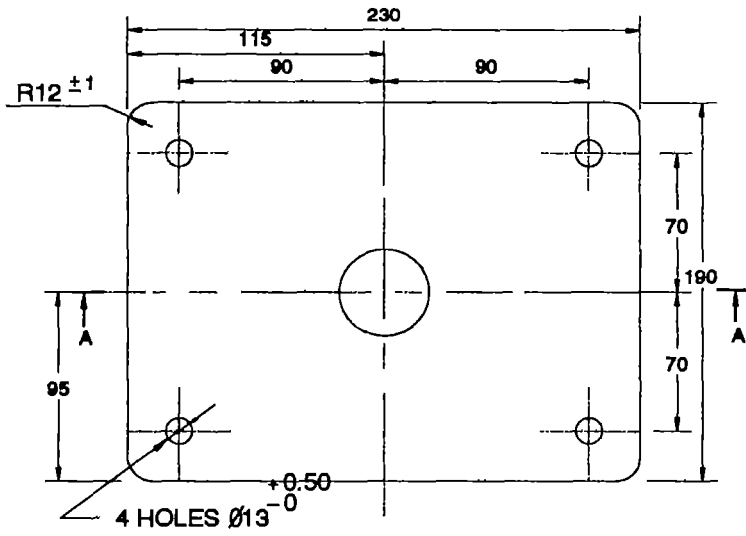


② RISER PIPE HOLDER

1) Indicates critical dimensions

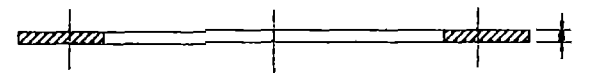
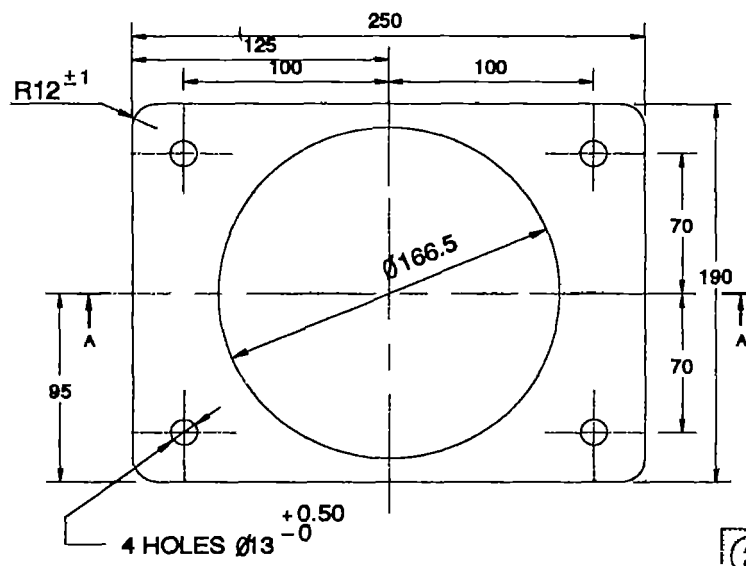
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO. IMII-04-02	
				SCALE N.T.S.			
2	1	Riser pipe holder	IS : 2062 Grade A				
1	2	Gusset	IS : 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE WATER TANK ASSEMBLY PARTS			DATE 01/01/84



SECTION A-A


① TANK BOTTOM FLANGE

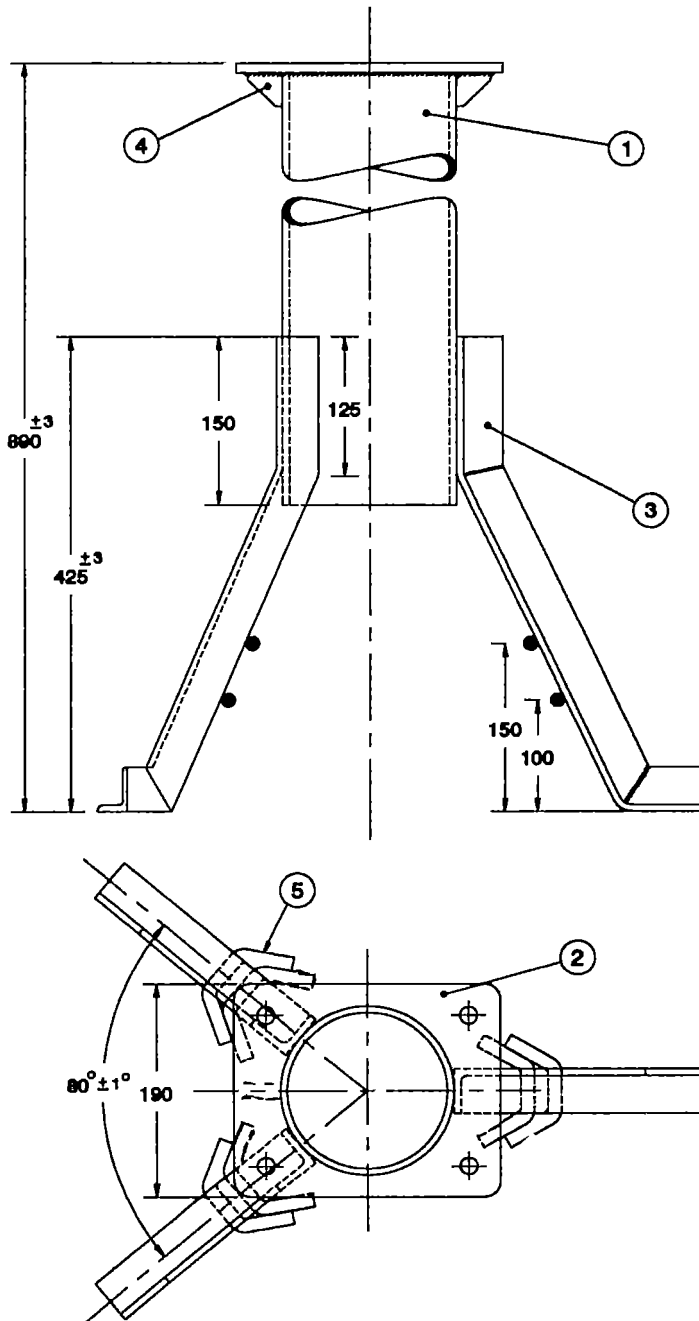


SECTION A-A

② TANK TOP FLANGE


ALL DIMENSIONS ARE IN MILLIMETRES

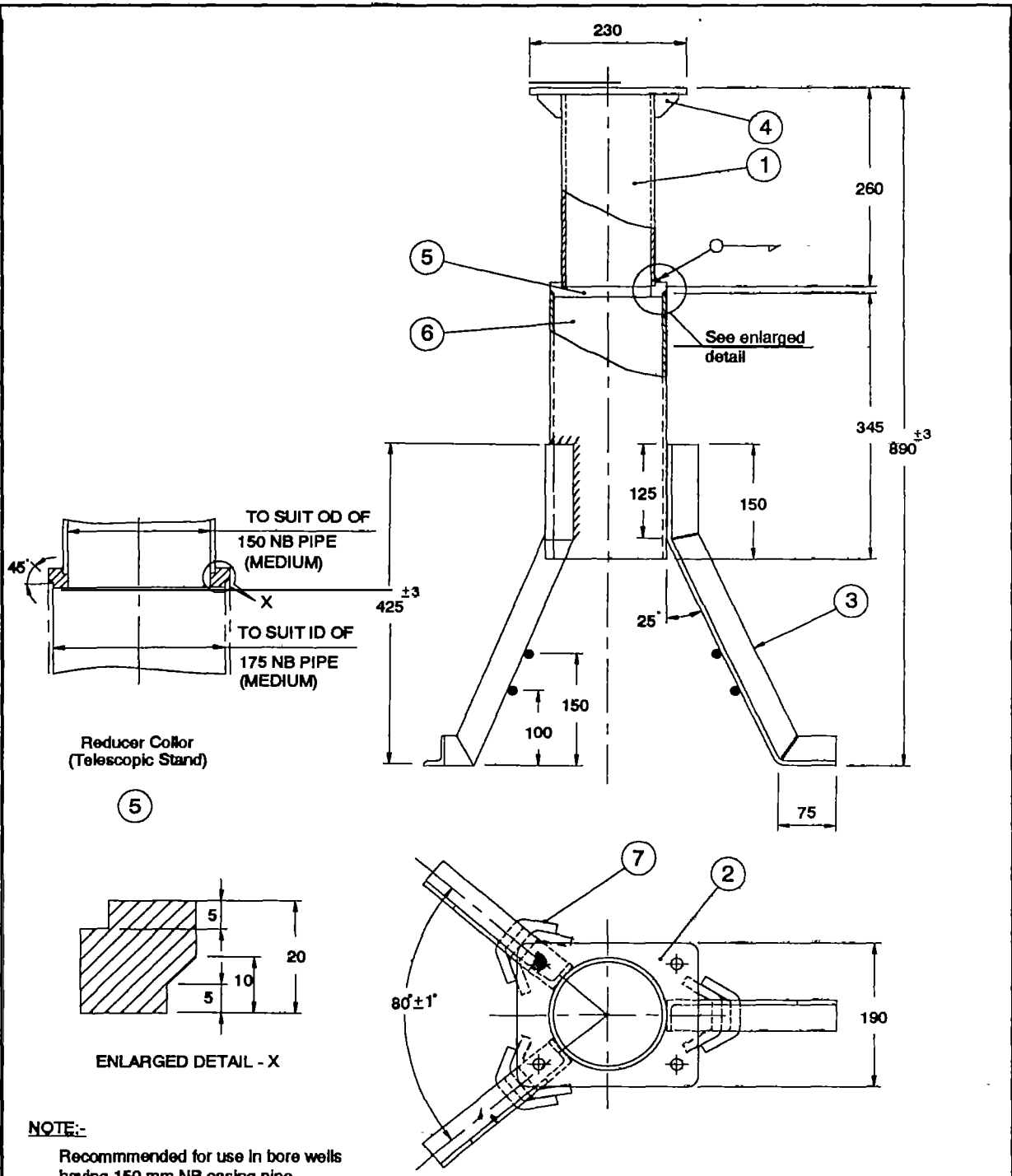
				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N.T.S	
				DRAWING NO. IMII-04-03	
2	1	Tank top flange	IS 2062 Grade A		
1	1	Tank bottom flange	IS 2062 Grade A		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	
				WATER TANK ASSEMBLY PARTS	
				DATE	
				01/01/84	



NOTE :- Recommended for use in bore wells having 100mm and 125 mm NB casing pipe

ALL DIMENSIONS ARE IN MILLIMETRES

5	6	Spikes	IS : 2062 Grade A	<b>Unicef</b> INDIA 	DRAWING NO. IMI-05
4	2	Gusset	IS : 2062 Grade A		
3	3	Leg	IS 808 - 1989		
2	1	Stand Flange	IS : 2062 Grade A		
1	1	Stand Pipe	IS : 1239 (PART 1) - 1979		
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N.T.S.	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				STAND ASSEMBLY	01/01/94



**NOTE:-**  
 Recommended for use in bore wells having 150 mm NB casing pipe

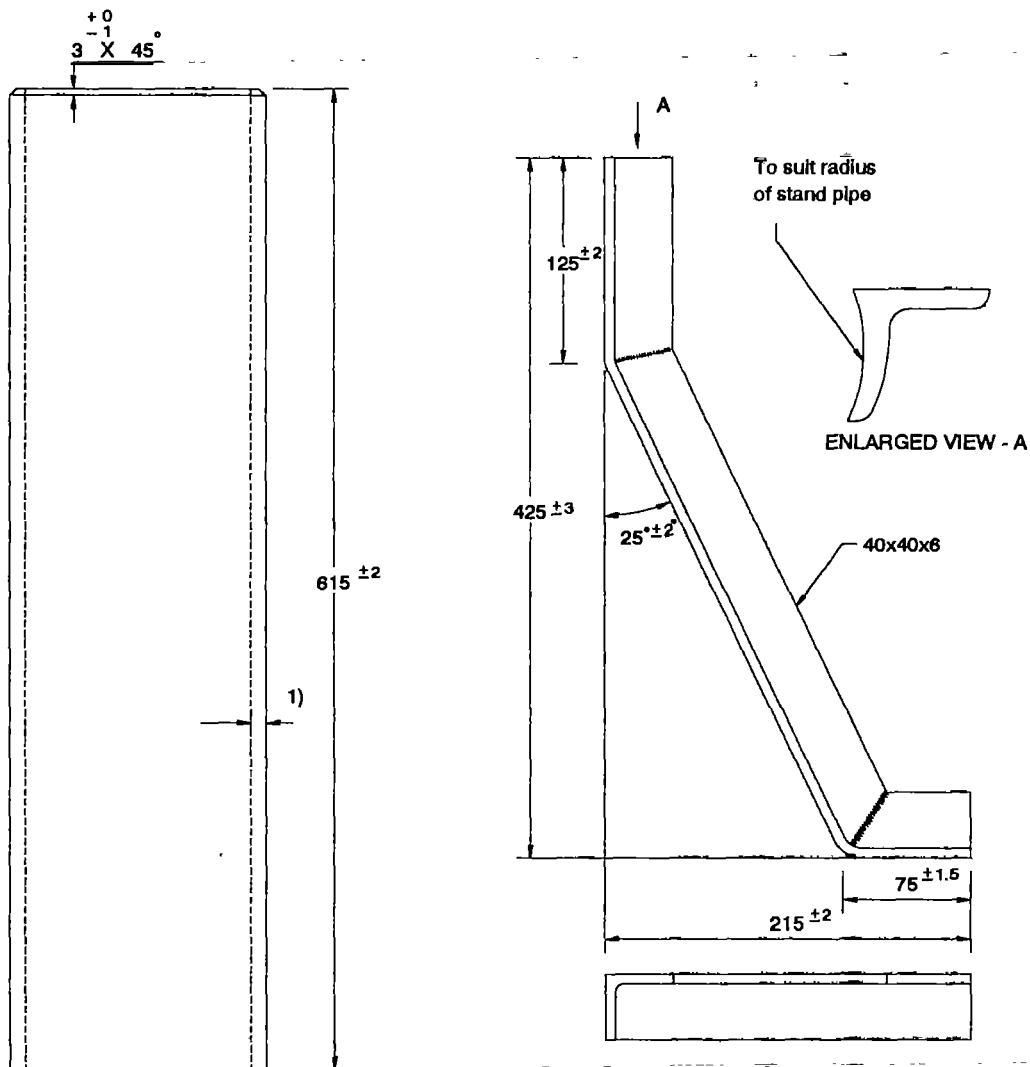
7	6	Spikes	IS - 2062 Grade A
6	1	175 NB Pipe	IS 1161 1979
5	1	Reducer Collar	IS 2062 Grade A
4	2	Gusset	IS 2062 Grade A
3	3	Leg	IS . 808 1989
2	1	Stand Flange	IS . 2062 Grade A
1	1	Stand Pipe (150 NB)	IS 1239 (part 1) 1979
Part No.	No. OFF	DESCRIPTION	MATERIAL

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA

TOLERANCE		DRAWING NO IMII-05A
U.O.S.	± 0.5	
SCALE	N.T.S.	
TITLE		DATE
TELESCOPIC STAND ASSEMBLY		01/01/94






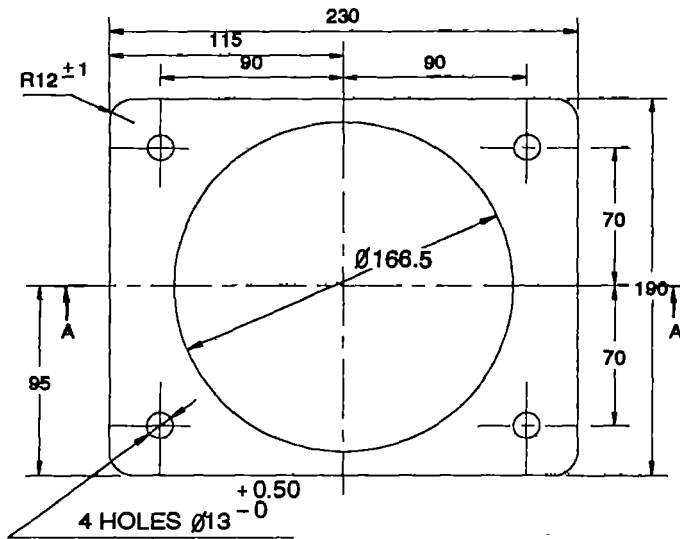
① STAND PIPE

② LEG

1) Indicates Critical Dimensions

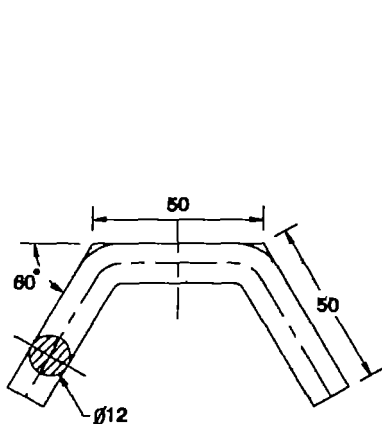
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N.T.S.	
				DRAWING NO. IMM/05-01	
2	3	Leg	IS : 808 - 1989		
1	1	Stand Pipe (150 NB)	IS : 1239 (Part-1) - 1979		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				STAND ASSEMBLY PARTS	01/01/84

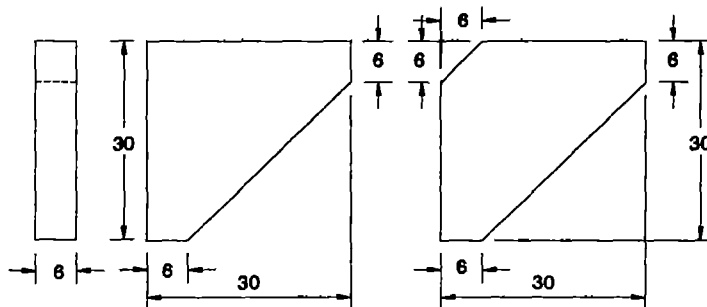


SECTION A-A

① STAND FLANGE




② SPIKES

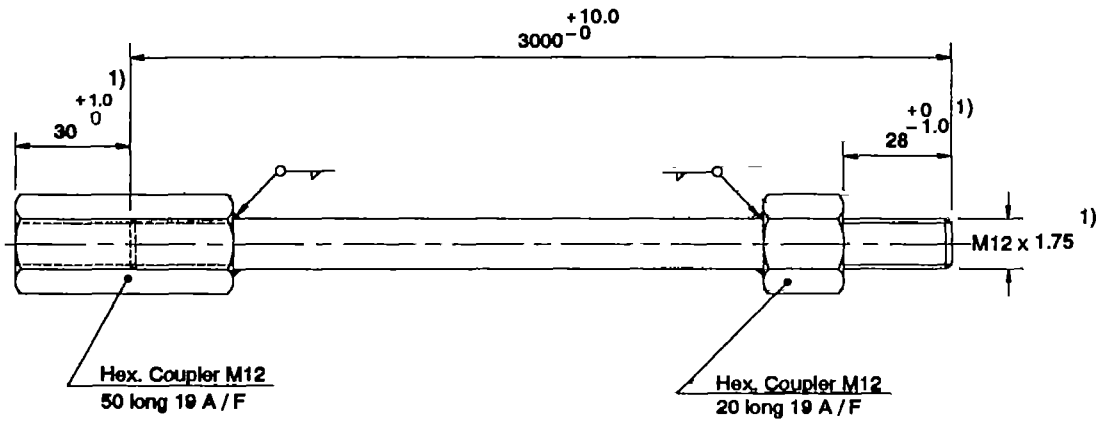


③ GUSSET

ALTERNATE DESIGN

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b>		
				INDIA		
3	2	Gusset	IS . 2062 Grade A	TOLERANCE		DRAWING NO IMII-05-02
2	6	Spikes	IS 2062 Grade A	U.O.S.	± 0.5	
1	1	Stand flange	IS . 2062 Grade A	SCALE	N.T.S.	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE
				STAND ASSEMBLY PARTS		01/01/84




**① CONNECTING ROD**

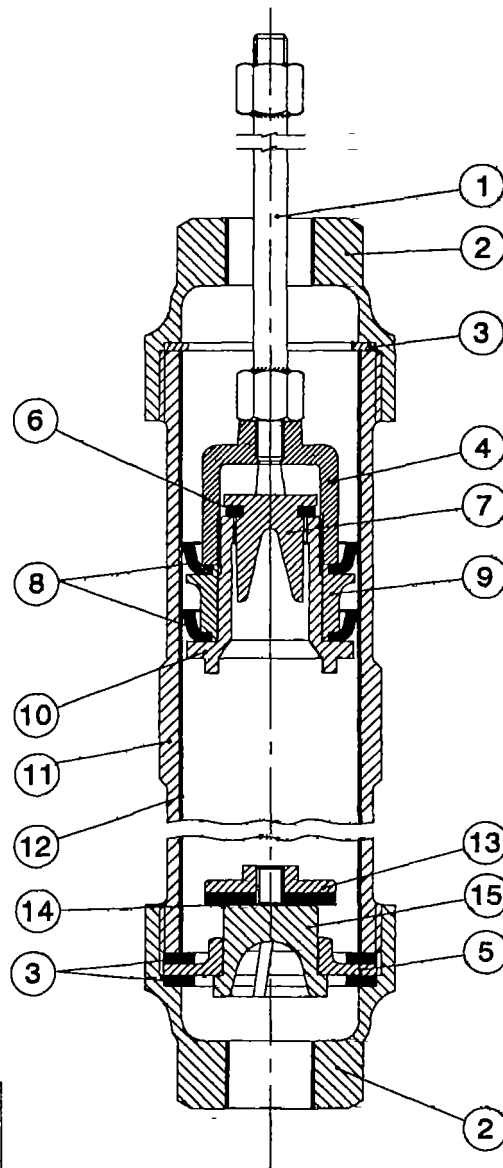
**Notes :**

1. Electro galvanizing according to IS : 1573 - 1986 service condition no.4 (not applicable for stainless steel)
2. Alternatively the connecting rod may be manufactured from stainless steel grade O4 Cr 18 Ni 10 conforming to IS : 6603 : 1972
3. The tolerance of thread shall conform to IS : 4218 Part 4 & 5 : 1979 class 6g for bolts and 6H for nuts.
4. Tapping permitted after electro galvanising if required.

1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO. IMII-06	
				SCALE N.T.S.			
1	-	Connecting Rod	Type 4 Grade 2 or 3 IS : 9550 : 1980				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE	
				CONNECTING ROD		01/01/84	



**Note :**

As an alternate, metal components to Grade LTB 2 of IS 318 : 1981 of cylinder assembly shall be forged from Naval Brass conforming to IS 6912 : 1985.

Lower valve assembly to be punch locked on top of M10 dia at two points.

All bronze casting shall be free from lead segregation and hardness shall be 55 HB. Min

The brass liner shall be free from pitting and scaring mark and shall have smooth finish. No cracks in brass tube flaring operation shall be permissible

15	1	Check Valve	GR LTB 2 OF IS : 318 - 1981
14	1	Rubber Seating (C V)	Nitrile Rubber
13	1	Rubber Seat Retainer	GR. LTB 2 OF IS 318 - 1981
12	1	Brass Liner	CU, ZN 30 AS OF IS : 407 - 1981
11	1	Cylinder Body	GR. FG 200 OF IS : 210 - 1978
10	1	Follower	GR. LTB 2 OF IS : 318 - 1981
9	1	Spacer	GR LTB 2 OF IS : 318 - 1981
8	2	Pump Bucket	Nitrile Rubber
7	1	Upper Valve	GR. LTB 2 OF IS : 318 - 1981
6	1	Rubber Seating (U. V)	Nitrile Rubber
5	1	Check Valve Seat	GR. LTB 2 OF I IS : 318 - 1981
4	1	Plunger Yoke Body	GR LTB 2 OF IS : 318 - 1981
3	3	Sealing Ring	Nitrile Rubber
2	2	Reducer Cap	GR. FG 200 OF IS : 210 -1978
1	1	Plunger Rod	GR 04 CR 18 NI 10 IS . 6603 - 1972

**Unicef**  
INDIA



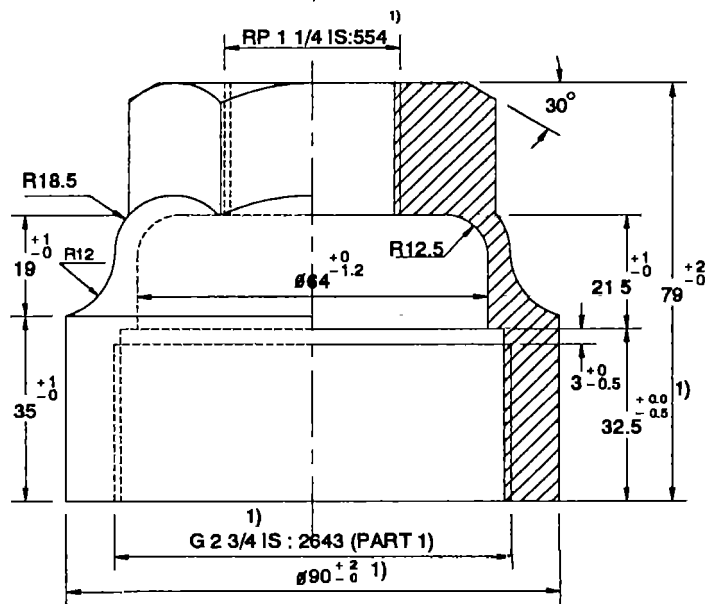
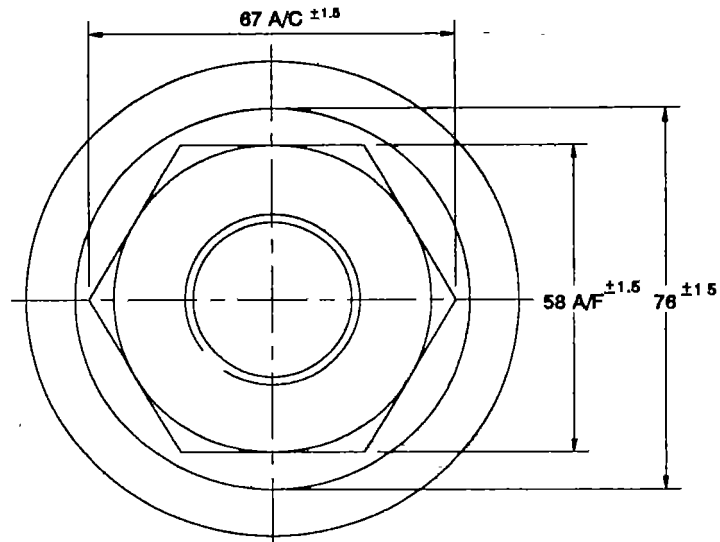
TOLERANCE

U.O.S.  $\pm 0.5$

SCALE N.T.S.

DRAWING NO. IMII-07


Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				CYLINDER ASSEMBLY	01/01/84

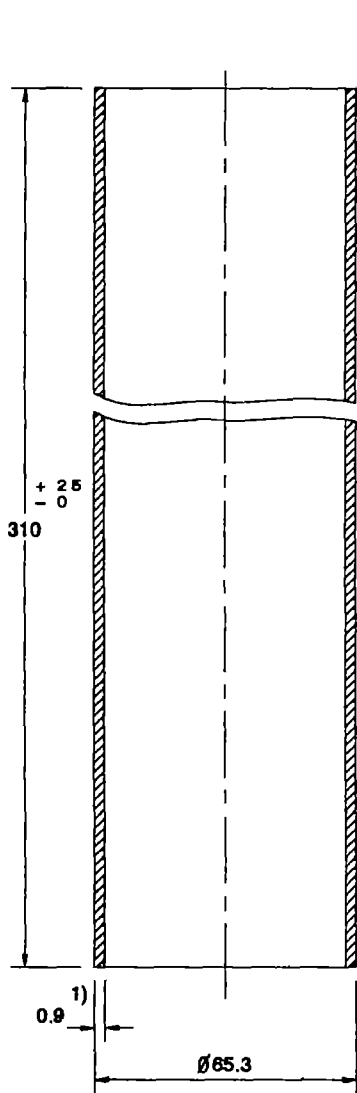


① REDUCER CAP

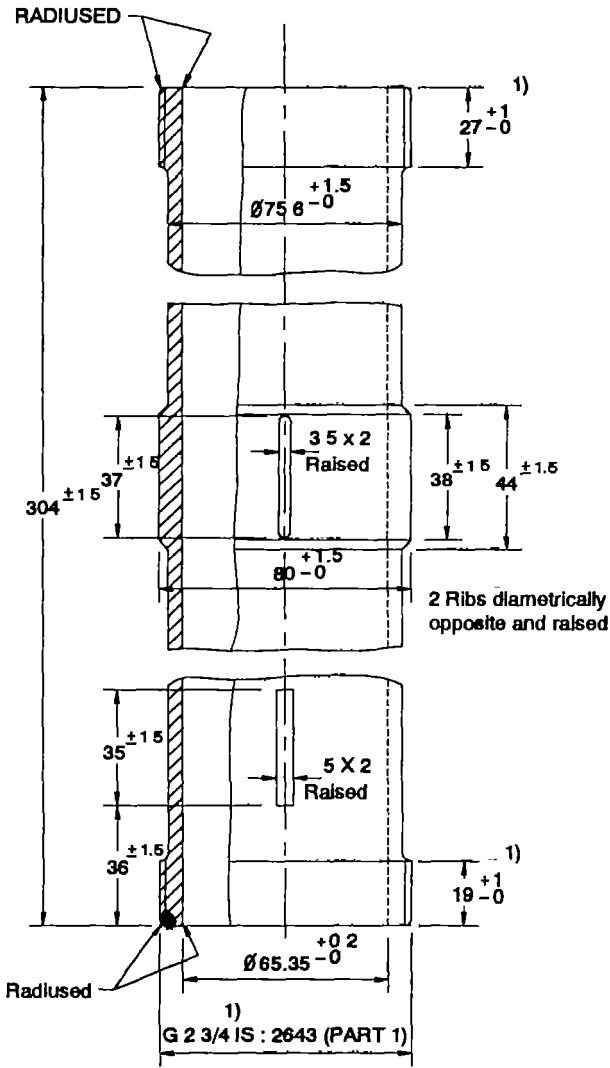
1) Indicates Critical Dimensions.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. IMII-07-01	
				U.O.S ± 0.5			
				SCALE N.T.S.			
1	2	Reducer Cap	GR. FG 200 OF IS 210 - 1978				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE CYLINDER ASSEMBLY PARTS		DATE 01/01/84	




**1) BRASS LINER**

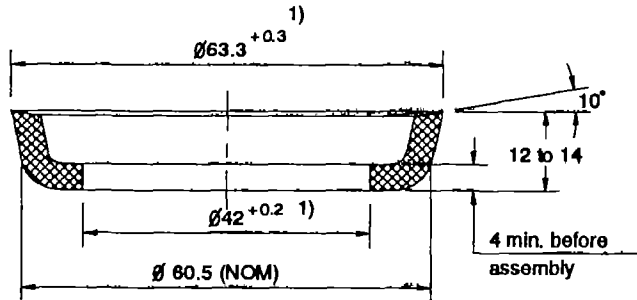


**2) CYLINDER BODY**

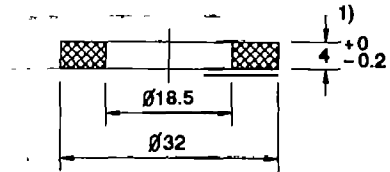
1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

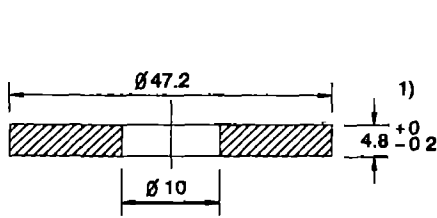
				<b>Unicef</b> INDIA 	
				<b>TOLERANCE</b>	
				U.O.S. ± 0.5	
				SCALE N.T.S.	
				DRAWING NO. IMII-07-02	
2	1	Cylinder Body	GR.FG 200 IS : 210 · 1978		
1	1	Brass Liner	Cu Zn 30 As of IS 407 1981		
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b>	
				CYLINDER ASSEMBLY PARTS	
				<b>DATE</b> 01/01/84	



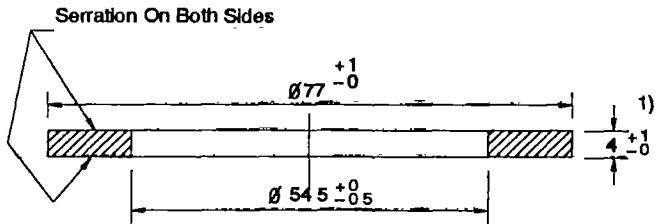
① NITRILE RUBBER PUMP BUCKET



② RUBBER SEATING (UPPER VALVE)



③ RUBBER SEATING (LOWER VALVE)



④ SEALING RING

Note :

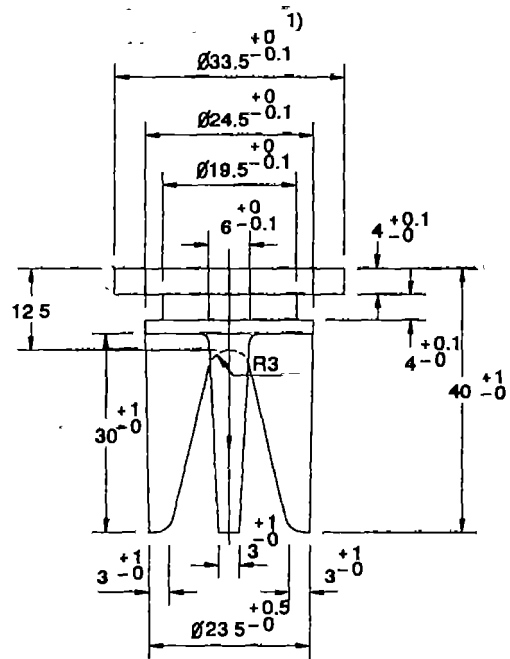
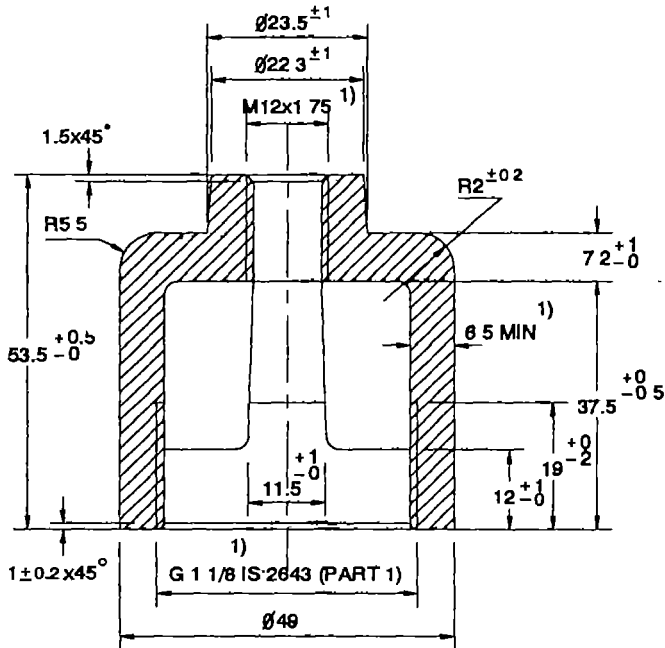
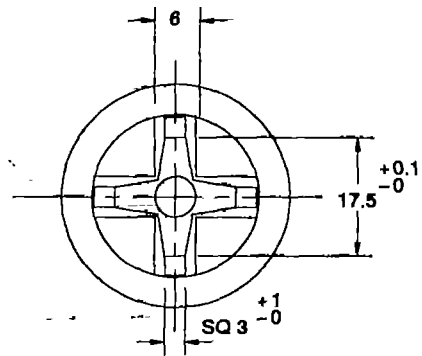
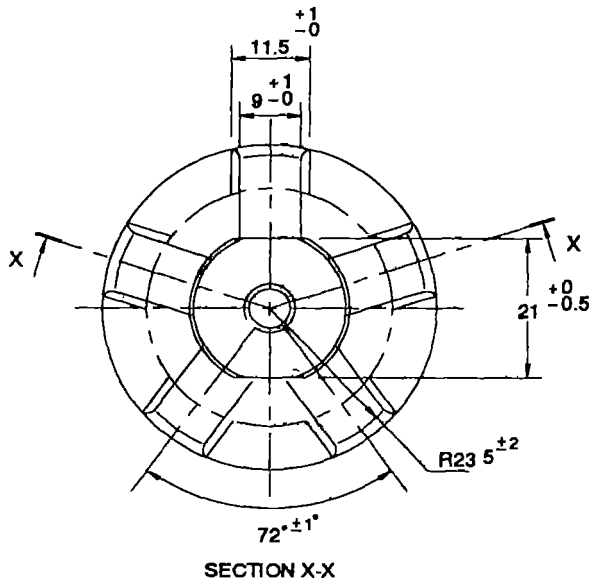
The physical properties of nitrile rubber shall be:

Shore hardness on a scale	80 <sup>+5</sup> <sub>-4</sub>
Tensile strength	12.6 M Pa Min
Elongation at break	150% Min
Compression set 24 h at 70 °c	20% Max
Volume changes 22 h at 40 °c	-0% Max +25%
Resistance to low temperature at which rigidity modulus does not exceed 70 M Pa	-10°C

1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	3	Sealing Ring	Nitrile Rubber	<b>Unicef</b> INDIA TOLERANCE U.O.S. ± 0.5 SCALE N.T.S.	DRAWING NO. IMII-07-03 DATE 01/01/84
3	1	Rubber Seating (Lower Valve)	Nitrile Rubber		
2	1	Rubber Seating (Upper Valve)	Nitrile Rubber		
1	2	Nitrile Rubber Pump Bucket	Nitrile Rubber		
				CYLINDER ASSEMBLY PARTS	




① PLUNGER YOKE BODY

② UPPER VALVE

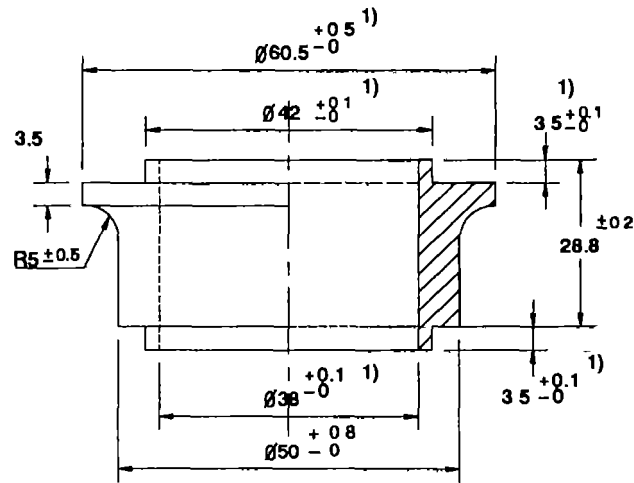
NOTE : Section 21 A/F can be at any location.

1) Indicates Critical Dimensions

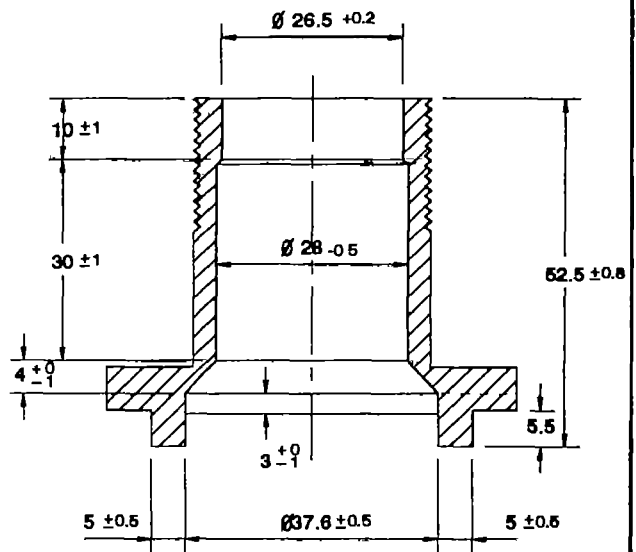
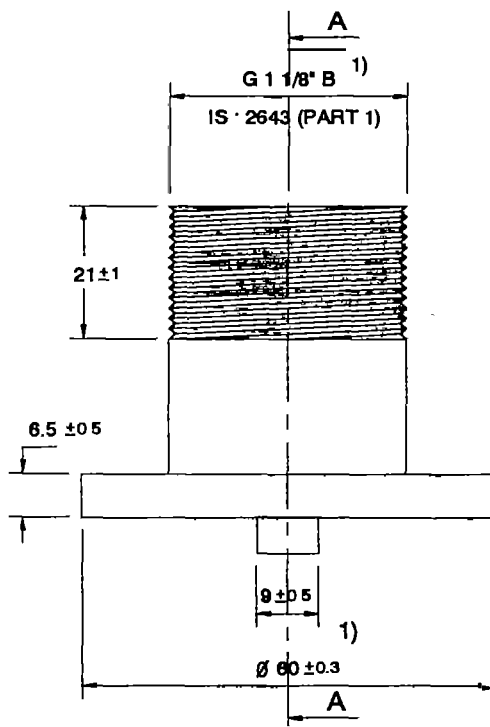
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
2	1	Upper Valve	LTB 2 IS : 318 1981	U.O.S.	± 0.5	DRAWING NO. IMI-07-04	
1	1	Plunger Yoke Body	LTB 2 IS : 318 1981	SCALE	N.T.S.		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			DATE
				CYLINDER ASSEMBLY PARTS			01/01/84





① SPACER (FOR NITRILE RUBBER PUMP BUCKET)




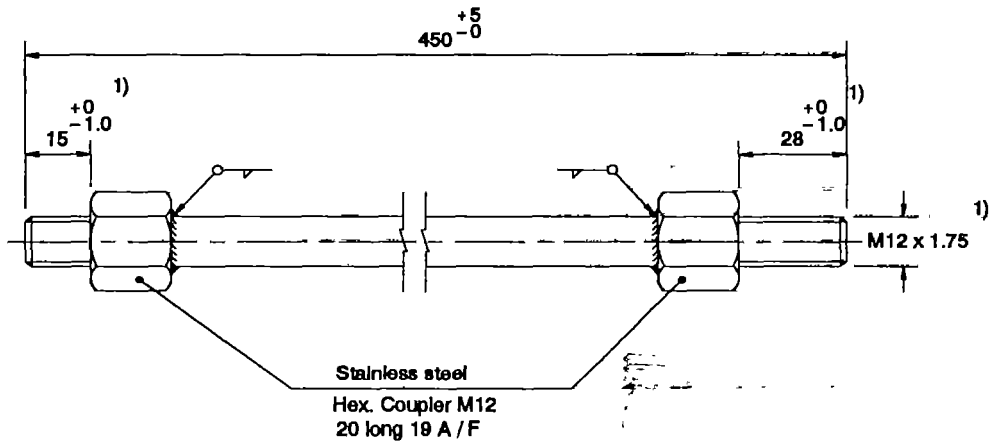
SECTION A-A

② FOLLOWER

1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA 	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TOLERANCE	
				U.O.S.	SCALE
2	1	Follower	GR LTB 2 OF IS 318 - 1981	± 0.5	DRAWING NO. IMII-07-05
1	1	Spacer	GR LTB 2 OF IS 318 - 1981	N.T.S.	
				TITLE	
				CYLINDER ASSEMBLY PARTS	
				DATE	
				01/01/94	

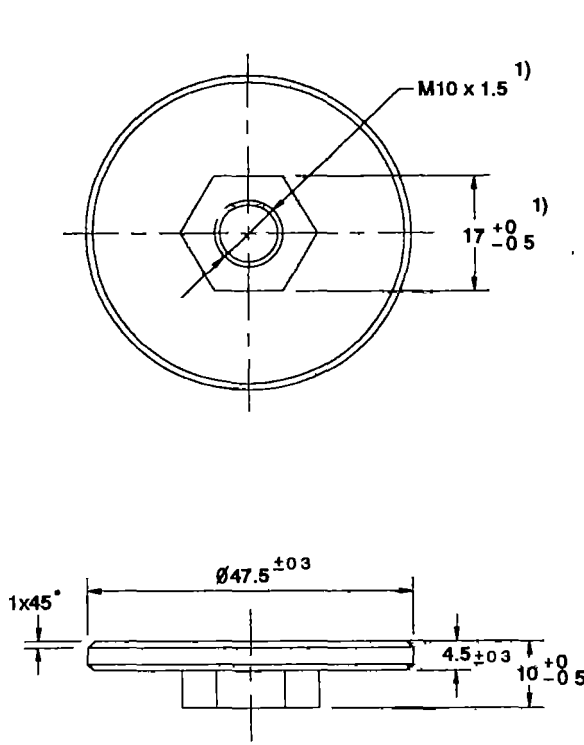


① PLUNGER ROD

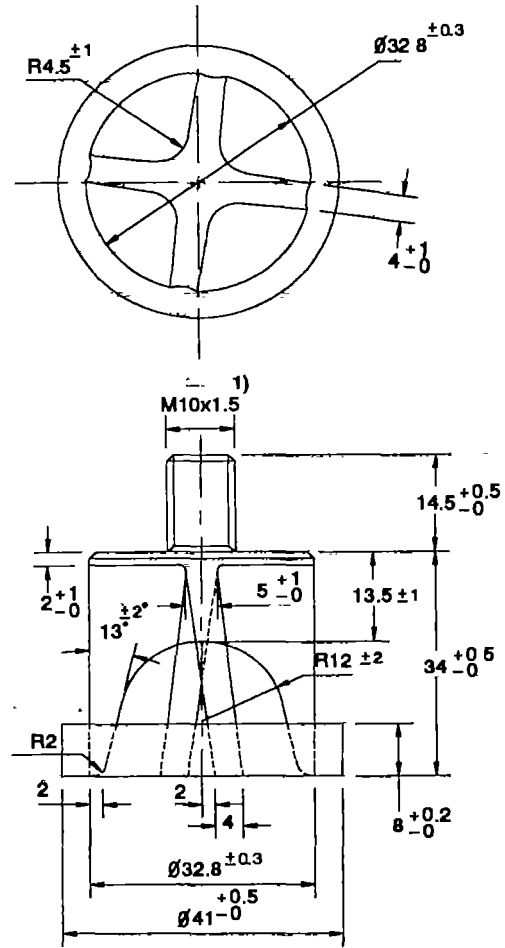
1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

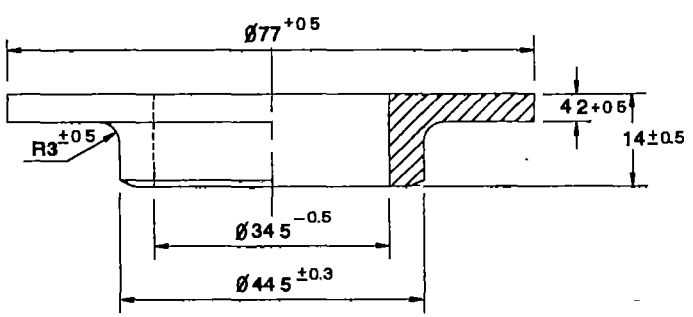
				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. IMII-07-06	
				U.O.S. ± 0.5			
				SCALE N.T.S.			
1	1	Plunger Rod	Grade 04 Cr 18 Ni 10 IS 6603 1972				
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> CYLINDER ASSEMBLY PARTS			<b>DATE</b> 01/01/94



① RUBBER SEAT RETAINER




② CHECK VALVE



③ CHECK VALVE SEAT

1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
3	1	Check Valve Seat	GR. LTB 2 OF IS 318 - 1981	TOLERANCE			
2	1	Check Valve	GR. LTB 2 OF IS : 318 - 1981	U.O.S.	± 0.5	DRAWING NO. IMII-07-07	
1	1	Rubber Seat Retainer	GR LTB 2 OF IS 318 - 1981	SCALE	N T.S.		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			DATE
				CYLINDER ASSEMBLY PARTS			01/01/84

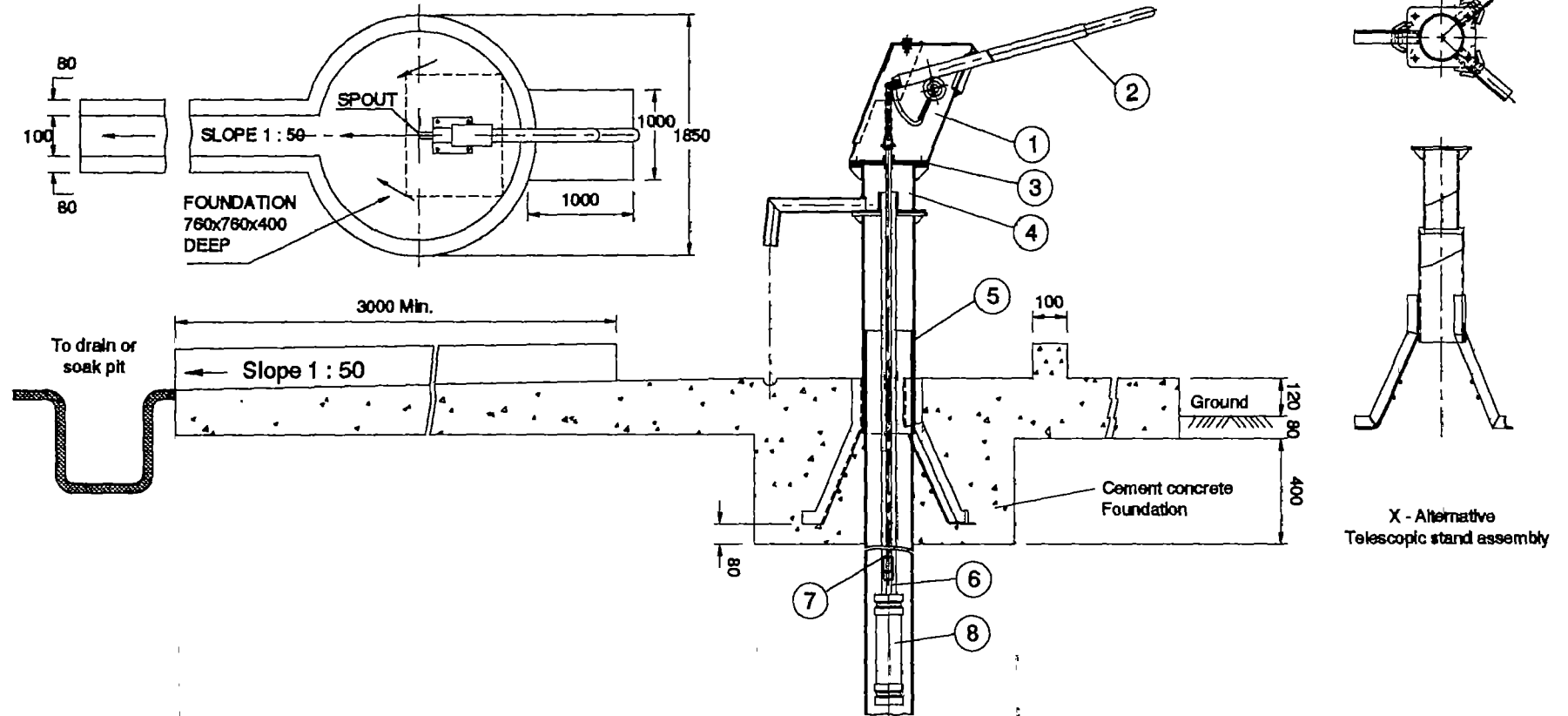


## **India Mark III (VLOM) Handpump**

LIBRARY  
INTERNATIONAL REFERENCE CENTRE  
FOR COMMUNITY WATER SUPPLY AND  
SANITATION (IRC)



# INDIA MARK III (VLOM) HAND PUMP SYSTEM ASSEMBLY



41

**NOTE :**

1. The free end of the casing pipe shall be min. 300mm above the installation mark
2. Casing pipe is not required when the bore pipe passes through rocks.
3. Separate platform for washing clothes/utensils and cattle truffs may be provided if required.

8	1	Cylinder Assembly	-
7	-	Connecting Rod	-
6	-	Riser Pipe	-
5	1	Stand Assembly	-
4	1	Water Tank Assembly	-
3	1	Additional Flange	-
2	1	Handle Assembly	-
1	1	Head Assembly	-
Part No.	No. OFF	DESCRIPTION	MATERIAL

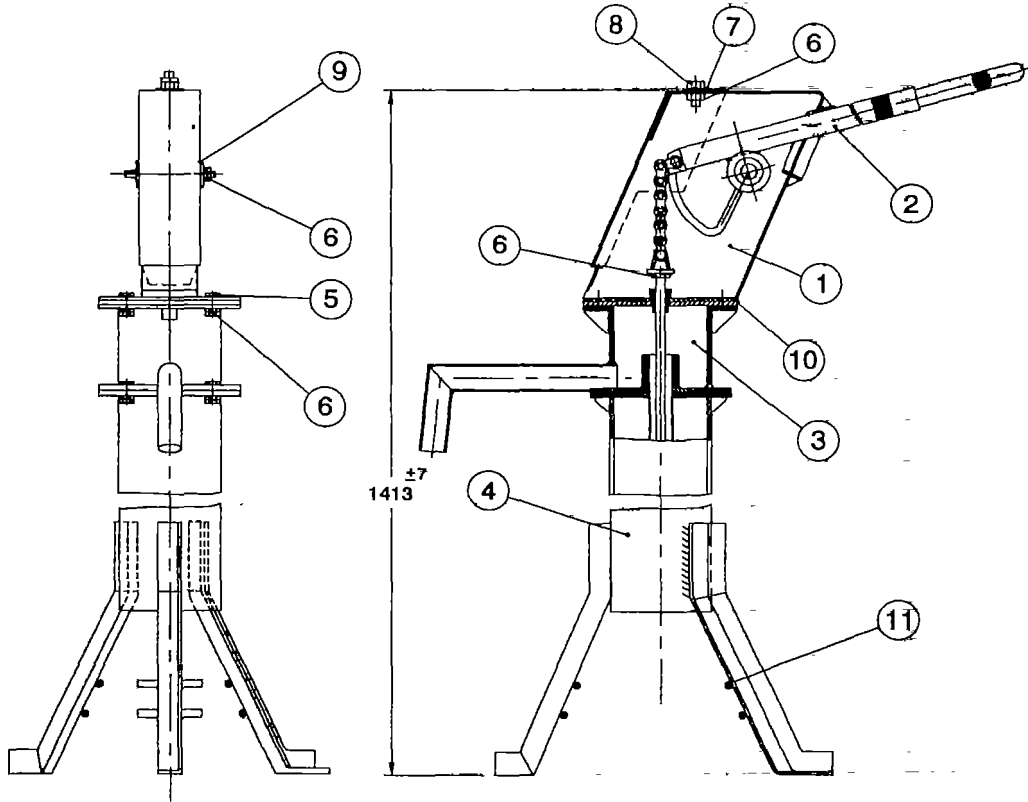
ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



TOLERANCE		DRAWING NO. VLOM
U.O.S.	± 0.5	
SCALE	N.T.S.	

TITLE	DATE
HAND PUMP SYSTEM ASSEMBLY	01/01/84



11	6	Spike	IS 2062 Grade A
10	1	Third Plate	IS 2062 Grade A
9	1	Axle Washer	IS 2062 Grade A
8	1	Hex. Bolt M12 x 20	IS 1363 (Part - 1) - 1984
7	1	Washer (To Suit M12)	Type A - IS 2016 - 1967
6	20	Hex. Nut M12	IS 1363 (Part - 3) 1984
5	8	Hex. Bolt M12 x 40	IS 1363 (Part - 1) - 1984
4	1	Stand Assembly	-
3	1	Water Tank Assembly	-
2	1	Handle Assembly	-
1	1	Head Assembly	-
Part No.	No. OFF	DESCRIPTION	MATERIAL

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



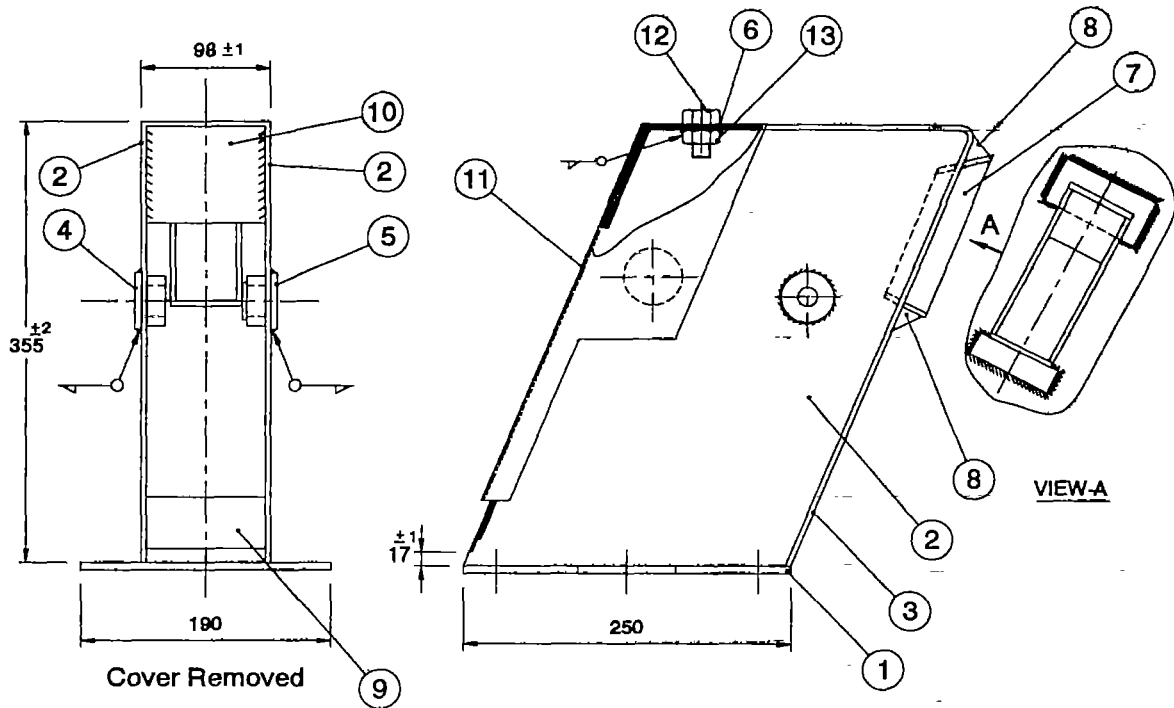
TOLERANCE  
U.O.S.  $\pm 0.5$   
SCALE N T S.

DRAWING NO. VLOM-00

TITLE  
DEEP WELL HAND PUMP (VLOM)

DATE  
01/01/84





**NOTE:-**

- 1 Inside fillet welding of side plates and back plate to the flange should be 3.2mm min.
2. Welding fillets in other places should be 4 mm min.
3. The side plate shall be welded inside and outside as shown in the drawing.
4. The head assembly shall be welded from inside and outside. the outside seal welding run shall be ground smooth.
5. In-line reaming of left and right axle bushes shall be done to ensure alignment and internal dimensions

13	1	Hex. Nut - M12	IS : 1363 (Part 3) 1984
12	1	Hex Bolt-M12x20	IS : 1363 (Part 1) 1984
11	1	Front Cover	Ordinary grade of IS : 513 1966
10	1	Front Top End Plate	IS : 2062 Grade A
9	1	Front Bottom End Plate	IS : 2062 Grade A
8	2	Gusset	IS : 2062 Grade A
7	1	Bracket	IS : 2062 Grade A
6	1	Washer (To suit M12 Bolt)	Type A IS : 2016 - 1967
5	1	Axle Bush (Left)	IS : 2062 Grade A
4	1	Axle Bush (Right)	IS : 2062 Grade A
3	1	Back Plate	IS : 2062 Grade A
2	2	Side Plate	IS : 2062 Grade A
1	1	Pump Head Flange	IS : 2062 Grade A

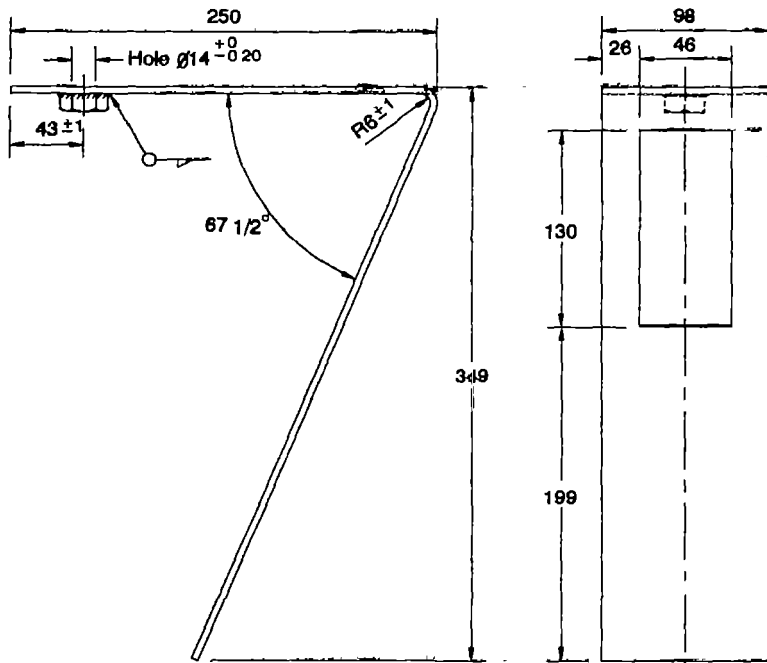
ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA

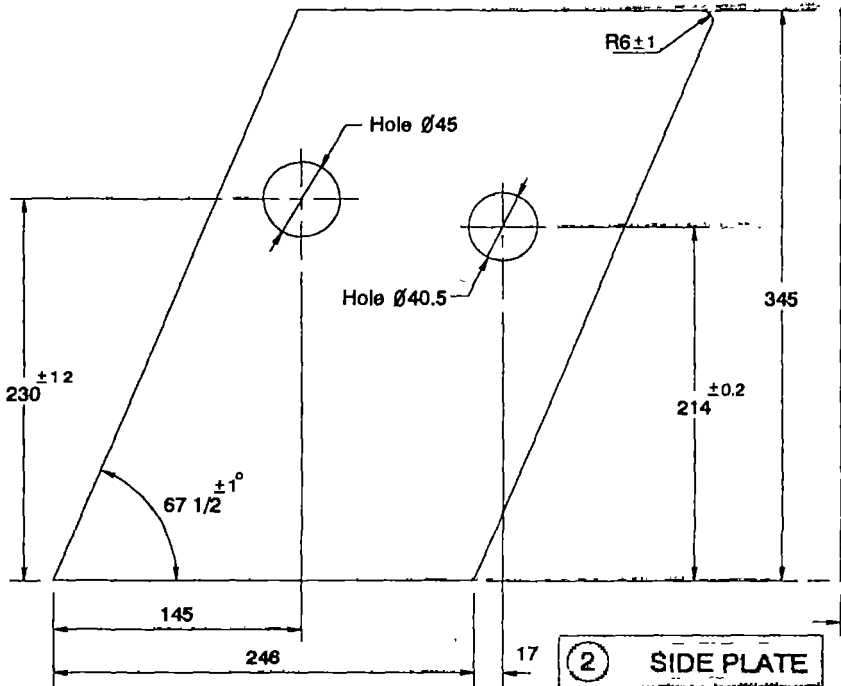


TOLERANCE		DRAWING NO. VLOM-01
U.O.S.	± 0.5	
SCALE	N.T.S.	

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				HEAD ASSEMBLY	01/01/84




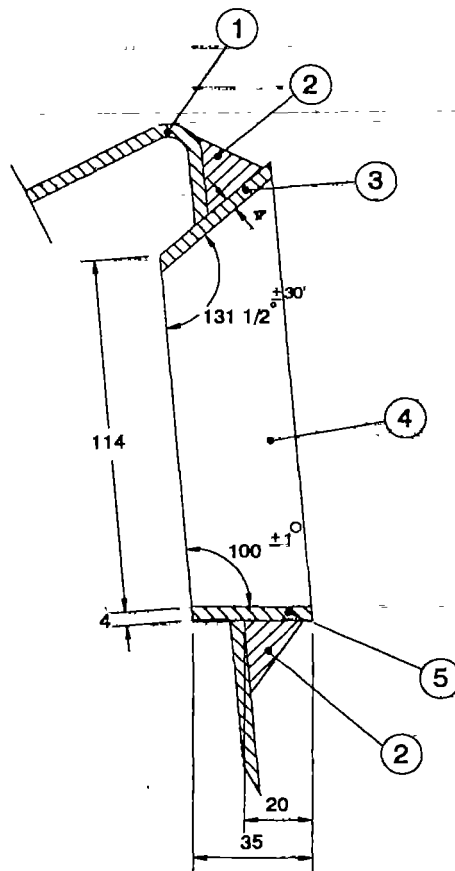
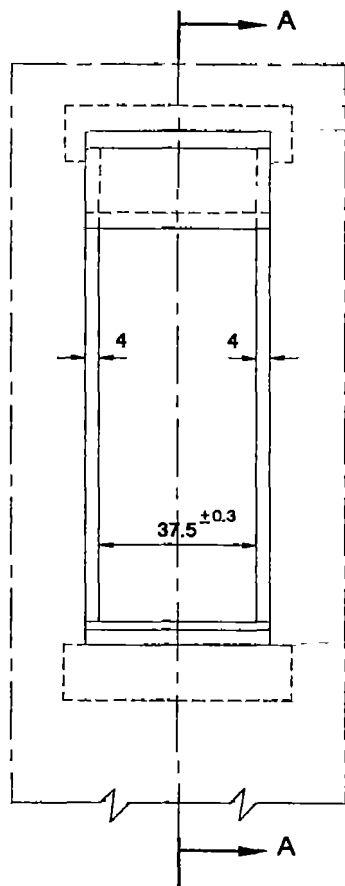
① BACK PLATE



② SIDE PLATE

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
				TOLERANCE			
2	2	SIDE PLATE	IS : 2062 Grade A	U.O.S.	± 0.5	DRAWING NO	VLOM 01-01
1	1	BACK PLATE	IS : 2062 Grade A	SCALE	N.T.S		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			DATE
				HEAD ASSEMBLY PARTS			01/01/94

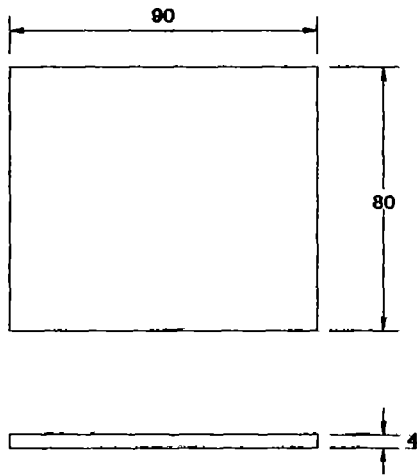


SECTION A-A

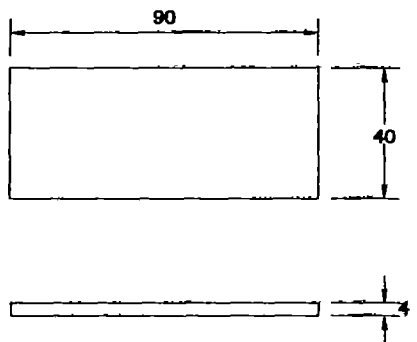
**BRACKET**

ALL DIMENSIONS ARE IN MILLIMETRES

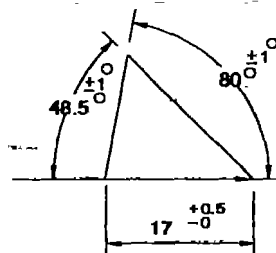
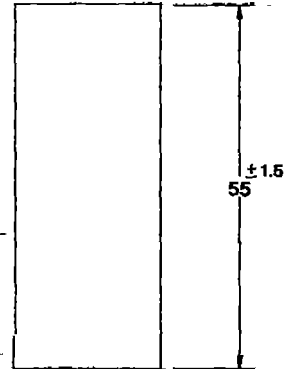
5	1	Bracket Bottom Plate	IS . 2062 Grade A	<b>Unicef</b> INDIA 	TOLERANCE U.O.S. ± 0.5 SCALE N.T.S	DRAWING NO. VLOM-01-02
4	2	Bracket Side Plate	IS 2062 Grade A			
3	1	Bracket Top Plate	IS : 2062 Grade A			
2	2	Gusset	IS . 2062 Grade A			
1	1	Back Plate	IS . 2062 Grade A			
Part No.	No OFF	DESCRIPTION	MATERIAL	TITLE HEAD ASSEMBLY PARTS	DATE 01/01/94	



① FRONT TOP END PLATE




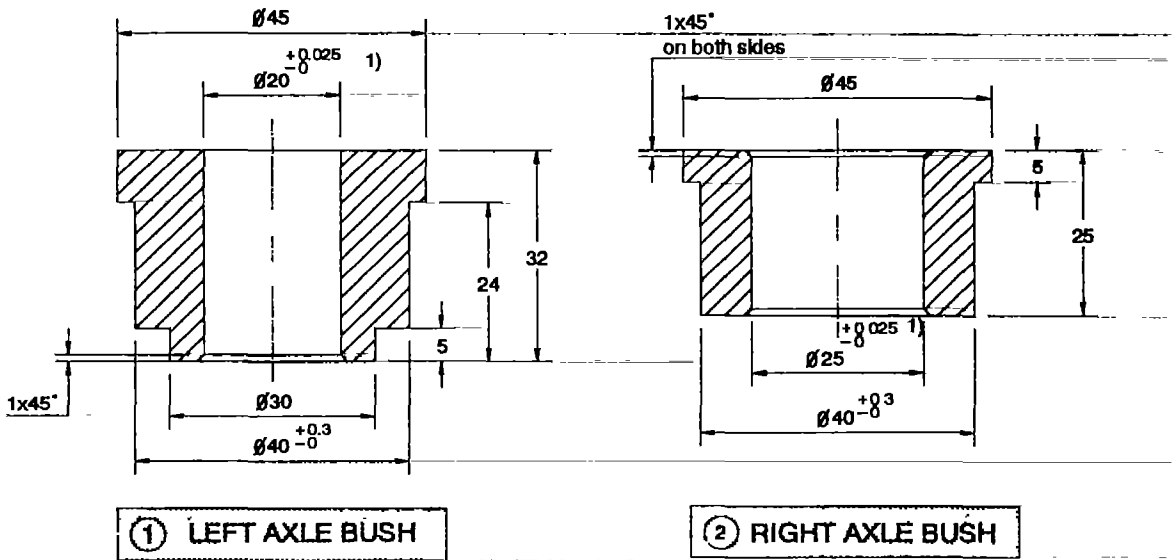
② FRONT BOTTOM END PLATE



③ GUSSET


ALL DIMENSIONS ARE IN MILLIMETRES

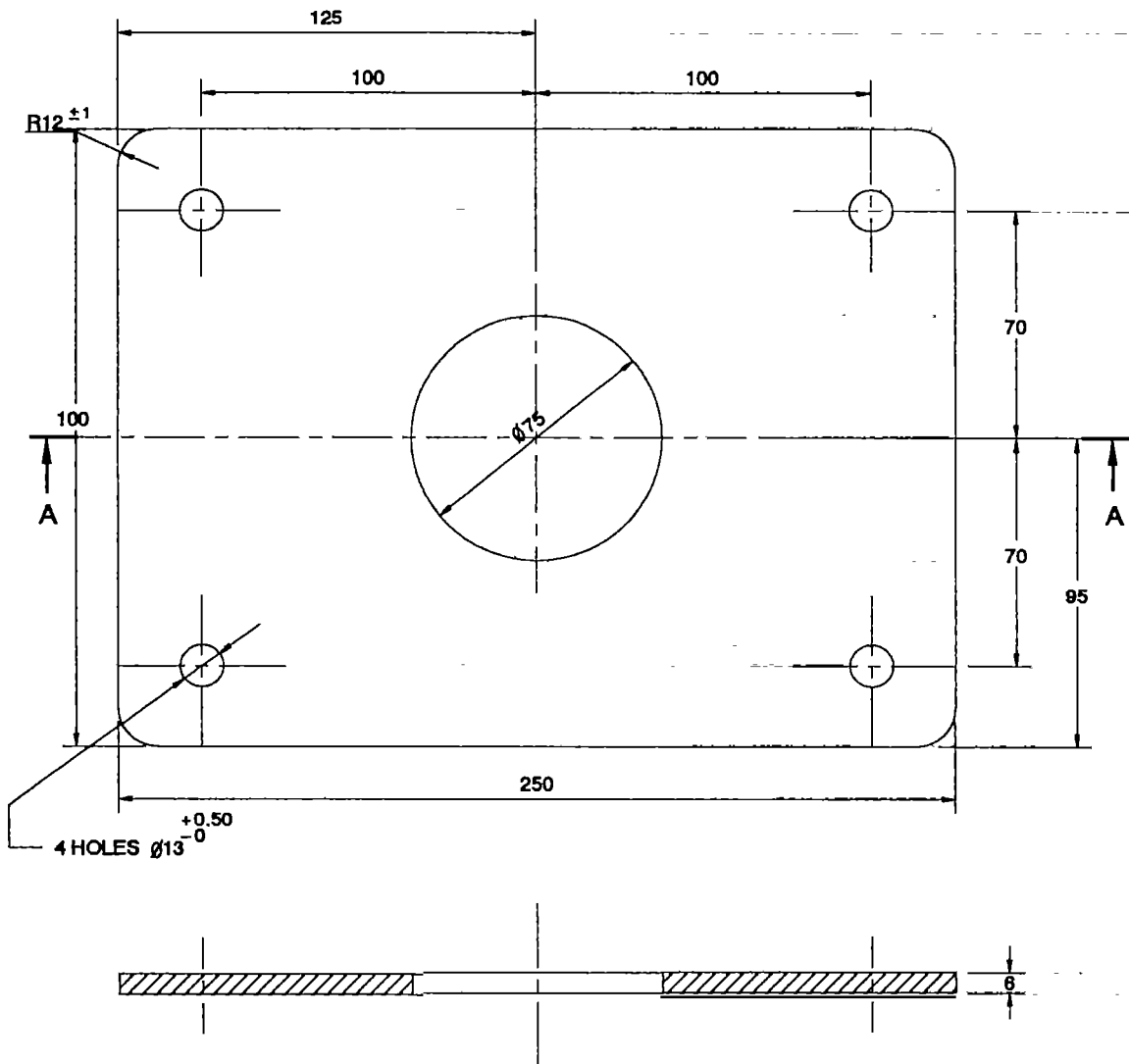
				<b>Unicef</b> INDIA			
3	1	Gusset	IS : 2062 Grade A	TOLERANCE			
2	1	Front Bottom End Plate	IS : 2062 Grade A	U.O.S. ± 0.5	DRAWING NO. VL0M-01-03		
1	1	Front Top End Plate	IS : 2062 Grade A	SCALE N.T.S.			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE HEAD ASSEMBLY PARTS			DATE 01/01/84



1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
				- TOLERANCE			
				U.O.S. + 0.3		DRAWING NO. VLOM-01-04	
				SCALE N.T.S			
2	1	Axle Bush (Right)	IS : 2062 Grade A				
1	1	Axle Bush (Left)	IS : 2062 Grade A				
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> HEAD ASSEMBLY PARTS		<b>DATE</b> 01/01/84	

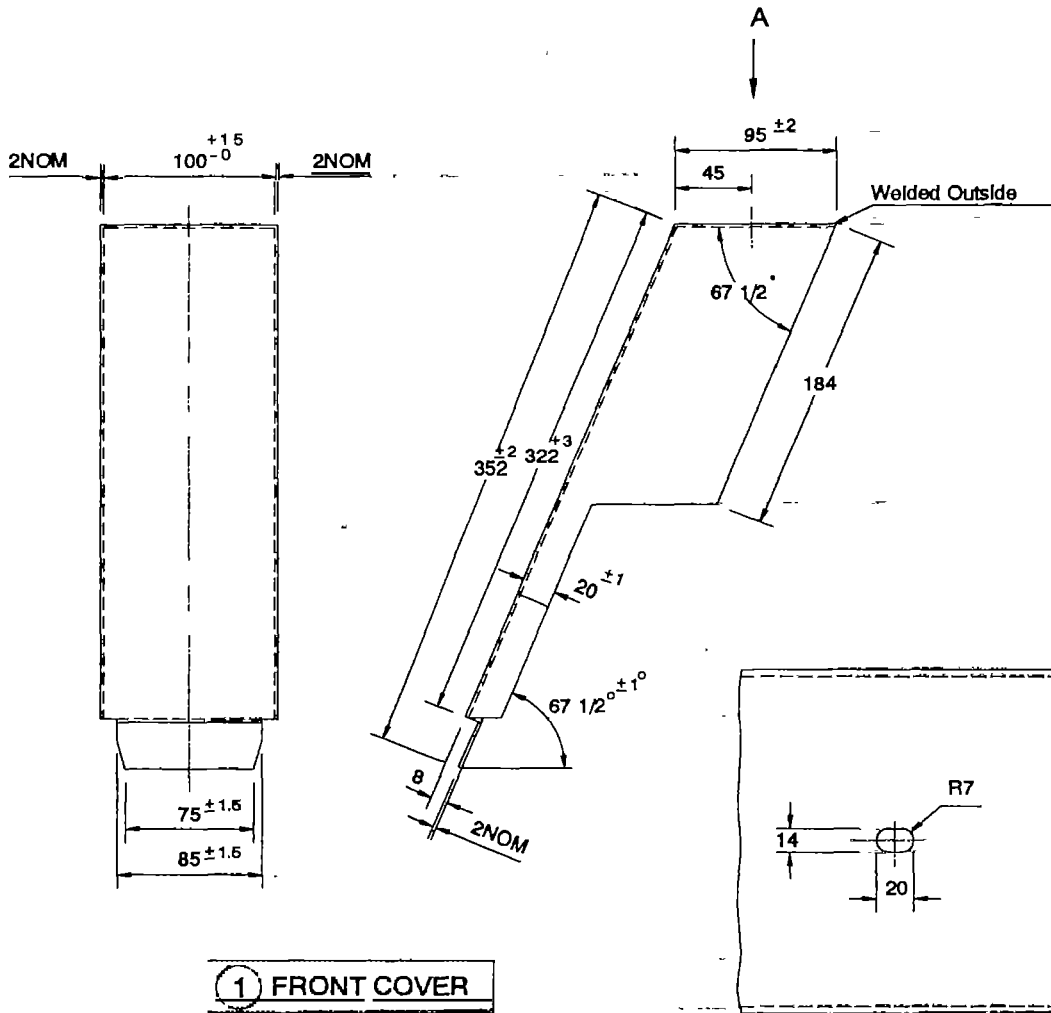


SECTION A-A

① PUMP HEAD FLANGE


ALL DIMENSIONS ARE IN MILLIMETRES

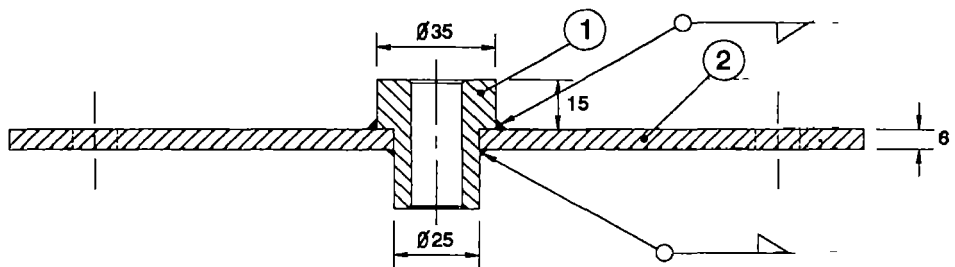
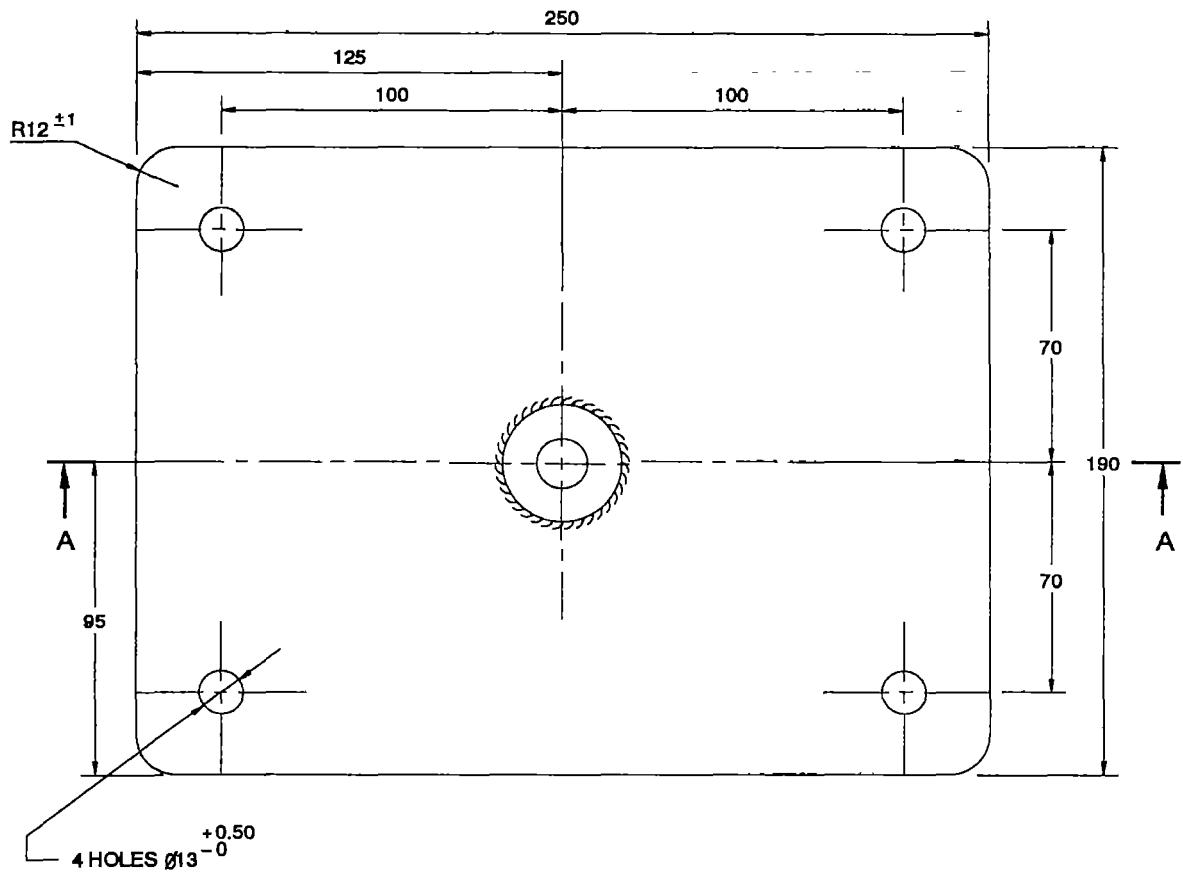
				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N.T.S.	
				DRAWING NO. VLOM-01-05	
1	1	Pump Head Flange	IS : 2062 Grade A		
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b>	
				HEAD ASSEMBLY PARTS	
				<b>DATE</b>	
				01/01/84	



VIEW A


ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N.T.S.	
DRAWING NO.		VLOM-01-08			
1	1	Front Cover	IS . 513 1986 Ordinary Grade		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				HEAD ASSEMBLY PARTS	01/01/94

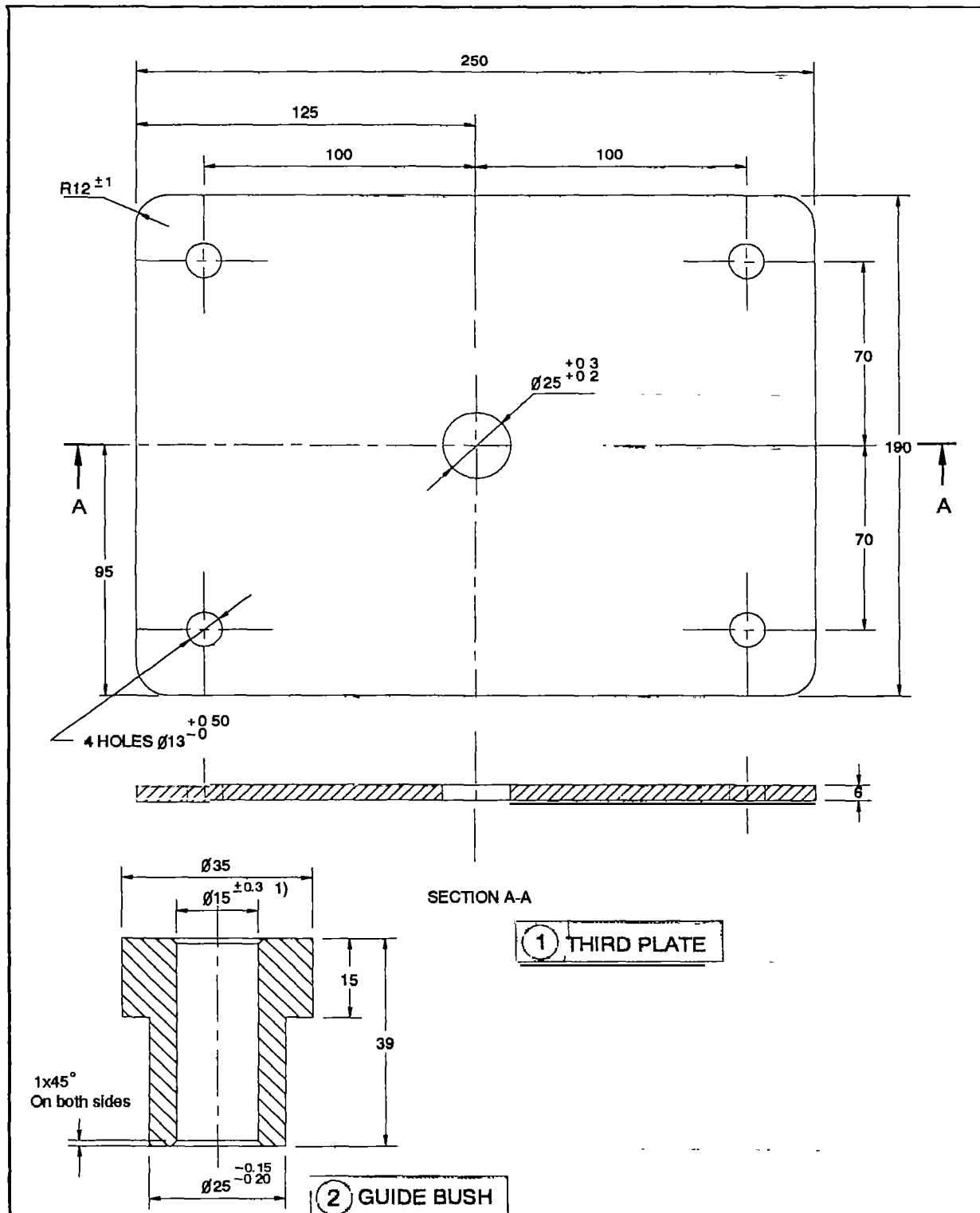


SECTION A-A

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. VLOM-02	
				U.O.S. $\pm 0.5$			
				SCALE N.T.S			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE THIRD PLATE ASSEMBLY			DATE 01/01/84
2	1	Third Plate	IS 2062 Grade A				
1	1	Guide Bush	IS 2062 Grade A				






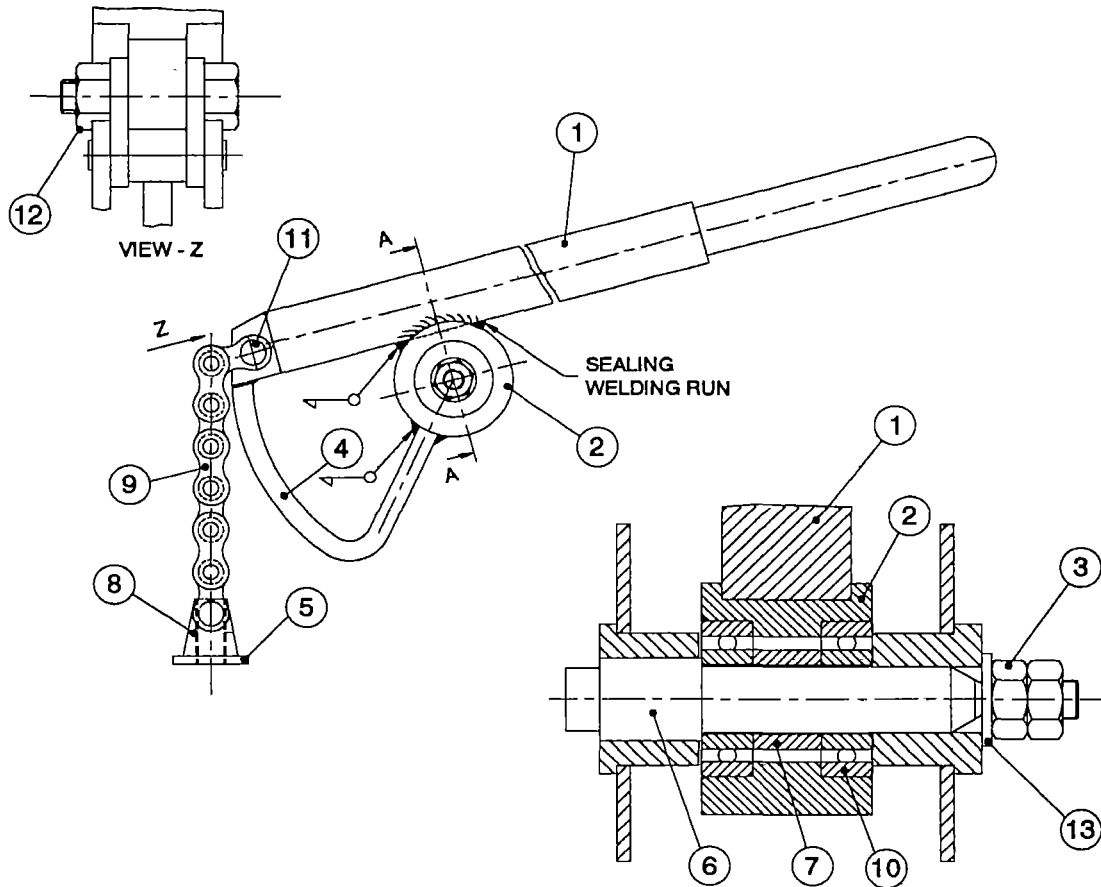
1) THIRD PLATE

2) GUIDE BUSH

1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO VLOM-02-01	
				SCALE N.T.S.			
2	1	Guide Bush	IS : 2062 Grade A				
1	1	Third Plate	IS : 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE THIRD PLATE PARTS			DATE 01/01/84



NOTES -

1. Welding fillet shall not be less than 6mm at all places
2. Bearing housing shall be fully packed with lithium based grease

SECTION A-A

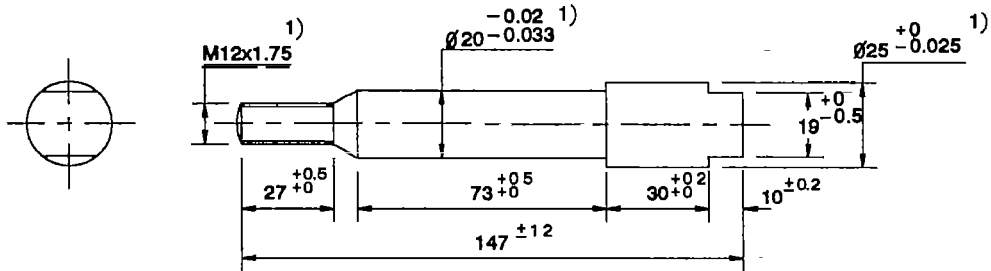
13	1	Washer (4mm thick) To suit M12	Type A IS 2016 . 1967
12	1	Hex. nyloc nut M10 x 1.5	IS 7002 1972
11	1	Hex. bolt (M10 x 1.5 x 40)	IS 1364 (PART 1) 1983
10	2	Single side Shielded bearing	Designation 20BC02 PP IS 6455 . 1972
9	1	Roller chain (25.4 mm pitch)	IS . 2403 1975
8	1	Chain with coupling	.....
7	1	Spacer	IS 2062 Grade A
6	1	Handle axle	NI CR STAINLESS STEEL Ni8% Min Cr 17% Min
5	1	Chain coupling	IS 2004 . 1978 IS 2062 Grade A
4	1	Roller chain guide	IS 2062 Grade A
3	2	Hex. nut M12	IS : 1363 (PART 3) 1984
2	1	Bearing housing	IS 2062 Grade A
1	1	Handle bar	IS 2062 Grade A
Part No.	No. OFF	DESCRIPTION	MATERIAL

Unicef  
INDIA

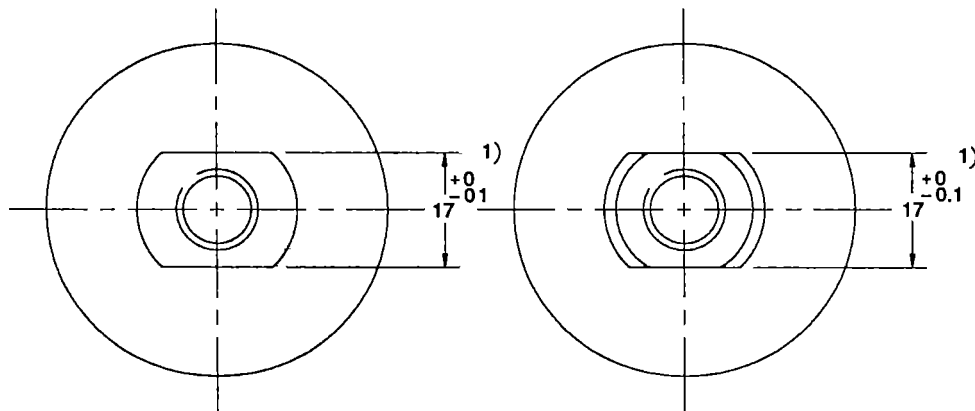
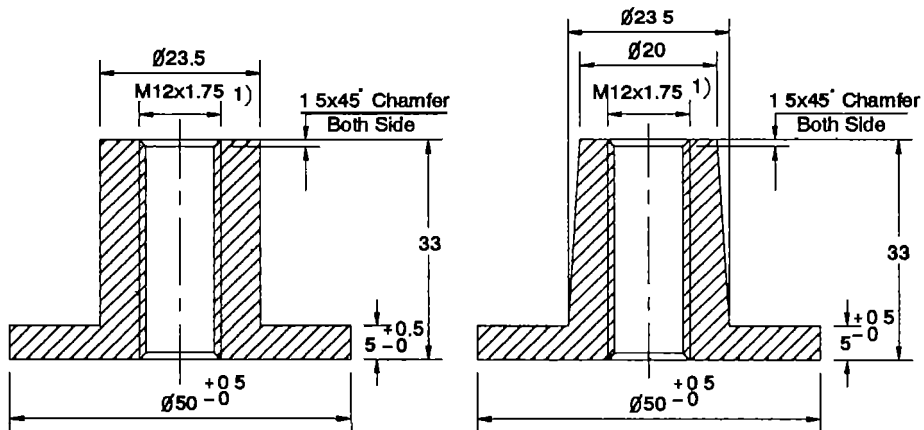


TOLERANCE		DRAWING NO. VLOM-03
U.O.S.	± 0.5	
SCALE	N T.S.	

TITLE	DATE
HANDLE ASSEMBLY	01/01/94



① HANDLE AXLE



MACHINED


FORGED

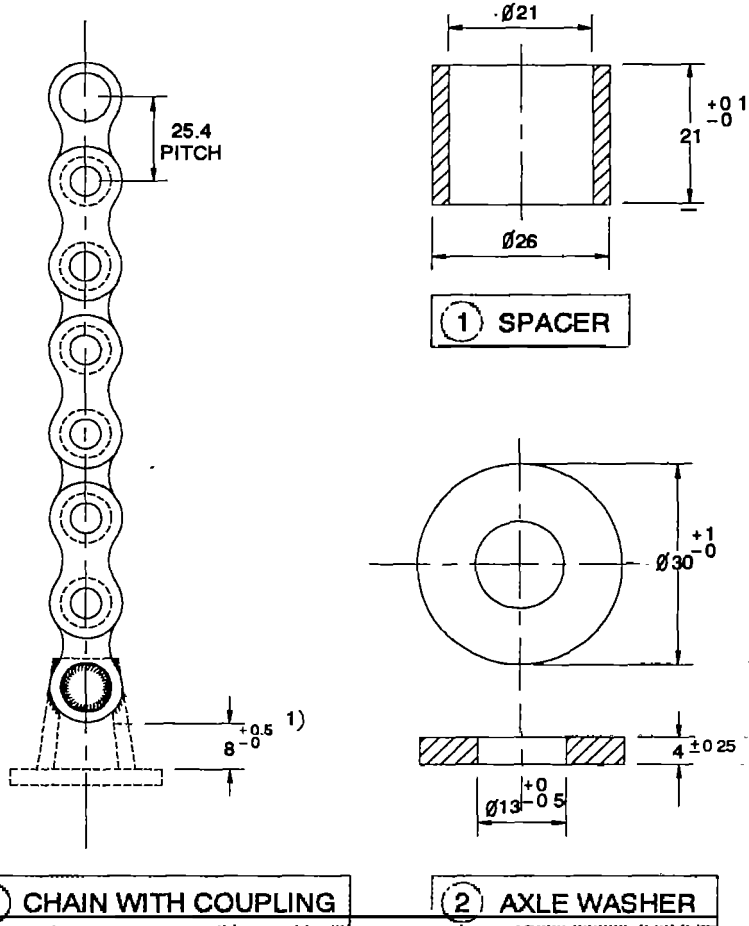
CHAIN COUPLING

1) Indicates Critical Dimensions

Note: Relief as per Type E of IS 3428 : 1981 shall be provided for Handle Axle


ALL DIMENSIONS ARE IN MILLIMETRES

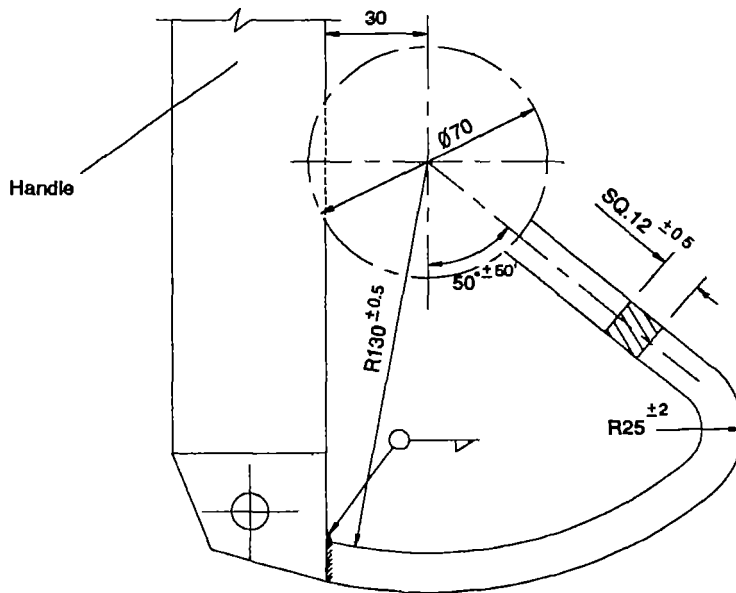
				<b>Unicef</b> INDIA 	
				<b>TOLERANCE</b> U.O.S. $\pm 0.5$	
				<b>SCALE</b> N.T.S.	
				<b>DRAWING NO</b> VLOM-03-01	
2	1	Chain Coupling	Class 2 of IS 2004 : 1978 IS 2062 Grade A		
1	1	Handle Axle	Ni Cr Stainless Steel Ni Cr 8% Min Cr 17%		
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> HANDLE ASSEMBLY PARTS	<b>DATE</b> 01/01/94



1) Indicates critical dimensions

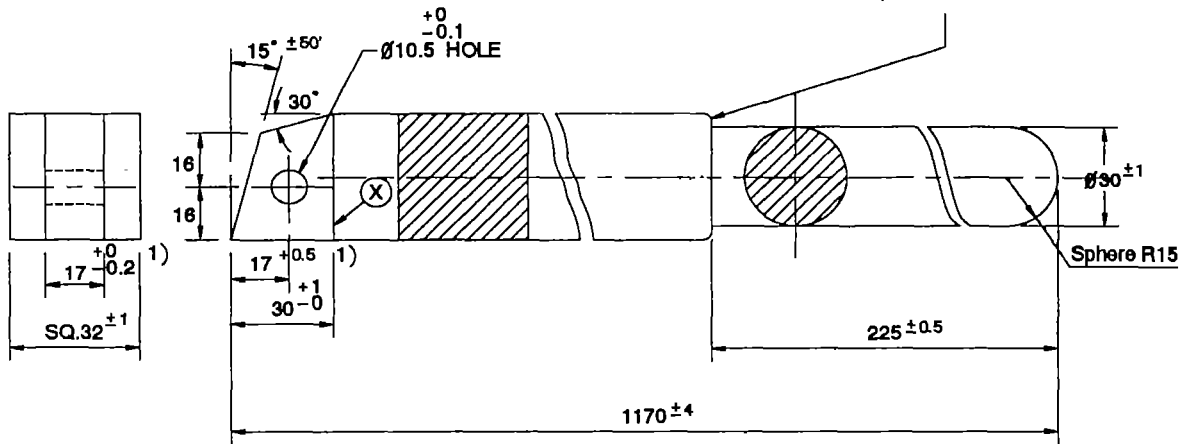
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
3	1	Chain with coupling	IS : 2062 1992 Grade A	TOLERANCE U O.S. ± 0.1		DRAWING NO. VLOM-03-02	
2	1	Axle Washer	IS : 2062 1992 Grade A				
1	1	Spacer	IS : 2062 1992 Grade A	SCALE N.T.S.			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE HANDLE ASSEMBLY PARTS			DATE 01/01/94



① ROLLER CHAIN GUIDE

Edges shall be properly chamfered to avoid to sharp corners




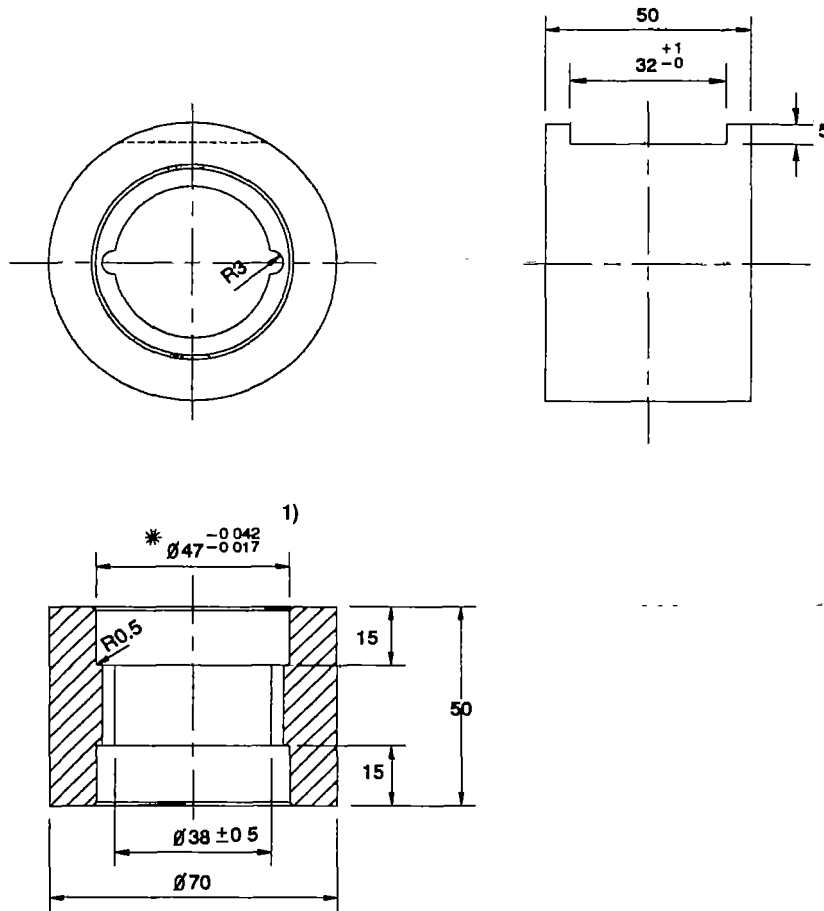
HANDLE BAR

(X) This portion can be straight or can have any radius.

