

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

970 10 43 812 2

DRAWING NO.

7

6

5

4

3

2

1

F

E

D

C

B

A

THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

REF. DRG. NO.

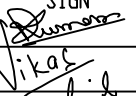
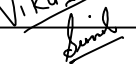
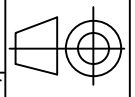
SIGN & DATE

INVENTORY NO.

NOTE:-

- VAR 00 - 350 HP DESL
- VAR 01 - 700 HP DESL
- VAR 02 - 1400 HP DESL
- THESE FITTINGS ARE TO BE PACKED LOCO SET WISE. IN EACH LOCO SET, SAME TYPE OF FITTINGS ARE TO BE PACKED TOGETHER & LABELLED TO PREVENT INTERMIXING.
- MATERIAL OF CONSTRUCTION OF EACH FITTING IS MENTIONED IN ITS INDIVIDUAL DRAWING.

6	6	-	035	Elbow Parallel (15-21) - 1/2"	2 719 65 01 029	#004
2	2	2	034	Plug Type B (26-34) - 1" BSP	3 719 65 01 003	#003
10	10	10	033	Plug Type B (15-21) - 1/2" BSP	3 719 65 01 003	#001
10	8	4	032	Reducing boss 1/2" x 3/8"	3 719 65 01 020	#002
10	8	4	031	Reducing boss 1/2" x 1/4"	3 719 65 01 020	#001
7	4	-	030	Tee Equal (T) (21-27) - 3/4"	2 719 65 01 008	#004
6	6	2	029	Tee Equal (T) (15-21) - 1/2"	2 719 65 01 008	#003
4	2	2	028	Elbow 90 deg equal (T) (21-27) - 3/4"	3 719 65 01 001	-
5	-	-	027	Elbow 90 deg equal (T) (33-42) - 1-1/4"	3 719 65 01 001	-
4	2	2	026	Elbow 90 deg equal (T) (26-34) - 1"	3 719 65 01 001	-
4	4	4	025	Socket (T) (33-42) - 1-1/4"	2 719 65 01 007	#006
4	4	4	024	Socket (T) (26-34) - 1"	2 719 65 01 007	#005
4	2	-	023	Socket (T) (21-27) - 3/4"	2 719 65 01 007	#004
4	4	2	022	Socket (T) (15-21) - 1/2"	2 719 65 01 007	#003
2	-	-	021	Cap Nut (21-27) - 3/4"	2 719 65 01 004	#004
2	2	2	020	Cap Nut (15-21) - 1/2"	2 719 65 01 004	#003
5	-	-	019	Union tee female (B) (33-42) - 1-1/4"	2 719 65 01 047	-
10	2	-	018	Union tee female (B) (21-27) - 3/4"	2 719 65 01 047	-
5	2	2	017	Union tee female (B) (15-21) - 1/2"	2 719 65 01 047	-
10	2	2	016	Union tee female (A) (33-42) - 1-1/4"	2 719 65 01 001	-
10	2	2	015	Union tee female (A) (21-27) - 3/4"	2 719 65 01 001	-
6	5	-	014	Union tee female (A) (15-21) - 1/2"	2 719 65 01 001	-
7	2	2	013	Union male & female (26-34) - 1"	2 719 65 01 048	-
8	4	4	012	Union male & female (21-27) - 3/4"	2 719 65 01 048	-
4	4	4	011	Union male & female (15-21) - 1/2"	2 719 65 01 048	-
10	2	2	010	Union elbow male female (21-27) - 3/4"	2 719 65 01 020	-
18	8	-	009	Union elbow male female (33-42) 1-1/4"	2 719 65 01 020	-
25	10	-	008	Union female elbow (33-42) - 1-1/4"	2 719 65 01 003	-
15	8	6	007	Union female elbow (26-34) - 1"	2 719 65 01 003	-
20	12	10	006	Union female elbow (21-27) - 3/4"	2 719 65 01 003	-
20	10	8	005	Union female elbow (15-21) - 1/2"	2 719 65 01 003	-
15	10	-	004	Union female (33-42) - 1-1/4"	2 719 65 01 002	-
6	6	6	003	Union female (26-34) - 1"	2 719 65 01 002	-
15	10	6	002	Union female (21-27) - 3/4"	2 719 65 01 002	-
25	12	8	001	Union female (15-21) -1/2"	2 719 65 01 002	-
VAR 02	VAR 01	VAR 00	ITEM NO.	ITEM DESCRIPTION	DRG NO.	ITEM NO. / VAR NO