1) Indicates critical dimensions


ALL DIMENSIONS ARE IN MILLIMETRES

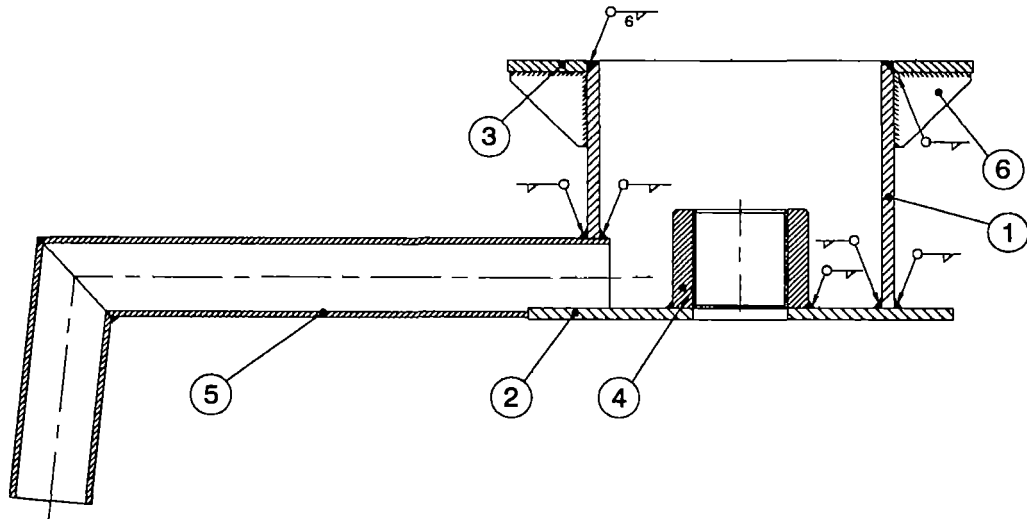
				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO. VLOM-03-03	
				SCALE N.T.S			
2	1	Handle Bar	IS . 2062 Grade A				
1	1	Roller Chain Guide	IS . 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			DATE
				HANDLE ASSEMBLE PARTS			01/01/84



⊛ After welding  
 1) Indicates critical dimensions


ALL DIMENSIONS ARE IN MILLIMETRES

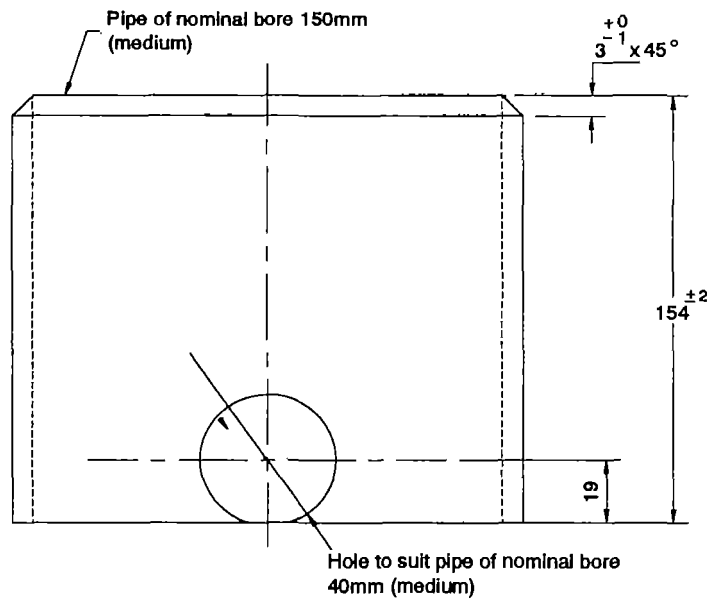
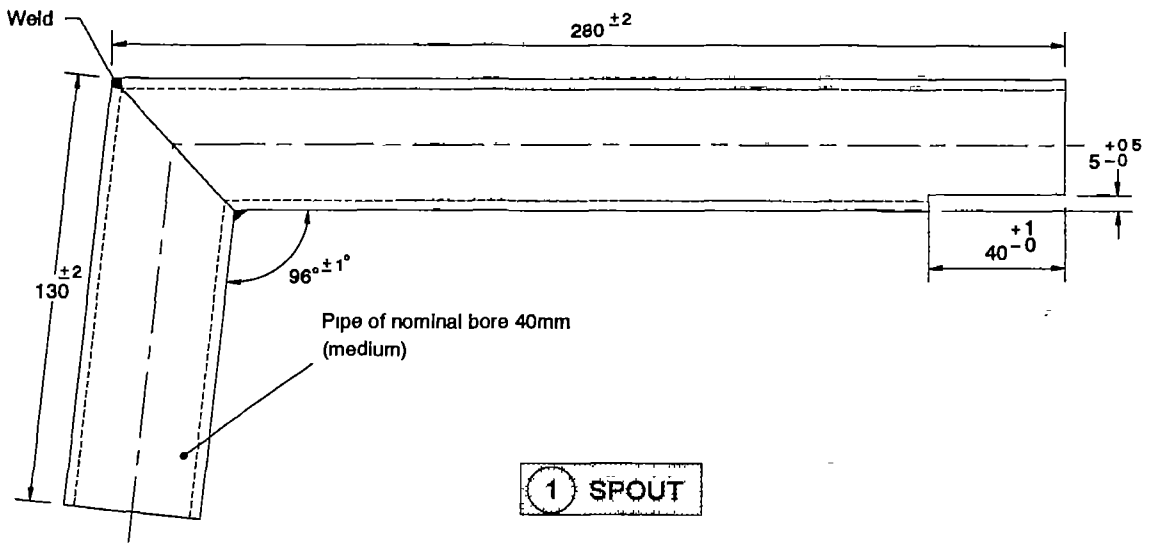
				<b>Unicef</b> INDIA		
				TOLERANCE		
				U.O.S.	± 0.1	DRAWING NO. VLOM-03-04
				SCALE	N.T.S.	
1	1	Bearing Housing	IS 2062 Grade A	TITLE		DATE
Part No.	No. OFF	DESCRIPTION	MATERIAL	HANDLE ASSEMBLE PARTS		01/01/94




**NOTE :-**

- 1 Fillet size of weld at all places shall be minimum 6mm excepting spout where it shall not be less than 4mm the inside welding of the tank pipe shall be given a sealing run.
2. One side of coupling to be faced
- 3 Sealing run on the top flange to be ground smooth

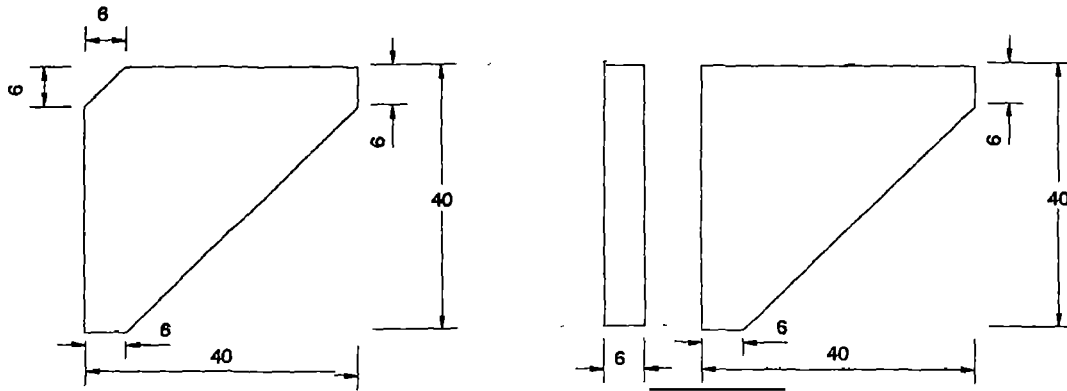
6	2	Gussset	IS . 2062 1992 Grade A	<b>Unicef</b> INDIA 	DRAWING NO. VLOM-04
5	1	Spout	IS 1239 (PART 1) - 1979		
4	1	Riser pipe holder	IS . 2062 Grade A		
3	1	Tank top flange	IS 2062 Grade A		
2	1	Tank bottom flange	IS . 2062 Grade A		
1	1	Tank pipe	IS 1239 (PART 1) - 1979		
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N T.S.	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				WATER TANK ASSEMBLY	01/01/94



ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. VLOM-04-01	
				U.O.S $\pm 0.5$			
				SCALE N.T.S			
2	1	Tank pipe	IS 1239 (Part 1) - 1979				
1	1	Spout	IS 1239 (Part 1) - 1979				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE WATER TANK ASSEMBLY PARTS			DATE 01/01/84

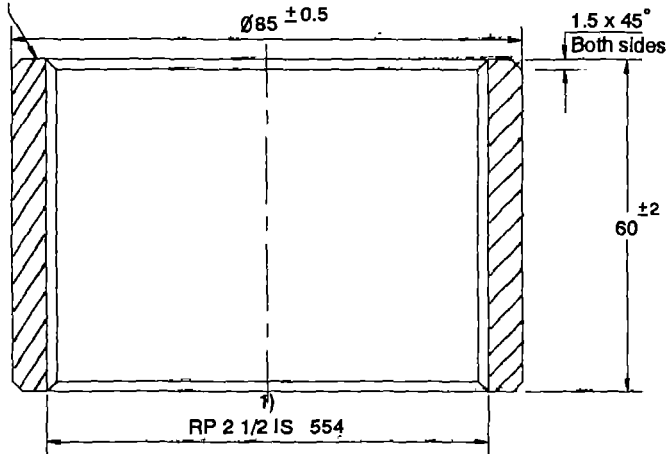




① GUSSET

ALTERNATE DESIGN


One side faced  
Square to the thread

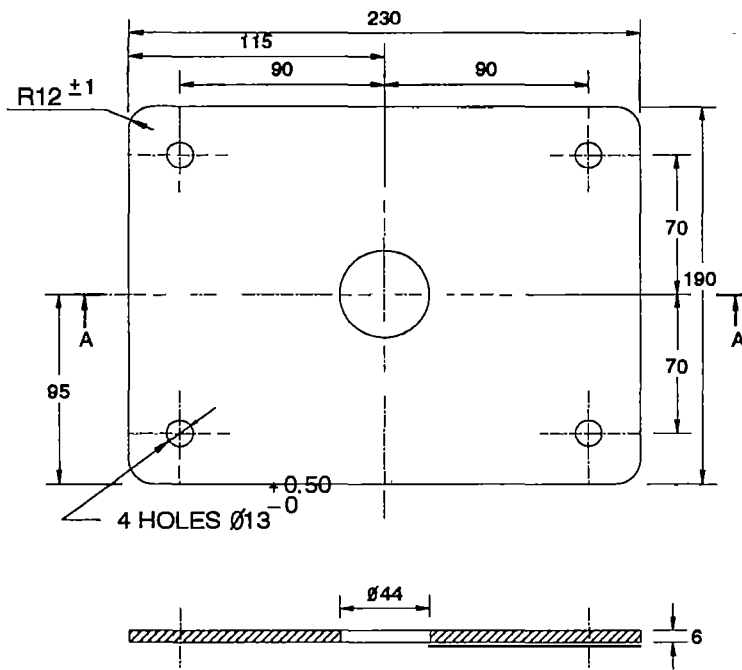


② RISER PIPE HOLDER

1) Indicates critical dimensions

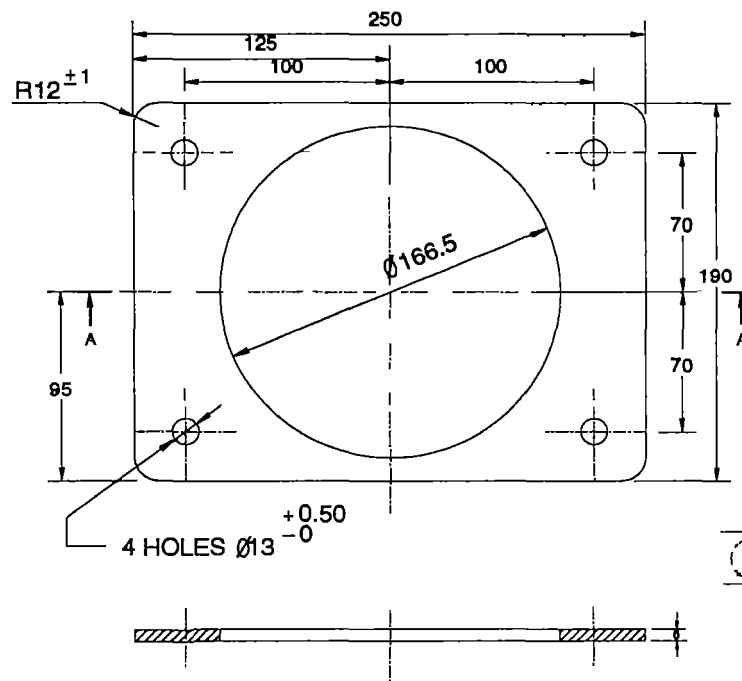
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. VLOM-04-02	
				U.O.S. ± 0.5			
				SCALE N.T.S.			
2	1	Riser pipe holder	IS : 2062 Grade A				
1	2	Gusset	IS : 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE	
				WATER TANK ASSEMBLY PARTS		01/01/84	



SECTION A-A


① TANK BOTTOM FLANGE

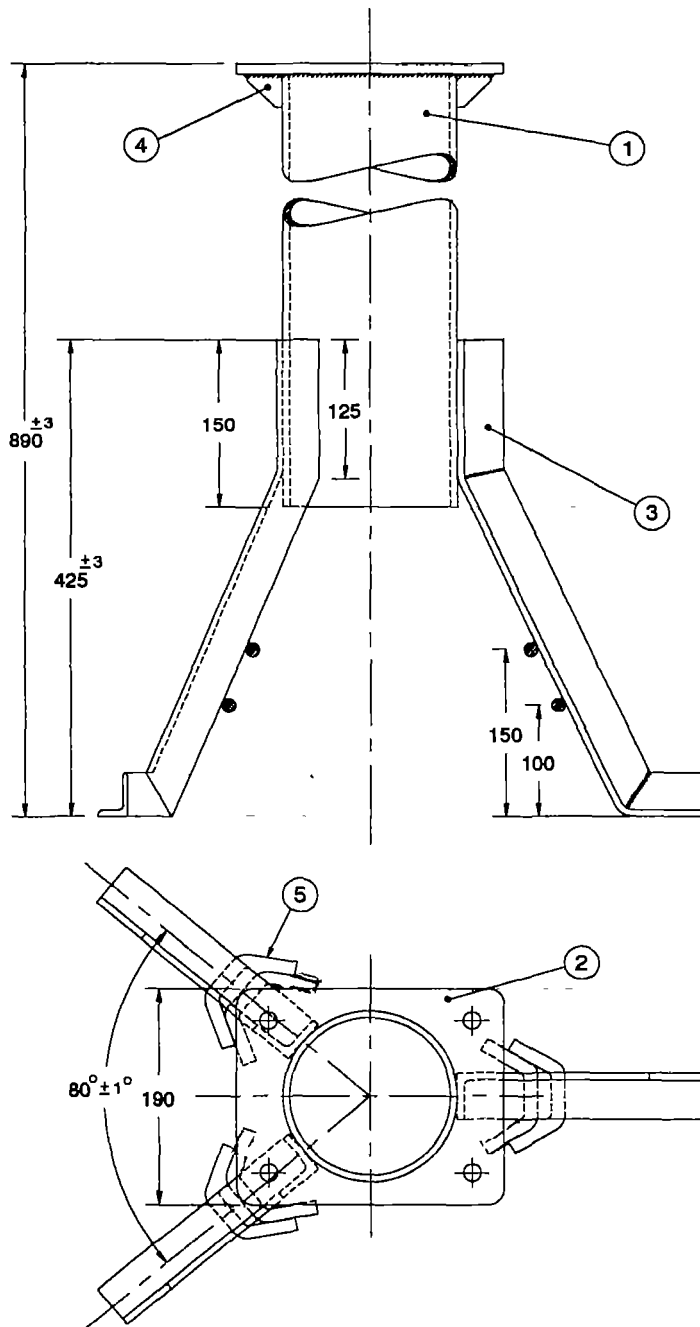


SECTION A-A

② TANK TOP FLANGE


ALL DIMENSIONS ARE IN MILLIMETRES

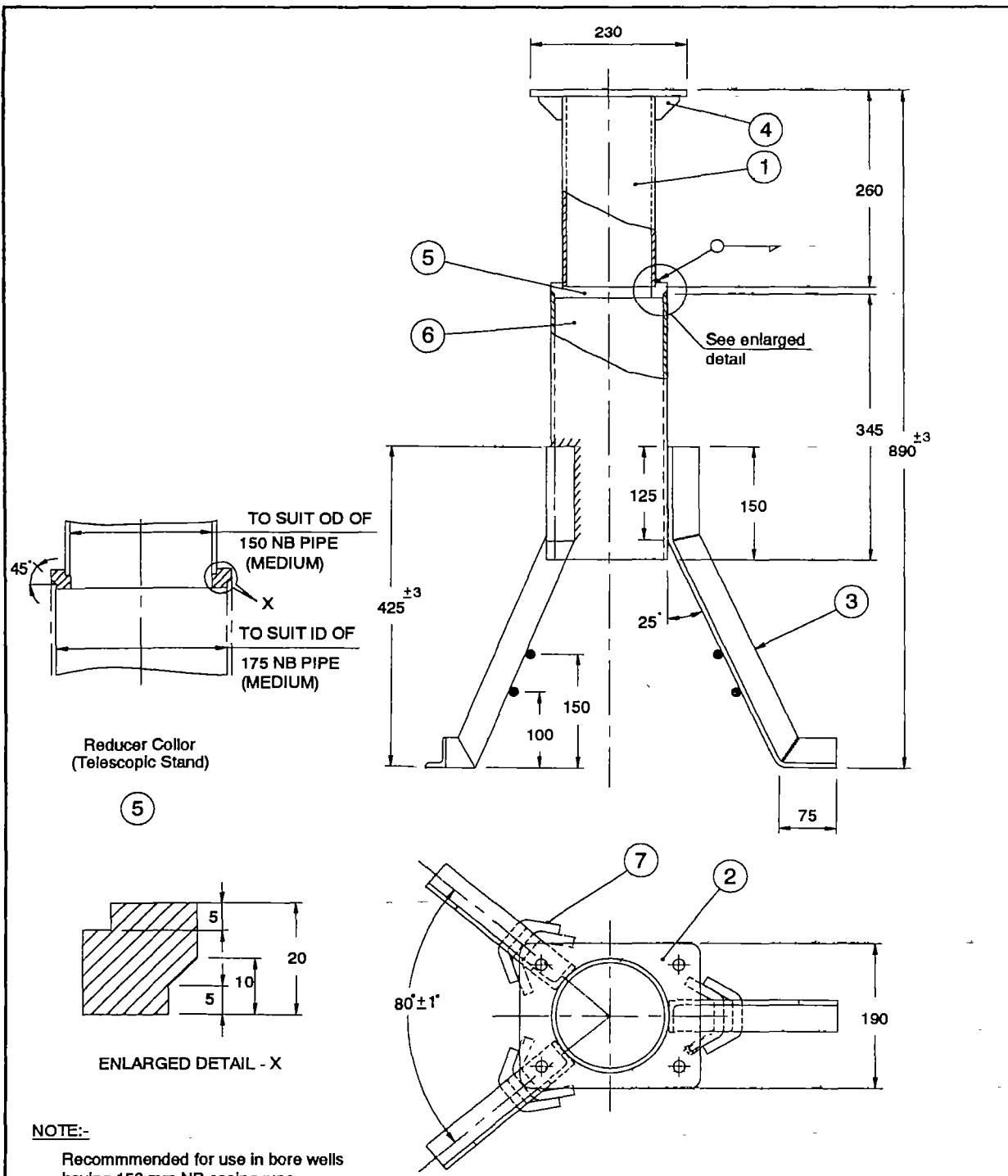
				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N.T.S.	
				DRAWING NO VLOM-04-03	
2	1	Tank top flange	IS . 2062 Grade A		
1	1	Tank bottom flange	IS : 2062 Grade A		
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b>	
				WATER TANK ASSEMBLY PARTS	
				<b>DATE</b>	
				01/01/04	



NOTE :-  
Recommended for use in bore wells having 100mm  
and 125 mm NB casing pipe

ALL DIMENSIONS ARE IN MILLIMETRES

5	6	Splks	IS 2062 Grade A	<b>Unicef</b> INDIA	
4	2	Gusset	IS 2062 Grade A		
3	3	Leg	IS : 808 - 1989	DRAWING NO. VLOM-05	
2	1	Stand Flange	IS : 2062 Grade A		
1	1	Stand Pipe	IS 1239 (PART 1) - 1979	DATE 01/01/94	
				U.O.S.	± 0.5
				SCALE	N.T.S.
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE STAND ASSEMBLY	

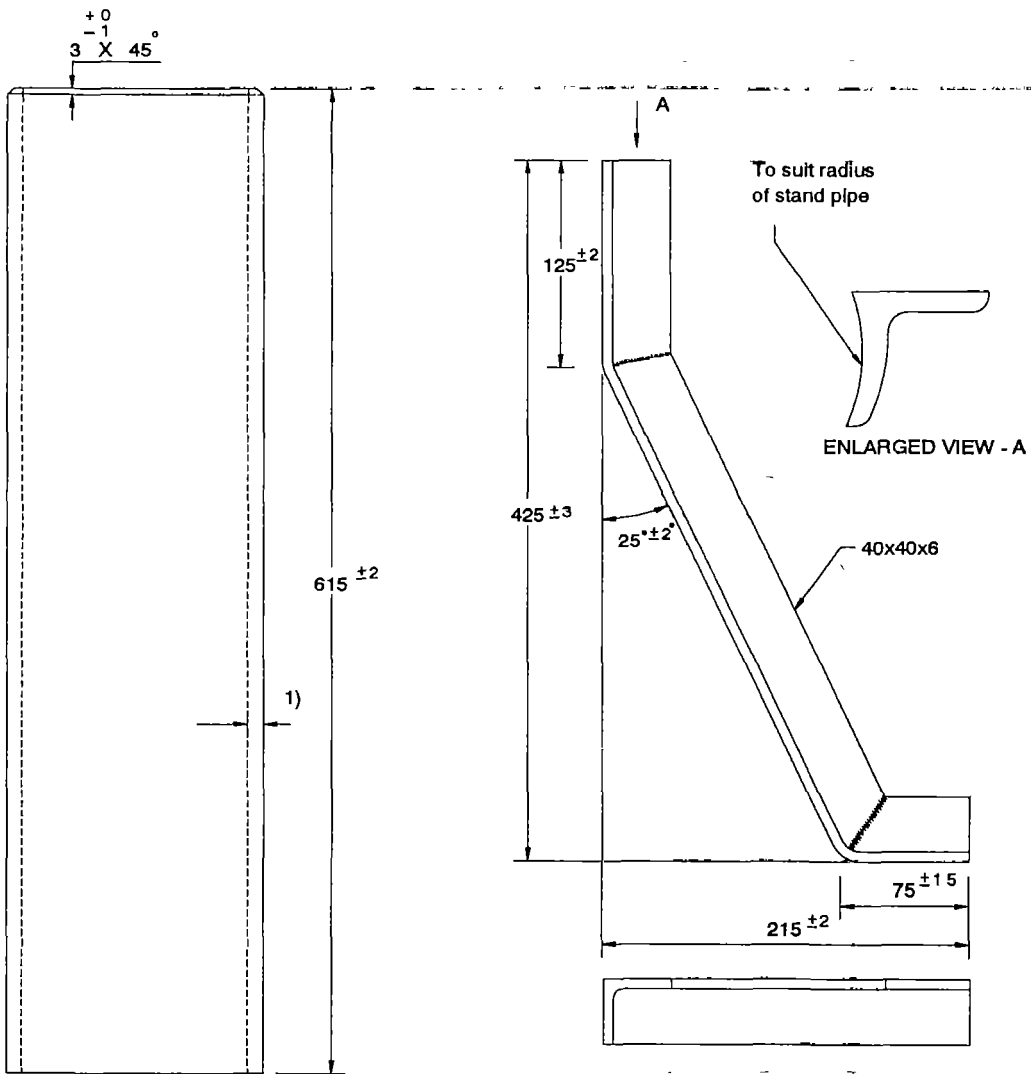


7	6	Spikes	IS 2062 Grade A
6	1	175 NB Pipe	IS 1161 · 1979
5	1	Reducer Collar	IS 2062 Grade A
4	2	Gusset	IS 2062 Grade A
3	3	Leg	IS 808 , 1989
2	1	Stand Flange	IS . 2062 Grade A
1	1	Stand Pipe (150 NB)	IS 1239 (part 1) 1979
Part No.	No. OFF	DESCRIPTION	MATERIAL

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA

TOLERANCE		DRAWING NO VLOM-05A
U.O S	± 0.5	
SCALE N.T.S		
TITLE TELESCOPIC STAND ASSEMBLY		DATE 01/01/84




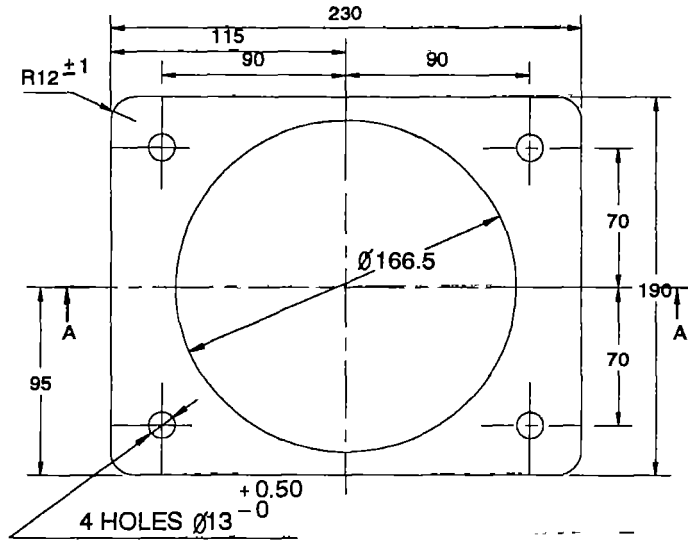
① STAND PIPE

② LEG

1) Indicates Critical Dimensions

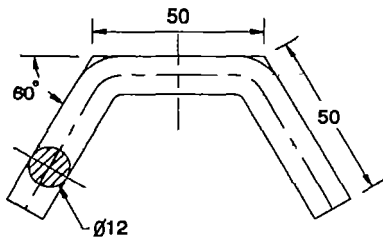
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. VLOM-05-01	
				U O S ± 0.5			
				SCALE N.T.S.			
2	3	Leg	IS 808 - 1989	TITLE STAND ASSEMBLY PARTS		DATE 01/01/94	
1	1	Stand Pipe (150 NB)	IS 1239 (Part-1) - 1979				
Part No.	No OFF	DESCRIPTION	MATERIAL				

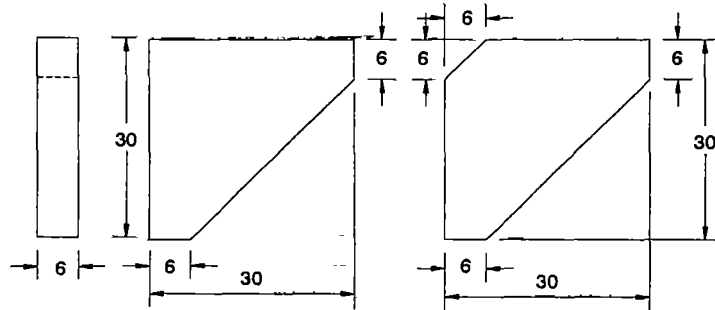


SECTION A-A

① STAND FLANGE




② SPIKES

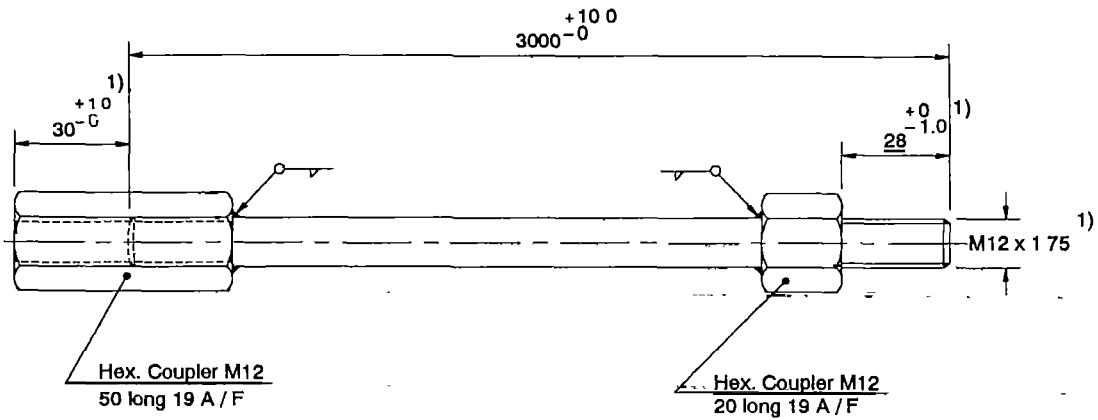


③ GUSSET

ALTERNATE DESIGN

ALL DIMENSIONS ARE IN MILLIMETRES

Part No	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				<b>Unicef</b> INDIA 	DRAWING NO VLOM-05-02 DATE 01/01/94
3	2	Gusset	IS 2062 Grade A		
2	6	Spike	IS 2062 Grade A	TOLERANCE U O S ± 0.5	
1	1	Stand flange	IS 2062 Grade A	SCALE N T S.	
				STAND ASSEMBLY PARTS	




**CONNECTING ROD**

Notes :

- 1 Electro galvanizing according to IS 1573 - 1986 service condition no.4 (not applicable for stainless steel)
- 2 Alternatively the connecting rod may be manufactured from stainless steel grade O4 Cr 18 Ni 10 conforming to IS 6603 1972
- 3 The tolerance of thread shall conform to IS 4218 Part 4 & 5 1979 class 6g for bolts and 6H for nuts.
- 4 Tapping permitted after electro galvanising if required

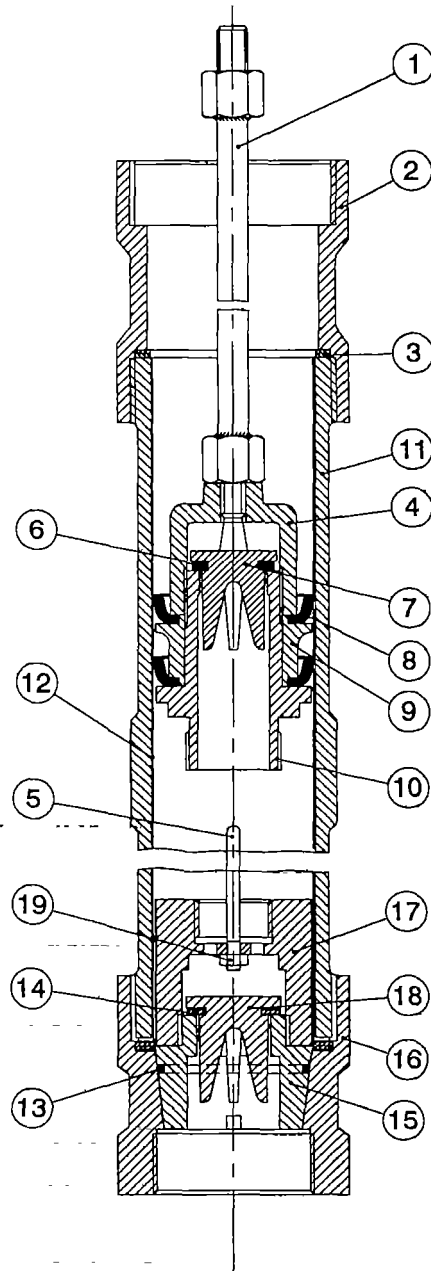
1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO VLOM-06	
				U.O.S. ± 0.5			
				SCALE N T.S			
1	-	Connecting Rod	Type 4 Grade 2 or 3 IS . 9550 . 1980	TITLE		DATE	
Part No.	No. OFF	DESCRIPTION	MATERIAL	CONNECTING ROD		01/01/94	

**NOTE:**

- 1 As an alternate, metal components to Grade LTB 2 of IS 318 : 1981 of cylinder assembly shall be forged from Naval Brass conforming to IS 1985
2. The tolerance of thread shall conform to IS 1367 (Part14) : 1984 class 6 g for bolts and 6 h for nuts
- 3 All bronze castings shall be free lead segregation and hardness shall be 55 HB, Min.
4. Till such time adequate gauging practices are available for knuckle threads interchangeability between follower and cage to be ensured



19	1	Check Nut	GR 04 Cr 18 Ni 10 IS 6603
18	1	Check Valve	GR LTB 2 IS . 318 - 1981
17	1	Cage	GR LTB 2 IS . 318 - 1981
16	1	Bottom Cap	GR FG 200 OF IS 210 - 1978
15	1	Check Valve Guide	GR LTB 2 IS . 318 - 1981
14	1	Rubber Seating (L V )	Nitrile Rubber
13	1	'O' Ring	IS : 9975 (Parts 1 To 4)
12	1	Brass Liner	CU ZN 30 AS OF IS . 407 Temper Annealed
11	1	Cylinder Body	GR FG 200 IS 210 - 1978
10	1	Follower	GR LTB 2 IS 318 - 1981
9	1	Spacer	GR LTB 2 IS 318 - 1981
8	2	Pump Bucket	Nitrile Rubber
7	1	Upper Valve Guide	GR LTB 2 IS 318 - 1981
6	1	Rubber Seating (U V )	Nitrile Rubber
5	1	Push Rod	GR 04 Cr 18 Ni 10 IS 6603 -1972
4	1	Plunger Yoke Body	GR LTB 2 IS : 318 - 1981
3	2	Sealing Ring	Nitrile Rubber
2	1	Upper Cap	GR FG 200 IS 210 - 1978
1	1	Plunger Rod	GR 04 Cr 18 Ni 10 IS : 6603 -1972
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>

**Unicef**  
INDIA



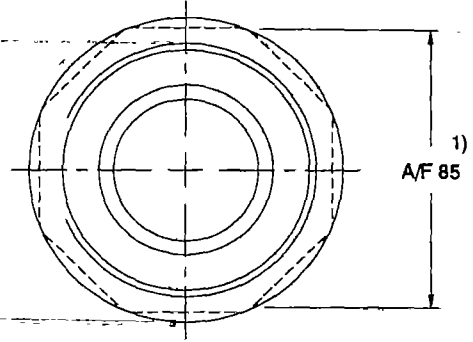
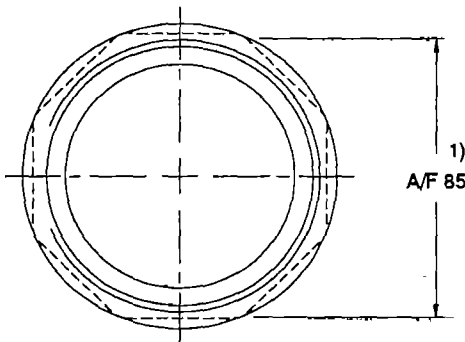
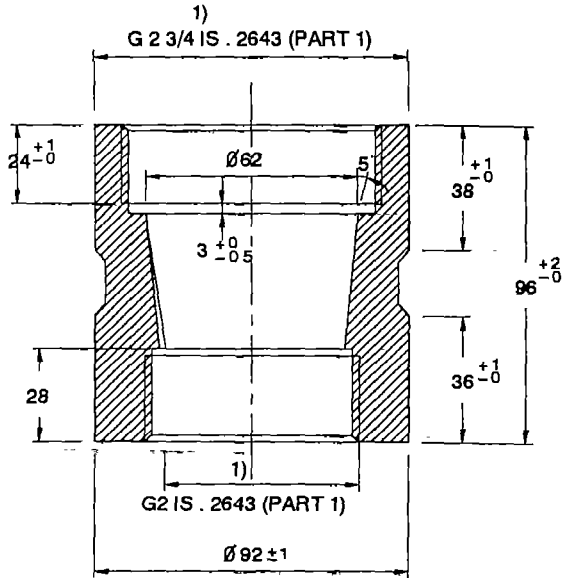
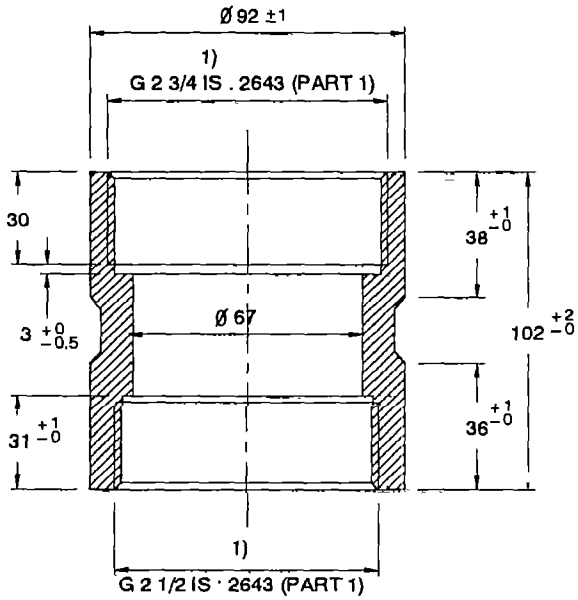
TOLERANCE  
U O S ± 0.5  
SCALE N T.S.

DRAWING NO VL0M-07

TITLE  
CYLINDER ASSEMBLY

DATE  
01/01/94






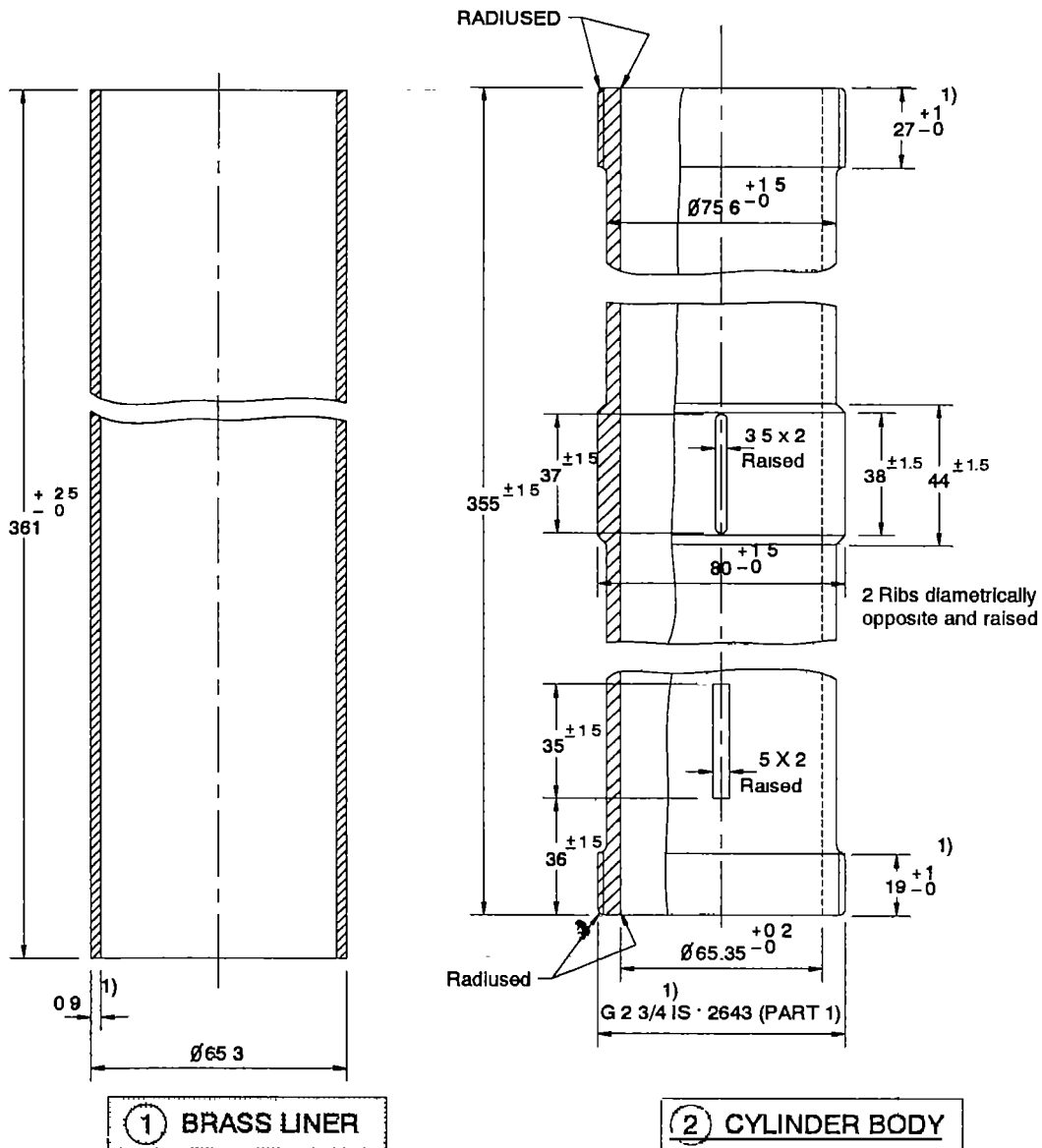
1) UPPER CAP

2) BOTTOM CAP

1) Indicates critical dimensions


ALL DIMENSIONS ARE IN MILLIMETRES

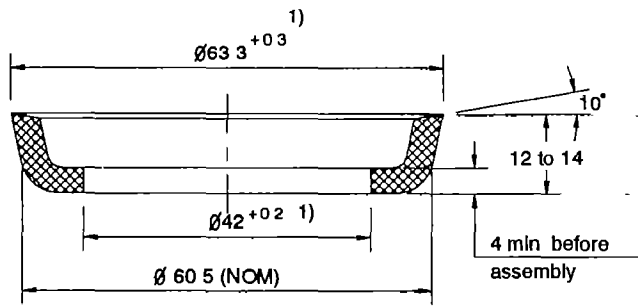
				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N.T.S.	
				DRAWING NO. VLOM-07-01	
2	1	Bottom Cap	GR FG 200 of IS 210 : 1978		
1	1	Upper Cap	GR FG 200 of IS 210 : 1978		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				CYLINDER ASSEMBLY PARTS	01/01/84



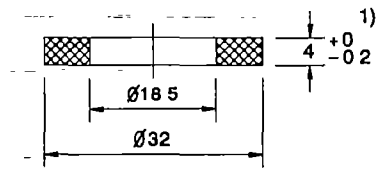
1) Indicates critical dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

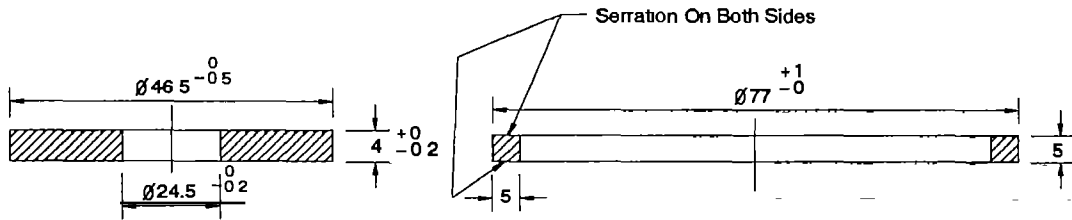
				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO VLOM-07-02	
				U O.S. ± 0.5			
				SCALE N.T.S			
2	1	Cylinder Body	GR FG 200 IS . 210 1978				
1	1	Brass Liner	Cu Zn 30 As of IS 407 1981				
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> CYLINDER ASSEMBLY PARTS			<b>DATE</b> 01/01/94



① NITRILE RUBBER PUMP BUCKET



② RUBBER SEATING (UPPER VALVE)



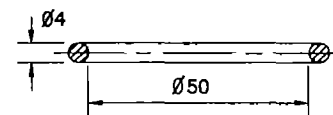
③ RUBBER SEATING (LOWER VALVE)

④ SEALING RING

NOTE .

The physical properties of nitrile rubber shall be:


Shore hardness on a scale	80 <sup>+5</sup> <sub>-4</sub>
Tensile strength	12.6 M Pa Min
Elongation at break	150% Min
Compression set 24 h at 70 °C	20% Max
Volume changes 22 h at 40 °C	-0% Max +25%
Resistance to low temperature at which rigidity modulus does not exceed 70 M Pa.	-10°C

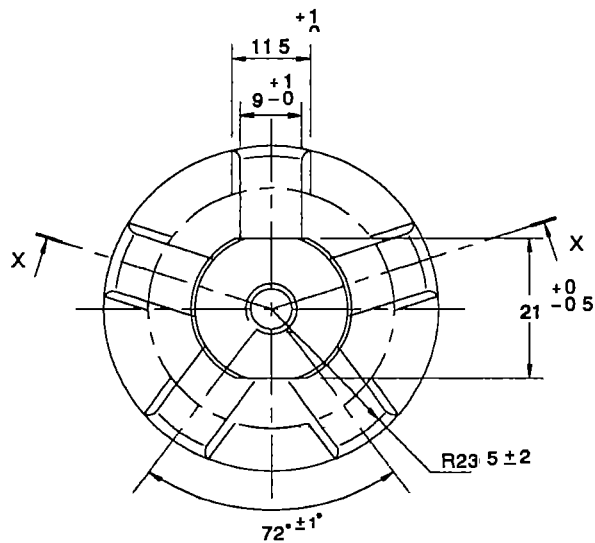


⑤ 'O' RING NITRILE RUBBER

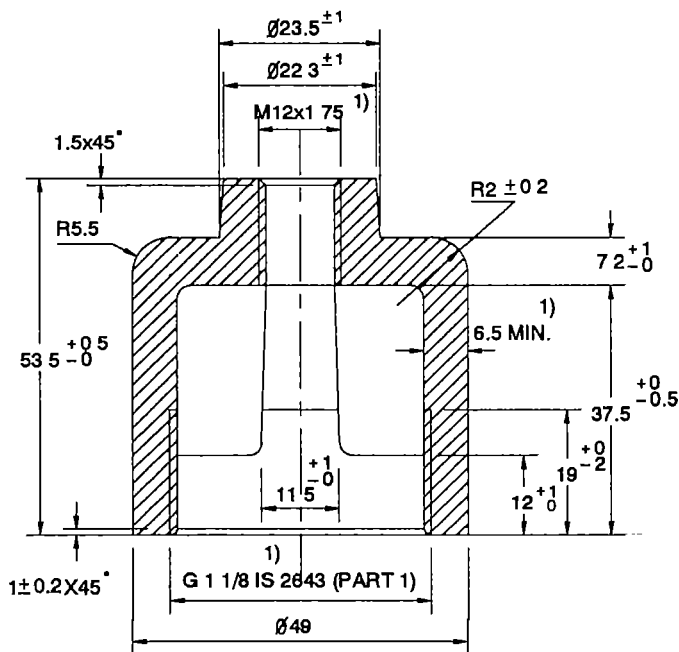
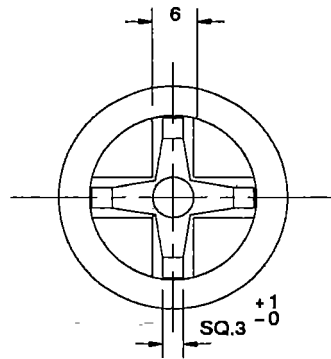
1) Indicates critical dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

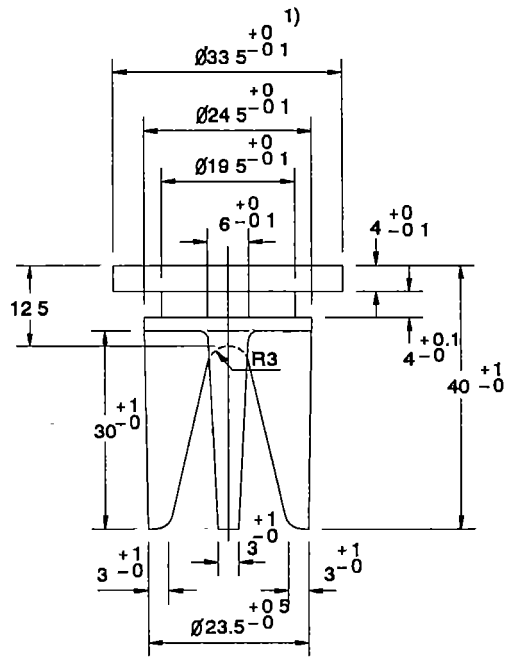
5	1	'O' Ring	Nitrile Rubber	<b>Unicef</b> INDIA 	TOLERANCE U.O.S ± 0.5 SCALE N.T.S.	DRAWING NO VLOM-07-03 DATE 01/01/94
4	3	Sealing Ring	Nitrile Rubber			
3	1	Rubber Seating (Lower Valve)	Nitrile Rubber			
2	1	Rubber Seating (Upper Valve)	Nitrile Rubber			
1	2	Nitrile Rubber Pump Bucket	Nitrile Rubber			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE CYLINDER ASSEMBLY PARTS		



SECTION X-X



1) PLUNGER YOKE BODY




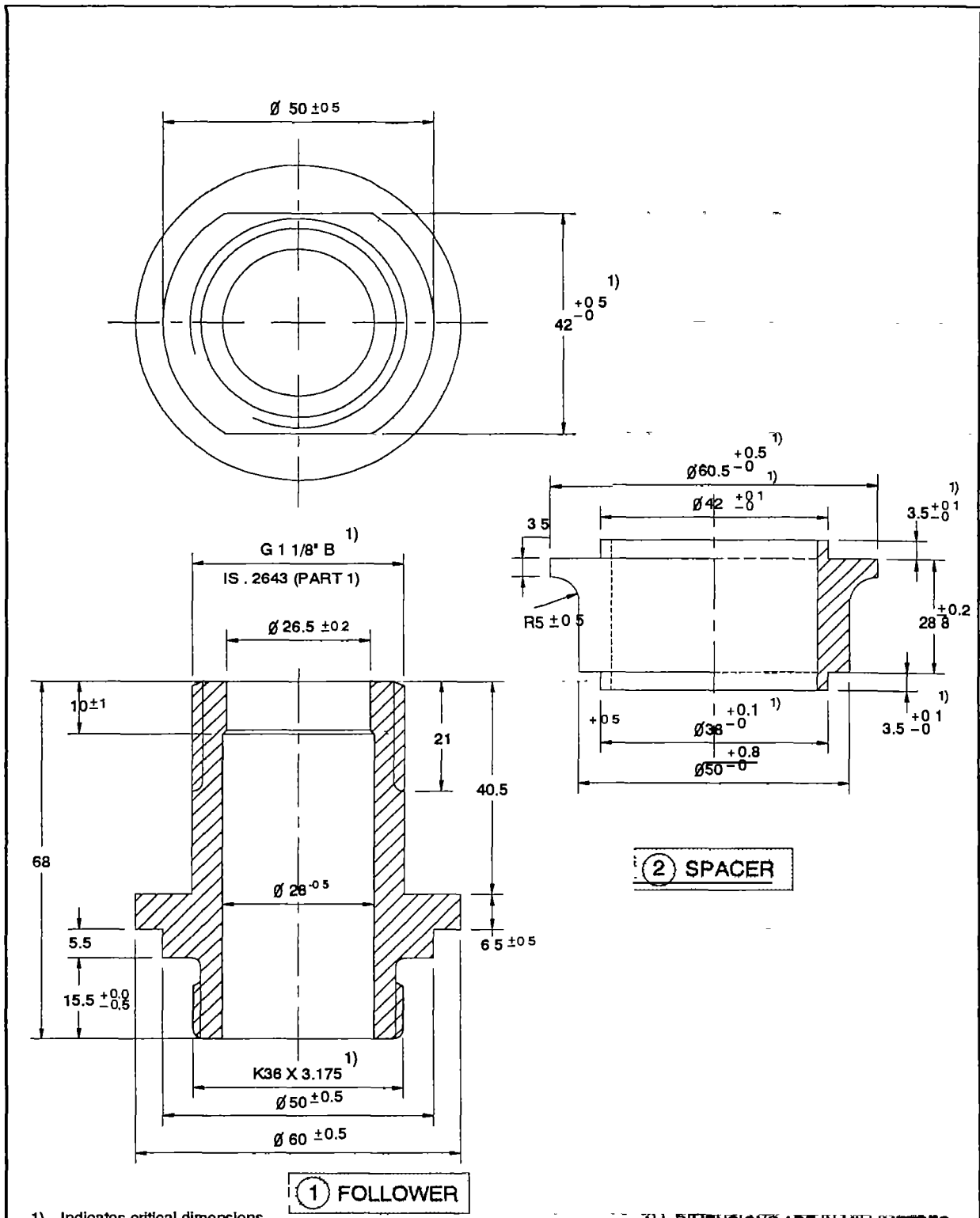
2) UPPER VALVE

NOTE : Section 21 A/F can be at any location

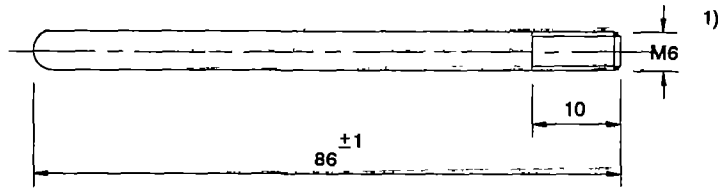
1) Indicates critical dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

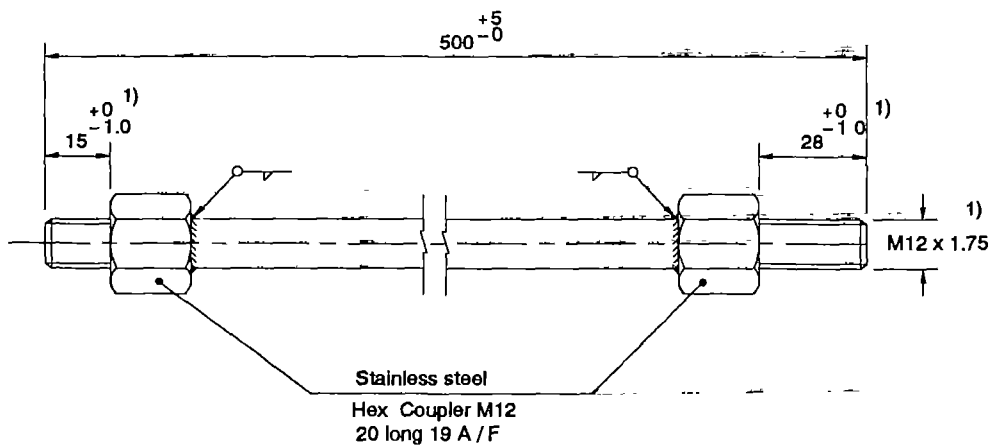
				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U.O S ± 0.5	
				SCALE N T S	
				DRAWING NO VLOM-07-04	
2	1	Upper Valve	GR.LTB 2 IS 318 1981		
1	1	Plunger Yoke Body	GR.LTB 2 IS 318 1981		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE CYLINDER ASSEMBLY PARTS	
				DATE 01/01/94	



				<b>Unicef</b> INDIA	
				TOLERANCE	
				U.O.S ± 0.5	
				SCALE N.T.S.	
				DRAWING NO. VLOM-07-05	
2	1	Spacer	GR LTB 2 of IS 318 . 1981		
1	1	Follower	GR LTB 2 of IS 318 1981		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				CYLINDER ASSEMBLY PARTS	01/01/94




① PUSH ROD

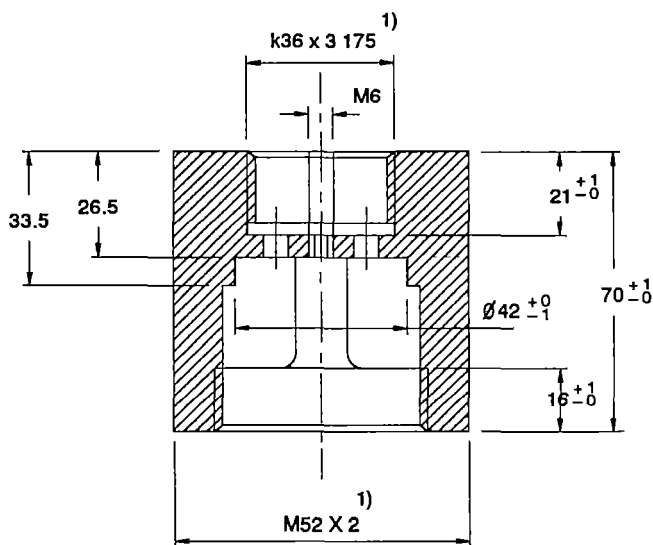
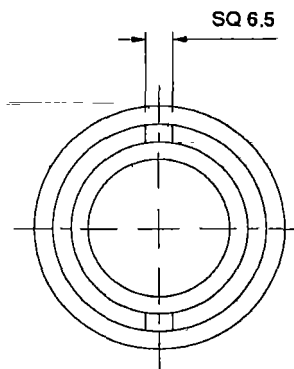
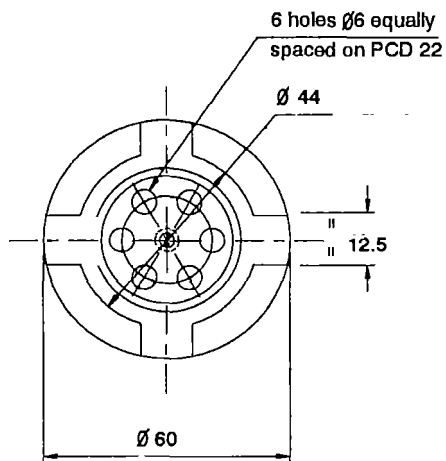


② PLUNGER ROD

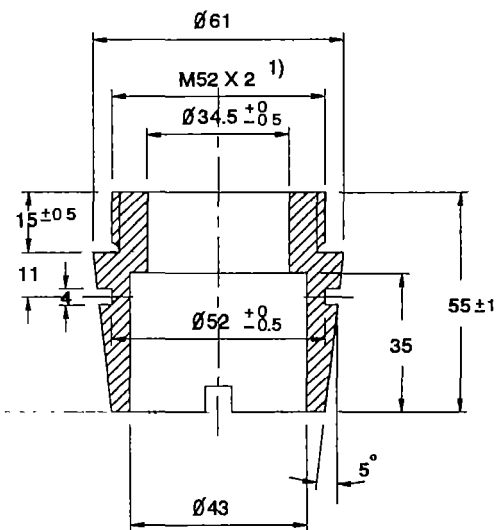
1) indicates critical dimension

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA		
				TOLERANCE		
2	1	Plunger Rod	GR. 04 Cr 18 Ni 10 of IS 6803 : 1972	U.O.S.	± 0.5	DRAWING NO. VLOM-07-06
1	1	Push Rod	GR. 04 Cr 18 Ni 10 of IS 6803 : 1972	SCALE	N.T.S.	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE CYLINDER ASSEMBLY PARTS		DATE 01/01/94




1) CAGE

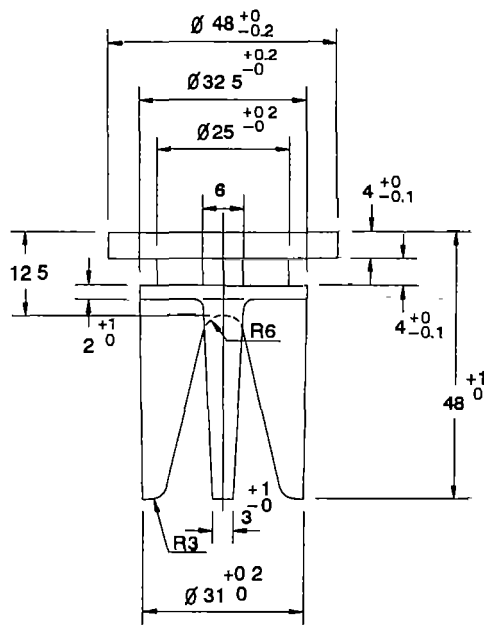
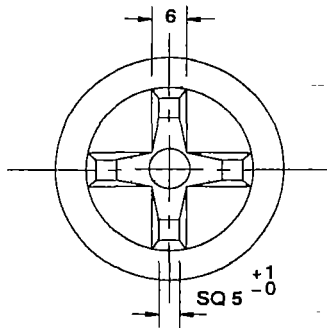


2) CHECK VALVE

1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES


Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
2	1	Check Valve Seat	GR. LIB 2 of IS : 318 - 1981	CYLINDER ASSEMBLY PARTS	01/01/94
1	1	Cage	GR. LIB 2 of IS : 318 - 1981		
				Unicef INDIA	
				TOLERANCE	DRAWING NO. VLOM-07-07
				U.O S $\pm 0.5$	
				SCALE N.T.S.	



1 CHECK VALVE

1) Indicates critical dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

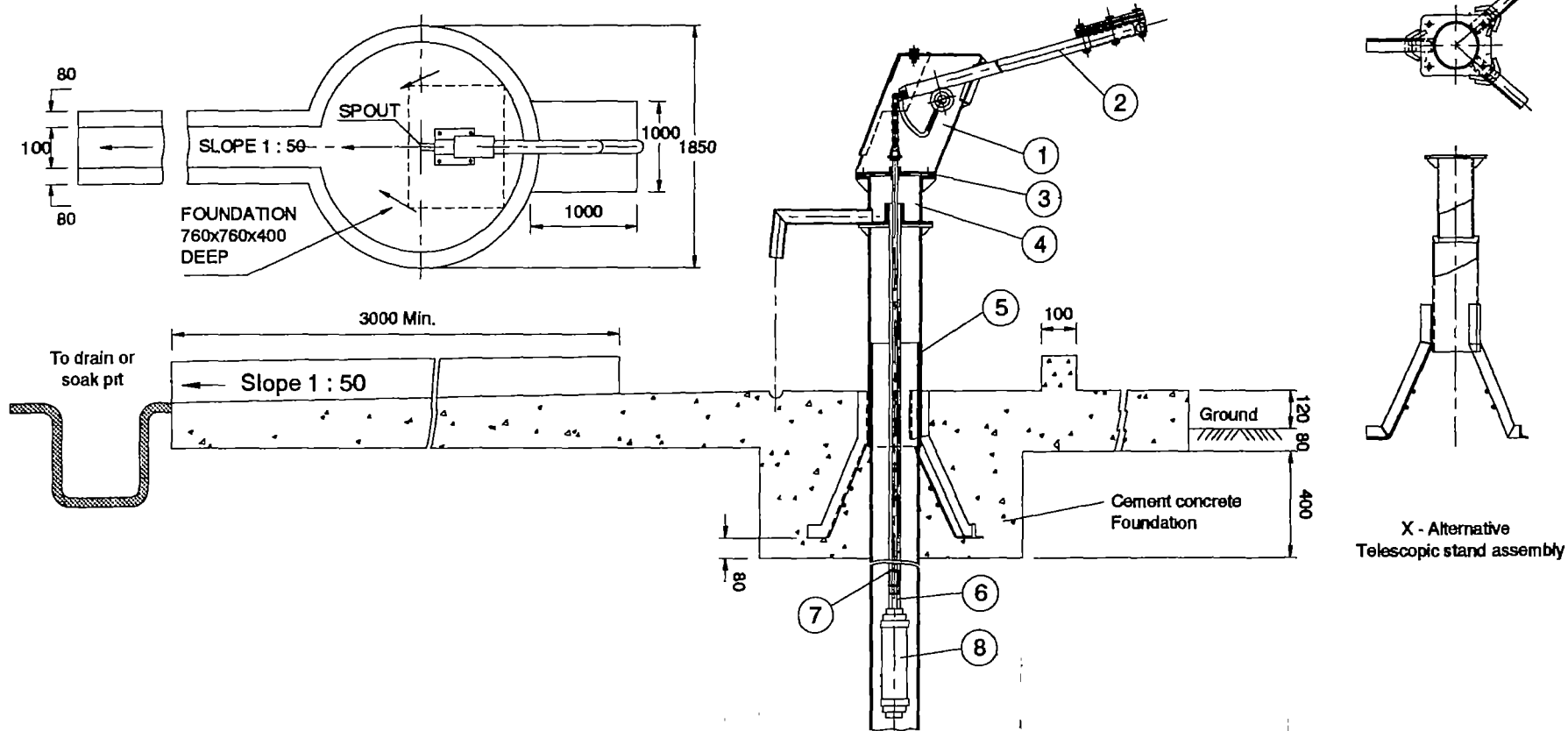
				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S ± 0.5		DRAWING NO VLOM-07-08	
				SCALE N T S			
1	1	Check valve	GR LTB 2 of IS . 318 - 1981				
Part No.	No OFF	DESCRIPTION	MATERIAL	TITLE CYLINDER ASSEMBLY PARTS		DATE 01/01/94	



**Extra Deepwell Handpump**



## EXTRA DEEP WELL HAND PUMP SYSTEM ASSEMBLY



75

**NOTE :**

1. The free end of the casing pipe shall be min. 300mm above the installation mark
2. Casing pipe is not required when the bore pipe passes through rocks
3. Separate platform for washing clothes/utensils and cattle truffs may be provided if required.

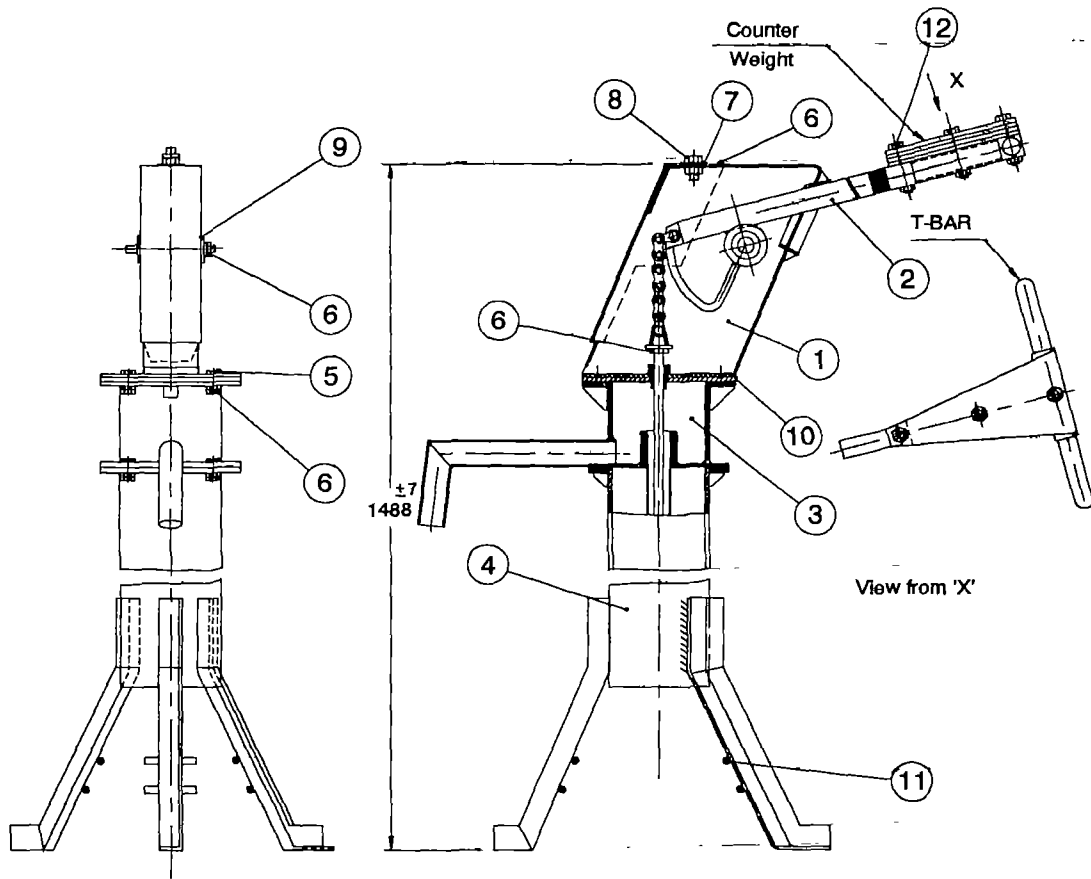
6	1	Cylinder Assembly	-
7	-	Connecting Rod	-
6	-	Riser Pipe	-
5	1	Stand Assembly	-
4	1	Water Tank Assembly	-
3	1	Additional Flange	-
2	1	Handle Assembly	-
1	1	Head Assembly	-
<b>Part No</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



<b>TOLERANCE</b>		<b>DRAWING NO.</b> EDW
<b>U.O.S.</b>	+ 0.5	
<b>SCALE</b>	N.T.S.	
<b>TITLE</b>		<b>DATE</b>
HAND PUMP SYSTEM ASSEMBLY		01/01/84



12	3	Hex. Bolt M12 X 100	IS - 1363 (Part 1) 1984
11	6	Spikes	IS . 2062 Grade A
10	1	Third Plate	IS . 2062 Grade A
9	1	Axe Washer	IS 2062 Grade A
8	1	Hex. Bolt M12 x 20	IS - 1363 (Part -1) 1984
7	1	Washer (To Suit M12)	Type A IS 2016 1967
6	23	Hex. Nut M12	IS - 1363 (Part -3) 1984
5	8	Hex. Bolt M12 x 40	IS 1363 (Part -1) - 1984
4	1	Stand Assembly	-
3	1	Water Tank Assembly	-
2	1	Handle Assembly	-
1	1	Head Assembly	-

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



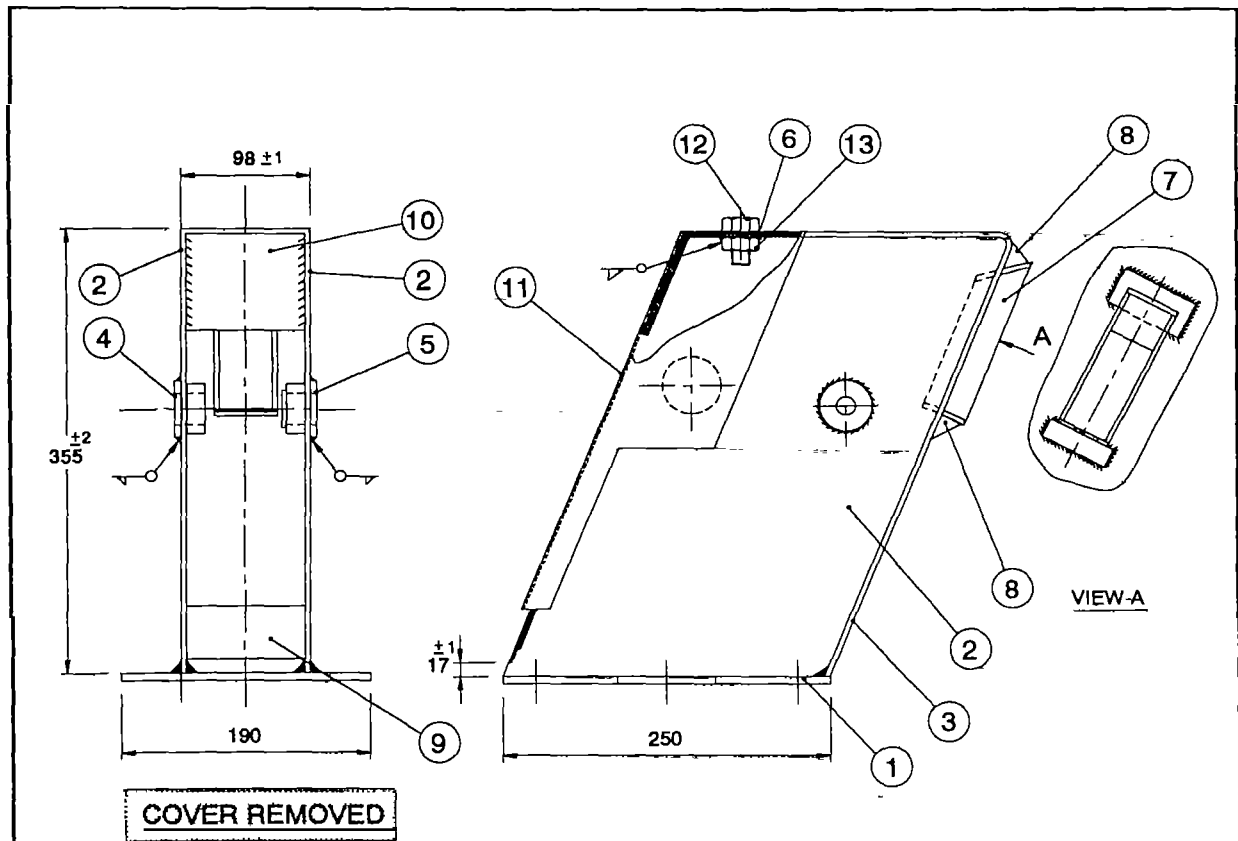
TOLERANCE

U O.S. ± 0.5

SCALE N.T.S.

DRAWING NO. EDW-00

Part No	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				EXTRA DEEP WELL HAND PUMP	01/01/94



**NOTE:-**

1. Inside fillet welding of side plates and back plate to the flange should be 3 2 mm min
2. Welding fillets in other places should be 4 mm min
3. The side plate shall be welded inside and outside as shown in the drawing
4. The head assembly shall be welded from inside and outside the outside seal welding run shall be ground smooth
5. In-line reaming of left and right axle bushes shall be done to ensure alignment

13	1	Hex. Nut - M12	IS 1363 (Part 3) 1984
12	1	Hex Bolt-M12x20	IS 1363 (Part 1) 1984
11	1	Front Cover	Ordinary grade of IS 513 1986
10	1	Front Top End Plate	IS 2062 Grade A
9	1	Front Bottom End Plate	IS 2062 Grade A
8	2	Gusset	IS 2062 Grade A
7	1	Bracket	IS 2062 Grade A
6	1	Washer (To suit M12 Bolt)	Type A IS 2016, 1967
5	1	Axle Bush (Left)	IS 2062 Grade A
4	1	Axle Bush (Right)	IS 2062 Grade A
3	1	Back Plate	IS 2062 Grade A
2	2	Side Plate	IS 2062 Grade A
1	1	Pump Head Flange	IS 2062 Grade A
Part No.	No OFF	DESCRIPTION	MATERIAL

ALL DIMENSIONS ARE IN MILLIMETRES

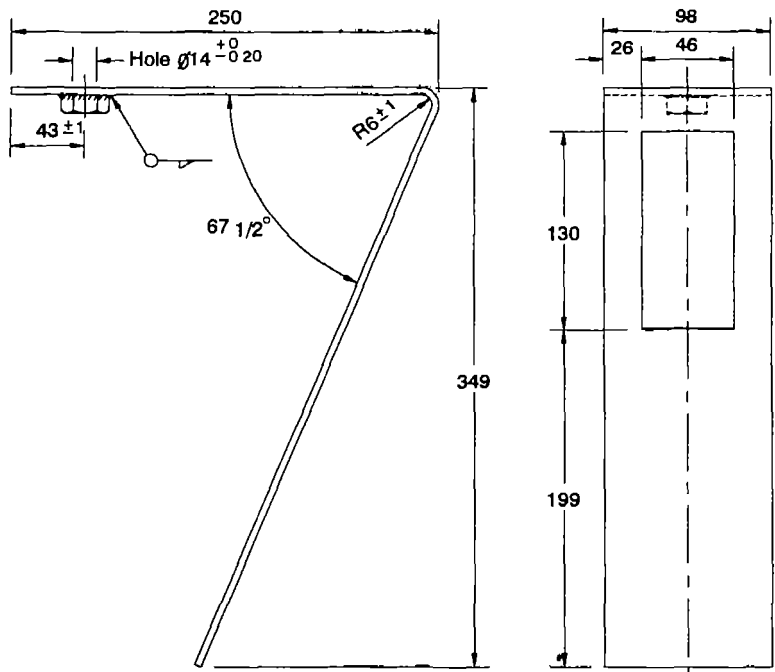
**Unicef**  
INDIA



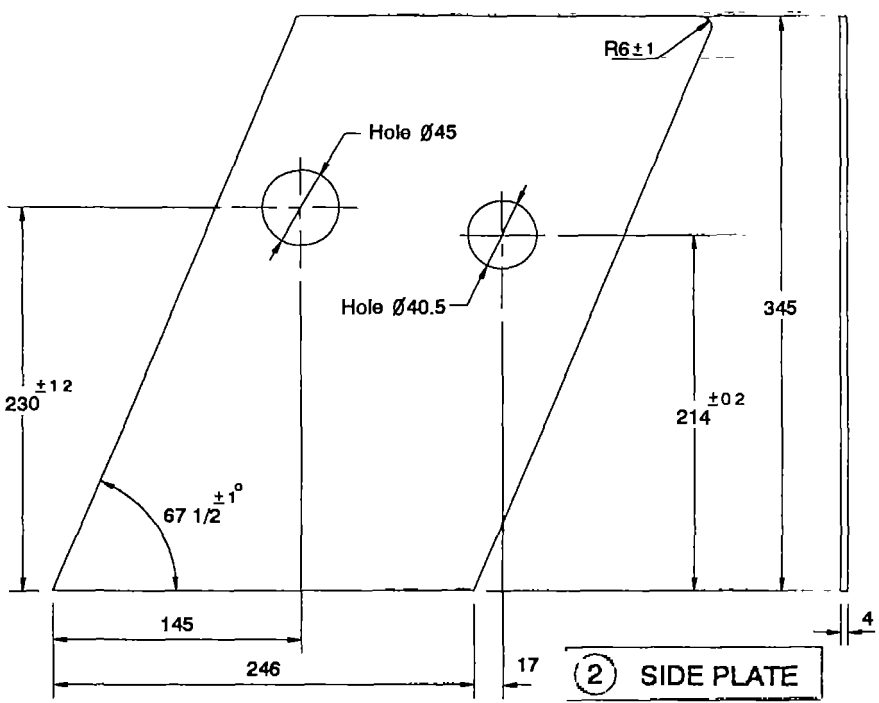
TOLERANCE	
U O S	± 0.5
SCALE	N.T.S

DRAWING NO. EDW-01

TITLE	HEAD ASSEMBLY	DATE	01/01/94
-------	---------------	------	----------




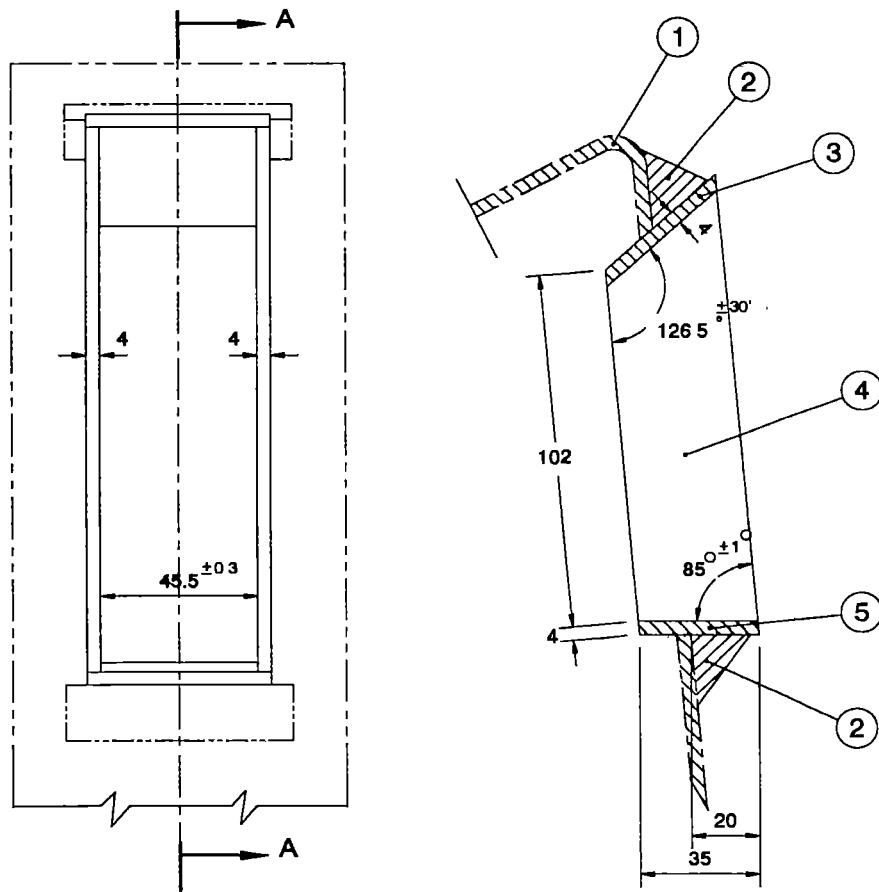
① BACK PLATE



② SIDE PLATE

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
				TOLERANCE			
				U O S. ± 0.5		DRAWING NO EDW-01-01	
				SCALE N T S			
2	2	Side Plate	IS 2062 Grade A				
1	1	Back Plate	IS 2062 Grade A				
Part No	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE	
				HEAD ASSEMBLY PARTS		01/01/84	

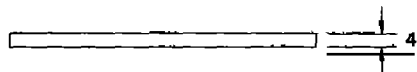
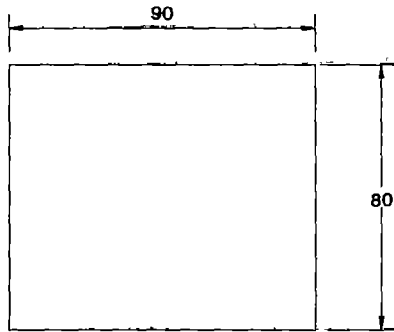


SECTION A-A

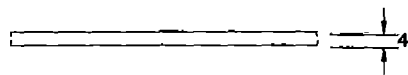
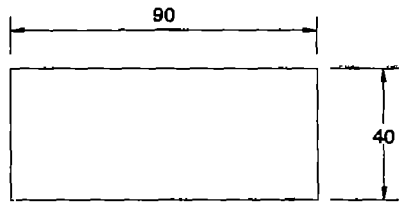
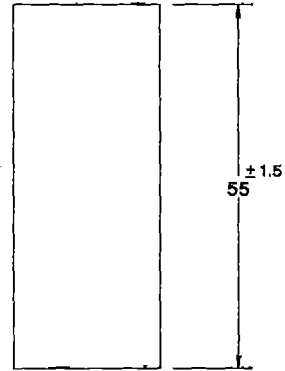
**BRACKET**

ALL DIMENSIONS ARE IN MILLIMETRES

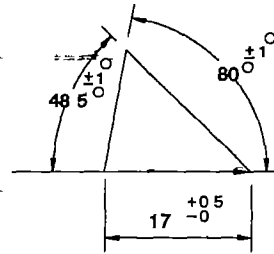
5	1	Bracket Bottom Plate	IS · 2062 Grade A	<b>Unicef</b> INDIA 	TOLERANCE U O.S ± 0.5 SCALE N T S DRAWING NO. EDW-01-02
4	2	Bracket Side Plate	IS · 2062 Grade A		
3	1	Bracket Top Plate	IS · 2062 Grade A		
2	2	Gusset	IS · 2062 Grade A		
1	1	Back Plate	IS · 2062 Grade A		
Part No	No. OFF	DESCRIPTION	MATERIAL	TITLE HEAD ASSEMBLY PARTS	DATE 01/01/84



① FRONT TOP END PLATE




② FRONT BOTTOM END PLATE

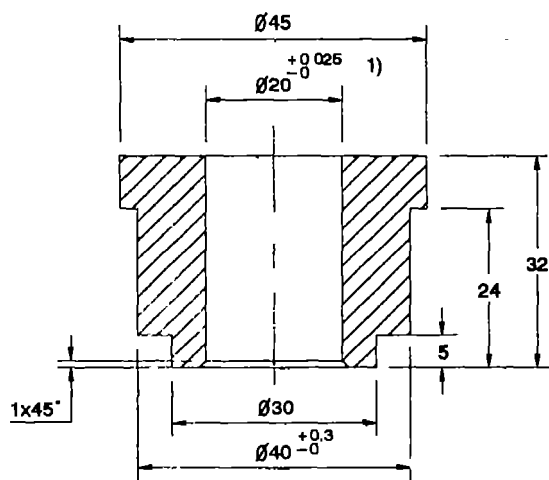


③ GUSSET

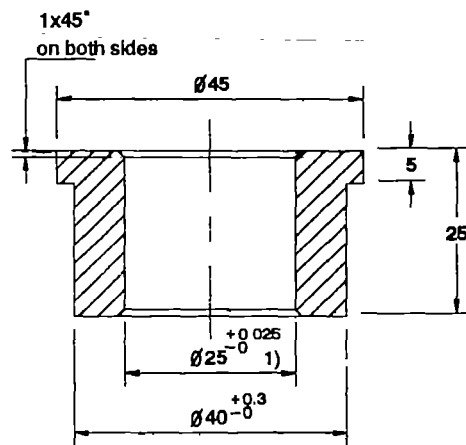
ALL DIMENSIONS ARE IN MILLIMETRES.

				<b>Unicef</b> INDIA			
				TOLERANCE			
3	1	Gusset	IS : 2062 Grade A	U.O.S	± 0.5	DRAWING NO. EDW-01-03	
2	1	Front Bottom End Plate	IS : 2062 Grade A	SCALE	N T.S		
1	1	Front Top End Plate	IS : 2062 Grade A			DATE 01/01/84	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			
				HEAD ASSEMBLY PARTS			






① LEFT AXLE BUSH

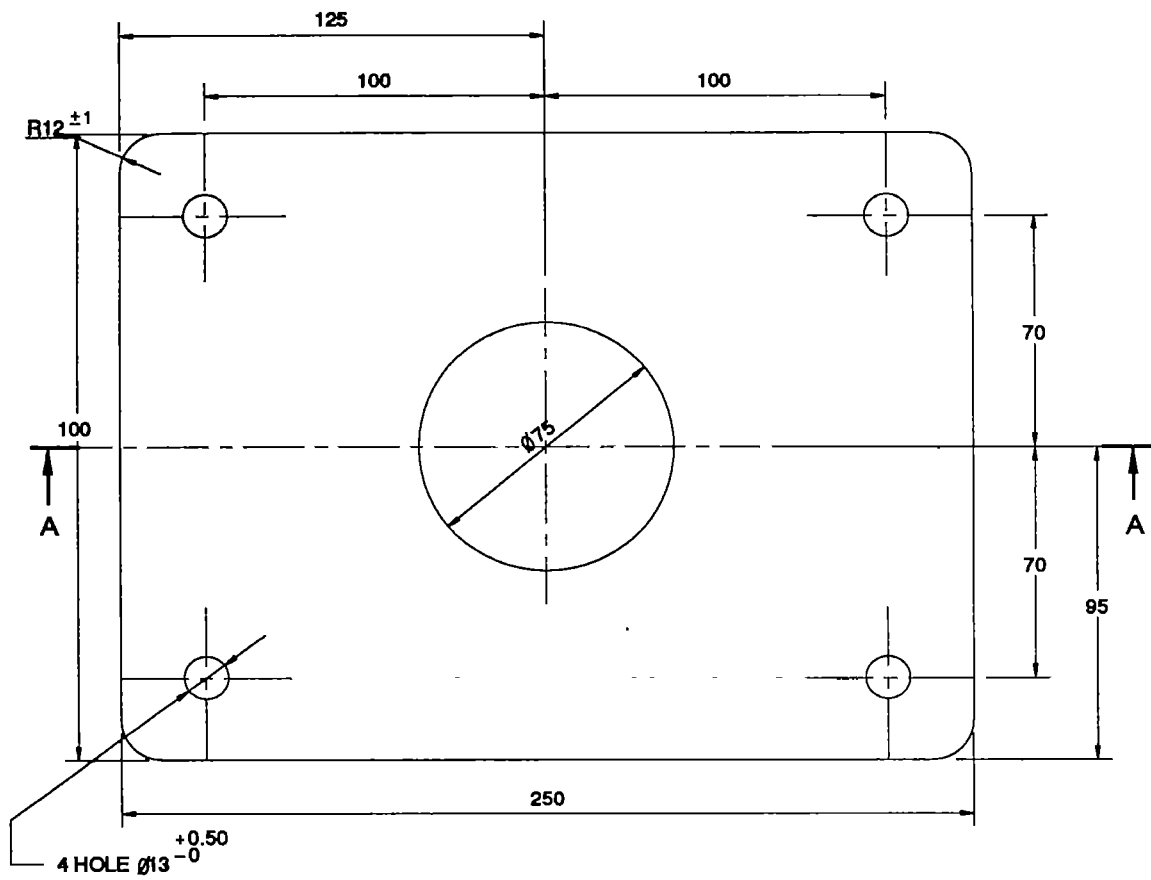


② RIGHT AXLE BUSH

1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U O.S. + 0.3	
				SCALE N.T.S.	
				DRAWING NO. EDW-01-04	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE HEAD ASSEMBLY PARTS	
2	1	Axle Bush (Right)	IS : 2062 Grade A	DATE 01/01/84	
1	1	Axle Bush (Left)	IS 2062 Grade A		

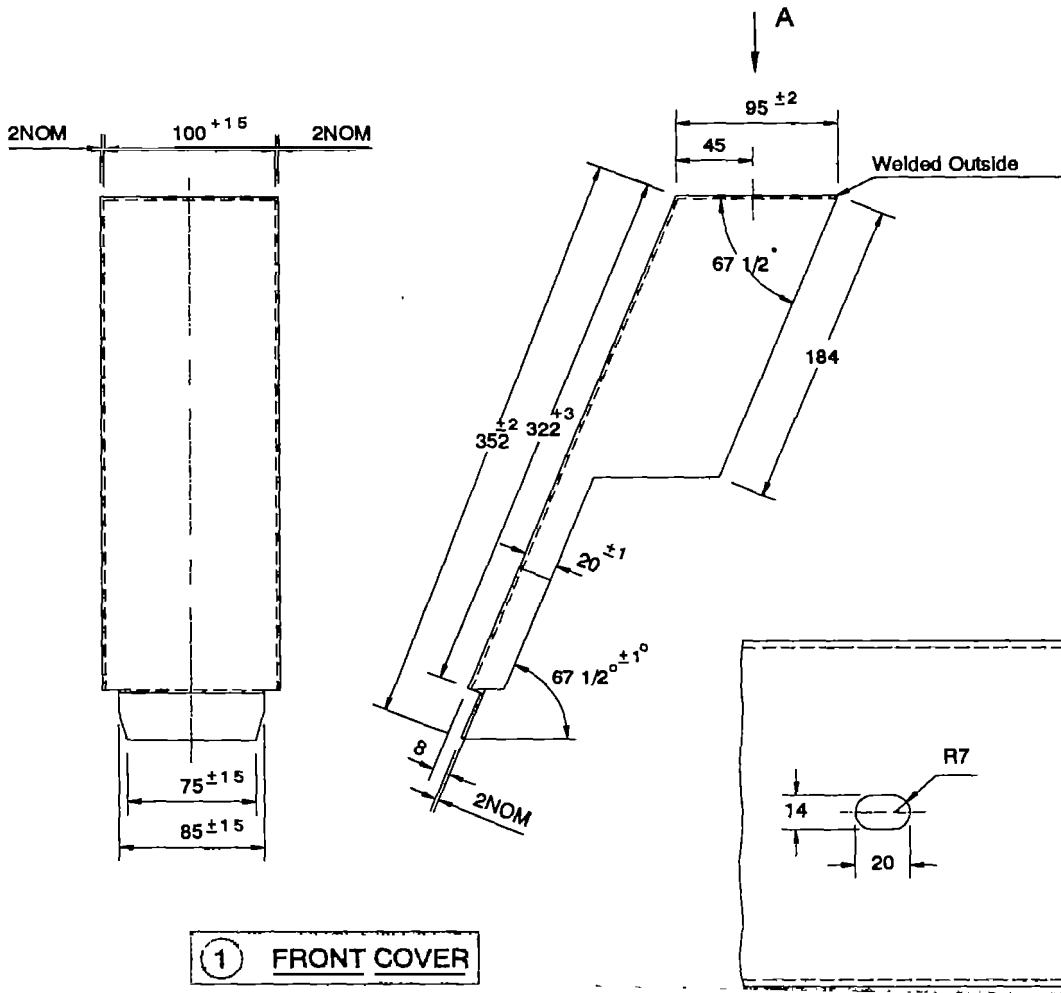


SECTION A-A

① PUMP HEAD FLANGE

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA 	
				TOLERANCE	DRAWING NO EDW-01-05
				U.O.S ± 0.5	
				SCALE N.T.S	
1	1	Pump Head Flange	IS : 2062 Grade A		
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> HEAD ASSEMBLY PART	
				<b>DATE</b> 01/01/94	

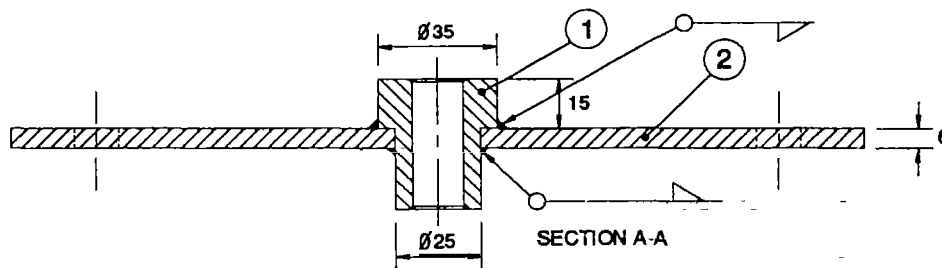
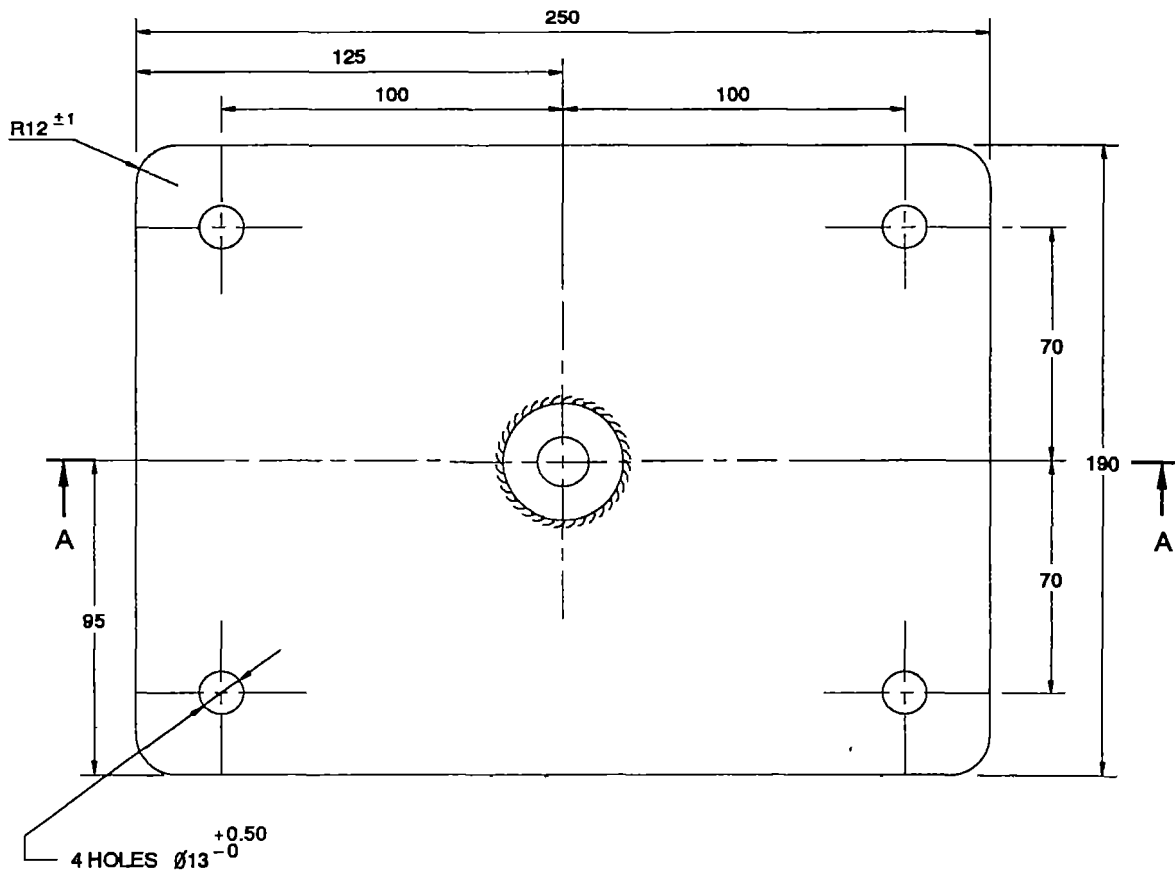


① FRONT COVER


VIEW A

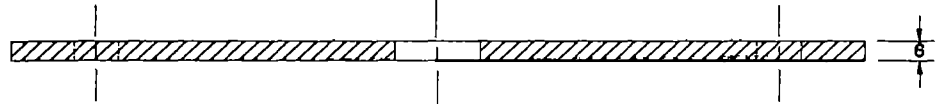
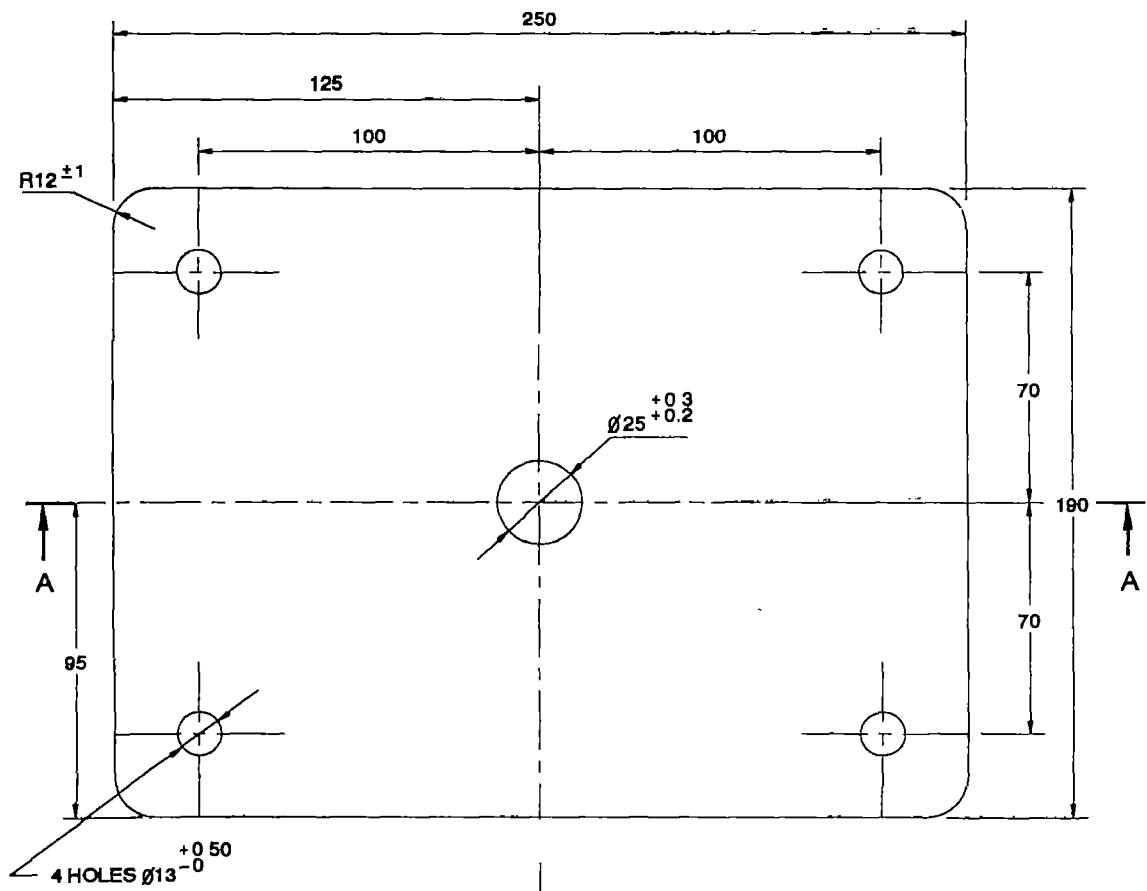
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S ± 0.5		DRAWING NO. EDW-01-06	
				SCALE N.T.S.			
1	1	Front Cover	IS . 513 1986 Ordinary Grade	TITLE		DATE	
Part No.	No. OFF	DESCRIPTION	MATERIAL	HEAD ASSEMBLY PARTS		01/01/94	



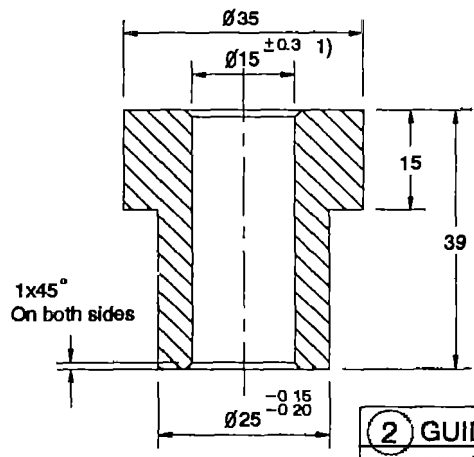
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TOLERANCE		DRAWING NO	EDW-02
				U O S	± 0.5		
				SCALE	N.T.S		
				TITLE			DATE
2	1	Third Plate	IS 2062 Grade A				
1	1	Guide Bush	IS 2062 Grade A				
				THIRD PLATE ASSEMBLY			01/01/84



SECTION A-A


1 THIRD PLATE

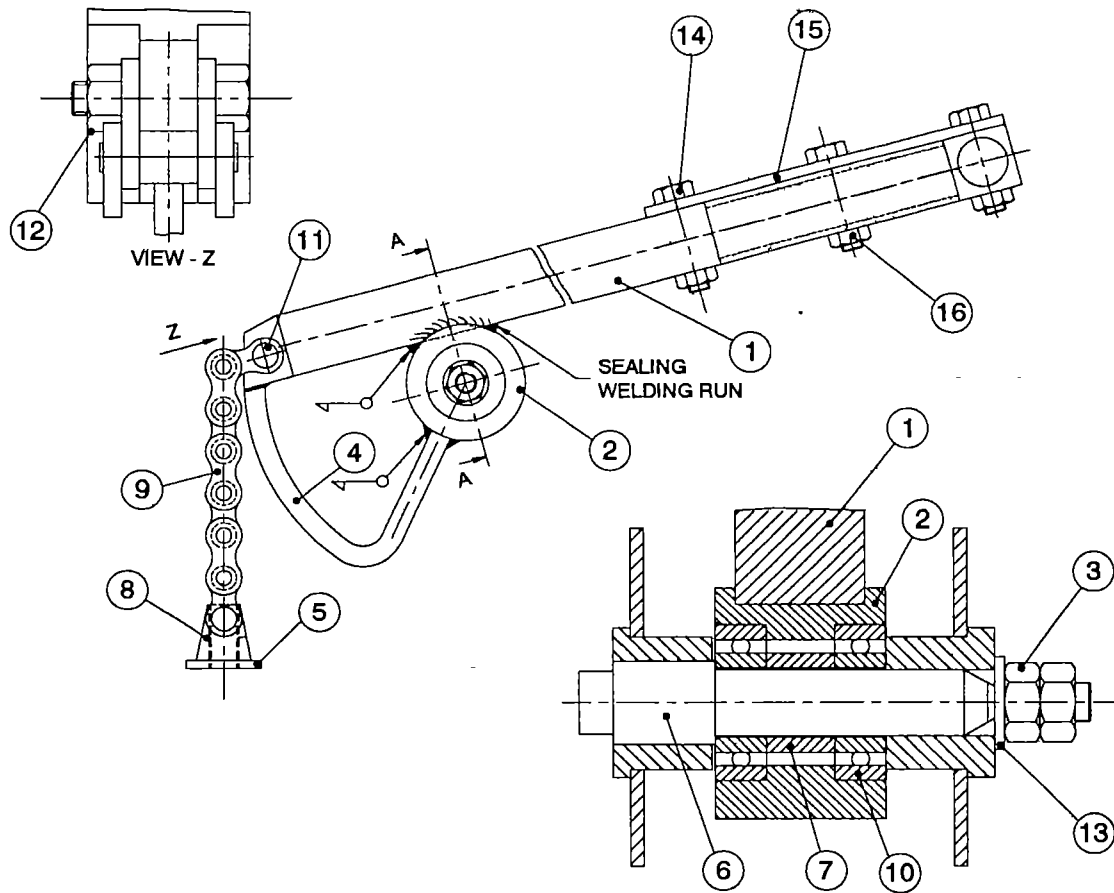


2 GUIDE BUSH

1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U O.S ± 0.5		DRAWING NO. EDW-02-01	
				SCALE N.T.S.			
2	1	Guide Bush	IS : 2062 Grade A				
1	1	Third Plate	IS 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			DATE
				THIRD PLATE PARTS			01/01/94



SECTION A-A

16	6	Hex. Nut M12	IS 1363 (Part 3) 1984
16	1	T-Bar	IS 2062 Grade A
14	3	Hex. Bolt M12	IS 1364 (Part 1) 8 8
13	1	Washer (4mm thick) To suit M12	Type A IS 2016 1967
12	1	Hex. nyloc nut M10 x 1 5	IS : 7002 1972
11	1	Hex. bolt (M10 x 1 5 x40)	IS : 1364 (PART 1) 1983
10	2	Single side Shielded bearing	Designation 20BC02 PP IS 6455 1972
9	1	Roller chain (25 4 mm pitch)	IS . 2403 1975
8	1	Chain with coupling	.....
7	1	Spacer	IS 2062 Grade A
6	1	Handle axle	Ni Cr Stainless Steel Ni8% Min Cr 17% Min
5	1	Chain coupling	IS 2004 1978 / IS 2062 Grade A
4	1	Roller chain guide	IS . 2062 Grade A
3	2	Hex. nut M12	IS 1363 (PART 3) 1984
2	1	Bearing housing	IS 2062 Grade A
1	1	Handle bar	IS . 2062 Grade A

NOTES -

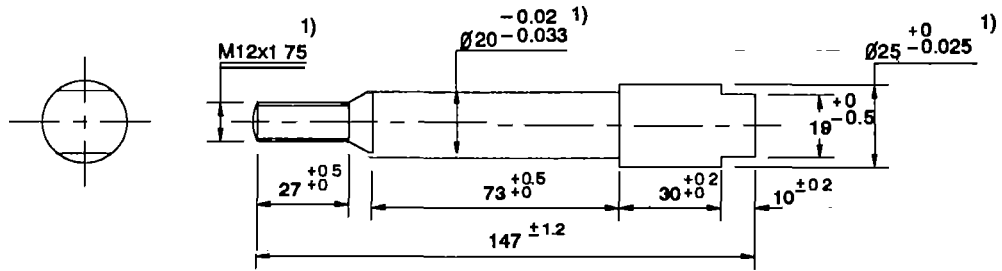
1. Welding fillet shall not be less than 6mm at all places
2. Bearing housing shall be fully packed with lithium based grease

**Unicef**  
INDIA

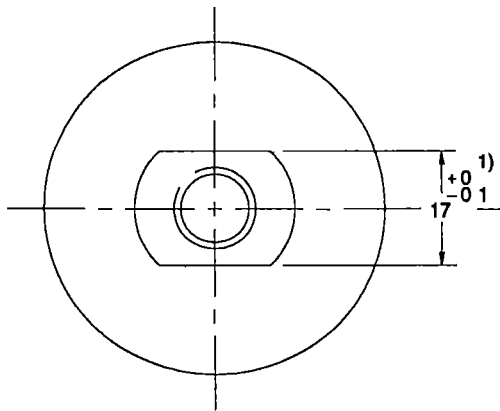
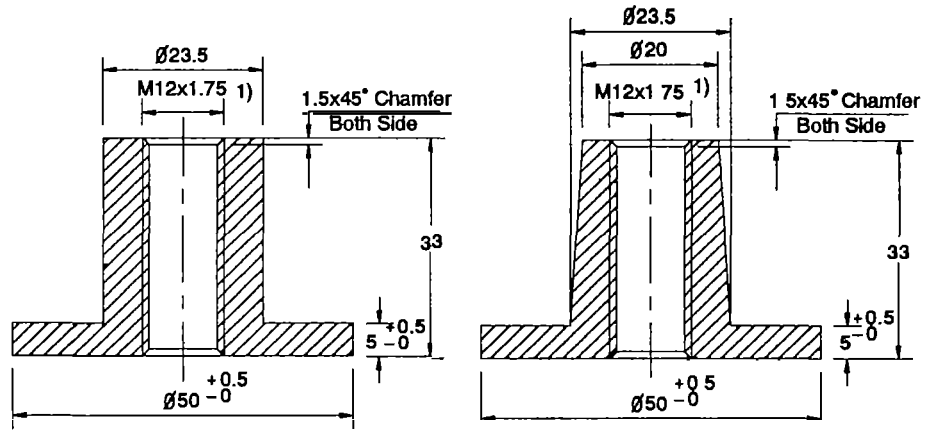


TOLERANCE		DRAWING NO. EDW-03
U O S	± 0.5	
SCALE	N.T.S.	

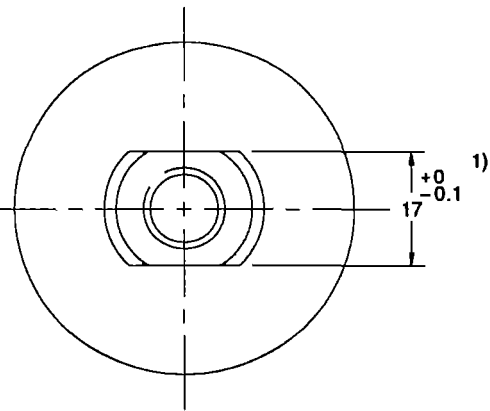
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				HANDLE ASSEMBLY	01/01/94



(2) HANDLE AXLE



MACHINED



FORGED


(1) CHAIN COUPLING

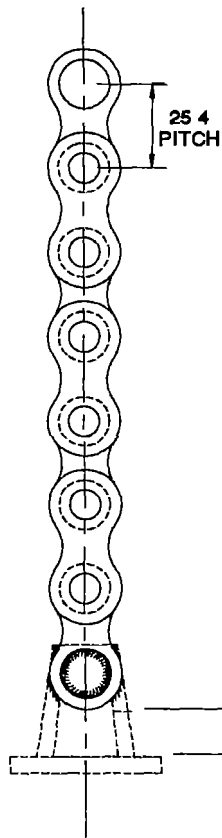
1) Indicates Critical Dimensions

Note.-

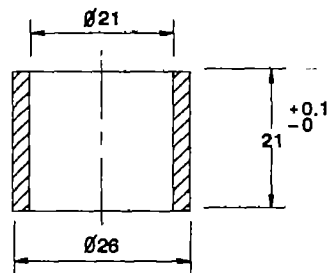
Relief as per Type E of IS 3428 : 1981 shall be provided for handle axle

ALL DIMENSIONS ARE IN MILLIMETRES

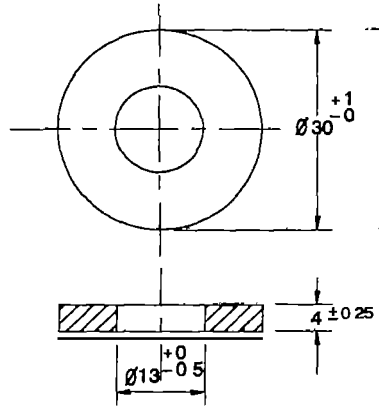
				<b>Unicef</b> INDIA.		
				TOLERANCE		
2	1	Handle Axle	Ni Cr Stainless Steel Ni Cr 8% Min Cr 17%	U.O.S.	± 0.5	DRAWING NO. EDW-03-01
1	1	Chain Coupling	Class 2 of IS : 2004, 1978 IS 2062 Grade A	SCALE	N TS	
Part No	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE
				HANDLE ASSEMBLY PARTS		01/01/84



③ CHAIN WITH COUPLING




① SPACER



② AXLE WASHER

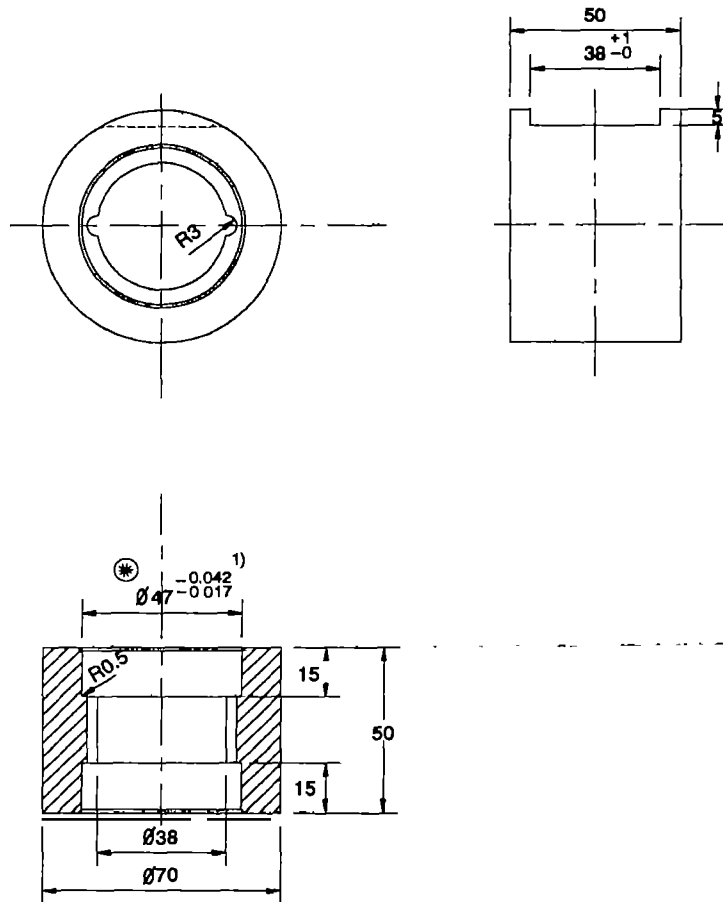
1) Indicates critical dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
3	1	Chain with coupling	IS 2062 1992 Grade A	<b>Unicef</b> INDIA 	DRAWING NO. EDW-03-02
2	1	Axle Washer	IS 2062 1992 Grade A		
1	1	Spacer	IS 2062 1992 Grade A		
				TOLERANCE U.O.S ± 0.1 SCALE N.T.S.	
				HANDLE ASSEMBLY PARTS	01/01/94








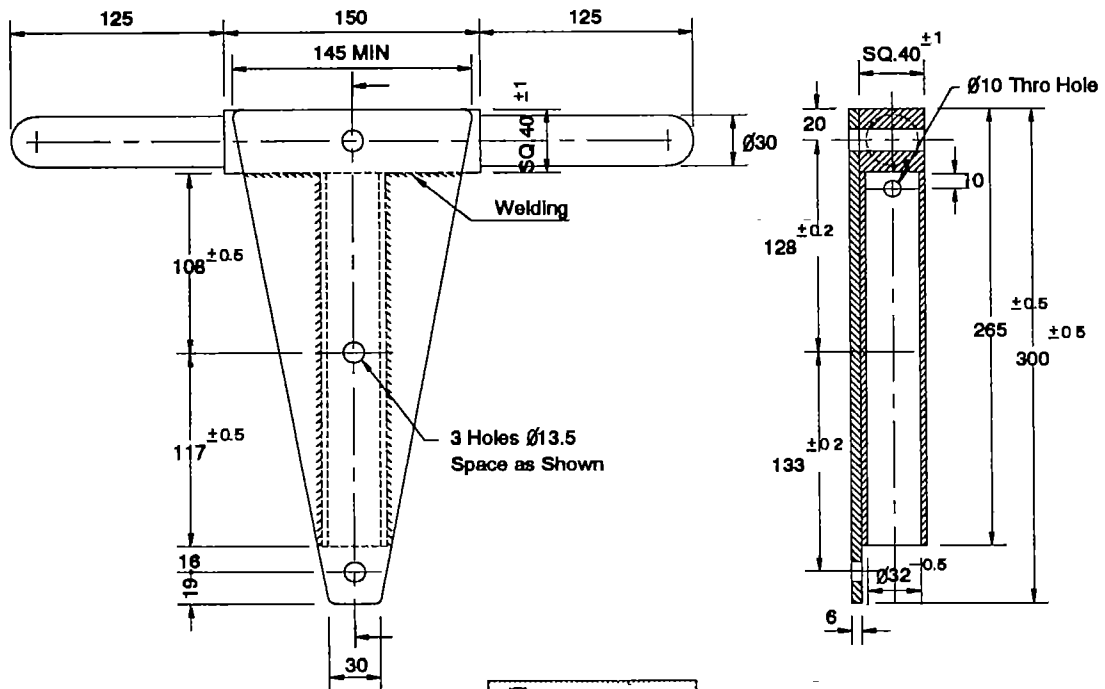
① BEARING HOUSING

⊛ After Welding

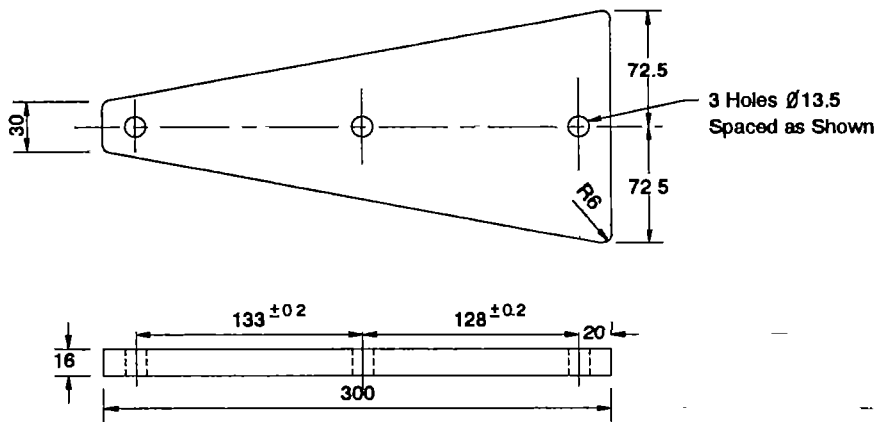
1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. EDW-03-04	
				U.O.S. $\pm 0.1$			
				SCALE N.T.S.			
1	1	Bearing Housing	IS - 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE	
				HANDLE ASSEMBLY PARTS		01/01/94	




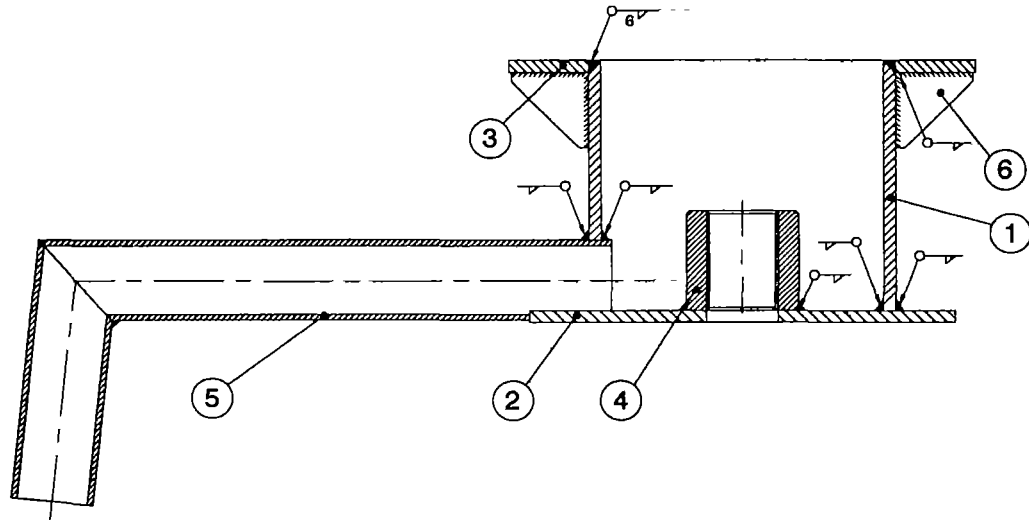
① T - BAR



② COUNTER WEIGHT


ALL DIMENSIONS ARE IN MILLIMETRES

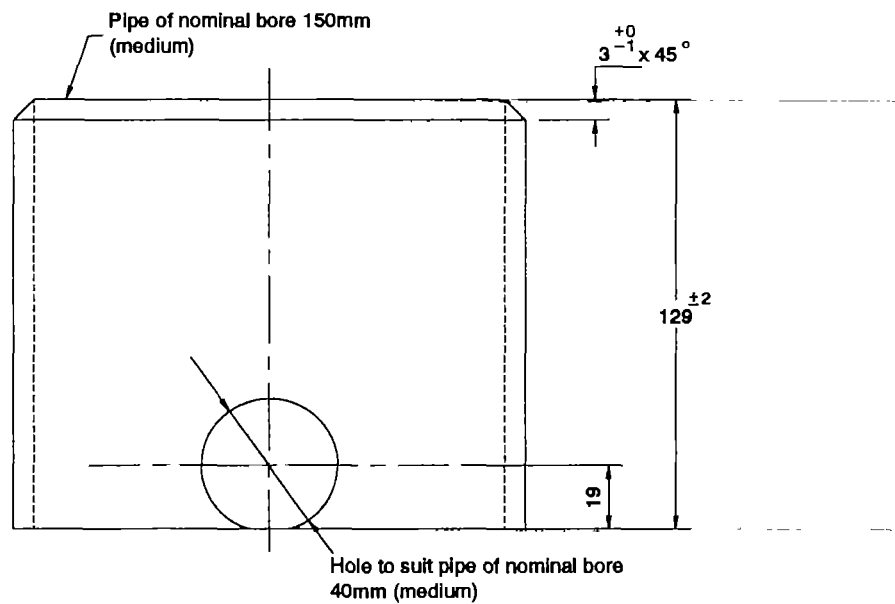
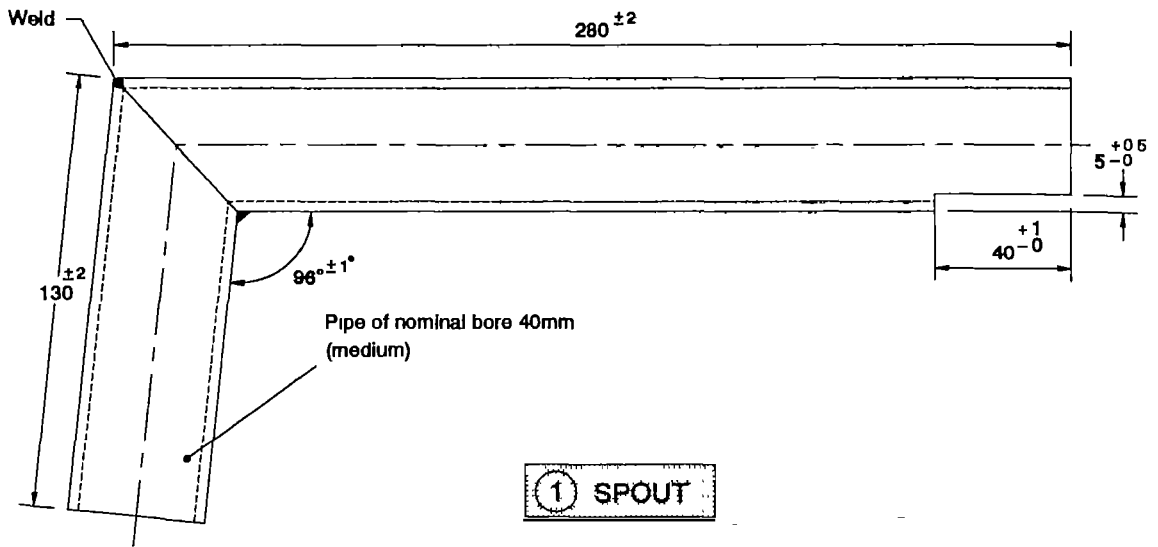
				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. EDW-03-05	
				U.O.S. ± 0.5			
				SCALE N.T.S			
2	1	Counter weight	IS : 2062 Grade A				
1	1	T-Bar	IS : 2062 Grade A				
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> HANDLE ASSEMBLY PARTS			<b>DATE</b> 01/01/94




**NOTE :-**

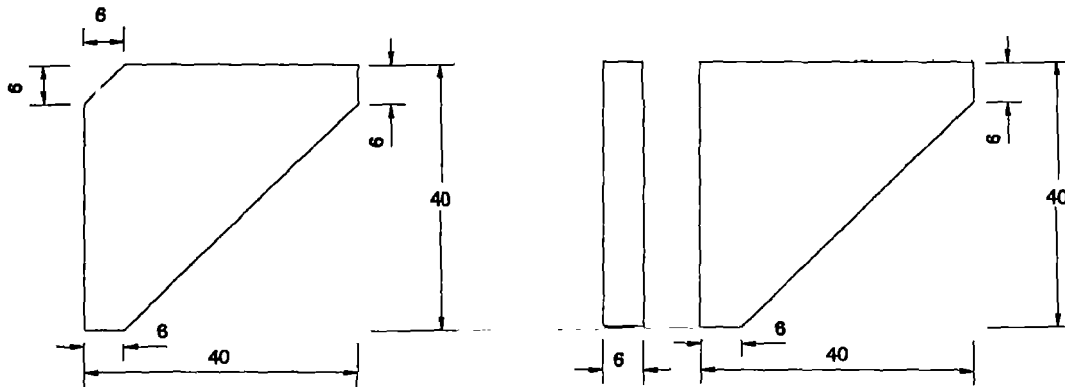
1. Fillet size of weld at all places shall be minimum 6mm excepting spout where it shall not be less than 4mm. The inside welding of the tank pipe shall be given a sealing run.
2. One side of coupling to be faced
3. Sealing run on the top flange to be ground smooth

6	2	Gusset	IS : 2062 Grade A	<b>Unicef</b> INDIA 	
5	1	Spout	IS : 1239 (PART 1) - 1979		
4	1	Riser pipe holder	IS : 2062 1992 Grade A		
3	1	Tank top flange	IS : 2062 1992 Grade A		
2	1	Tank bottom flange	IS : 2062 1992 Grade A		
1	1	Tank pipe	IS : 1239 (PART 1) - 1979		
				TOLERANCE	DRAWING NO. EDW-04
				U.O.S. ± 0.5	
				SCALE N T S.	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				WATER TANK ASSEMBLY	01/01/84



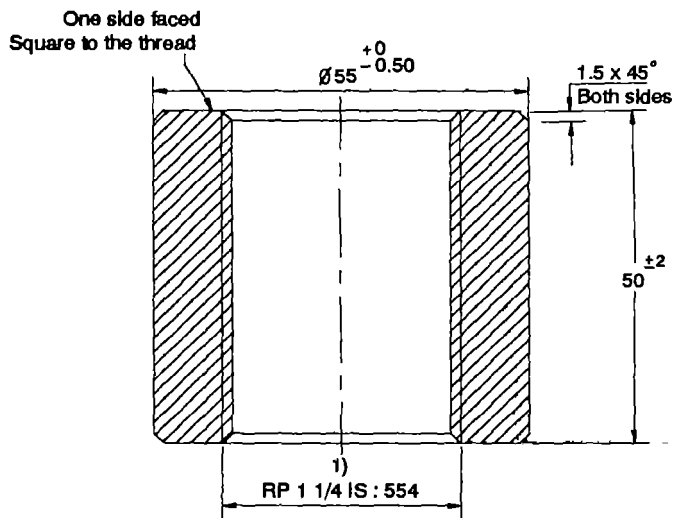
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S.	$\pm 0.5$	DRAWING NO. EDW-04-01	
				SCALE	N.T.S		
2	1	Tank pipe	IS 1236 (Part 1) - 1979				
1	1	Spout	IS 1236 (Part 1) - 1979				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			DATE
				WATER TANK ASSEMBLY PARTS			01/01/94



① GUSSET


ALTERNATE DESIGN

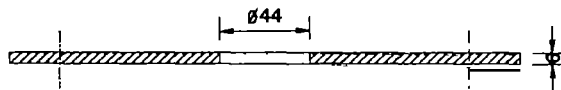
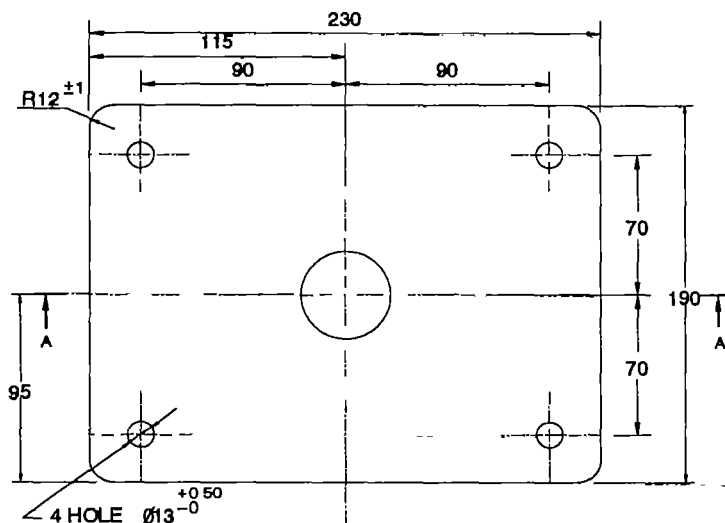


② RISER PIPE HOLDER

1) Indicates critical dimensions

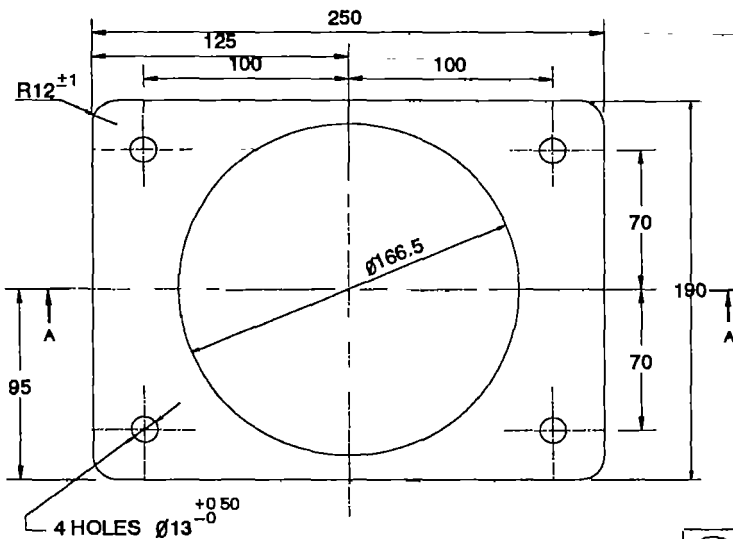
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA 	
				<b>TOLERANCE</b> U.O.S. ± 0.5 SCALE N.T.S.	
				DRAWING NO. EDW-04-02	
2	1	Riser pipe holder	IS : 2062 Grade A		
1	2	Gusset	IS . 2062 Grade A		
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> WATER TANK ASSEMBLY PARTS	<b>DATE</b> 01/01/84



SECTION A-A

① TANK BOTTOM FLANGE



SECTION A-A

② TANK TOP FLANGE

ALL DIMENSIONS ARE IN MILLIMETRES

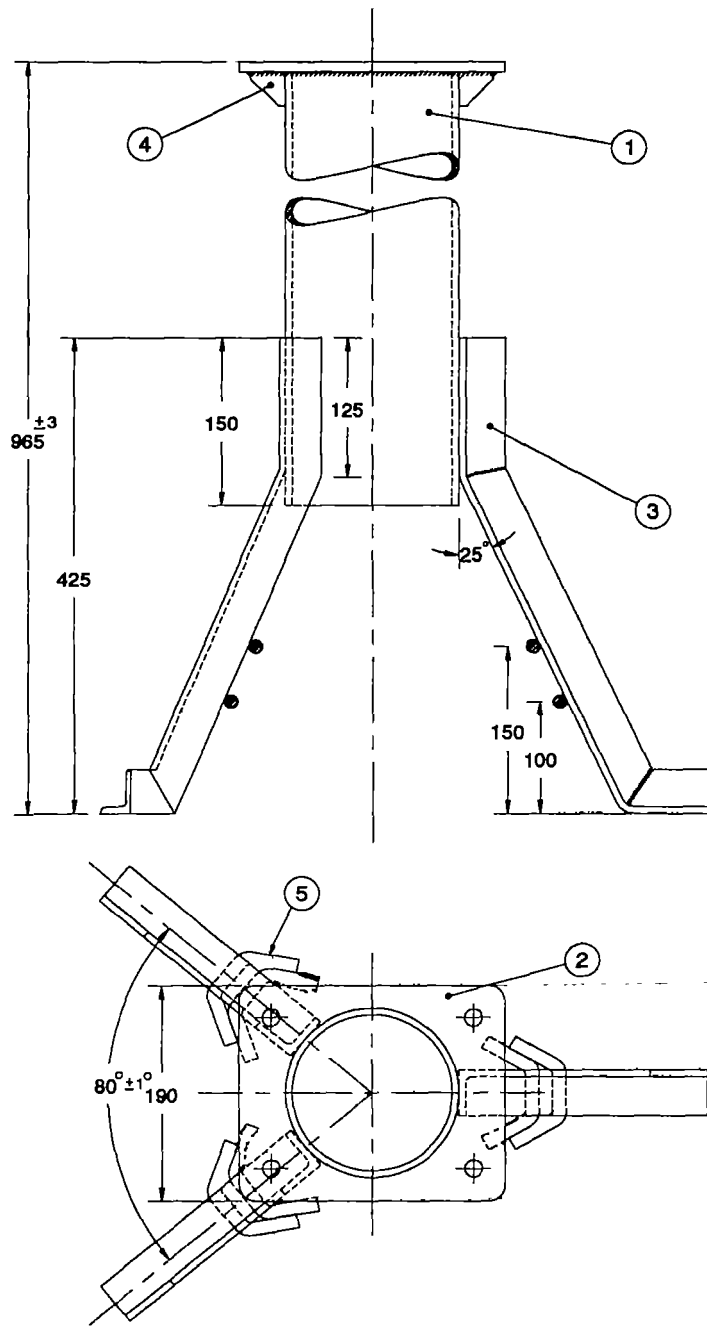
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
2	1	Tank top flange	IS 2062 Grade A	WATER TANK ASSEMBLY PARTS	01/01/94
1	1	Tank bottom flange	IS 2062 Grade A		

Unicef  
INDIA




TOLERANCE  
U O.S. ± 0.5  
SCALE N.T.S

DRAWING NO. EDW-04-03

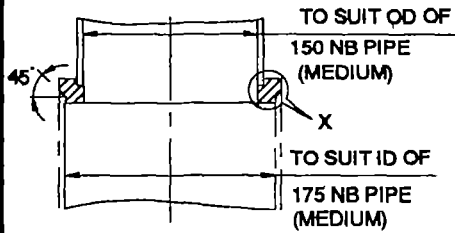
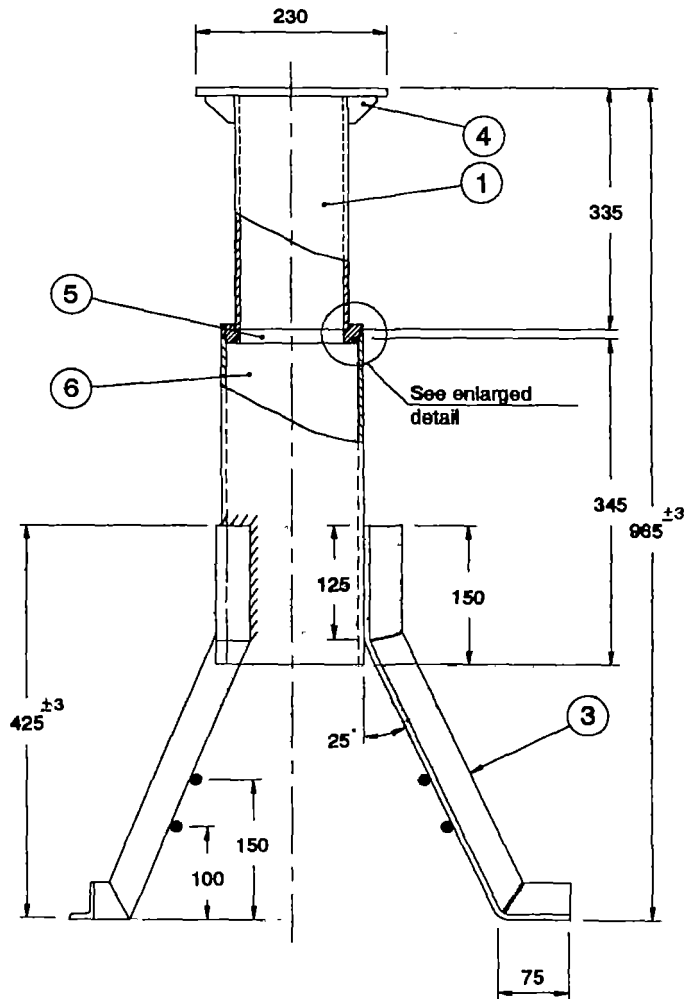


NOTE :-  
Recommended for use in bore wells having 100mm  
and 125 mm NB casing pipe

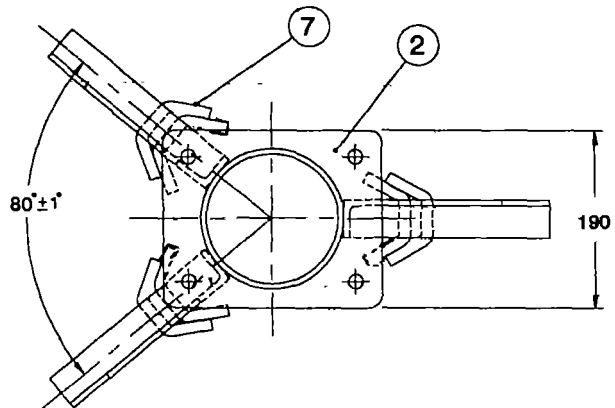
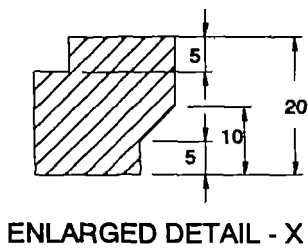
ALL DIMENSIONS ARE IN MILLIMETRES

5	6	Spike	IS : 2062 Grade A	<b>Unicef</b> INDIA 	DRAWING NO. EDW-05 DATE 01/01/84
4	2	Gusset	IS 2062 Grade A		
3	3	Leg	IS 808 - 1989		
2	1	Stand Flange	IS 2062 Grade A		
1	1	Stand Pipe	IS : 1239 (PART 1) - 1979		
				TOLERANCE U.O.S ± 0.5 SCALE N T S.	
Part No	No. OFF	DESCRIPTION	MATERIAL	TITLE STAND ASSEMBLY	





**5 REDUCER COLLAR**  
(TELESCOPIC STAND)



NOTE:-

Recommended for use in bore wells having 150 mm NB casing pipe

7	6	Spike	IS 2062 Grade A
6	1	175 NB PIPE	IS . 1181 1979
5	1	Reducer Collar	IS : 2062 Grade A
4	2	Gusset	IS : 2062 Grade A
3	3	Leg	IS . 808 . 1989
2	1	Stand Flange	IS : 2062 Grade A
1	1	Stand Pipe 150 NB	IS 1239 (part 1) 1979
Part No.	No. OFF	DESCRIPTION	MATERIAL

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



TOLERANCE

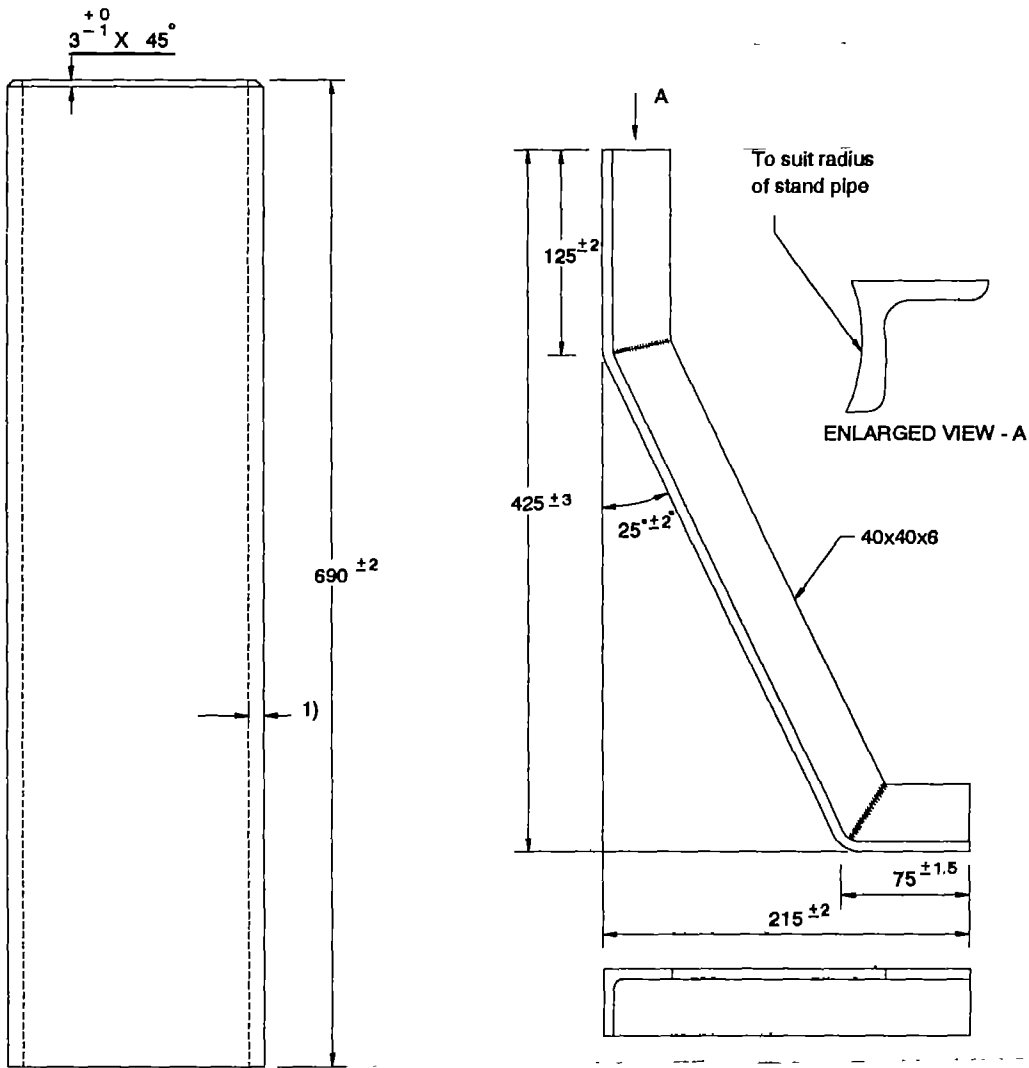
U.O.S.  $\pm 0.5$

SCALE N T.S.

DRAWING NO EDW-05A

TITLE  
TELESCOPIC STAND ASSEMBLY

DATE  
01/01/94




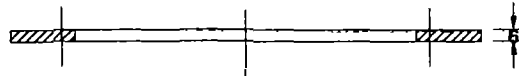
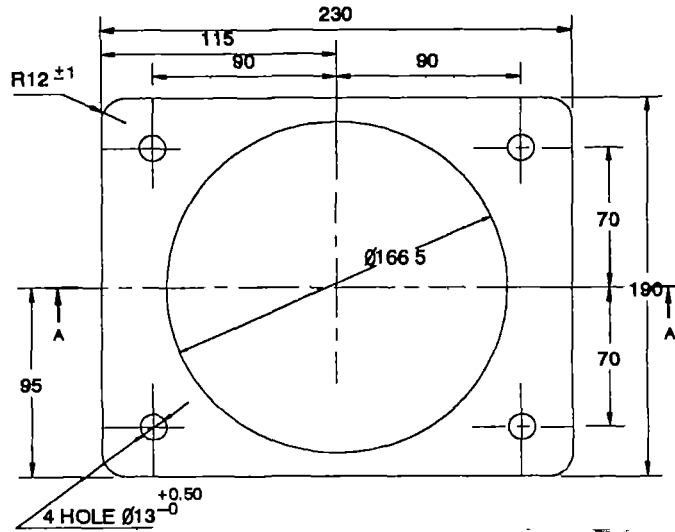
② STAND PIPE

① LEG

1) Indicates Critical Dimension

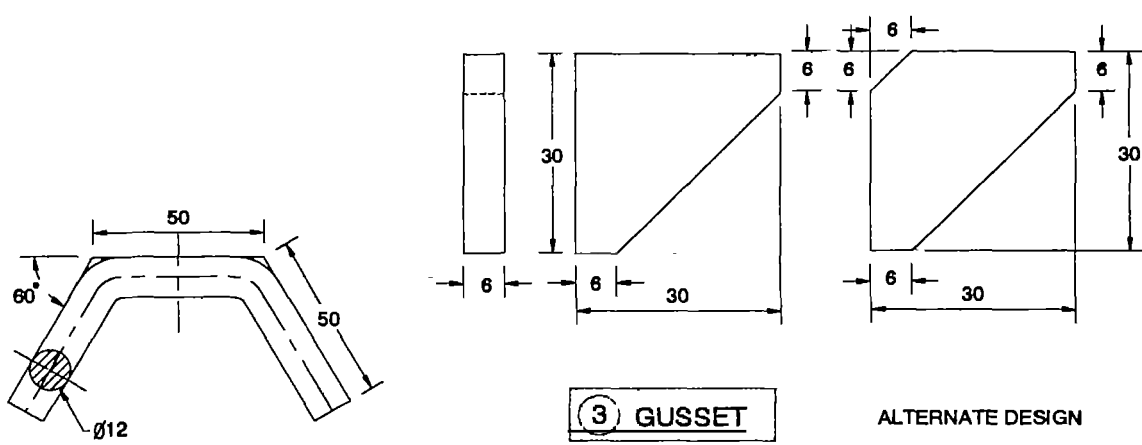
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA 	
				<b>TOLERANCE</b> U.O.S. ± 0.5 SCALE N T.S.	
2	1	Stand Pipe 150 mm NB	IS . 1239 (Part-1) - 1979	DRAWING NO. EDW-05-01	
1	3	Leg	IS . 808 - 1989		
<b>Part No</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> STAND ASSEMBLY PARTS	
				<b>DATE</b> 01/01/84	



SECTION A-A

① STAND FLANGE




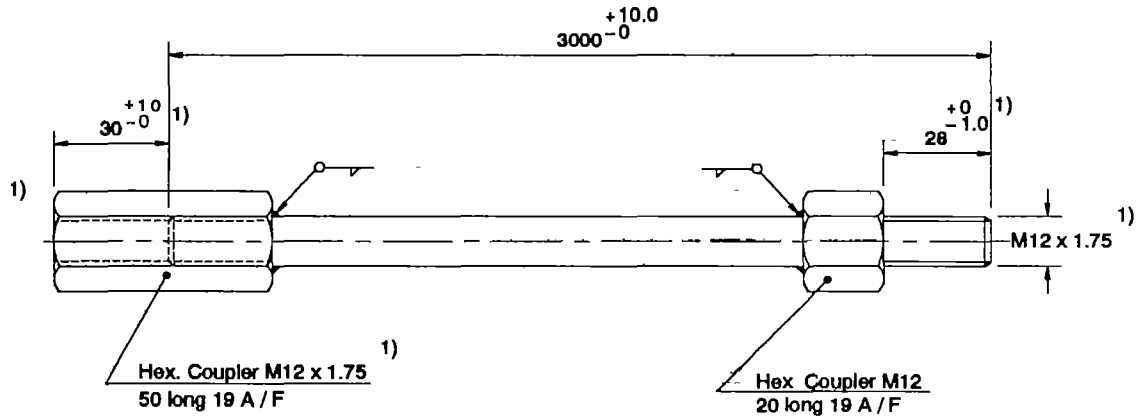
③ GUSSET

ALTERNATE DESIGN

② SPIKES

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA				
3	2	Gusset	IS 2062 Grade A	TOLERANCE		DRAWING NO EDW-05-02		
2	6	Spikes	IS 2062 Grade A	U. O. S.	$\pm 0.5$			
1	1	Stand flange	IS 2062 Grade A	SCALE	N T.S			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE STAND ASSEMBLY PARTS			DATE 01/01/84	




**1) CONNECTING ROD**

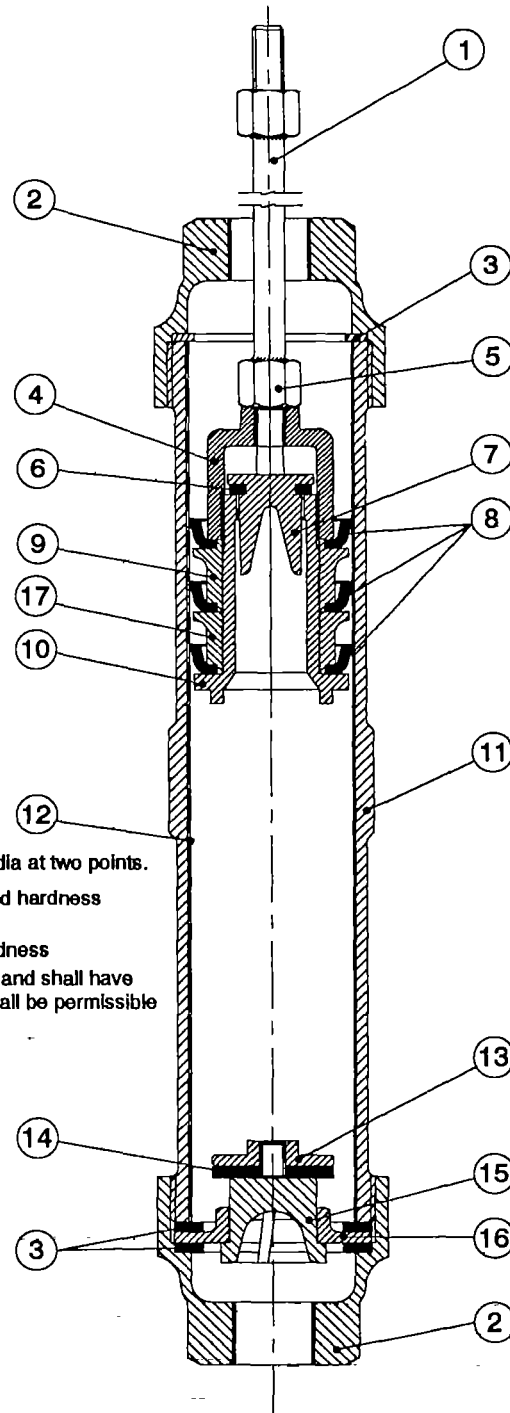
**Notes :**

1. Electro galvanizing according to IS : 1573 - 1986 service condition no.4 (not applicable for stainless steel)
2. Alternatively the connecting rod may be manufactured from stainless steel grade O4 Cr 18 Ni 10 conforming to IS : 6603 : 1972
3. The tolerance of thread shall conform to IS : 4218 Part 4 & 5 1979 class 6g for bolts and 6H for nuts
4. Tapping permitted after electro galvanising if required.

1) Indicates Critical Dimension

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. EDW-06	
				U.O.S $\pm 0.5$			
				SCALE N.T.S			
1	-	Connecting Rod	Type 4 Grade 2 or 3 IS : 9550 1980				
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> CONNECTING ROD			<b>DATE</b> 01/01/84



**NOTE:**

1. As an alternate, metal components to Grade LTB 2 of IS 318 : 1981 of cylinder assembly shall be forged from Naval Brass conforming to IS : 1985.
2. Lower valve assembly to be punch locked on top of M 10 dia at two points.
3. All bronze castings shall be free from lead segregation and hardness shall be 55 HB, Min.
3. All bronze castings shall be free lead segregation and hardness
4. The brass liner shall be free from pitting and scoring mark and shall have smooth finish. No cracks in brass tube flaring operation shall be permissible

17	1	Lower Spacer	GR LTB 2 OF IS 318 - 1981
16	1	Check Valve Seat	GR. LTB 2 OF IS . 318 - 1981
15	1	Check Valve	GR LTB 2 OF IS . 318 - 1981
14	1	Rubber Seating (L. V.)	Nitrile Rubber
13	1	Rubber Seat Retainer	GR LTB 2 OF IS . 318 - 1981
12	1	Brass Liner	Cu Zn 30 As OF IS . 407 - 1981
11	1	Cylinder Body	GR. FG 200 OF IS . 210 - 1978
10	1	Follower	GR. LTB 2 OF IS . 318 - 1981
9	1	Upper Spacer	GR LTB 2 OF IS 318 - 1981
8	3	Pump Bucket	Nitrile Rubber
7	1	Upper valve	GR LTB 2 OF IS 318 - 1981
6	1	Rubber Seating (U. V)	Nitrile Rubber
5	2	Hex Coupler M12 X 1 75	GR. LTB 2 OF IS . 318 - 1981
4	1	Plunger Yoke Body	GR. LTB 2 OF IS A: 318 - 1981
3	3	Sealing Ring	Nitrile Rubber
2	2	Reducer Cap	GR FG 200 OF IS : 210 -1978
1	1	Plunger Rod	GR 04 Cr 18 Ni 10 IS . 6603 - 1972

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



TOLERANCE

U O.S ± 0.5

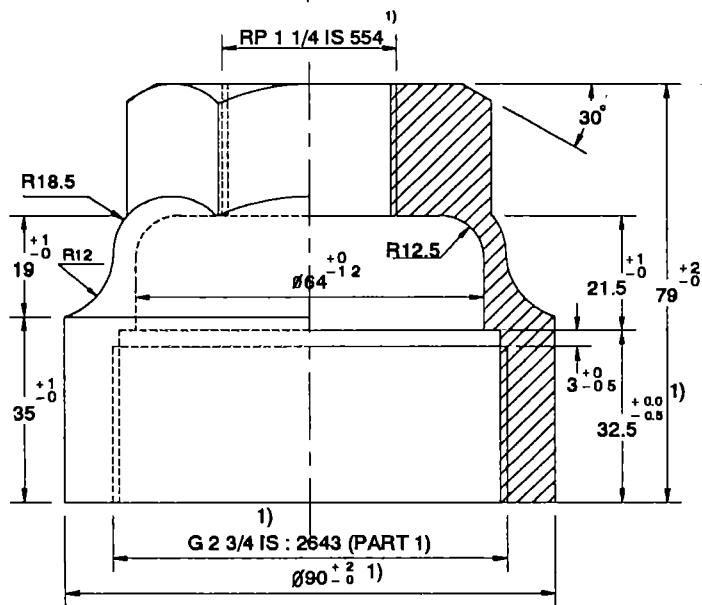
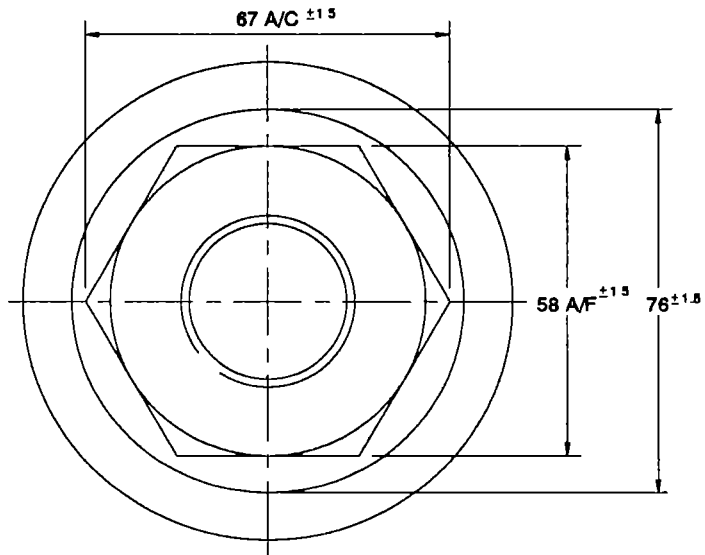
SCALE N.T.S.

DRAWING NO. EDW - 07

Part No.	No. OFF	DESCRIPTION	MATERIAL
----------	---------	-------------	----------

TITLE  
CYLINDER ASSEMBLY


DATE  
01/07/93

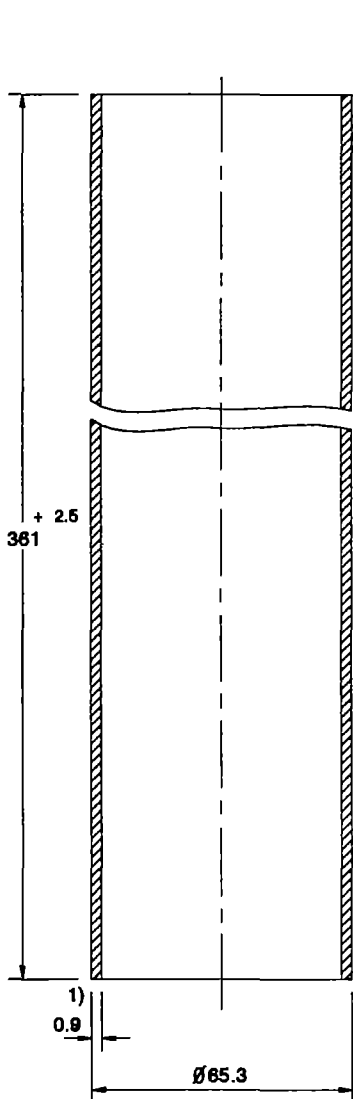


① REDUCER CAP

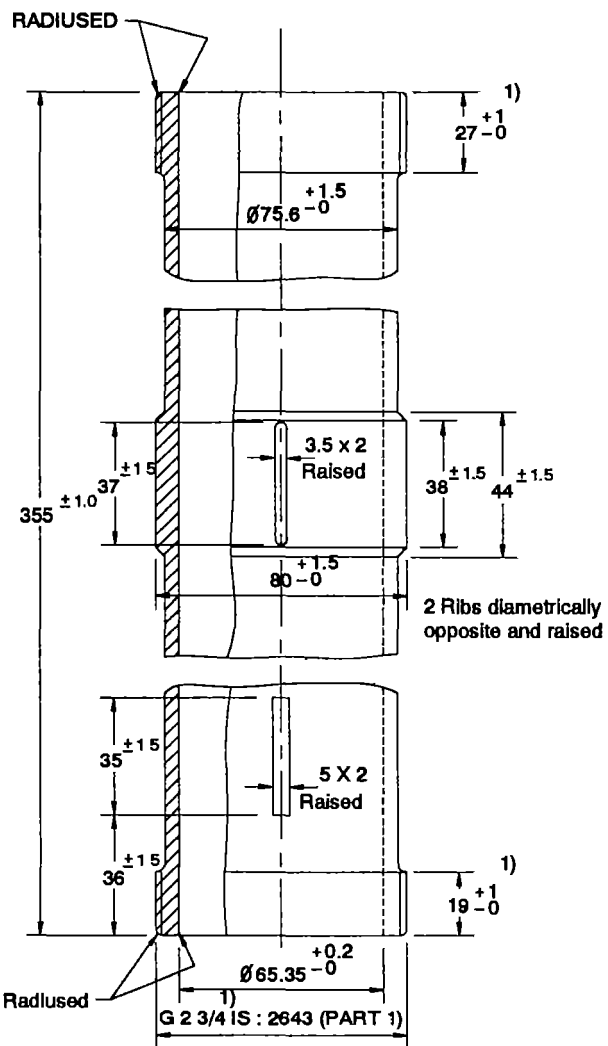
1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

				 <b>Unicef</b> INDIA	
				TOLERANCE	
				U O.S. ± 0.5	
				SCALE N T S	
				DRAWING NO. EDW-07-01	
1	2	Reducer Cap	GR. FG 200 OF IS : 210 - 1978		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				CYLINDER ASSEMBLY PARTS	01/01/84




① BRASS LINER

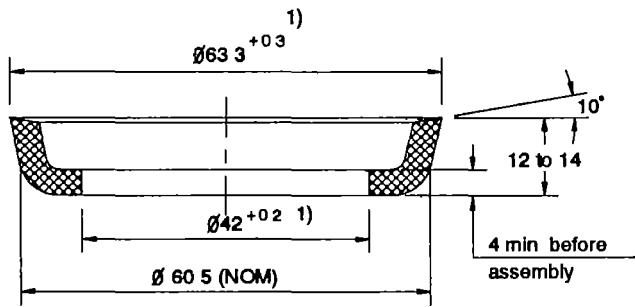


② CYLINDER BODY

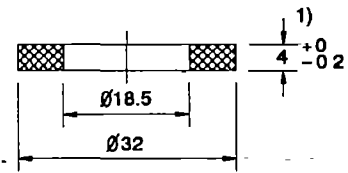
1) Indicates Critical Dimensions

ALL DIMENSIONS ARE IN MILLIMETRES

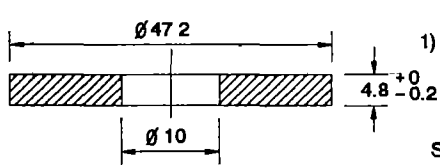
				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N.T.S.	
				DRAWING NO. EDW-07-02	
2	1	Cylinder Body	Gr. FG 200 IS : 210 · 1978		
1	1	Brass Liner	Cu Zn 30 As of IS 407 : 1981		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE CYLINDER ASSEMBLY PARTS	
				DATE 01/01/94	



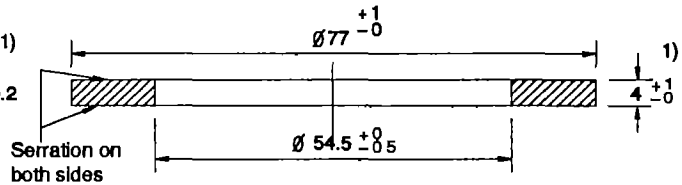
① NITRILE RUBBER PUMP BUCKET



② RUBBER SEATING (UPPER VALVE)



③ RUBBER SEATING (LOWER LEVEL)



④ SEALING RING

Note :

The physical properties of nitrile rubber shall be.

Shore hardness on a scale	80 - 4 <sup>+5</sup>
Tensile strength	12.8 M Pa Min
Elongation at break	150% Min
Compression set 24 h at 70°C	20% Max
Volume changes 22 h at 40°C	-0% Max +25%
Resistance to low temperature at which rigidity modulus does not exceed 70 MPa	-10°C

1) Indicates Critical Dimensions

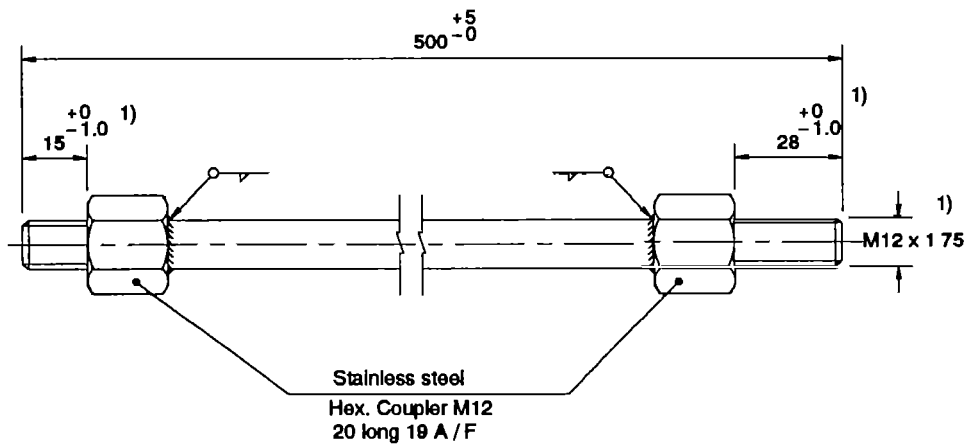
ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	3	Sealing Ring	Nitrile Rubber	<b>Unicef</b> INDIA TOLERANCE U.O.S ± 0.5 SCALE N.T.S DRAWING NO. EDW-07-03	01/01/94
3	1	Rubber Seating (Lower Valve)	Nitrile Rubber		
2	1	Rubber Seating (Upper Valve)	Nitrile Rubber		
1	3	Nitrile Rubber Pump Bucket	Nitrile Rubber		
				CYLINDER ASSEMBLY PARTS	








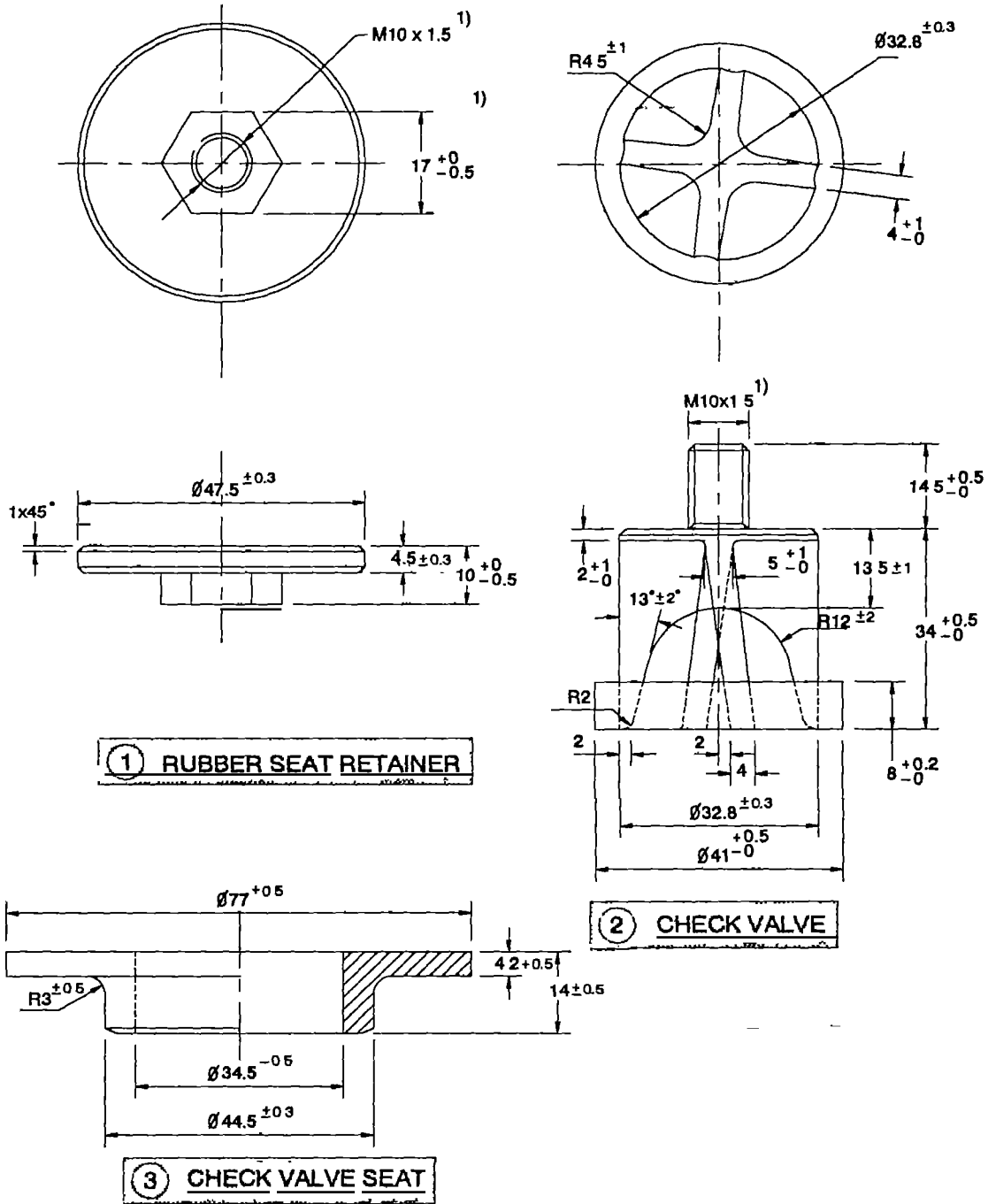


① PLUNGER ROD

1) Indicates Critical Dimension

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA		
				TOLERANCE		
				U O S. ± 0.5		DRAWING NO. EDW-07-08
				SCALE N T S		
1	1	Plunger Rod	Gr 04 Cr18 Ni 10 of IS . 6803 1972	TITLE		DATE
Part No.	No. OFF	DESCRIPTION	MATERIAL	CYLINDER ASSEMBLY PARTS		01/01/94




1) RUBBER SEAT RETAINER

2) CHECK VALVE

3) CHECK VALVE SEAT

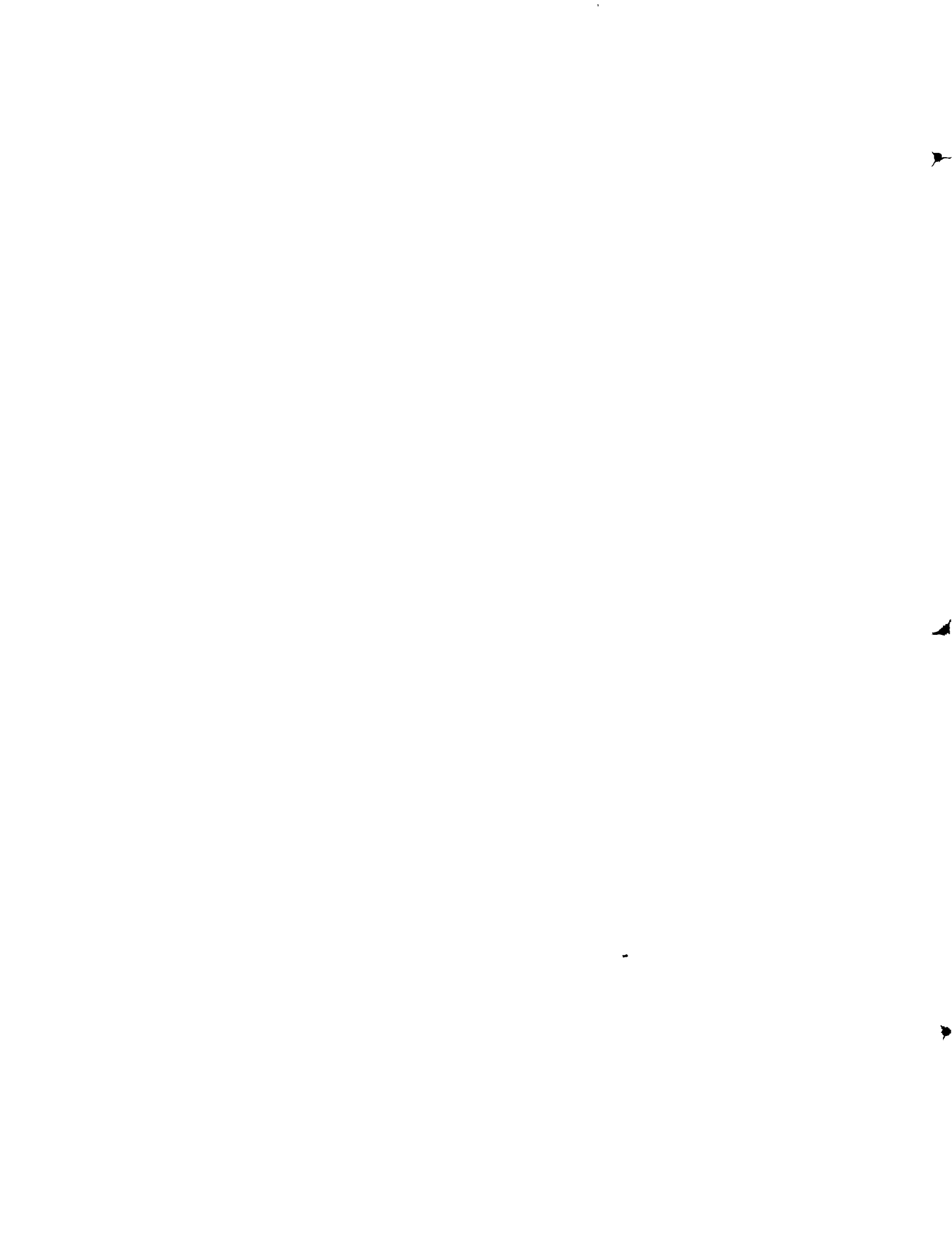
1) Indicates Critical Dimensions

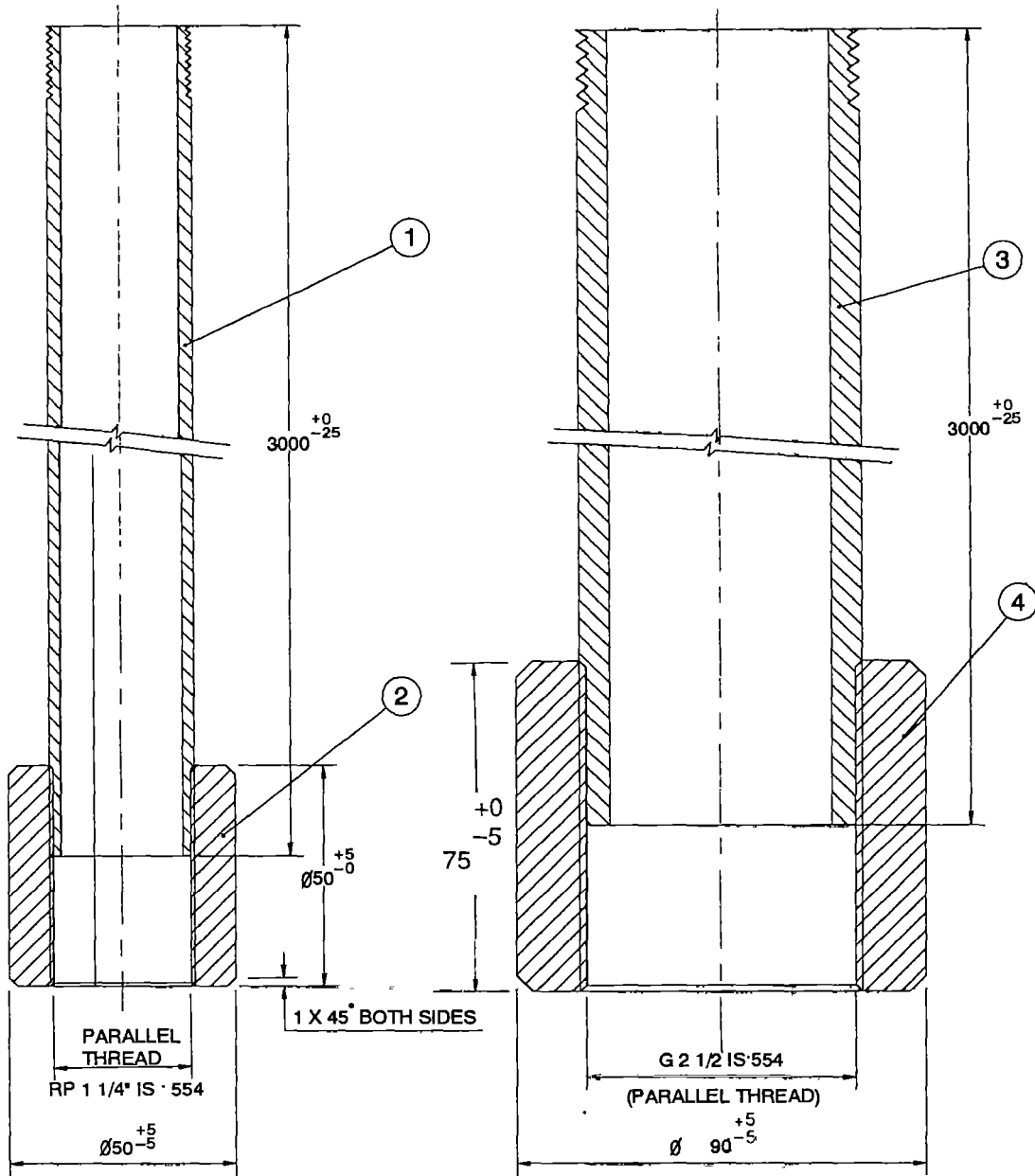
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> - INDIA			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TOLERANCE		DRAWING NO.	EDW-07-07
				U.O.S.	± 0.5		
				SCALE	N.T.S.		
				TITLE		DATE	
				CYLINDER ASSEMBLY PARTS		01/01/94	
3	1	Check Valve Seat	GR LTB 2 OF IS · 318 - 1981				
2	1	Check Valve	GR LTB 2 OF IS · 318 - 1981				
1	1	Rubber Seat Retainer	GR LTB 2 OF IS · 318 - 1981				

## **Riser Pipe and Socket**

**LIBRARY  
INTERNATIONAL REFERENCE CENTRE  
FOR COMMUNITY WATER SUPPLY AND  
SANITATION (IRC)**




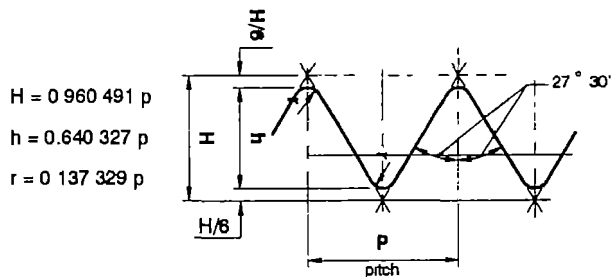


FOR INDIA MARK II &  
EXTRA DEEP WELL HAND PUMP

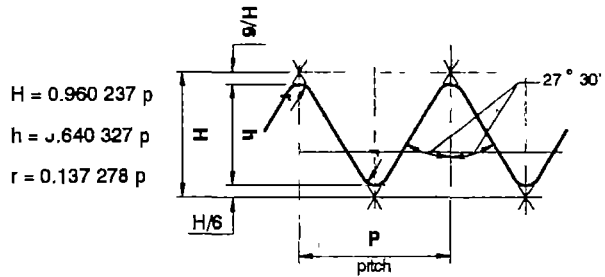
FOR INDIA MARK III VLOM HAND PUMP

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
4	-	Socket for 65mm NB Riser Pipe	IS 2062 Grade A / Seamless Pipe	TOLERANCE			
3	-	65mm NB G I Pipe	IS 1239 (Part 1) -1979	U O S.	± 0.5	DRAWING NO	RP-01
2	-	Socket for 32mm Riser Pipe	IS 2062 Grade A / Seamless Pipe	SCALE	N T.S.		
1	-	32mm NB G I Pipe	IS 1239 (Part 1) - 1979	TITLE		DATE	
Part No.	No OFF	DESCRIPTION	MATERIAL	RISER PIPE AND SOCKET		01/01/94	

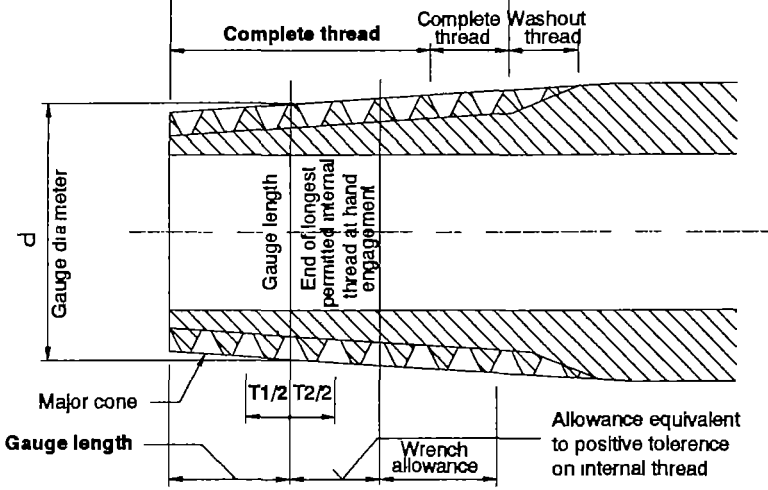


① PARALLEL THREAD

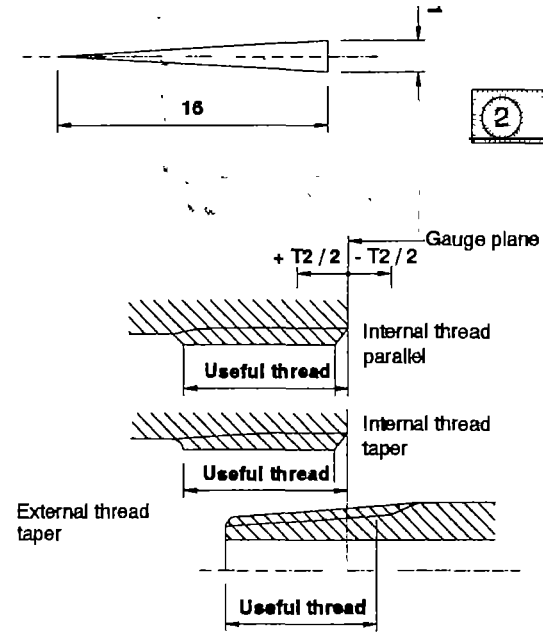


② TAPER THREAD

Useful thread (not less than gauge length plus fitting allowance)



③ TERMS RELATING TO PIPE THREADS



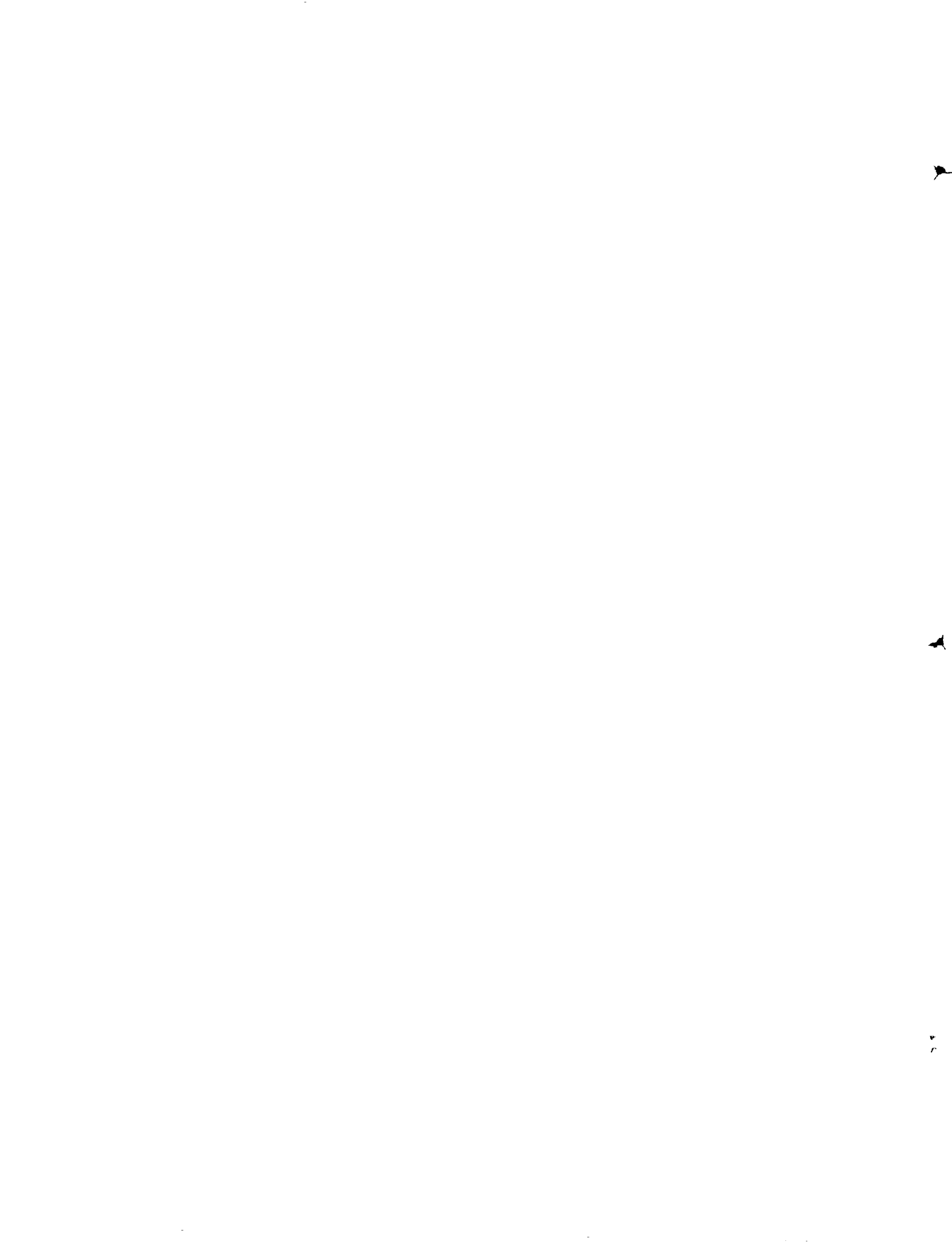
④ POSITION OF GAUGE PLANE, USEFUL THREAD

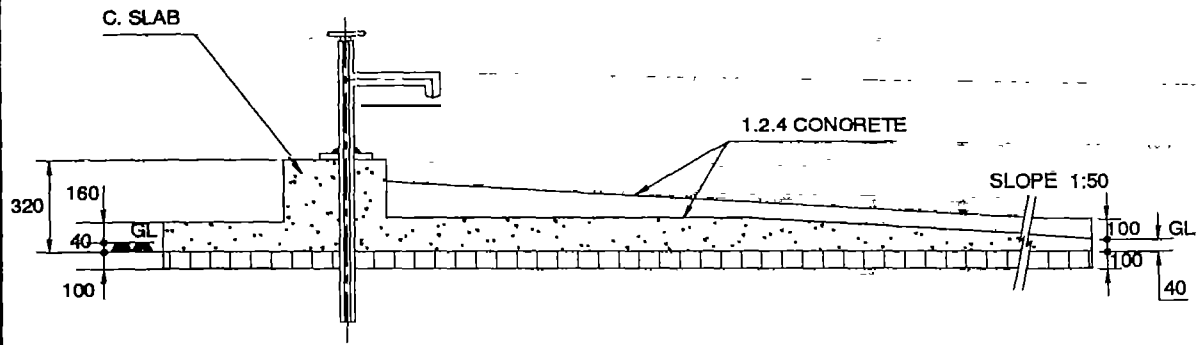
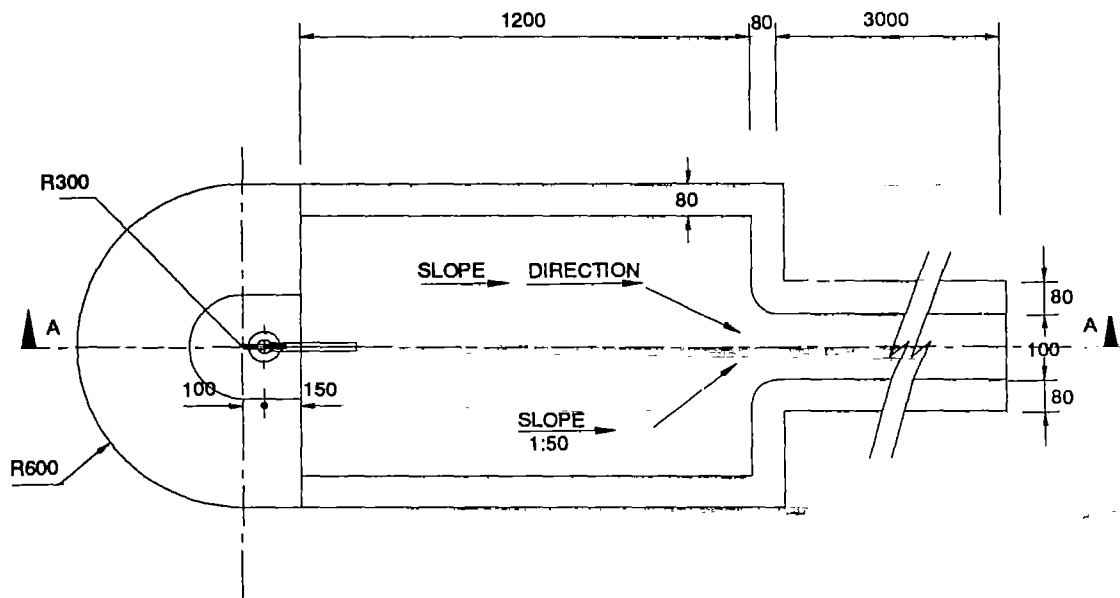
THREAD DIMENSIONS

Designation of thread	Number of threads in 25.4 mm	Pitch	Depth of thread	Basic diameters at gauge plane			Gauge length (distance of gauge plane from pipe end)				Position of gauge plane on internal thread		Length useful thread on pipe end not less than			Fitting allowance		
				Major (gauge diameter)	Pitch	Minor	Basic	Tolerance + and - T1/2		max	min	Tolerance + and - T2/2		For basic gauge length	For maximum gauge length	For minimum gauge length	mm	Turns of thread
				d mm	d2 mm	d1 mm	mm	mm	Turns of thread	mm	mm	mm	Turns of thread	mm	mm	mm		
1 1/4	11	2.309	1.479	41.910	40.481	38.952	12.7	2.3	1	15.0	10.4	2.9	1 1/4	19.1	21.4	16.8	6.4	2 3/4
2 1/2	11	2.309	1.479	75.184	73.705	72.226	17.5	3.5	1 1/2	21.0	14.0	3.5	1 1/2	26.7	30.2	23.2	9.2	4




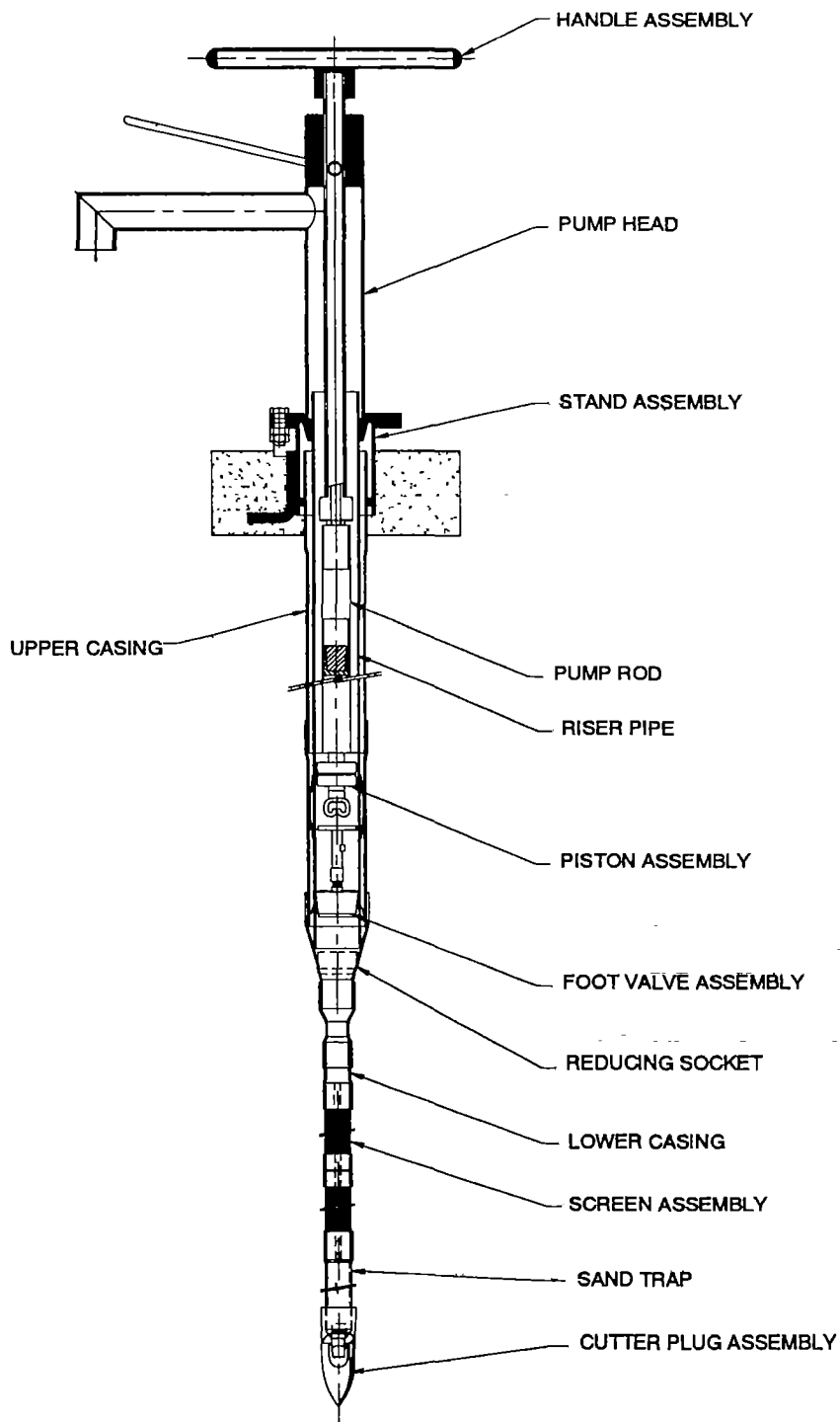
**Direct Action (TARA) Handpump**




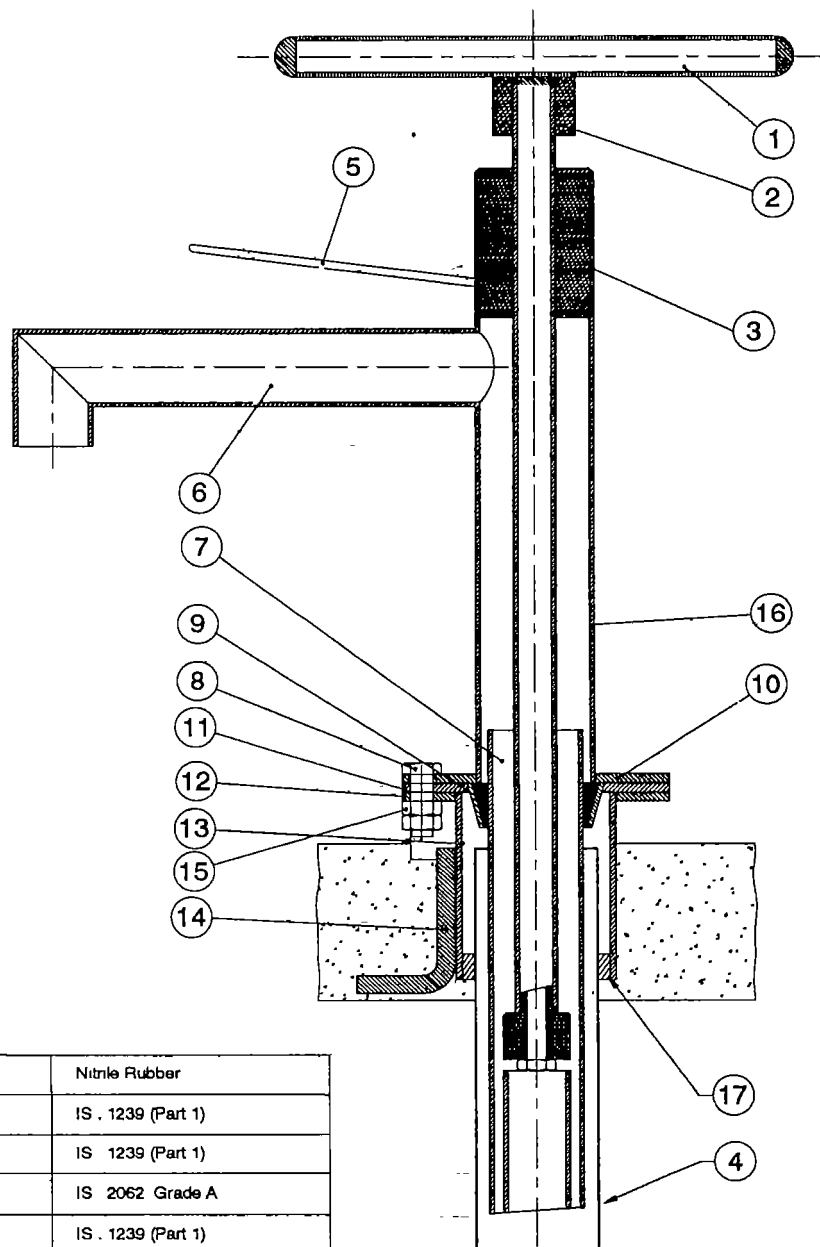


SECTION A-A

				<b>Unicef</b> INDIA		
				TOLERANCE		
				U.O.S. ± 0.5		DRAWING NO. DA-00
				SCALE N.T.S.		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE PLATFORM FOR DIRECT ACTION HAND PUMP (TARA)		DATE 01/01/94



				<b>Unicef</b> INDIA		
				TOLERANCE		
				U O S.    ± 0.5	DRAWING NO    DA-01	
				SCALE    N.T.S.		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	HAND PUMP ASSEMBLY	DATE 01/01/94



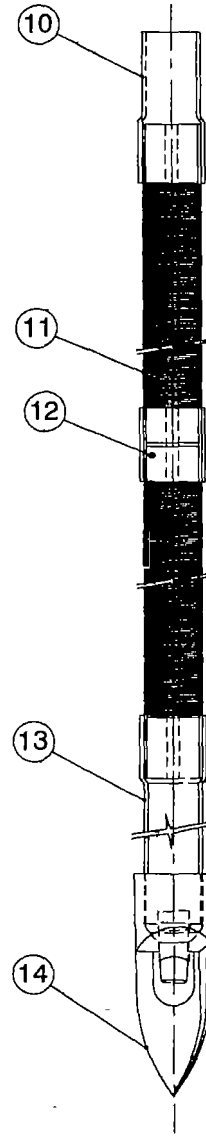
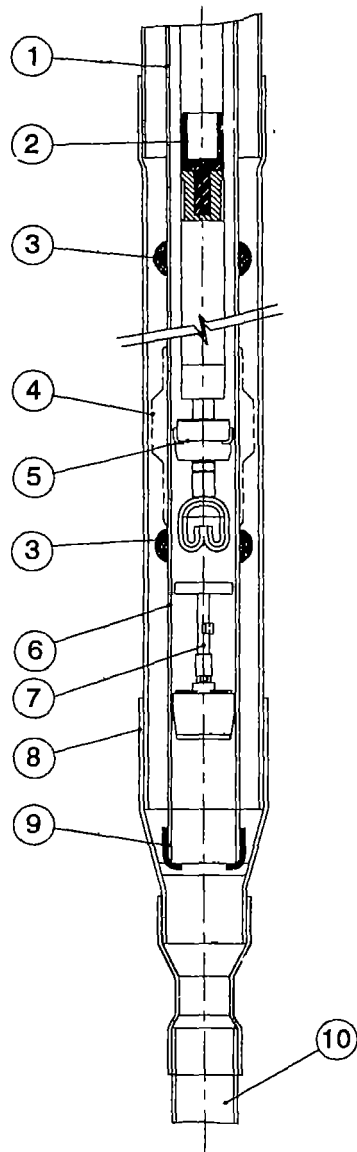
17	1	Casing Pipe centraliser	Nitrile Rubber
16	1	Body	IS . 1239 (Part 1)
15	6	Hex. Nut M12	IS 1239 (Part 1)
14	3	Legs	IS 2062 Grade A
13	1	Stand Pipe	IS . 1239 (Part 1)
12	1	Stand Flange	IS . 2062 Grade A
11	1	Intermediate Flange	IS 2062 Grade A
10	1	Pump Head Flange	IS 2062 Grade A
9	1	Grommet	Nitrile Rubber
8	3	Hex. Bolt M12 x 40	IS . 1239 (Part1)
7		Rising Man	UPVC
6	1	Spout	IS . 1239 (Part1)
5	1	Handle Retainer	IS 4454 Spring Steel Grade 1
4		Casing Pipe	UPVC
3	1	Top Guide Bush	HDPE
2	1	Handle Cushion	Nitrile Rubber
1	1	Handle Assembly	
Part No	No. OFF	DESCRIPTION	MATERIAL

**Unicef**  
INDIA




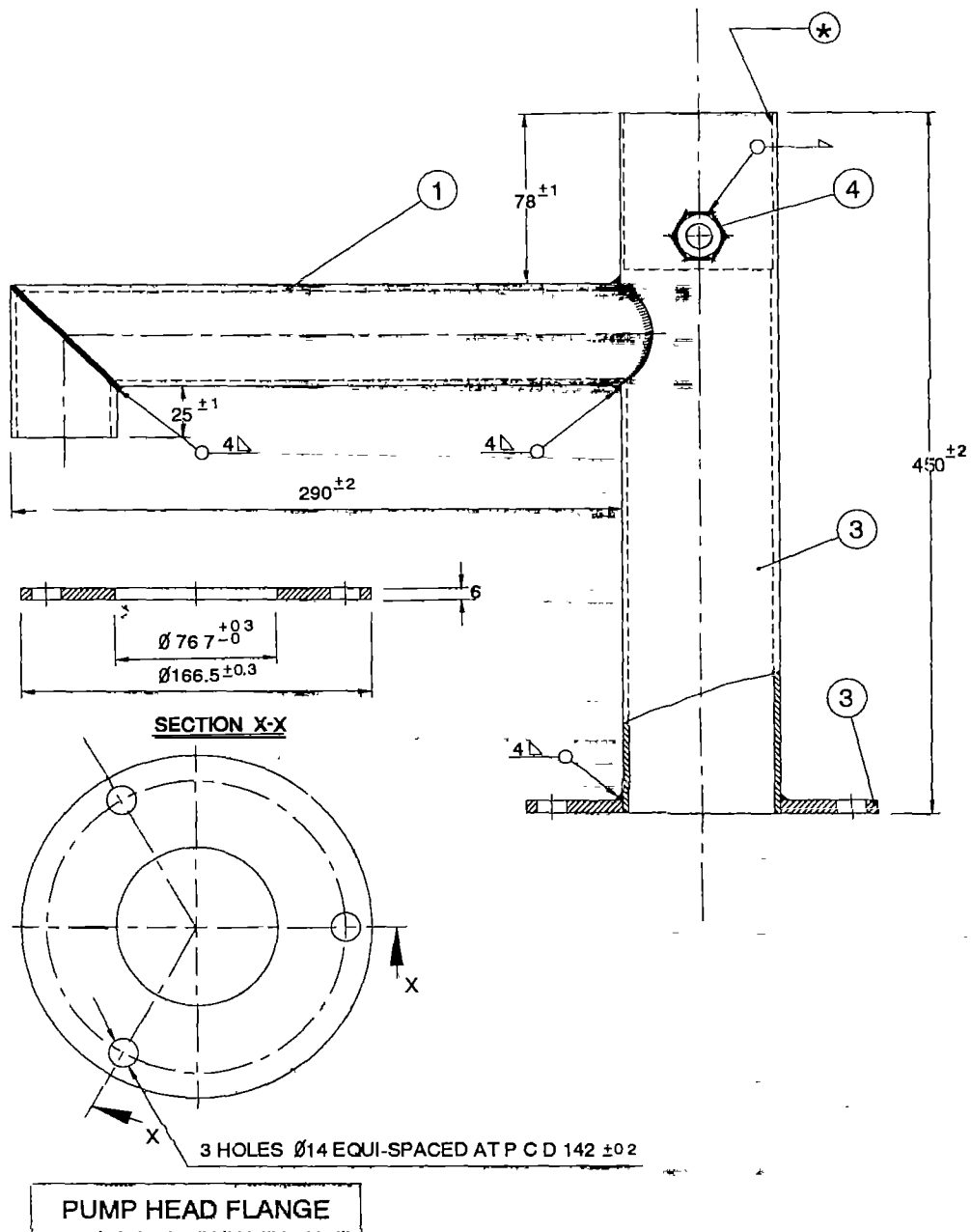
TOLERANCE		DRAWING NO. DA-02
U.O.S.	± 0.5	
SCALE	N.T.S.	