ADDITIONAL INFORMATION			TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
STATUS OF DRAWING U												
DISTRIBUTION OF PRINTS LME(DV) - 1 LMP(DV) - 2 LMM(DV) - 3			 BHARAT HEAVY ELECTRICALS LTD. JHANSI				DRN	NAME	SIGN	DATE	NO. OF	
							CHD	VIKAS		04.11.24	VAR	
							APPD	SKK/GR		04.11.24	03	
			DEPT	LME	GRADE OF	UN. TOL.	SCALE	WEIGHT (KG)	REF. TO ASSY. NO.		ITEM	NO. OF
			CODE	404	DIM. C/M/F		1:1	--	-		NO	ITEM
			TITLE						CARD	DRAWING NO.		
			SET OF MCI PIPE FITTINGS						CODE	2 718 34 01 046		
									SHEET NO. 01		NO. OF SHEETS 01	

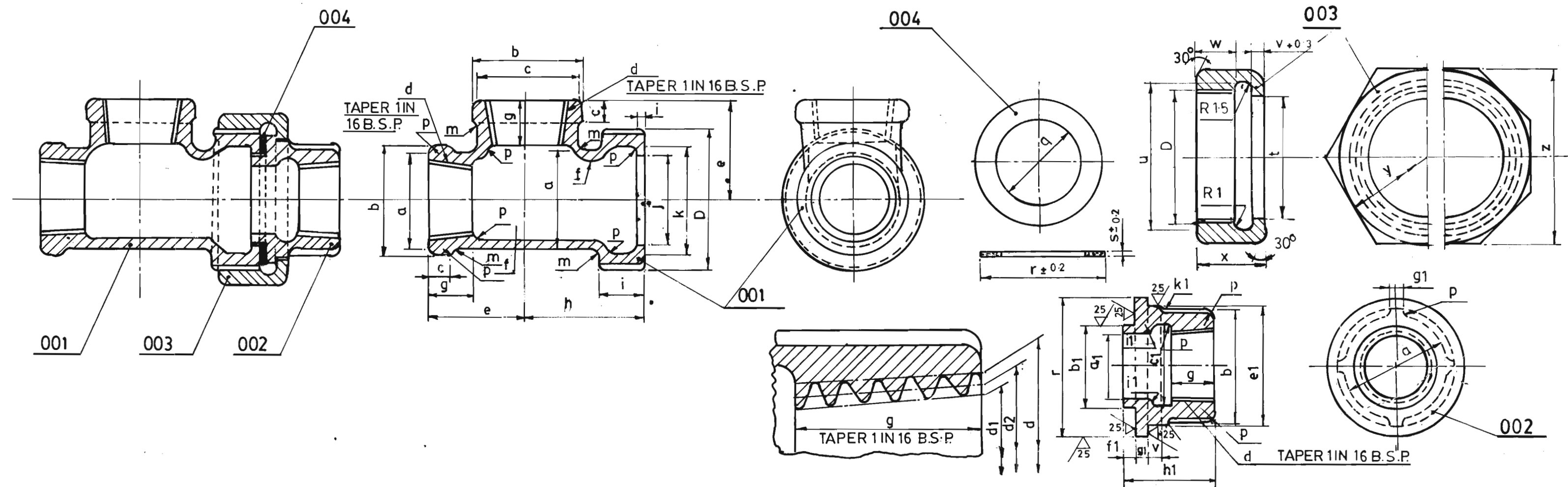
SIZE A2

SET OF MCI FITTINGS FOR 1400 HP DESL

SL NO.	DESCRIPTION	DRG NO.	ITEM NO.	QUANTITY / LOCO
1	Union female (15-21) - 1/2"	2 719 65 01 002	NA	25
2	Union female (21-27) - 3/4"	2 719 65 01 002	NA	15
3	Union female (26-34) - 1"	2 719 65 01 002	NA	6
4	Union female (33-42) - 1-1/4"	2 719 65 01 002	NA	15
5	Union female elbow (15-21) - 1/2"	2 719 65 01 003	NA	20
6	Union female elbow (21-27) - 3/4"	2 719 65 01 003	NA	20
7	Union female elbow (26-34) - 1"	2 719 65 01 003	NA	15
8	Union female elbow (33-42) - 1-1/4"	2 719 65 01 003	NA	25
9	Union elbow male female (33-42) 1-1/4"	2 719 65 01 020	NA	18
10	Union elbow male female (21-27) - 3/4"	2 719 65 01 020	NA	10
11	Union male & female (15-21) - 1/2"	2 719 65 01 048	NA	4
12	Union male & female (21-27) - 3/4"	2 719 65 01 048	NA	8
13	Union male & female (26-34) - 1"	2 719 65 01 048	NA	7
14	Union tee female (A) (15-21) - 1/2"	2 719 65 01 001	NA	6
15	Union tee female (A) (21-27) - 3/4"	2 719 65 01 001	NA	10
16	Union tee female (A) (33-42) - 1-1/4"	2 719 65 01 001	NA	10
17	Union tee female (B) (15-21) - 1/2"	2 719 65 01 047	NA	5
18	Union tee female (B) (21-27) - 3/4"	2 719 65 01 047	NA	10
19	Union tee female (B) (33-42) - 1-1/4"	2 719 65 01 047	NA	5
20	Cap Nut (15-21) - 1/2"	2 719 65 01 004	#003	2
21	Cap Nut (21-27) - 3/4"	2 719 65 01 004	#004	2
22	Socket (T) (15-21) - 1/2"	2 719 65 01 007	#003	4
23	Socket (T) (21-27) - 3/4"	2 719 65 01 007	#004	4
24	Socket (T) (26-34) - 1"	2 719 65 01 007	#005	4
25	Socket (T) (33-42) - 1-1/4"	2 719 65 01 007	#006	4
26	Elbow 90 deg equal (T) (26-34) - 1"	3 719 65 01 001	NA	4
27	Elbow 90 deg equal (T) (33-42) - 1-1/4"	3 719 65 01 001	NA	5