TITLE	SYSTEM ASSEMBLY (ABOVE GROUND)	DATE 01/01/94
-------	-----------------------------------	------------------



14	1	Cutter Plug	CI
13	1	Sand Trap	UPVC
12	1	Screen Coupler	UPVC
11	2	Wall Screen	UPVC
10	-	Lower Well Casing	UPVC
9	1	Rubber Seat	Nitrile Rubber
8	1	Reducer Socket	UPVC
7	1	Foot Valve Guide Sub Ass'y	SS04 Cr18 Ni10 OF IS - 6603-72
6	1	Cylinder	UPVC
5	1	Piston Assembly	SS04C - Nitrile/Polypropeline
4	-	Threaded Coupler	UPVC
3	-	Pipe Centraliser	Nitrile Rubber
2	-	Pump Rod	UPVC
1	-	Rising Main	UPVC
Part No	No. OFF	DESCRIPTION	MATERIAL

<b>Unicef</b> INDIA		
TOLERANCE		
U O S.	± 0.5	
SCALE	N T S.	
TITLE		DATE
SYSTEM ASSEMBLY (Below Ground)		01/01/94




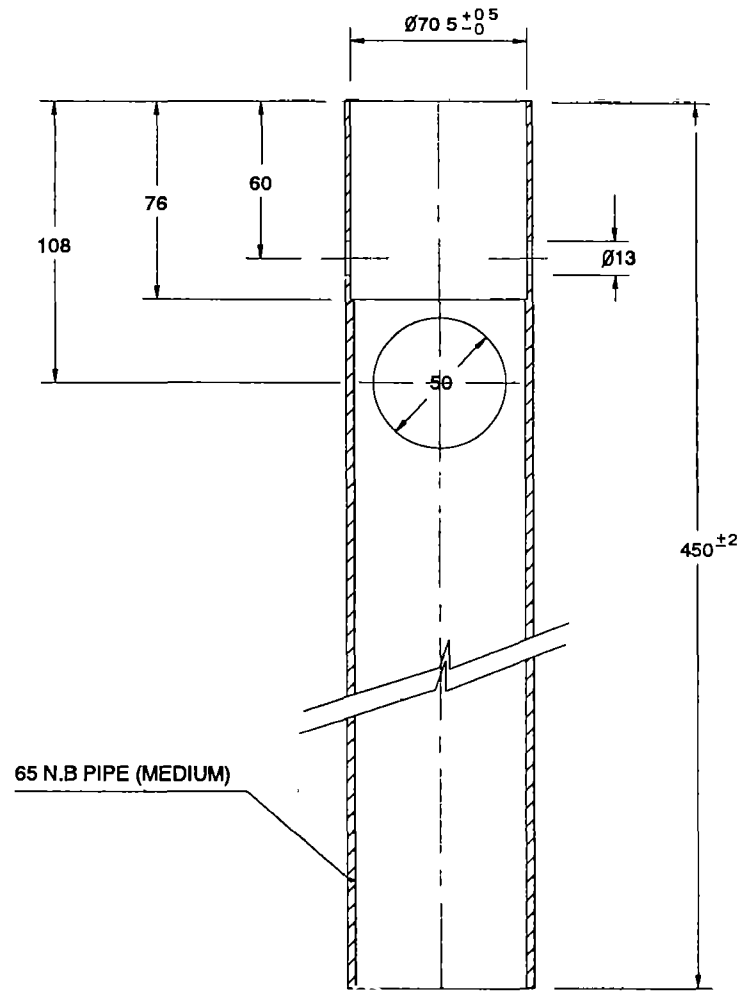
**NOTE :**

Hot dip Galvanised to IS . 4759

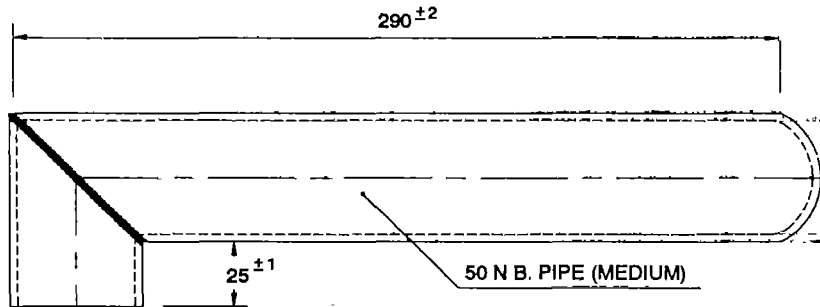
(\*) Ovality of machined portion to be removed before Galvanising

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA	
4	2	Hex. Nut M12	IS 1363 (Part 1)	DRAWING NO. DA-04	
3	1	Body	IS 1239 (Part 1)		
2	1	Pump Head Flange	IS 2062 Grade A		
1	1	Spout	IS 1239 (Part 1)	TOLERANCE U O S. $\pm 0.5$ SCALE N T.S.	DATE 01/01/94
Part No	No OFF	DESCRIPTION	MATERIAL	TITLE PUMP HEAD ASSEMBLY	




1 BODY

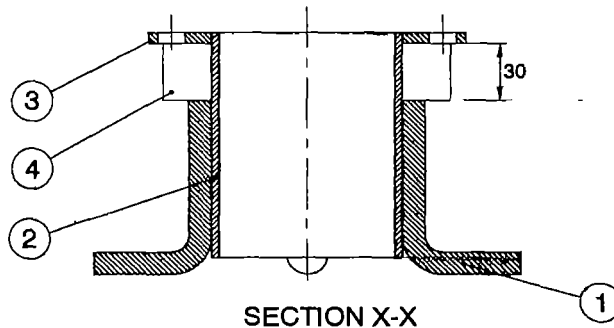
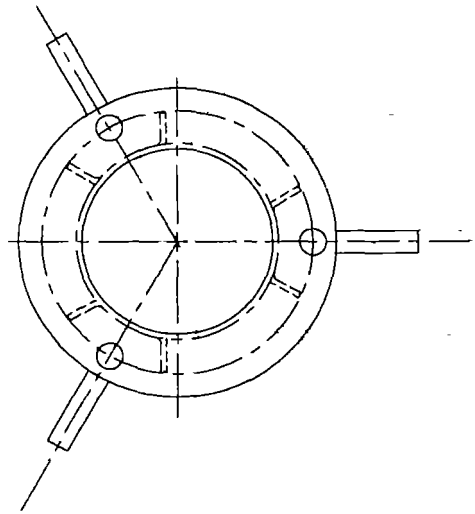


2 SPOUT

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO DA 04-01	
				U.O S ± 0.5			
				SCALE N.T.S.			
2	1	Spout	IS 1239 (Part 1)				
1	1	Body	IS 1239 (Part 1)				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			DATE
				PARTS OF PUMP HEAD			01/01/94

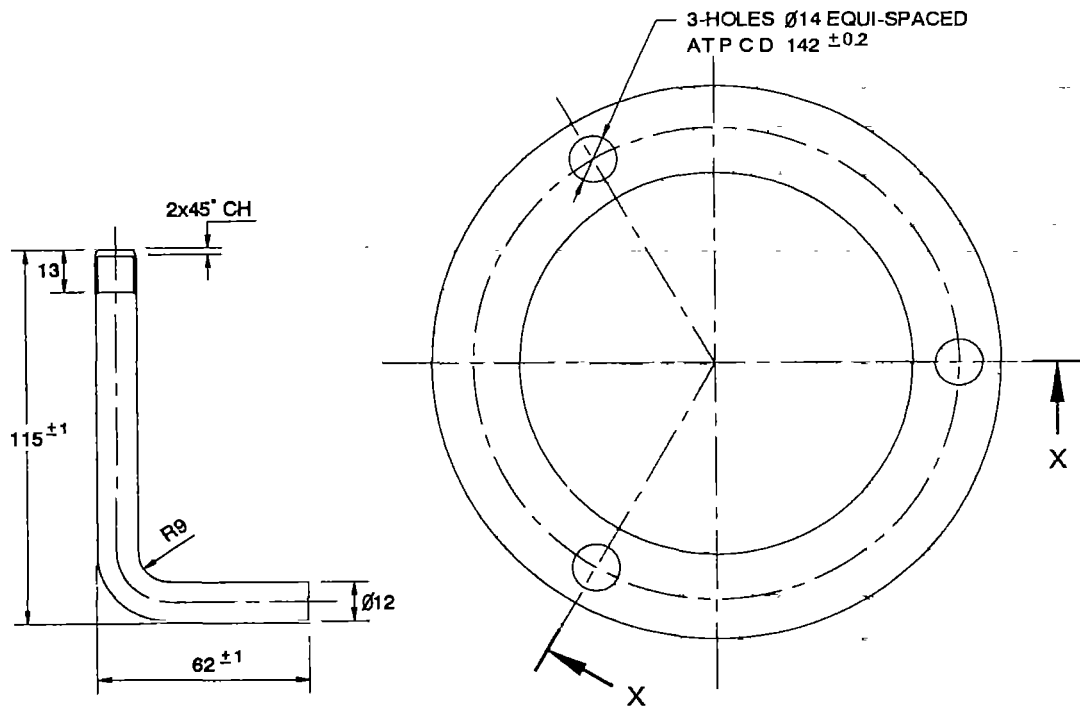




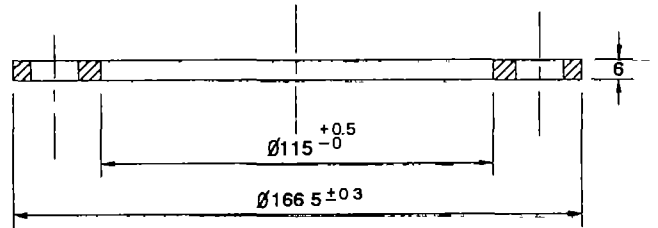
SECTION X-X

MANUFACTURING TOLERANCE TO BE  
 $\pm 0.5$  UNLESS OTHERWISE SPECIFIED  
 STAND ASSMBLY (OPTION I)

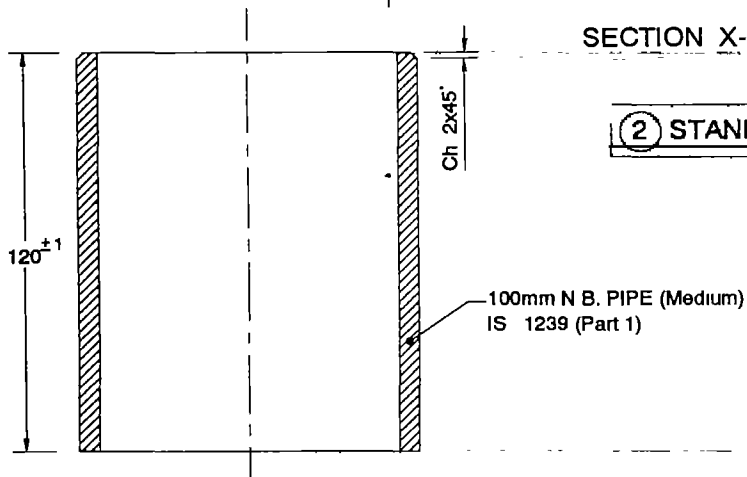
				<b>Unicef</b> INDIA		
4	6	Gusset	IS 2062 Grade A	TOLERANCE		
3	1	Stand Flange	IS 2062 Grade A	U.O.S.	$\pm 0.5$	DRAWING NO. DA-05
2	1	Stand Pipe	IS 1239 (Part -1)	SCALE	N.T.S	
1	3	Leg	IS 2062 Grade A			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE
				STAND ASSEMBLY		01/01/94



① LEG




SECTION X-X

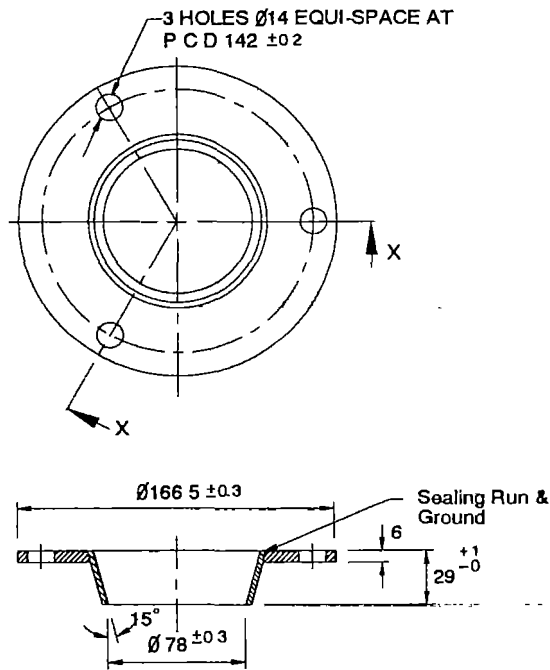


② STAND FLANGE

③ STAND PIPE

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA		
3	1	Stand Pipe	IS 2062 Grade A	TOLERANCE		
2	1	Stand Flange	IS 2062 Grade A	U.O.S.	± 0.5	DRAWING NO. DA-05-01
1	1	Leg	IS .2062 Grade A	SCALE	N.T.S	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE
				PARTS OF STAND ASSEMBLY		01/01/94

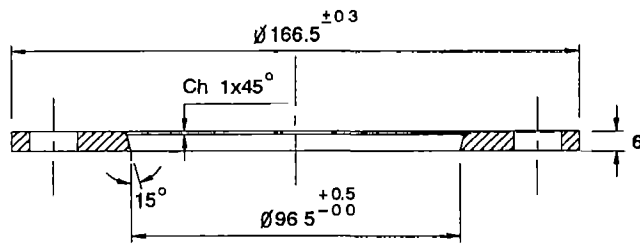
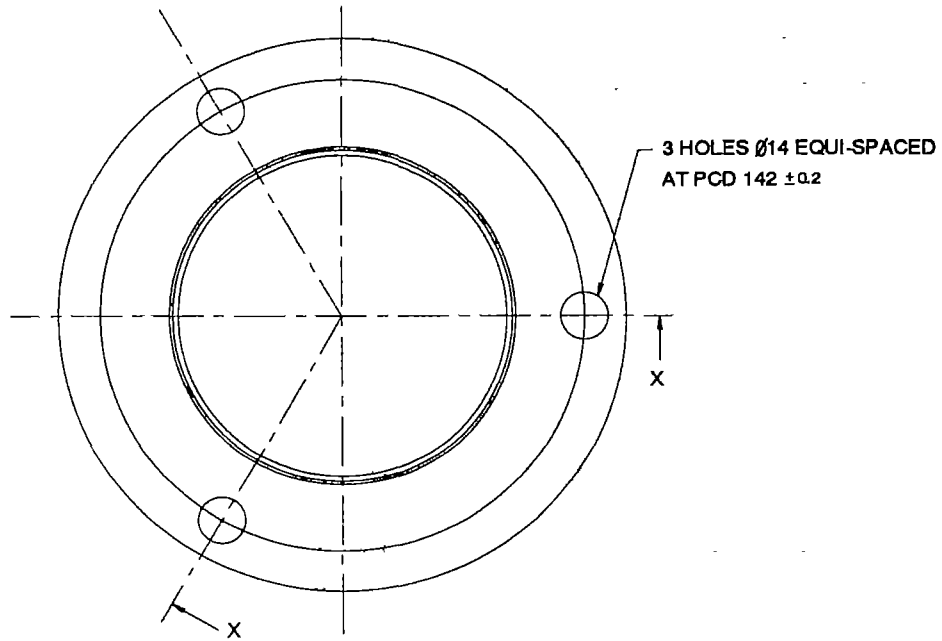


SECTION AT X-X

Note:  
Hot Dip Galvanised to IS 4759-84


ALL DIMENSIONS ARE IN MILLIMETRES

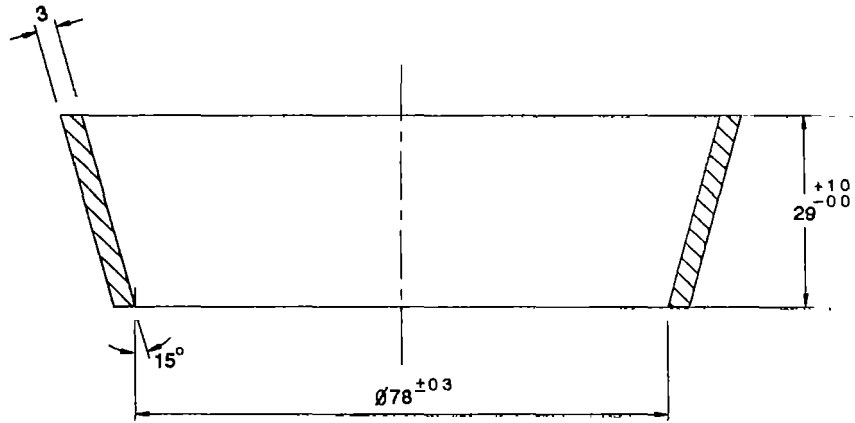
				<b>Unicef</b> INDIA		
				TOLERANCE U.O.S. $\pm 0.5$		
				SCALE N T.S		DRAWING NO DA-05-02
1	1	Intermediate Flange	IS 2062 Grade A	TITLE INTERMEDIATE FLANGE ASSEMBLY		DATE 01/01/94



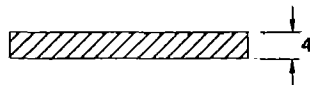
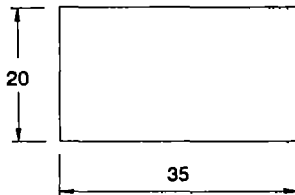
SECTION X-X

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. DA-05-03	
				U.O S $\pm 0.5$			
				SCALE N T S			
1	1	Intermediate Flange	IS 2062 GRADE A				
Part No	No. OFF	DESCRIPTION	MATERIAL	TITLE INTERMEDIATE FLANGE		DATE 01/01/94	




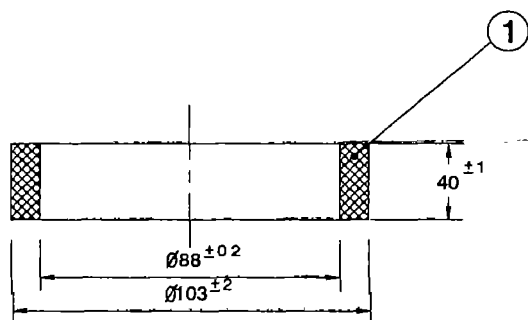
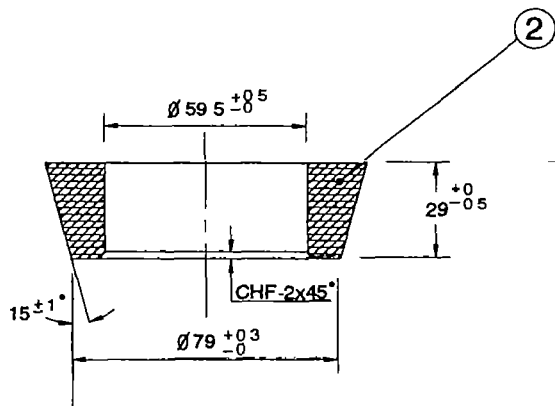
① CONE



② GUSSET


ALL DIMENSIONS ARE IN MILLIMETRES

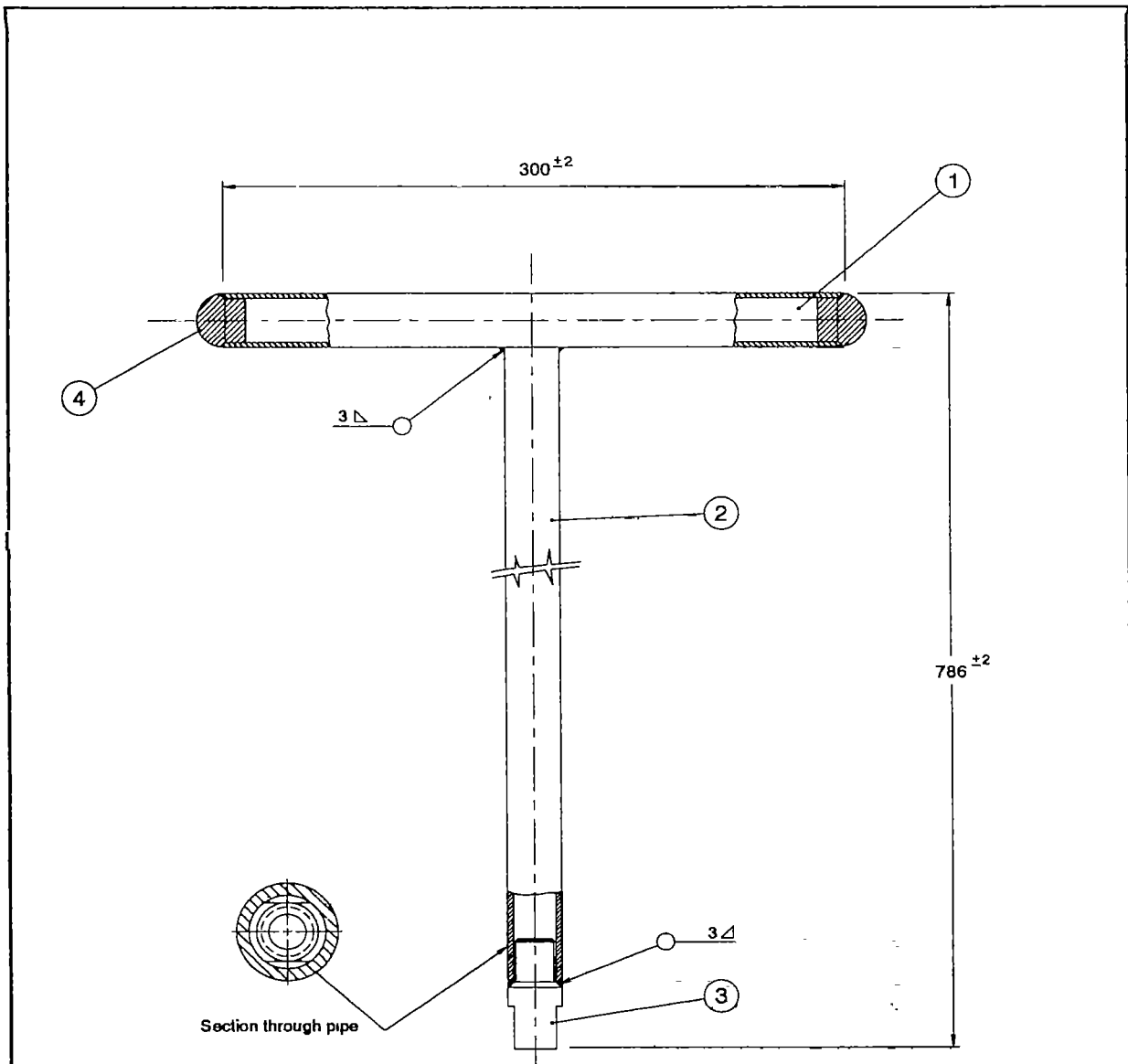
				<b>Unicef</b> INDIA 	
				<b>TOLERANCE</b> U.O.S. ± 0.5 SCALE N T S	
2	6	Gusset	IS 2062 Grade A	DRAWING NO	DA-05-04
1	1	Cone	IS 2062 Grade A		
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> CONE AND GUSSET	
				<b>DATE</b> 01/01/94	



NOTE :- Shore Hardness 65.75 on Scale A


ALL DIMENSIONS ARE IN MILLIMETRES

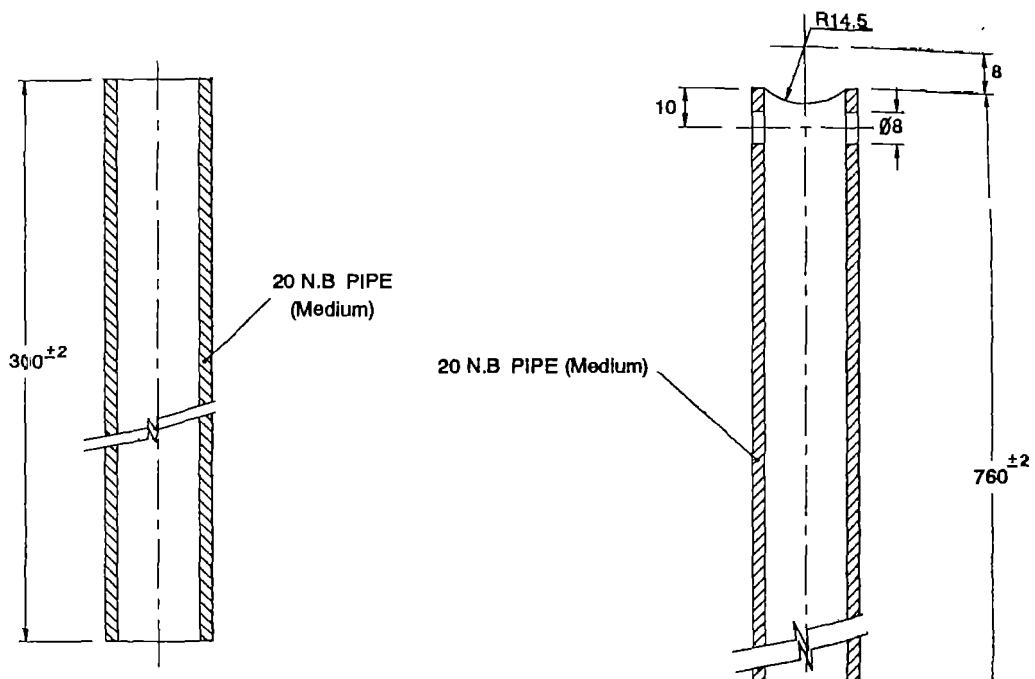
				<b>Unicef</b> INDIA		
				TOLERANCE U.O.S ± 0.5		
2	1	Grommet	Nitrile Rubber	SCALE N.T.S		DRAWING NO DA-05-05  DATE 01/01/94
1	1	Casing Pipe Centraliser	Nitrile Rubber			
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b>		<b>DATE</b>
				<b>GROMMET &amp; CASING PIPE CENTRALISER</b>		



Note:-  
 Align flat on handle nut  
 with seam in pipe before  
 assembly  
 Hot dip Galvanised to IS - 4759

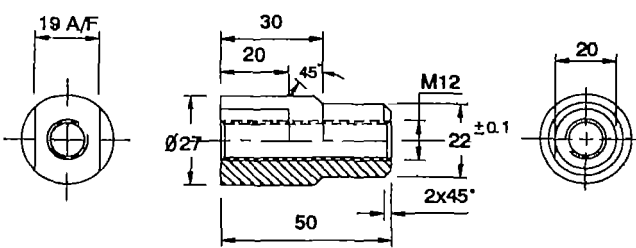
ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	2	End Plug	IS . 2062 Grade A	<b>Unicef</b> INDIA 	DRAWING NO. DA-06 DATE 01/01/94
3	1	Handle Nut	IS 2062 Grade A		
2	1	Pipe	IS . 1239 (Part 1)		
1	1	Handle	IS . 1239 (Part 1)		
				TOLERANCE U.O.S. ± 0.5 SCALE N,T S	
				HANDLE ASSEMBLY	

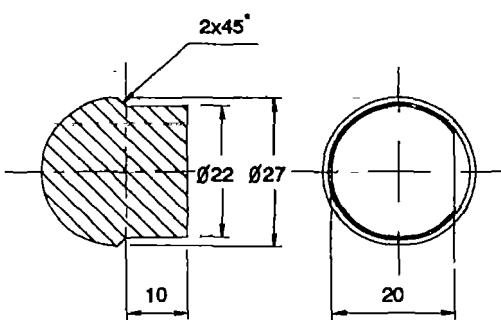


① HANDLE

② PIPE




③ HANDLE NUT



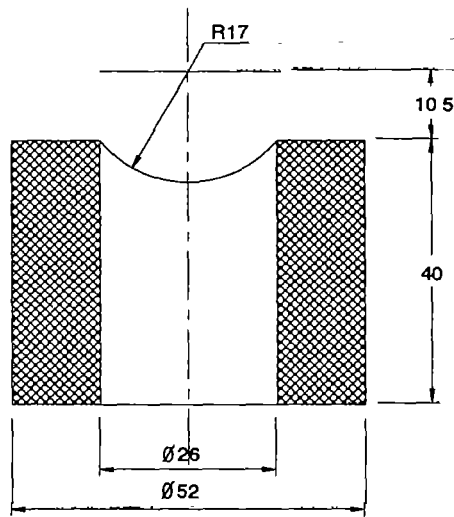
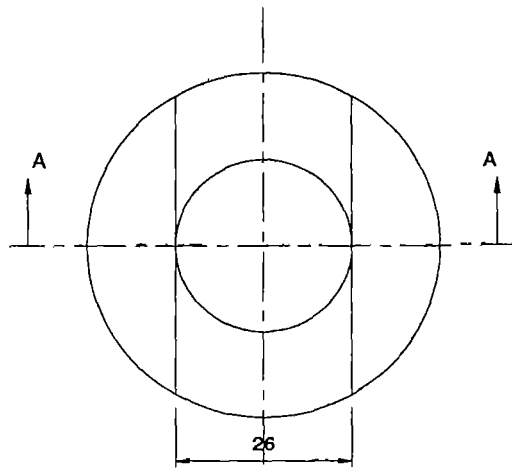
④ END PLUG

NOTE :  
Remove Sharp Corners

ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	1	End Plug	IS 2062 Grade A	<b>Unicef</b> INDIA  TOLERANCE U.O.S. ± 0.5 SCALE N.T.S. DRAWING NO. DA-06-01	01/01/94
3	1	Handle Nut	IS 2062 Grade A		
2	1	Pipe	IS 1239 (Part - 1)		
1	1	Handle	IS 1239 (Part 1)		
				PARTS OF HANDLE ASSEMBLY	






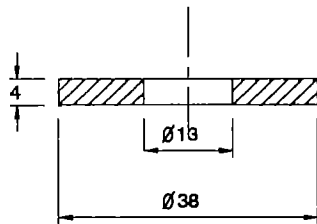
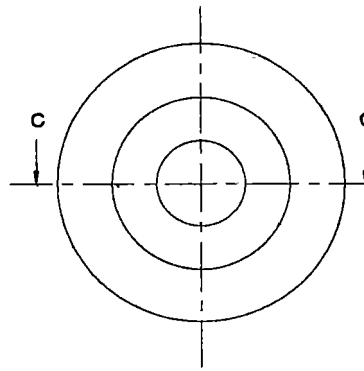
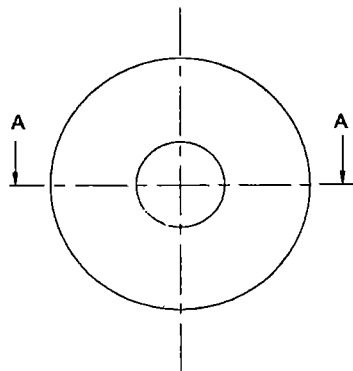
SECTION AA

Note.-

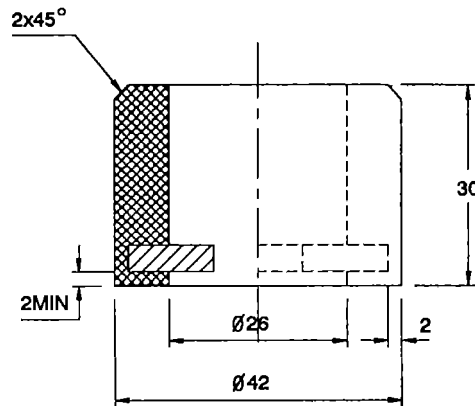
SHORE HARDNESS 65 - 75 ON SCALE 'A'  
BUSH TIGHT IN HANDLE

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. DA-06-02	
				U.O.S. ± 0.5			
				SCALE N.T.S			
1	1	Handle Cushion Top	Nitrile Rubber				DATE
Part No.	No OFF	DESCRIPTION	MATERIAL	TITLE HANDLE CUSHION TOP			01/01/94



SECTION A-A




SECTION C-C

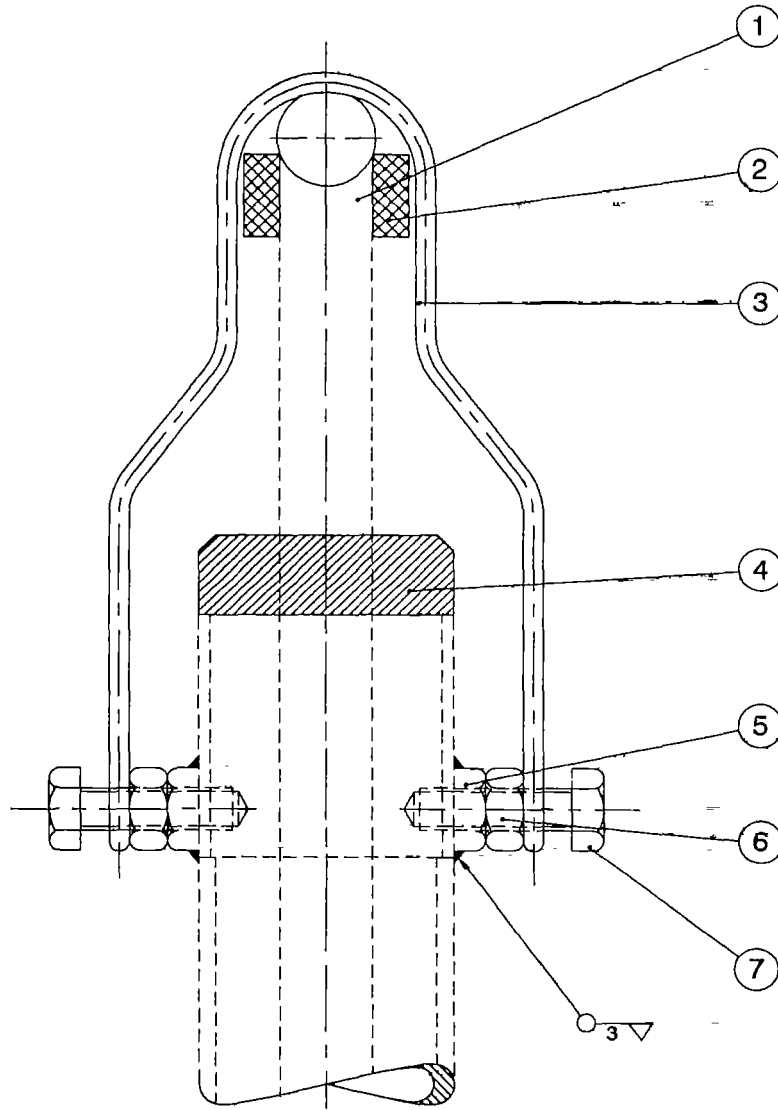
① WASHER

② BOTTOM CUSHION

(HOT DIP GALVANISED)

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA 	
				<b>TOLERANCE</b> U.O.S ± 0.5 SCALE N.T.S.	
2	1	Bottom Cushion	Nitrile Rubber	DRAWING NO. DA-06-03	
1	1	Washer	M.S. IS 2062 Grade A		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				BOTTOM CUSHION	01/01/84



7	2	Hex Bolt M12x40	IS 1363 (Part 1) - 1983
6	2	Check Nut M12	IS 1363 (Part 3) - 1984
5	2	Hex Nut M12	IS 1363 (Part 3) - 1984
4	1	Top Guide Bush	HDPE
3	1	Handle Retainer	IS 4454 Spring Steel Grade. 1
2	1	Handle Cushion	Nitrile Rubber
1	1	Handle Assembly	IS 1239 (Part 1)
Part No.	No. OFF	DESCRIPTION	MATERIAL

**Unicef**  
INDIA

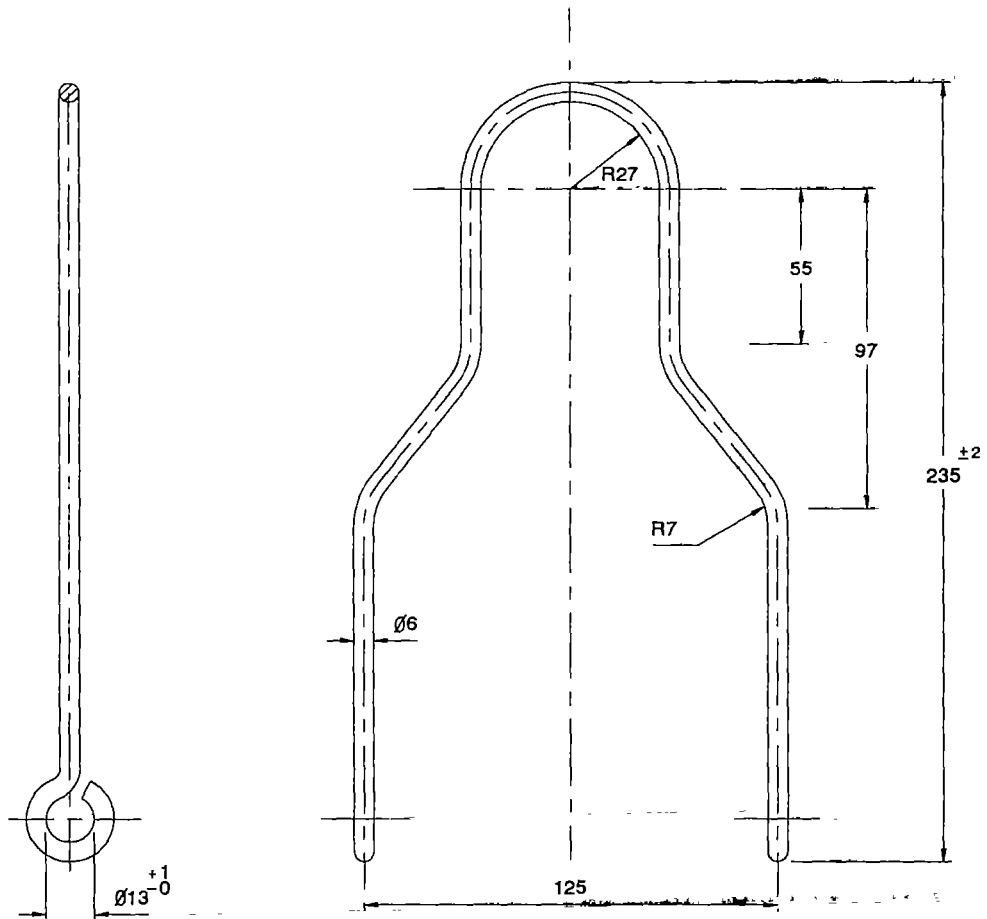


TOLERANCE  
U.O.S.  $\pm 0.5$   
SCALE N.T.S

DRAWING NO. DA-07


TITLE HANDLE RETAINER SUB  
ASSEMBLY

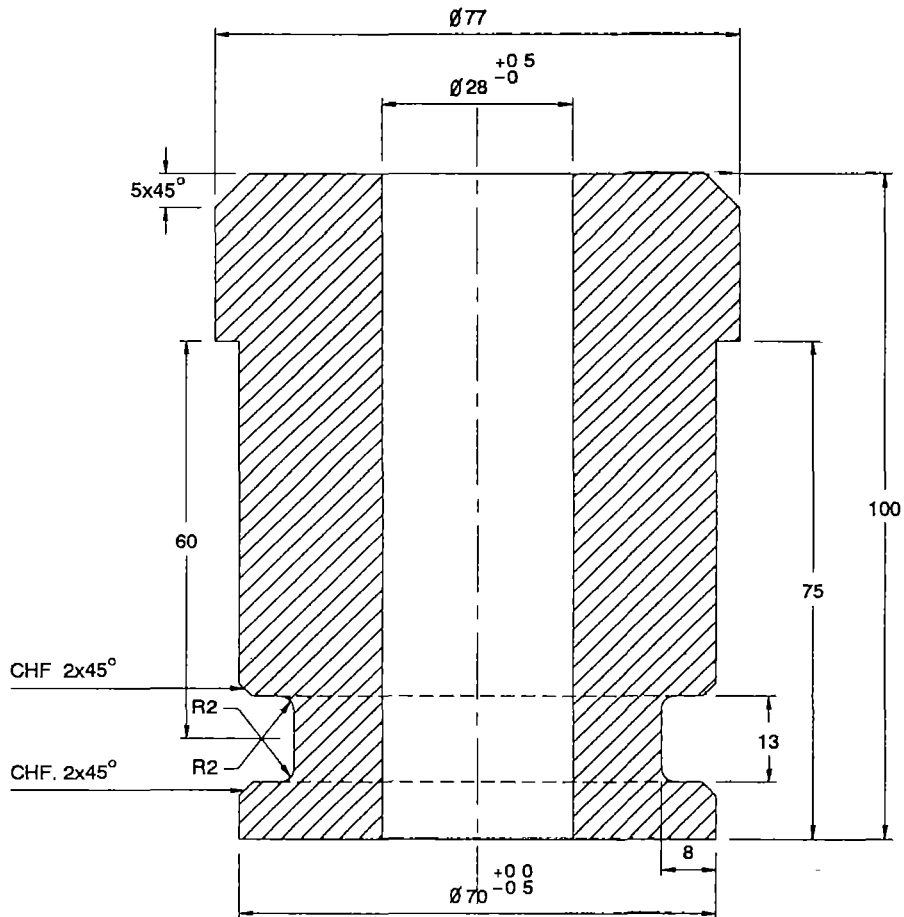
DATE  
01/01/94



Electrogalvanised and Cold Form


ALL DIMENSIONS ARE IN MILLIMETERS

				<b>Unicef</b> INDIA		
				TOLERANCE		
				U.O.S ± 0.5		DRAWING NO. DA-07-01
				SCALE N T S		
1	1	Handle Retainer	IS 4454 Spring Steel Gr 1	TITLE		DATE
Part No.	No. OFF	DESCRIPTION	MATERIAL	HANDLE RETAINER		01/01/94

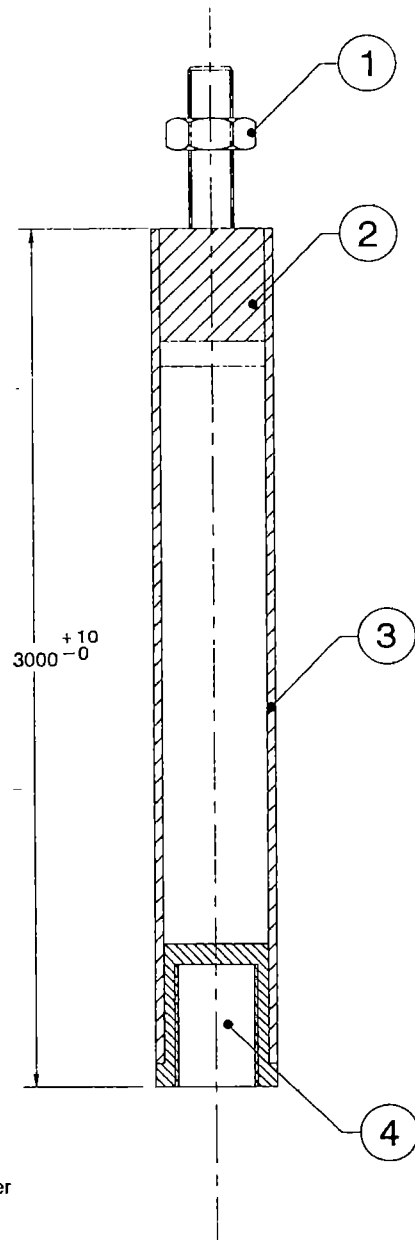
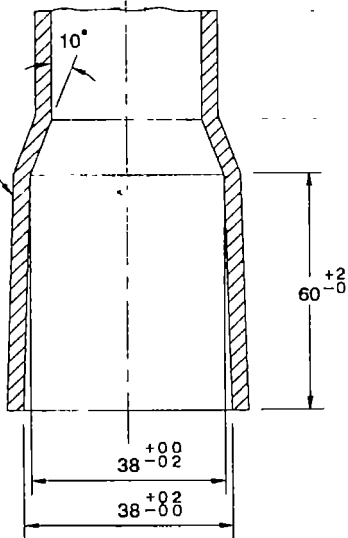


ROUND OFF SHARP EDGES

ALL DIMENSIONS ARE IN MILLIMETERS


				<b>Unicef</b> INDIA			
				TOLERANCE			
				U O S. + 0.5		DRAWING NO DA-07-02	
				SCALE N T S			
1	1	TOP GUIDE BUSH	HOPE				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE TOP GUIDE BUSH			DATE 01/01/94

1/3 INTERFERENCE FIT (Min)

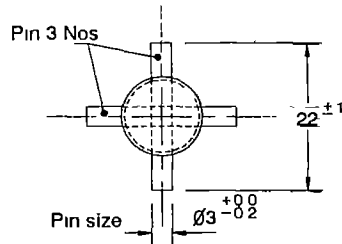
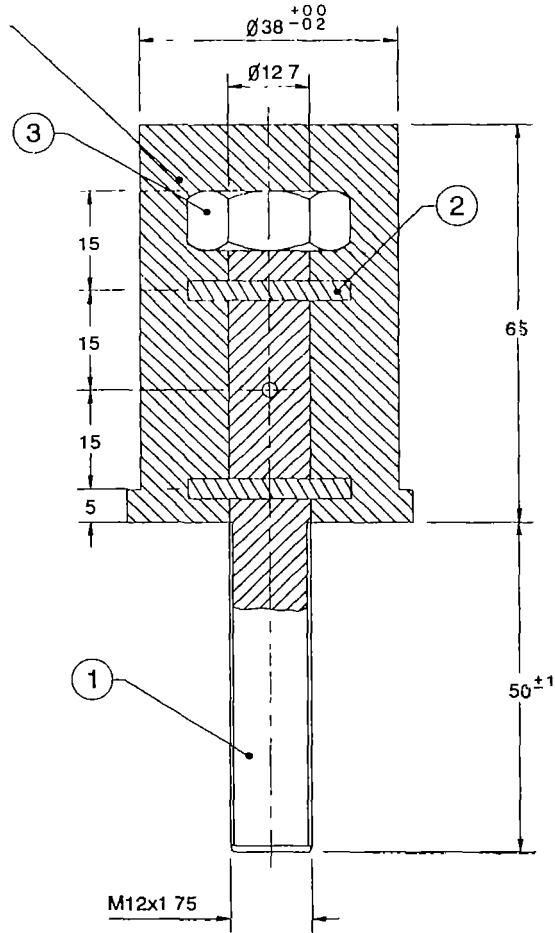


NOTE .

Pipe end shall be sized before solvent cementing threaded adapter

				<b>Unicef</b> INDIA			
4	1	Threaded Adapter (M)	UPVC	TOLERANCE U O.S. ± 0.5		DRAWING NO. DA-08	
3	1	Pump Rod Sub Assy	---				
2	1	Top Connector Sub Assy	---	SCALE N T.S			
1	1	Check Nut M12	SS04 Cr18 Ni10 OF IS 6603 - 72				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE TOP PUMP ROD ASSEMBLY			DATE 01/01/94


PVC bush injection  
moulded with top  
connector bolt in  
position



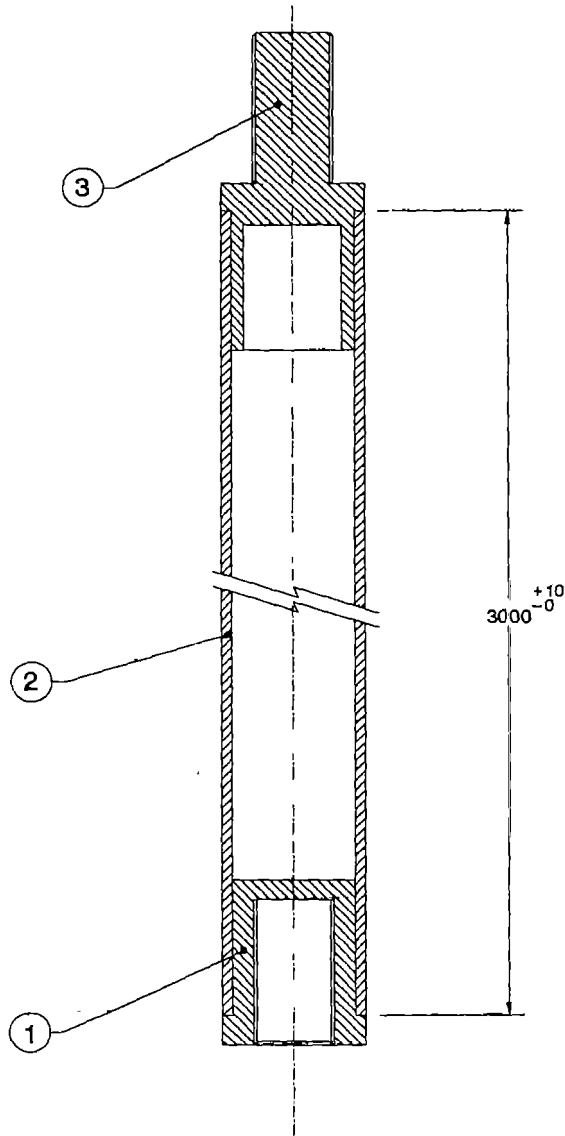
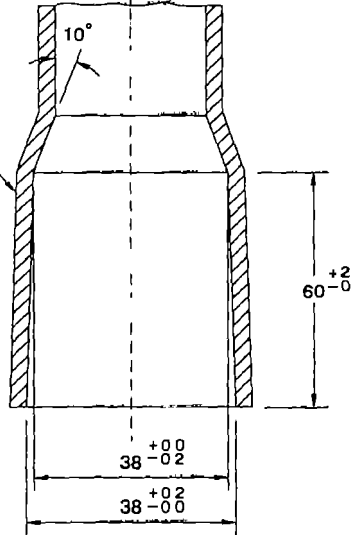
NOTE .-

- Nut to be tag welded with connector bolt
- All sharp corners to be removed by smooth filing
- Radius 2mm out of roundness - 0.3 max
- Sharp edges of pins to be rounded off

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
3	1	Nut M12	SS04 Cr18 Ni10 OF IS 6603 - 72	TOLERANCE		DRAWING NO. DA-09	
2	1	Pin	SS04 Cr18 Ni10 OF IS 6603 - 72	U O S ± 0.5			
1	1	Top Connector Bolt	SS04 Cr18 Ni10 OF IS 6603 - 72	SCALE N T S			
Part No.	No OFF	DESCRIPTION	MATERIAL	TITLE			DATE
				TOP CONNECTOR SUB ASSEMBLY			01/01/94


1/3 INTERFERENCE  
FIT (Min)



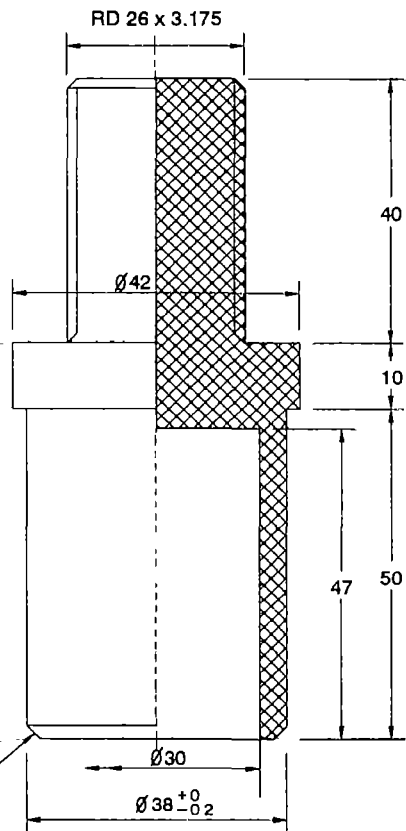
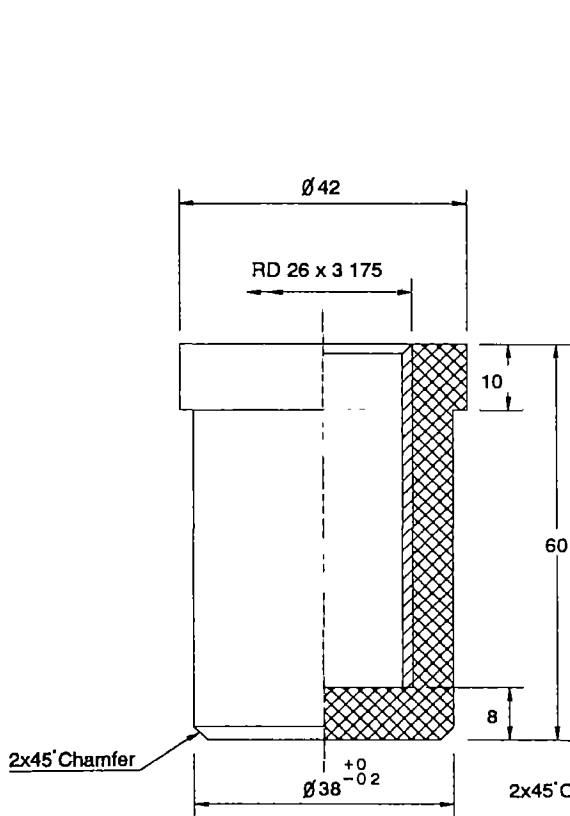
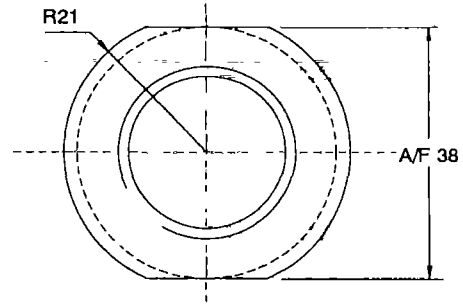
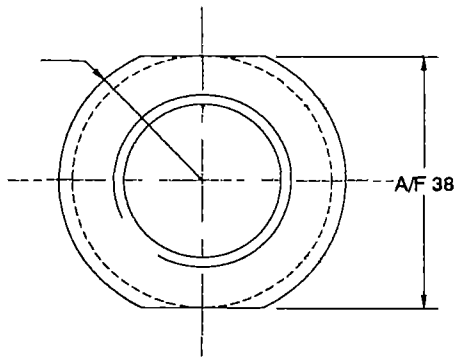
NOTE :

Pipe end shall be sized before solvent cementing threaded adapter

All Dimensions are in millimetres

				<b>Unicef</b> INDIA			
3	1	Threaded Adapter (M)	UPVC	TOLERANCE		DRAWING NO. DA-10	
2	1	Pump Rod Pipe	UPVC	U.O S	± 0.5		
1	1	Threaded Adapter (F)	UPVC	SCALE	NTS	DATE 01/01/94	
Part No.	No OFF	DESCRIPTION	MATERIAL	TITLE PUMP ROD ASSEMBLY			






① FEMALE CONNECTOR

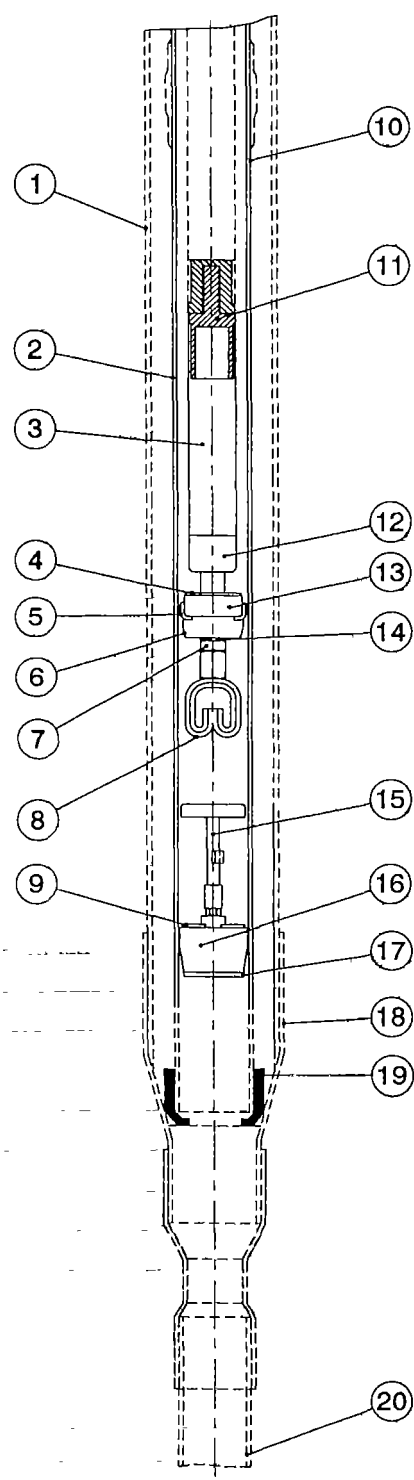
② MALE CONNECTOR

NOTES :-

All sharp corners to be avoided - Radius 2mm to be maintained out of roundness Max 0.3

ALL DIMENSIONS ARE IN MILLIMETRES

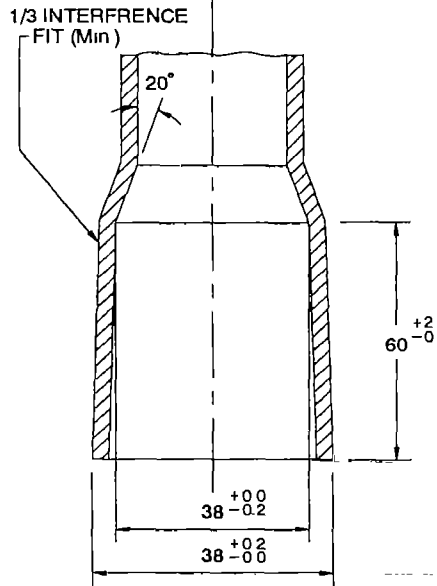
				 <b>Unicef</b> INDIA	
2	--	Male Connector	UPVC	TOLERANCE U O S ± 0.5 SCALE N T S DRAWING NO DA-10-01	
1	--	Female Connector	UPVC		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				MALE CONNECTOR AND FEMALE CONNECTOR	01/01/94



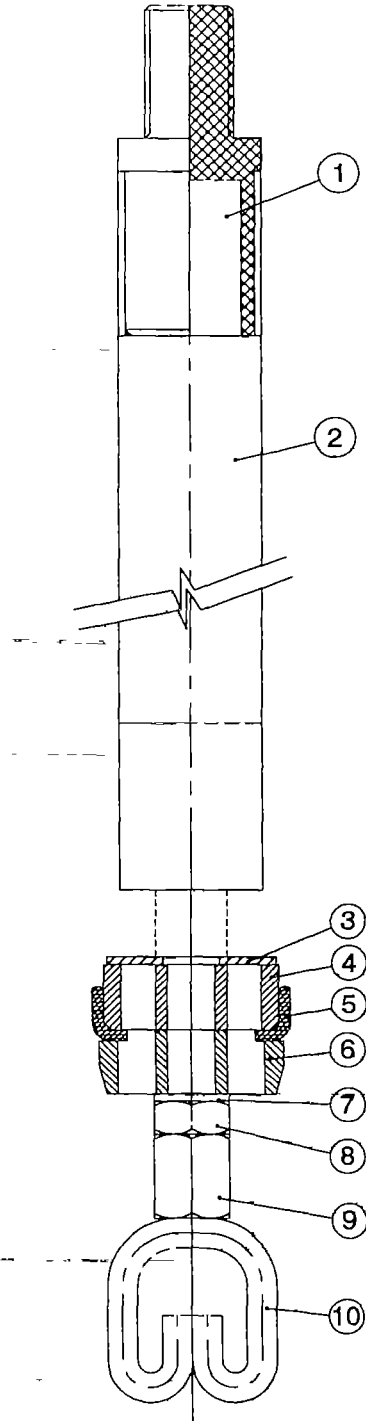
20	1	Lower Well Casing	UPVC
19	1	Reducer Seat	Nitrile Rubber
18	1	Reducer Socket	UPVC
17	1	'O' Ring	Nitrile Rubber
16	1	Foot Valve Body	P P Co-Polymer
15	1	Foot Valve Guide Sub Ass'ly	SS04 Cr18 Ni10 OF IS 6603-72
14	1	Washer	
13	1	Piston Plate	P P Co-Polymer
12	1	Bottom Connector	UPVC
11	-	Threaded Adapter	UPVC
10	1	Cylinder Pipe	Nitrile Rubber
9	1	Flap Foot Valve	UPVC
8	1	Grapple Sub Ass'ly	SS04 Cr18 Ni10 OF IS 6603-72
7	1	CheckNut M12	SS04 Cr18 Ni10 OF IS 6603-72
6	1	Follower Plate	P P Co-Polymer
5	1	Cup Seal	Nitrile Rubber
4	1	Flap Valve Piston	Nitrile Rubber
3	1	Piston Rod	UPVC
2	-	Rising Main	UPVC
1	-	Upper Casing	UPVC
Part No.	No. OFF	DESCRIPTION	MATERIAL

**Unicef**  
INDIA

TOLERANCE		DRAWING NO. DA-11
U O S.	$\pm 0.5$	
SCALE	N T S	
TITLE		DATE
CYLINDER ASSEMBLY		01/01/94



PIPE END SHALL BE SIZED BEFORE SOLVENT CEMENTING THREADED ADAPTER



10	1	Hook	SS04 Cr Ni10 OF IS · 6603-72
9	1	Grapple Coupling M12X10(S S)	IS 1367 (Part 14) - 1984
8	1	Hex Nut M12	IS 1367 (Part 14) - 1984
7	1	Washer	SS04 Cr Ni10 of IS 6603 - 72
6	1	Follower Plate	PP Co Polymer
5	1	Cup Seal	Nitrile Rubber
4	1	Piston Plate	PP Co Polymer
3	1	Piston Flap Valve	Nitrile Rubber
2	1	Pump Rod Pipe	UPVC
1	1	Male Connector	UPVC

**Unicef**  
INDIA

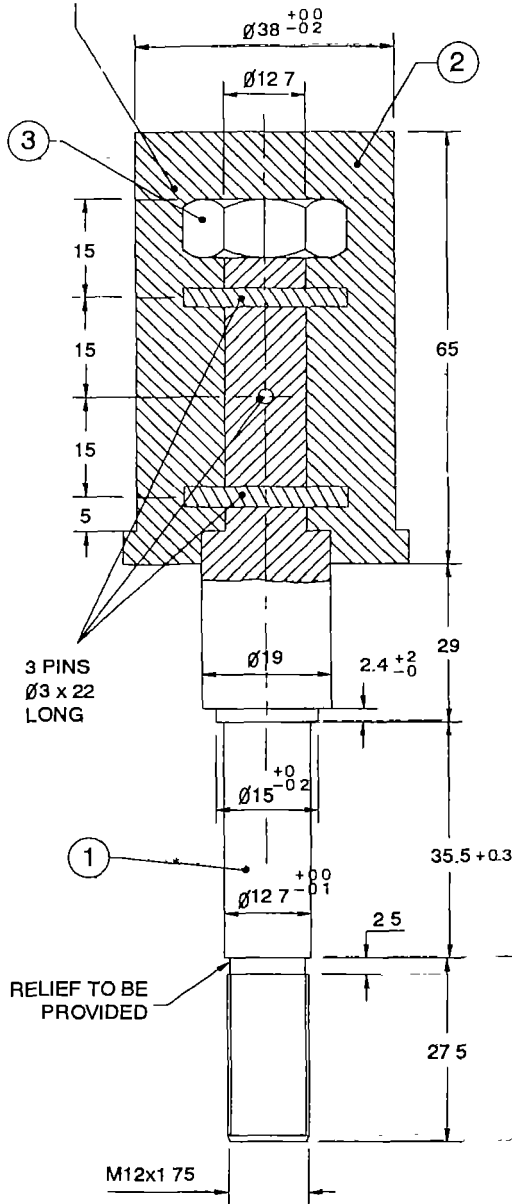


TOLERANCE  
U.O.S ± 0.5  
SCALE N.T.S

DRAWING NO. DA-12

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				PISTON ROD ASSEMBLY	01/01/94


PVC BUSH INJECTION  
MOULDED WITH BOTTOM  
CONNECTOR BOLT IN  
POSITION

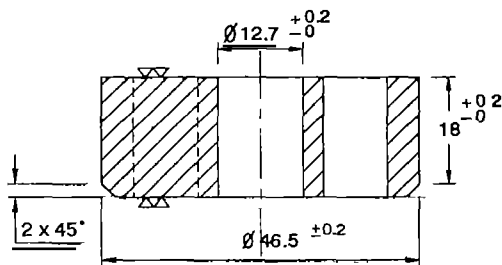
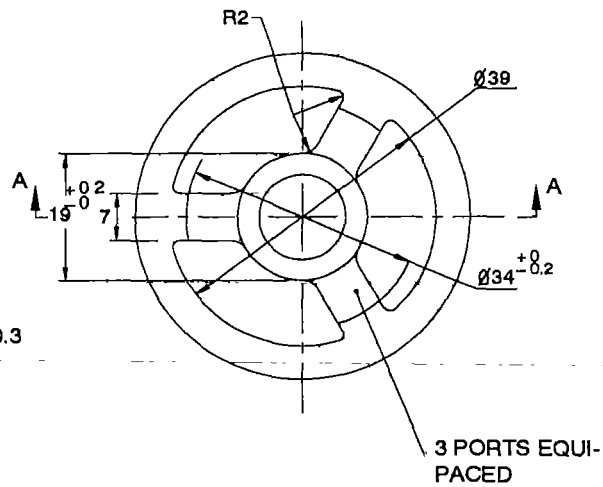
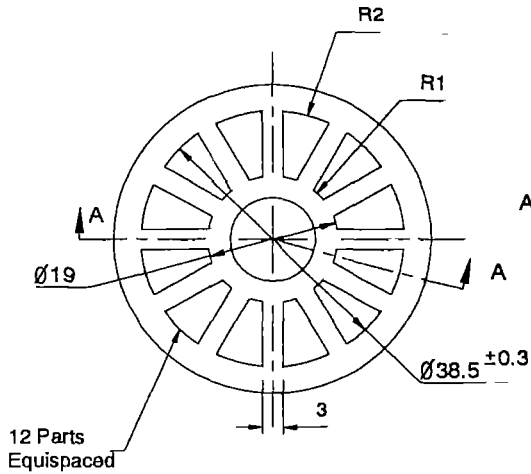


NOTE:-

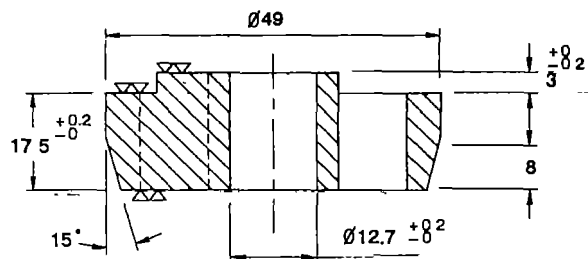
- Nut to be tack welded with connector
- All sharp corners to be removed by smooth filling
- Out of roundness max 0.3 mm
- Sharp edges of pin to be rounded off

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA				
3	1	Nut M12	SS04 Cr18 Ni10 OF IS 6603-72	TOLERANCE		DRAWING NO. DA-12-01		
2	3	Pin	SS04 Cr18 Ni10 OF IS 6603-72	U.O.S	± 0.5			
1	1	Bottom connector	SS04 Cr18 Ni10 OF IS 6603-72	SCALE	N T S			
Part No.	No OFF	DESCRIPTION	MATERIAL	TITLE	BOTTOM CONNECTOR SUB ASSEMBLY		DATE	
							01/01/94	

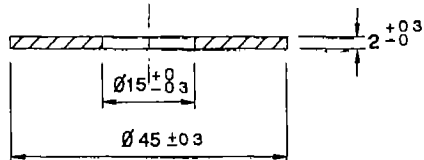


① PISTON PLATE

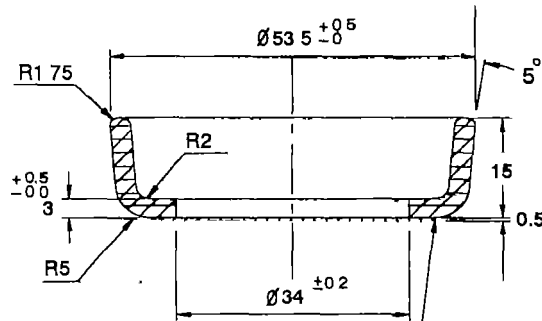


SECTION A-A

② FOLLOWER PLATE



③ PISTON FLAP VALVE



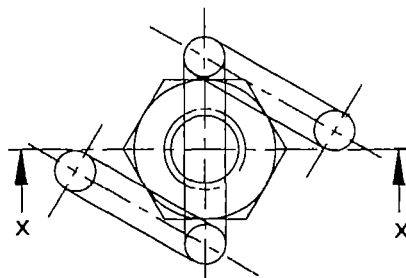
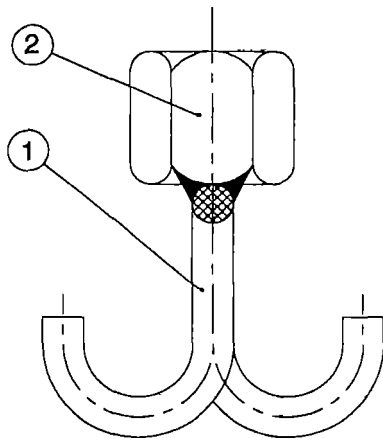
0.5 MM RAISED DOTS FOR BETTER GRIPPING

④ CUP SEAL


**NOTE:**  
 Top and Bottom surfaces to be smooth  
 All parts to be cleaned.  
 Shore Hardness 75-80 on scale A

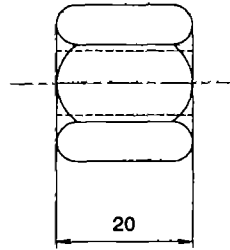
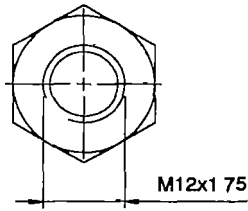
ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	1	Cup Seal	Nitril Rubber	<b>Unicef</b> INDIA TOLERANCE U O S. ± 0.5 SCALE N.T.S DRAWING NO DA-12-02	DA-12-02 01/01/94
3	1	Piston Flap Valve	Nitril Rubber		
2	1	Follower Plate	PP Copolymer		
1	1	Piston Plate	PP Copolymer		
				PISTON ASSEMBLY PARTS	

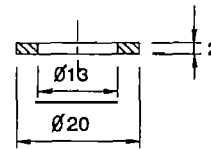
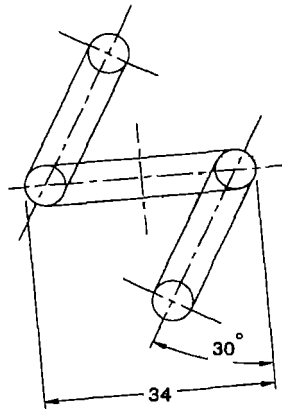


SECTION X-X

				<b>Unicef</b> INDIA		
				TOLERANCE		
2	1	Grapple Coupling M12x10(S.S)	IS 1367 (Part 14) - 1984	U.O.S	$\pm 0.5$	DRAWING NO. DA -12-03
1	1	Hook	SS04 Cr18 Ni10 OF IS . 6603-72	SCALE	N.T.S	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE GRAPPLE SUB ASSEMBLY		DATE 01/01/94

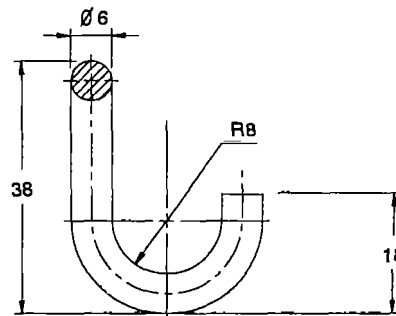
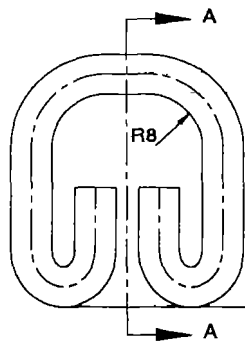


**2 GRAPPLE COUPLING**



SECTION A-A


**3 WASHER**

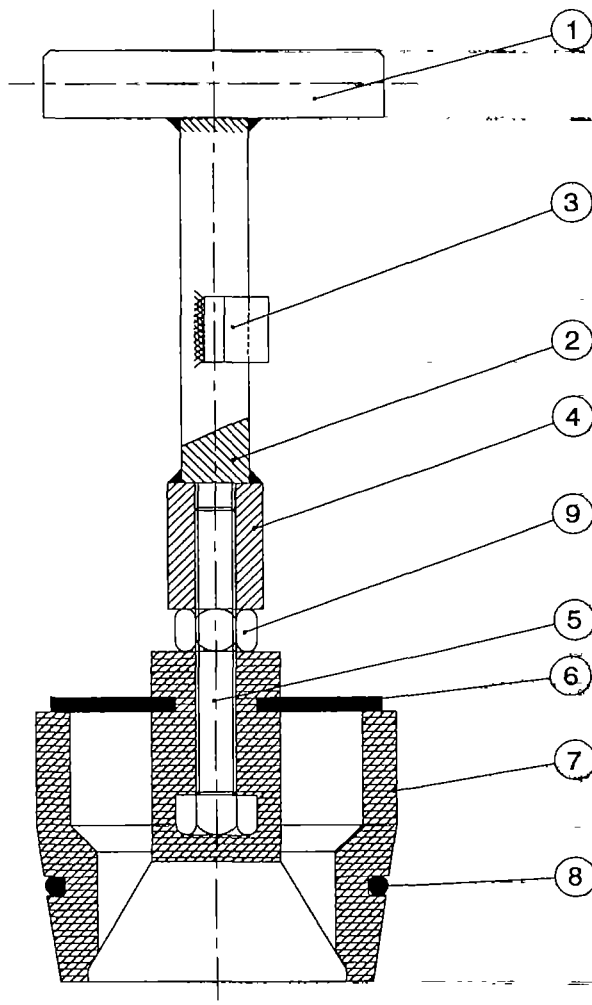


SECTION A-A

**1 HOOK**

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TOLERANCE		DRAWING NO	DA-12-04
				U O S	± 0.5		
				SCALE	N.T.S		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	PARTS OF GRAPPLE SUB ASSEMBLY		DATE
3	1	Washer	SS04 Cr18 Ni10 OF IS 6603-72				
2	1	Grapple Coupling M12x10(S S)	IS 1367 (Part 14) - 1984				
1	1	Hook	SS04 Cr18 Ni10 OF IS 6603-72				
							01/01/94



9	1	Check Nut M6 (S S)	IS 1367 (Part 14) -1984
8	1	'O' Ring	Nitrile Rubber
7	1	Foot Valve Body	PP Co Polymer
6	1	Flap Valve	Nitrile Rubber
5	1	Hex. Bolt	SS04 Cr18 Ni10 OF IS 6603-72
4	1	Foot Valve Guide Bush	SS04 Cr18 Ni10 OF IS 6603-72
3	1	Guide	SS04 Cr18 Ni10 OF IS 6603-72
2	1	Guide Rod	SS04 Cr18 Ni10 OF IS 6603-72
1	1	Rod	SS04 Cr18 Ni10 OF IS 6603-72

**Unicef**  
INDIA

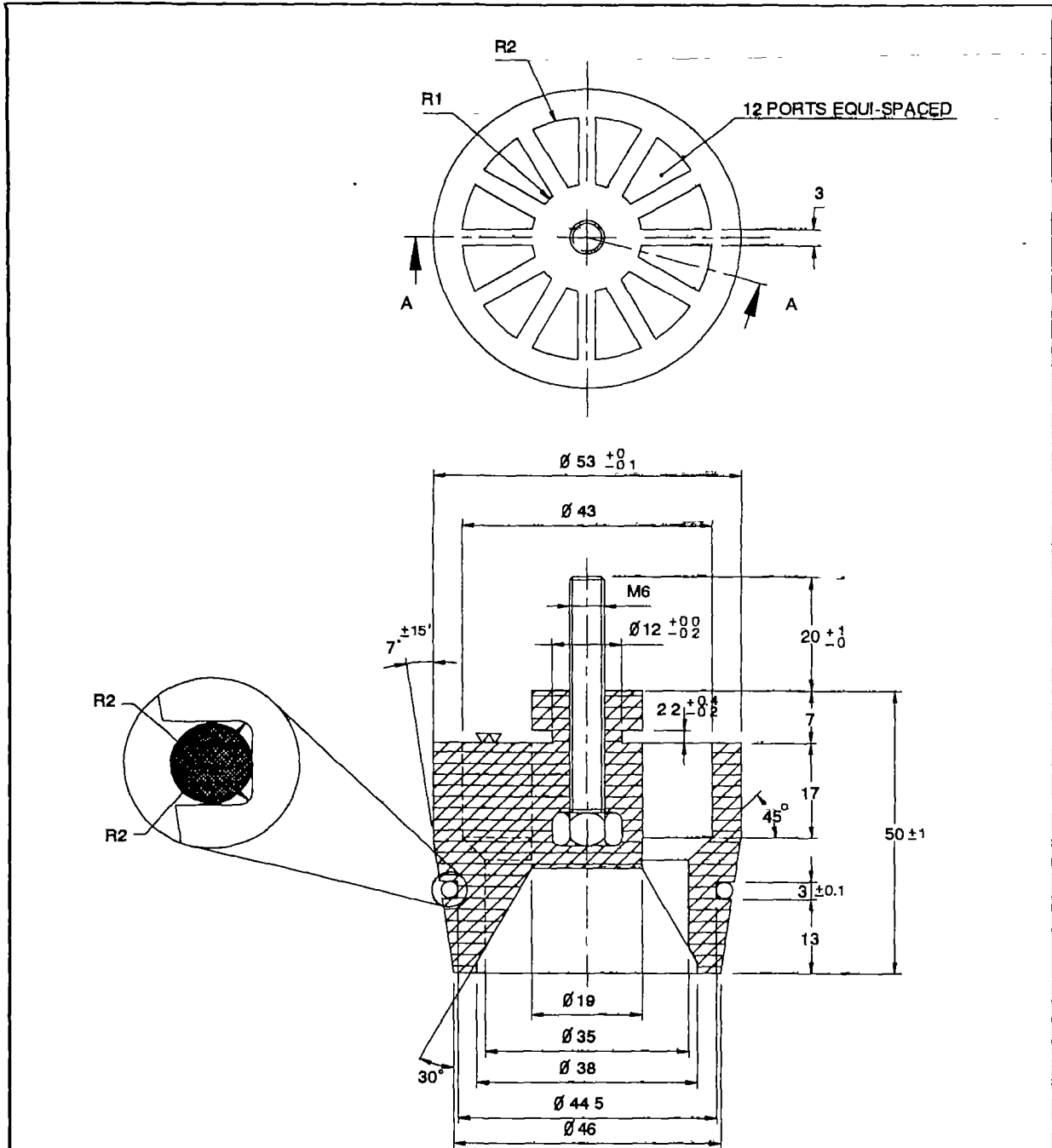


TOLERANCE	
U O S	± 0.5
SCALE	N T.S

DRAWING NO DA-13

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				FOOT VALVE ASSEMBLY	01/01/94




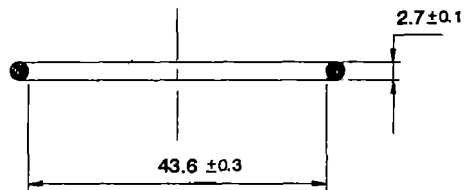


SECTION A-A

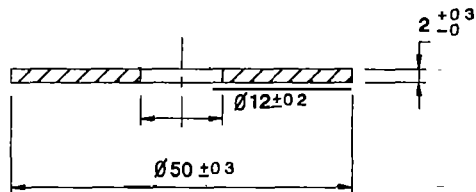
**NOTE:**  
 St. steel bolt M6 x 40 to be positioned in die during moulding it should be vertical to the flap valve surface

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b>		
				INDIA		
				TOLERANCE		DRAWING NO DA-13-01
				U O.S. ± 0.5		
				SCALE N.T.S		
2	1	Foot Valve Body	PP Co Polymer	TITLE FOOT VALVE BODY		DATE 01/01/91
1	1	Bolt M6X40	SS04 Cr18 Ni10 OF IS : 6603-72			
Part No.	No. OFF	DESCRIPTION	MATERIAL			




② 'O' RING

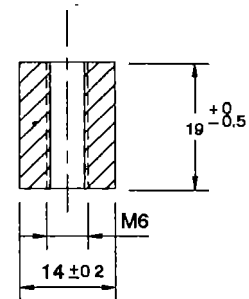
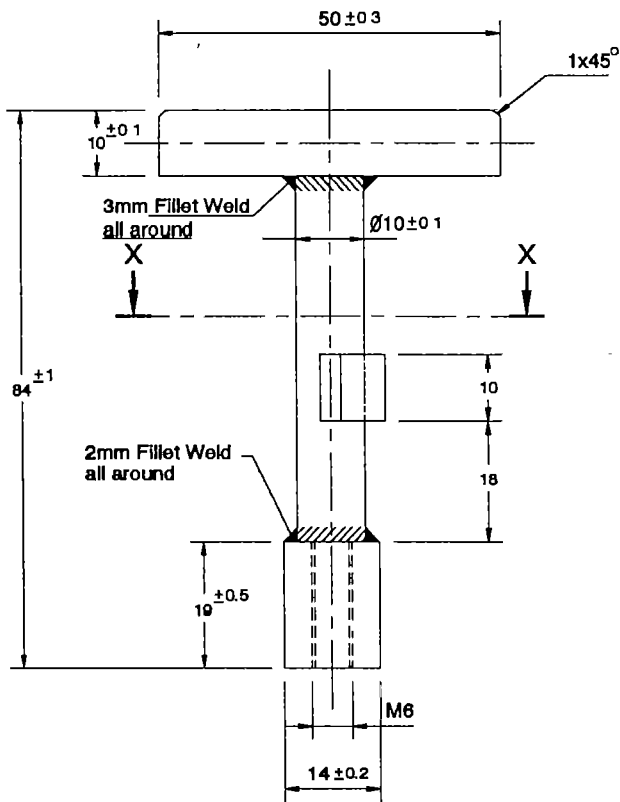
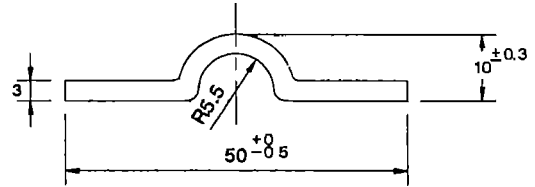
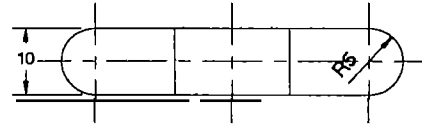
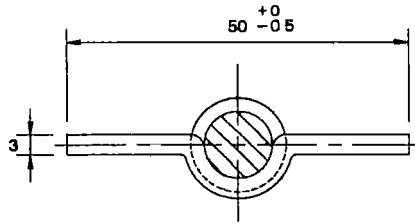


① FLAP VALVE


NOTE:  
SHORE HARDNESS 65 - 70 ON 'A' SCALE

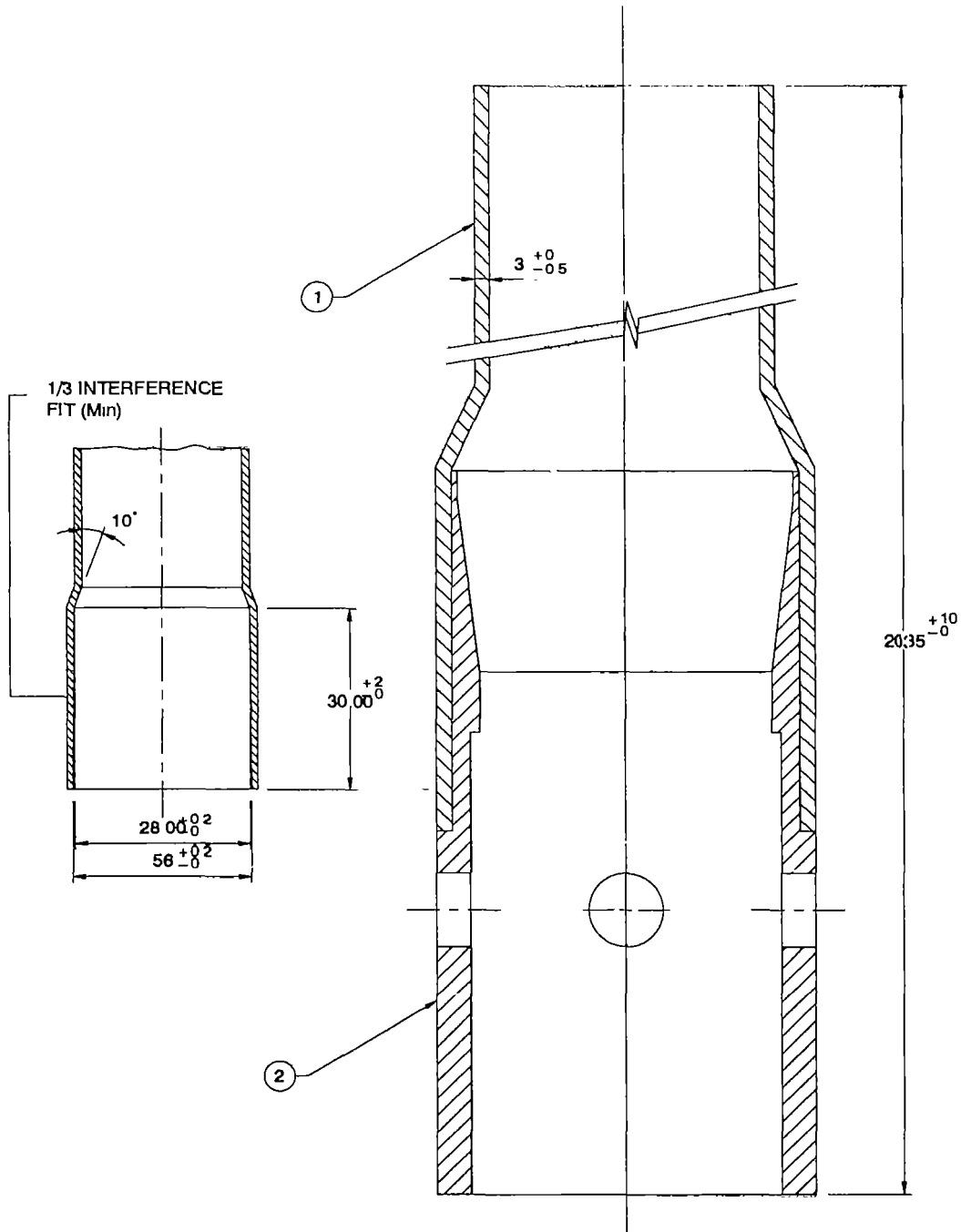
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. DA-13-02	
				U.O.S. ± 0.5			
				SCALE N.T.S			
2	1	'O' Ring	Nitrile Rubber				
1	1	Flap valve	Nitrile Rubber				
Part No.	No OFF	DESCRIPTION	MATERIAL	TITLE FLAP VALVE FOR FOOT VALVE			DATE 01/01/81



ALL DIMENSIONS ARE IN MILLIMETRES


Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	1	Foot Valve Guide Bush	SS04 Cr18 Ni10 OF IS . 6603-72	<b>Unicef</b> INDIA 	DRAWING NO DA-13-03 DATE 01/01/94
3	1	Guide	SS04 Cr18 Ni10 OF IS 6603-72		
2	1	Guide Rod	SS04 Cr18 Ni10 OF IS 6603-72		
1	1	Rod	SS04 Cr18 Ni10 OF IS . 6603-72		
				TOLERANCE U.O.S. ± 0.5 SCALE N.T.S.	
				FOOT VALVE GUIDE & PARTS	

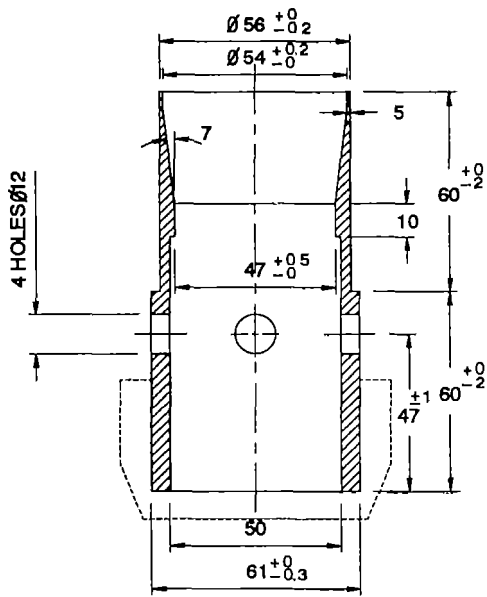


NOTE :

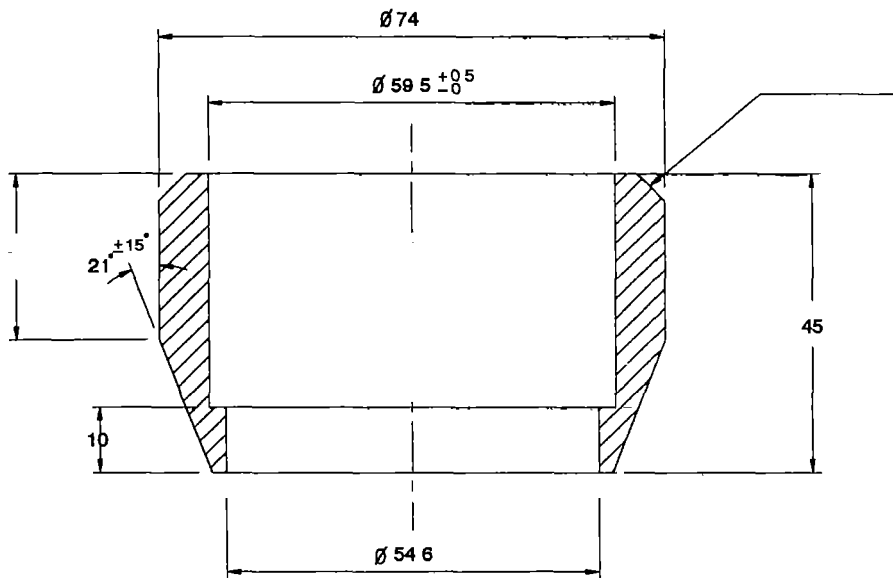
Sizing of cylinder pipe end to be done before connecting foot valve retainer

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U.O.S	± 0.5
				SCALE	N.T.S
				DRAWING NO. DA-14	
2	1	Foot Valve Retainer	UPVC		
1	1	Cylinder Pipe	UPVC		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				CYLINDER BODY	01/01/94



① FOOT VALVE RETAINER




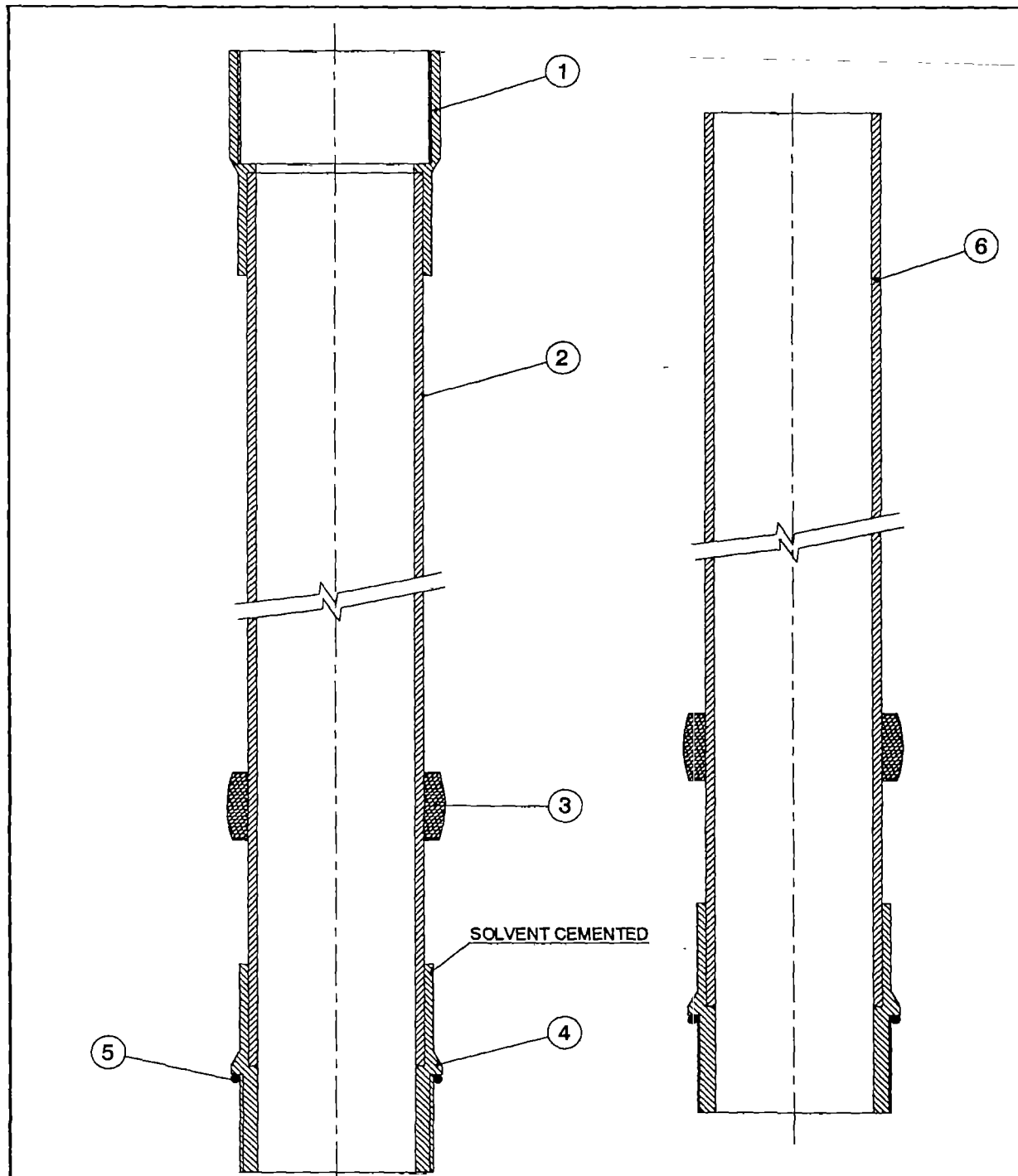
② RUBBER SEAT

NOTE :


1. To be fixed with suitable Adhesive
2. Shore Hardness 75-85 on Scale 'A'

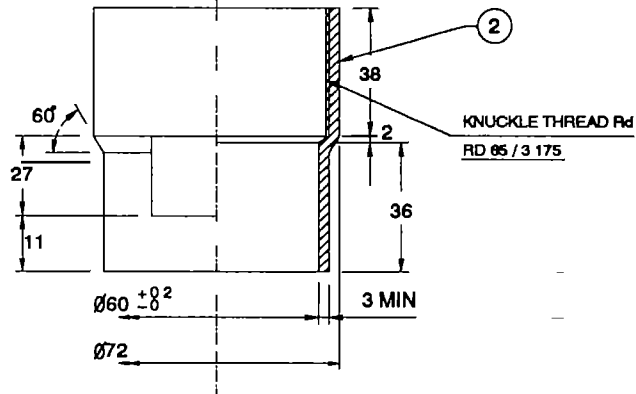
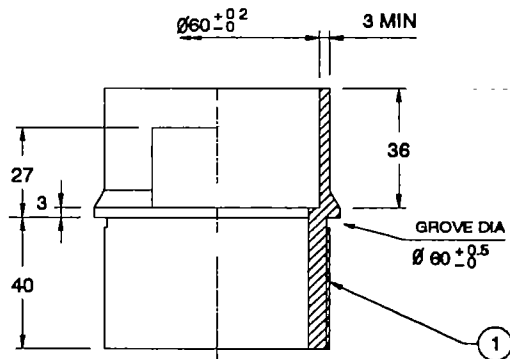
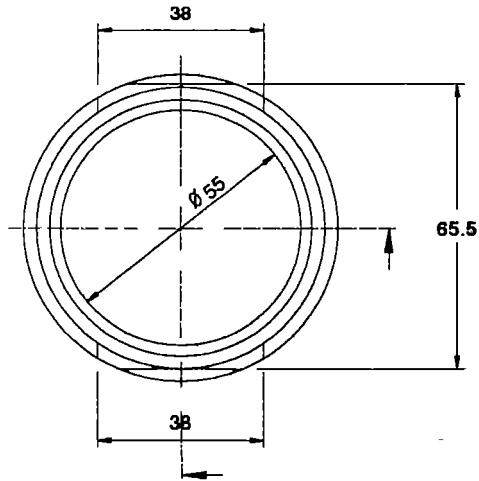
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA		
				TOLERANCE		
				U O.S. ± 0.5		DRAWING NO. DA-15
				SCALE N.T.S		
2	1	Rubber Seat	Nitrile Rubber			
1	1	Foot Valve Retainer	UPVC			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE FOOT VALVE RETAINER AND RUBBER SEAT		DATE 01/01/94




NOTES :  
 Centraliser to be fixed in place before solvent cementing threaded coupler

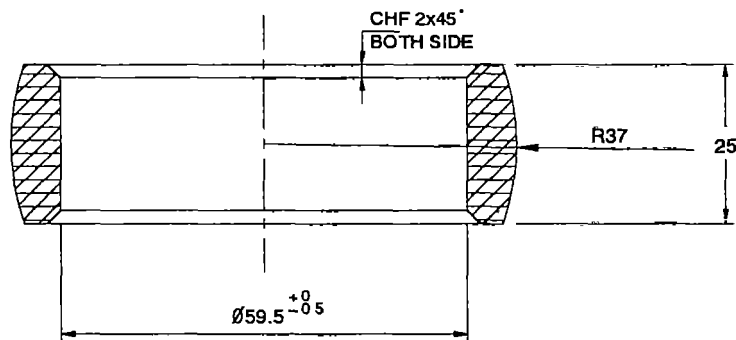
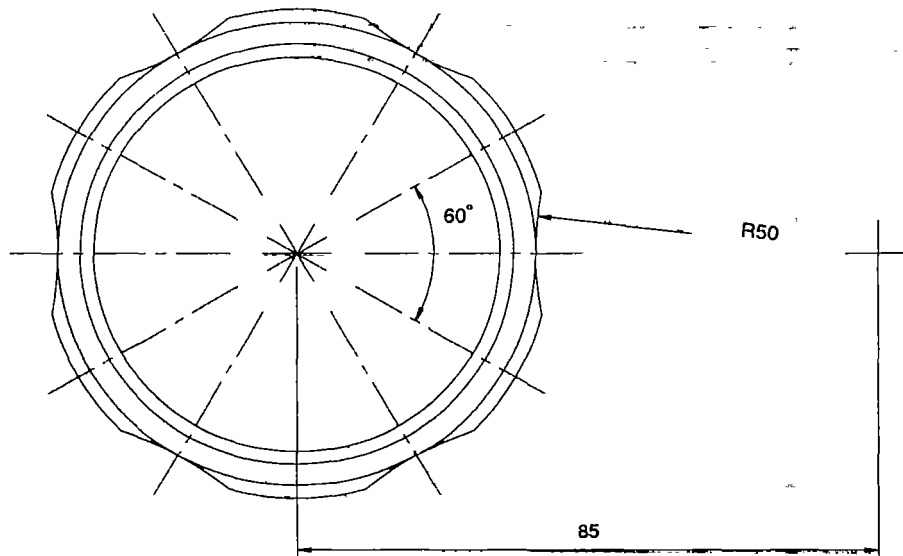
6	1	Rising Main (Top)	UPVC	<b>Unicef</b> INDIA 	TOLERANCE U O.S $\pm 0.5$ SCALE N.T.S.	DRAWING NO DA-16
5	1	'O' Ring	Nitrile Rubber			
4	1	Threaded Coupler (M)	UPVC (IS.7834) (Part 1)			
3	1	Centraliser	Nitrile Rubber		TITLE RISING MAIN ASSEMBLY	DATE 01/01/84
2	1	Rising Main	UPVC (dia 60 NB)			
1	1	Threaded Coupler (F)	UPVC (IS:7834) (Part 1)			
Part No.	No. OFF	DESCRIPTION	MATERIAL			



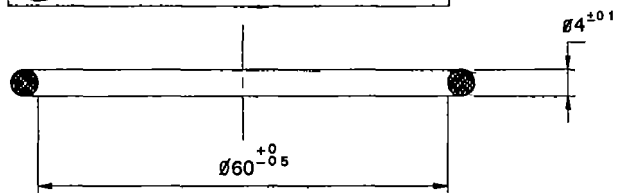
NOTES :  
Sharp corners to be rounded off

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. DA-16-01	
				U.O.S $\pm 0.5$			
				SCALE N.T.S			
2	1	Threaded Coupler (M)	UPVC (IS 7834) (Part 1)				
1	1	Threaded Coupler (F)	UPVC (IS 7834) (Part 1)				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE THREADED COUPLER			DATE 01/01/94




① RISER PIPE CENTRALISER



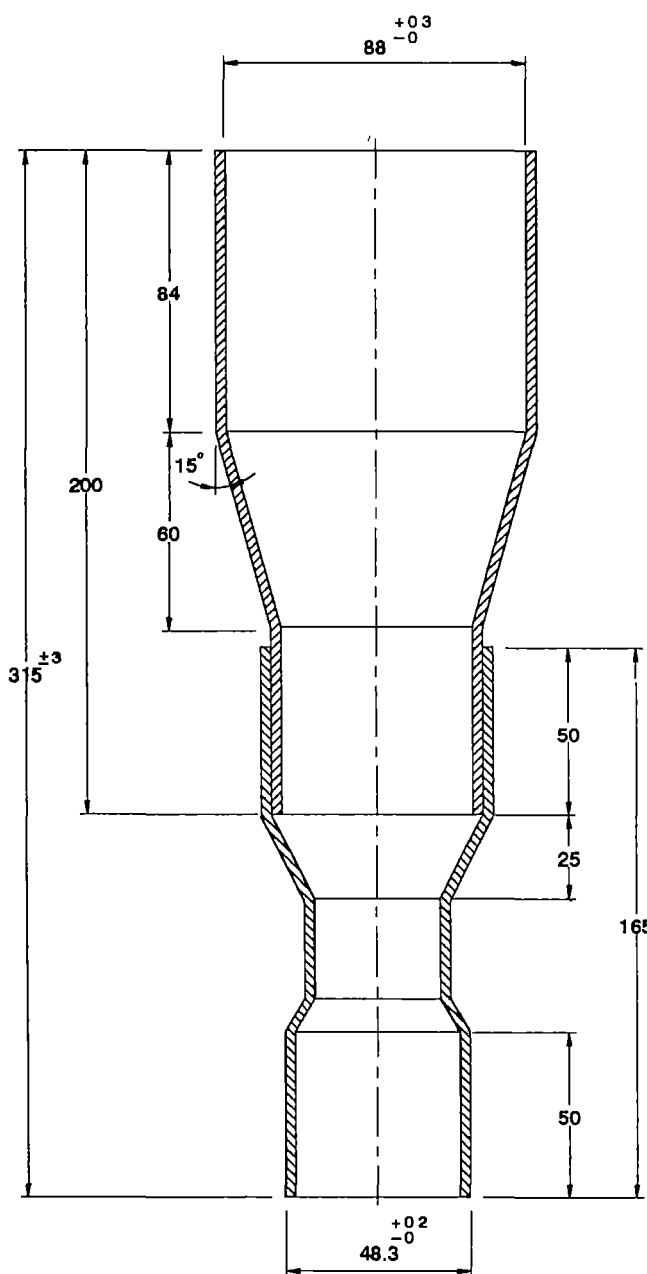
② 'O' RING

NOTES :  
Sharp corners to be rounded off

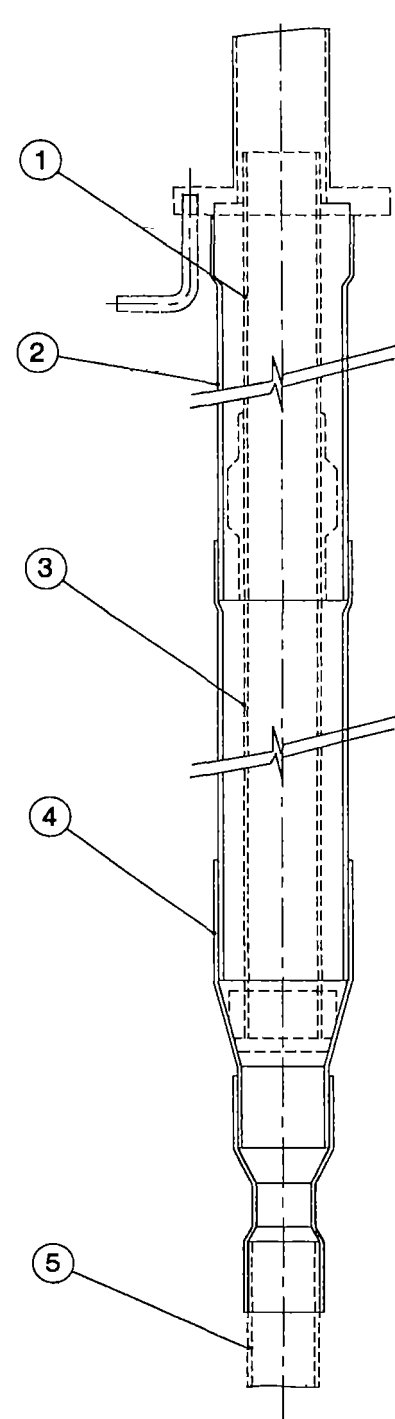
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. DA-16-02	
				U.O.S ± 0.5			
				SCALE N.T.S			
2	1	'O' Ring	Nitrile Rubber				
1	1	Riser Pipe Centraliser	Nitrile Rubber				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE RISER PIPE CENTRALISER 'O' RING			DATE 01/01/94




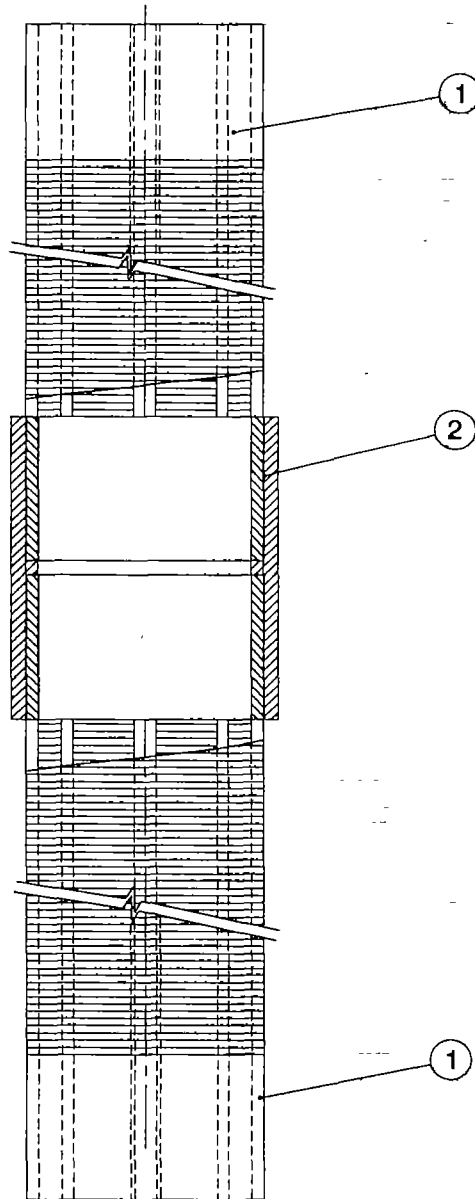


**REDUCING SOCKET**




ALL DIMENSIONS ARE IN MILLIMETRES

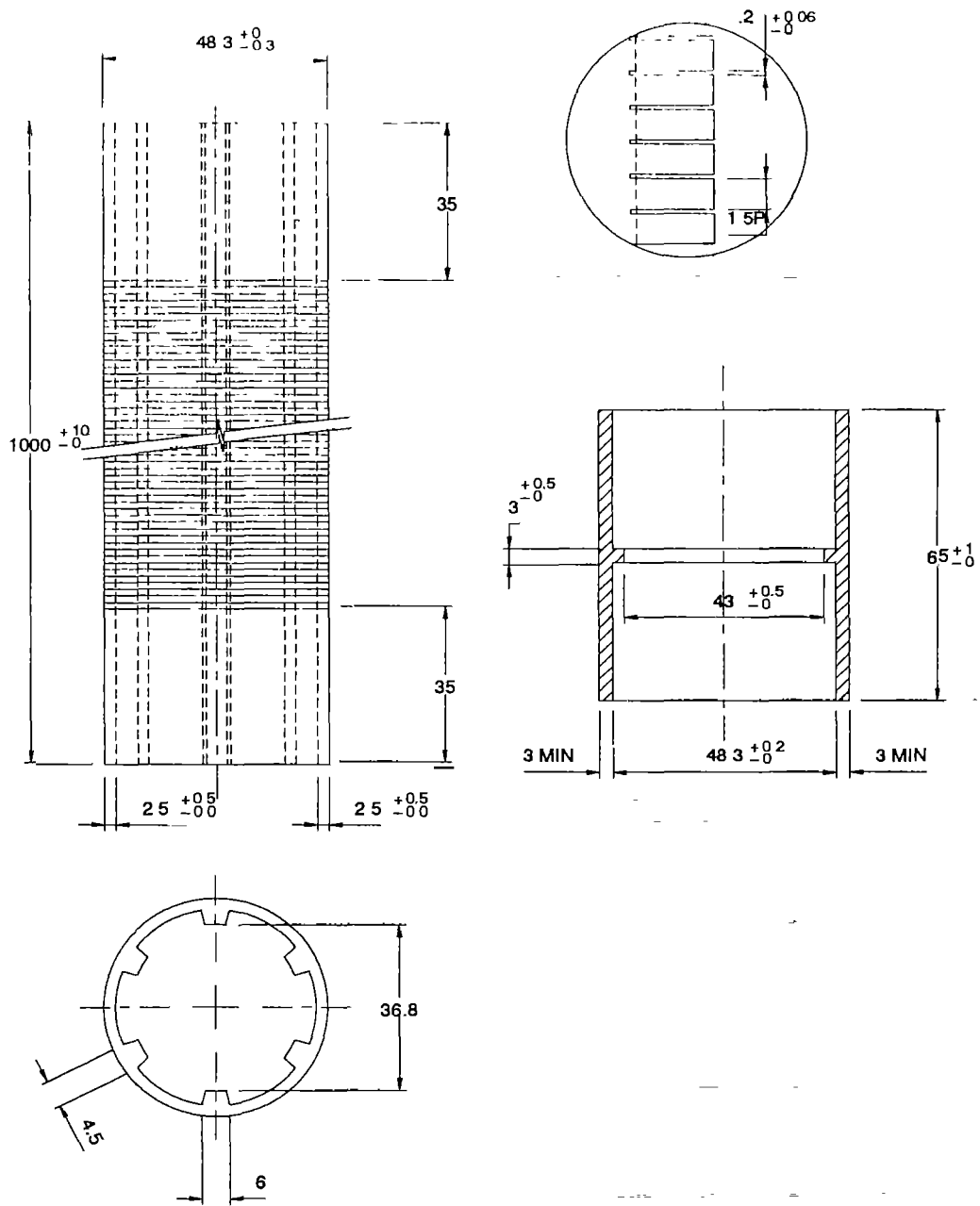
5	-	Lower Well Casing	UPVC	<b>Unicef</b> INDIA 	TOLERANCE U O.S ± 2 SCALE N T.S DRAWING NO DA-17
4	1	Reducing Socket	UPVC		
3	1	Cylinder	UPVC		
2	-	Upper Well Casing	UPVC		
1	-	Rising Main	UPVC		
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> UPPER TUBE WELL ASSEMBLY	<b>DATE</b> 01/01/84



**NOTE :**

For tube well depth beyond 50m, screen as per IS 12818 - 92 to be used


				<b>Unicef</b> INDIA		
				TOLERANCE		
				U.O.S	± 0.5	DRAWING NO DA-18
				SCALE	N.T.S.	
2	1	Screen Coupler	UPVC			
1	2	Well Screen	UPVC			
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> WELL SCREEN SUB ASSEMBLY		<b>DATE</b> 01/01/94

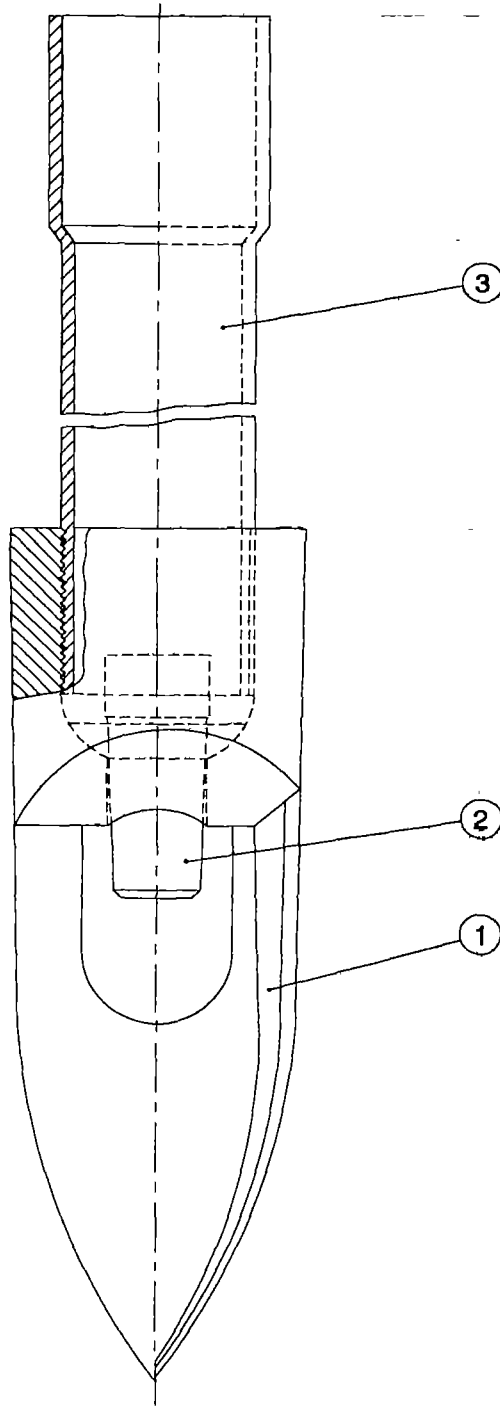



NOTE.