28	Elbow 90 deg equal (T) (21-27) - 3/4"	3 719 65 01 001	NA	4
29	Tee Equal (T) (15-21) - 1/2"	2 719 65 01 008	#003	6
30	Tee Equal (T) (21-27) - 3/4"	2 719 65 01 008	#004	7
31	Reducing boss 1/2" x 1/4"	3 719 65 01 020	#001	10
32	Reducing boss 1/2" x 3/8"	3 719 65 01 020	#002	10
33	Plug Type B (15-21) - 1/2" BSP	3 719 65 01 003	#001	10
34	Plug Type B (26-34) - 1" BSP	3 719 65 01 003	#003	2
35	Elbow Parallel (15-21) - 1/2"	2 719 65 01 029	#004	6

Total 318

(ALL DIMENSIONS ARE IN mm)



NOM. SIZE IN MM ID OD	IN INCH B.S.P. SIZE	a	b	c	MAJOR DIA d	EFFECTIVE DIA d ₁	MINOR DIA d ₂	n T.P.I.	e	f	g	h	i	j	k	l	m	p	q	r	s	t	u	v	w	x	y HEX	z OCT.	D. WITH		a ₁	b ₁	c ₁	e ₁	f ₁	g ₁	STYLE NO.	STYLE NO. FOR WAG-7-LOLO.
																													DIA	T.P.I.								
8-13	1/4"	19	22	5	13-157	12-301	11-445	19	19±1.5	2-5	9	26±1.5	10	17-0 ⁰ / ₁₅	21	2	1-5	1	16-0 ⁰ / ₁₅	26	1-5	24-0 ⁰ / ₂	31	2-5	9	16	35-0 ⁰ / ₈		30	12	11	16-0 ⁰ / ₁₅	14	23-7-0 ⁰ / ₂	3	2-5	706235	
12-17	3/8"	23	25	5	16-662	15-606	14-950	19	23±1.5	2-5	10	29±1.5	11	20-0 ⁰ / ₂	23	2	2-5	1	19-0 ⁰ / ₂	28	1-5	26-0 ⁰ / ₂	33	3	10	18	38-0 ⁰ / ₈		32	12	14	19-0 ⁰ / ₂	18	25-7-0 ⁰ / ₂	3	2-5	706020	642109
15-21	1/2"	27	30	6	20-955	19-793	18-631	14	27±1.5	2-5	12	32±1.5	12	24-0 ⁰ / ₂	29	2	2-5	1	23-0 ⁰ / ₂	34	1-5	32-0 ⁰ / ₂	40	3	10	18	46-0 ⁰ / ₁₀		38	12	18	23-0 ⁰ / ₂	22	31-7-0 ⁰ / ₂	3-5	2-5	706021	642110
21-27	3/4"	34	36	6	26-441	25-279	24-117	14	32±1.5	3	14	38±1.5	13	30-0 ⁰ / ₂	34	2	3	1	29-0 ⁰ / ₂	40	1-5	37-0 ⁰ / ₂	45	3	11	19	50-0 ⁰ / ₁₀		44	12	24	29-0 ⁰ / ₂	28	36-7-0 ⁰ / ₂	4	2-5	706022	642111
26-34	1"	41	44	7	33-249	31-770	30-291	11	38±1.5	3	16	43±1.5	14	37-0 ⁰ / ₂	44	3	3	1	36-0 ⁰ / ₂	50	1-5	47-0 ⁰ / ₂	56	3-5	12	21		63-0 ⁰ / ₁₂	55	12	30	36-0 ⁰ / ₂	35	46-7-0 ⁰ / ₂	4	3		
33-42	1 1/4"	50	53	8	41-910	40-431	38-952	11	46±2	3-5	18	50±2	15	45-0 ⁰ / ₂	51	3	3	1	44-0 ⁰ / ₂	58	1-5	55-0 ⁰ / ₃	63	4	13	23		71-0 ⁰ / ₁₅	62	12	38	44-0 ⁰ / ₂	43	54-7-0 ⁰ / ₃	4	3-5	706230	642112
40-49	1 1/2"	56	60	9	47-803	46-324	44-845	11	48±2	3-5	19	53±2	16	51-0 ⁰ / ₃	59	3	3	1-5	50-0 ⁰ / ₂	66	1-5	62-0 ⁰ / ₃	72	4	14	24		80-0 ⁰ / ₁₅	70	12	44	50-0 ⁰ / ₂	49	61-7-0 ⁰ / ₃	4-5	3-5		
50-60	2"	69	73	11	59-614	58-135	56-656	11	57±2.5	4	21	62±2.5	18	64-0 ⁰ / ₃	70	3	3-5	1-5	62-0 ⁰ / ₃	78	1-5	74-0 ⁰ / ₃	86	4-5	16	27		95-0 ⁰ / ₁₅	32	12	55	62-0 ⁰ / ₃	61	73-5-0 ⁰ / ₃	5	4	706023	

NOM. SIZE IN MM. ID.-O.D.	IN INCH B.S.P. SIZE	h_1	i_1	j_1	k_1
8-13	1/4"	21 $\pm$ 1.5	2.5	3	3
12-17	3/8"	22 $\pm$ 1.5	2.5	3	3
15-21	1/2"	24 $\pm$ 1.5	2.5	4	3
21-27	3/4"	28 $\pm$ 1.5	2.5	4	3
26-34	1"	32 $\pm$ 1.5	3	5	4
33-42	1 1/4"	34 $\pm$ 2	3	5	4
40-49	1 1/2"	36 $\pm$ 2	3	5	4
50-60	2"	40 $\pm$ 2.5	3.5	5	5

* 1 MATERIAL SPECN:- MALLEABLE CAST IRON TO IS: 2107 (1979) GR. WM-340 (WHITE HEART) OR IS: 2108 (1979) GR. M-290 (BLACK HEART) VIDE SR.C & M'S LETTER NO. M/6/163/948 Dt. 13-8-79 AS AN ALTERNATIVE TO MC1, FORGING STEEL TO IS: 1875 CL-2 IS ALSO ACCEPTABLE.

2. ALL THE FINISH PIPE FITTINGS SHALL BE TESTED AS PER THE CLW'S TEST SPECN. NO. M/EL/57/TS:68 Dt 8-5-85.

[illegible]

ADDITIONAL INFORMATION

STATUS OF DRAWING

DISTRIBUTION OF PRINTS	
0/C - 1, PPC - 2, ASSY - 2,	
IE - 1, QAX - 1, BAY3 - 2,	
BAY 1&2 - 2.	

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT STANDARD

 BHARAT HEAVY ELECTRICALS LIMITED JHANSI	DRN.	NAME S.E.S.	SIGN. S.S.S.	DATE 1.11.87	73 74
	CHD.	VINAY	Y8	1.11.87	No. OF VAR.
	APPD	P.G.K		1.12.87	

DEPT. LCE	GRADE OF UN. TOL.		SCALE	WEIGHT (Kg.)	REF. TO ASSY. DRG.	ITEM 75 77
CODE 40L	DIMC/M/F					No. OF No. OF
						ITEMS 004

TITLE	1	3	7	DRAWING No.	22	23	24
UNION TEE FEMALE (A)	CARD			2 719 65 01 001	REV.	02	
	CODE			SHEET No. 01	No. OF SHEETS	01	