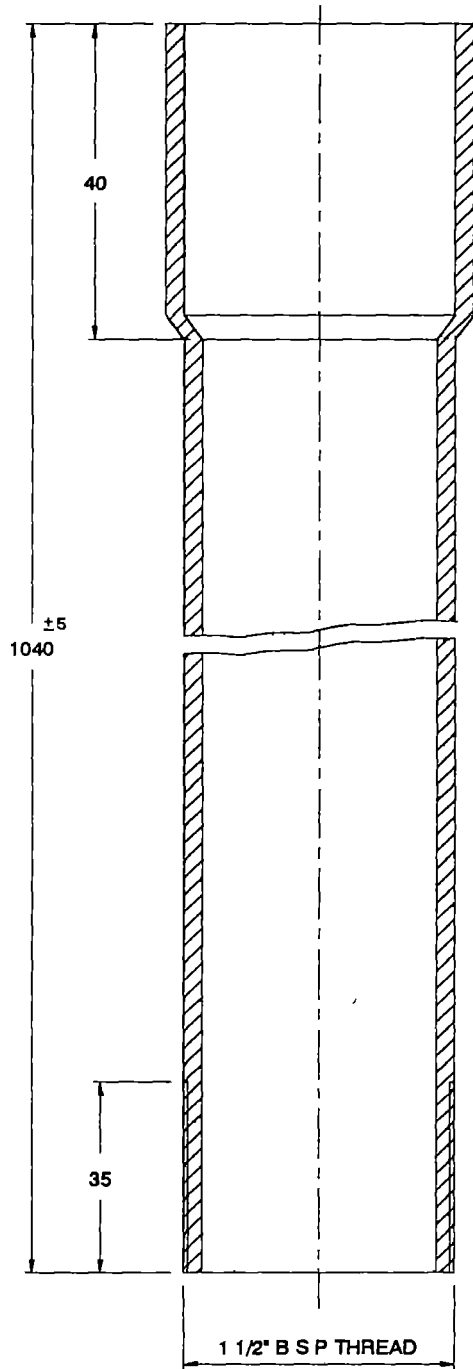
Depth of cut to penetrate pipe wall fully penetration in to nb not to exceed 0.2 mm.

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. DA-18-01	
				U O S ± 0.5			
				SCALE N T S			
2	1	Screen Coupler	UPVC				
1	1	Well Screen	UPVC				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE	
				WELL SCREEN		01/01/94	

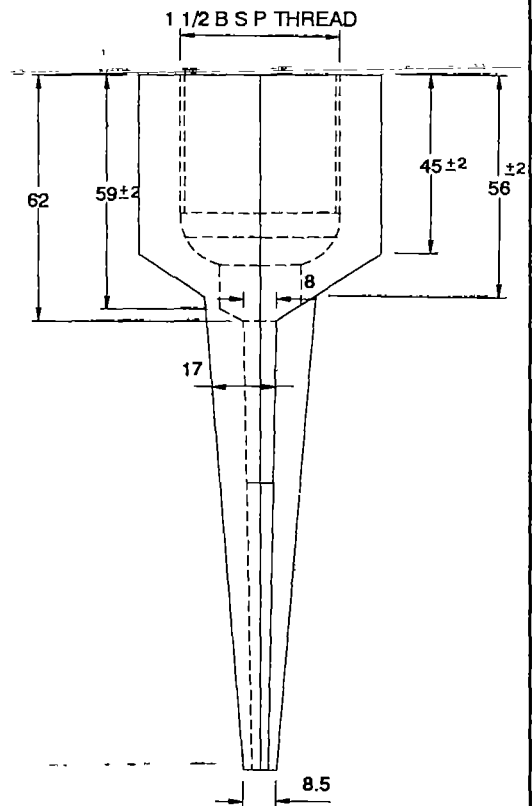
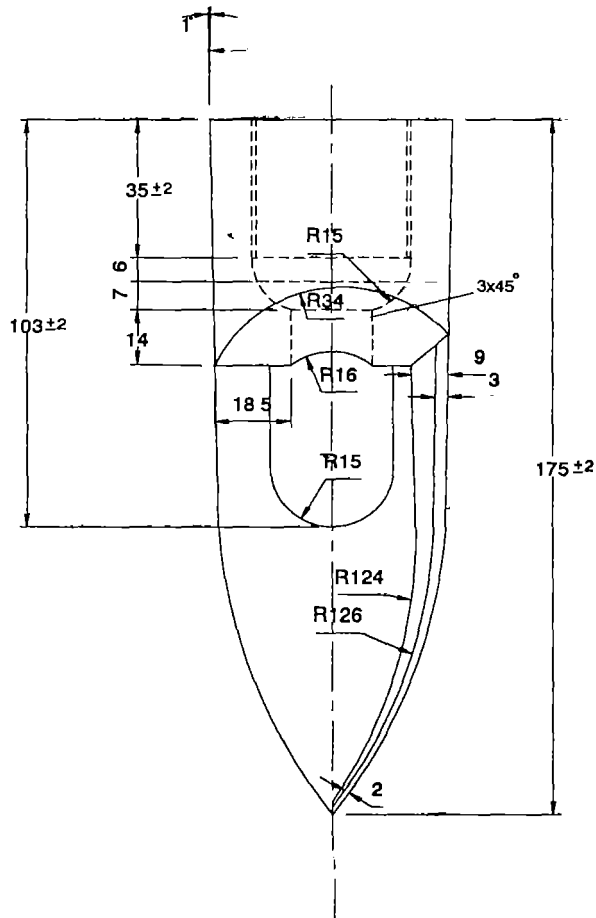
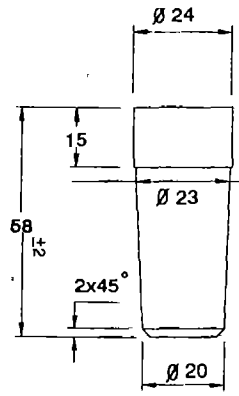
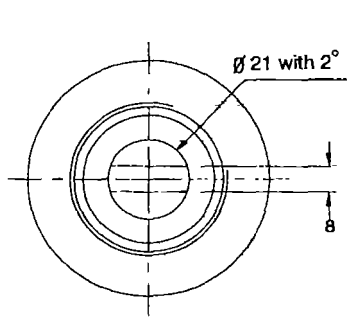


				<b>Unicef</b> INDIA		
3	1	Sand Trap	UPVC	TOLERANCE		
2	1	Plug	C.I	U.O.S. $\pm 0.5$	DRAWING NO. DA-19	
1	1	Cutter	C.I	SCALE N.T.S.		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	SAND TRAP ASSEMBLY	
					DATE 01/01/94	



ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b>		
				INDIA		
				TOLERANCE		DRAWING NO. DA-19-01
				U.O.S.	$\pm 1$	
				SCALE	N.T.S	
1	1	Sand Trap		TITLE		DATE
Part No.	No. OFF	DESCRIPTION	MATERIAL	SAND TRAP		01/01/84



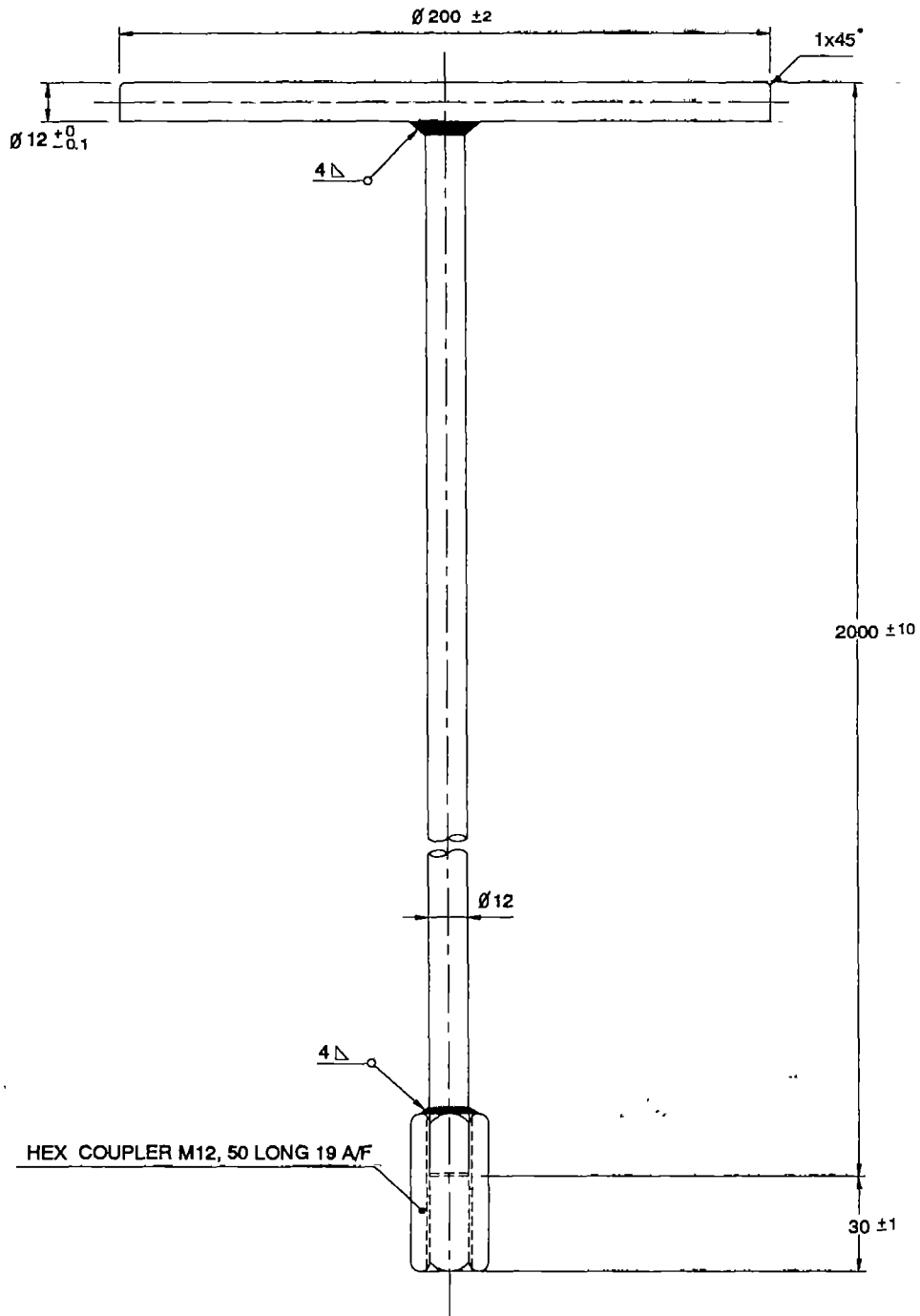
ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



Part No.	No. OFF	DESCRIPTION	MATERIAL
2	1	Plug	CI
1	1	Cutter	CI

TOLERANCE		DRAWING NO. DA-19-02
U.O.S	± 0.5	
SCALE	N.T.S.	
TITLE		DATE
CUTTER PLUG		01/01/94



Electrogalvanised (30 Micron min)

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA		
				TOLERANCE		
				U.O.S.	± 0.5	DRAWING NO. DA-20
				SCALE	N.T.S.	
1	1	Retrieving Rod	IS . 2062 Grade A	TITLE		DATE
Part No.	No. OFF	DESCRIPTION	MATERIAL	RETRIEVING ROD ASSEMBLY		01/01/84

TABLE 1-DIMENSIONS FOR uPVC PIPES FOR DIFFERENT COMPONENTS  
All dimensions in millimetres

Item	Nominal Dia	Outside Dia		Individual Outside		Wall Thickness		Length
		Min	Max	Min	Max	Min	Max	
Upper casing	80	88.0	88.3	-	-	4.0	4.6	3000+10 -0
Rising main	50	60.0	60.3	-	-	2.5	3.0	3000+10 -0
Lower casing	40	48.0	48.3	-	-	3.5	4.0	3000+10 -0
Pump rod	-	42.0	42.3	-	-	2.2	2.7	3000+10 -0
Sand trap	40	48.0	48.3	-	-	3.5	4.0	1000+10 -0
Piston rod	-	42.0	42.3	-	-	2.2	2.7	1000+10 -0
Cylinder pipe	50	60.0	60.3	-	-	2.5	3.0	1975+10 -0

TABLE 2-BELL DIMENSIONS FOR UPPER AND LOWER CASING PIPES  
All dimensions in millimetres

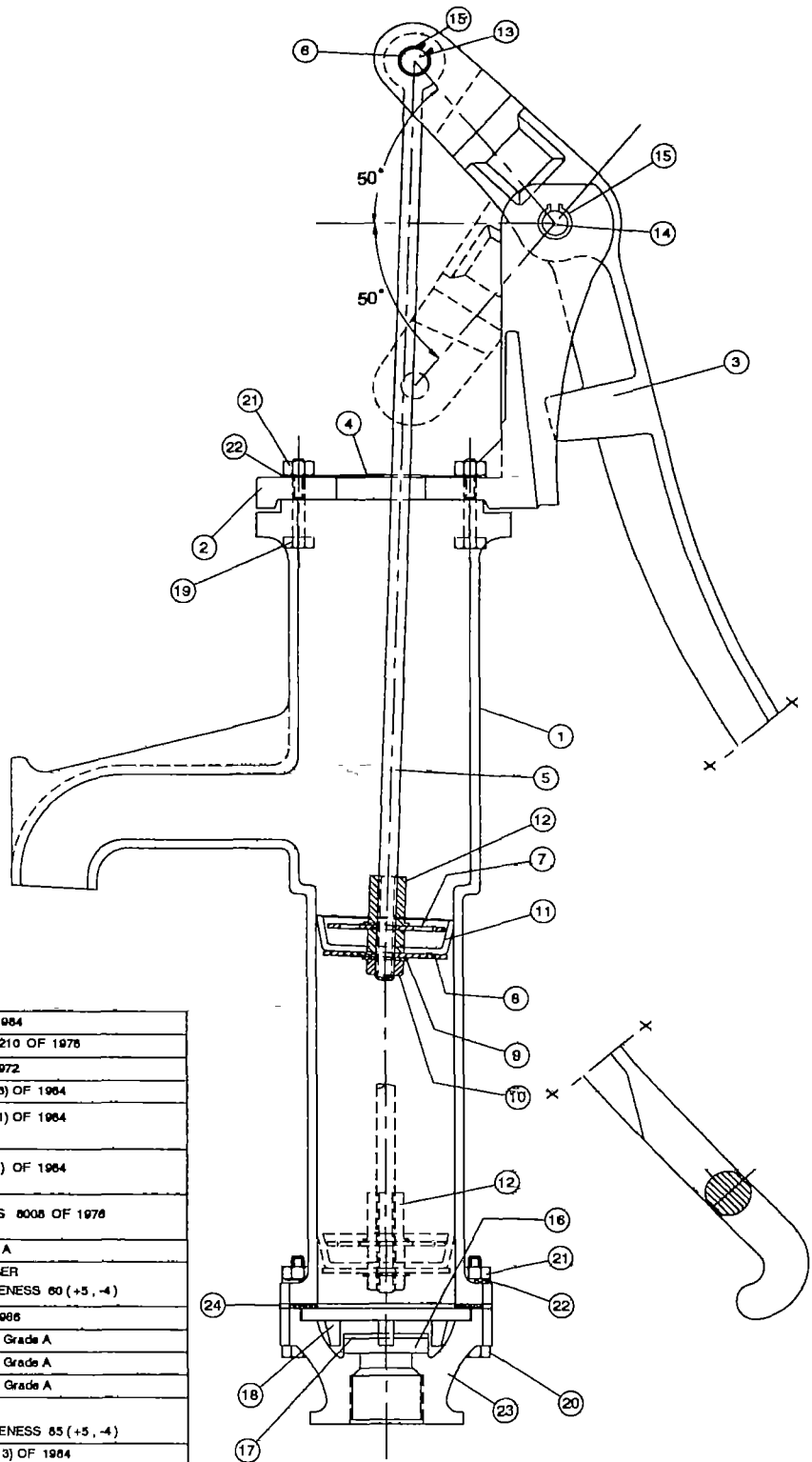
Sl. No.	Nominal Dia.	Socket Depth	Mean socket internal diameter at mid point of socket depth	
			Min	Max
1	90	60	88.1	88.3
2	50	40	48.1	48.3



**Suction Handpump**







24	1	RUBBER GASKET	IS 11149 OF 1984
23	1	PUMP BASE	FG - 150 , IS 210 OF 1978
22	8	SPRING WASHER	IS 6735 OF 1972
21	8	HEX. HEAD NUT	IS 1363 (Part 3) OF 1984
20	4	HEX. HEAD BOLT M12 x 50 (FOR THE BASE)	IS 1363 (Part 1) OF 1984
19	4	HEX. HEAD BOLT M12 x 80 (FOR THE HEAD)	IS 1363 (Part 1) OF 1984
18	1	FLAPPER VALVE GUIDE (SPIDER)	H D P E , IS 8008 OF 1978
17	1	FLAPPER VALVE WEIGHT	IS 2062 Grade A
16	1	FLAPPER VALVE	NITRILE RUBBER SHORE HARDNESS 60 (+5, -4)
15	4	CIRCLIPS	IS 3075 OF 1986
14	1	FULCRUM ROD PIN	IS 2062 - 1984 Grade A
13	1	PLUNGER ROD PIN	IS 2062 - 1984 Grade A
12	1	THREADED BUSH	IS 2062 - 1984 Grade A
11	1	PLUNGER CUP SEAL	P V C SHORE HARDNESS 85 (+5, -4)
10	1	PLUNGER NUT	IS 1363 (Part 3) OF 1984
9	1	SPRING WASHER	IS 6735 OF 1972
8	1	PLUNGER FOLLOWER PLATE WITH WELDED SPACER	IS 2062 - 1984 Grade A
7	1	PLUNGER PLATE	IS 2062 1984 Grade A
6	1	HARDENED STEEL BUSH	EN - 9
5	1	PLUNGER ROD	IS 9550 OF 1980
NIL	1 SET	PLUNGER ASSEMBLY	
4	1	SLIDING PLATE	IS 2062 Grade A
3	1	PUMP HANDLE	FG - 150 , IS . 210 OF 1978
2	1	PUMP HEAD COVER	FG - 150 , IS 210 OF 1978
1	1	PUMP BODY	FG - 150 , IS 210 OF 1978
PART NO.	NO OFF	DESCRIPTION	MATERIAL

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



TOLERANCE

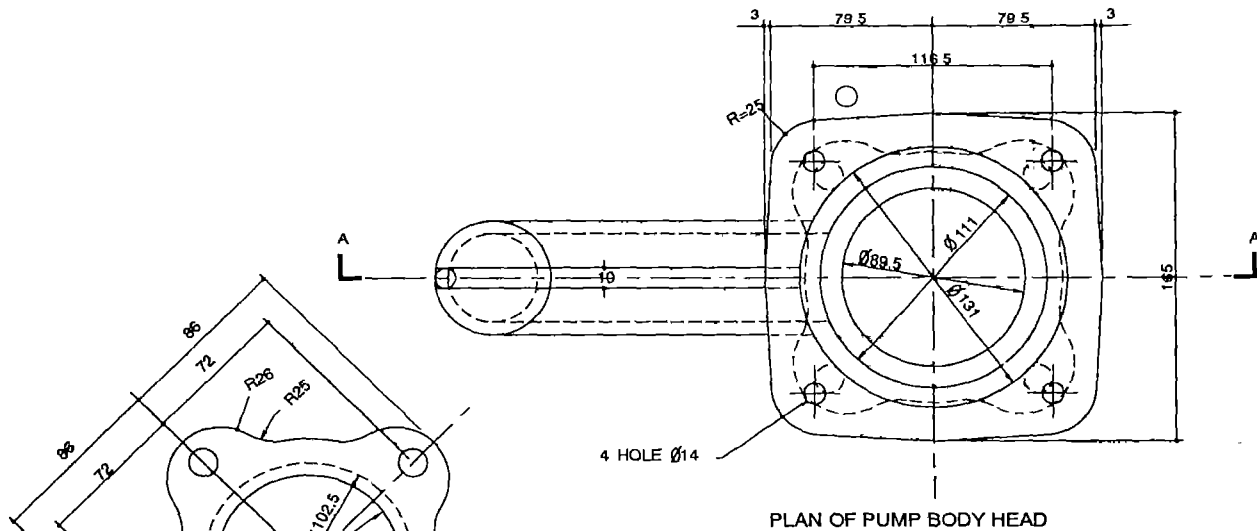
U.O.S + 0.5

SCALE N.T.S.

DRAWING NO. SHP - 01

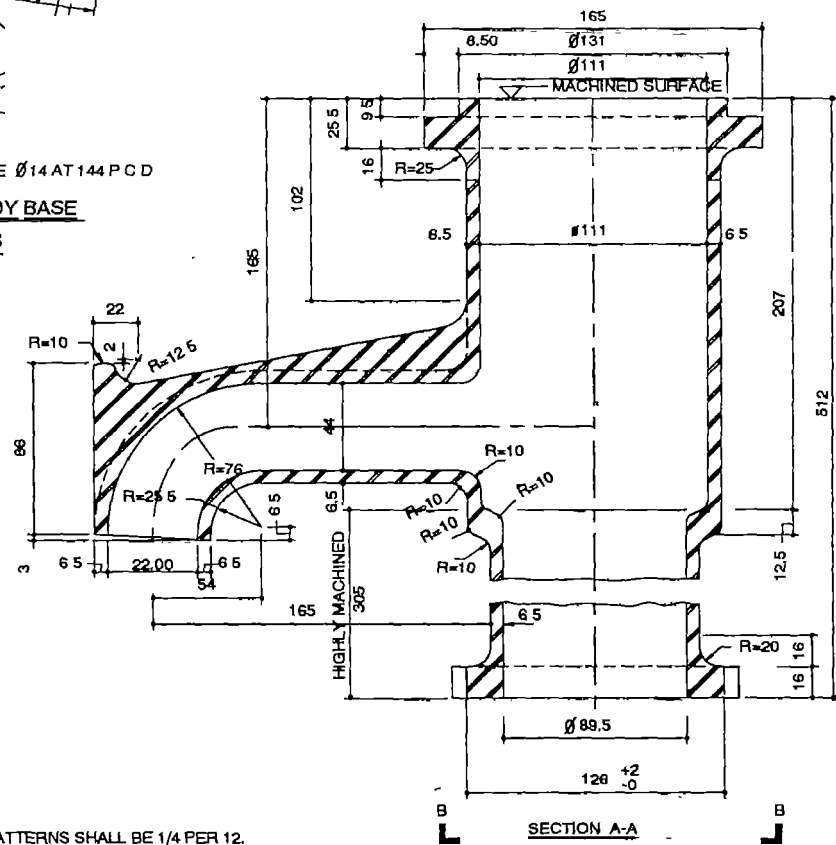
TITLE SINGUR HAND PUMP ASSEMBLY

DATE  
01/01/94



PLAN OF PUMP BODY HEAD

PLAN OF PUMP BODY BASE  
VIEW AT B-B



SECTION A-A

NOTES:-

1. ALL DRAFT ANGLES ON PATTERNS SHALL BE 1/4 PER 12.
2. PATTERN SHRINKAGE ALLOWANCE SHALL BE 1/8 PER 12.
3. ALLOW 1.5mm EXTRA MATERIAL FOR ALL MACHINED SURFACES
4. EDGES TO HAVE 2mm RADIUS AND ALL FILLETS 3mm UNLESS OTHERWISE STATED

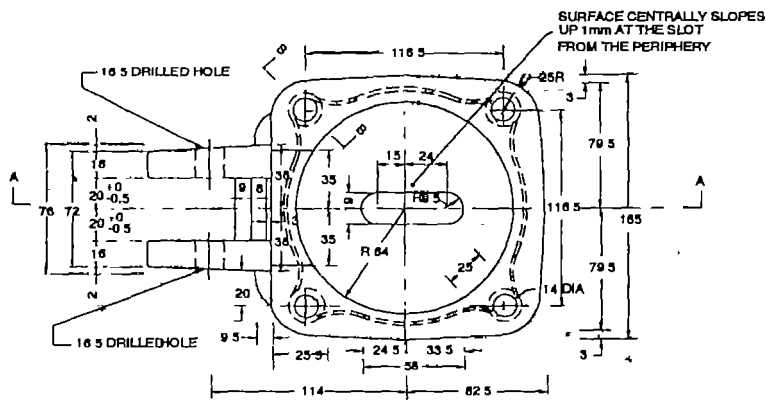
1 PUMP BODY

ALL DIMENSIONS ARE IN MILLIMETRES

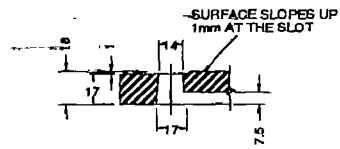
**Unicef**  
INDIA



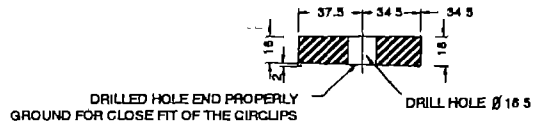
				TOLERANCE		DRAWING NO. SHP - 02
				U.O.S	± 0.5	
				SCALE	N.T.S.	
1	1	PUMP BODY	FG 150 IS 210 - 1978	TITLE		DATE
Part No.	No. OFF	DESCRIPTION	MATERIAL	PUMP BODY		01/01/84



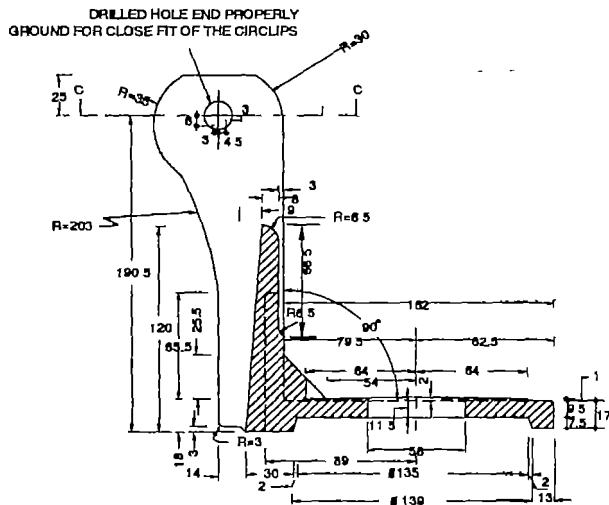
② HEAD COVER  
SCALE 1:2



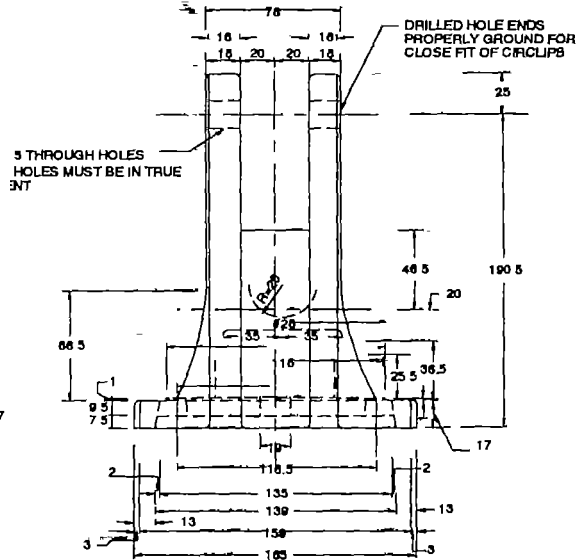
SECTION B-B



SECTION C-C



SECTION A-A




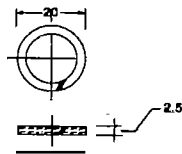
END VIEW FROM THE HANDLE SIDE

NOTES

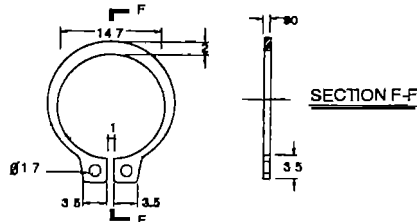
1. PATTERN DRAFT ANGLES SHALL BE 1/8 PER 12
2. PATTERN SHRINKAGE ALLOWANCE SHALL BE 1/8 PER 12
3. EDGES TO BE 2mm RADIUS AND ALL FILLETS 3 mm UNLESS OTHERWISE SPECIFIED
4. HEADCOVER MUST FIT PROPERLY ON BARREL IN ALL FOUR POSITIONS
5. FOR THE BASE OF ALTERNATIVE DESIGN BOLT SHANK LENGTH SHALL BE 60 mm.

ALL DIMENSIONS ARE IN MILLIMETRES

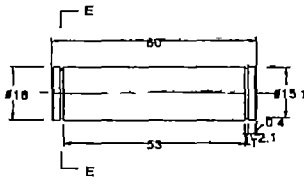
				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO. SHP - 03	
				SCALE NTS			
2	1	PUMP HEAD COVER	FG - 150 IS 210 - 1978	TITLE		DATE	
Part No.	No. OFF	DESCRIPTION	MATERIAL	PUMP HEAD COVER PARTS		01/01/94	



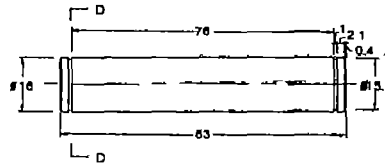
22 SPRING WASHER



15 CIRCLIPS




13 PLUNGER ROD PIN



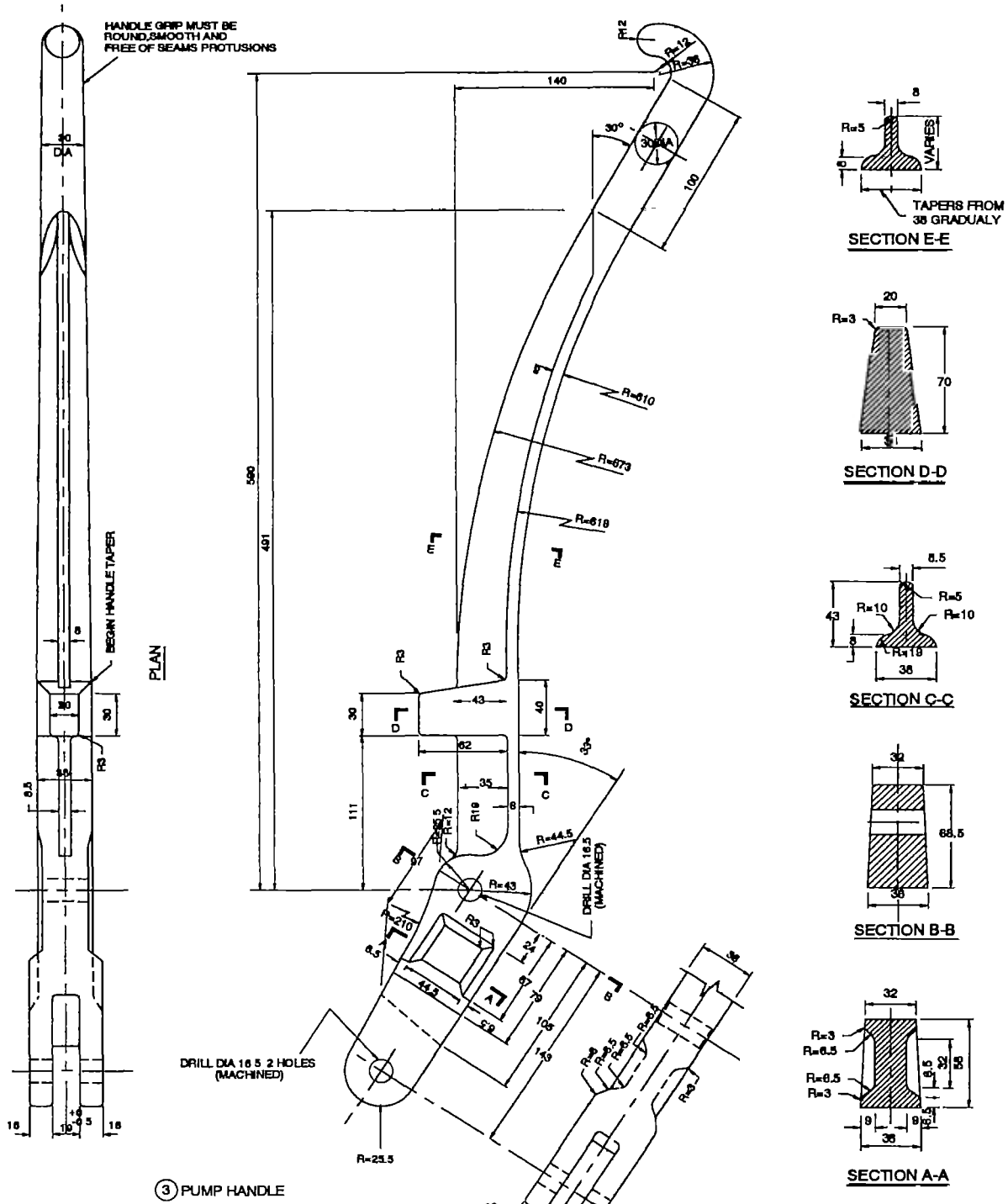
14 FULCRUM ROD PIN

ALL DIMENSIONS ARE IN MILLIMETRES

Part No	No OFF	DESCRIPTION	MATERIAL	TITLE	DATE
22	8	SPRING WASHER	IS 6735 - 1972	<b>Unicef</b> INDIA  TOLERANCE U O S. + 0.5 SCALE N T.S. DRAWING NO. SHP - 04	01/01/94
15	4	CIRCLIPS	IS 3075 - 1986		
14	1	FULCRUM ROD PIN	IS 2062 - 1984 Grade A		
13	1	PLUNGER ROD PIN	IS 2062 - 1984 Grade A		







NOTES

- 1 PATTERN DRAFT ANGLES SHALL BE 1/4 PER 12
- 2 PATTERN SHRINKAGE ALLOWANCE SHALL BE 1/8 PER 12
- 3 EDGES TO HAVE 2mm RADIUS AND ALL FILLETS 3mm UNLESS OTHERWISE SPECIFIED

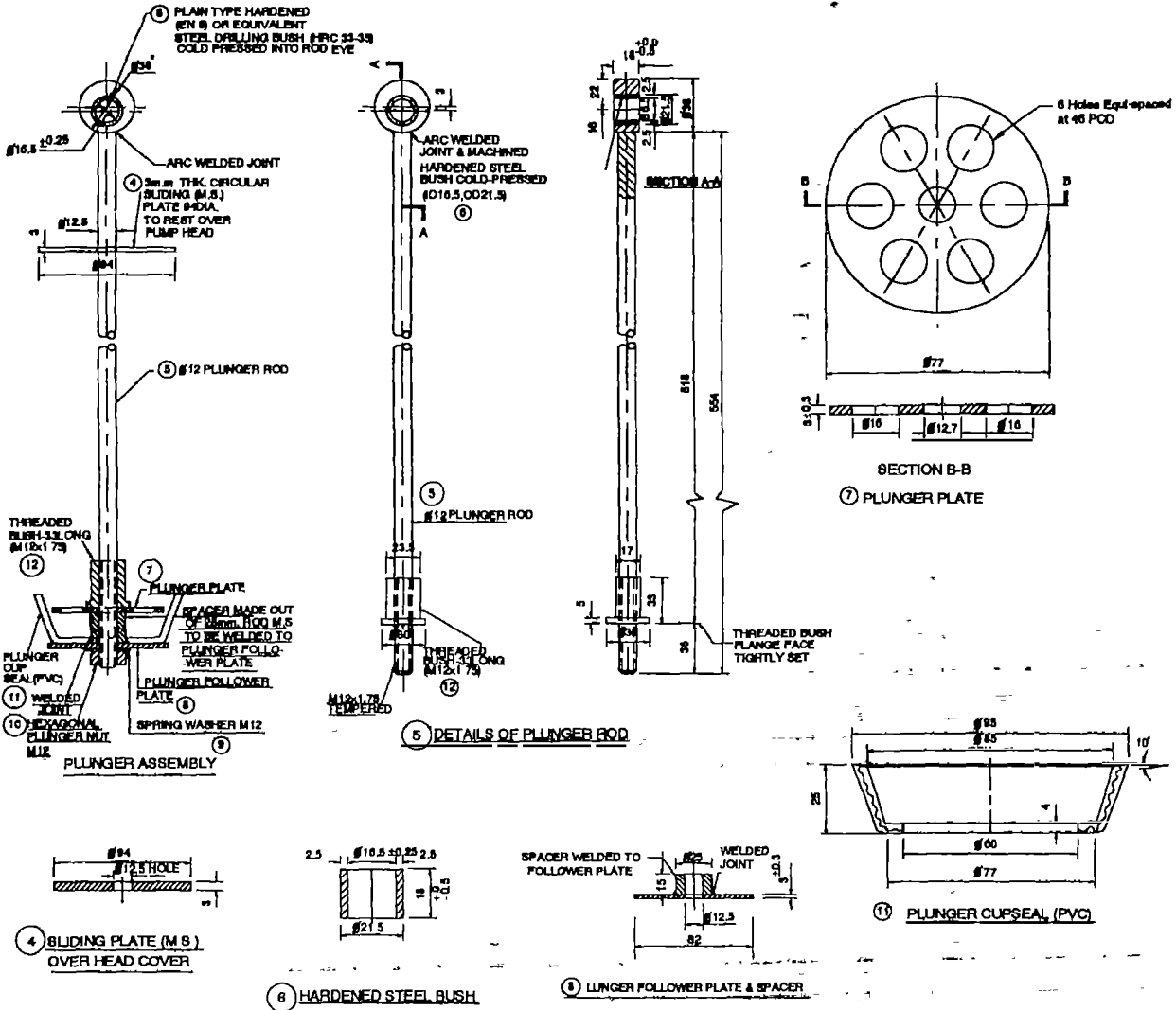
ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



TOLERANCE		DRAWING NO. SHP - 06
U.O.S.	± 0.5	
SCALE N.T.S.		
TITLE		DATE
PUMP HANDLE		01/01/84

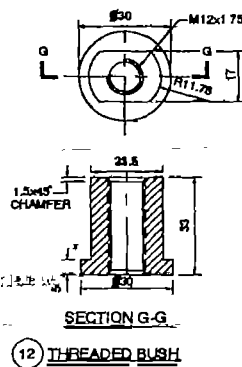
3	1	PUMP HANDLE	FG - 150 IS 210 - 1978
Part No.	No. OFF	DESCRIPTION	MATERIAL



**NOTES -**

- 1 ALL DRAFT ANGLES ON PATTERNS SHALL BE 1/4 PER 12
- 2 PATTERN SHRINKAGE ALLOWANCE SHALL BE 1/8 PER 12
- 3 ALLOW 1.5mm EXTRA MATERIAL FOR ALL MACHINED SURFACES
- 4 EDGES TO HAVE 2mm RADIUS UNLESS OTHERWISE STATED SPRING WASHER - TO SUIT M12 BOLT

12	1	THREADED BUSH	IS 2062 - 1984 GRADE A
11	1	PLUNGER CUP SEAL	PVC, SHORE HARDNESS
10	1	PLUNGER NUT	IS 1363 PART 3 - 1984
9	1	SPRING WASHER - M12	IS 6736 1972
8	1	PLUNGER FOLLOWER PLATE WITH WELDED SPACER	IS 2062 - 1984 GRADE A
7	1	PLUNGER PLATE	IS 2062 - 1984 GRADE A
6	1	HARDENED STEEL BUSH	EN - 9
5	1	PLUNGER ROD	IS 9550 - 1980
4	1	SLIDING PLATE	IS 2062 - 1984 GRADE A



SECTION G-G  
12 THREADED BUSH

ALL DIMENSIONS ARE IN MILLIMETRES

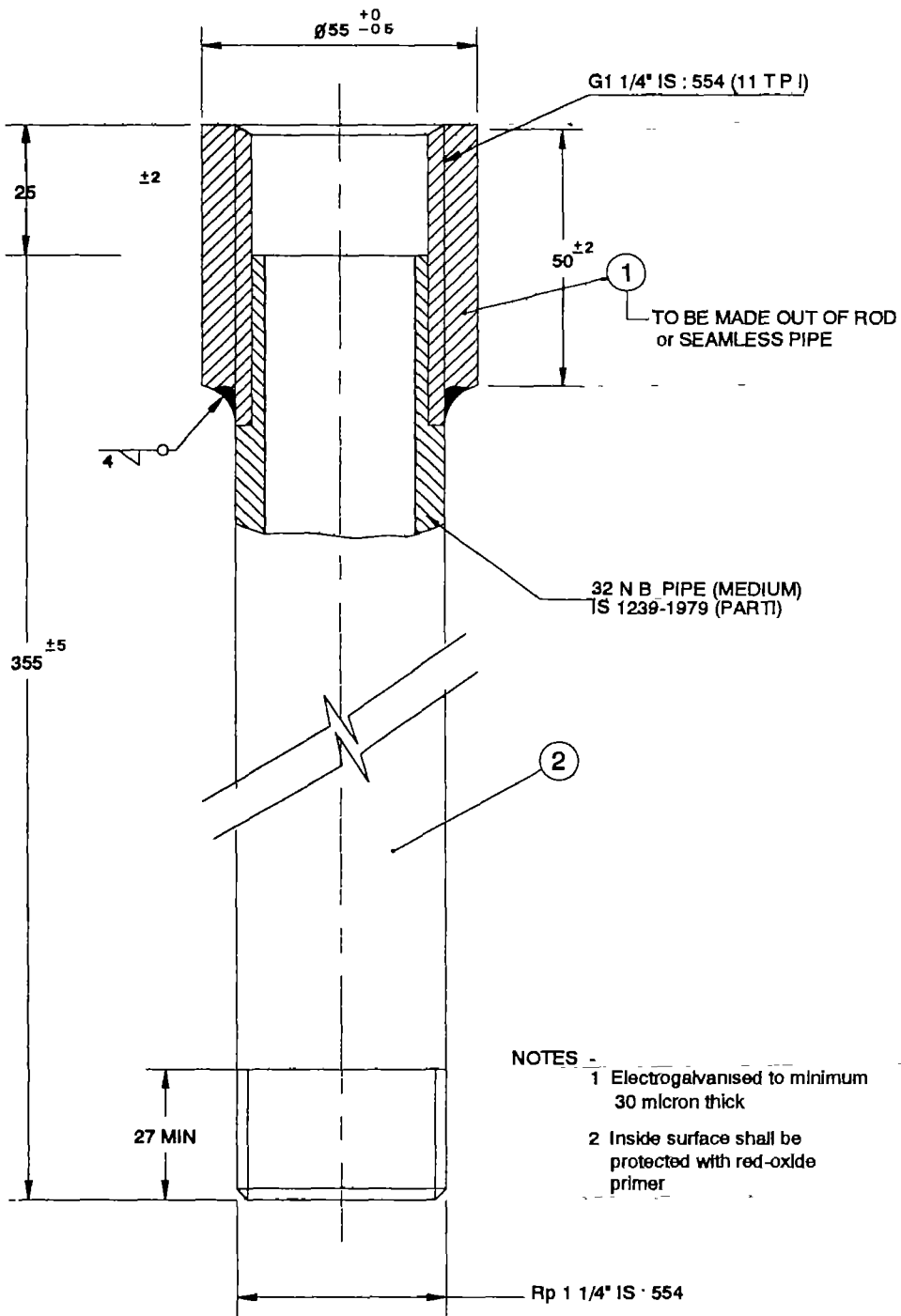
**Unicef**  
INDIA



TOLERANCE	DRAWING NO. SHP - 07
U.Q.S. ± 0.5	
SCALE N.T.S	
TITLE	PLUNGER ASSEMBLY AND PARTS
DATE	01/01/84


**India Mark II Special Tools**

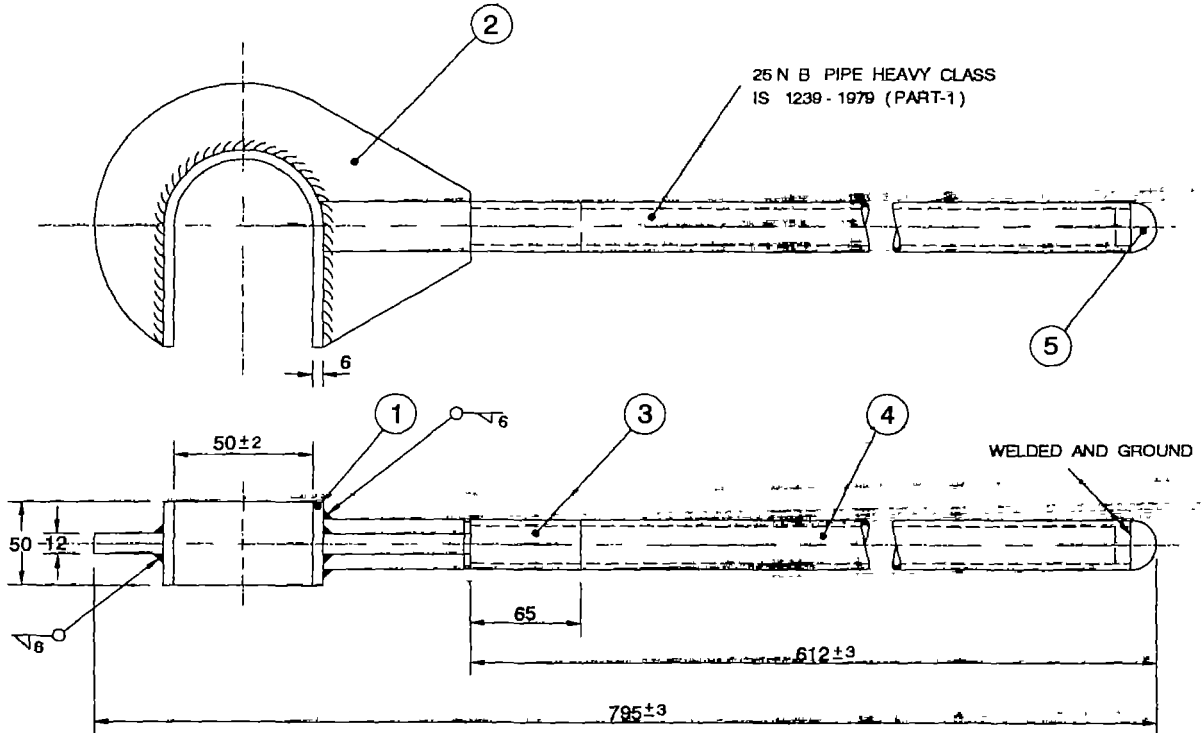




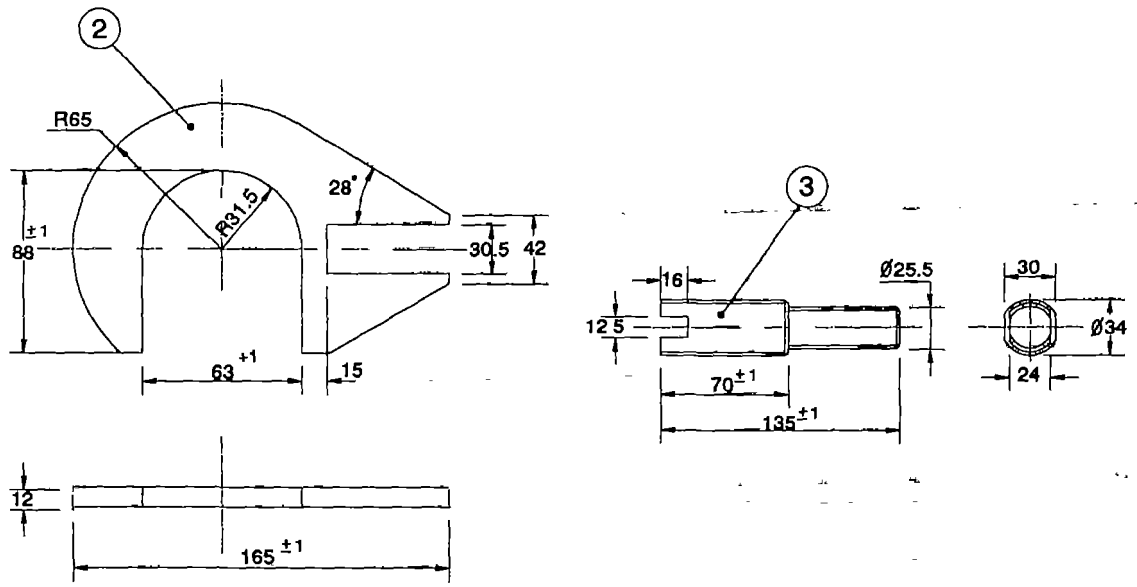
- NOTES -
- 1 Electrogalvanised to minimum 30 micron thick
  - 2 Inside surface shall be protected with red-oxide primer

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO. T-IMI-01	
				SCALE N.T.S.			
2	1	Pipe	IS : 1239 (Part 1)				
1	1	Pipe Coupler	IS : 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			DATE
				LIFTER PIPE			01/01/94

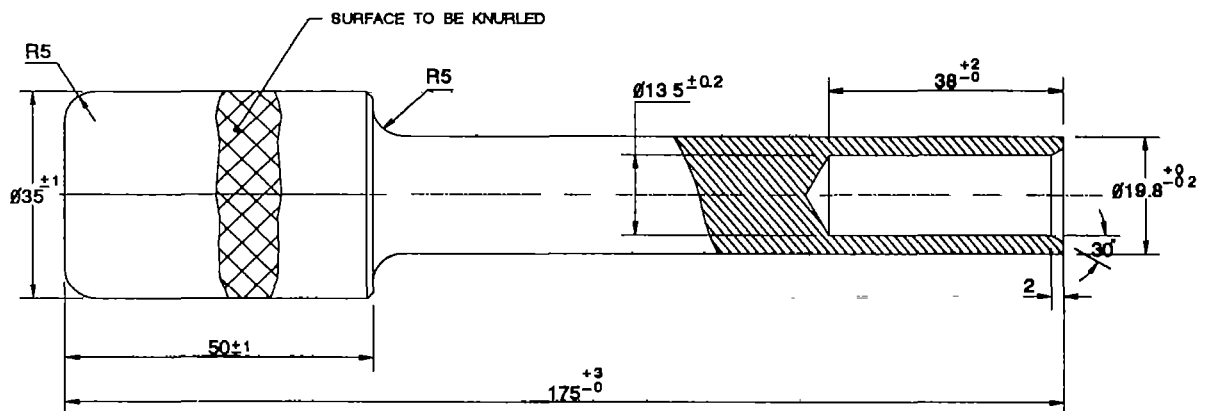


NOTE : ELECTROGALVANISED TO MINIMUM 30 MICRON THICK



ALL DIMENSIONS ARE IN MILLIMETRES

5	1	End Plug	IS : 2062 Grade A	<b>Unicef</b> INDIA 	TOLERANCE U.O.S. ± 0.5 SCALE N.T.S.	DRAWING NO. T-IM-II-02	
4	1	Pipe	IS : 1239 (PART 1)				
3	1	Split Rod	IS : 2062 Grade A				
2	1	Hook Plate	IS : 2062 Grade A				
1	1	'U' Plate	IS : 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	LIFTER SPANNER		DATE
							01/07/'




NOTE :-

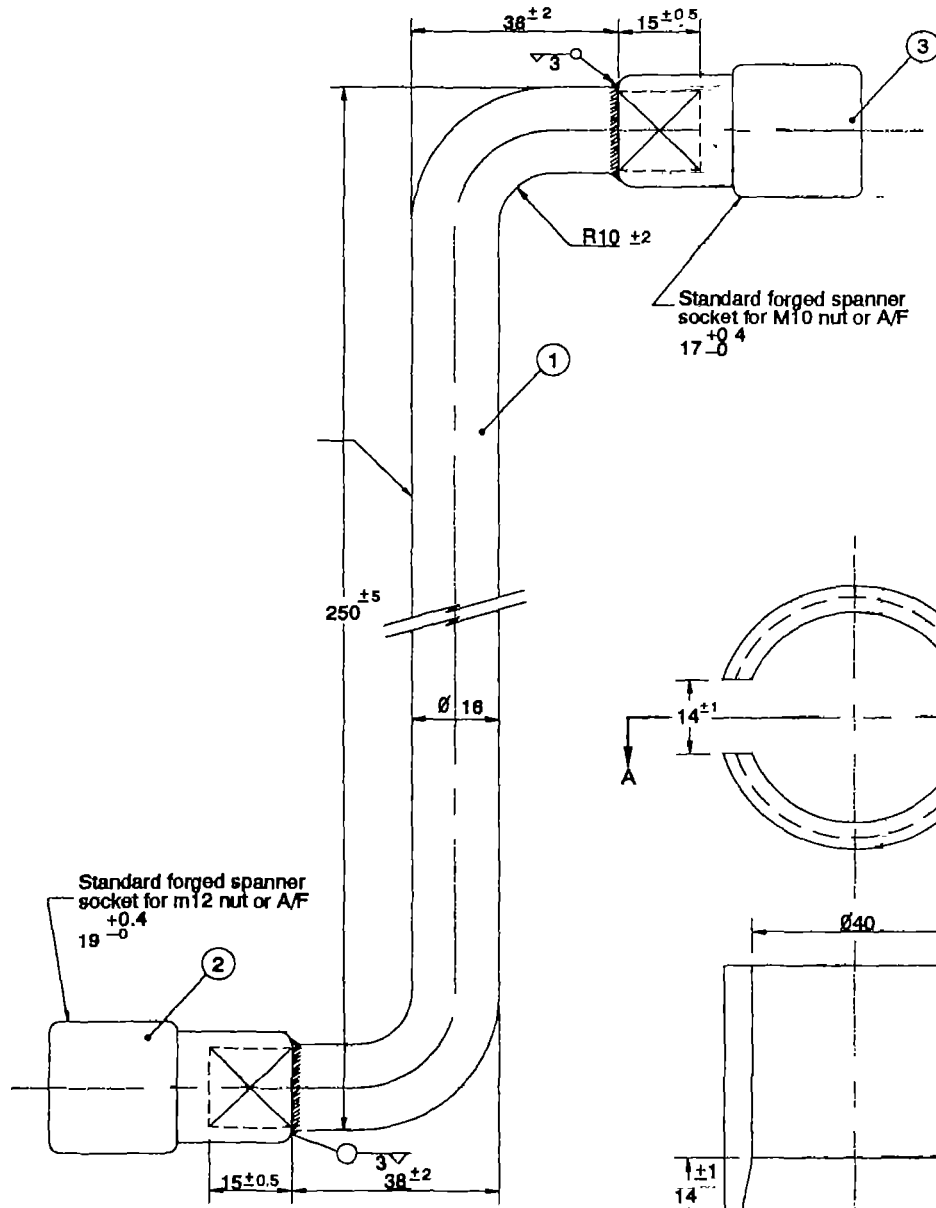
Carburised and

Hardened to 30 - 40 HRC

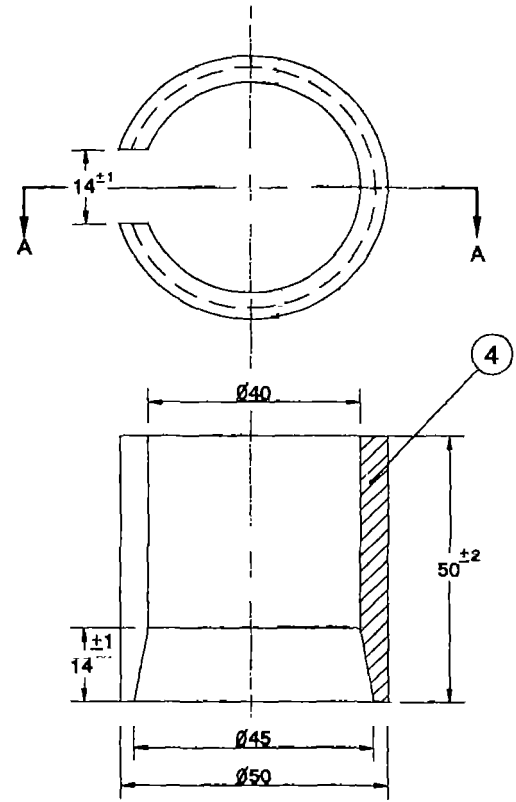
Electrogalanised to minimum 30 micron thick

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO. T-IMII-03	
				SCALE N.T.S.			
	1	Axle Punch	IS 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE AXLE PUNCH			DATE 01/01/94




**CRANK SPANNER**



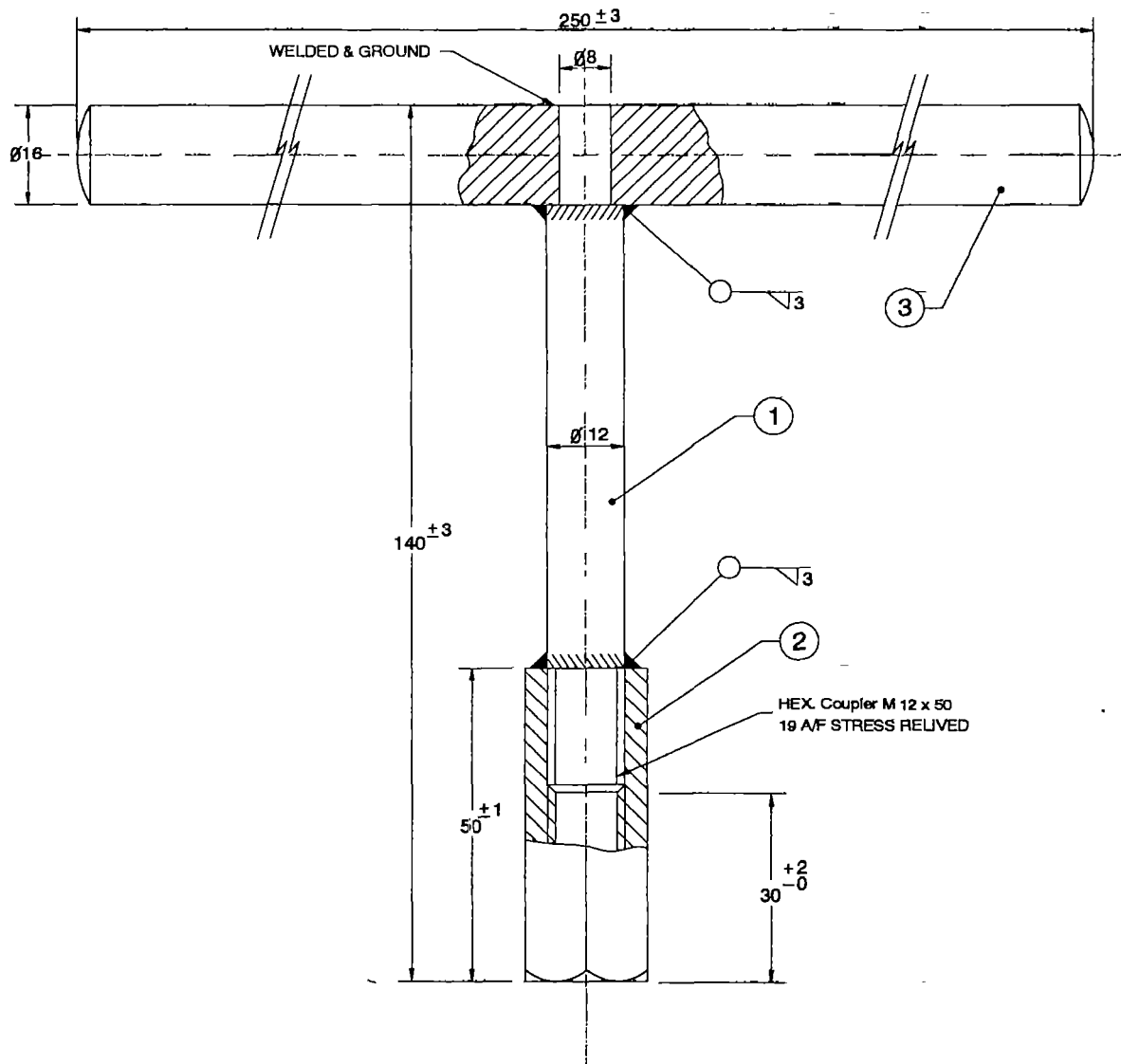
**CHAIN COUPLER SUPPORTING TOOL**

NOTE :-  
Electrogalvanised to minimum 30 micron thick

ALL DIMENSIONS ARE IN MILLIMETRES

4	1	Chain Coupler Supporting Tool	IS . 2062 Grade A	<b>Unicef</b> INDIA 	DRAWING NO. T-IMI-04
3	1	Socket (M10)	IS . 2027		
2	1	Socket (M12)	IS . 2027		
1	1	Rod	IS . 2062 Grade A		
				TOLERANCE	
				U O.S. ± 0.5	
				SCALE NTS	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				IM-II SPECIAL TOOLS	01/01/94




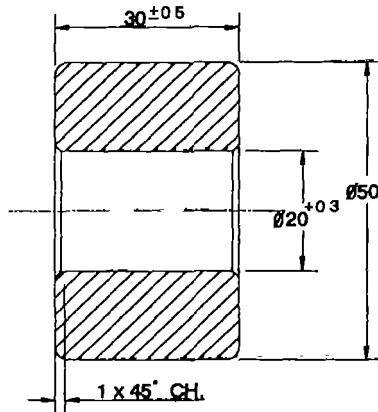


NOTE :-

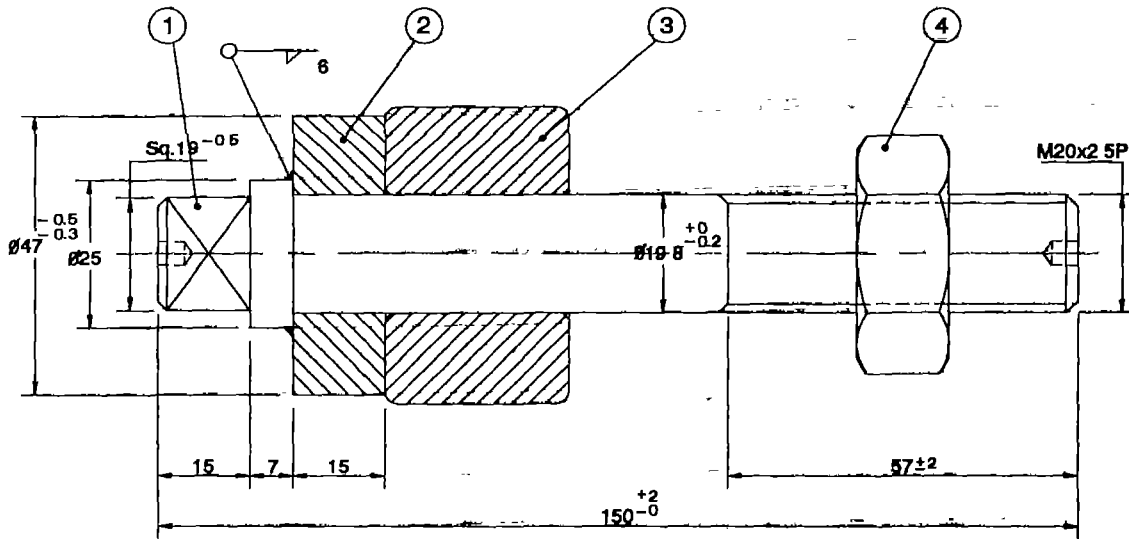
Electrogalvanised to minimum 30 micron thick

ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
3	1	T-Rod	IS : 2062 Grade A	<b>Unicef</b> INDIA  TOLERANCE U.O.S. ± 0.5 SCALE N.T.S. DRAWING NO T-IMII-05	01/01 94
2	1	Hex. Coupler	IS 8550 Gr.2/3 Type 4 Free Cutting Steel		
1	1	Rod	IS : 2062 Grade A		
				CONNECTING ROD LIFTER (T-TYPE)	




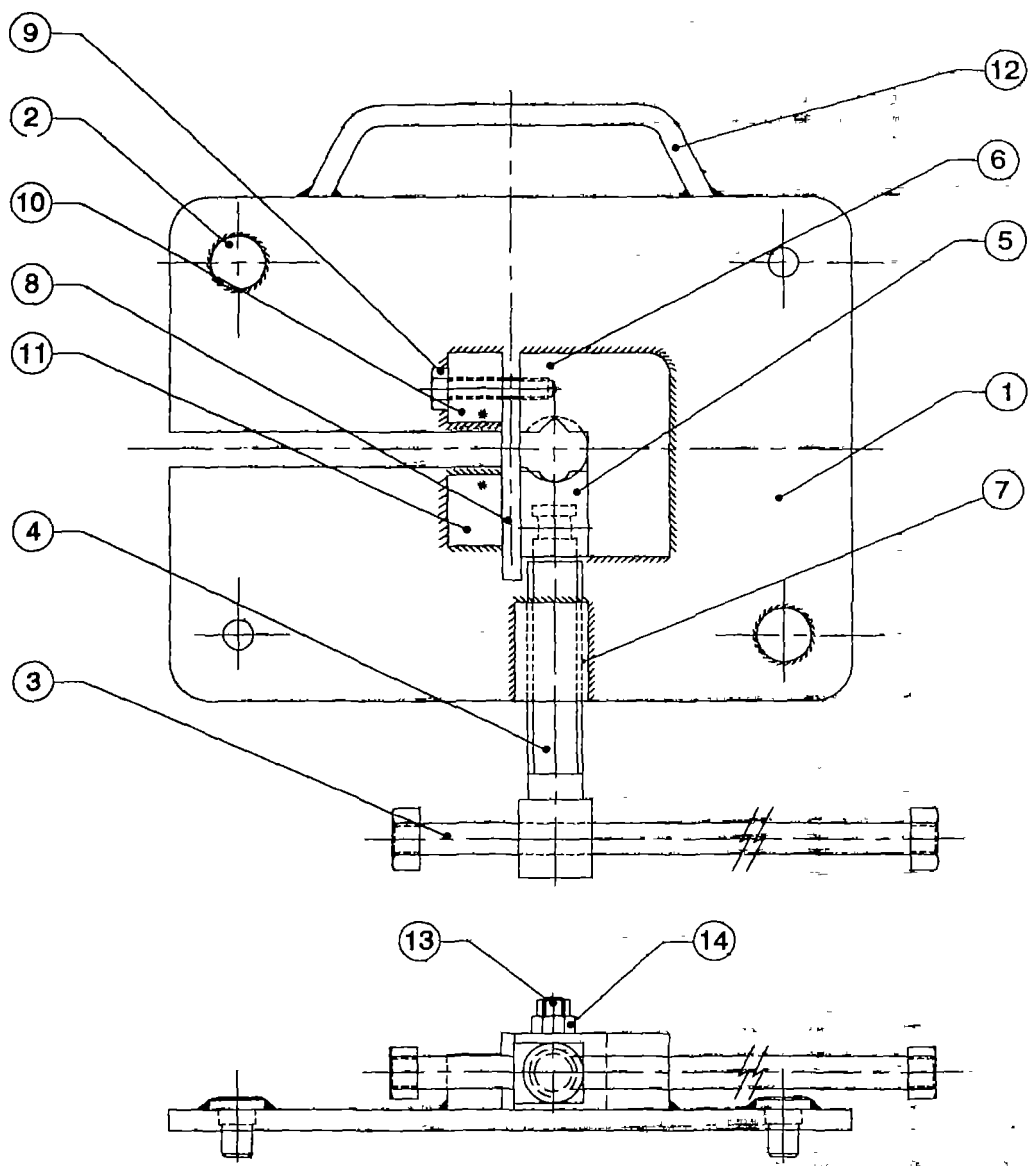
③ SPACER



NOTE :- Electrogalvanised to minimum 30 micron thick

ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	1	Nut (M20 x 2.5)	IS 1363 (Part 3)	<b>Unicef</b> INDIA 	DRAWING NO. T-IMII-06
3	1	Spacer	IS 2062 Grade A		
2	1	Fixed Coupler	IS 2062 Grade A	TOLERANCE	
1	1	Shaft	IS 2062 Grade A	U.O.S. ± 0.5	
				SCALE N.T.S.	
				BEARING PRESSING TOOL	01/01/94



14	1	Locking Nut M8	IS 1363 Part 3
13	1	Hex. Bolt M8 x 20	IS 1363 Part 1
12	1	Carrying Handle	IS 2062 Grade A
11	1	Fixed Block	IS 2062 Grade A
10	1	Locking Block	IS 2062 Grade A
9	1	Special Bolt M8 x 40	IS 2062 Grade A
8	1	Locking Plate	IS 2062 Grade A
7	1	Fixed Nut	IS 2062 Grade A
6	1	Supporting Block	IS 2062 Grade A
5	1	Movable Jaw	IS 2062 Grade A
4	1	Threaded Shaft	IS 2062 Grade A
3	1	Handle	IS 2062 Grade A
2	2	Base Plate Lug	IS 2062 Grade A
1	1	Base Plate	IS 2062 Grade A
Part No.	No. OFF	DESCRIPTION	MATERIAL

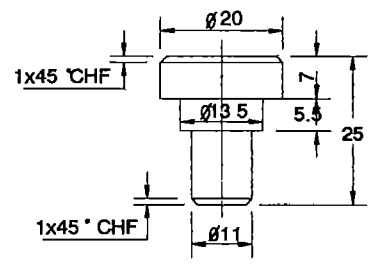
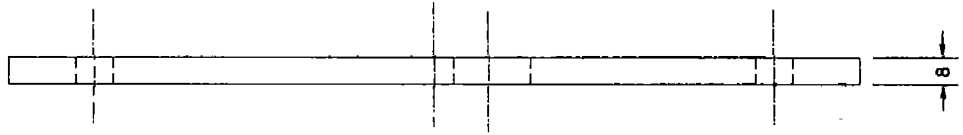
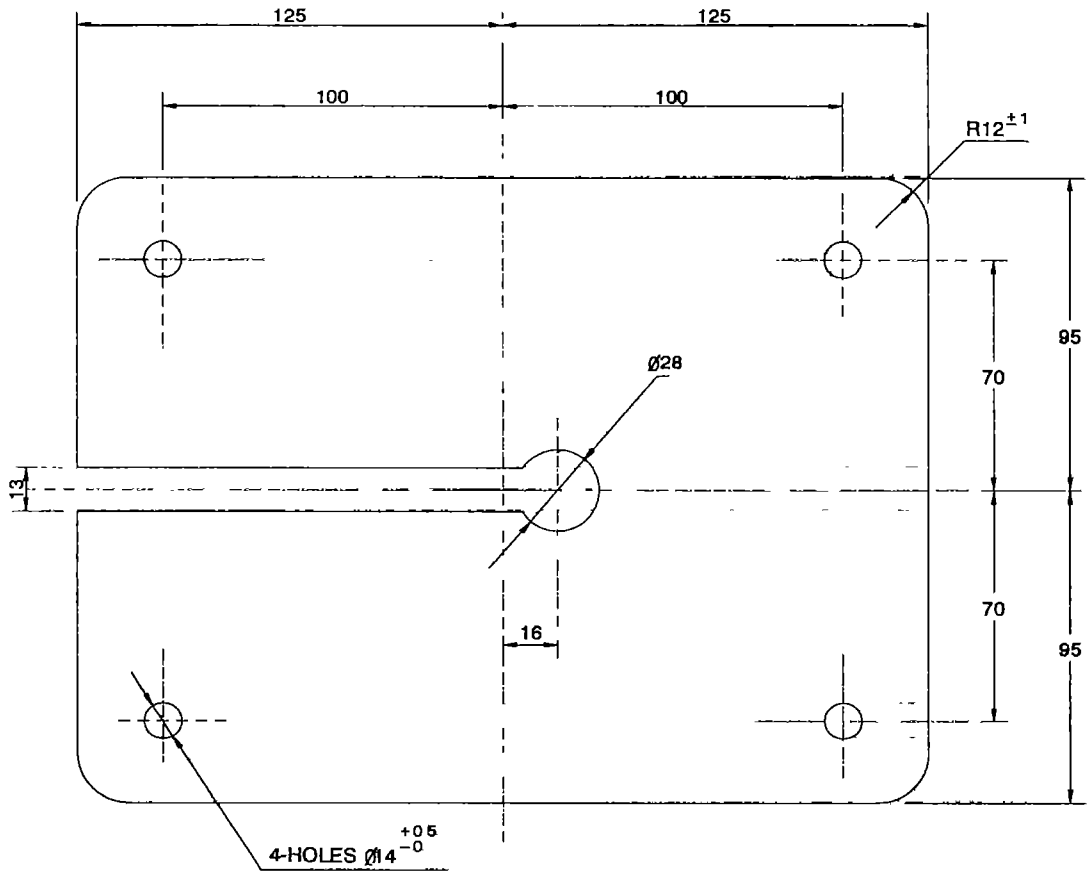
**NOTE :-**

1. Electrogalvanised to minimum 30 micron thick
2. Faces to be flame hardened 30-50 rc
3. Weld fillet size shall be 6 mm min.

**Unicef**  
INDIA




TOLERANCE		DRAWING NO. T-IMI-07
U O S.	+ 0.5	
SCALE	N.T.S.	
TITLE	CONNECTING ROD VICE	
DATE	01/01/84	



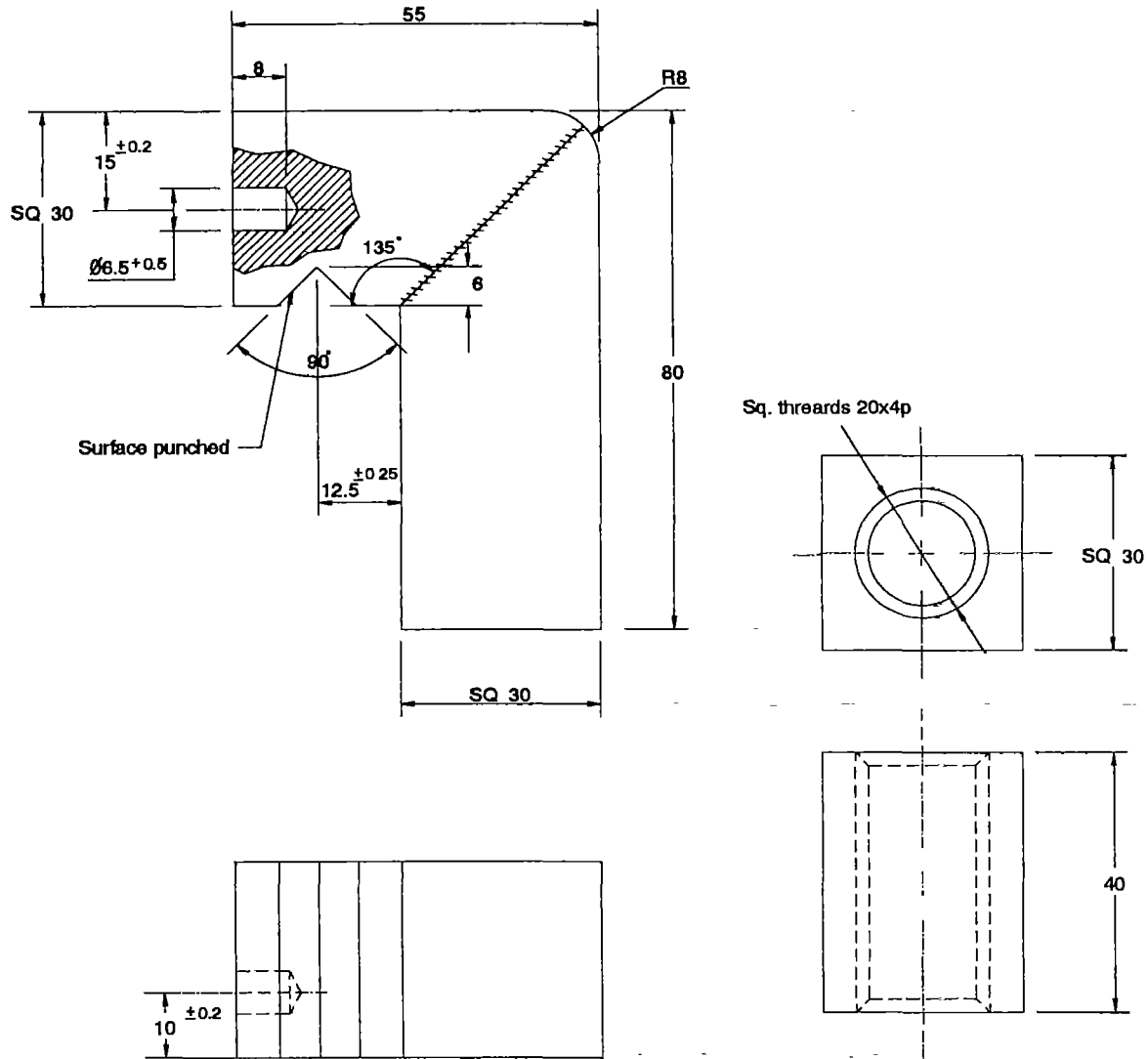
① BASE PLATE

② BASE PLATE LUG

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. T-IMI-07-01	
				U.O.S. ± 0.5			
				SCALE N.T.S			
1	2	Base Plate Lug	IS . 2062 Grade A				
1	1	Base Plate	IS 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE PARTS OF CONNECTING ROD VICE			DATE 01/01/94






① SUPPORTING BLOCK

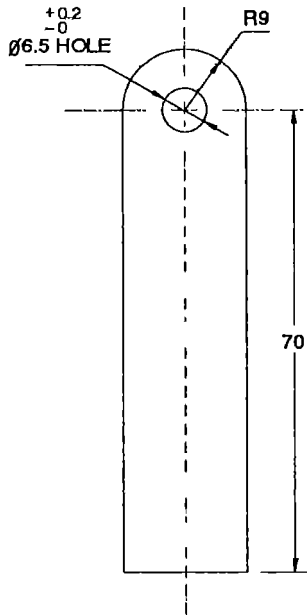
② FIXED NUT

NOTE :-

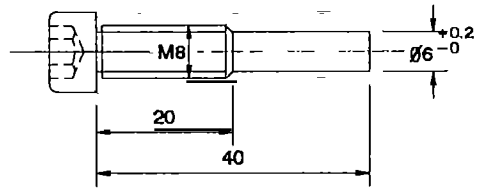
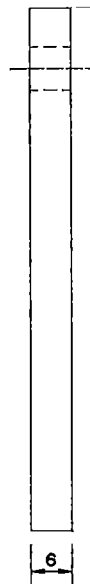
- 1 V-position to be surface to be punched and flame hardened to 30-50 RC
2. Flame hardening shall be done after welding with the base plate

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. T-IMII-07-03	
				U.O.S ± 0.5			
				SCALE N.T.S.			
2	1	Fixed Nut	IS 2062 Grade A				
1	1	Supporting Block	IS : 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE PARTS OF CONNECTING ROD VICE			DATE 01/01/84



① LOCKING PLATE




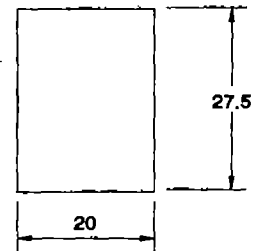
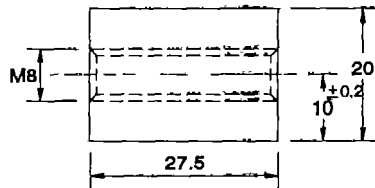
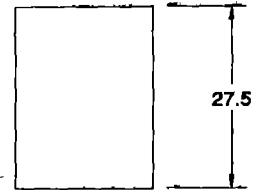
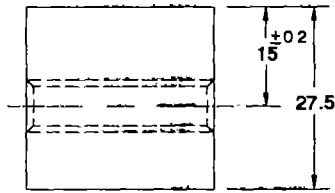
② SPECIAL BOLT

NOTE :-

Electrogalvanised to minimum 30 micron thick

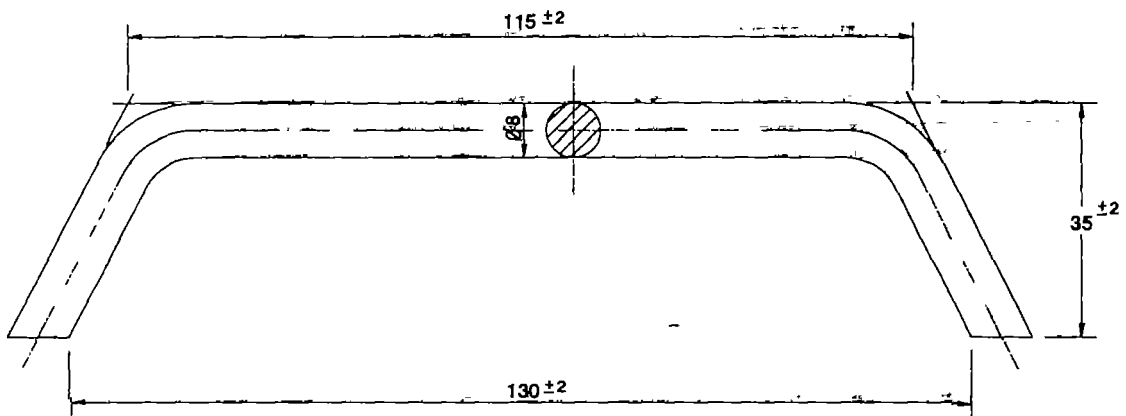
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO T-IMI-07-04	
				U.O.S. ± 0.5			
				SCALE N.T.S.			
2	1	Special Bolt	IS : 2062 Grade A				
1	1	Locking Plate	IS 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE PARTS OF CONNECTING ROD VICE			DATE 01/01/94




① LOCKING PLATE

② FIXED BLOCK

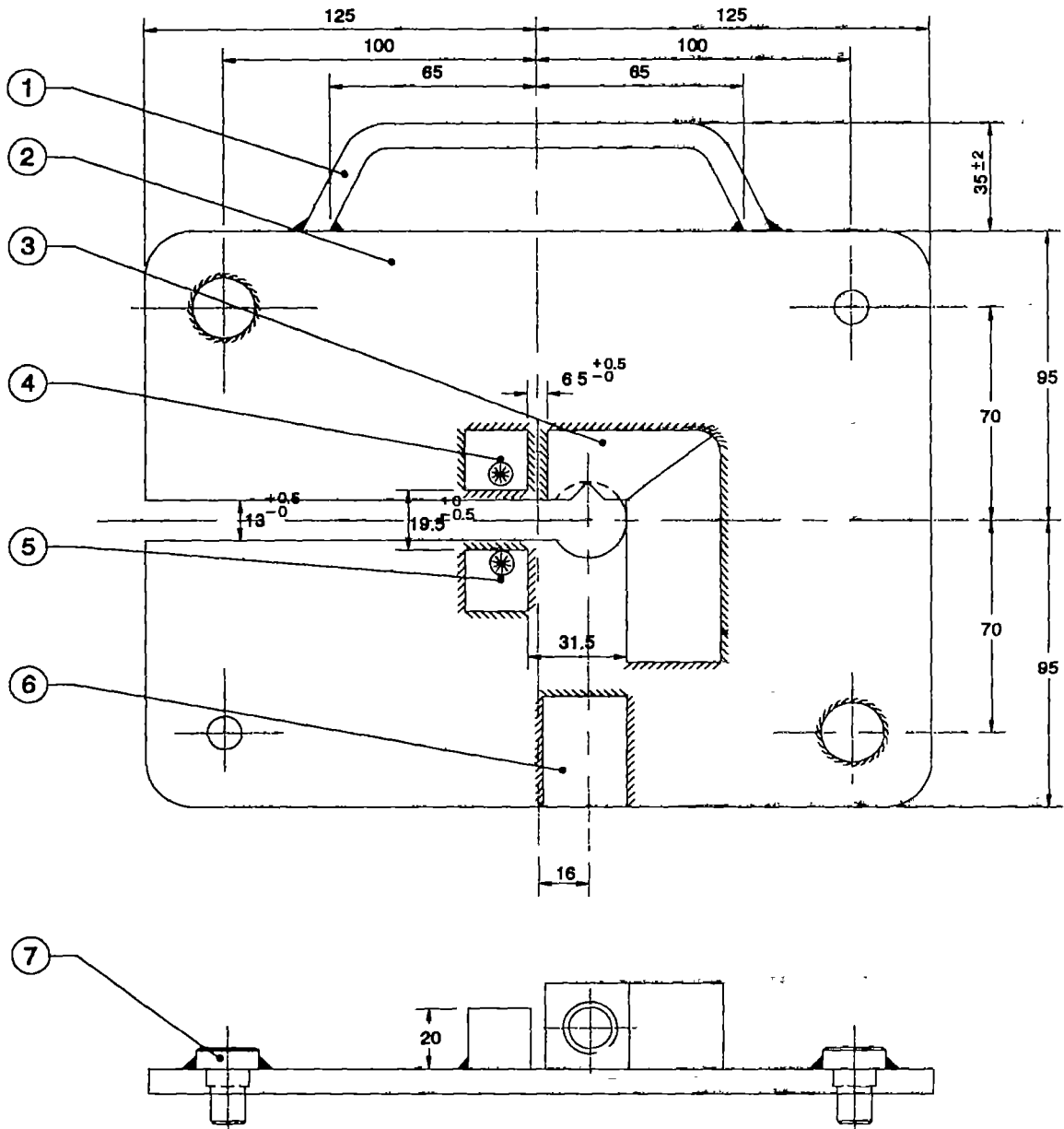


③ CARRYING HANDLE

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
3	1	Carrying Handle	IS - 2062 Grade A	TOLERANCE U.O.S. $\pm 0.5$		DRAWING NO. T-IMII-07-05	
2	1	Fixed Block	IS 2062 Grade A				
1	1	Locking Block	IS - 2062 Grade A	SCALE N.T.S.			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE PARTS OF CONNECTING ROD VICE			DATE 01/01/94

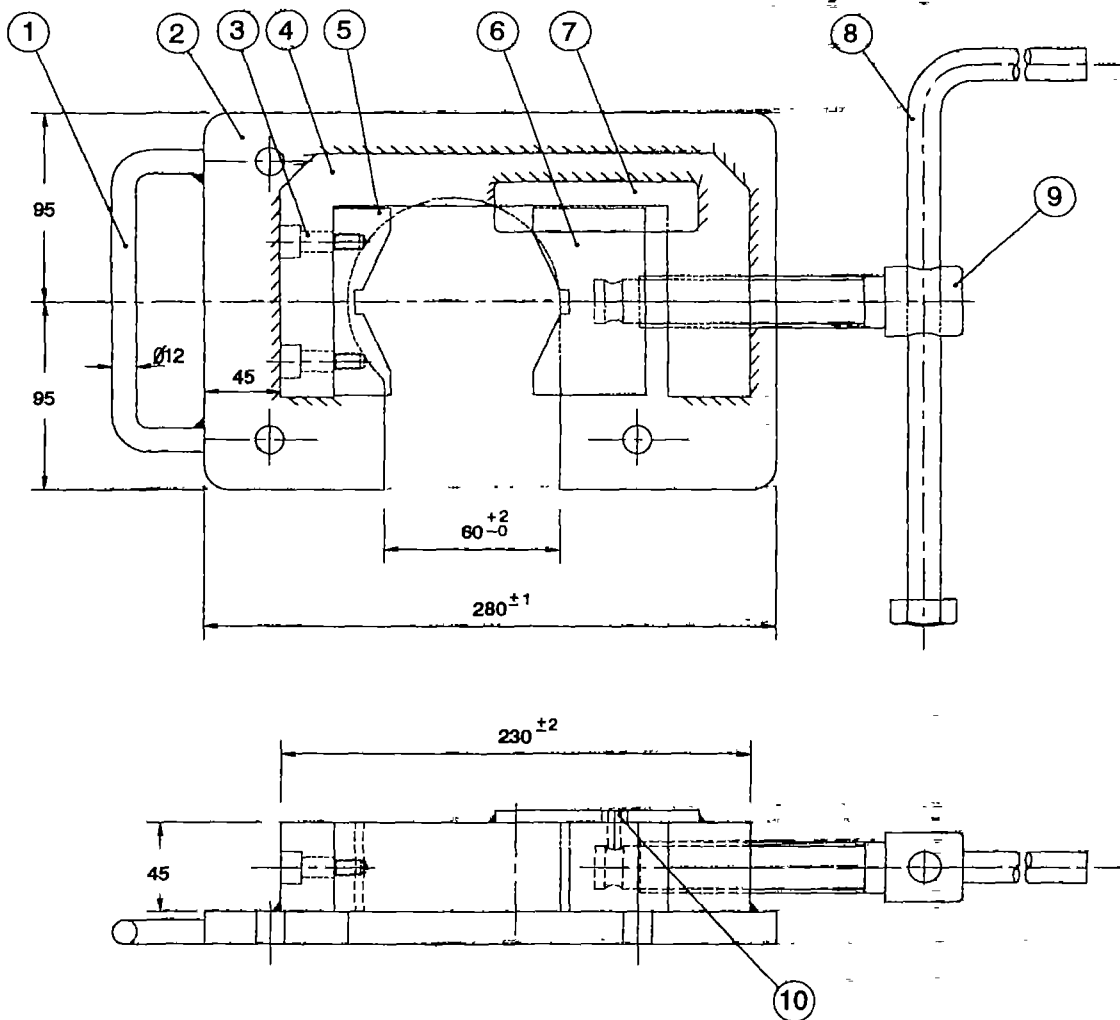




**NOTE :-**

1. Electrogalvanised to minimum 30 micron thick
2. Faces to be flame hardened 30-50 RC
3. Weld fillet size shall be 6 mm min

7	2	Base Plate Lug	IS . 2062 Grade A	ALL DIMENSIONS ARE IN MILLIMETRES  <b>Unicef</b> INDIA 	
6	1	Fixed Nut	IS . 2062 Grade A		
5	1	Fixed Block	IS . 2062 Grade A		
4	1	Locking Block	IS . 2062 Grade A		
3	1	Supporting Block	IS . 2062 Grade A		
2	1	Base Plate	IS : 2062 Grade A		
1	1	Carrying Handle	IS : 2062 Grade A		
				<b>TOLERANCE</b> U O S. $\pm 0.5$ SCALE N.T.S.	DRAWING NO. T-IMII-07-06
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b>	<b>DATE</b>
				CONNECTING ROD VICE SUB ASSEMBLY	01/01/84



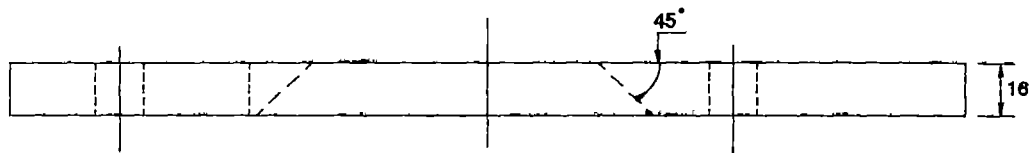
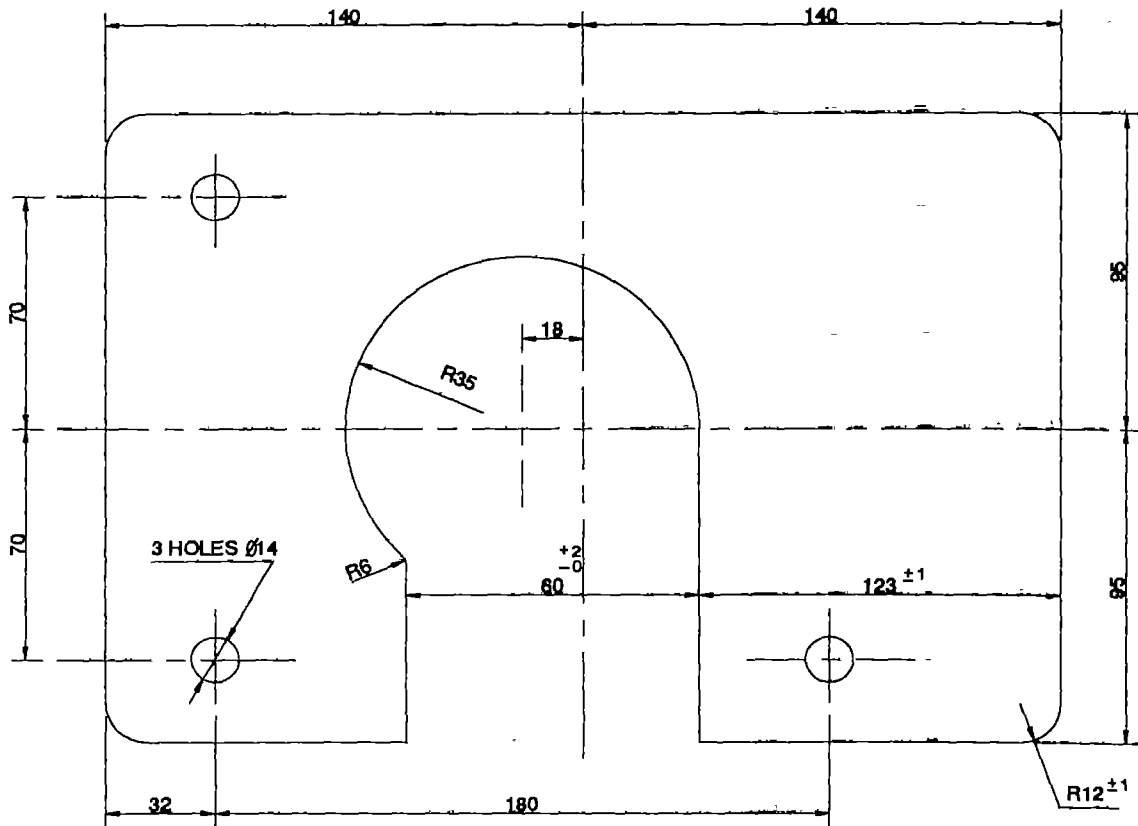
NOTE :-  
Electrogalvanised to minimum 30 micron thick

10	1	Hex Bolt M8 X 20	IS : 1363 Part 1
9	1	Threaded Shaft	IS : 2062 Grade A
8	1	Handle	IS : 2062 Grade A
7	1	Guide Plate	IS : 2062 Grade A
6	1	Movable Jaw	IS : 2062 Grade A
5	1	Fixed Jaw	IS : 2062 Grade A
4	1	Supporting Block	IS : 2062 Grade A
3	2	Allen Bolt M10 X 25	
2	1	Base Plate	IS : 2062 Grade A
1	1	Carrying Handle	IS : 2062 Grade A

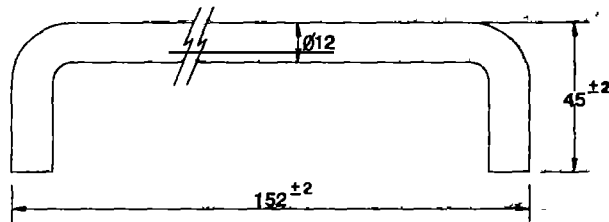
ALL DIMENSIONS ARE IN MILLIMETRES



TOLERANCE		DRAWING NO. T-IMI-08			
U.O.S.	± 0.5				
SCALE N.T.S.					
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				HEAVY DUTY CLAMP	01/01/94




① BASE PLATE



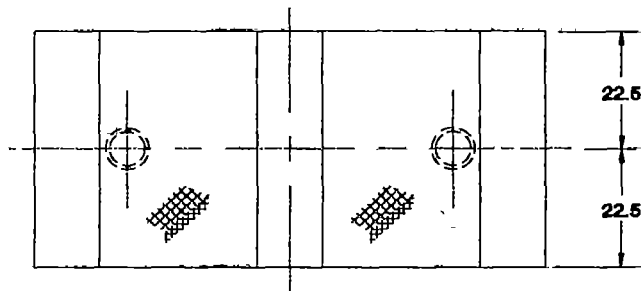
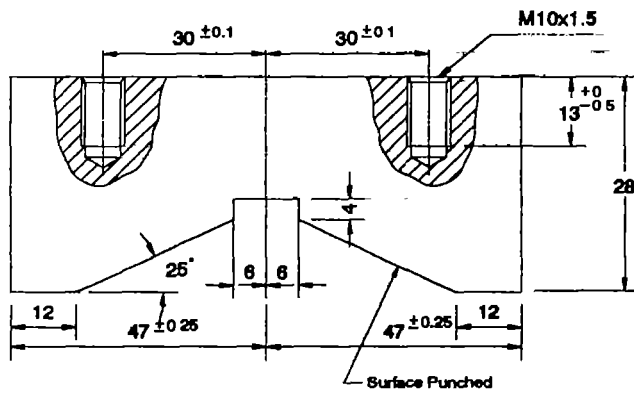
② CARRYING HANDLE

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA		
				TOLERANCE		
				U.O.S. ± 0.5		DRAWING NO. T-M-II-08-01
				SCALE N.T.S.		
2	1	Carrying Handle	IS : 2062 Grade A			
1	1	Base Plate	IS : 2062 Grade A			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE
				PARTS OF HEAVY DUTY CLAMP		01/01/94






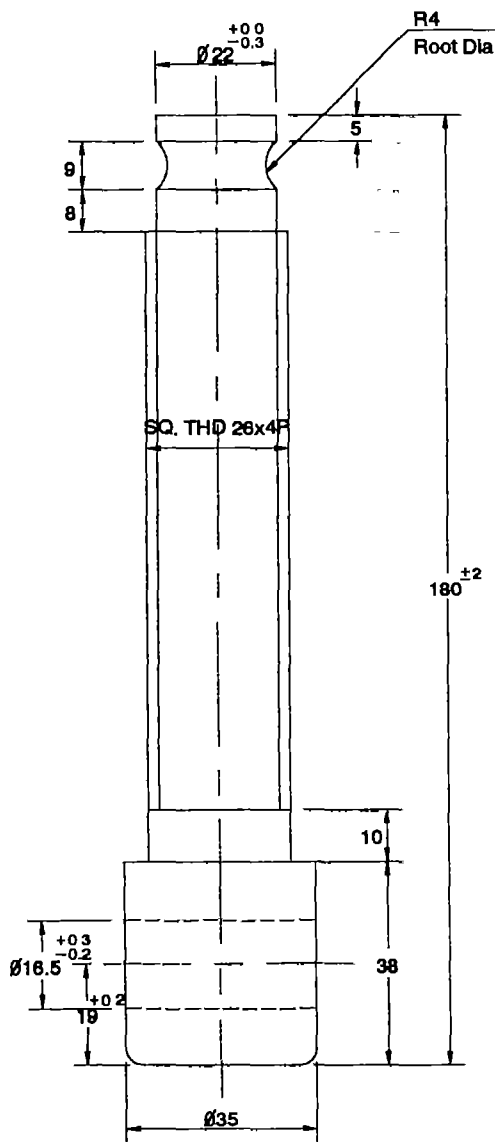


① FIXED JAW

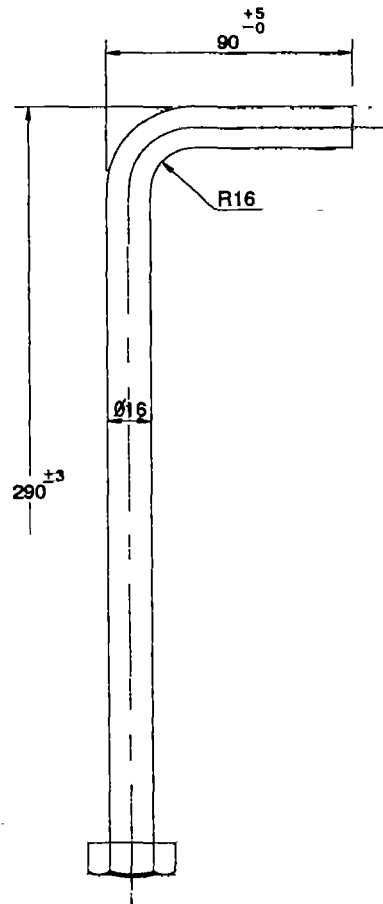
NOTE :-  
Electrogalvanised to minimum 30 micron thick  
Carburise and hardened to 40-45 hrc.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA		
				- TOLERANCE		
				U.O.S. ± 0.5		DRAWING NO. T-IMI-08-04
				SCALE N.T.S		
1	1	Fixed jaw	IS 2062 Grade A	TITLE		DATE
Part No.	No. OFF	DESCRIPTION	MATERIAL	PARTS OF HEAVY DUTY CLAMP		01/01/84



① THREADED SHAFT



② HANDLE

NOTE :-

Electrogalvanised to minimum 30 micron thick

Nut to be punch locked after assembly

ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
2	1	Handle	IS : 2062 Grade A	PARTS OF HEAVY DUTY CLAMP	01/01/94
1	1	Threaded Shaft	IS : 2062 Grade A		

Unicef  
INDIA

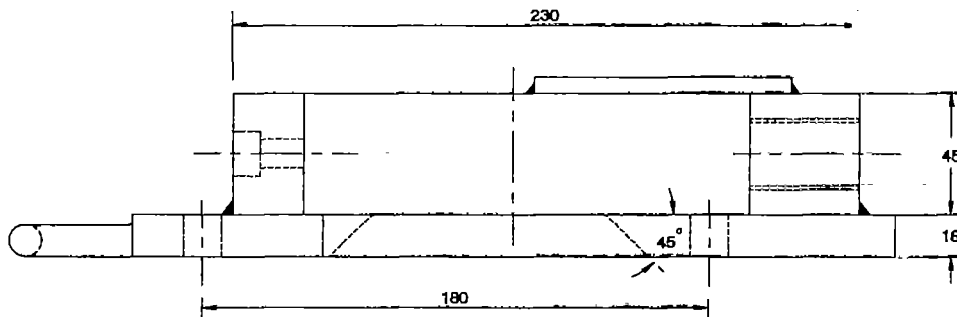
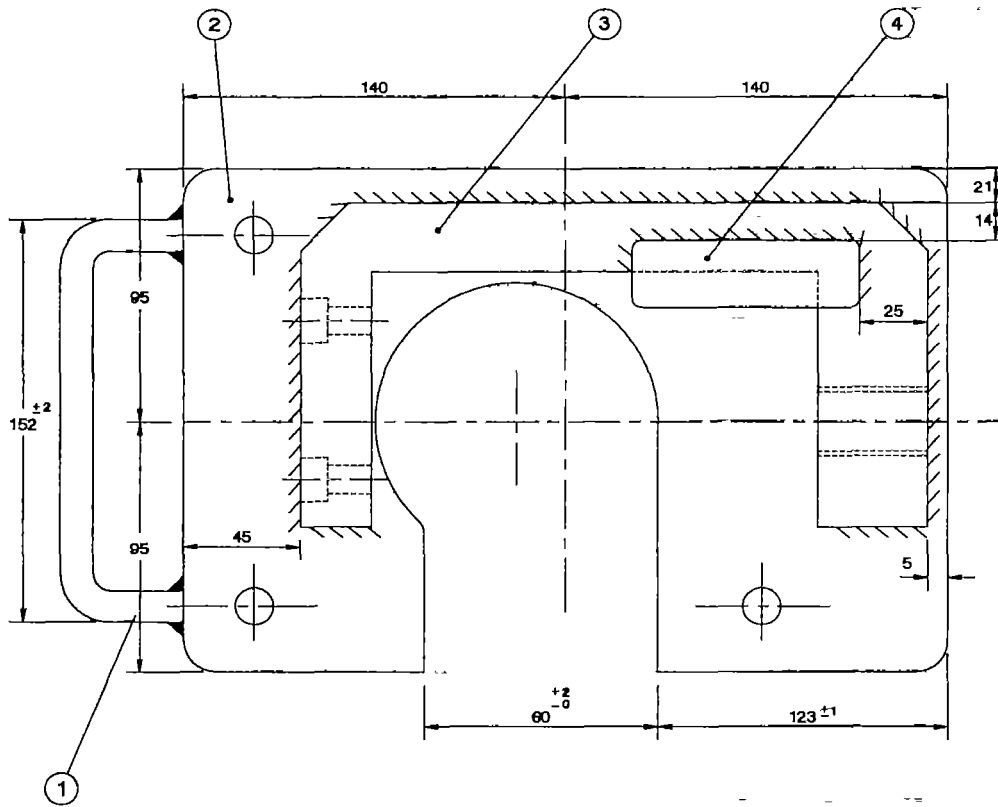


TOLERANCE

U.O.S. ± 0.5


SCALE N.T.S

DRAWING NO. T-IMI-08-05

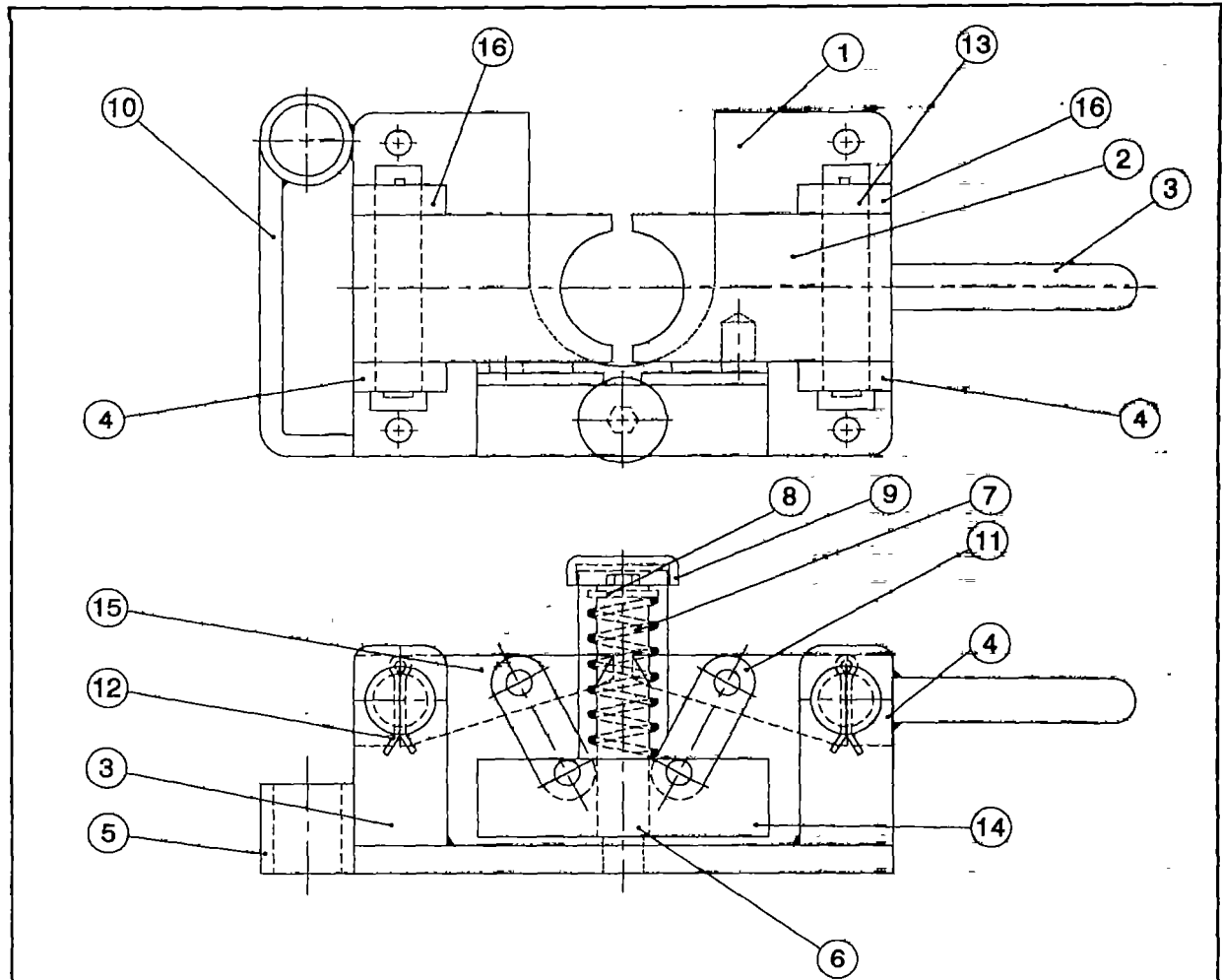


NOTE :-  
Electrogalvanised to minimum 30 micron thick

ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	1	Guide Plate	IS . 2062 Grade A	<b>Unicef</b> INDIA 	DRAWING NO. T-IMI-08-08
3	1	Supporting Block	IS 2062 Grade A		
2	1	Base Plate	IS 2062 Grade A		
1	1	Handle	IS : 2062 Grade A		
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N.T.S.	
				HEAVY DUTY CLAMP SUB ASSEMBLY	01/01/94





16	2	Supporting Pillar	IS 2062 Grade A
15	1	Left Hand Jaw	IS . 2062 Grade A
14	2	Lifting Block	IS . 2062 Grade A
13	1	Axle Pin	EN8
12	2	Split Pin	IS . 549
11	2	Link Plate	IS : 2062 Grade A
10	1	Handle	IS . 2062 Grade A
9	1	Protection Cover	IS 2062 Grade A
8	1	Spring Retainer	IS . 2062 Grade A
7	1	Spring	IS 4454 (Part 1)
6	1	Pillar Guide	IS . 2062 Grade A
5	1	Pipe Lifter Holder	IS . 2062 Grade A
4	2	Supporting Pillar with Stopper	IS . 2062 Grade A
3	1	Handle	IS . 2062 Grade A
2	1	Right Hand Jaw	IS . 2062 Grade A
1	1	Base Plate	IS : 2062 Grade A
Part No.	No. OFF	DESCRIPTION	MATERIAL

**Unicef**  
INDIA



TOLERANCE

U.O.S.  $\pm 0.5$

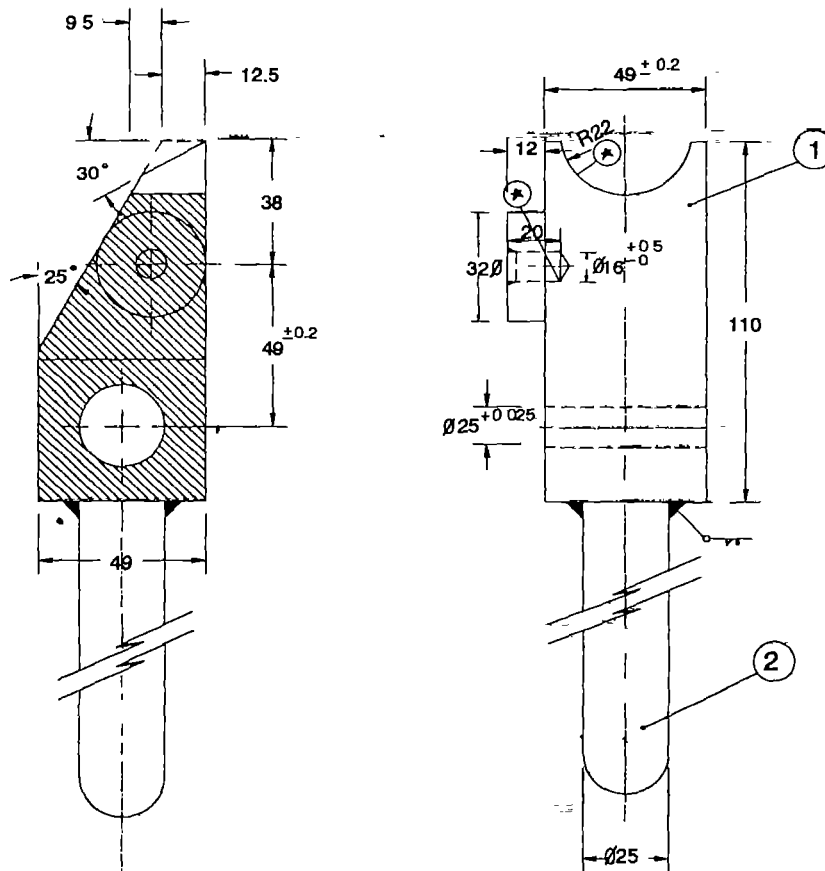
SCALE N.T.S.

DRAWING NO. T-IMI-09

TITLE

SELF LOCKING CLAMP


01/01/84

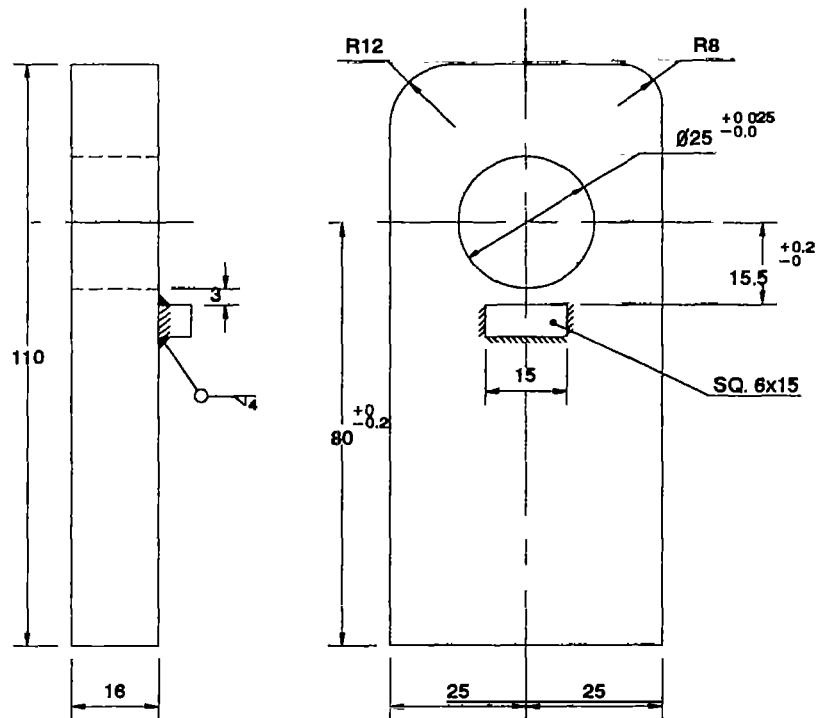


**RIGHT HAND JAW**

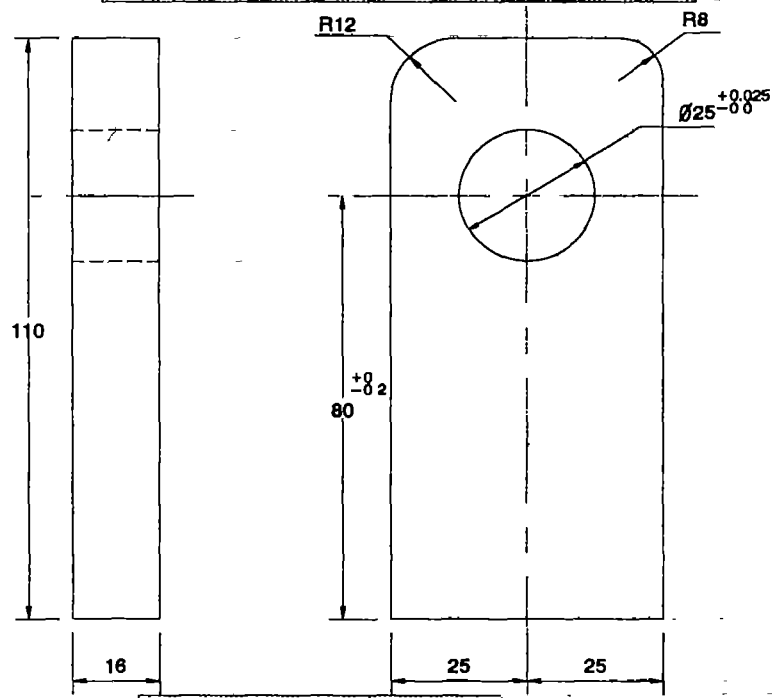
- 1. Electrogalvanised to minimum 30 Micron Thick
- 2. Flame hardened to 30-50 RC.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. T-IMI-09-02	
				U.O.S. ± 0.5			
				SCALE N.T.S			
2	1	Handle	IS 2062 Grade A				
1	1	Jaw	IS . 2062 Grade A				
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> PARTS OF SELF LOCKING CLAMP			<b>01/01/84</b>




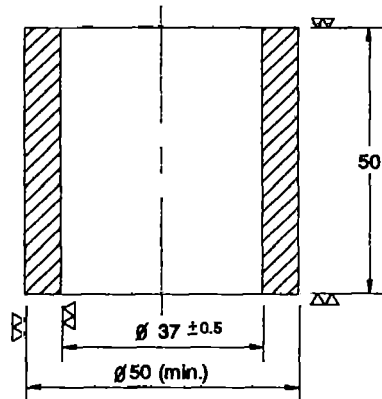
① SUPPORTING PILLAR WITH STOPPER



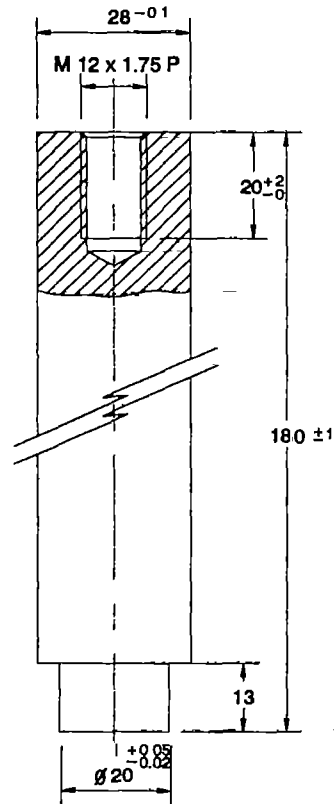
② SUPPORTING PILLAR

ALL DIMENSIONS ARE IN MILLIMETRES

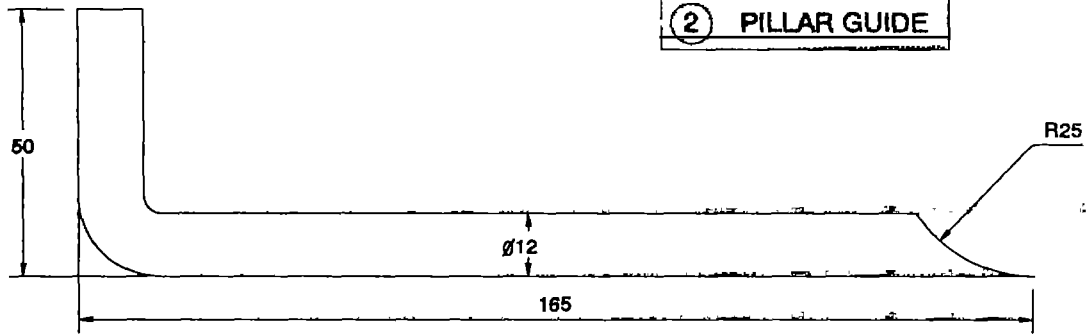
				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO. T-IMI-09-03	
				SCALE N.T.S.			
2	2	Supporting Pillar	IS : 2062 Grade A				
1	2	Supporting Pillar with Stopper	IS : 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			
				PARTS OF SELF LOCKING CLAMP			01/01/84



① PIPE LIFTER HOLDER



② PILLAR GUIDE



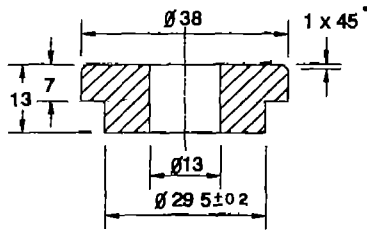
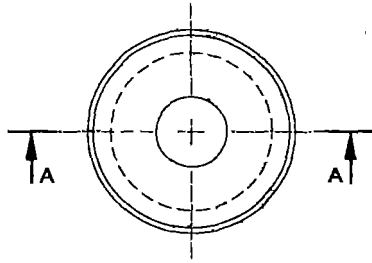
⑤ HANDLE

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA

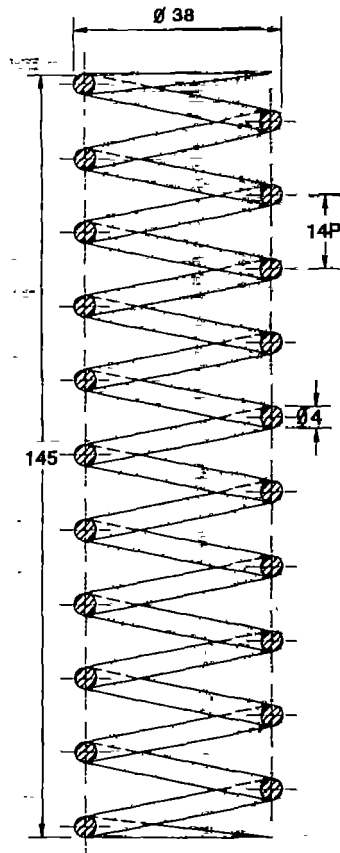


Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
3	1	Handle	IS . 2026 Grade A	PARTS OF SELF LOCKING CLAMP	01/01/94
2	1	Pillar Guide	IS . 2026 Grade A		
1	1	Pipe Lifter Holder	IS . 2026 Grade A		
				TOLERANCE	
				U.O.S. $\pm 0.5$	DRAWING NO. T-IMI-09-04
				SCALE N.T.S.	

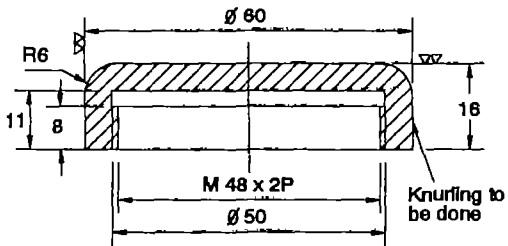


SECTION A-A

② SPRING RETAINER



① SPRING



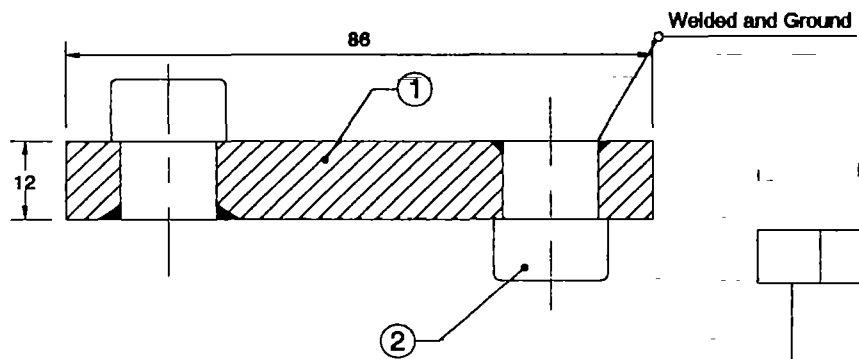
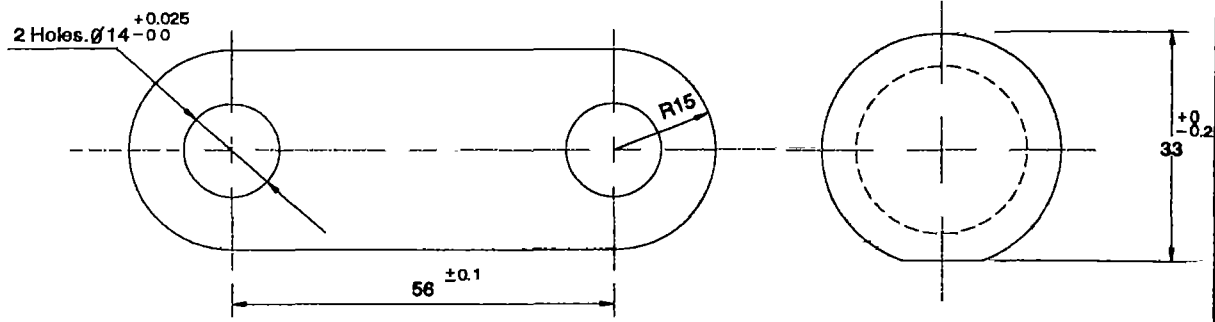
③ PROTECTION COVER

ALL DIMENSIONS ARE IN MILLIMETRES

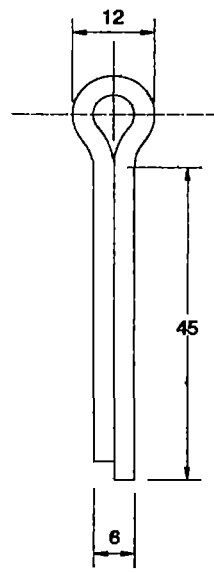
**Unicef**  
INDIA



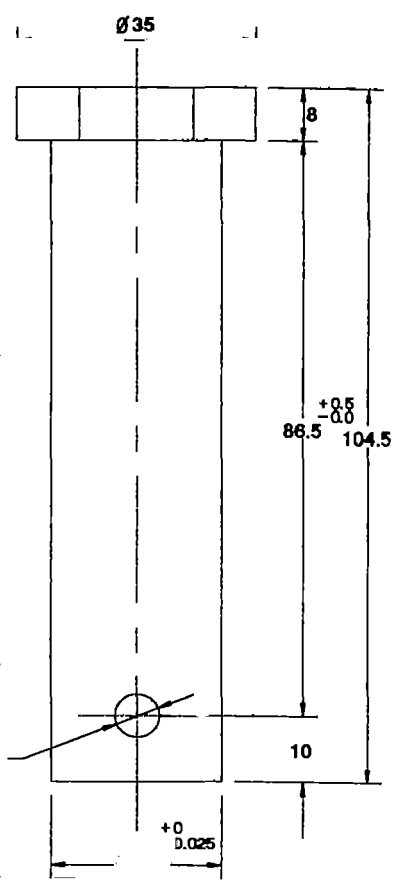
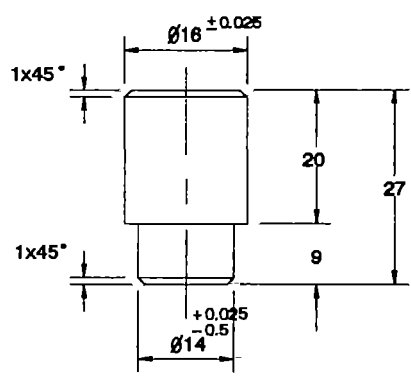
Part No.	No OFF	DESCRIPTION	MATERIAL	TITLE	DATE
3	1	Protection Cover	IS 2026 Grade A	TOLERANCE U.O.S. ± 0.5 SCALE N.T.S.	DRAWING NO. T-IMII-09-05 DATE 01/01/84
2	1	Spring Retainer	IS . 2028 Grade A		
1	1	Spring	IS . 4454 Grade 2		
				PARTS OF SELF LOCKING CLAMP	



① LINK PLATE



④ SPLIT PIN




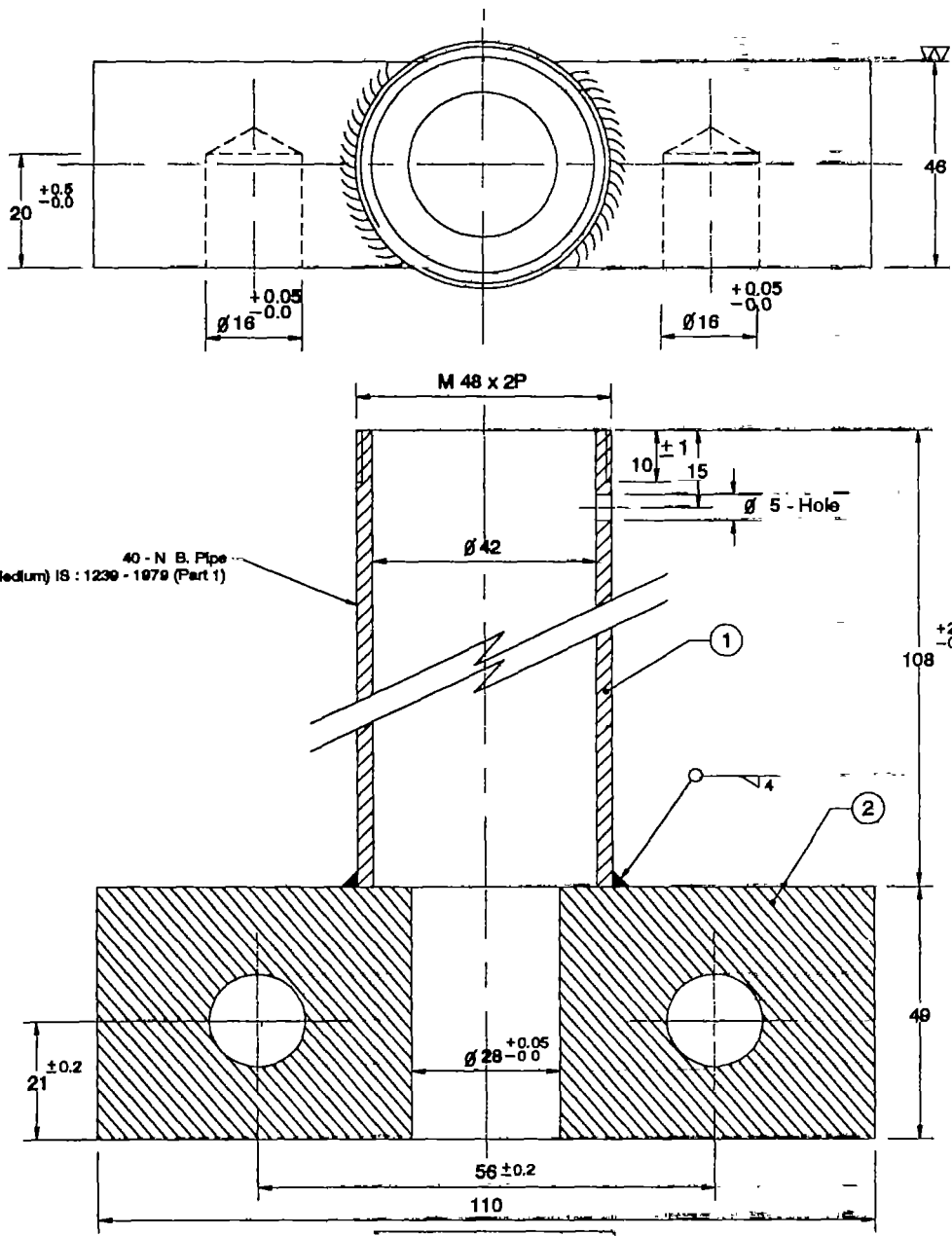
③ AXLE PIN

Electrogalvanised to minimum 30 Micron thick

Flame Hardened to 30-50 RC.

ALL DIMENSIONS ARE IN MILLIMETRES

4	2	Split Pin	IS . 549	<b>Unicef</b> INDIA 
3	2	Axle Pin	EN8	
2	4	Pin	IS . 2062 Grade A	<b>TOLERANCE</b> U.O.S. ± 0.5 SCALE N.T.S
1	2	Plate	IS : 2062 Grade A	<b>DRAWING NO.</b> T-IMI-09-08
Part No.	No. OFF	DESCRIPTION	MATERIAL	<b>TITLE</b> PARTS OF SELF LOCKING CLAMP
				01/01/84




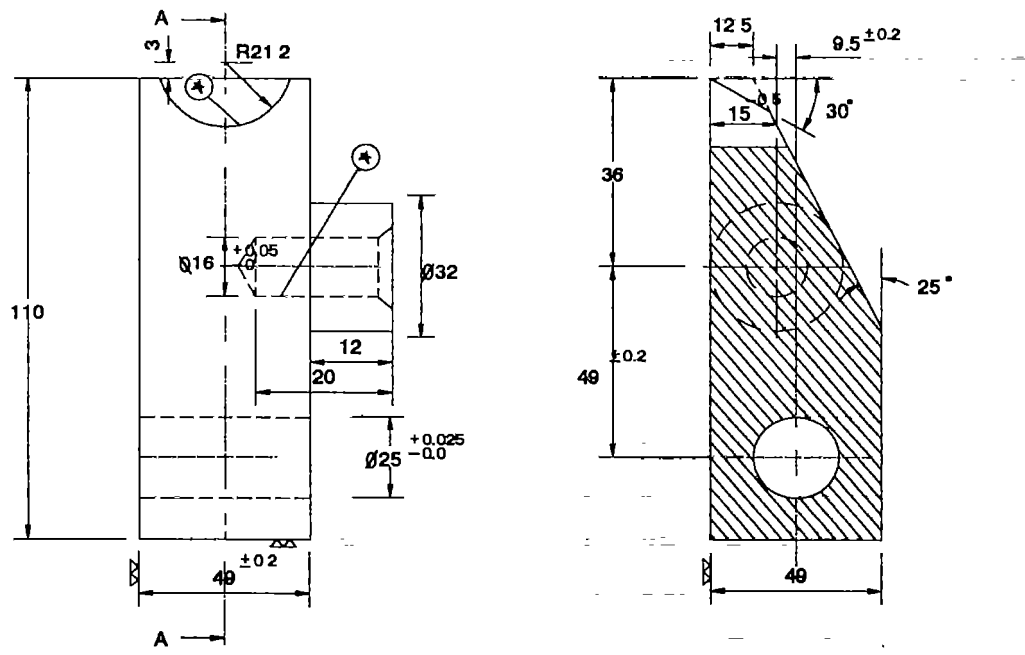
40 - N B. Pipe  
(Medium) IS : 1239 - 1979 (Part 1)

**LIFTER BLOCK**

- 1 Electrogalvanised to minimum 30 Micron Thick
- 2. Pipe inside to be machined


ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. T-JMII-09-07	
				U.O.S. ± 0.5			
				SCALE N.T.S		TITLE PARTS OF SELF LOCKING CLAMP	
				TITLE			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		01/01/94	
2	1	Block	IS . 2062 Grade A	PARTS OF SELF LOCKING CLAMP			
1	1	Guide Pipe	IS : 1239 (Part 1)	PARTS OF SELF LOCKING CLAMP			



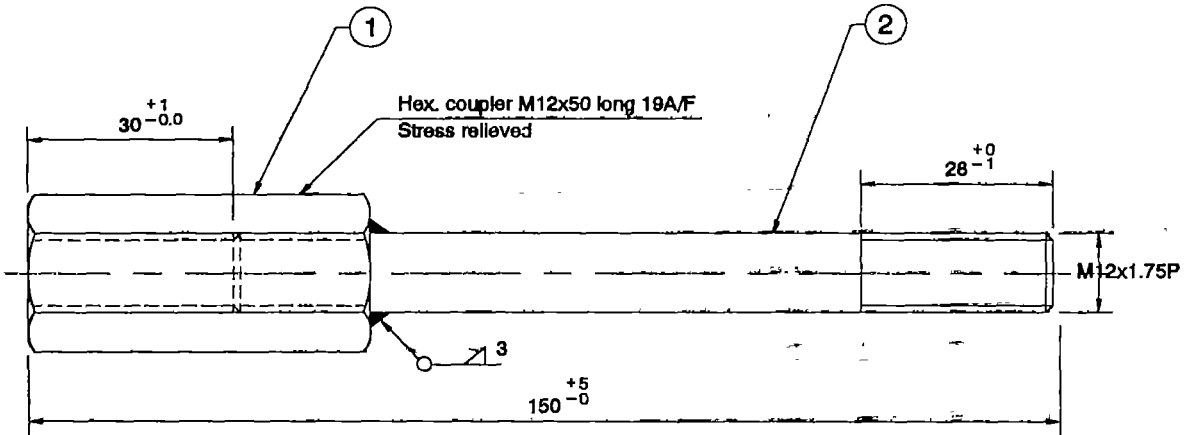
- 1. Electrogalvanised to minimum 30 Micron Thick
- ② 2. Flame hardened to 30 - 50 RC.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b>		
				INDIA		
				TOLERANCE		DRAWING NO. T-IMI-09-08
				U.O.S ± 0.5		
				SCALE N.T.S.		
1	1	Left Hand Jaw	IS 2062 Grade A			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		
				PARTS OF SELF LOCKING CLAMP		01/01/84




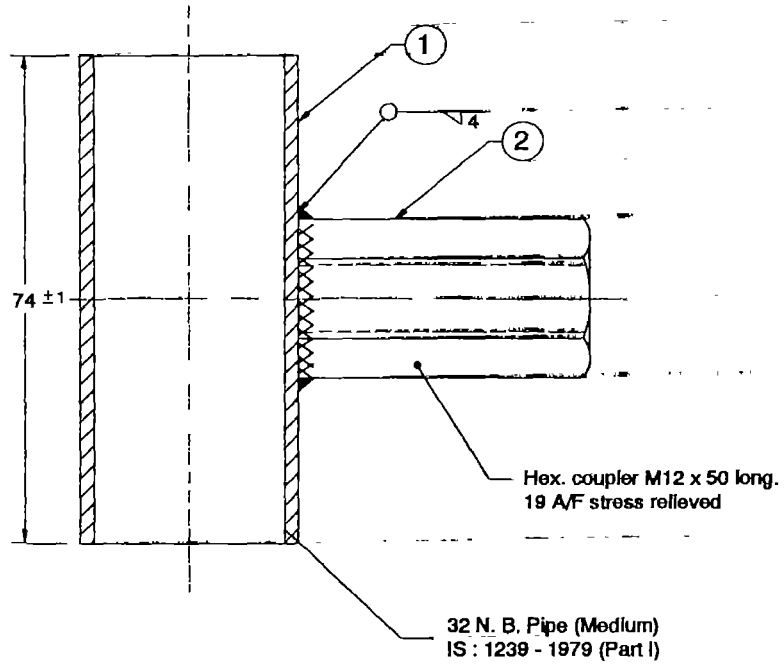




Note :-  
Electrogalvanised to minimum 30 Micron Thick

ALL DIMENSIONS ARE IN MILLIMETRES.


				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. T-IMI-10	
				U.O.S. ± 0.5			
				SCALE N.T.S.			
2	1	Rod	IS 2062 Grade A				
1	1	Hex. Coupler	IS : 9550 Gr 2/3 Type 4 Free Cutting Steel				
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> LIFTER ADAPTER		<b>DATE</b> 01/01/94	

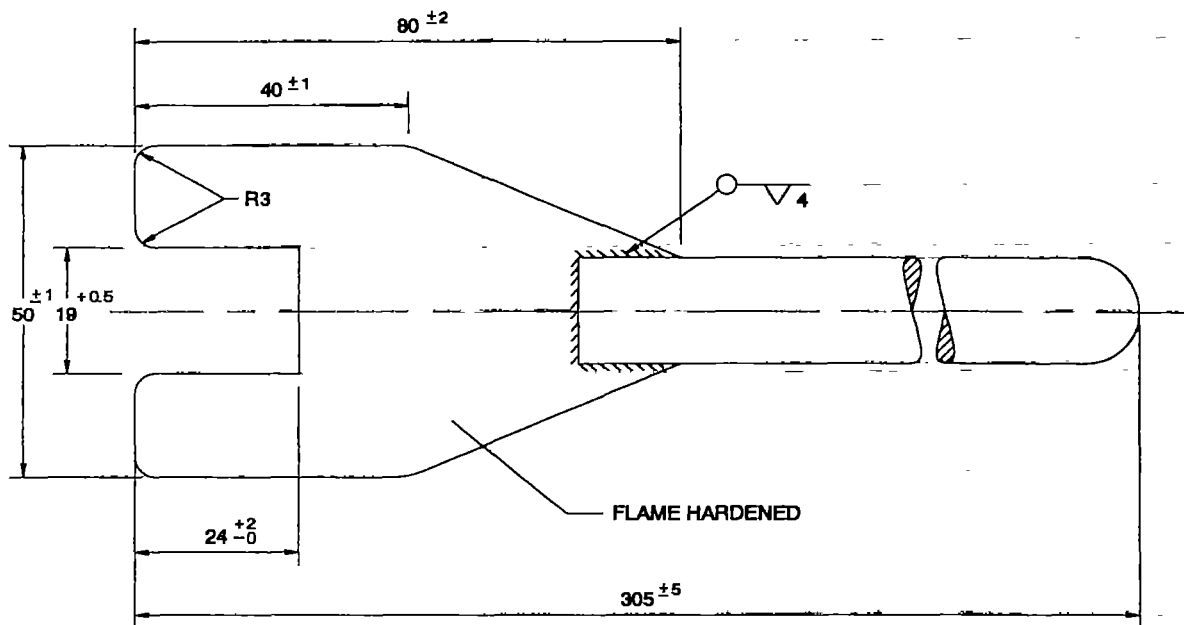
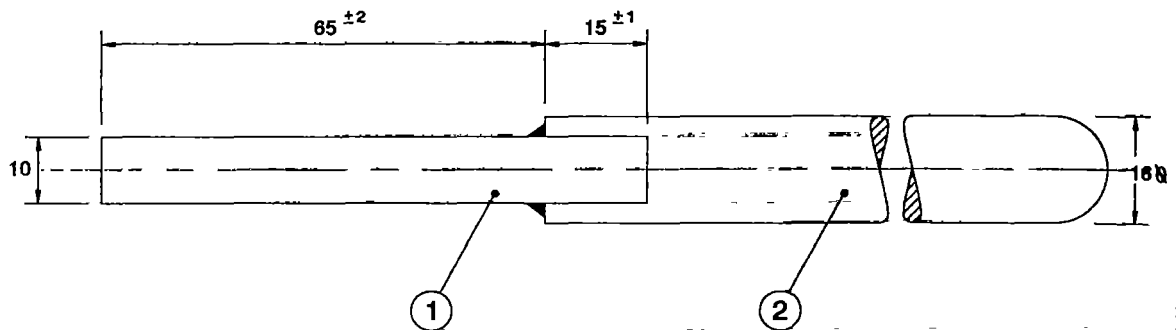


**NOTE:**

1. Electrogalvanised to minimum 30 Micron Thick
2. Inside surface of pipe shall be protected with Red Oxide Primer

ALL DIMENSIONS ARE IN MILLIMETRES.


				<b>Unicef</b> INDIA 	
				<b>TOLERANCE</b> U.O.S. ± 0.5 SCALE N.T.S.	
				DRAWING NO. T-IMII-11	
2	1	Hex. Coupler	IS : 9530 Gr 2/3 Type 4 Free Cutting Steel		
1	1	Pipe	IS . 1239 (Part 1)		
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> CONNECTING ROD LIFTER	
				<b>DATE</b> 01/01/84	

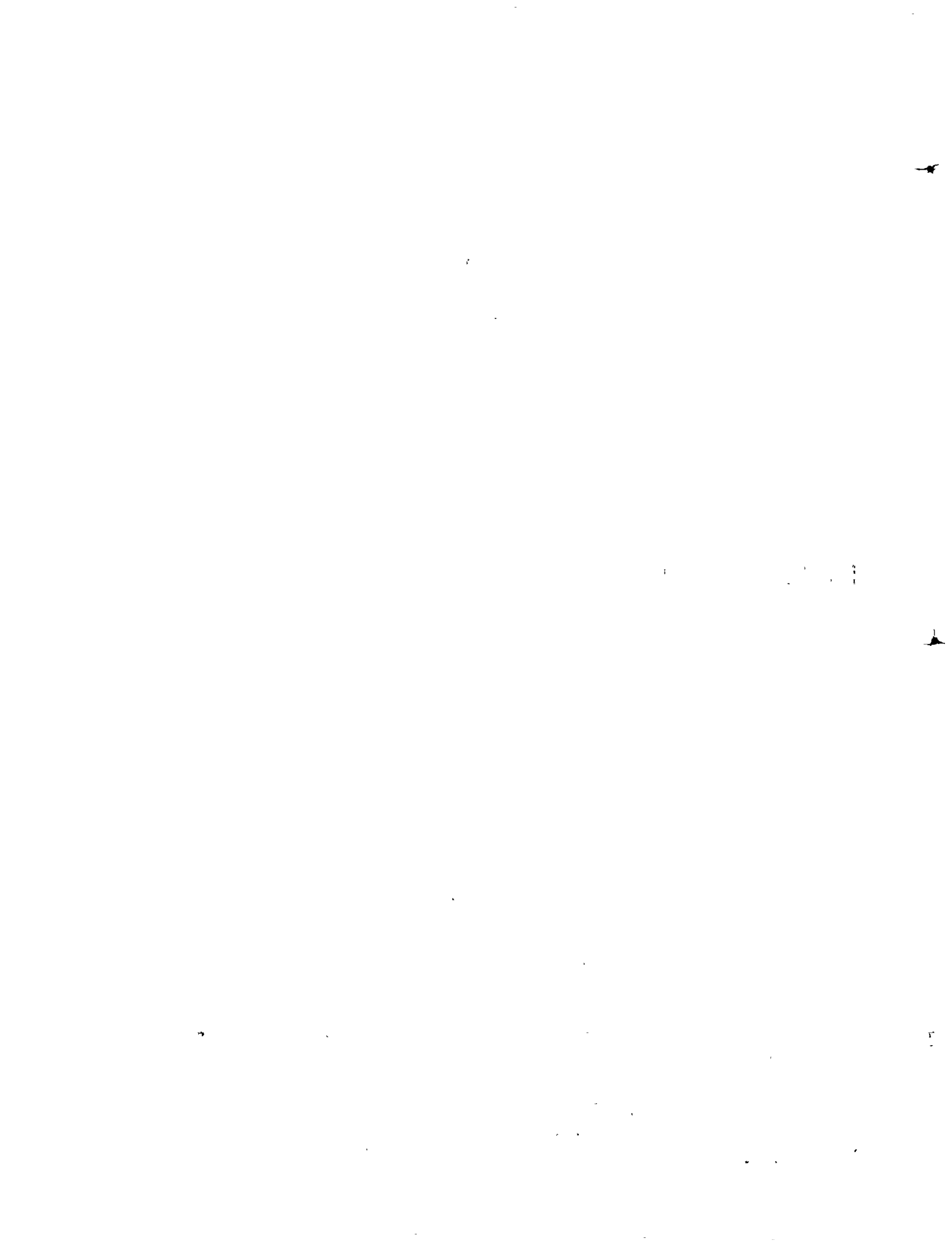


NOTE :-

Electrogalvanised to minimum 30 micron thick

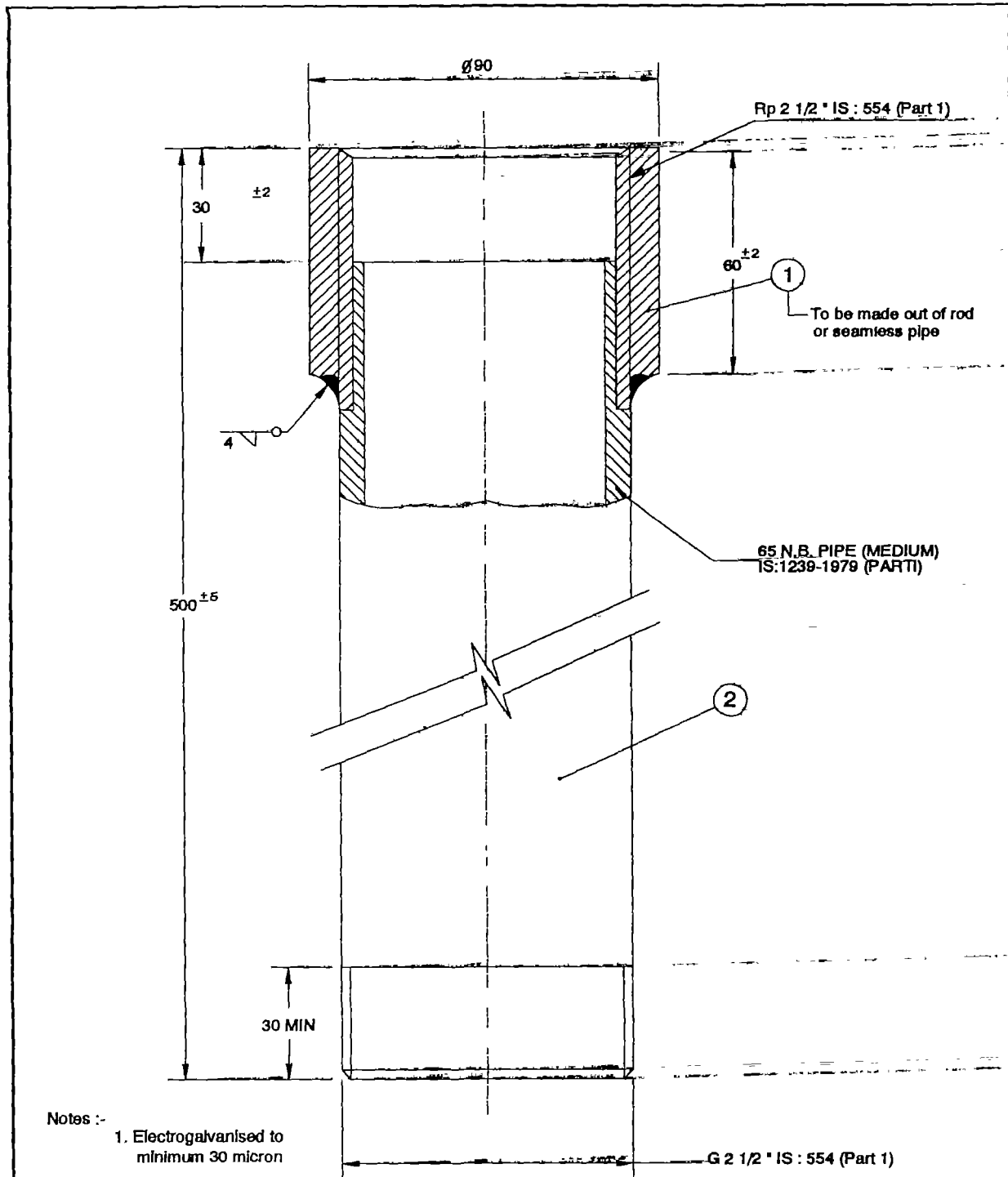
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ±0.5		DRAWING NO. T-IMII-12	
				SCALE N.T.S.			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE	
2	1	Rod	IS : 2062 Grade A	COUPLER SPANNER		01/01/94	
1	1	Plate	IS : 2062 Grade A				



**India Mark III (VLOM) Special Tools**






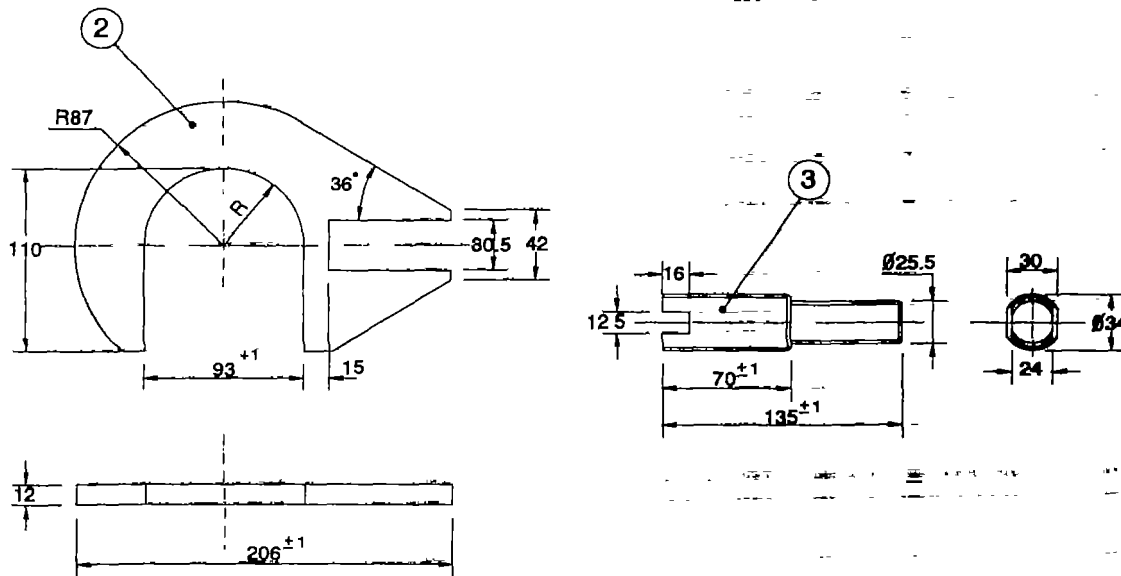
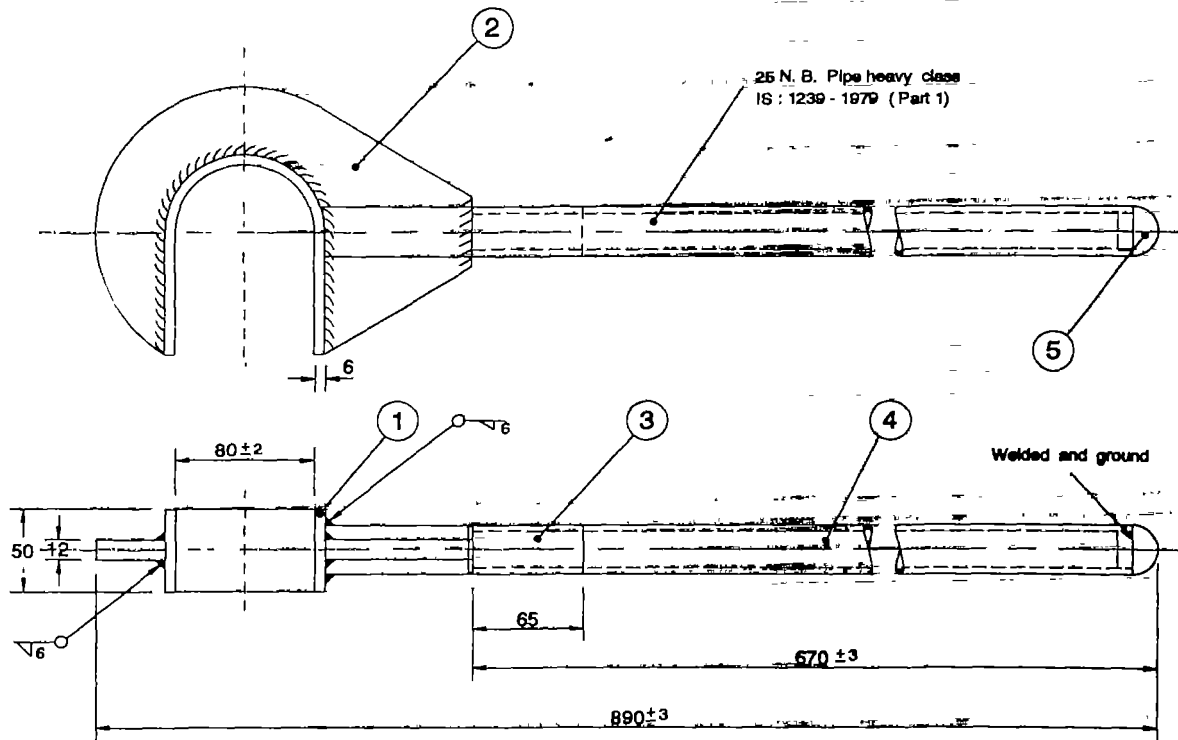
Notes :-

1. Electrogalvanised to minimum 30 micron
2. Inside surface shall be protected with red-oxide primer

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO. T-VLOM-01	
				SCALE N.T.S.			
2	1	Pipe	IS . 1239 (Part 1)				
1	1	Pipe Coupler	IS , 2062 Grade A				
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> WATER TANK LIFTER PIPE			<b>DATE</b> 01/01/94

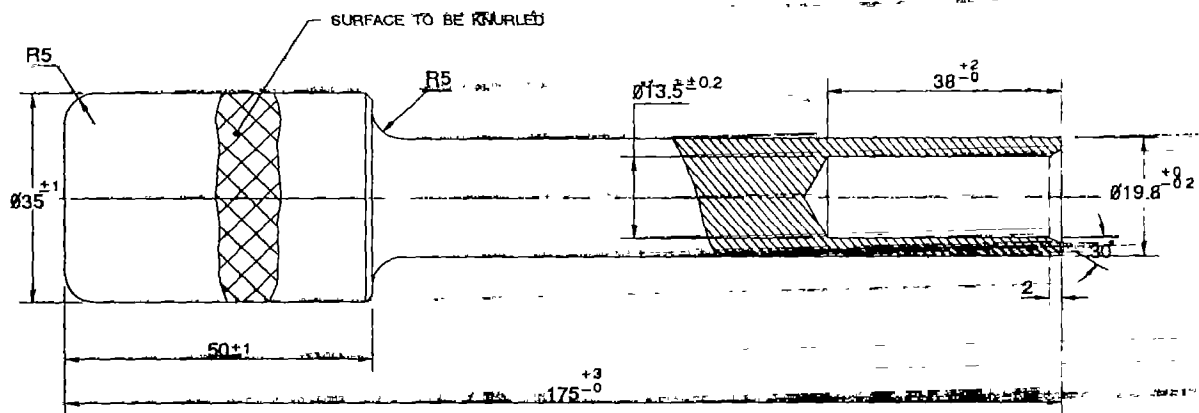




Note . Electrogalvanised to minimum 30 micron thick


ALL DIMENSIONS ARE IN MILLIMETRES

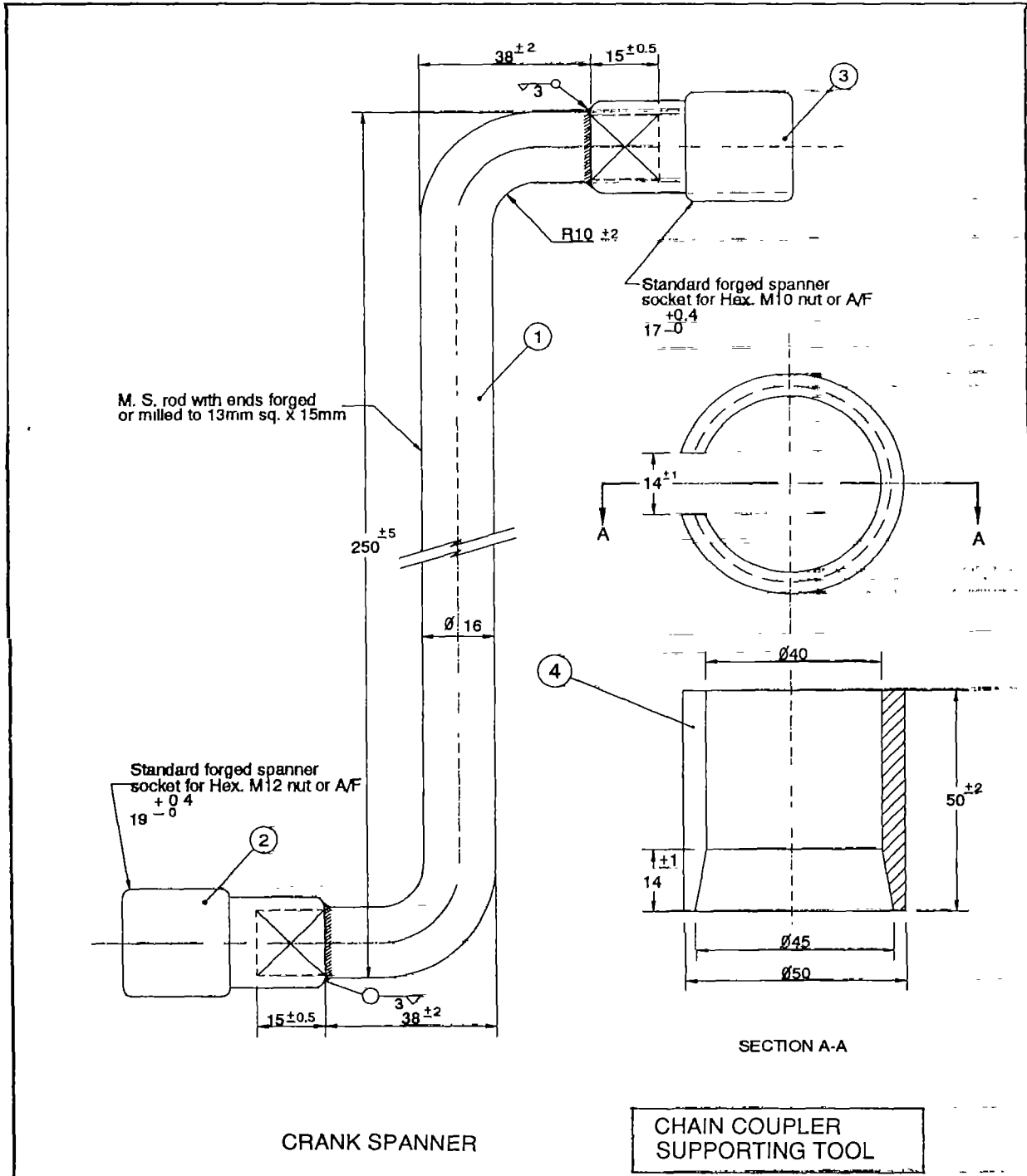
6	1	End Plug	IS 2062 Grade A	<p><b>Unicef</b> INDIA</p> 	<p>TOLERANCE</p> <p>U O.S. ± 0.5</p> <p>SCALE N.T.S</p>	<p>DRAWING NO. T-VLOM-02</p>
4	1	Pipe	IS 1239 (PART 1)			
3	1	Split Rod	IS 2062 Grade A			
2	1	Hook Plate	IS 2062 Grade A			
1	1	'U' Plate	IS 2062 Grade A			
Part No	No. OFF	DESCRIPTION	MATERIAL	TITLE	LIFER SPANNER	DATE
						01/07/98



NOTE :-  
 Carburised  
 Hardened to 30 - 40 HRC  
 Electro-galvanised to minimum 30 micron thick

ALL DIMENSIONS ARE IN MILLIMETRES

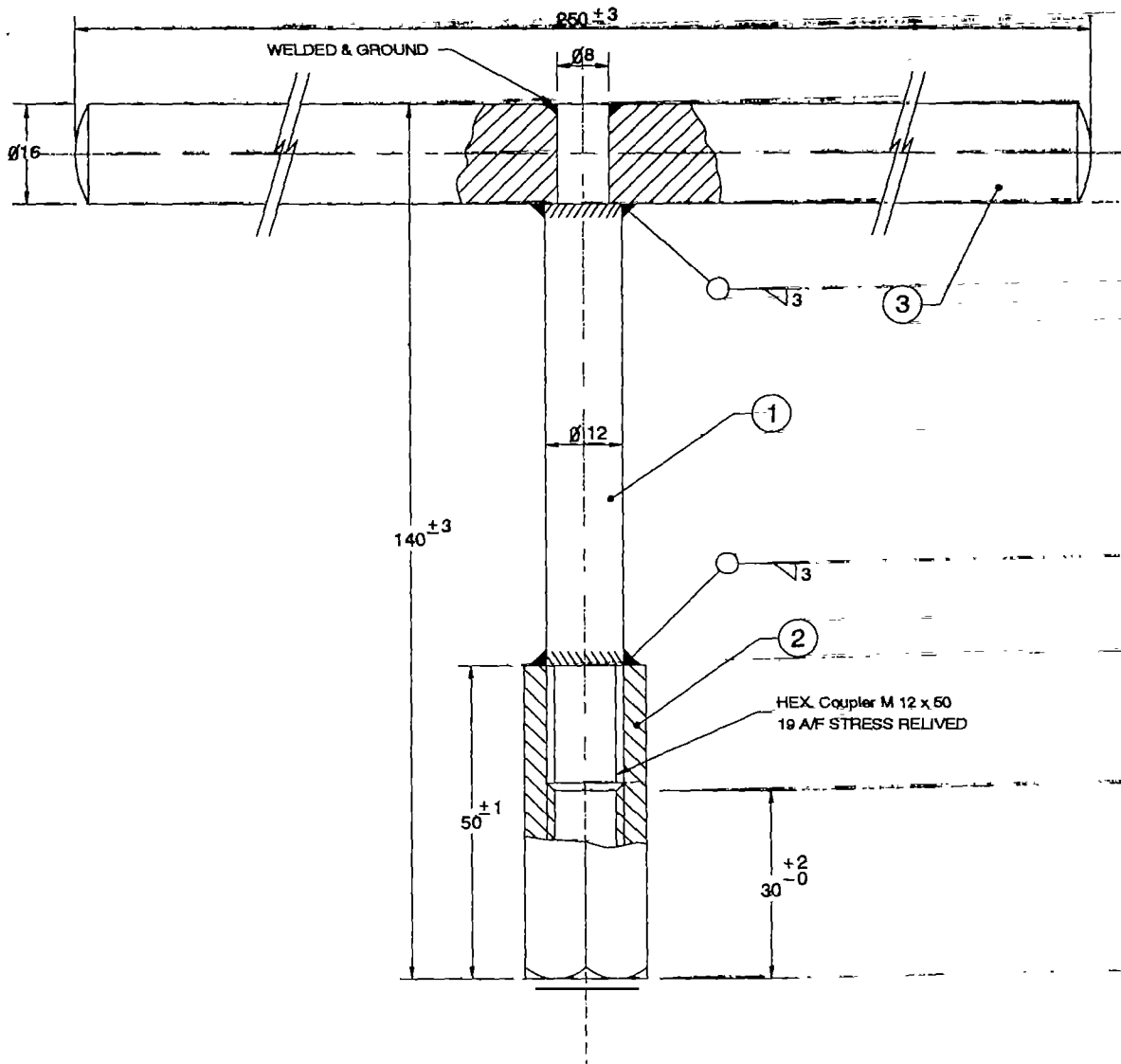
				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. T-VLOM-03	
				U.Q.S. + 0.5			
				SCALE N.T.S.			
1	1	Axle Punch	IS . 2062 Grade A	TITLE		DATE	
Part No.	No. OFF	DESCRIPTION	MATERIAL	AXLE PUNCH		01/01/94	



NOTE :-  
 Electrogalvanised to minimum 30 micron thick

ALL DIMENSIONS ARE IN MILLIMETRES


Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	1	Chain Coupler Supporting Tool	IS . 2062 Grade A	<b>Unicef</b> INDIA TOLERANCE U.O.S. $\pm 0.5$ SCALE NTS DRAWING NO. T-VLOM-04	01/01/94
3	1	Socket (M10)	IS 2062 Grade A		
2	1	Socket (M12)	IS . 2062 Grade A		
1	1	Rod	IS 2062 Grade A		
				VLOM SPECIAL TOOL	



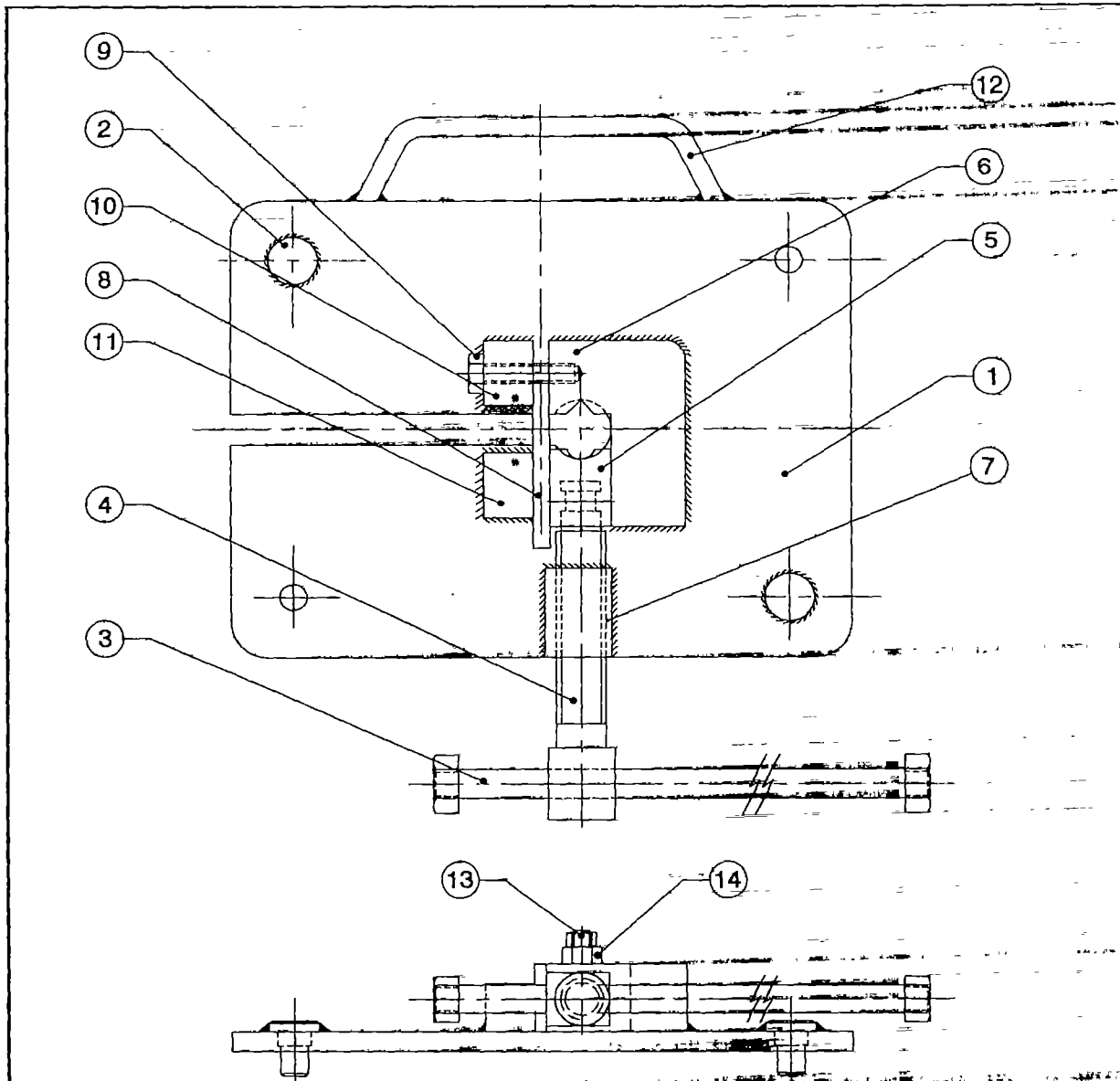
NOTE .-

Electrogalvanised to minimum 30 micron thick

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA 	
3	1	T-Rod	IS 2062 Grade A	TOLERANCE U.O.S. $\pm 0.5$ SCALE N.T.S.	
2	1	Hex. Coupler	IS 8550 Gr.2/3 Type 4 Free Cutting Steel		
1	1	Rod	IS 2062 Grade A		
Part No.	No OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				CON. ROD LIFTER (T - TYPE)	01/01/94





14	1	Locking Nut M8	IS 1363 Part 3
13	1	Hex. Bolt M8 x 20	IS 1363 Part 1
12	1	Carrying Handle	IS : 2062 Grade A
11	1	Fixed Block	IS : 2062 Grade A
10	1	Locking Block	IS : 2062 Grade A
9	1	Special Bolt M8 x 40	IS : 2062 Grade A
8	1	Locking Plate	IS : 2062 Grade A
7	1	Fixed Nut	IS : 2062 Grade A
6	1	Supporting Block	IS : 2062 Grade A
5	1	Movable Jaw	IS : 2062 Grade A
4	1	Threaded Shaft	IS : 2062 Grade A
3	1	Handle	IS : 2062 Grade A
2	2	Base Plate Lug	IS : 2062 Grade A
1	1	Base Plate	IS : 2062 Grade A
Part No.	No. OFF	DESCRIPTION	MATERIAL

NOTE :-

1. Electrogalvanised to minimum 30 micron thick
- \* 2. Faces to be flame hardened 30-50 rc.
3. Weld fillet size shall be 6 mm min.

**Unicef**  
INDIA



TOLERANCE

U.O.S. + 0.5

SCALE N.T.S.

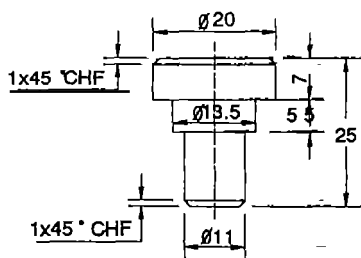
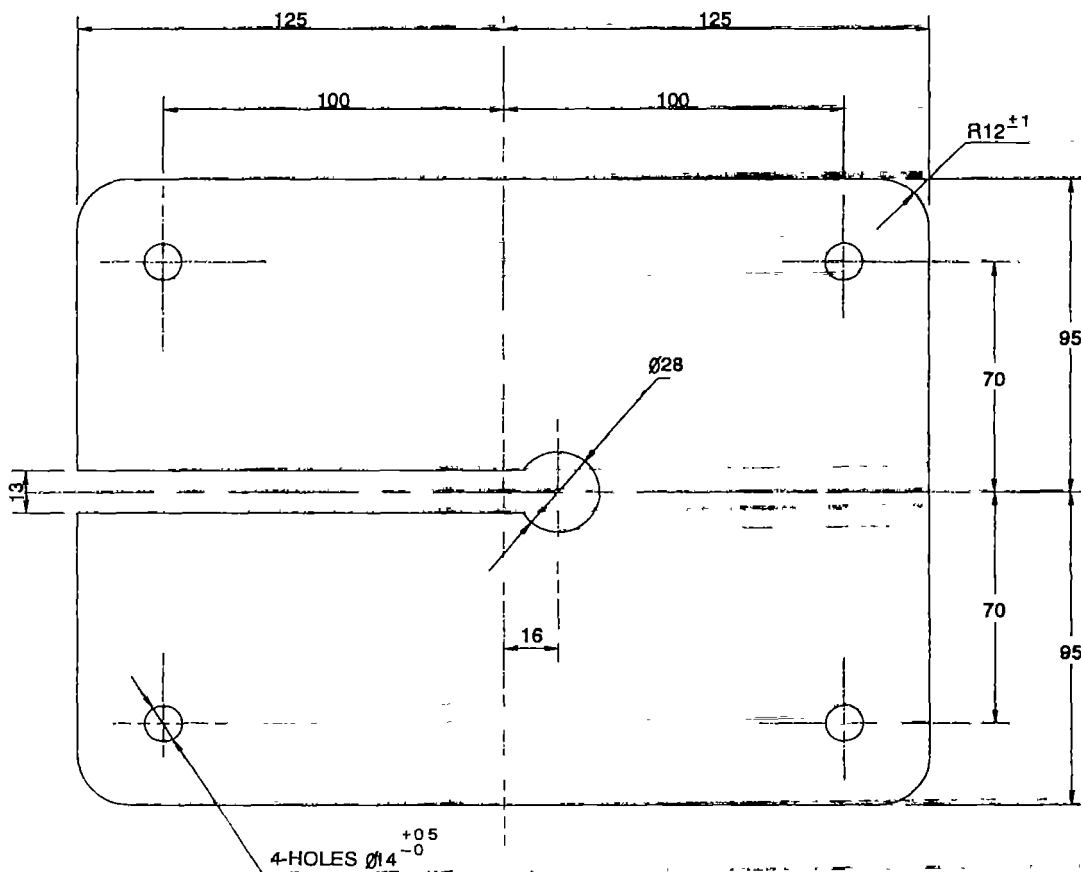
DRAWING NO. T-VLOM-07

TITLE

CONNECTING ROD VICE

DATE

01/01/94

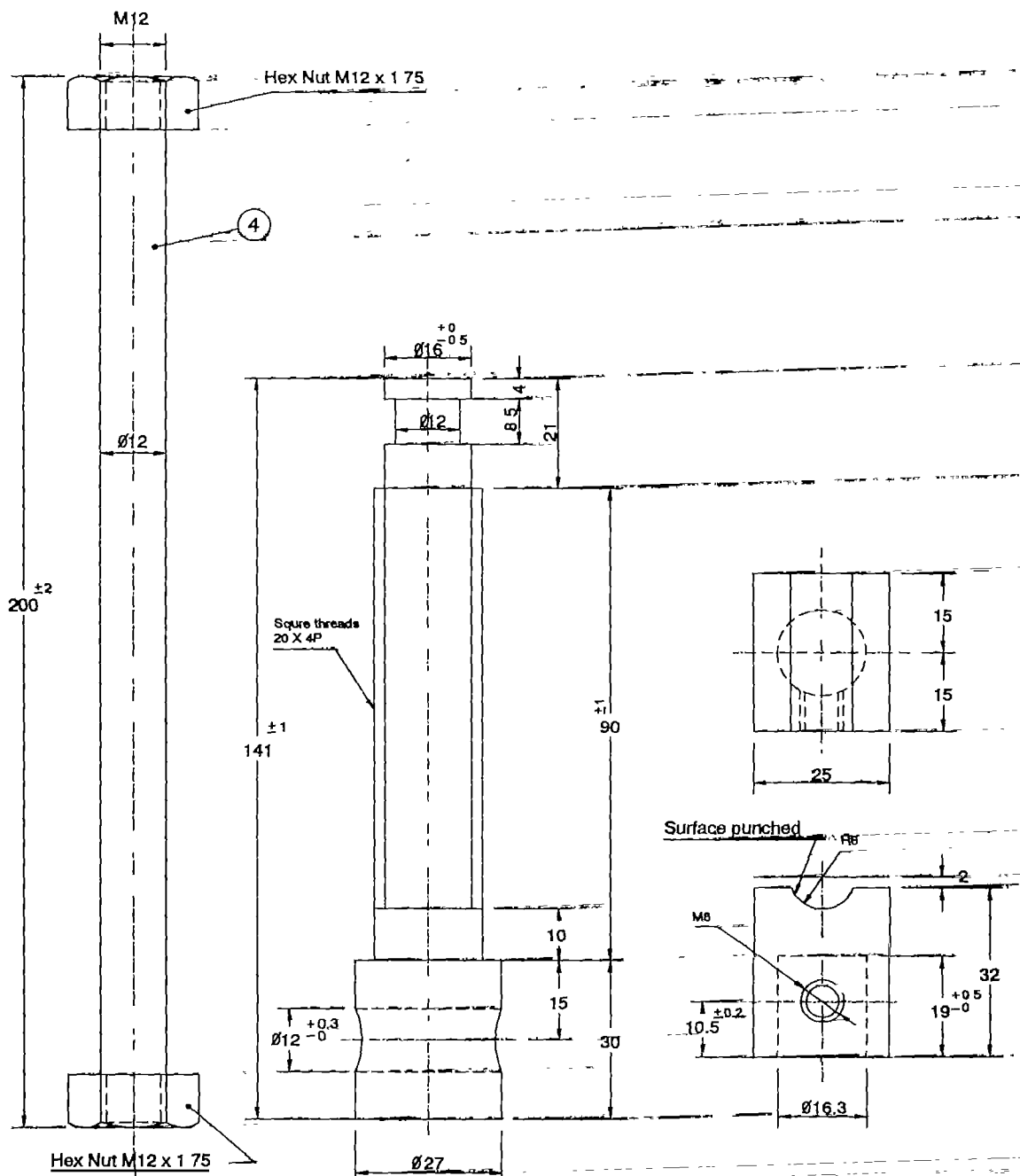


① BASE PLATE

② BASE PLATE LUG

ALL DIMENSIONS ARE IN MILLIMETRES

1	2	Base Plate Lug	IS 2062 Grade A	TOLERANCE	DRAWING NO. T-VLOM-07-01
1	1	Base Plate	IS . 2062 Grade A	U.O.S. $\pm 0.5$ SCALE N.T.S	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				PARTS OF CONNCTING ROD VICE	01/01/94



① HANDLE

② THREADED SHAFT

MOVABLE JAW

NOTE:-

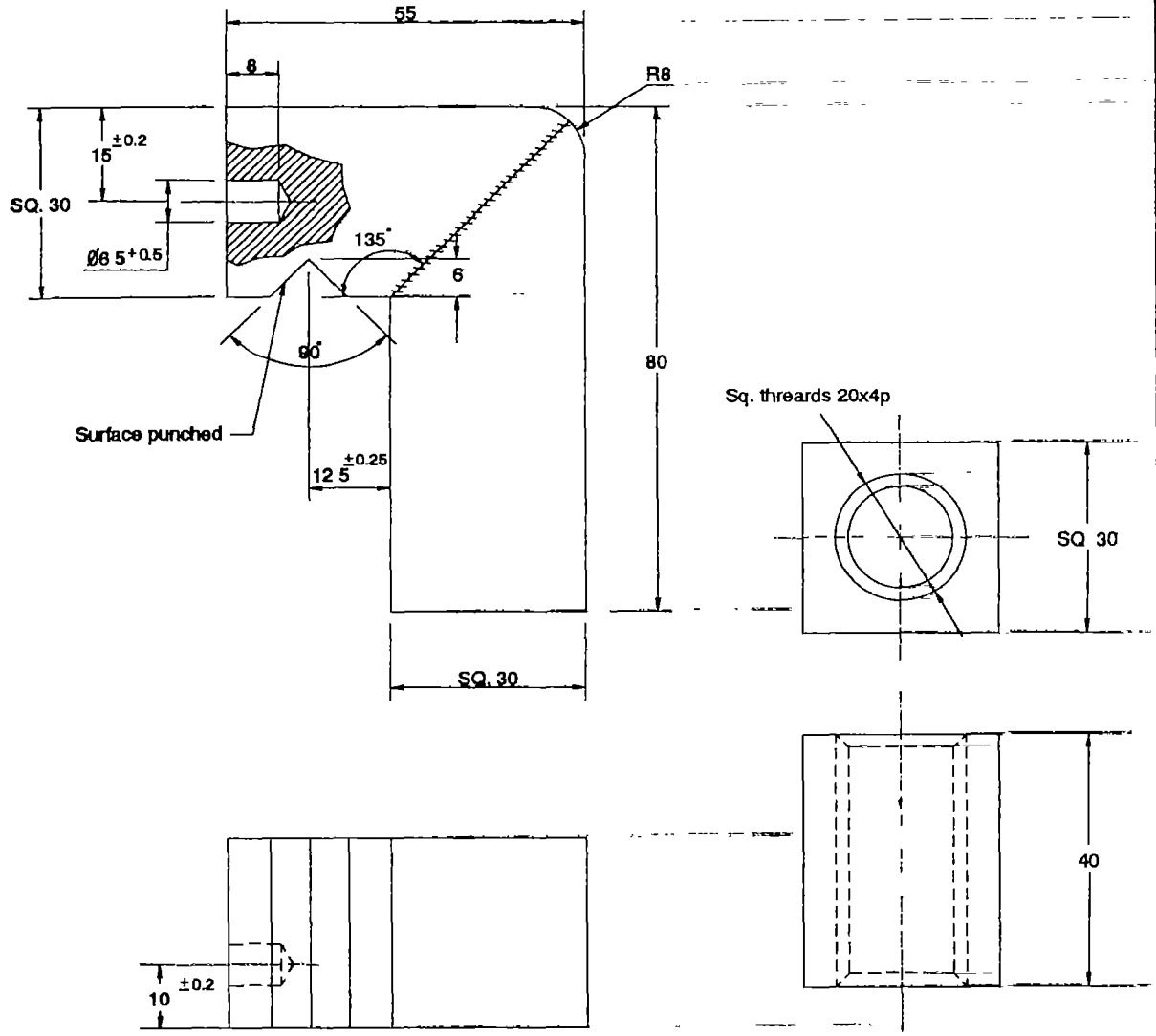
1. Electrogalvanised to minimum 30 micron thick
2. Seal weld one end and other end punch locked after tightening the nut fully

Carbide and hardened to 40-45 HRC

ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	1	Handle Rod	IS 2062 Grade A	<b>Unicef</b> INDIA TOLERANCE U.O.S. +0.5 SCALE N.T.S. DRAWING NO T-VLOM-07-02	01/01/84
3	1	Moveable Jaw	IS 2062 Grade A		
2	1	Threaded Shaft	IS 2062 Grade A		
1	1	Handle	IS 2062 Grade A		





① SUPPORTING BLOCK

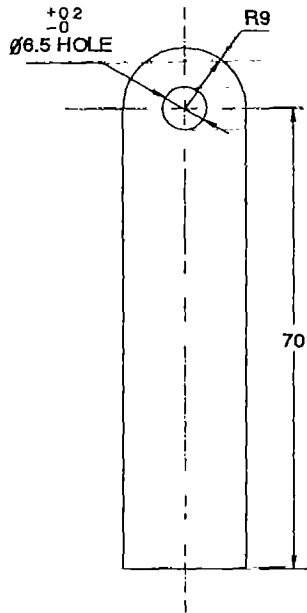
② FIXED NUT

NOTE :-

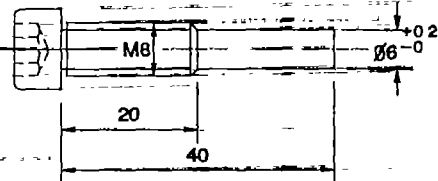
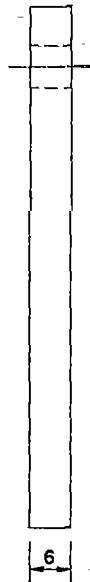
1. V-position to be surface to be punched and flame hardened to 30-50
2. Flame hardening shall be done after welding with the base plate

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA	
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N.T.S	
				DRAWING NO. T-VLOM-07-03	
2	1	Fixing Nut	IS 2062 Grade A		
1	1	Supporting Block	IS 2062 Grade A		
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b>	
				PARTS OF CONNECTING ROD VICE	
				<b>DATE</b>	
				01/01/94	



① LOCKING PLATE




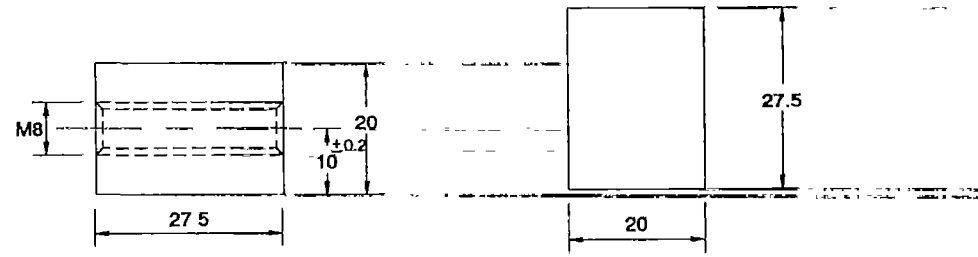
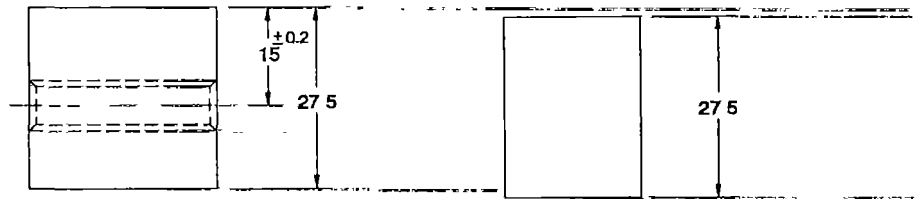
② SPECIAL BOLT

NOTE .-

Electrogalvanised to minimum 30 micron thick

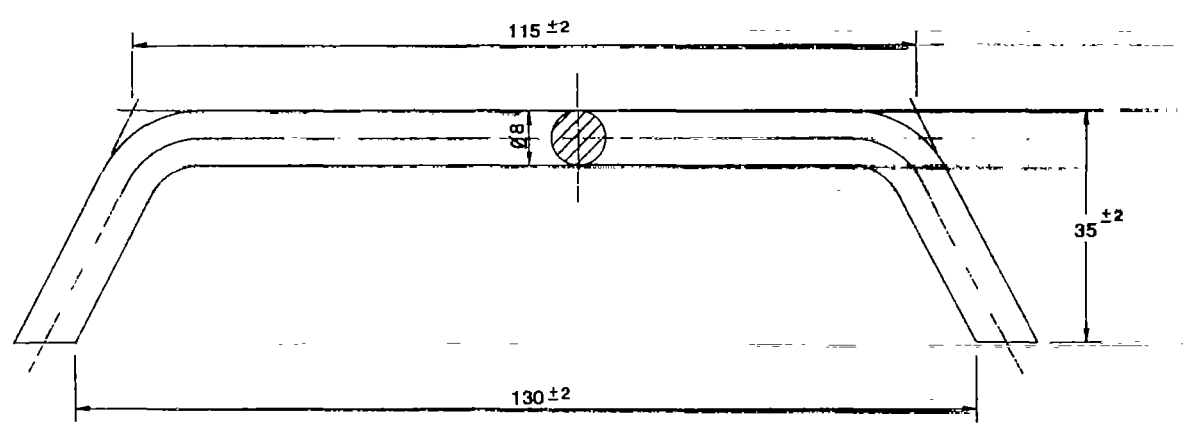
ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U.Q.S. + 0.5	
				DRAWING NO. T-VLOM-07-04	
				SCALE N.T.S	
2	1	Special Bolt	IS 2062 Grade A		
1	1	Locking Plate	IS . 2062 Grade A		
Part No	No. OFF	DESCRIPTION	MATERIAL	TITLE	
				PARTS OF CONNECTING ROD VICE	
				DATE	
				01/01/94	




① LOCKING PLATE

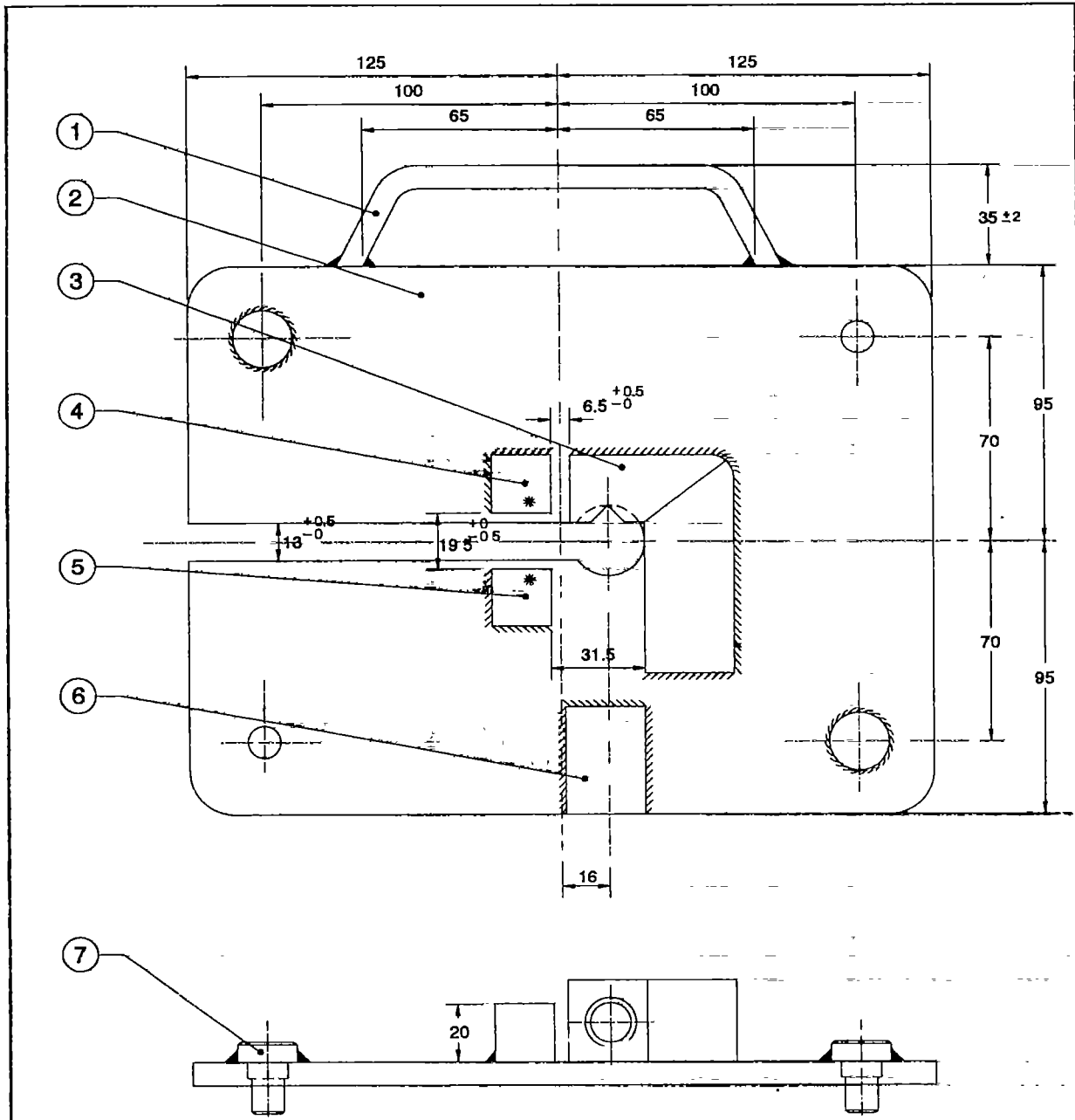
② FIXED BLOCK



③ CARRYING HANDLE


ALL DIMENSIONS ARE IN MILLIMETRES

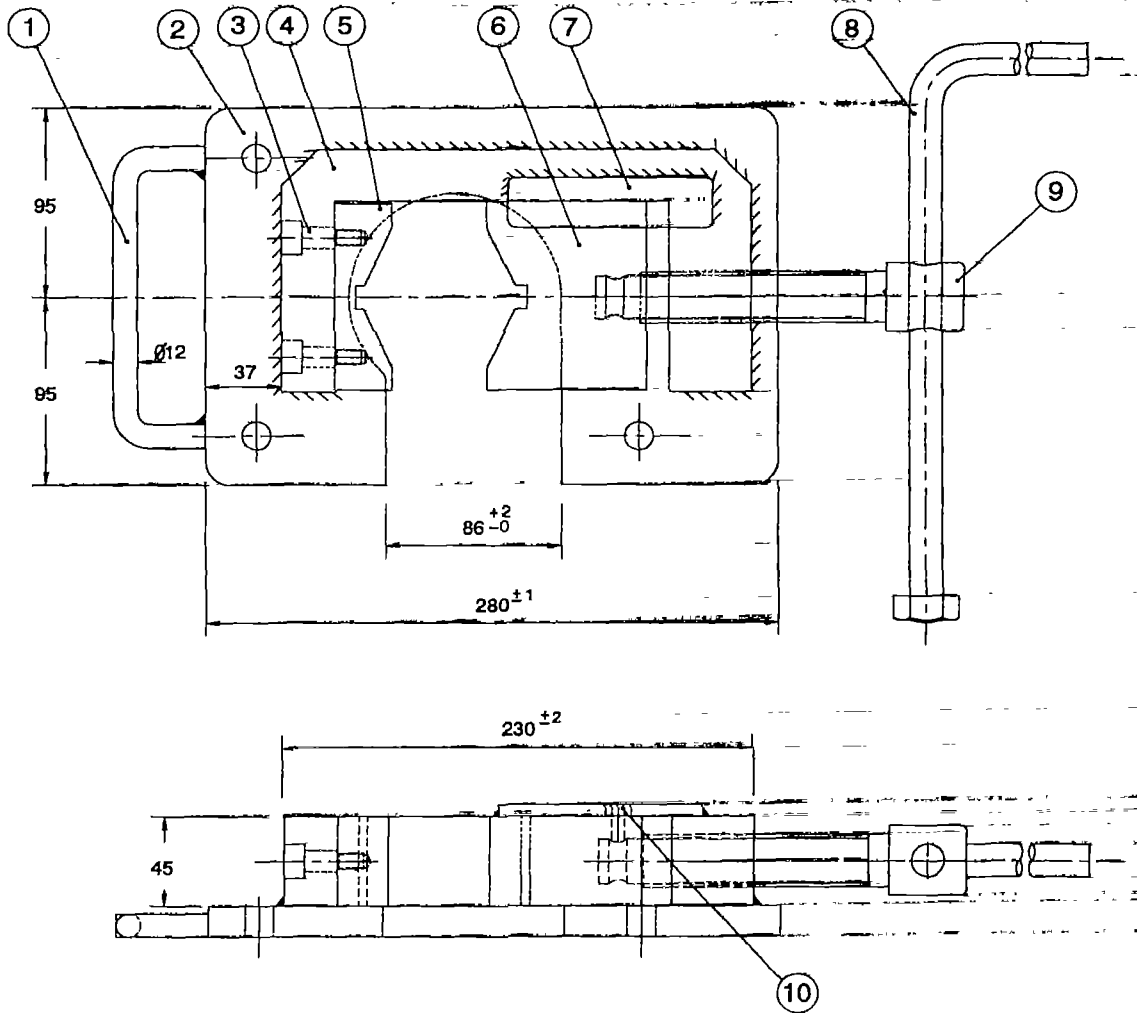
				<b>Unicef</b> INDIA			
3	1	Carrying Handle	IS : 2062 Grade A	- TOLERANCE			
2	1	Fixed Block	IS . 2062 Grade A	U O S	± 0.5	DRAWING NO.	T-VLOM-07-05
1	1	Locking Block	IS . 2062 Grade A	SCALE	N.T.S		
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> PARTS OF CONNECTING ROD VICE			<b>DATE</b> 01/01/94



**NOTE :-**

- 1 Electrogalvanised to minimum 30 micron thick
- \* 2. Faces to be flame hardened 30-50 RC
- 3. Weld fillet size shall be 6 mm minimum

7	2	Base Plate Lug	IS 2062 Grade A	ALL DIMENSIONS ARE IN MILLIMETRES	
6	1	Fixed Nut	IS 2062 Grade A		
5	1	Fixed Block	IS 2062 Grade A	<b>Unicef</b> INDIA 	
4	1	Locking Block	IS 2062 Grade A		
3	1	Supporting Block	IS 2062 Grade A	TOLERANCE U.O.S + 0.5      DRAWING NO. T-VLOM-07-06 SCALE N.T.S	
2	1	Base Plate	IS 2062 Grade A		
1	1	Carrying Handle	IS 2062 Grade A		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				CONNECTING ROD BASE PLATE SUB ASSEMBLY	01/01/94



NOTE :-

Electrogalvanised to minimum 30 micron thick

10	1	Hex. Bolt M8 X 30	IS 1363 Part 1
9	1	Threaded Shaft	IS 2062 Grade A
8	1	Handle	IS 2062 Grade A
7	1	Guided Plate	IS 2062 Grade A
6	1	Movable Jaw	IS 2062 Grade A
5	1	Fixed Jaw	IS 2062 Grade A
4	1	Supporting Block	IS 2062 Grade A
3	2	Allen Bolt M10 x 25	--
2	1	Base Plate	IS 2062 Grade A
1	1	Carrying Handle	IS 2062 Grade A
Part No.	No. OFF	DESCRIPTION	MATERIAL

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



TOLERANCE

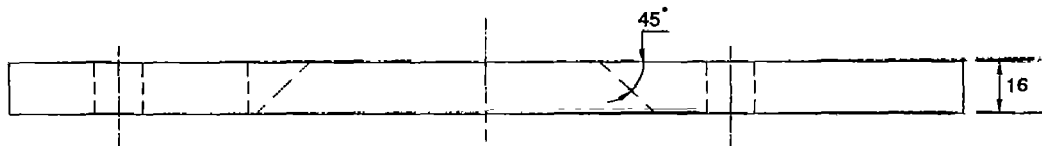
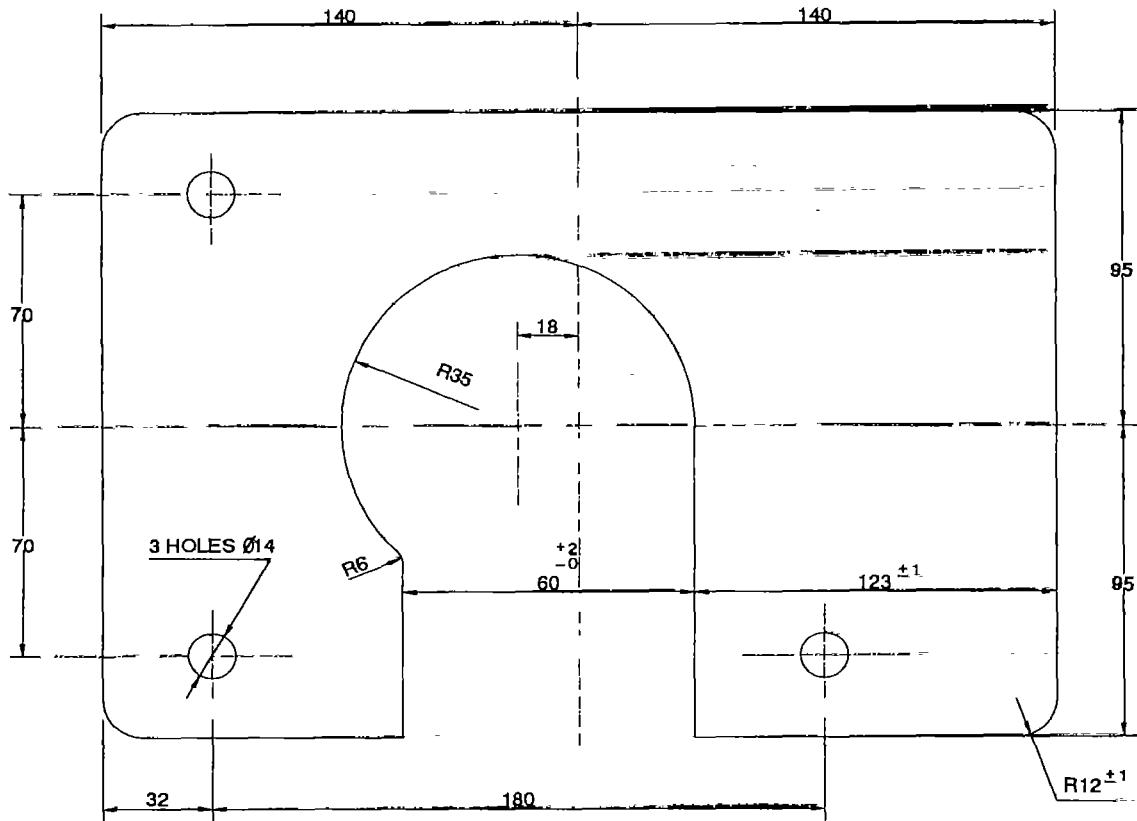
U.O.S. ± 0.5

SCALE N.T.S.

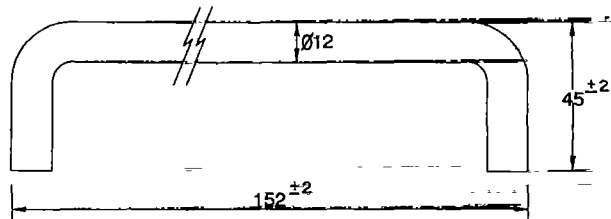
DRAWING NO. T-VLOM-08

TITLE  
HEAVY DUTY CLAMP

DATE  
01/01/84




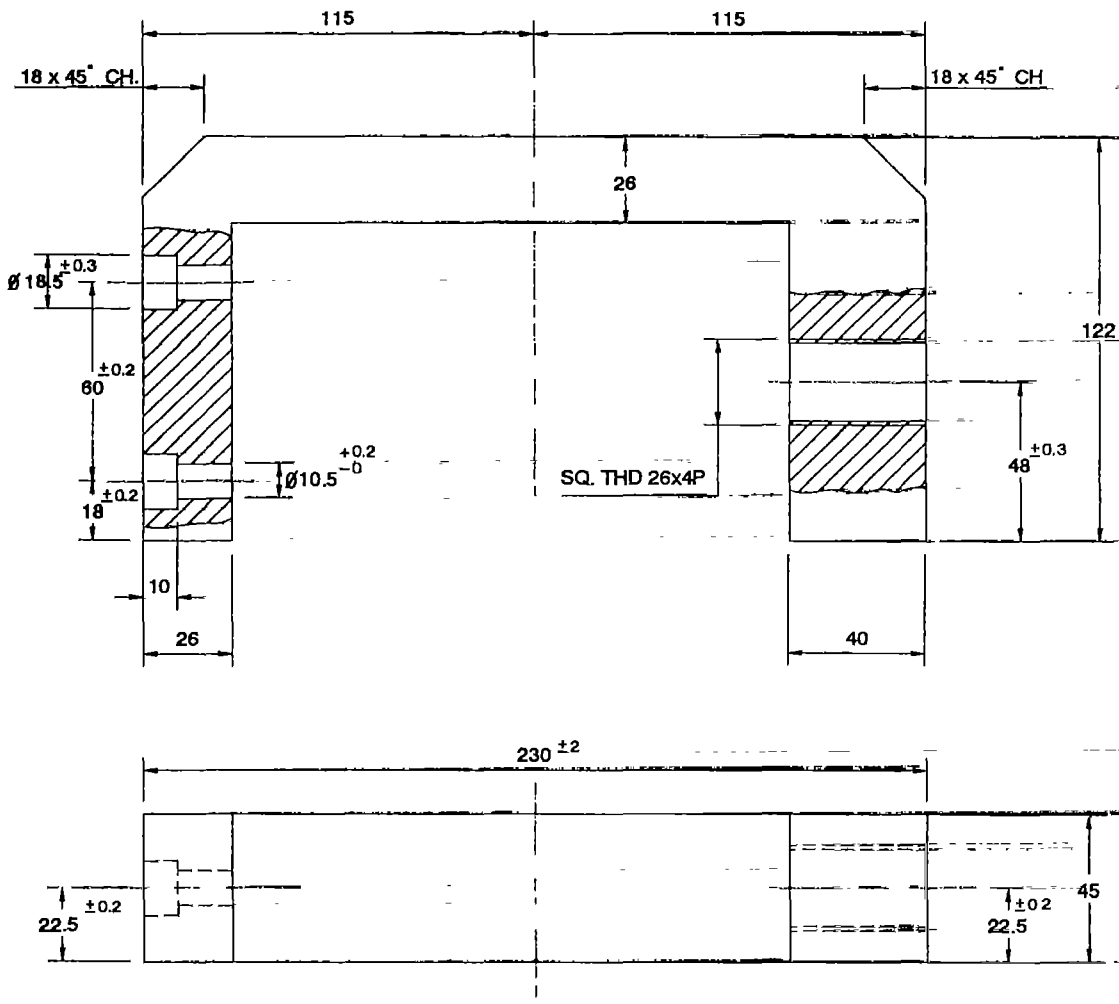
① BASE PLATE



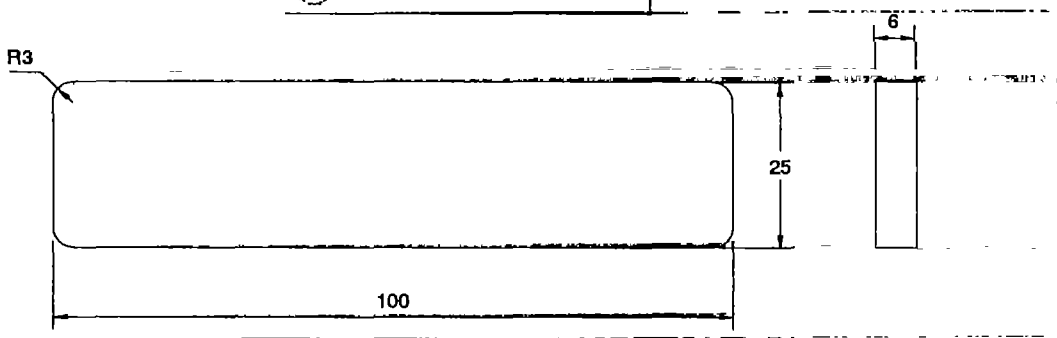
② CARRYING HANDLE

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA		
				- TOLERANCE		
				U.O.S. ± 0.5		DRAWING NO. T-VLOM-08-01
				SCALE N.T.S		
2		Carrying Handle	IS 2062			
1		Base Plate	IS 2062			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE PARTS OF HEAVY DUTY CLAMP		DATE 01/01/84




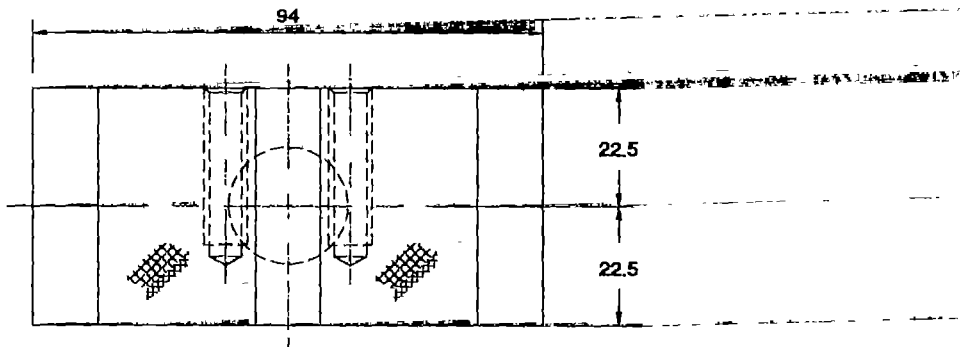
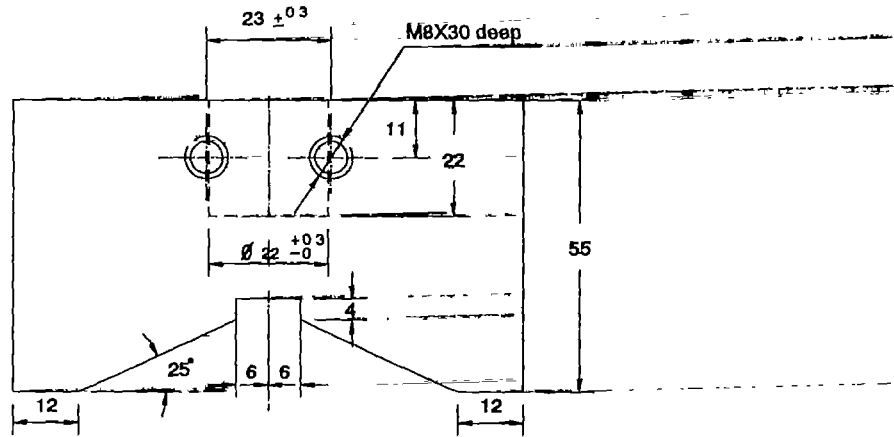
① SUPPORTING BLOCK



② GUIDE PLATE

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. T-VLOM-08-02	
				U.O.S. ± 0.5			
				SCALE N.T.S			
2	1	Guide Plate	IS 2062 Grade A				
1	1	Supporting Block	IS 2062 Grade A				
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> PARTS OF HEAVY DUTY CLAMP		<b>DATE</b> 01/01/94	




① MOVEABLE JAW

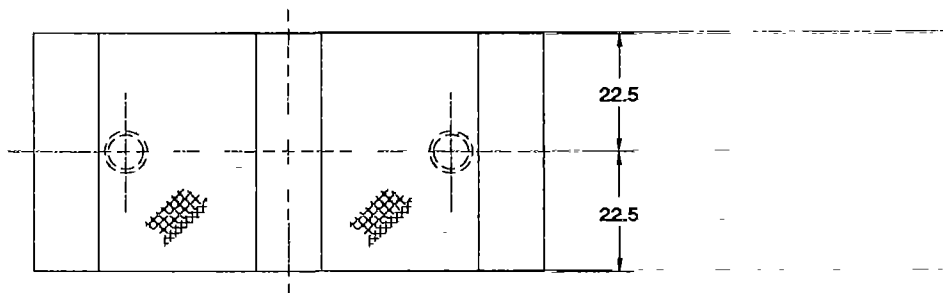
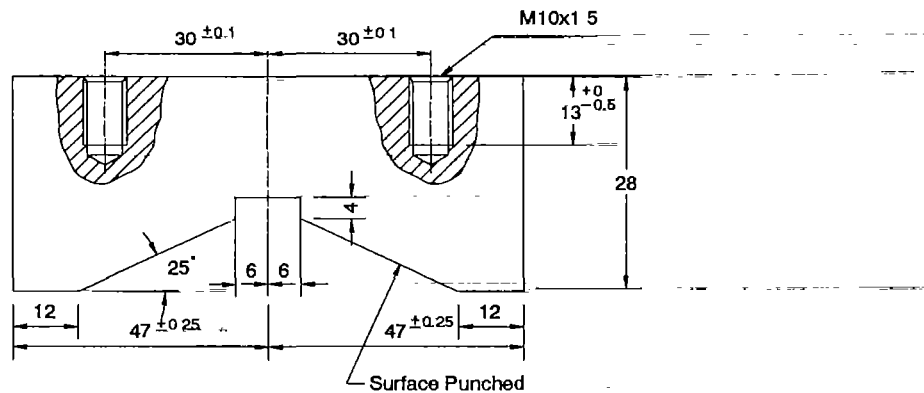
NOTE :-

Electrogalvanised to minimum 30 micron thick  
 Carbursed and hardened to 40-45 hrc

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b>		
				INDIA		
				-- TOLERANCE		
				U.O.S.	+ 0.5	DRAWING NO. T-VLOM-08-03
				SCALE	N.T.S	
1	1	Movable Jaw	IS 2062 Grade A	TITLE		DATE
Part No.	No OFF	DESCRIPTION	MATERIAL	HEAVY DUTY CLAMP PARTS		01/01/84






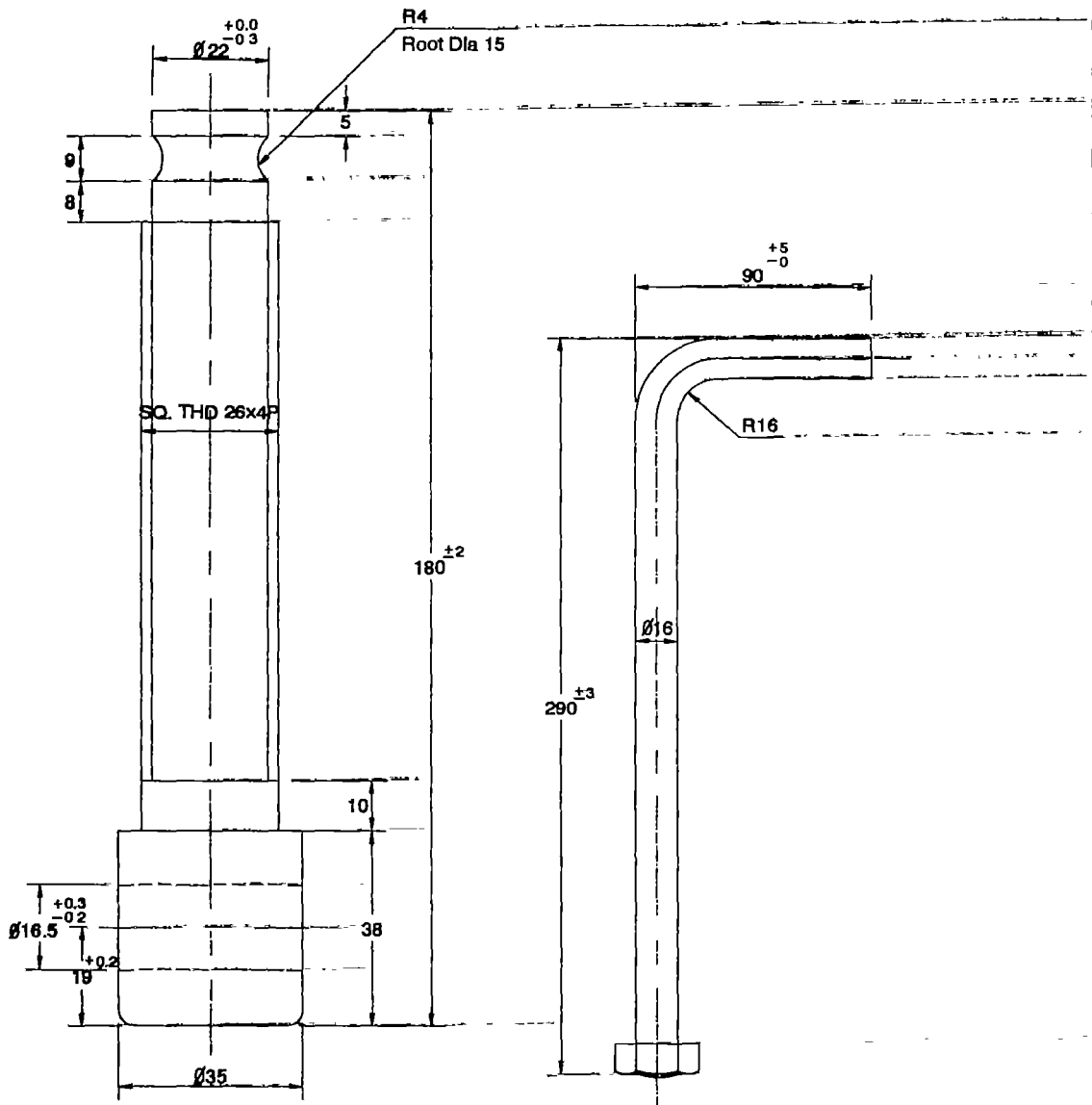
① FIXED JAW

NOTE :-

Electrogalvanised to minimum 30 micron thick  
Carburise and hardened to 40-45 HRC

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. T-VLOM-08-04	
				U.O.S. ± 0.5			
				SCALE N.T.S			
1	1	Fixed Jaw	IS , 2062 Grade A	TITLE			DATE
Part No.	No. OFF	DESCRIPTION	MATERIAL	PARTS OF HEAVY DUTY CLAMP			01/01/94

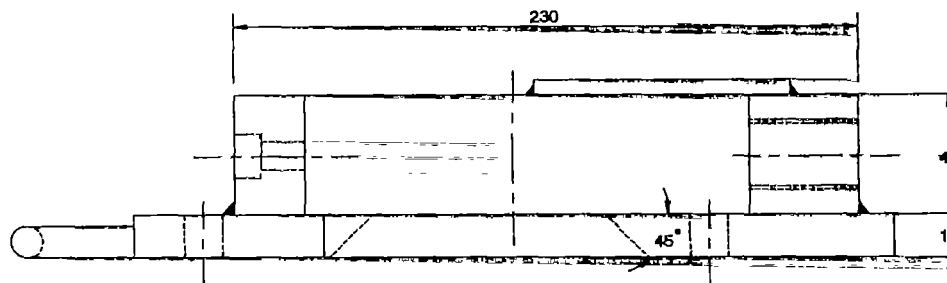
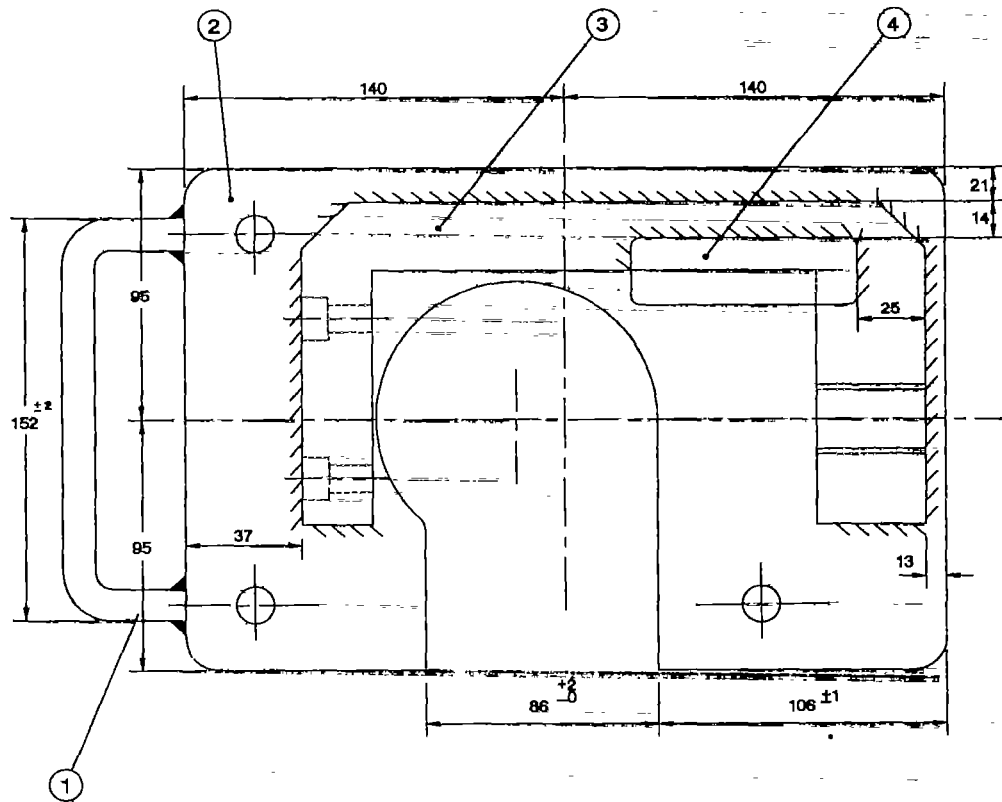


- ① THREADED SHAFT
- ② HANDLE

NOTE :-  
 Electrogalvanised to minimum 30 micron thick  
 Nut to be punch locked after assembly


ALL DIMENSIONS ARE IN MILLIMETRES

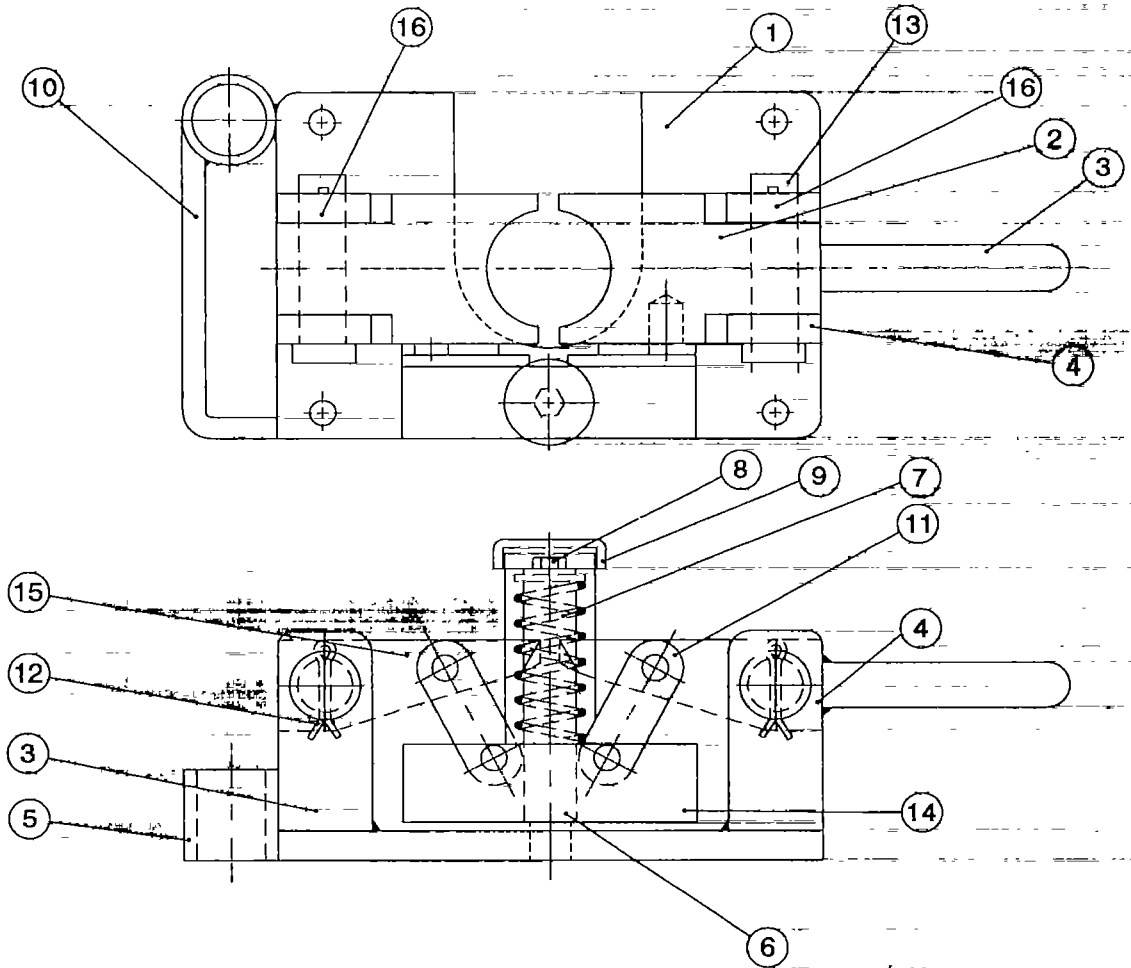
				<b>Unicef</b> INDIA			
				- TOLERANCE			
				U.O.S. + 0.5		DRAWING NO. T-VLOM-08-05	
				SCALE N.T.S			
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> PARTS OF HEAVY DUTY CLAMP			<b>DATE</b> 01/01/94
2	1	Handle	IS . 2062 Grade A				
1	1	Threaded Shaft	IS . 2062 Grade A				



NOTE :-  
Electrogalvanised to minimum 30 micron thick

ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	1	Guide Plate	IS 2062 Grade A	<b>Unicef</b> INDIA  TOLERANCE U.O.S. ± 0.5 SCALE N.T.S. DRAWING NO. T-VLOM-08-08	01/01/84
3	1	Supporting Block	IS 2062 Grade A		
2	1	Base Plate	IS 2062 Grade A		
1	1	Handle	IS 2062 Grade A		
				PARTS OF HEAVY DUTY CLAMP	



16	2	Supporting Pillar	IS . 2062 Grade A
15	1	Left Hand Jaw	IS 2062 Grade A
14	2	Lifting Block	IS . 2062 Grade A
13	1	Axle Pin	EN8
12	2	Split Pin	IS 549
11	2	Link Plate	IS 2062 Grade A
10	1	Handle	IS 2062 Grade A
9	1	Protection Cover	IS . 2062 Grade A
8	1	Spring Retainer	IS 2062 Grade A
7	1	Spring	IS . 4454 (Part 1)
6	1	Pillar Guide	IS . 2062 Grade A
5	1	Pipe Letter Holder	IS 2062 Grade A
4	2	Supporting Pillar with Stopper	IS . 2062 Grade A
3	1	Handle	IS 2062 Grade A
2	1	Right Hand Jaw	IS 2062 Grade A
1	1	Base Plate	IS . 2062 Grade A

**Unicef**  
INDIA



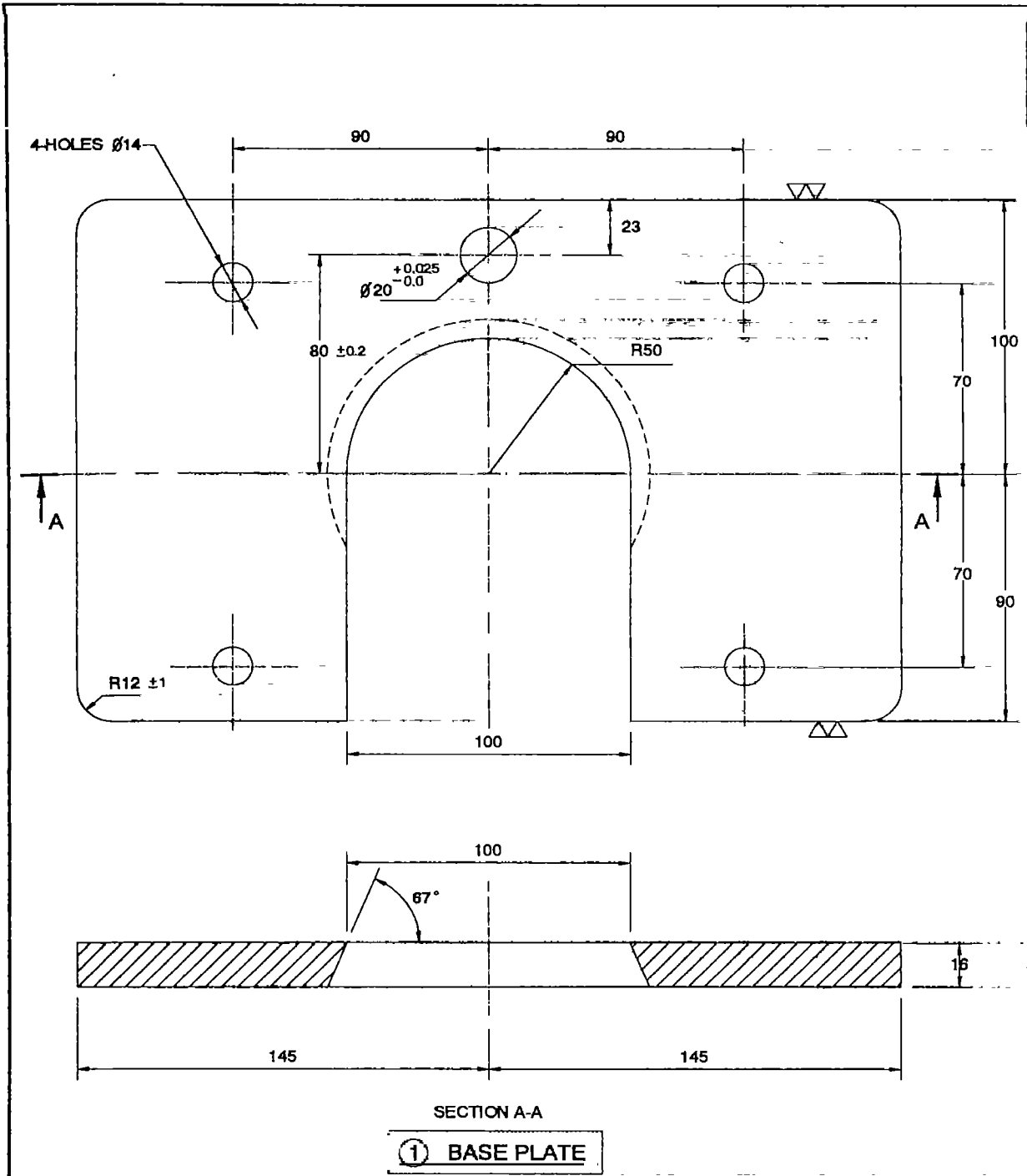
TOLERANCE

U O.S.  $\pm 0.5$

SCALE N.T.S


DRAWING NO. T-VLOM-09

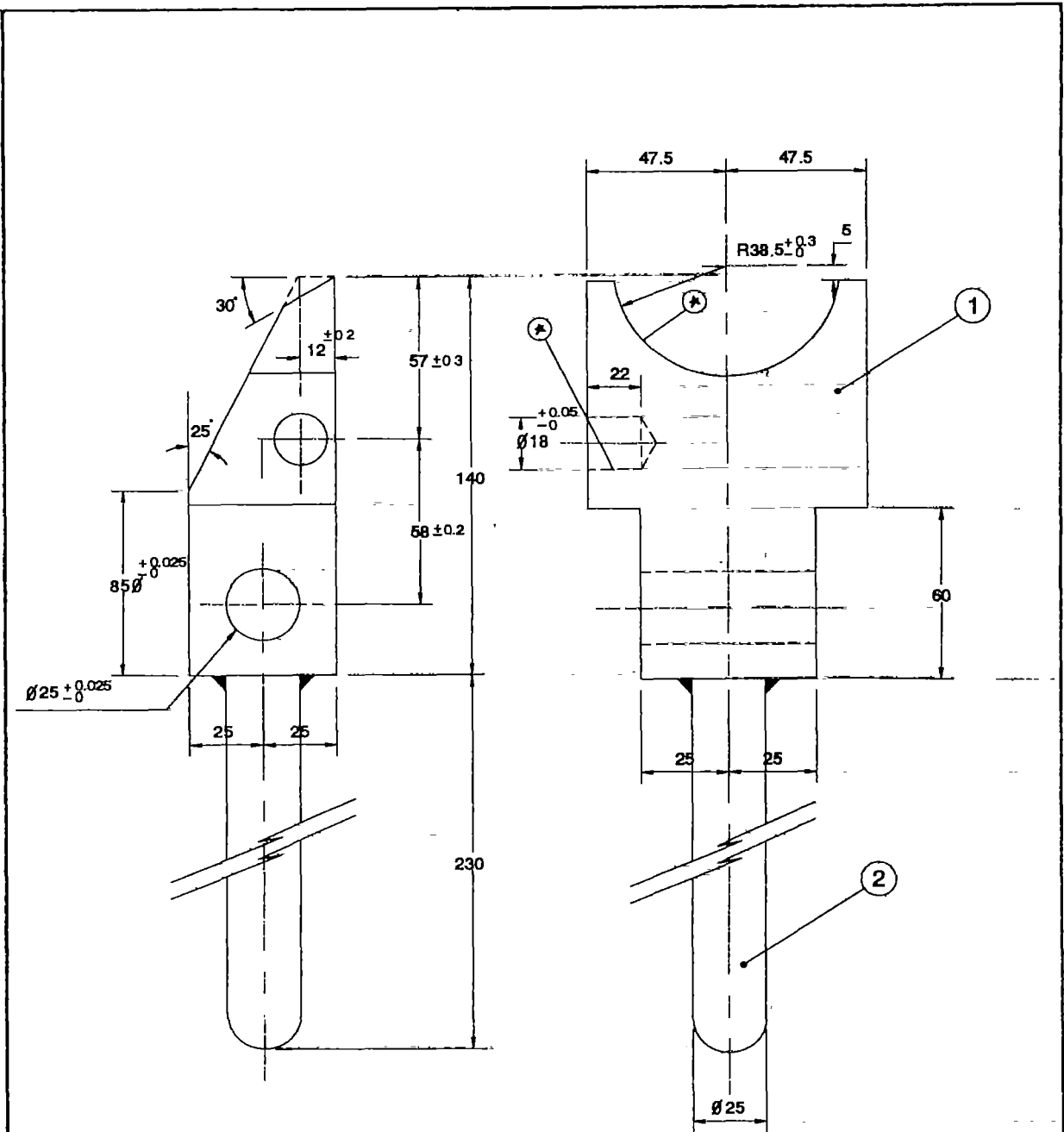
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	
				SELF LOCKING CLAMP	01/01/94



Remove Sharp Edges


ALL DIMENSIONS ARE IN MILLIMETRES

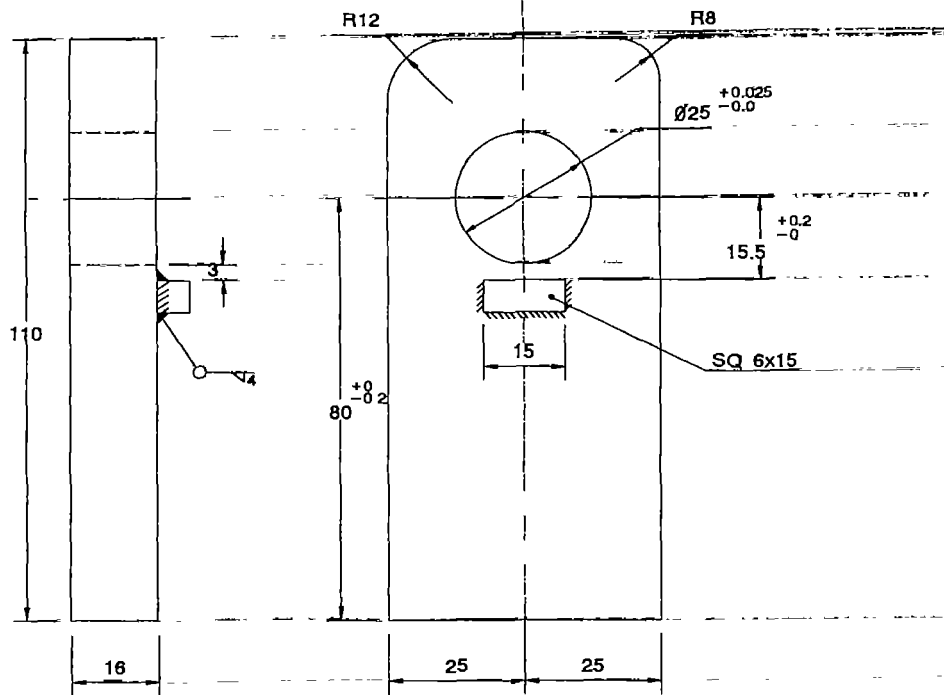
				<b>Unicef</b> INDIA 	
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N T S	
				DRAWING NO T-VLOM-09-01	
1	1	Base Plate	IS . 2062 Grāde A		
<b>Part No</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b>	
				PARTS OF SELF LOCKING CLAMP	
				01/01/94	



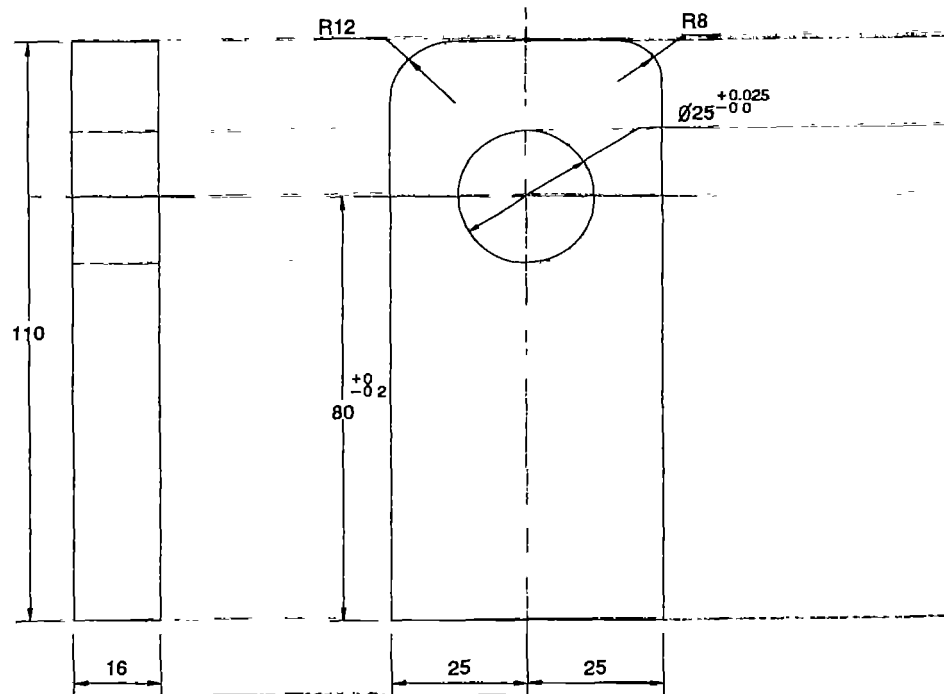
- 1. Electrogalvanised to 30 Micron (Min) Thick
- ⊛ 2. Flame hardened to 30-50 RC.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b>		
				INDIA		
				TOLERANCE		
2	1	Handle	IS 2062	U.O.S. ± 0.5	DRAWING NO T-VLOM-09-02	
1	1	Jaw	IS . 2062	SCALE N.T.S		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		
				PARTS OF SELF LOCKING CLAMP		01/01/84




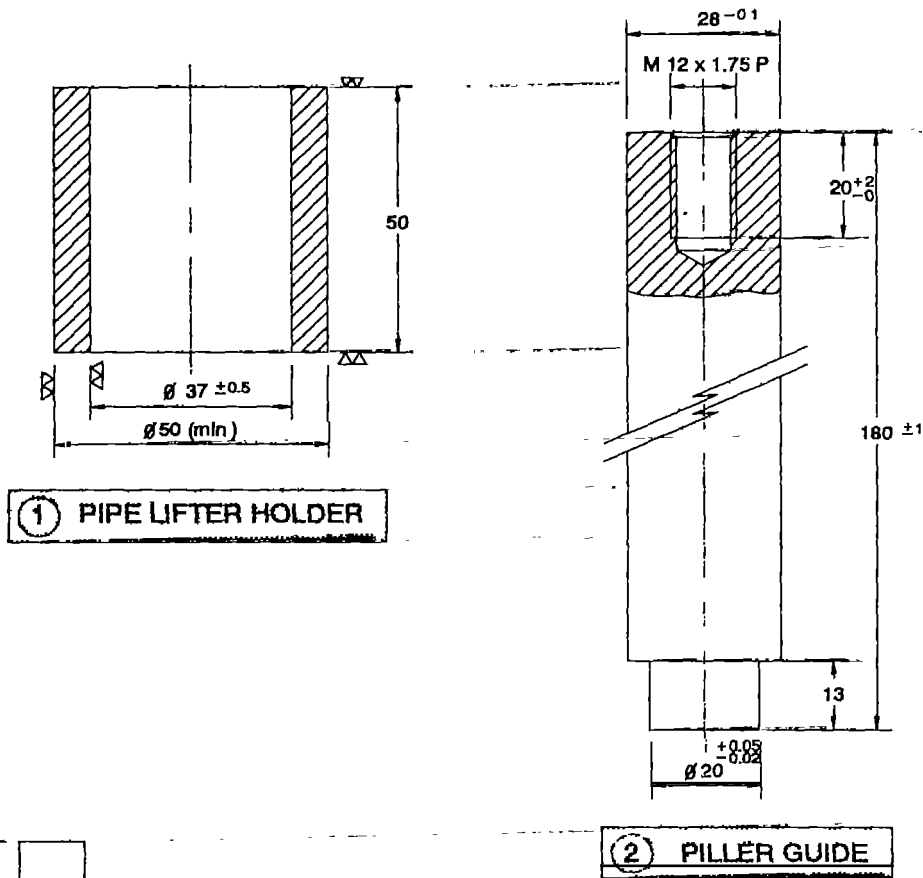
① SUPPORTING PILLAR WITH STOPPER



② SUPPORTING PILLAR

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA		
				TOLERANCE		
				U.Q.S. $\pm 0.5$		DRAWING NO. T-VLOM-09-03
				SCALE N.T.S.		
2	2	Supporting Pillar	IS : 2062 Grade A			
1	2	Supporting Pillar with Stopper	IS : 2062 Grade A			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		
				PARTS OF SELF LOCKING CLAMP		01/01/94



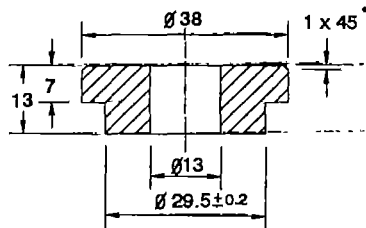
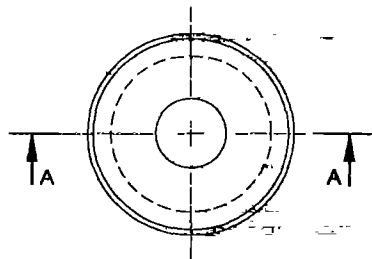
① PIPE LIFTER HOLDER

② PILLER GUIDE

③ HANDLE

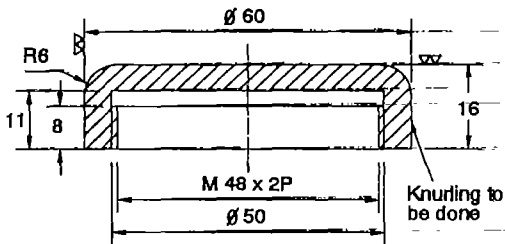
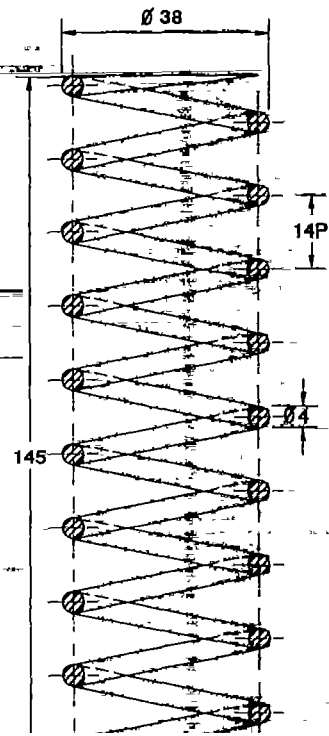
				ALL DIMENSIONS ARE IN MILLIMETRES	
				<b>Unicef</b> INDIA 	
3	1	Handle	IS 2026 Grade A	TOLERANCE	
2	1	Pillar Guide	IS 2026 Grade A	U.Q.S. ± 0.5	DRAWING NO T-VLOM-09-04
1	1	Pipe Lifter Holder	IS 2026 Grade A	SCALE N.T.S.	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				PARTS OF SELF LOCKING CLAMP	01/01/94





SECTION A-A

② SPRING RETAINER



③ PROJECTION COVER

ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA



3	1	Projection Cover	IS . 2062 Grade A
2	1	Spring Retainer	IS 2062 Grade A
1	1	Spring	IS 4454

TOLERANCE

U.O.S.  $\pm 0.5$

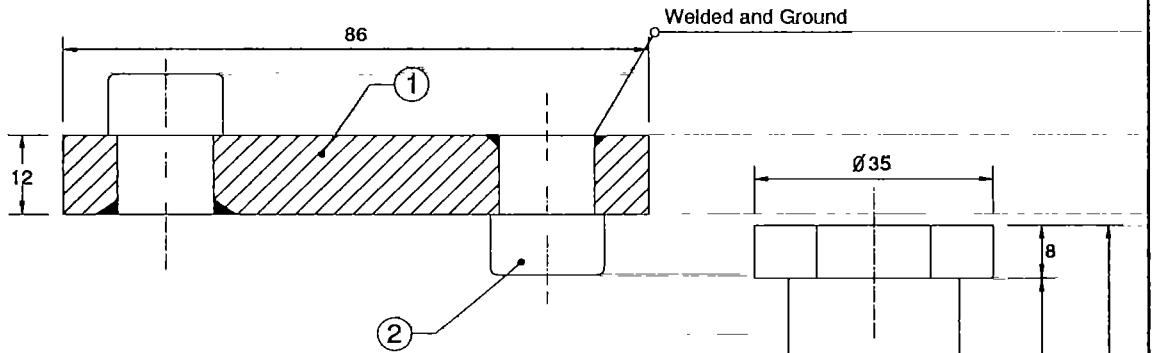
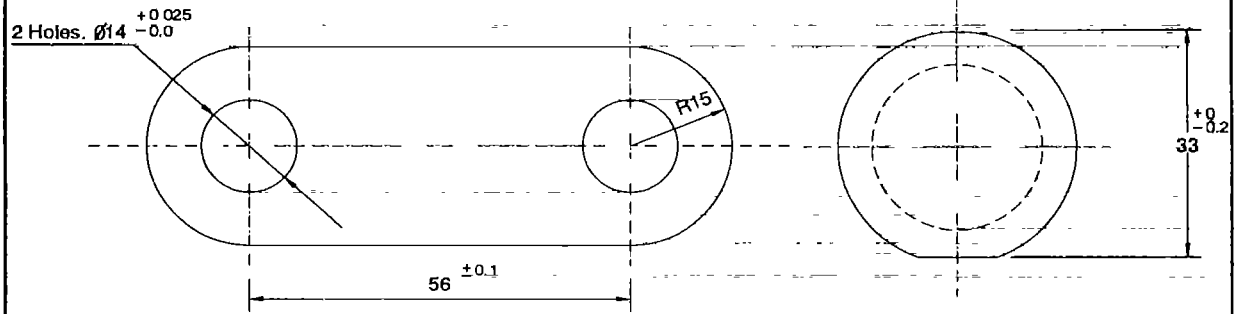
SCALE N.T.S.

DRAWING NO, T-VLOM-09-05

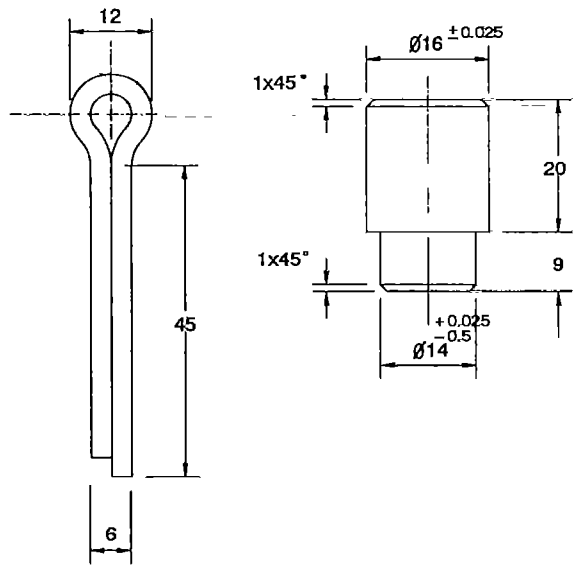
Part No.	No. OFF	DESCRIPTION	MATERIAL
----------	---------	-------------	----------

TITLE  
PARTS OF SELF LOCKING CLAMP

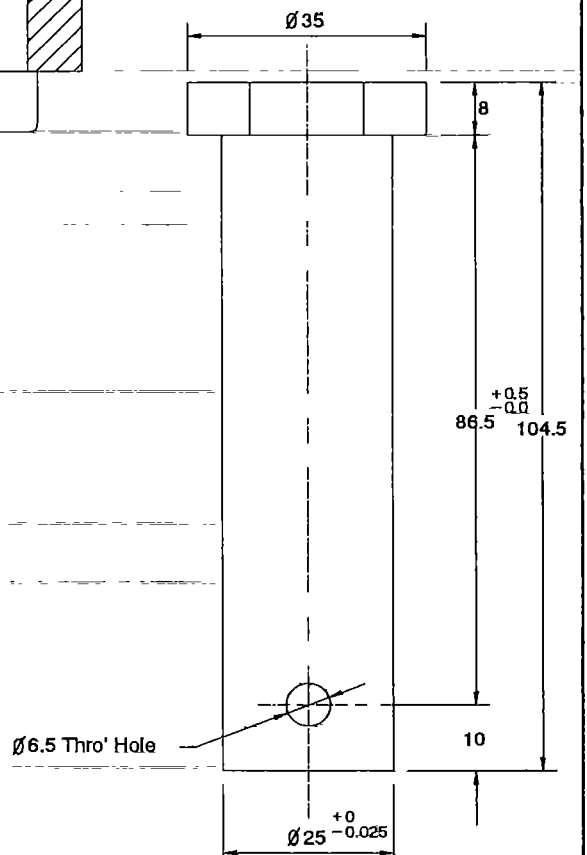
DATE  
01/01/84



① LINK PLATE



④ SPLIT PIN




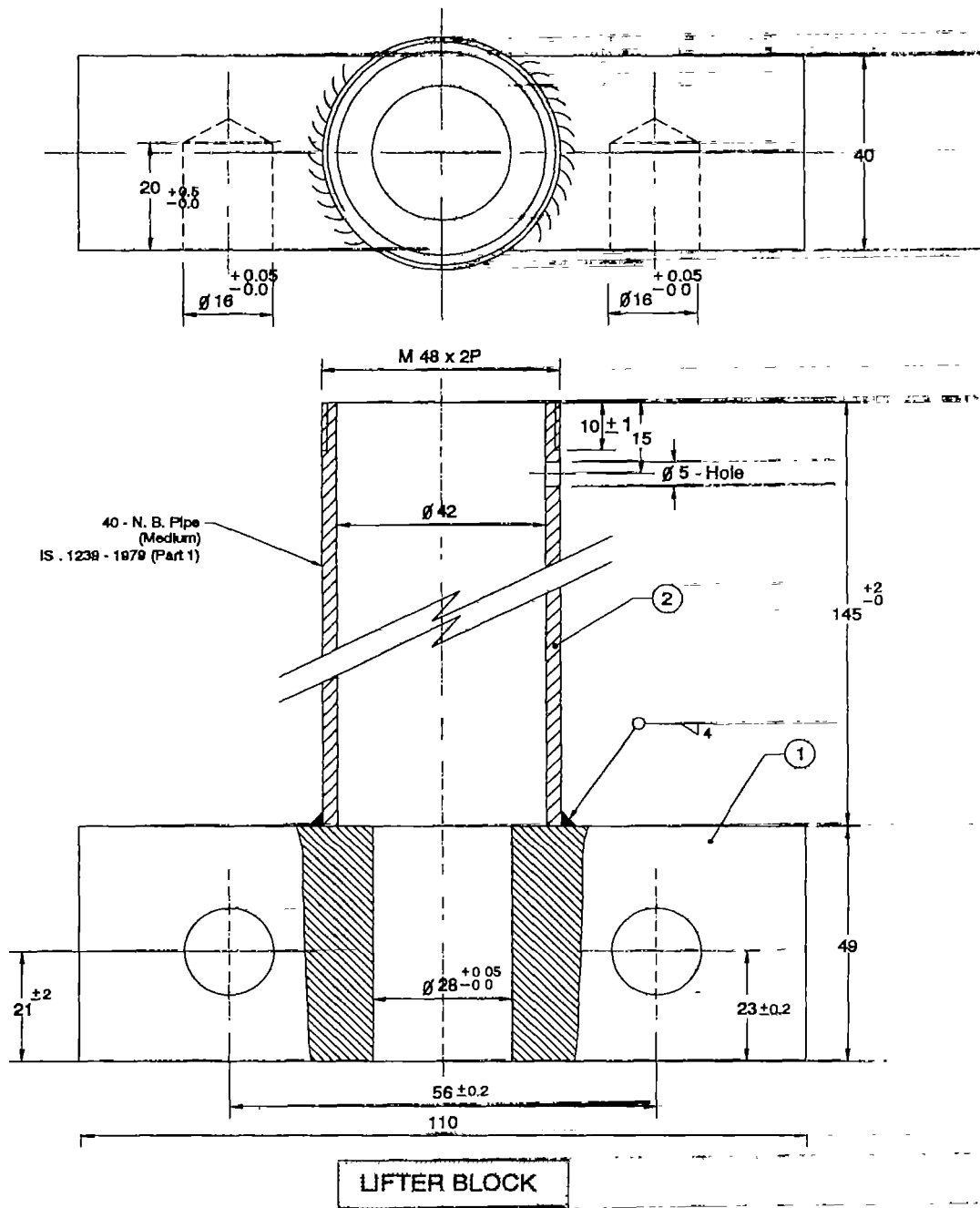
③ AXLE PIN

Electrogalvanised to minimum 30 Micron

Flame Hardened to 30-50 RC.

ALL DIMENSIONS ARE IN MILLIMETRES

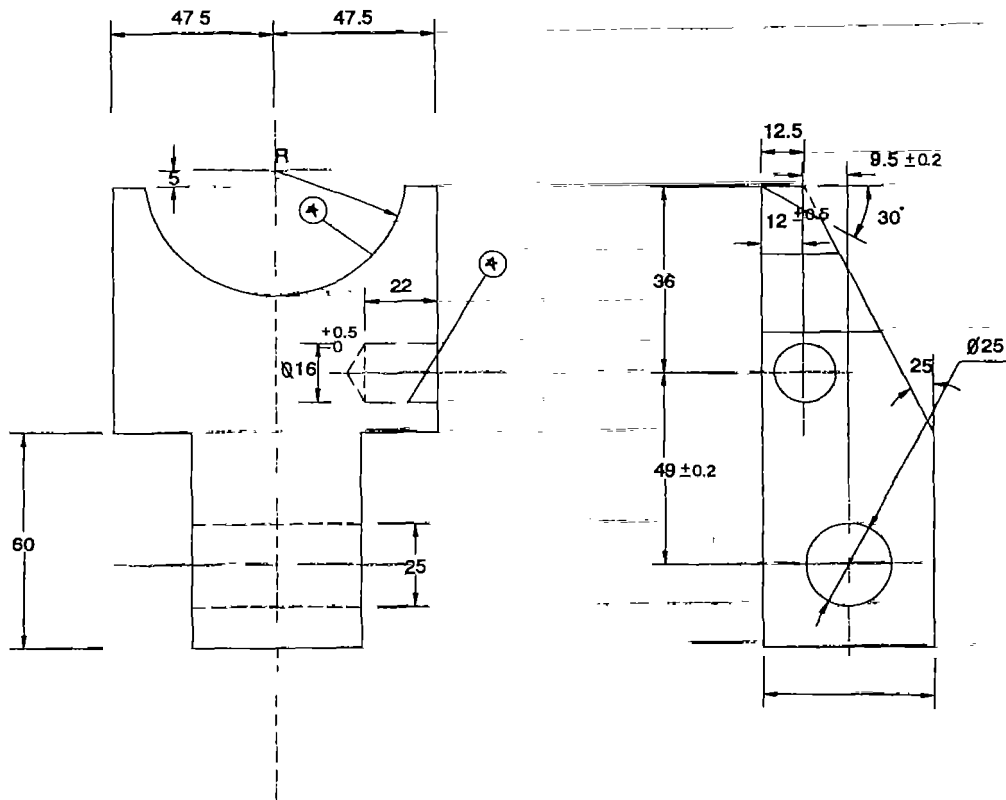
				<b>Unicef</b>		
				INDIA		
4	2	Split Pin	IS . 549	TOLERANCE		
3	2	Axle Pin	EN8	U.O.S.	± 0.5	DRAWING NO. T-VLOM-09-06
2	4	Pin	IS 2062 Grade A	SCALE	N T.S	
1	2	Plate	IS 2062 Grade A	TITLE		
Part No.	No. OFF	DESCRIPTION	MATERIAL	LINK ASSEMBLY		01/01/94



- 1. Electrogalvanised to minimum 30 Micron Thick
- 2. Pipe Inside to be machined

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA	
				TOLERANCE	
				U.O.S. ± 0.5	
				DRAWING NO T-VLOM-09-06	
				SCALE N T S	
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b>	
2	1	Block	IS 2062	PARTS OF SELF LOCKING CLAMP	
1	1	Guide Pipe	IS 1239 (Part 1)	01/01/94	

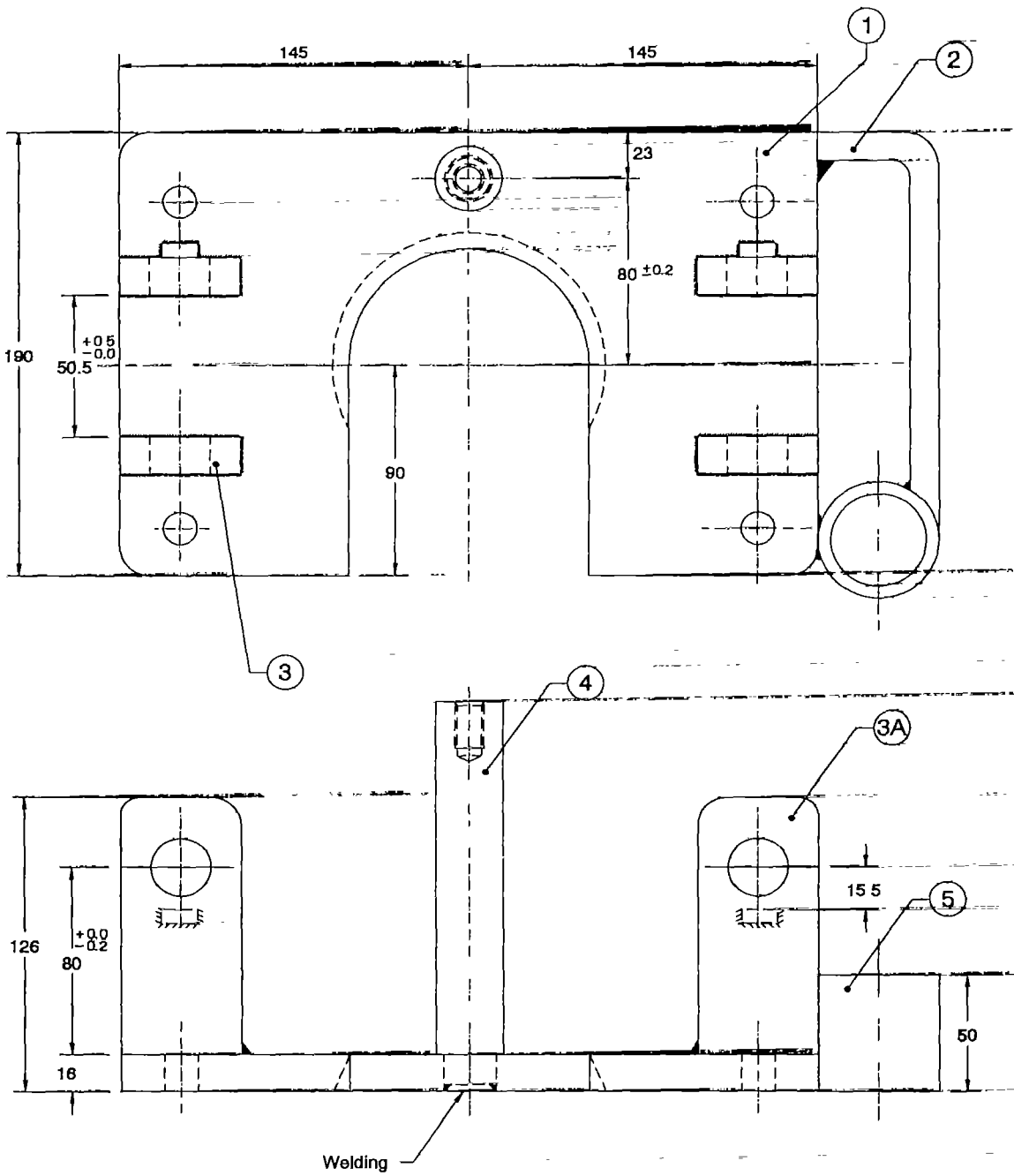



1. Electrogalvanised to 30 Micron (Min) Thick

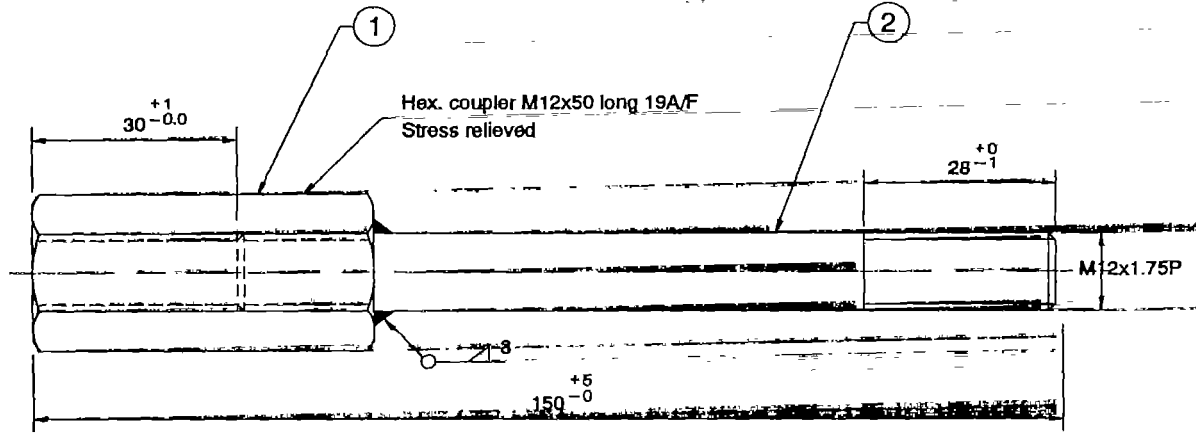
⊕ 2. Flame hardened to 30 - 50 RC.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO. T-VLOM-09-08	
				SCALE N.T.S.			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			
1		Left Hand Jaw	IS 2062	PARTS OF SELF LOCKING CLAMP			01/01/84




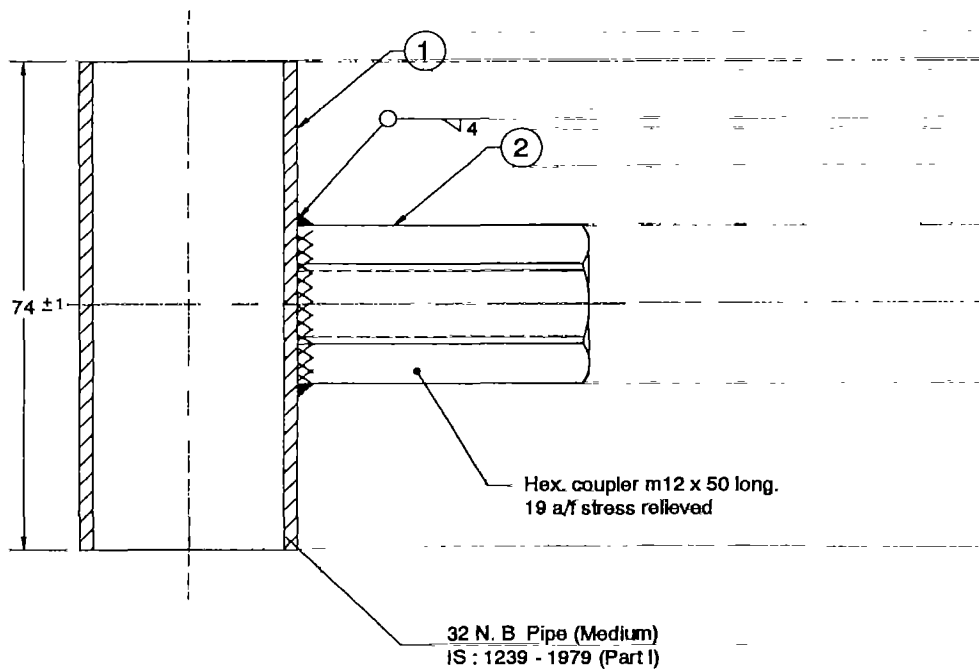
5	1	Pipe Lifter Holder	IS .2062	ALL DIMENSIONS ARE IN MILLIMETRES		
4	2	Pillar Gulde	EN - 8	<b>Unicef</b> INDIA 		
3A	2	Supporting Pillar with Stopper	IS 2062			
3	2	Supporting Pillar	IS 2062	TOLERANCE U.Q.S. $\pm 0.5$ SCALE N.T.S.		
2	1	Handle	IS 2062	DRAWING NO. T-VLOM-09-09		
1	1	Base Plate	IS 2062	TITLE SELF LOCKING CLAMP SUB ASSEMBLY		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		01/01/84



Note :-  
Electro galvanised to minimum 30 Micron Thick

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
				---TOLERANCE			
2	1	Rod	IS 2062	U.Q.S.	± 0.5	DRAWING NO	T-VLOM-10
1	1	Hex. Coupler	IS 9550 Gr 2/3 Type 4 Free Cutting Steel	SCALE	N T S		
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> LIFTER ADAPTER			<b>DATE</b> 01/01/94

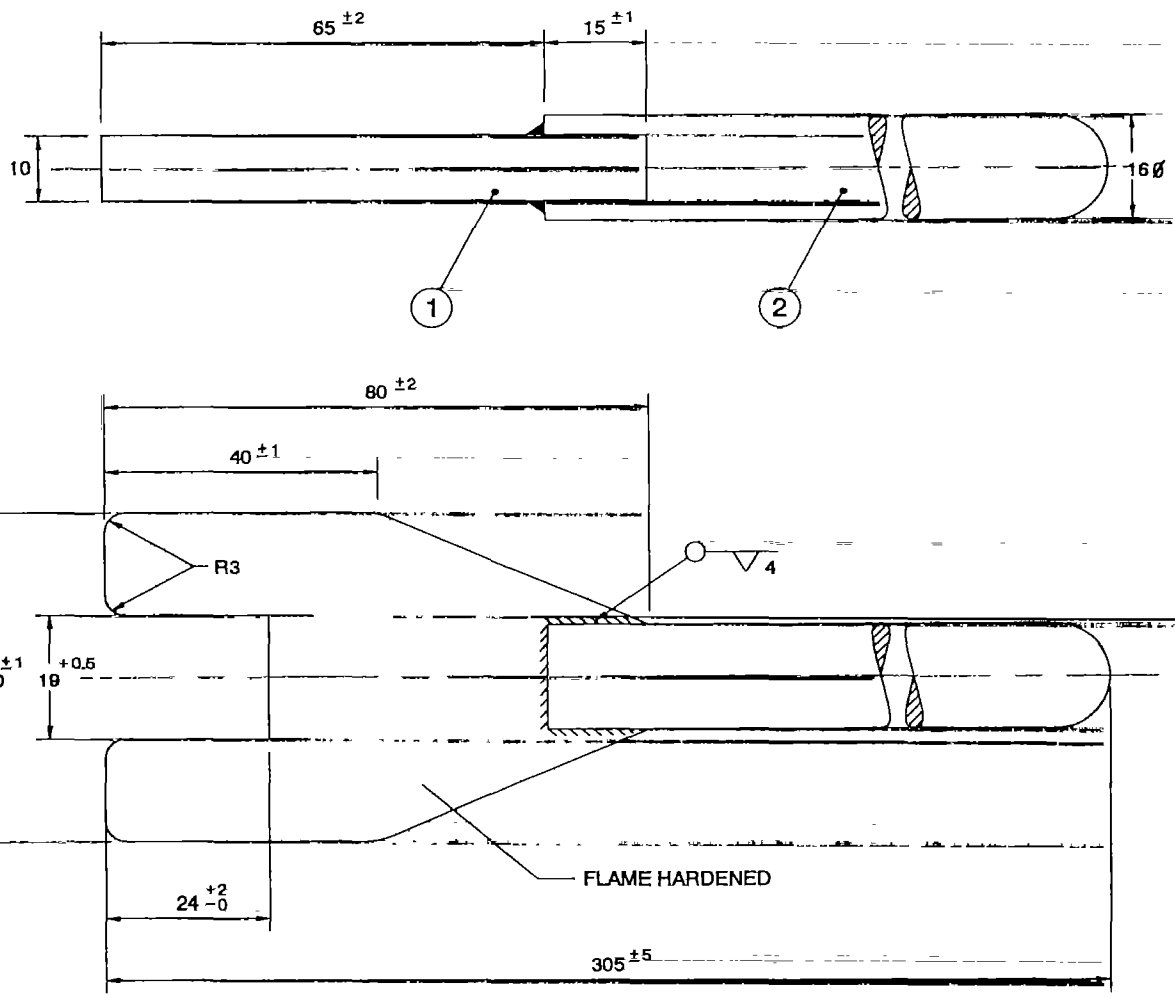


1. Electrogalvanised to minimum 30 Micron Thick

Inside surface shall be protected with Red Oxide Primer


ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO T-VLOM-11	
				SCALE N T.S			
2	1	Hex. Coupler	IS . 8550 Gr 2/3 Type 4 Free Cutting Steel				
1	1	Pipe	IS 1239 (Part 1)				
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> CONNECTING ROD LIFTER			<b>DATE</b> 01/01/84

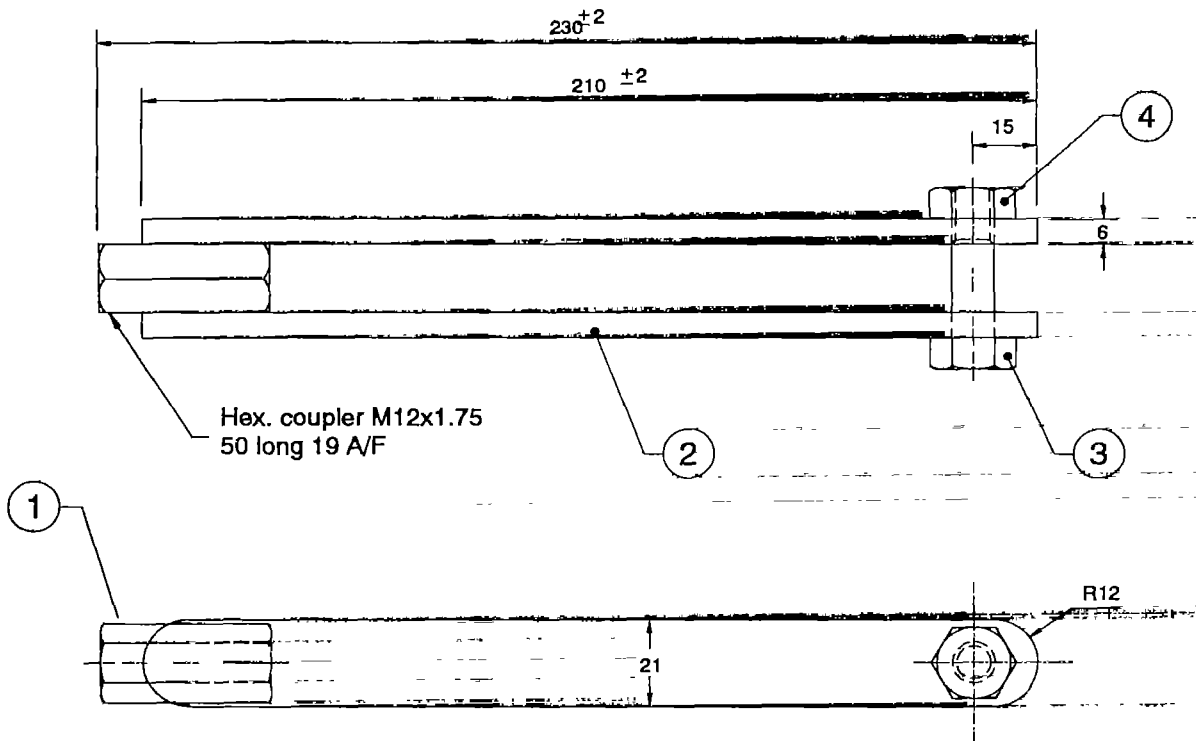


NOTE :-  
Electrogalvanised to minimum 30 micron thick


ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE		DRAWING NO. T-VLOM-12	
				U.O.S. +0.5			
				SCALE N T.S			
2	1	Rod	IS 2062 Grade A				
1	1	Plate	IS . 2062 Grade A				
<b>Part No</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b> ROD COUPLER SPANNER		<b>DATE</b> 01/01/94	

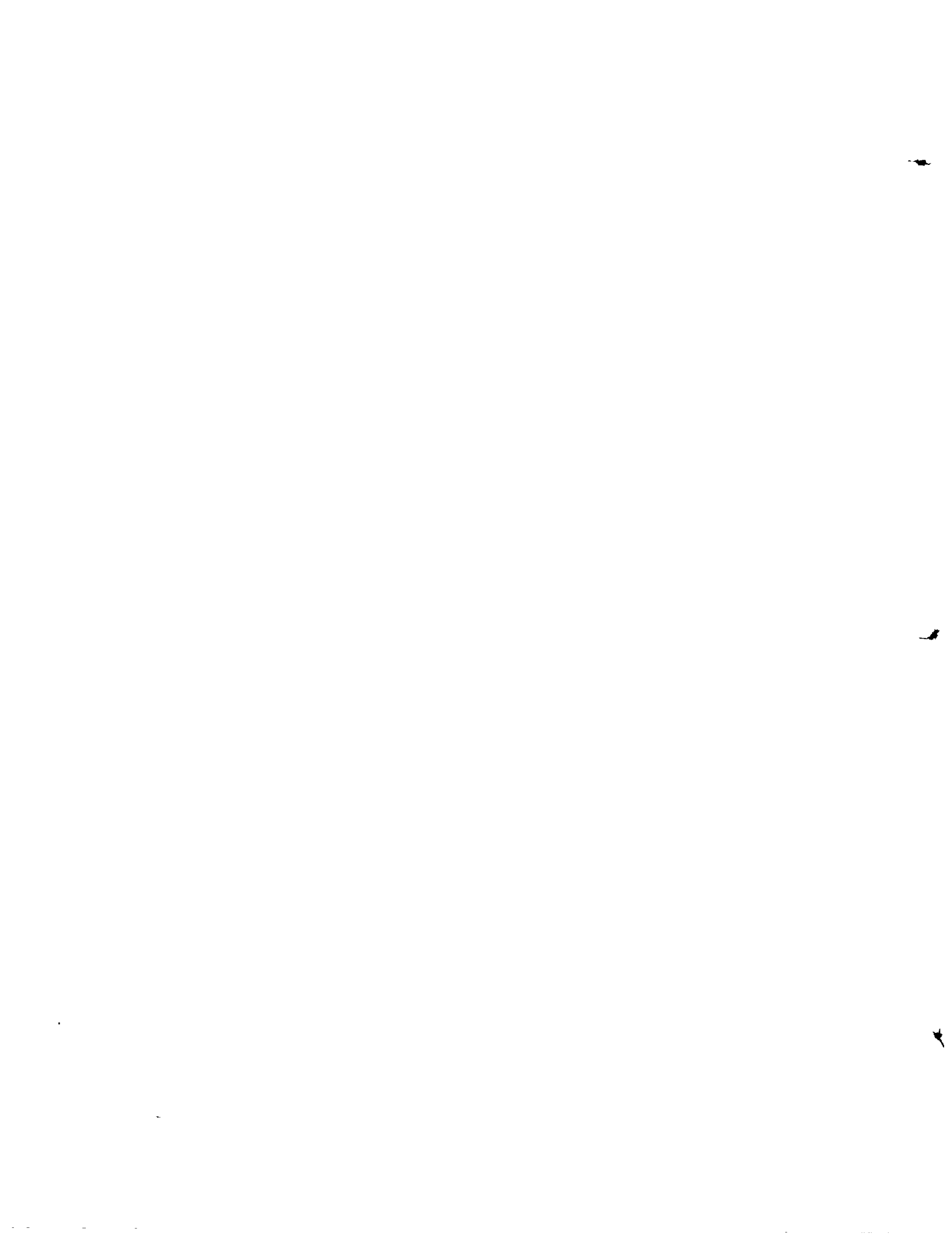


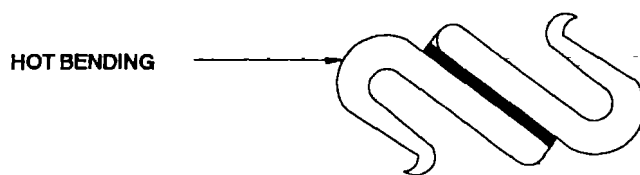
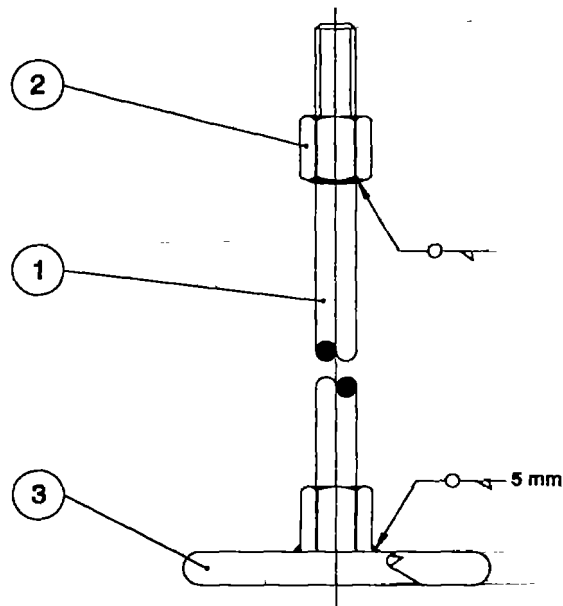


ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA		
4	1	Hex. Nut M10 x 15	IS . 1363	Part 3		
3	1	Hex. Bolt M10 x 40	IS . 1363	Part 1		
2	1	Plate	IS 2062	TOLERANCE		
1	1	Hex. Coupler	IS 9550 Gr 2/3 Type 4 Free Cutting Steel	U.O.S.	± 0.5	DRAWING NO T-VLOM-13
				SCALE	N T.S.	
Part No.	No. OFF	DESCRIPTION	MATERIAL		TITLE	DATE
					CHECK VALVE ADAPTER FORK TYPE	01/07/93

## Fishing Tools






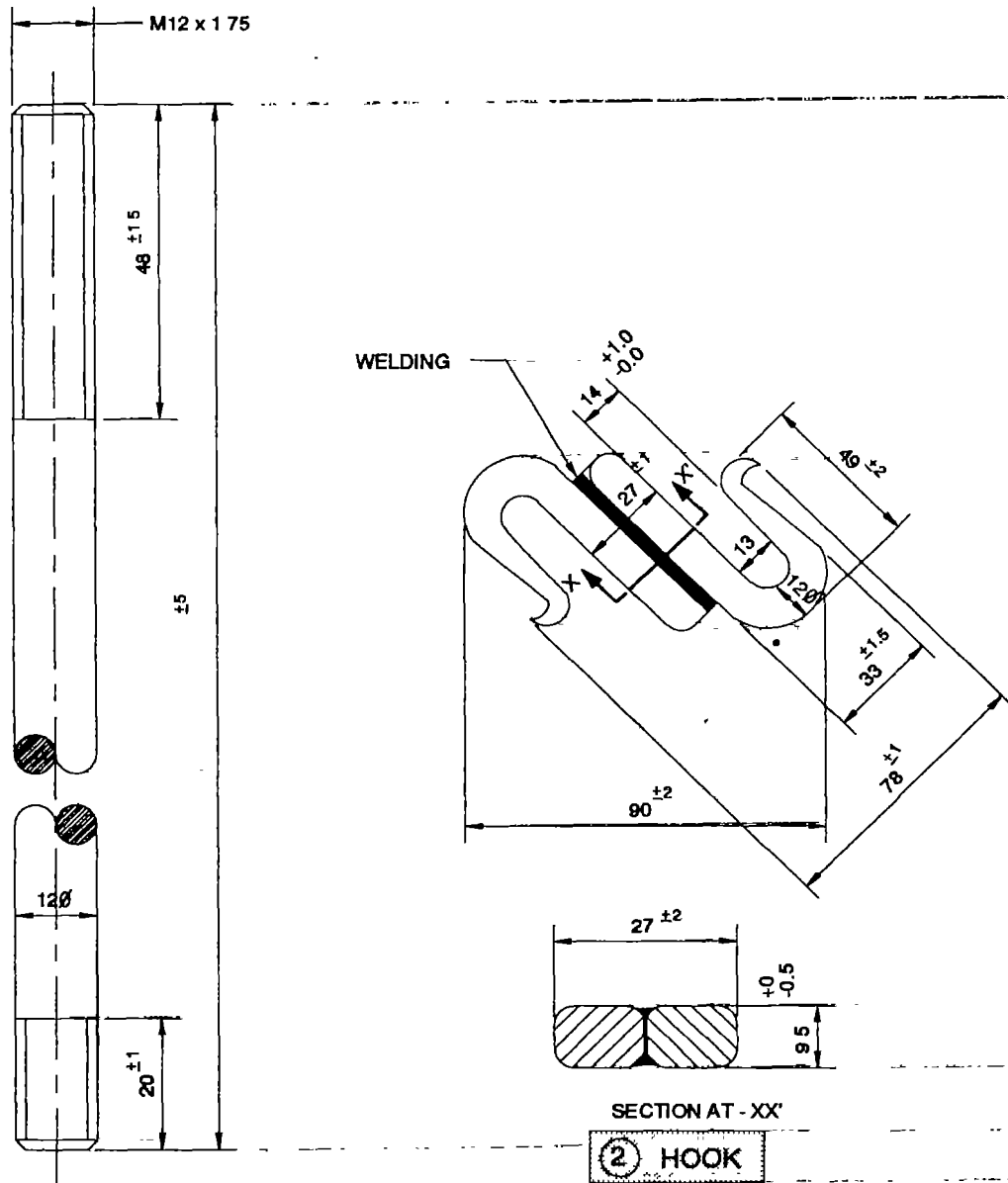
**Notes:**

Electrogalvanised coating thickness - 30 micron (min.)

Design load - 200kg.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b>		
				INDIA		
3	1	Hook	IS : 2002 Grade A	TOLERANCE		DRAWING NO. FT - 01
2	2	Coupling M12 x 20	IS : 1367 Part - 3	U.O.S.	± 0.5	
1	1	Connectin Rod Assembly	IS : 9550	SCALE	N.T.S.	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE
				CONNECTING ROD FISHING TOOL		01/01/84




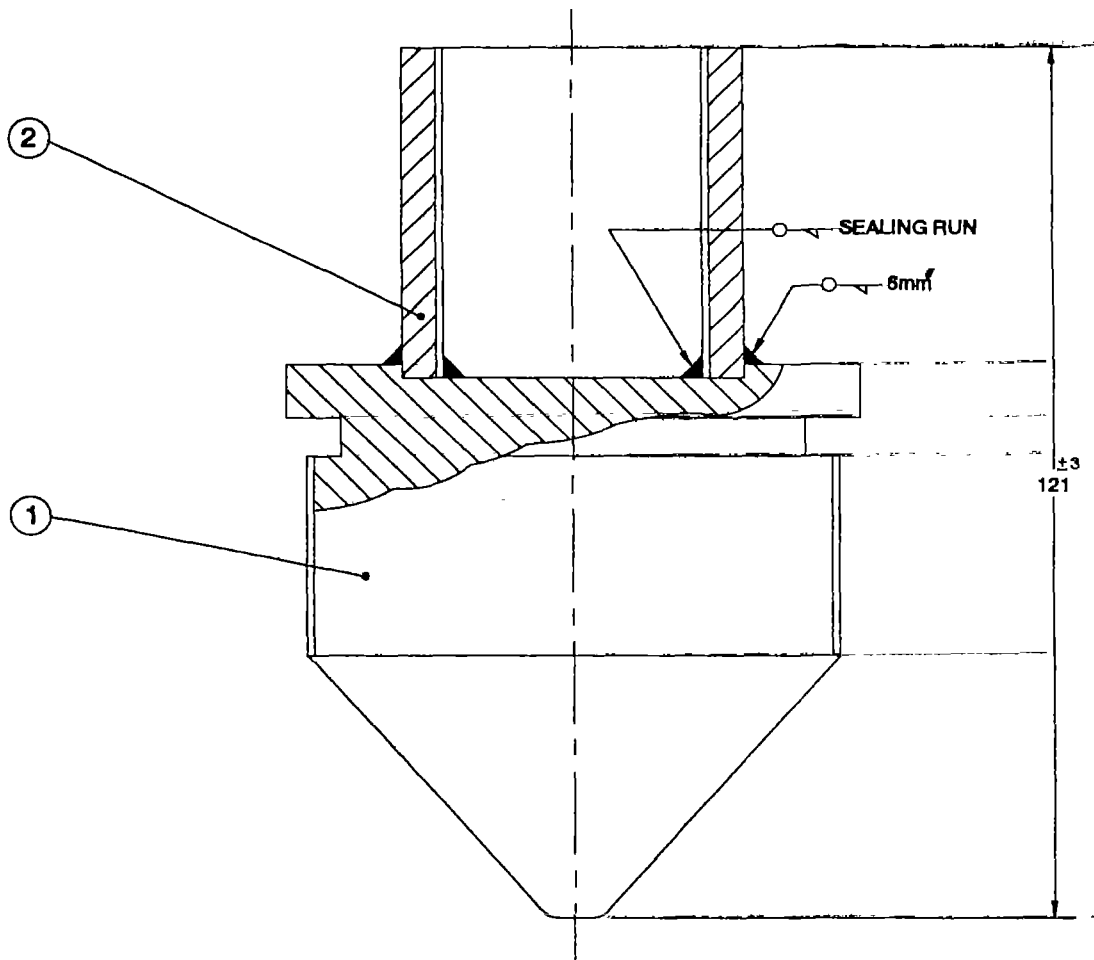
① CONNECTING ROD

NOTE :

Electrogalvanise to minimum 30 micron


ALL DIMENSIONS ARE IN MILLIMETRES

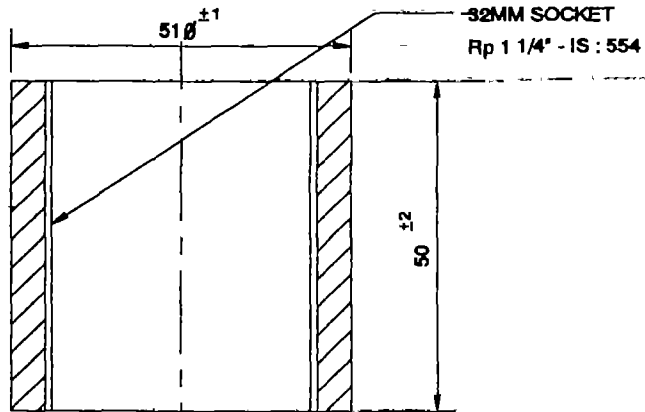
				<b>Unicef</b> INDIA 		
				TOLERANCE		
2	1	Hook	IS : 2062 Grade A	U.O.S. ± 0.5	DRAWING NO. FT - 02	
1	1	Connecting Rod	12MM Bright Bar IS - 9550	SCALE N.T.S.		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	PARTS FOR CONNECTING ROD FISHING TOOL	DATE 01/01/84



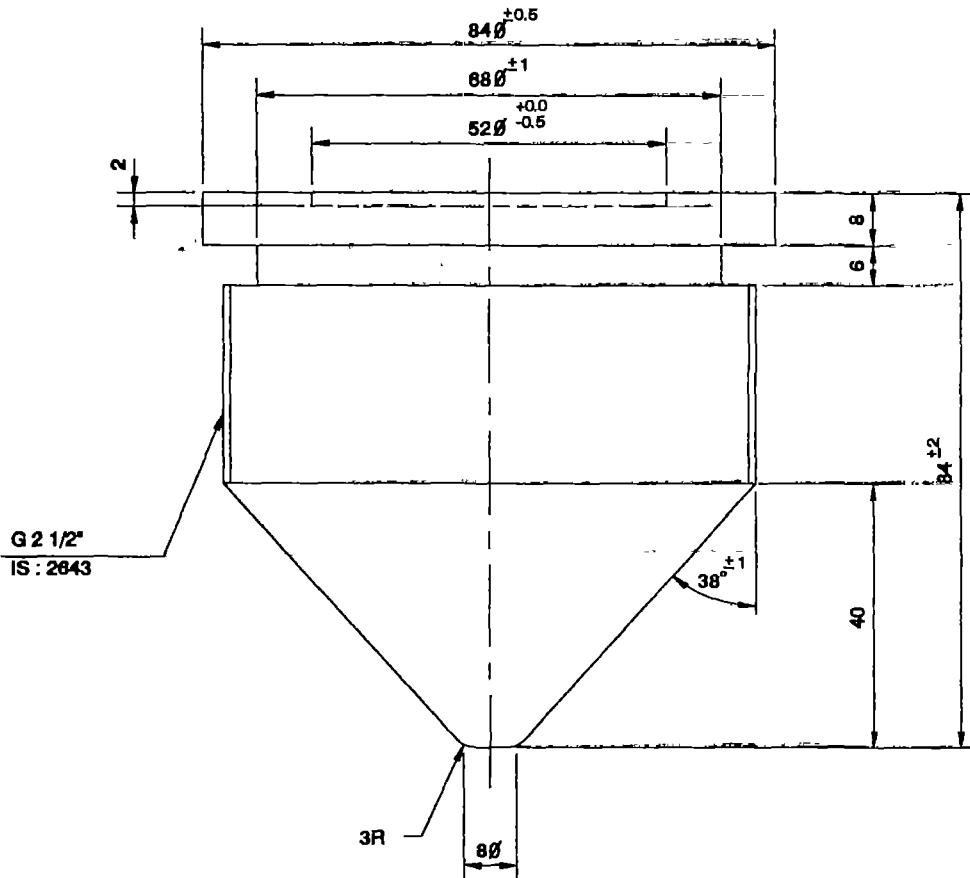
Notes:  
 Electrogalvanised coating thickness - 30 micron(min.)  
 Design load-300kg.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO. FT - 03	
				SCALE N.T.S.			
2	1	Socket	IS.1239(PART I)	TITLE FISHING TOOL - 65 MM SOCKET HOLDER (INDIA MARK III)		DATE 01/01/94	
1	1	Socket holder	IS:2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE	




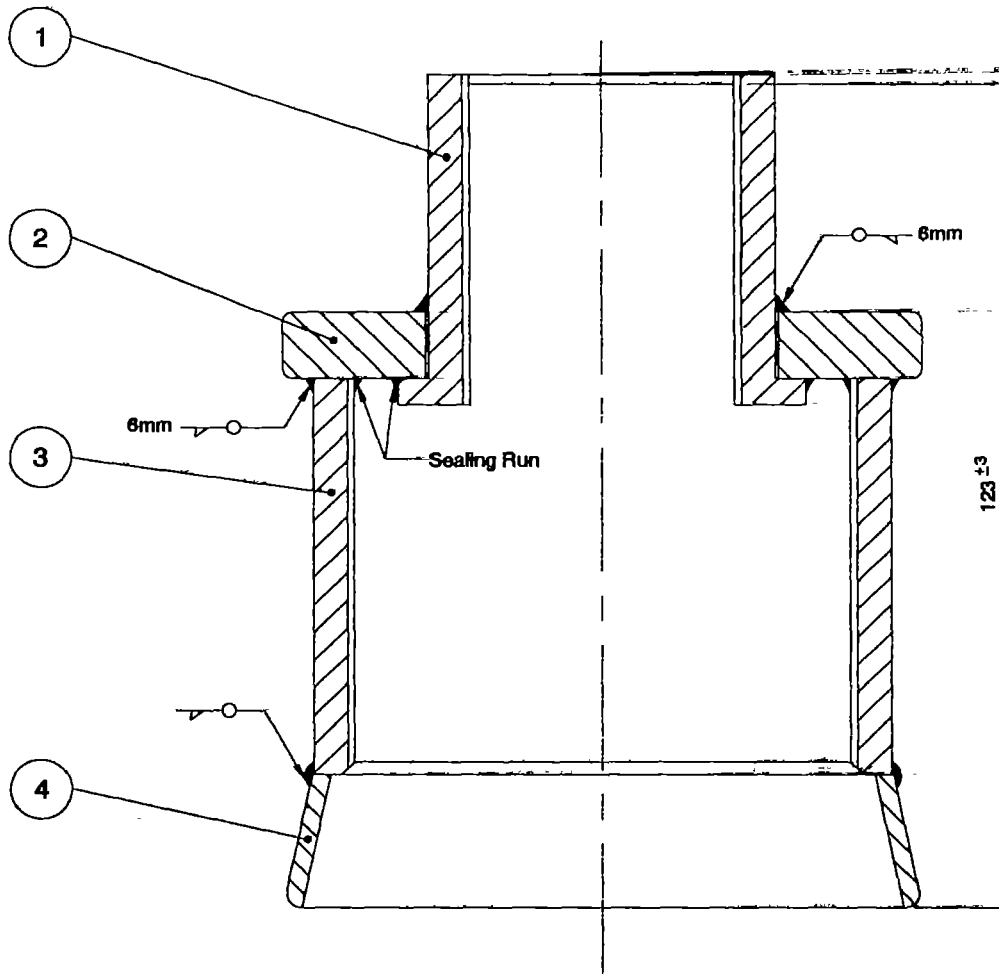
② SOCKET



① SOCKET HOLDER

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA		
				TOLERANCE		
				U.O.S. ±0.5		DRAWING NO. FT - 03 - 01
				SCALE N.T.S.		
2	1	Socket	Seamless IS . 1239 (Part I)			
1	1	Socket Holder	IS : 2082 Grade A			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE
				PARTS FOR 65 MM SOCKET HOLDER		01/01/94



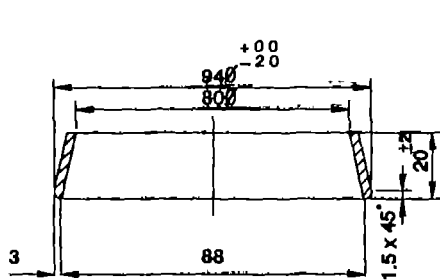
**Notes:**

Electrogalvanised to minimum 30 micron thick  
 Design load-300kg.

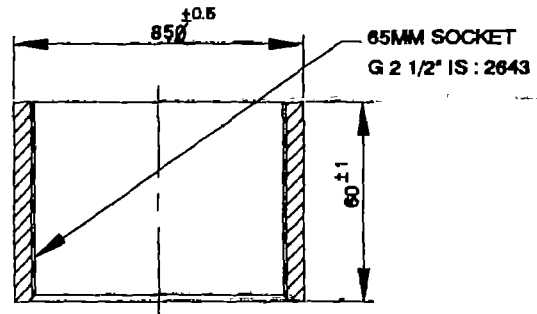
ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	1	Cone	IS : 2062 Grade A	<b>Unicef</b> INDIA 	DRAWING NO. FT - 04 DATE 01/01/84
3	1	65MM Socket	IS : 1230 (Part II)		
2	1	Socket Joint Plate	IS : 2062 Grade A		
1	1	32MM Special Socket Solid or Beermises	IS : 1230 (Part I)		
				TOLERANCE U.O.S. ± 0.5 SCALE N.T.S.	
				TITLE FISHING TOOL 65MM PIPE HOLDER (INDIA MARK III)	DATE 01/01/84

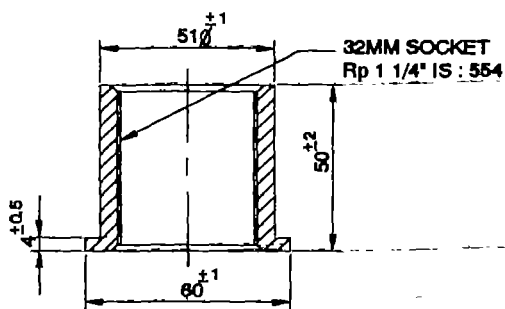




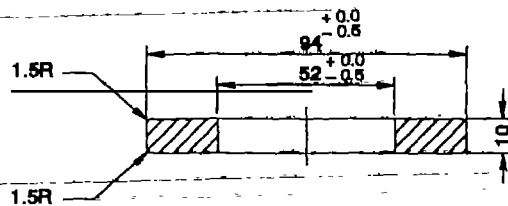
④ CONE



③ 65MM SOCKET



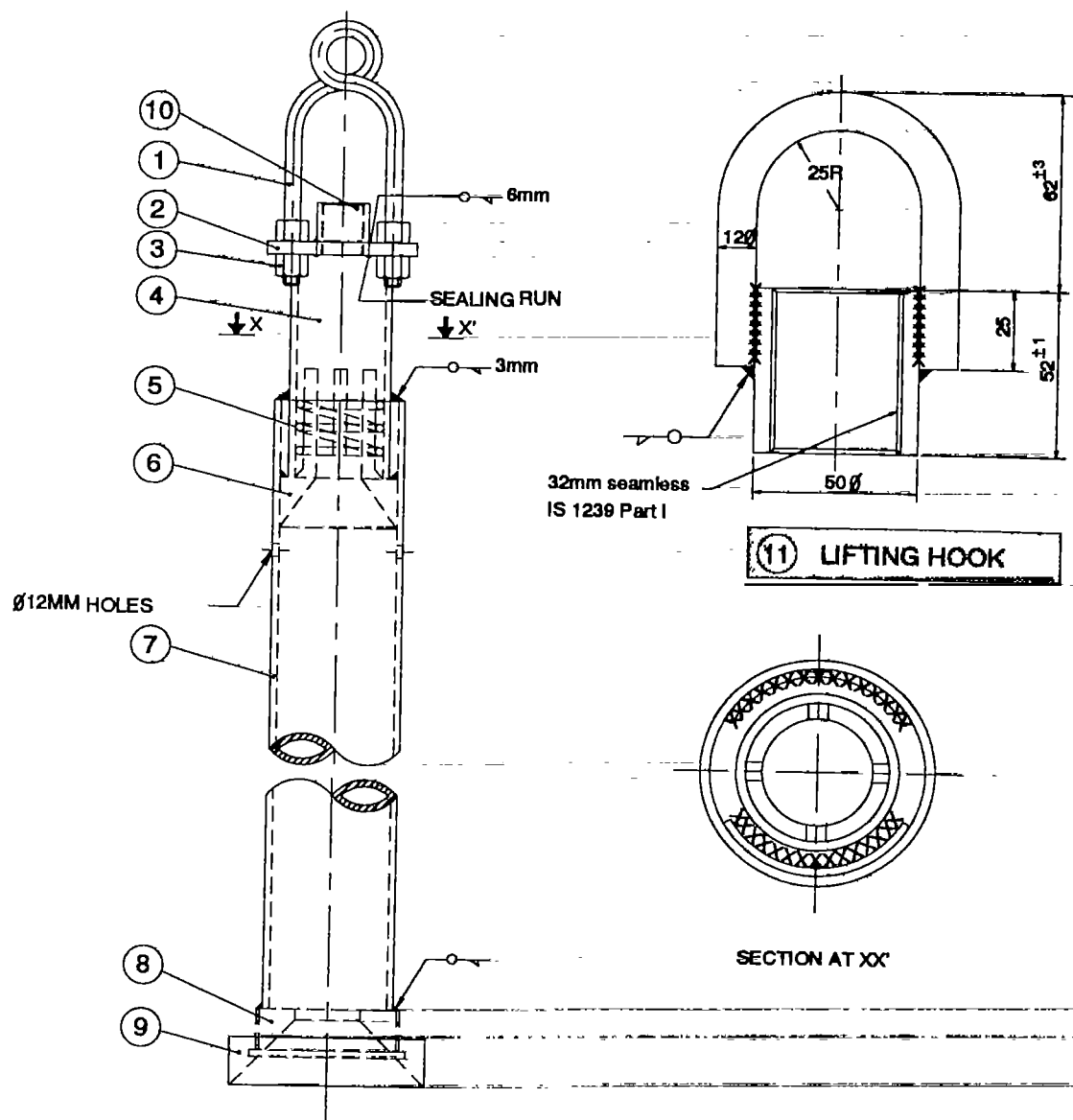
① 32MM SPECIAL SOCKET



② SOCKET JOINT PLATE

ALL DIMENSIONS ARE IN MILLIMETRES

Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
4	1	Cone	IS : 2062	<p style="text-align: center;"><b>Unicef</b> INDIA</p> <p style="text-align: center;">TOLERANCE U.O.S. ± 0.5 SCALE N.T.S.</p> <p style="text-align: right;">DRAWING NO. FT - 04 - 01</p>	01/01/84
3	1	65MM Socket	Seamless IS : 1239 (Part II)		
2	1	Socket Joint Plate	IS : 2062 ST42 Grade A		
1	1	32MM Special Socket Solid or Seamless	IS : 1239 (Part I)		




11	1	Lifting hook	IS 2062 Grade A
10	1	32mm socket	M S seamless 1239 Part I
9	1	Guide ring	IS : 2062 Grade A
8	1	Guide bush	IS 2062 Grade A
7	1	Pipe medium	IS-1239(PART I)
6	1	Pipe holder notcher	IS : 2062 Grade A
5	1	Spring	Spring steel
4	2	Joining pipe piece Thickness 4mm	IS : 2062 Grade A
3	4	Nut (M12 x 1.75)	IS-1367 Part 3
2	1	Joining plate	IS : 2062 Grade A
1	1	Lifting hook	IS : 2062 Grade A
Part No.	No. OFF	DESCRIPTION	MATERIAL

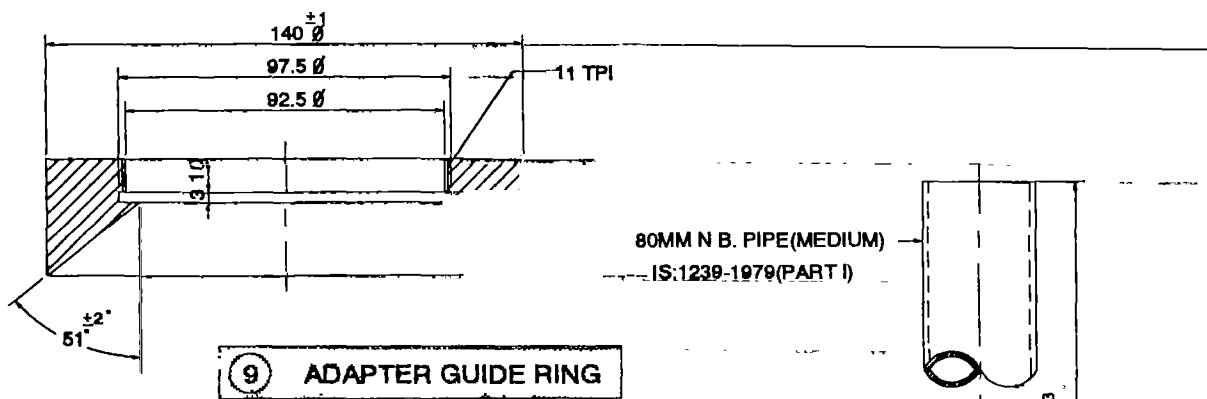
Notes:  
 Electrogalvanised coating  
 Thickness minimum 30 microns  
 Design load-300kg.

ALL DIMENSIONS ARE IN MILLIMETRES

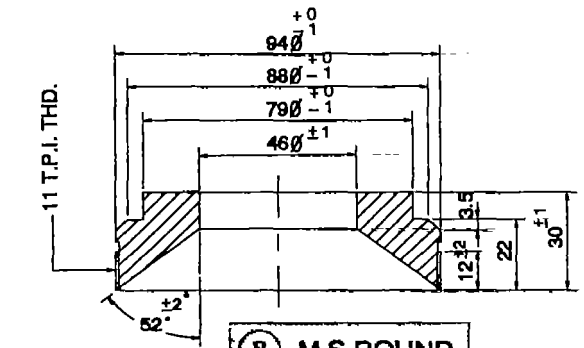
**Unicef**  
 INDIA



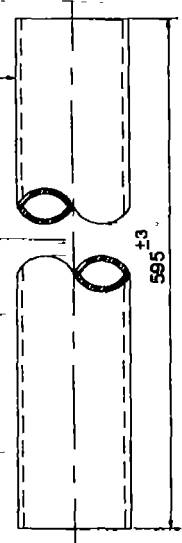
TOLERANCE		DRAWING NO. FT - 05
U.O.S.	± 0.5	
SCALE N T.S.		
TITLE		DATE
FISHING TOOL 32MM NOTCHING HAMMER (INDIA MARK II)		01/01/04



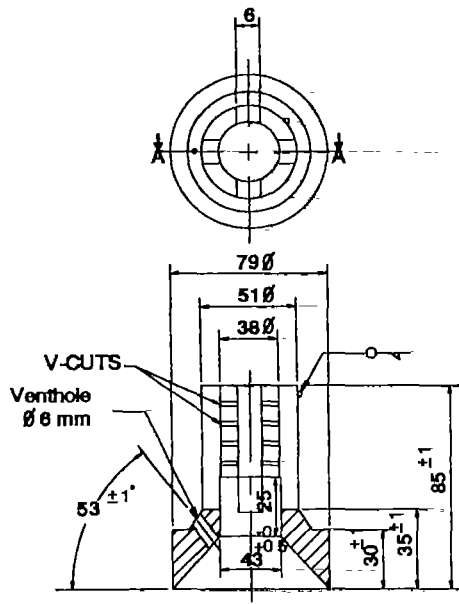
**9 ADAPTER GUIDE RING**



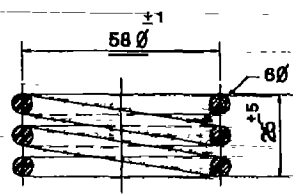
**8 M.S. ROUND**



**7 ERW PIPE**




**6 PIPE HOLDER NOTCHER**

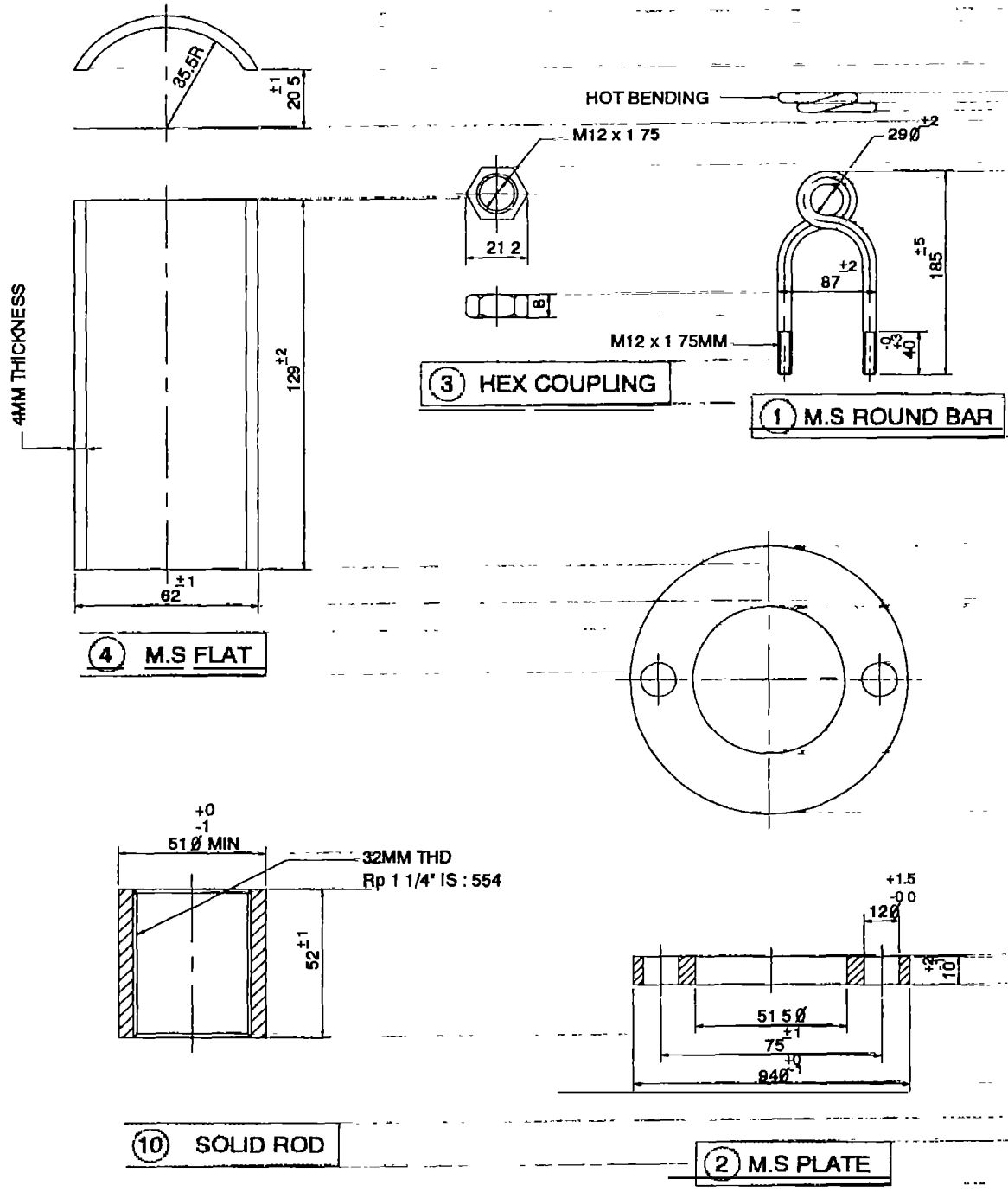


**5 SPRING**


Spring steel wire conforming to  
IS:4434 (Part I) 1981 Grade - 2

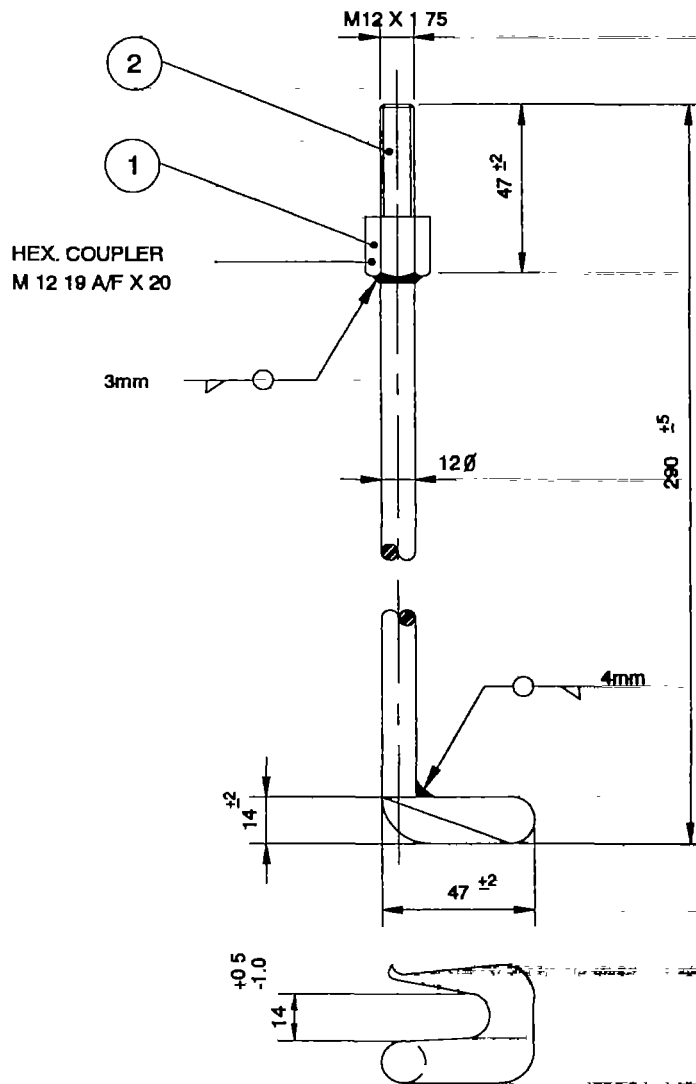
ALL DIMENSIONS ARE IN MILLIMETRES

9	1	Adapter Guide Ring	IS : 2062 Grade A	<b>Unicef</b> INDIA 	
8	1	M S Round	IS : 2062 Grade A		
7	1	ERW Pipe (Medium)	IS : 1239 (Part I)		
6	1	Pipe Holder Notcher	IS : 2062 Grade A		
5	1	Spring	Spring Steel to IS 4434		
				TOLERANCE	
				U.O.S. ± 0.5	DRAWING NO. FT - 05 - 01
				SCALE N.T.S.	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE PARTS FOR 32MM NOTCHING HAMMER	
				DATE 01/01/84	




ALL DIMENSIONS ARE IN MILLIMETRES

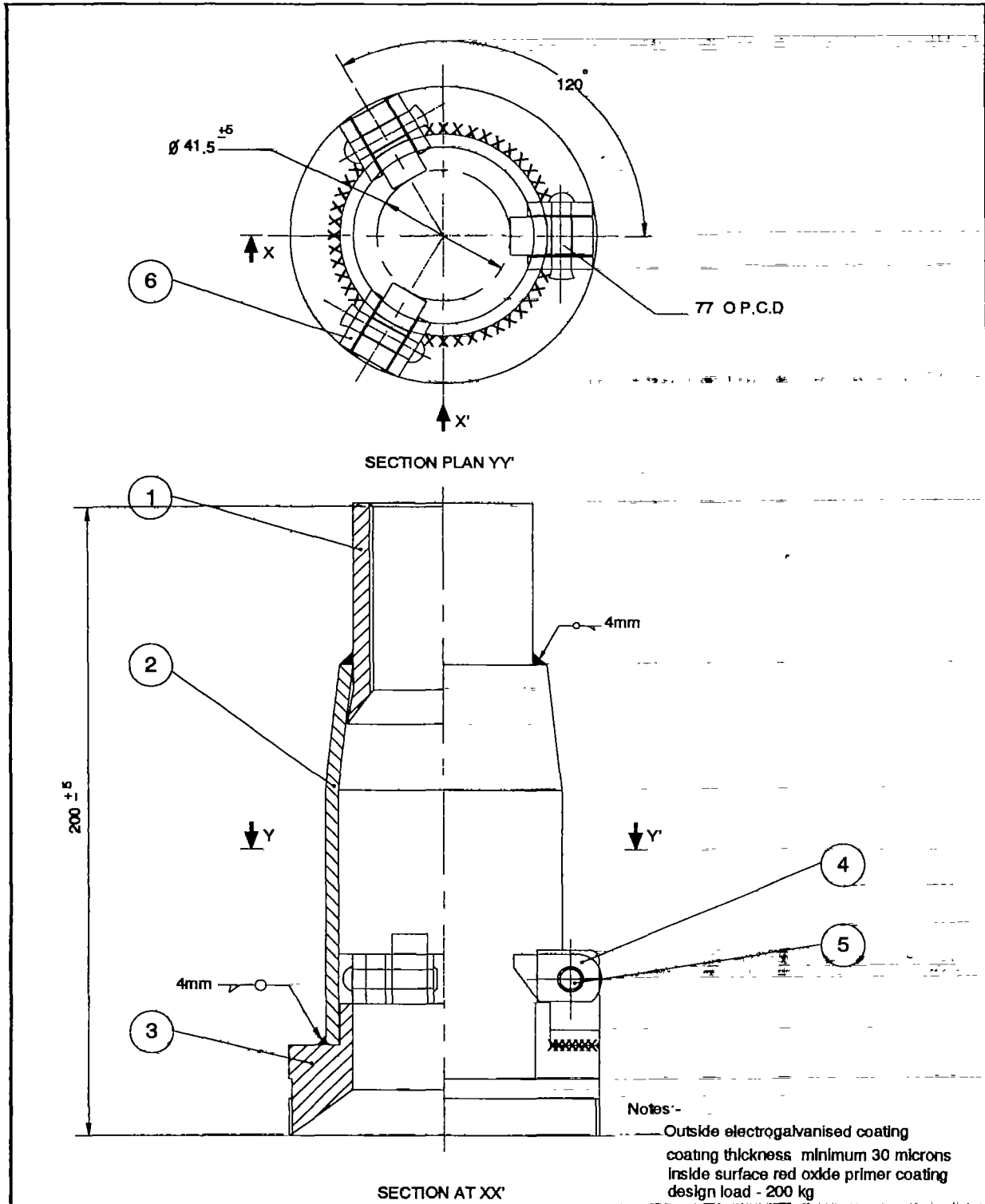
10	1	Seamless pipe or Solid Rod	IS : 1239 Part I	<b>Unicef</b> INDIA 	
4	2	M.S Flat	IS : 2062 Grade A		
3	1	Hex. Coupling	M.S. IS : 1367 Part 3		
2	1	M.S Plate	IS : 2062 Grade A		
1	1	M.S. Round Bar 12 mm Dia	IS : 9550 GR 2 or 3		
				TOLERANCE	DRAWING NO. FT - 05 - 02
				U O.S. ± 0.5	
				SCALE N.T.S.	DATE 01/01/94
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE PARTS FOR 32MM NOTCHING HAMMER	




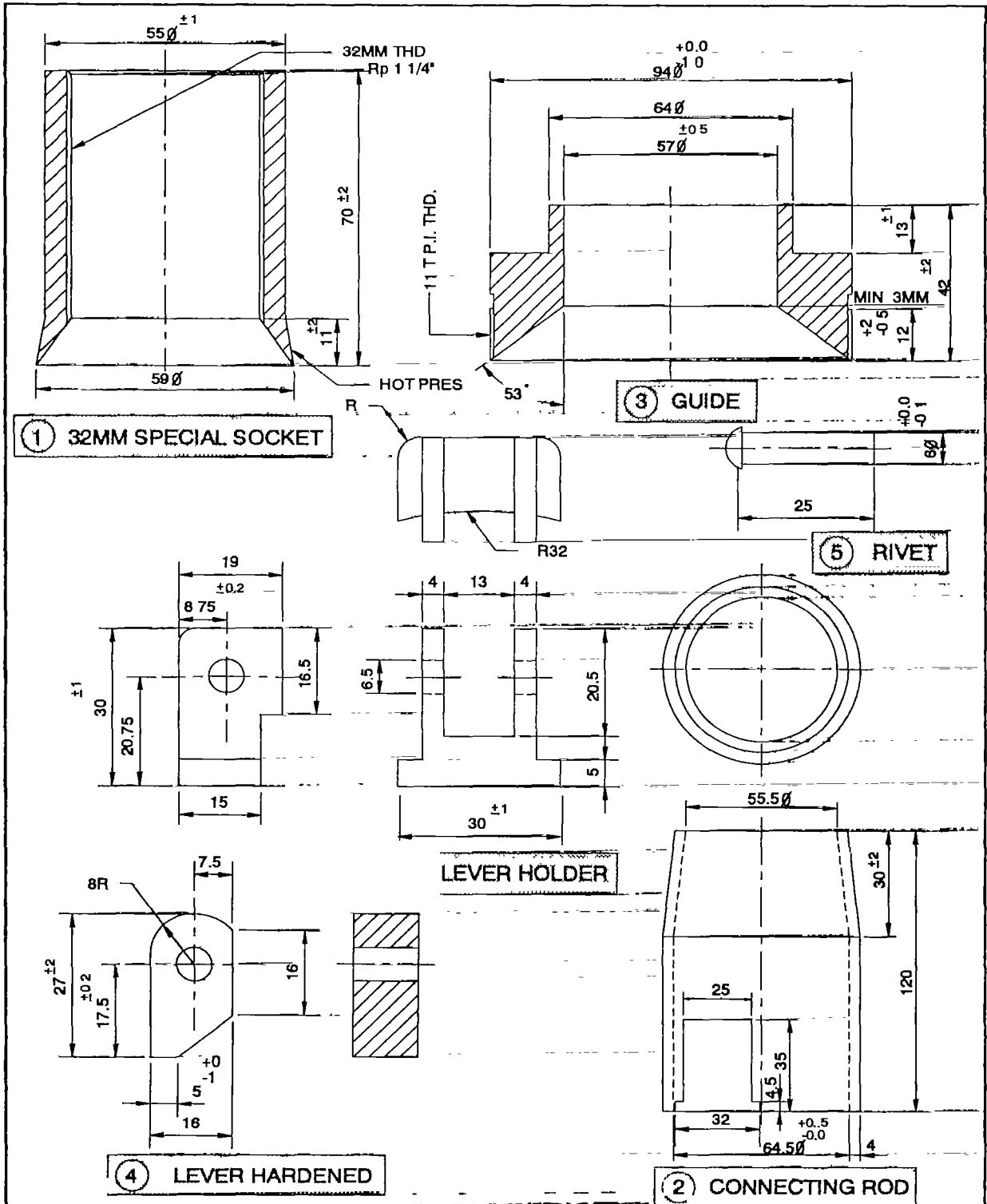
BOTTOM ELEVATION

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 0.5		DRAWING NO. FT - 06	
				SCALE N.T.S.			
2	1	Connecting Rod	Bright Bar IS : 9550				
1	1	Hex. Coupling	IS : 1363				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE FINISHING TOOL-ROD J/HOOK (BORE SIZE 65MM X INDIA MARK III)			DATE 01/01/94



6	3	Lever Holder	IS 2062 Grade A	ALL DIMENSIONS ARE IN MILLIMETRES	
5	3	Rivet	EN - 31	<b>Unicef</b> INDIA 	
4	3	Lever Hardness	Case flame Harding		
3	1	Guide	IS . 2062 Grade A	TOLERANCE U.O.S. ± 0.5 SCALE N.T.S.	
2	1	Pipe 65 MM	Seamless IS . 2062		
1	1	32MM Special Socket Assembly	Seamless or from solid bar IS 1239	TITLE FISHING TOOL 32MM PIPE HOLDER	
Part No.	No. OFF	DESCRIPTION	MATERIAL		



6	3	Lever Holder	IS . 2062 Grade A
6	3	Rivet	EN-31
4	3	Lever Hardened 25-30 RC	IS : 2062 Grade A
3	1	Guide	IS . 2062 Grade A
2	1	Connecting Rod	IS . 9550
1	1	32MM Special Socket	Seamless or solid bar IS . 1239 (Part 1)
Part No.	No. OFF	DESCRIPTION	MATERIAL

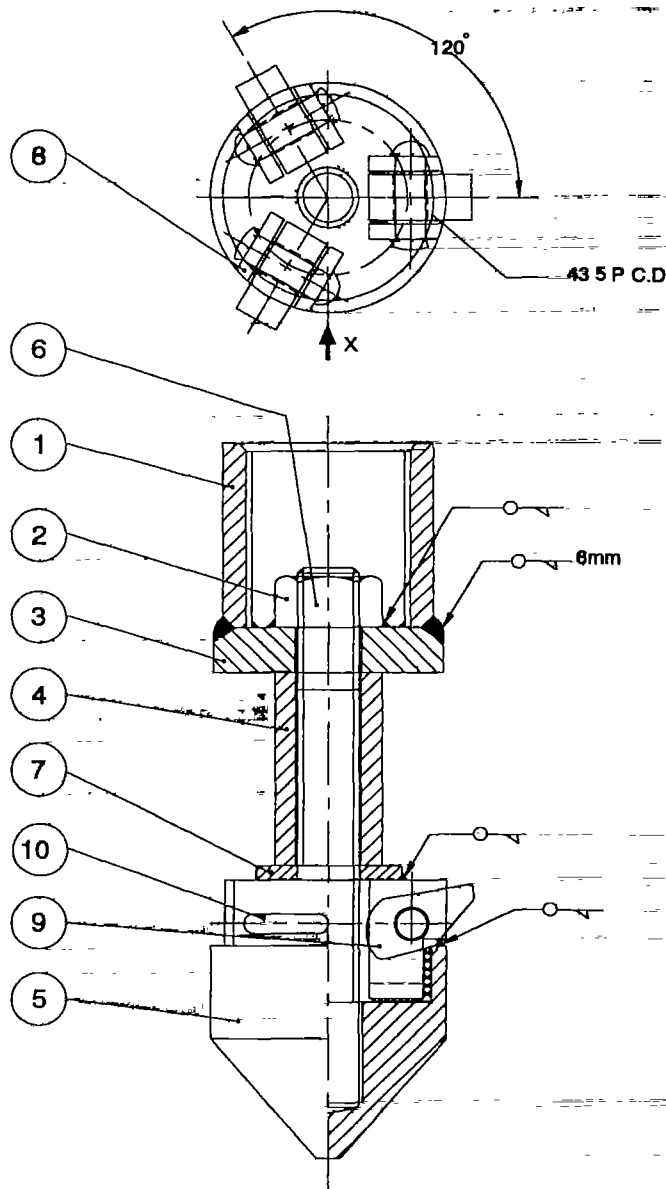
ALL DIMENSIONS ARE IN MILLIMETRES

**Unicef**  
INDIA


- TOLERANCE  
 U.O.S. ± 0.5  
 SCALE N.T.S.

DRAWING NO. FT - 07 - 01

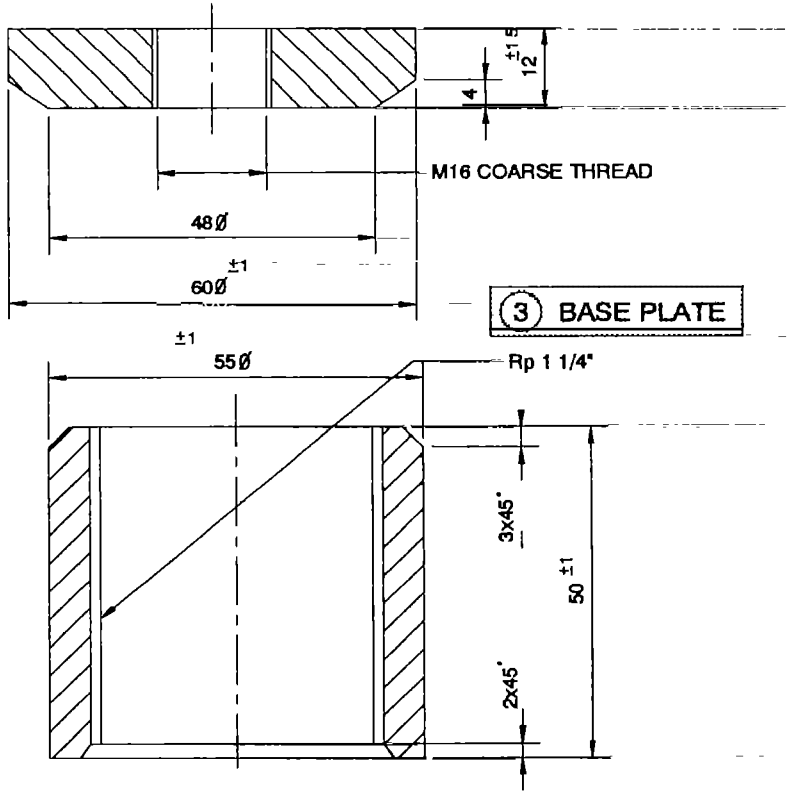
TITLE PARTS FOR 32MM PIPE HOLDER	DATE 01/01/94
-------------------------------------	------------------



SECTION AT XX

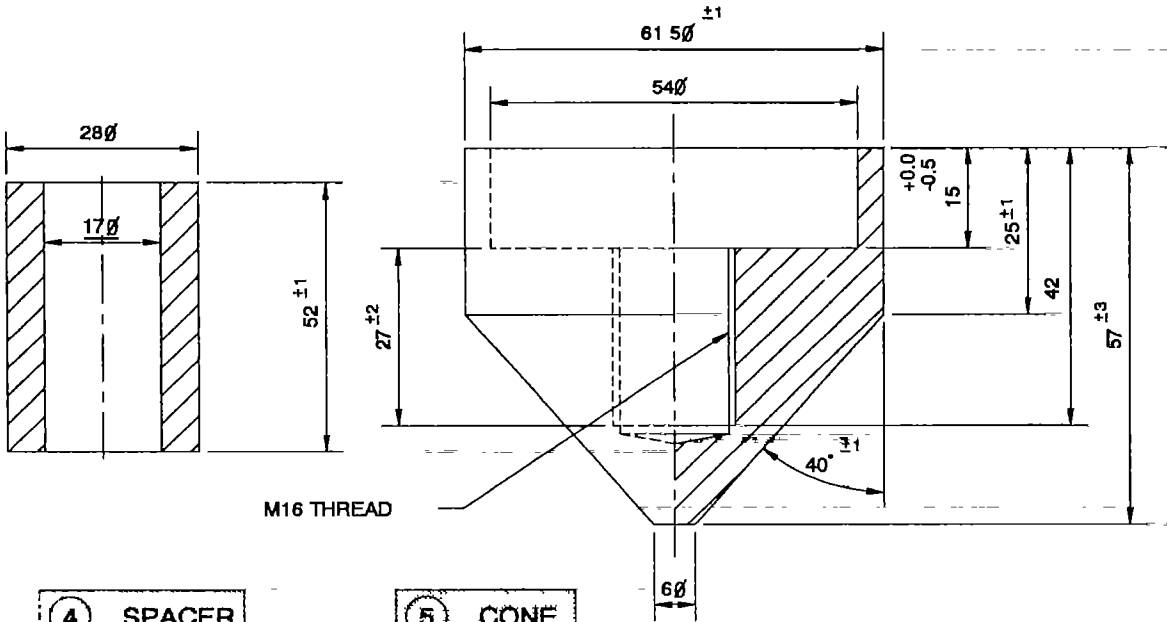
10	3	Rivet	EN - 31	Notes:- Electrogalvanised coating Thickness minimum 20 micron Design Load - 300 kg  ALL DIMENSIONS ARE IN MILLIMETRES	
9	3	Lever	IS 2062 Hardness 25-30 RC		
8	3	Lever Holder	IS : 2062 Grade A		
7	1	Washer	IS : 2062 Grade A		
6	1	Hook Stud	IS 9550		
5	1	Cone	IS : 2062 Grade A	<b>Unicef</b> INDIA 	
4	1	Spacer	IS : 2062 Grade A		
3	1	Socket Base Plate	IS : 2062 Grade A	TOLERANCE U.O.S. ±0.5 SCALE N.T.S.	
2	1	Nut M16	IS : 1363 (Part 3)	DRAWING NO FT - 08	
1	1	Socket	IS : 1239		
Part No	No. OFF	DESCRIPTION	MATERIAL	TITLE FISHING TOOL 65 MM ANCHOR (INDIA III)	DATE 01/01/94





3 BASE PLATE


1 32MM SOCKET

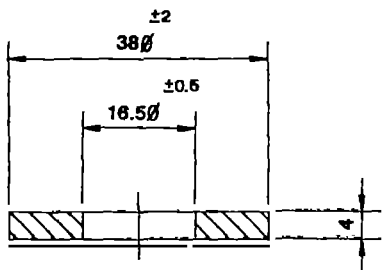


4 SPACER

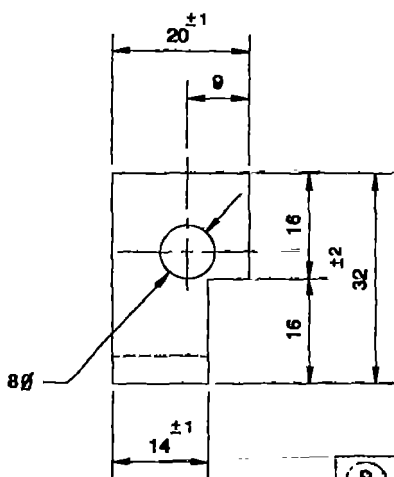
5 CONE

ALL DIMENSIONS ARE IN MILLIMETRES

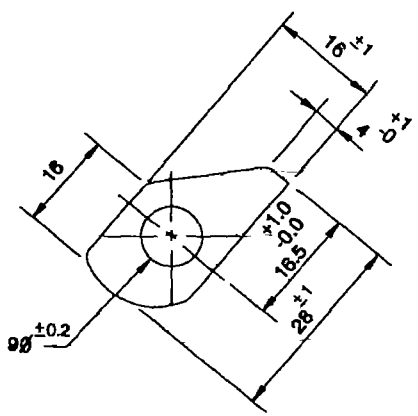
5	1	Cone	IS : 2062 Grade A	<b>Unicef</b> INDIA 	TOLERANCE U O.S. + 0.5 SCALE N.T.S.	DRAWING NO. FT - 08 - 01
4	1	Spacer (Solid)	IS : 2062 Grade A			
3	1	Base Plate	IS : 2062 Grade A			
1	1	32MM Socket	Seamless IS 1239 (Part 1)			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE
				PARTS FOR 65MM ANCHOR		01/01/84



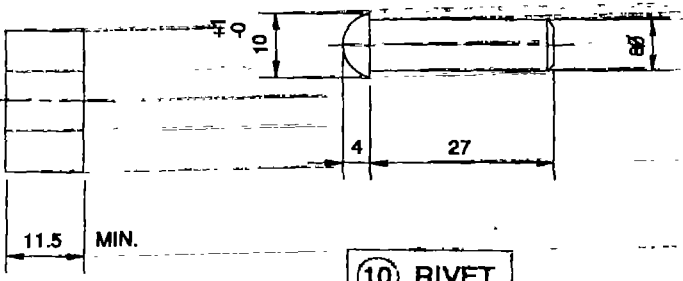
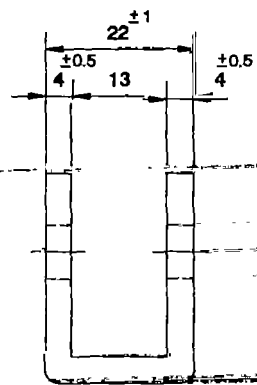
**7** WASHER



**8** LIVER HOLDER



**9** LIVER




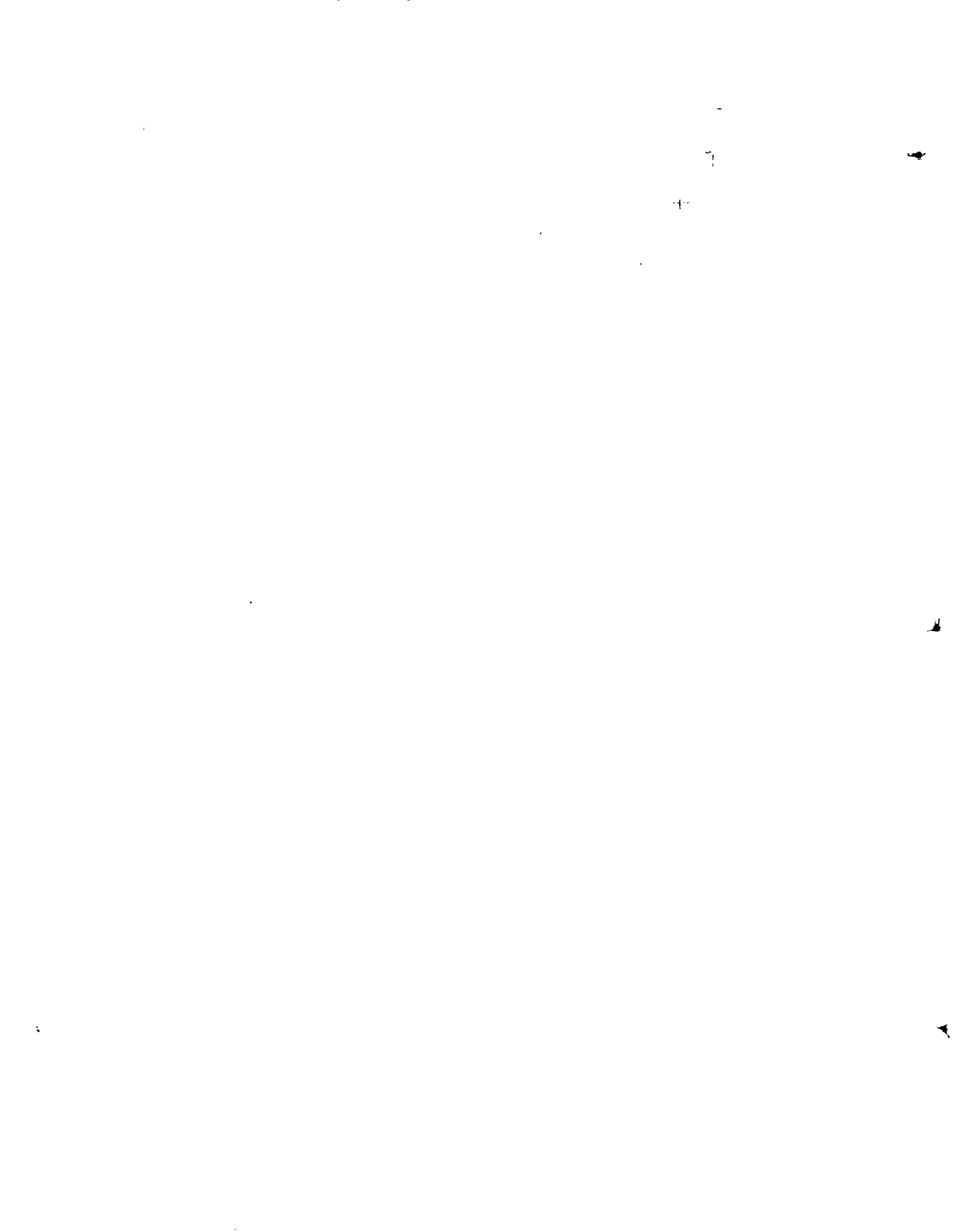
**10** RIVET

M16 THD.

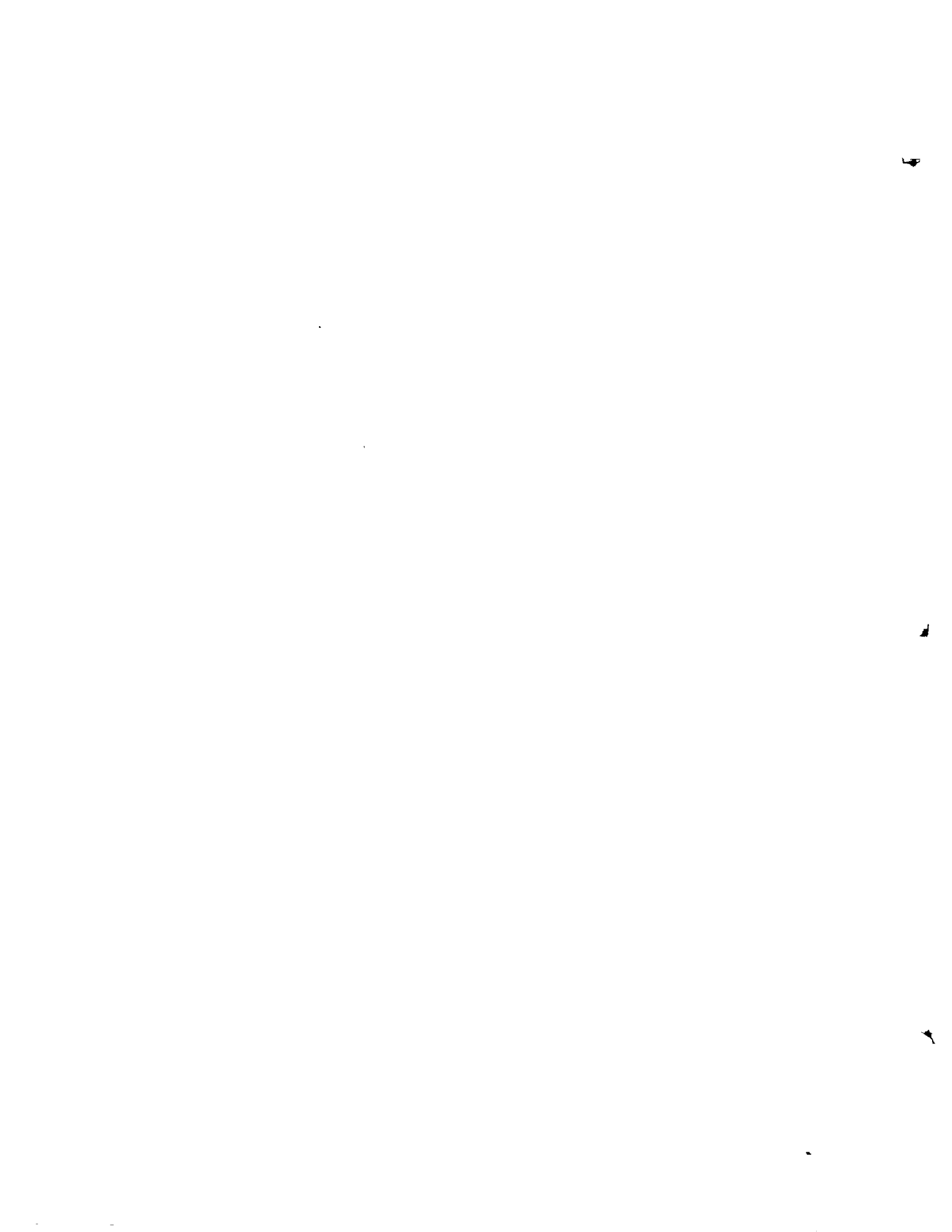
M16 THD.

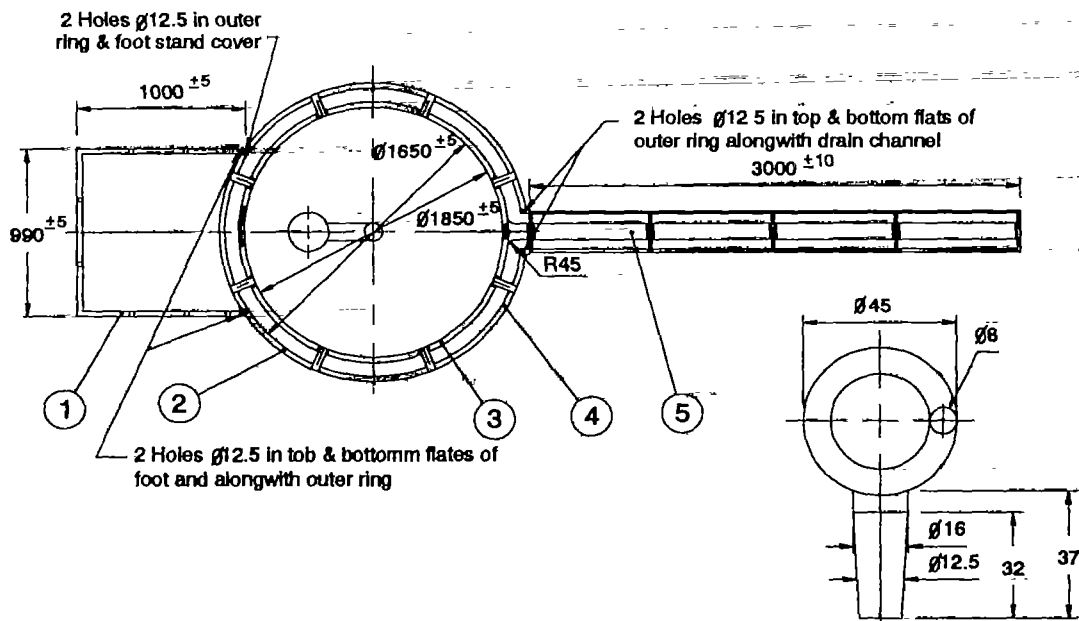
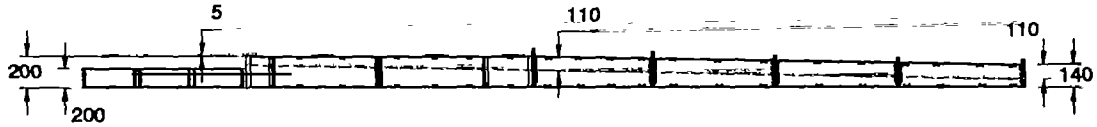
ALL DIMENSIONS ARE IN MILLIMETRES

10	1	Rivet	EN -31	<p align="center"><b>Unicef</b> INDIA</p> 	DRAWING NO. FT - 08 - 02
9	1	Liver	IS : 2062 Hardness 25 - 30 RC		
8	1	Liver Holder	IS . 2062 Grade A		
7	1	Washer	Sheets IS . 2062 Grade A		
6	1	Hook Stud	Bright Bar IS . 9550		
				TOLERANCE	
				U.O.S. ± 0.5	
				SCALE N.T.S.	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				PARTS FOR 65MM ANCHOR	01/01/84



**Platform Shuttering - Deepwell Handpump**




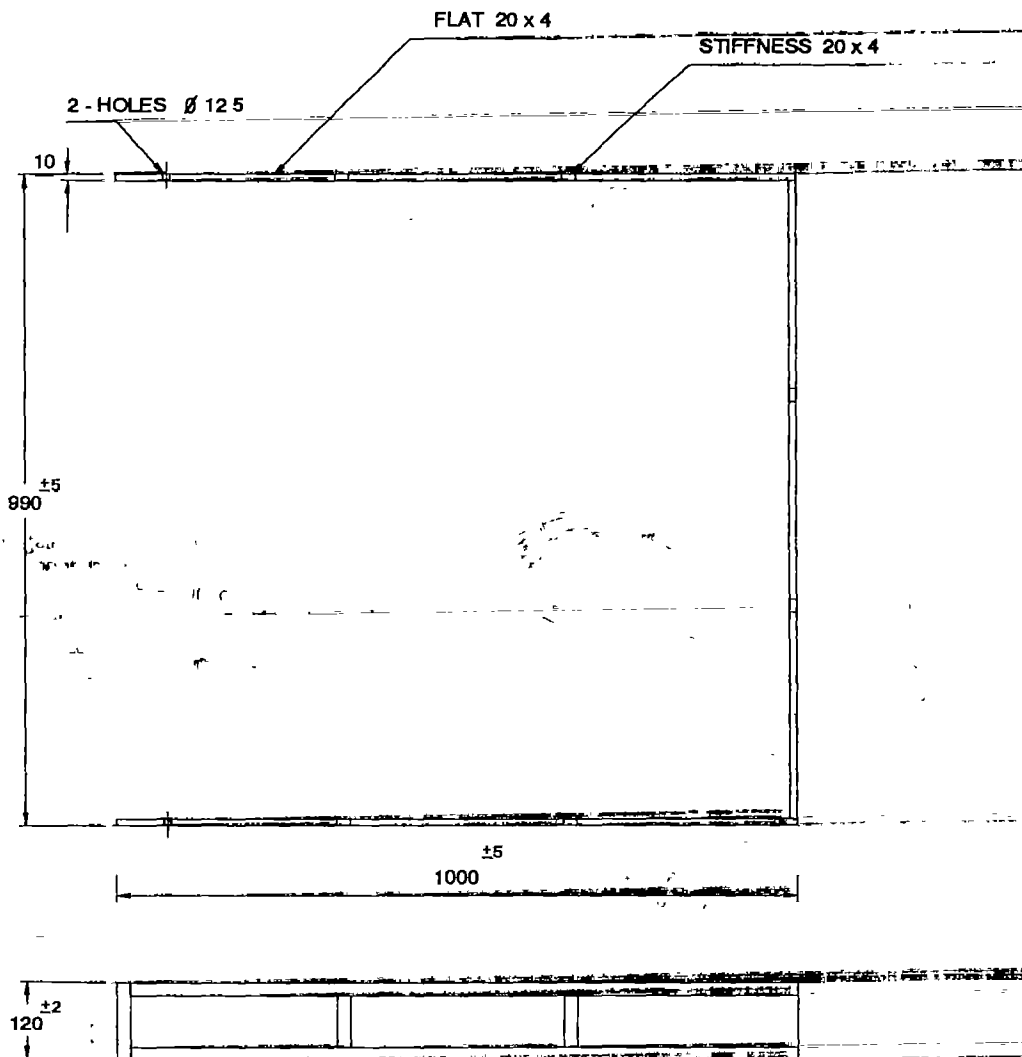


INDIA MARK II DEEP WELL HANDPUMP PLATFORM SHUTTRING

Surface treatment . Red oxide 2 coats spray painted

ALL DIMENSIONS ARE IN MILLIMETRES

5	1	Drain Channel	IS . 2062 Grade A	<b>Unicef</b> INDIA 	DRAWING NO. PS-IMII-00
4	2	Foot Stand Cover	IS . 2062 Grade A		
3	1	Inner Ring	IS . 2062 Grade A		
2	1	Outer Ring	IS . 2062 Grade A		
1	1	Foot Stand	IS . 2062 Grade A		
				TOLERANCE	
				U.O.S. ± 5	
				SCALE N.T.S.	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				PLATFORM SHUTTERING	01/01/84




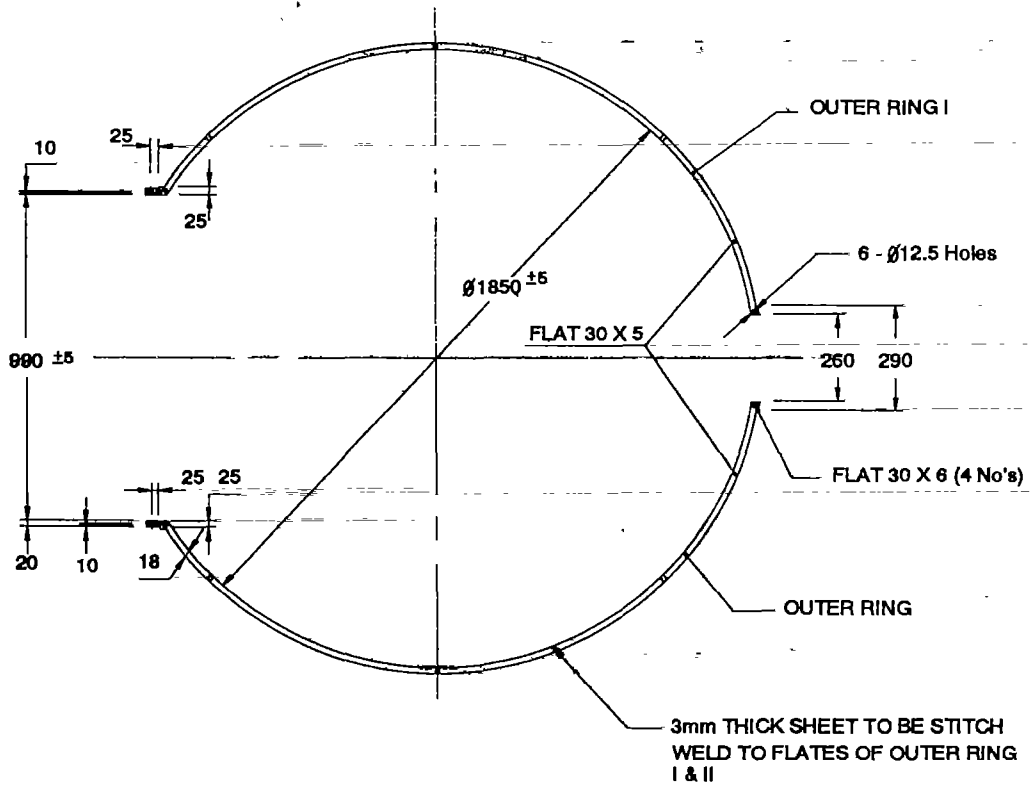
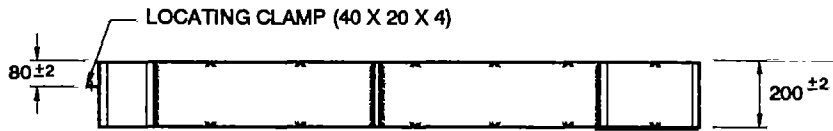
Surface treatment . Red Oxide 2 coats spray painted

NOTE :-

Length of stitch weld should be min.20mm & Distance from one stitch weld to another should not be more than 200mm.

ALL DIMENSIONS ARE IN MILLIMETRES

				 <b>Unicef</b> INDIA	
				TOLERANCE U.O.S. +5 SCALE N.T.S.	
				DRAWING NO. PS-IMI-01	
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	
1		Foot stand	IS : 2062 Grade A	FOOT STAND	
				DATE	
				01/01/84	




Surface treatment : Red oxide 2 coats spray painted

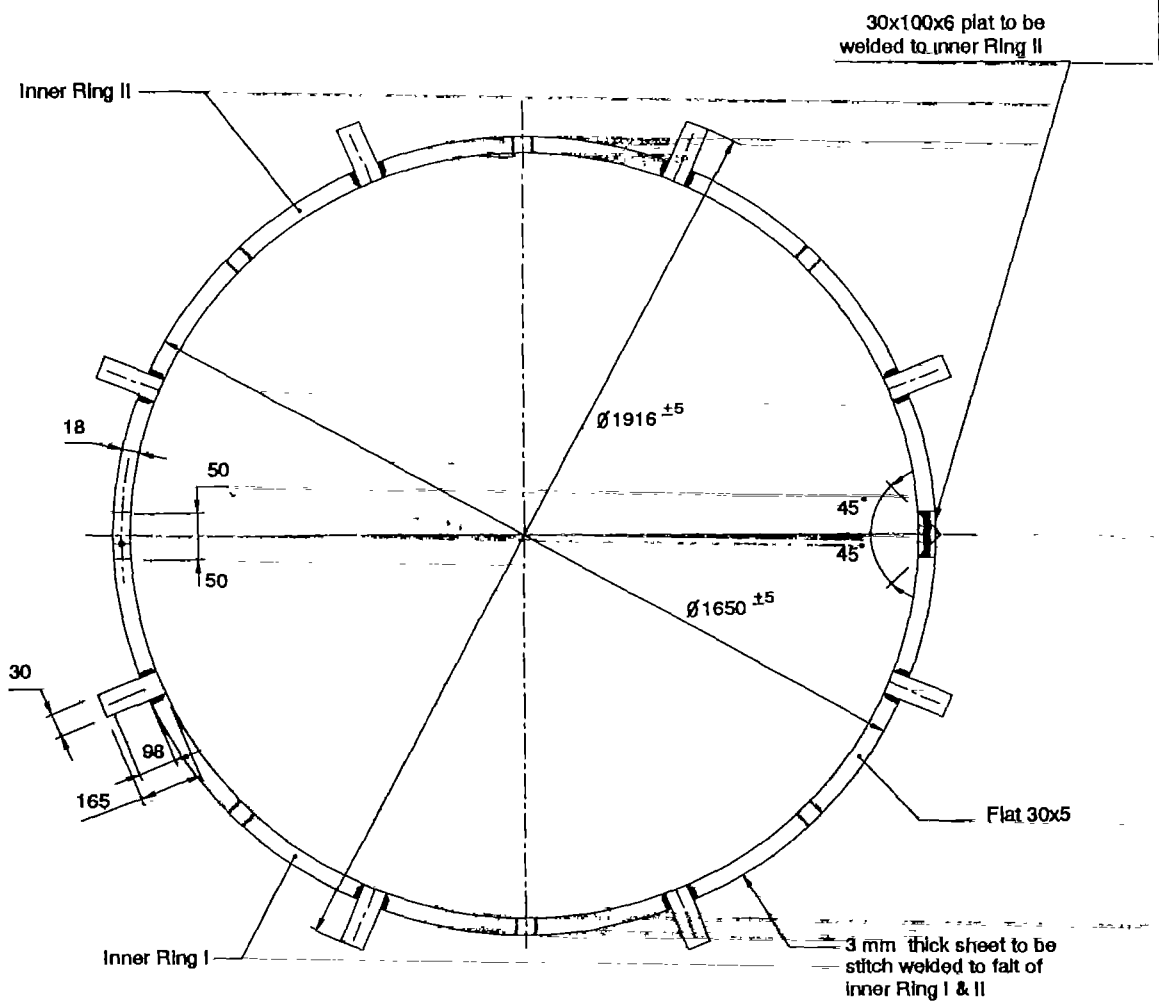
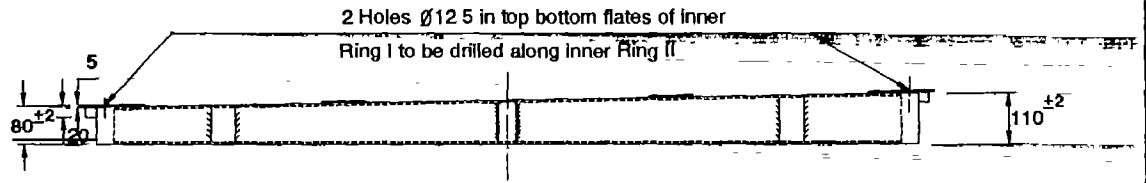
Note :-

Length of stich weld should be minimum 20 mm & Distance from one stich weld to another should not be more than 200 mm.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U O.S. ± 0.5		DRAWING NO PS-IMII-02	
				SCALE N.T.S			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE	
1		Outer Ring	IS 2062 Grade A	OUTER RING		01/01/84	






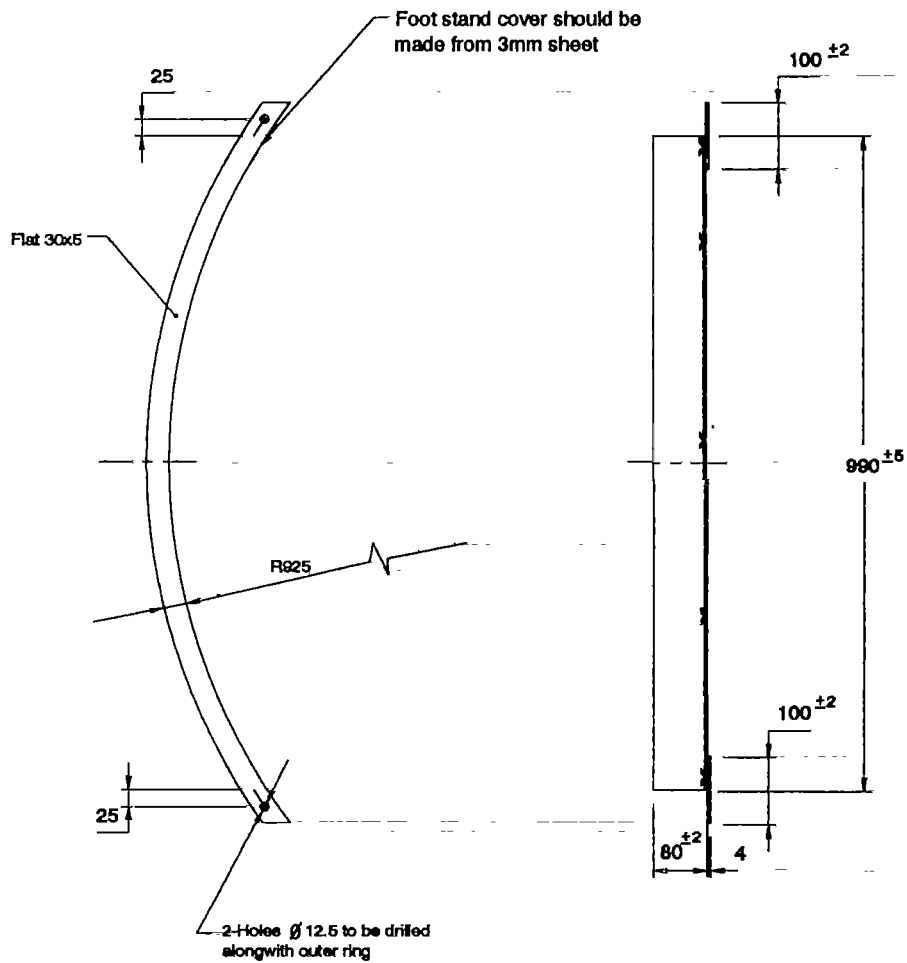
Note :-

Length of stitch weld should be Min 20 mm & Distance from one stitch weld to another should not be more than 200 mm

Surface treatment Red-oxide 2 coats spray painted

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. + 5		DRAWING NO PS-IMI-03	
				SCALE N.T.S.			
1	1	Inner Ring	IS 2062 Grade A	TITLE		DATE	
Part No.	No. OFF	DESCRIPTION	MATERIAL	INNER RING		01/01/84	




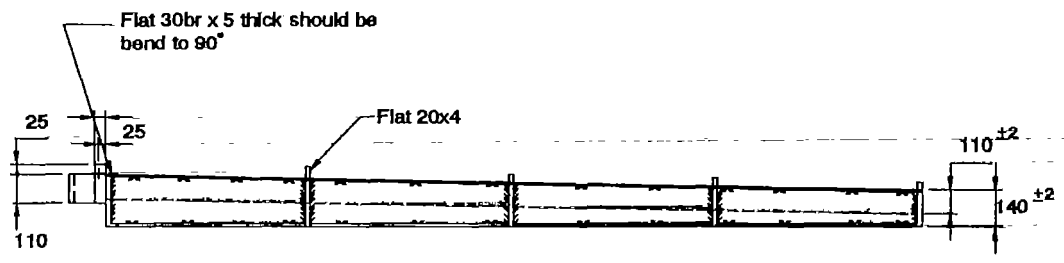
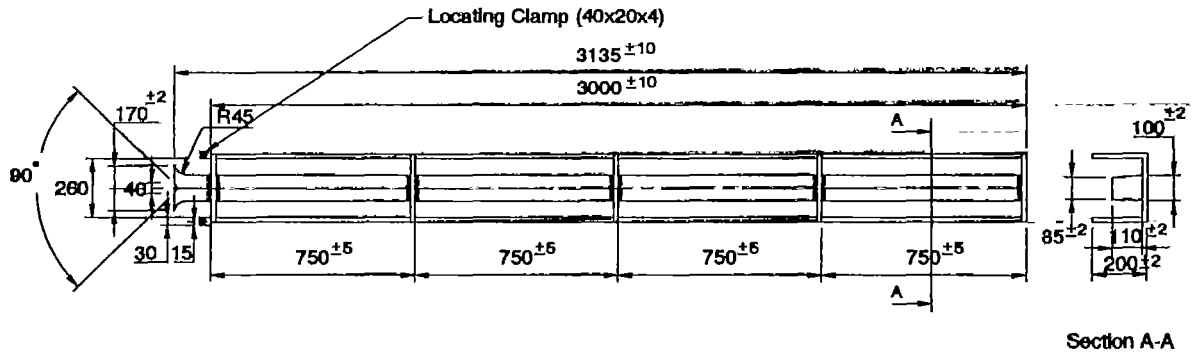
Note :-

Length of stitch weld should be Min 20 mm & Distance from one stitch weld to another should not be more than 200 mm.

Surface treatment : Red-oxide 2 coats spray painted

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA		
				TOLERANCE		
				U.O.S. $\pm$ 5		DRAWING NO. PS-IMI-04
				SCALE N.T.S		
1	1	Foot Stand Cover	IS . 2062 Grade A	TITLE		DATE
Part No.	No. OFF	DESCRIPTION	MATERIAL	FOOT STAND COVER		01/01/84



Note :-

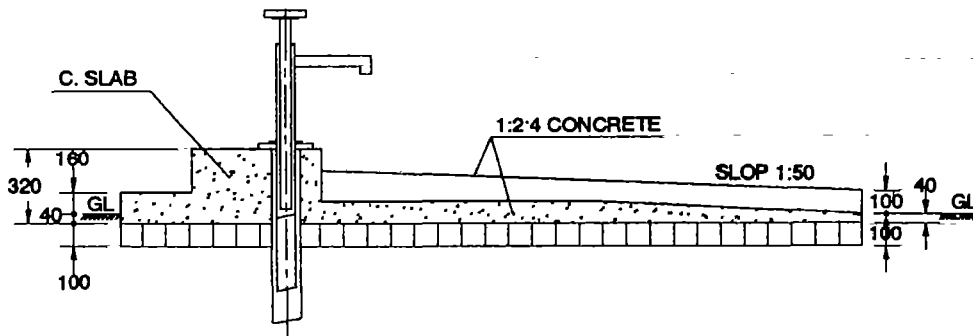
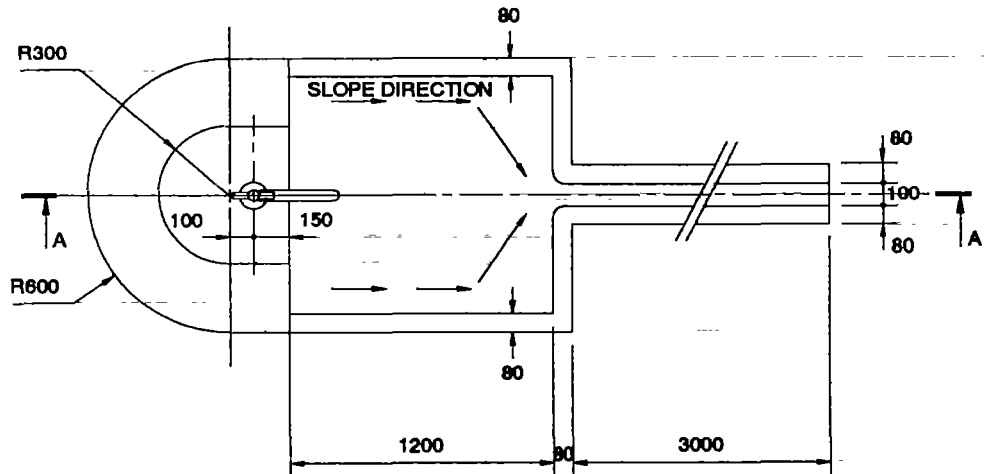
Length of stich weld should be Min 20 mm & Distance from one stich weld to another should not be more than 200 mm

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA		
				TOLERANCE		
				U.O.S. ± 5		
				SCALE N.T.S.		
				DRAWING NO. PS-IMII-05		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE		DATE
	1	Drain Channel	IS . 2062 Grade A	DRAIN CHANNEL		01/01/84

**Platform Shuttering - Direct Action (TARA) Handpump**




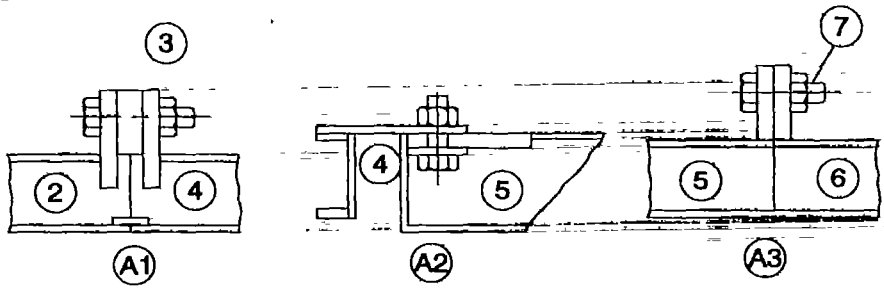
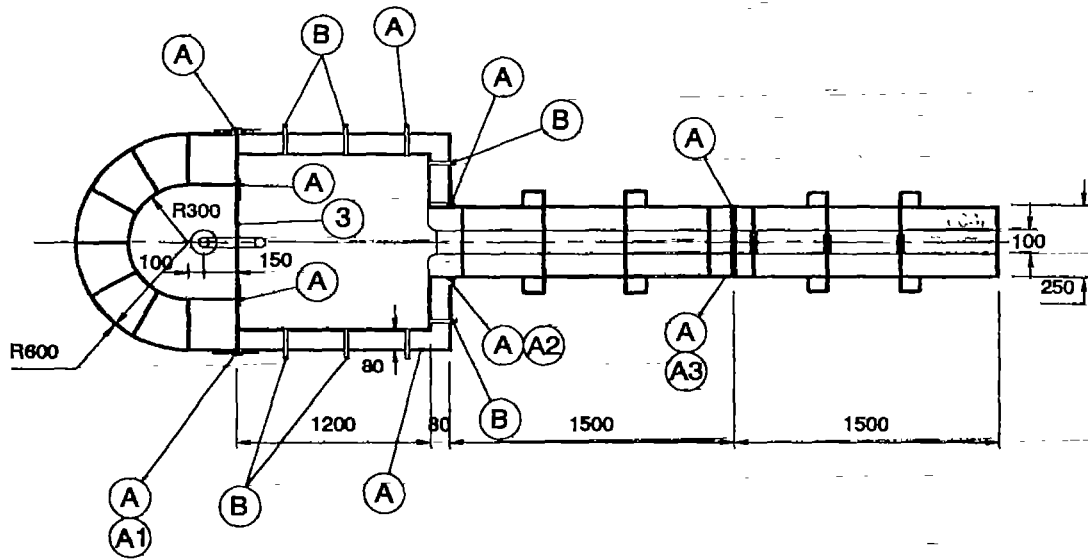
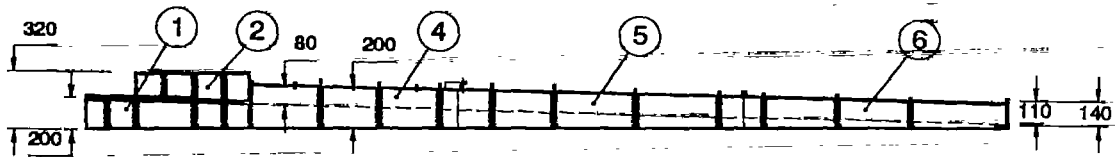


SECTION A-A

DIRECT ACTION HANDPUMP PLATFORM

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA		
				TOLERANCE U.O.S. ± 5 SCALE N.T.S.		
				DRAWING NO. PS-TARA		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	PLATFORM	DATE 01/01/04



Surface treatment : Red-Oxide 2 coats spray painted

A1,A2,A3 FASTENING DETAIL

A- BOLTING  
B- BENDING  
X- WELDING

ALL DIMENSIONS ARE IN MILLIMETRES

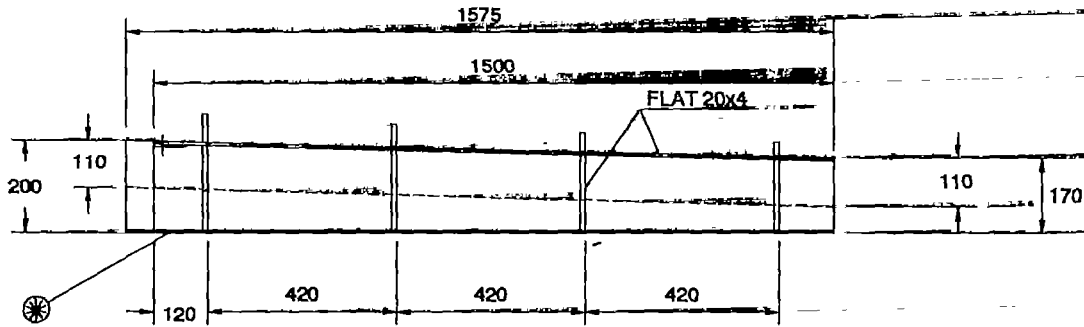
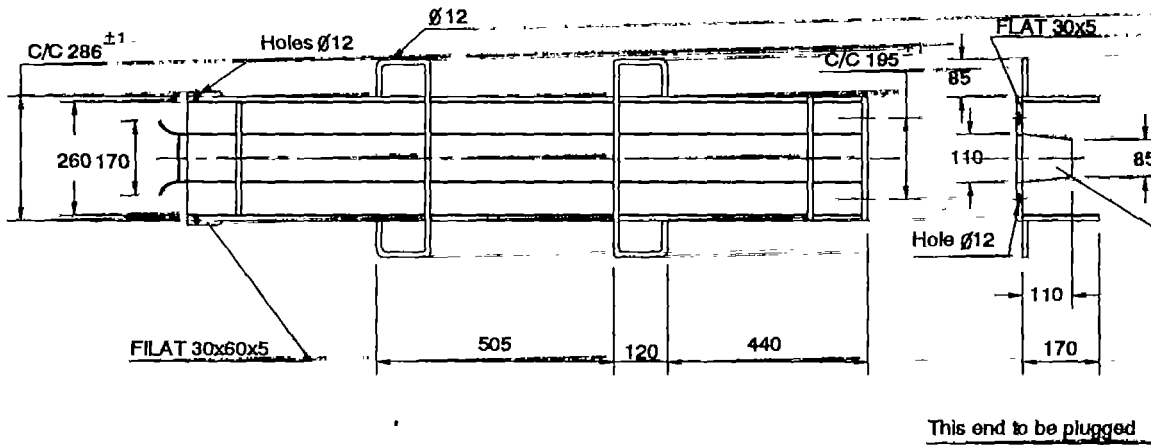
**Unicef**  
INDIA



Part No.	No. OFF	DESCRIPTION	MATERIAL
7		Bolt M10x30	IS : 1363 Part 1
6		Drain Channel2	IS : 2062 Grade A
5		Drain Channel1	IS : 2062 Grade A
4		Outer Shell	IS : 2062 Grade A
3		Support Plate	IS : 2062 Grade A
2		Foot Stand	IS : 2062 Grade A
1		Outer Flng	IS : 2062 Grade A

TOLERANCE	U.Q.S. ± 5	DRAWING NO. PS-TARA-00
SCALE	N.T.S.	

TITLE	DATE
PLATFORM SHUTTERING	01/01/84




⊗ Note :-

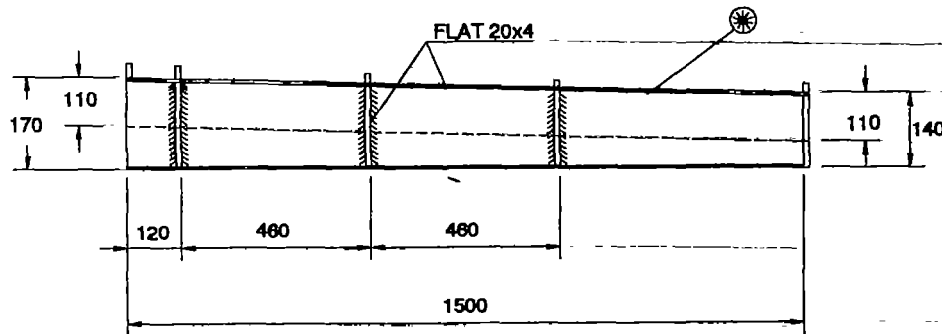
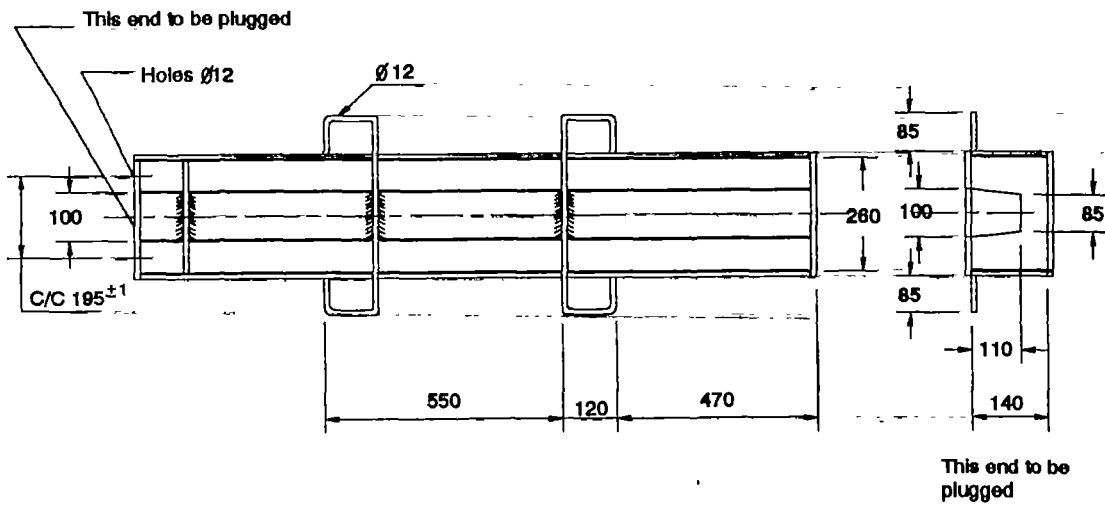
1. Length of stich weld should be minimum 20 mm & Distance from one stich weld to another should not be more than 200 mm.

2. Surface Treatment : Red - Oxide 2 coats spray painted.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 5		DRAWING NO. PS-TARA-01	
				SCALE N.T.S.			
1		M.S. Flat M S Sheet	IS : 2062 Grade A	TITLE		DATE	
Part No.	No. OFF	DESCRIPTION	MATERIAL	DRAIN CHANNEL 1		01/01/94	




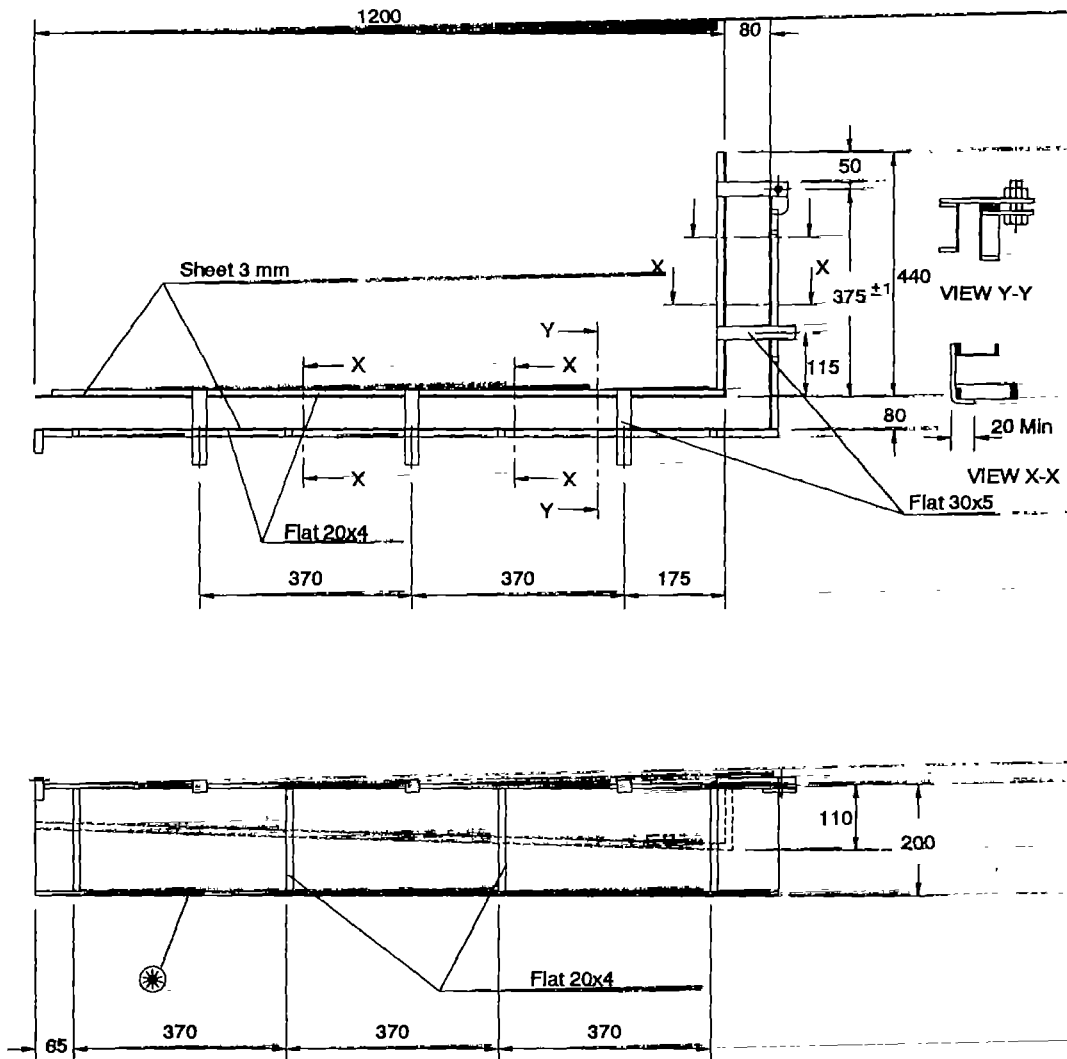


⊗ Note :-

1. Length of stitch weld should be minimum 20 mm & Distance from one stitch weld to another should not be more than 200 mm.
2. Surface Treatment : Red - Oxide 2 coats spray painted.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				--- TOLERANCE		DRAWING NO. PS-TARA-02	
				U.O.S. ± 5			
				SCALE N.T.S.			
1		M.S Flat M S Sheet M.S Rod	IS : 2062 Grade A	TITLE DRAIN CHANNEL 2		DATE 01/01/84	
Part No.	No. OFF	DESCRIPTION	MATERIAL				




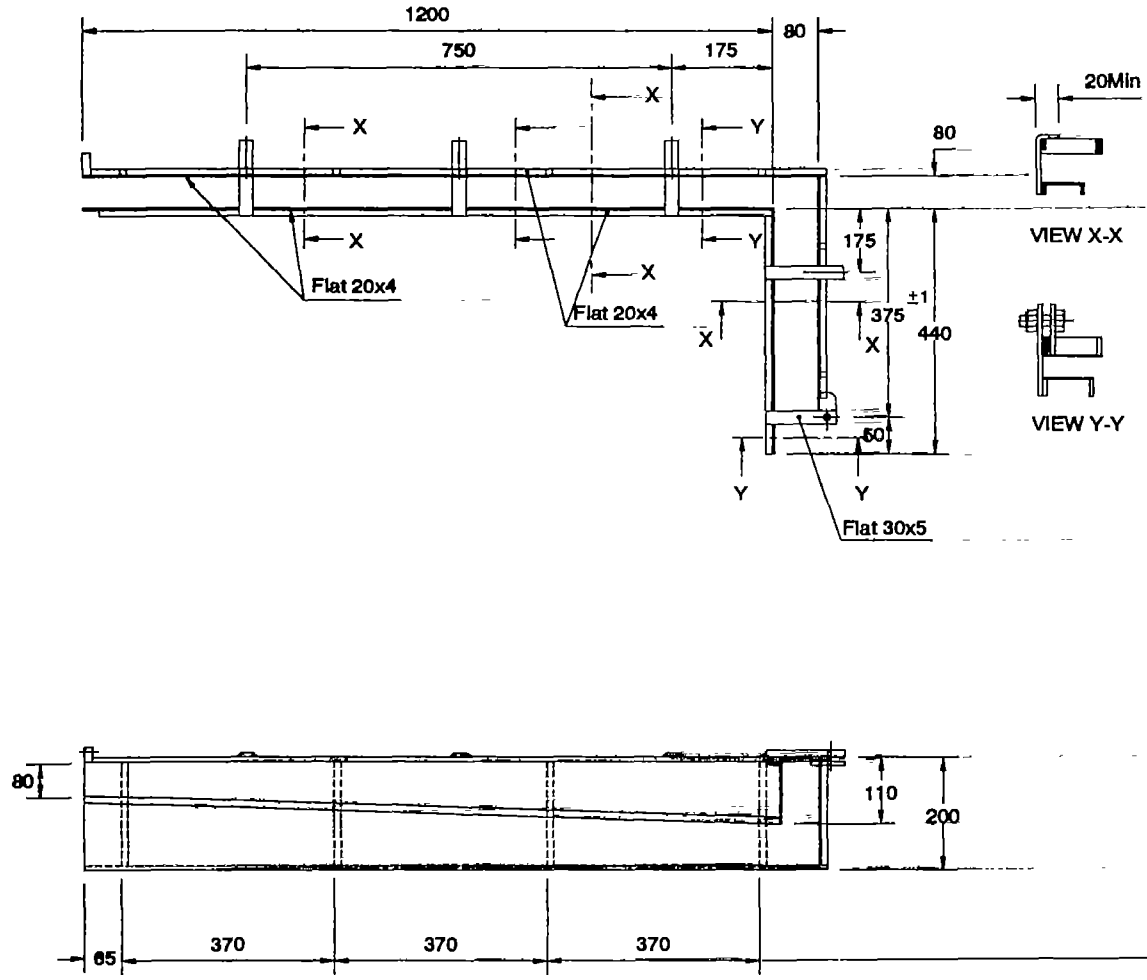
⊗ Note :-

1 Length of stich weld should be minimum 20 mm & Distance from one stich weld to another should not be more than 200 mm.

2 Surface Treatment : Red - Oxide 2 coats spray painted.


ALL DIMENSIONS ARE IN MILLIMETRES

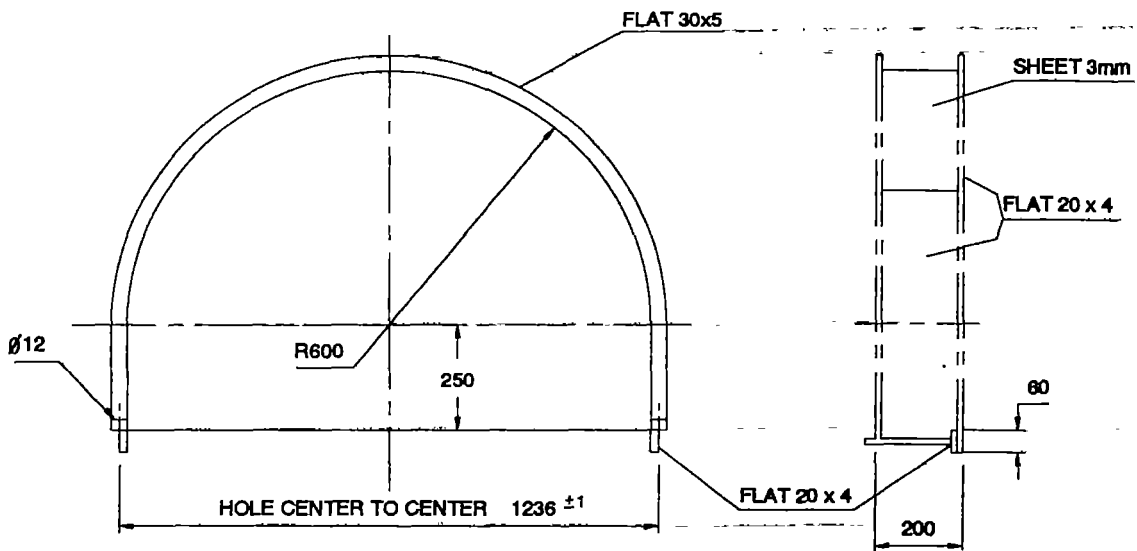
			<b>Unicef</b> INDIA		
			TOLERANCE		
			U.Q.S. ± 5		DRAWING NO. PS-TARA-03
			SCALE N T S.		
1		M S Flat M.S.Flat M.S Sheet	IS . 2062 Grade A		
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE	DATE
				OUTER SHELL (LEFT)	01/01/94



- ☼ Note :-
1. Length of stitch weld should be minimum 20 mm & Distance from one stitch weld to another should not be more than 200 mm.
  2. Surface Treatment : Red - Oxide 2 coats spray painted.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b>		
				INDIA		
				TOLERANCE		DRAWING NO. PS-TARA
				U.O.S. ± 5		
				SCALE N.T.S.		
1		M.S.Flat M.S.Sheet	IS : 2062 Grade A	TITLE		DATE
Part No.	No. OFF	DESCRIPTION	MATERIAL	OUTER SHELL (RIGHT)		01/01/84




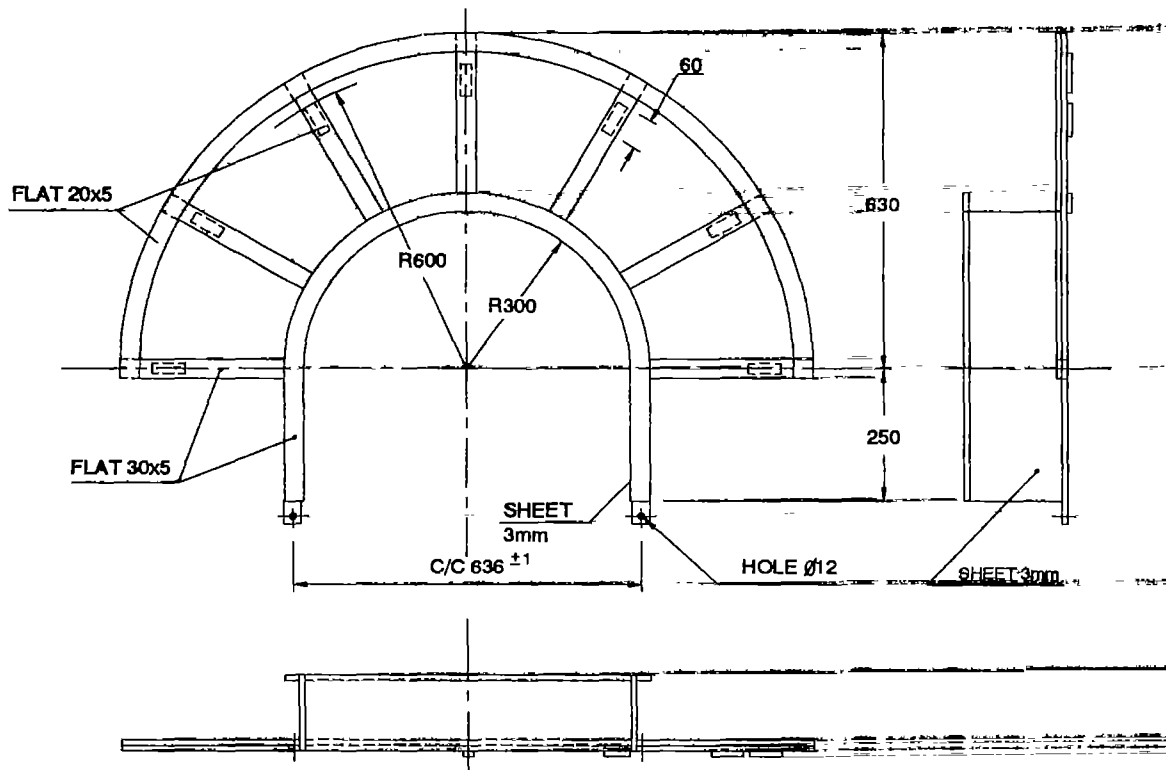
Note :-

1. Length of stitch weld should be minimum 20 mm & Distance from one stitch weld to another should not be more than 200 mm.

2. Surface Treatment : Red - Oxide 2 coats spray painted

ALL DIMENSIONS ARE IN MILLIMETRES


				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. +5		DRAWING NO. PS-TARA-05	
				SCALE N.T.S.			
		M.S. Flat M.S. Sheet	IS 2062 Grade A				
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE OUTER RING			DATE 01/01/84

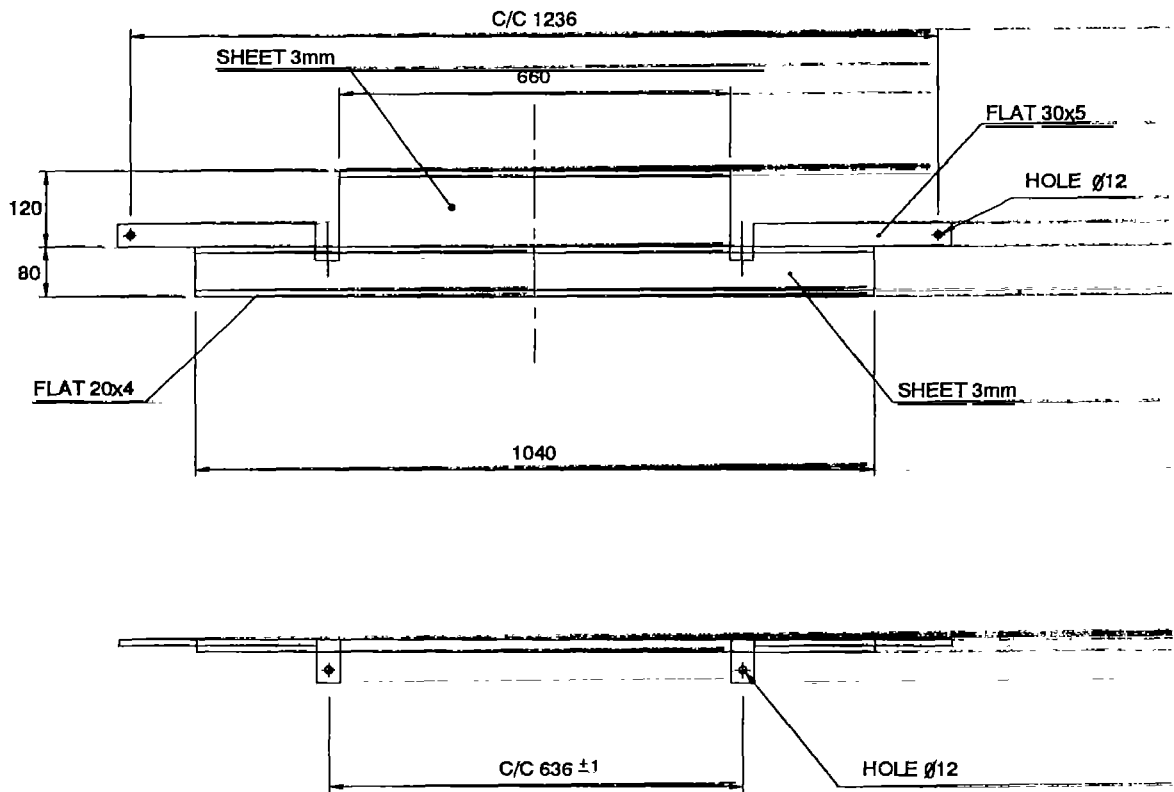


**Note :-**

1. Length of stitch weld should be minimum 20 mm & Distance from one stitch weld to another should not be more than 200 mm
2. Surface Treatment : Red - Oxide 2 coats spray painted.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 5		DRAWING NO. PS-TARA-06	
				SCALE N.T.S.			
1		M.S Flat M.S.Sheet	IS : 2062 Grade A				
<b>Part No.</b>	<b>No. OFF</b>	<b>DESCRIPTION</b>	<b>MATERIAL</b>	<b>TITLE</b>		<b>DATE</b>	
				FOOT STAND		01/01/94	




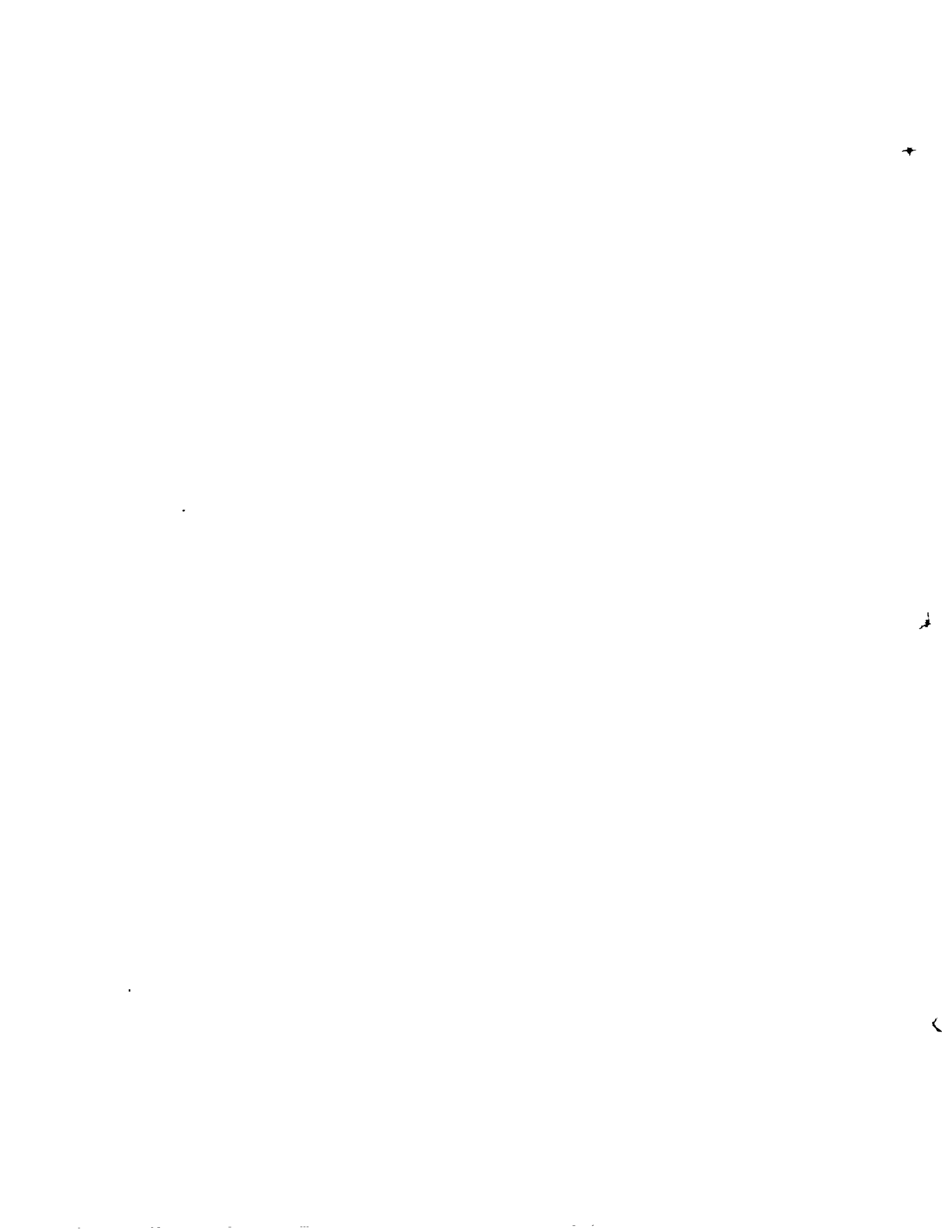
Note :-

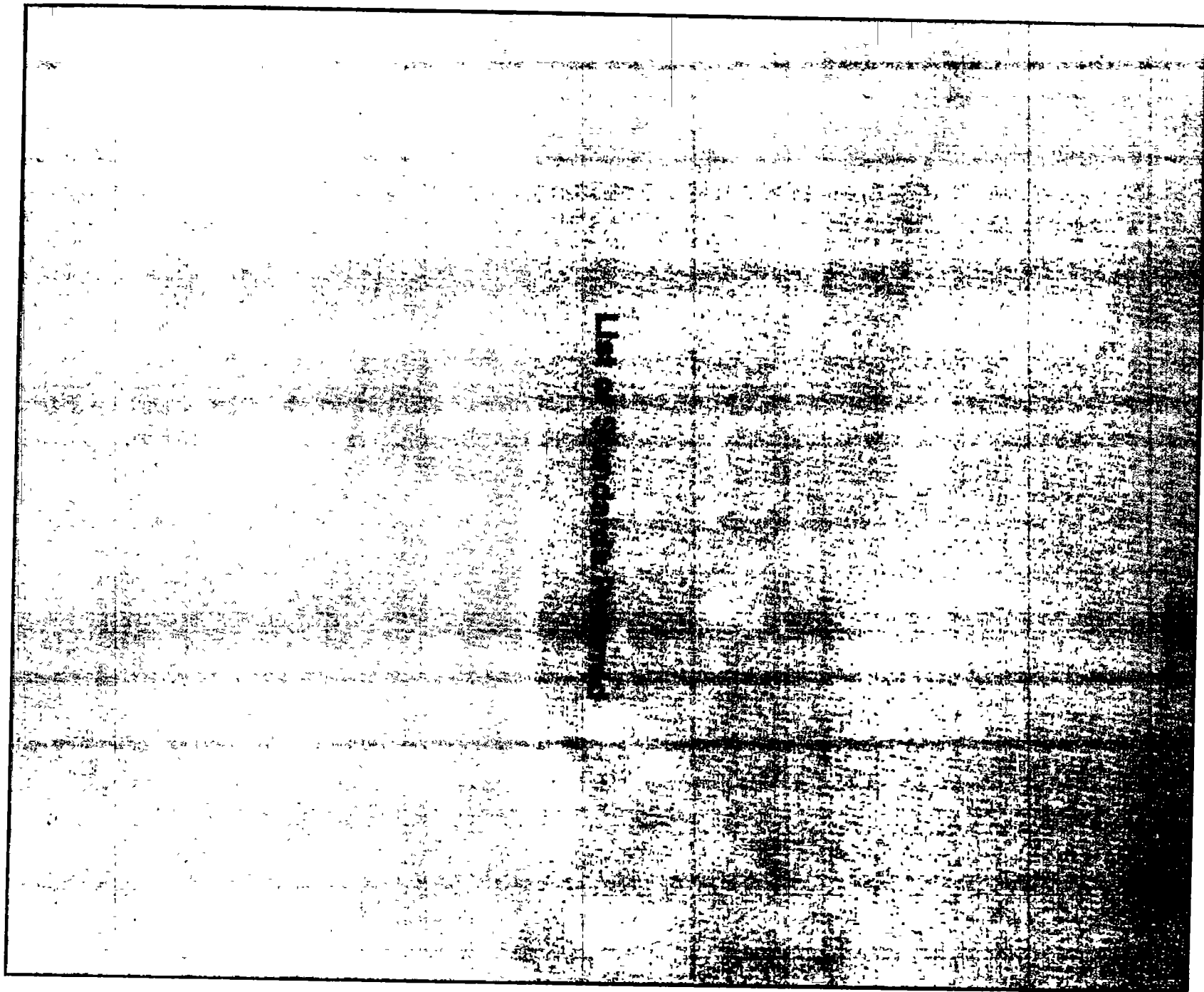
1 Length of stitch weld should be minimum 20 mm & Distance from one stitch weld to another should not be more than 200 mm.

2 Surface Treatment . Red - Oxide 2 coats spray painted.

ALL DIMENSIONS ARE IN MILLIMETRES

				<b>Unicef</b> INDIA			
				TOLERANCE			
				U.O.S. ± 5		DRAWING NO. PS-TARA-07	
				SCALE N.T.S.			
Part No.	No. OFF	DESCRIPTION	MATERIAL	TITLE			DATE
1	1	M.S Flat M.S.Sheet	IS . 2062 Grade A	SUPPORT PLATE			01/01/94







\*

!

!

**LIST OF REFERRED INDIAN STANDARDS  
FOR INDIA MARK II, INDIA MARK III (VLOM)  
AND EXTRA DEEPWELL HANDPUMPS**

IS No.	TITLE
210 : 1978	Grey iron castings (third revision)
318 : 1981	Leaded tin bronze ingots and castings (second revision)
407 : 1981	Brass tubes for general purposes (third revision)
513 : 1986	Cold rolled low carbon steel sheets and strips (third revision)
554 : 1985	Dimensions for pipe threads where pressure tight joints are required on the threads (third revision)
808 : 1989	Dimensions for hot rolled steel beam, column, channel and angle sections (third revision)
1079 : 1988	Hot rolled carbon steel sheets and strips (fourth revision)
1161 : 1979	Steel tubes for structural purposes (third revision)
1239	Mild steel tubes, tubulars and other wrought steel fittings
(Part 1) : 1990	Part 1 Mild steel tubes. (fourth revision)
(Part 2) : 1982	Part 2 Mild steel tubular and other wrought steel pipe fittings (third revision)
1363	Hexagon head bolts, screws and nuts of product Grade C

(Part 1) : 1984 Part 1 Hexagon head bolts (size range M5 to M36)  
(second revision)

(Part 2) : 1984 Part 2 Hexagon screws (size range M5 to M36) (second  
revision)

(Part 3) : 1984 Part 3 Hexagon nuts (size range M5 to M36) (second revision)

1364 Hexagon head bolts, screws and nuts of product grades A & B: Part 1 Hexagon  
(Part 1) : 1983 head bolt (size range M3 to M36) (second revision)

1367 Technical supply conditions for threaded steel  
(Part 14) : 1984 fastners: Part 14 Stainless steel threaded fastners (second revision)

1573 : 1986 Electroplated coatings of zinc on iron and steel (second revision)

2004 : 1978 Carbon steel forgings for general engineering purposes (second revision)

2016 : 1967 Plain washers (first revision)

2062 : 1984 Weldable Structural Steel (third revision)

2074 : 1979 Ready mixed paint, air drying, red oxide zinc  
chrome, priming (first revision)

2403 : 1975 Transmission steel roller chains and chain wheel  
(first revision)

2500 Sampling inspection procedures: Part 1 Attribute sampling plans indexed by  
(Part 1) : 1992 acceptable quality level (AQL) for lot-by-lot inspection (second revision)

2643 Dimensions for pipe threads for fastening purposes :  
(Part 1) : 1975 Part 1 Basic profile and dimensions (first revision)

2811 : 1987	Recommendations for manual tungsten inert-gas arc-welding of stainless steel (first revision)
2932 : 1974	Enamel, synthetic, exterior (a) undercoating (b) finishing (first revision)
3428 : 1981	Dimensions for relief grooves (first revision)
4218 (Part 4) : 1976	ISO metric screw threads: Part 4 Tolerancing system (first revision)
(Part 5) : 1979	Part 5 Tolerances (first revision)
4740 : 1979	Code of practice for packaging of steel tubes (first revision)
4759 : 1984	Hot-dip zinc coatings on structural steel and other allied products (second revision)
6455 : 1972	Single row radial ball bearings
6603-1972	Stainless steel bars and flats
6912 : 1985	Copper and copper alloys forging stock and forgings (first revision)
7002 : 1972	Prevailing torque type steel hexagon locknuts
8683 : 1977	Methods of test for raw acrylonitrile butadiene rubber
9550 : 1980	Bright bars
9595 : 1980	Recommendations for metal arc welding carbon and carbon manganese steels
9839 : 1981	Chromate conversion coatings on electroplated zinc and cadmium coatings

9975 'O' Rings : Dimensions

(Part 1) : 1981

(Part 2) : 1984 Part 2 Material selection and quality acceptance criteria

(Part 3) : 1984 Part 3 Seal housing dimensions and tolerances

(Part 4) : 1984 Part 4 Terminology and definition of terms

12732 : 1989 Nomenclature, identification and packaging of components for deepwell handpumps.

## LIST OF REFERRED INDIAN STANDARDS FOR DIRECT ACTION (TARA) HANDPUMP

IS No.	TITLE
280.1978	Steel wire (fourth revision)
1015.1987	Leather pump buckets made from vegetable tanned leather (first revision)
1239 (Part 1) : 1979	Mild steel tubes, tubulars and other wrought steel fittings : Part 1 Mild Steel Tubes (fourth revision)
1367	Technical supply conditions for threaded steel fastners
1573 : 1986	Electroplated coatings of zinc on iron an steel (second revision)
2016 : 1967	Plain washers (first revision)
2011 : 1964	Recommendation for manual tungsten inert - gas arc-welding of stainless steel
2062 : 1984	Weldable structural steel (Third revision)
4759 : 1984	Hot - dip zinc coatings on structural steel and other allied products (second revision)
4985 : 1988	Unplasticized PVC pipes for potable water supplies (second revision)
6603 : 1972	Stainless Steel bars and flats
7328 : 1974	High density polyethylene materials for moulding and extrusion

- 7834 Injection moulded uPVC socket fittings with solvent cement joints for water supplies :  
(Part 1) : 1987 Part 1 General requirements (first revision)
- 8683 : 1977 Methods of test for raw acrylonitrile butadiene rubber
- 9595 : 1988 Recommendations for metal arc- welding of carbon and carbon manganese steels
- IS : 2500 Sampling inspection tables : Part 1 inspection by attributes and by count of defects  
(Part 1) : 1973 (first revision)
- DOC :BDC Draft specifications for unplasticised (uPVC) Pipes for screen and casing pipes for  
3 (4330) potable water supplies.

## LIST OF REFERRED INDIAN STANDARDS FOR SUCTION PUMP

IS No.	TITLE
210 : 1978	Grey iron castings (third revision)
1363 Part 1 : 1984	Hexagon head bolts, screws and nuts of product grade C : Part 1 Hexagon head bolts (size range M5 to M36) (second revision)
1363 (Part 3) : 1984	Hexagon head bolts, screws and nuts of product grade C : Part 3 Hexagon nuts (size range M5 to M36) (second revision)
2062 : 1984	Specification for weldable structural steel (third revision)
3075 (Part 1)	Dimensions for circlips Part 1 for shafts (first revision)
6735 : 1972	Spring washers for screws with cylindrical head Reaffirmed 1991
8008 : 1976	Specification for injection moulded HDPE Fittings for potable water supplies
9550 : 1980	Bright bars (Amendment 3)
11149 : 1984	Rubber Gaskets (Amendment 1) Reaffirmed 1989.



## LIST OF REFERRED INDIAN STANDARDS FOR SPECIAL TOOLS AND FISHING TOOLS

IS No.	TITLE
549 : 1974	Split pins (second revision)
1239 : (Part 1) :1979	Mild steel tubes, tubulars and other wrought steel fittings : Part 1 Mild steel tubes (fourth revision)
1239 : (Part 2) : 1982	Mild steel tubes, tubular and other wrought steel fittings : Part 2 Mild steel tubulars and other wrought steel pipe fittings (third revision)
1363 (Part 3) : 1984	Hexagon head bolts, screws and nuts of product grade C : Part 3 Hexagon nuts (size range M5 to M36) (second revision)
1364 (Part 1) : 1983	Hexagon head bolts, screws and nuts of product grades A and B : Part 1 Hexagon head bolts (size range M3 to M36) (second revision).
2027 : 1980	Width across flats for spanners and sockets (second revision)
2062 : 1984	Specification for weldable structural steel (third revision)
4454 : 1981 (Part 1)	Steel wires for cold formed springs part I patented and cold drawn steel wires, unalloyed (second revision)
9550 : 1980	Bright bars
9839 : 1981	Chromate conversion coatings on electroplated zinc and cadmium coatings.

## LIST OF REFERRED INDIAN STANDARDS FOR PLATFORM SHUTTERING

IS No.	TITLE
1363 Part 1 : 1984	Hexagon head bolts, screws and nuts of product grade C : Part 1 Hexagon head bolts (size range M5 to M36) (second revision)
1363 (Part 3) : 1984	Hexagon head bolts, screws and nuts of product grade C : Part 3 Hexagon nuts (size range M5 to M36) (second revision)
2062 : 1984	Weldable structural steel (third revision)
2074 : 1979	Specification for ready mix paint, air drying , red oxide zinc chrome, priming (first revision)

7

8

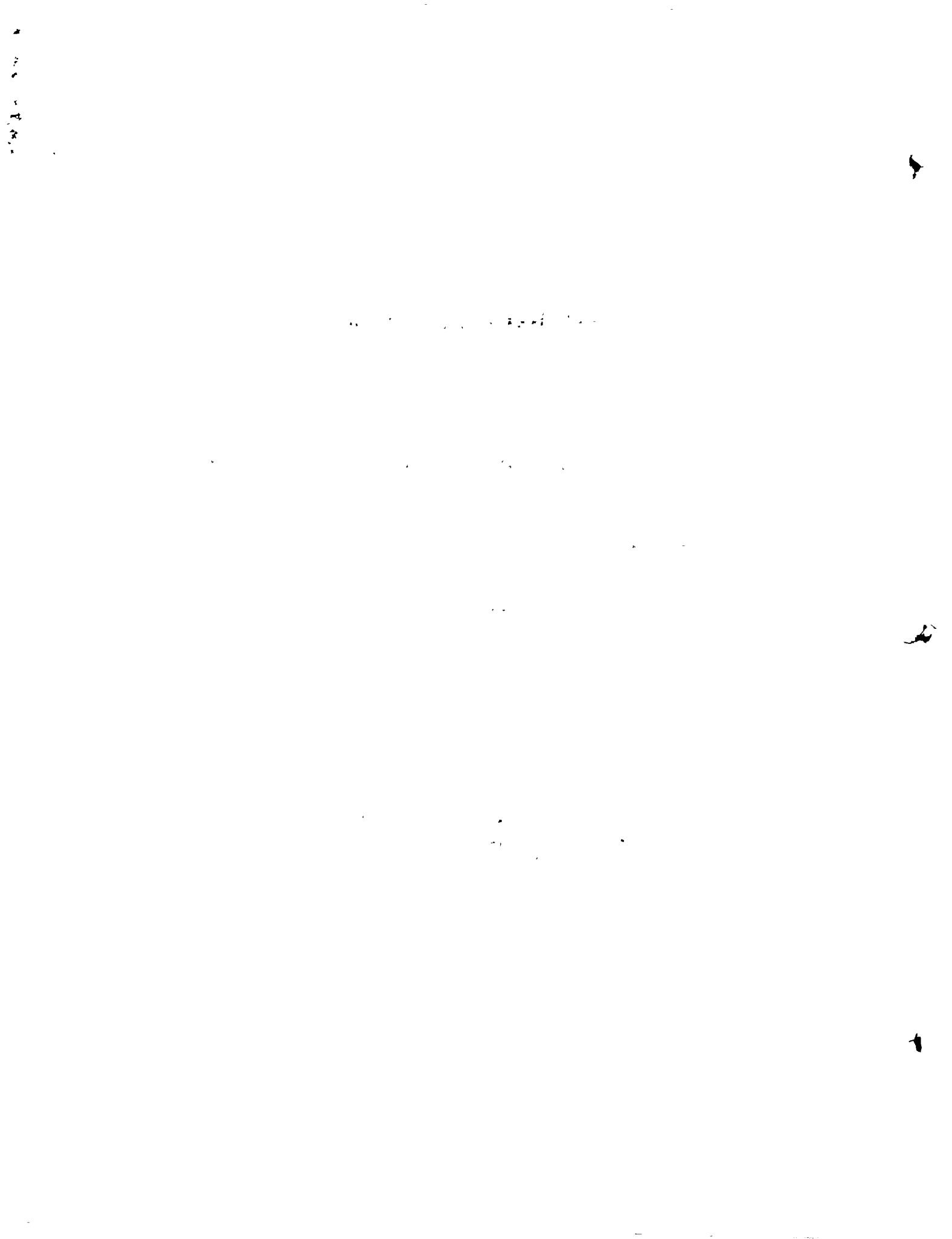
9

## ACKNOWLEDGEMENT

We deeply express our sincere thanks and acknowledgement to:

- Government of India, Rajiv Gandhi National Drinking Water Mission
- State Public Health Engineering Department
- Bureau of Indian Standards
- Handpump Manufacturers

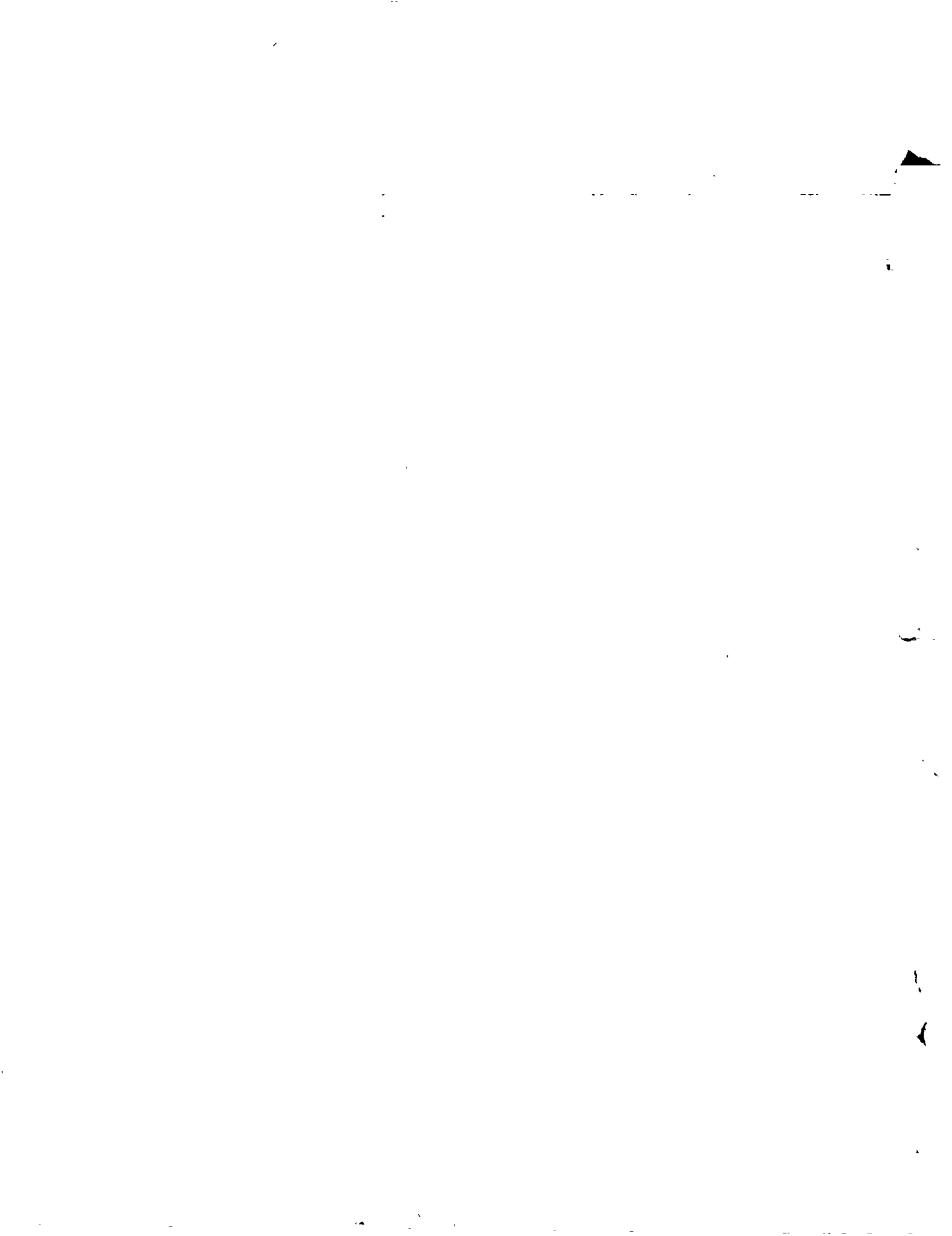
for their valuable guidance and support rendered through Unicef,  
India Country Office in preparation and completion of this Manual.

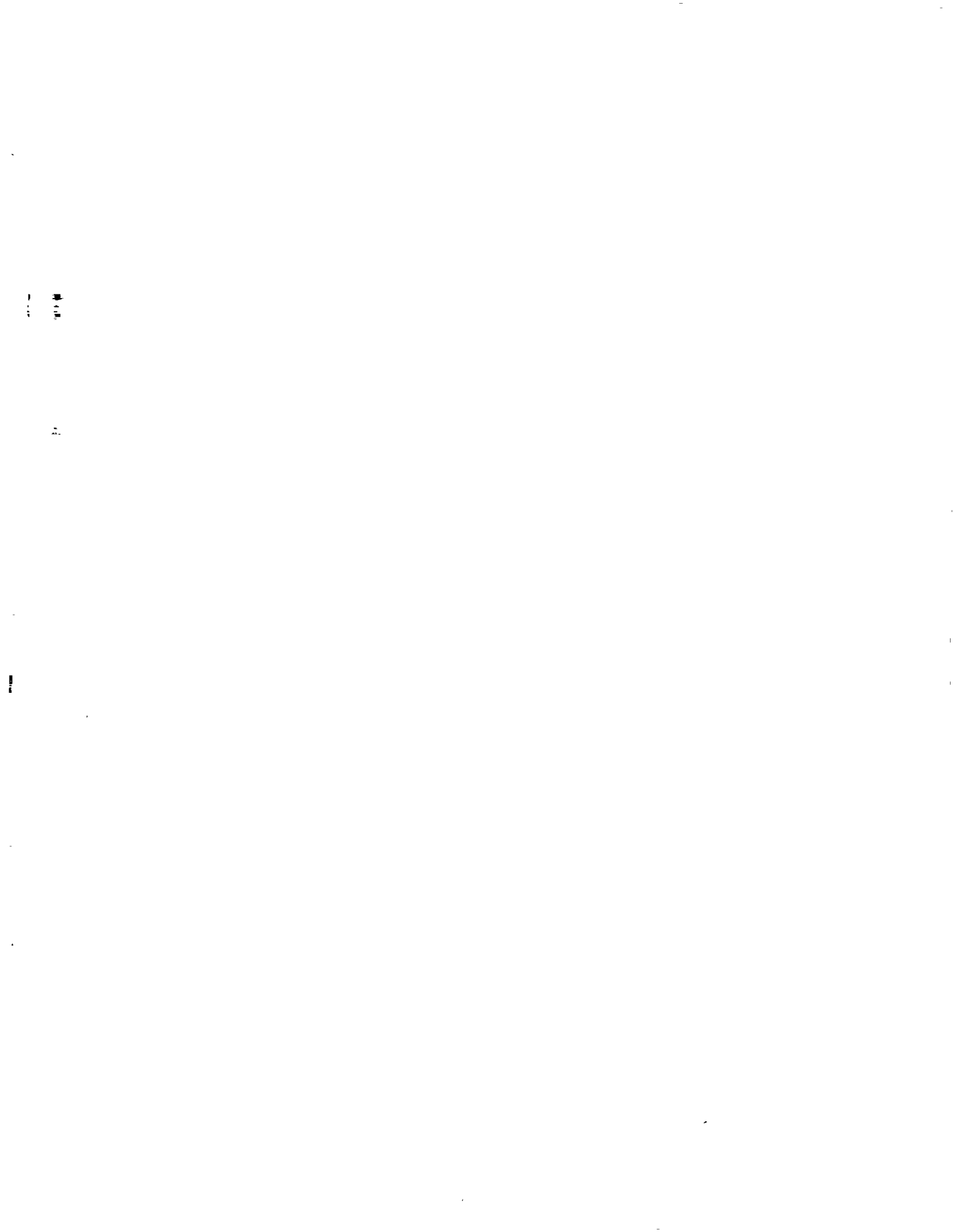


**COMPILED AND PRODUCED BY  
SGS INDIA LIMITED  
304 / 305 ANNASALAI ,TEYNAMPET,  
MADRAS - 600 018  
TAMILNADU  
INDIA**

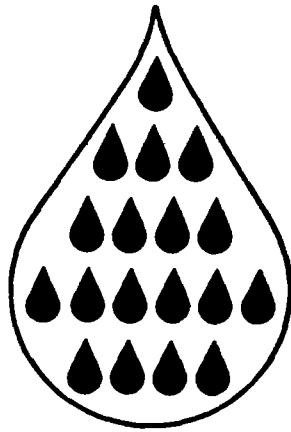
This Manual is produced on behalf of WES section, UNICEF India country office by the Technical team of SGS INDIA LIMITED, a member of SGS Group for the purpose of conducting training programmes on Quality Control Procedures of Handpumps.

The views expressed in this manual do not necessarily reflect those of either organisation.









**unicef**   
United Nations Children's Fund