S.E.S. BPL. SIZE A2

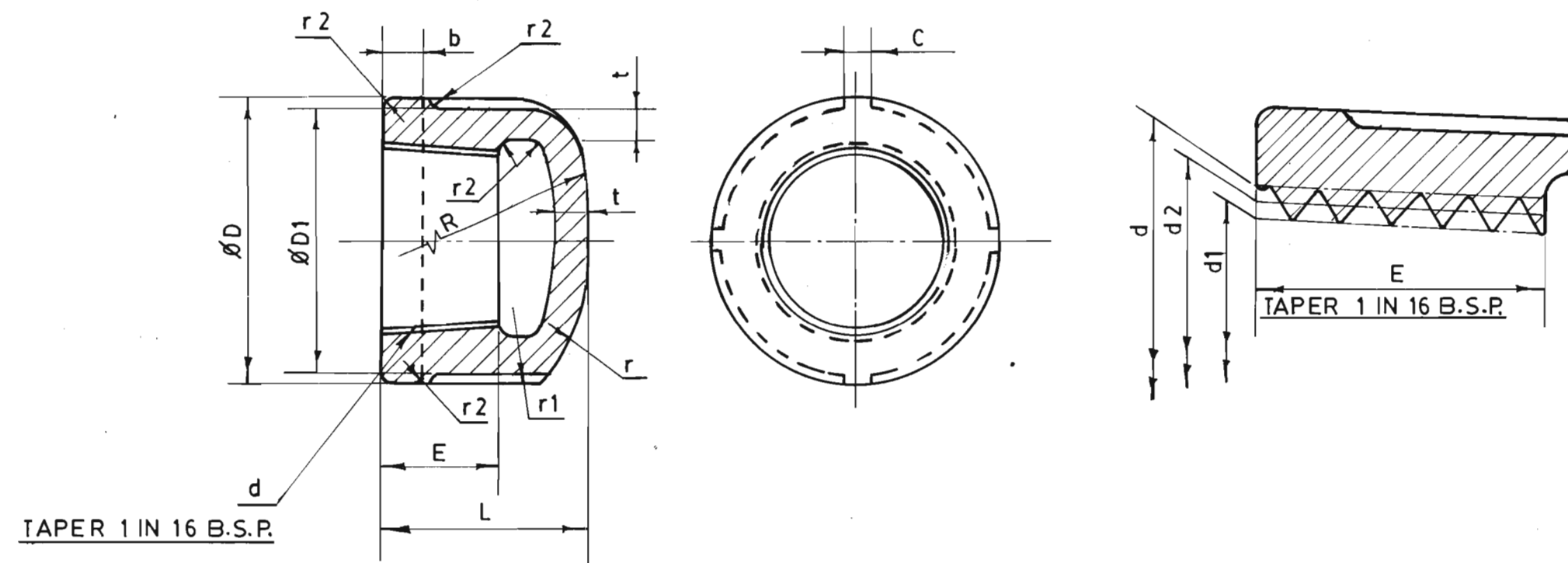
THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTERESTS OF THE COMPANY.

CLW 0/3/65/13 REV. 5
SIGN. & DATE REF. DRG. No.

INVENTORY NO.

(ALL DIMENSIONS ARE IN mm)

DIMNL.TOL:- AS PER CORP.STD. AA 023 02 08 MEDIUM GRADE
UNLESS OTHERWISE STATED.



1 MATERIAL SPECN:- MALLEABLE CAST IRON TO IS:2107(1979) GR.WM - 340 (WHITE HEART) OR IS:2108 (1979) GR. M-290 (BLACK HEART) AS AN ALTERNATIVE TO M.C.I. FORGING STEEL TO IS 1875 CL*2 IS ALSO ACCEPTABLE.

[illegible]

25 K-V. A. C. LOCO

OR
NAME OF CUSTOMER/PROJECT

 **BHARAT HEAVY ELECTRICALS LIMITED**
JHANSI

ED	DRN.	NAME	SIGN	DATE	73 7
	CHD.	A. K. S.	<i>[Signature]</i>	3/5/00	No. O
	APPD	G. S. Jally	<i>[Signature]</i>	3/5/00	VAR

✓ OR	DEPT.	GRADE OF
	CODE	UN. TOL.
	LME	
	406	DIM.C/M/F

104			
TITLE	CAP NUT		

HT (Kg.)	REF. TO ASSY. DRG.	ITEM No.	75 7 No. 0 ITEM 00 8
----------	--------------------	----------	-------------------------------

1	3	7	22	23	2
CARD CODE		DRAWING No. 2 719 65 01004		REV 01	
		SHEET No. 01		No. OF SHEETS 01	

SIZE A2

THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED.
IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

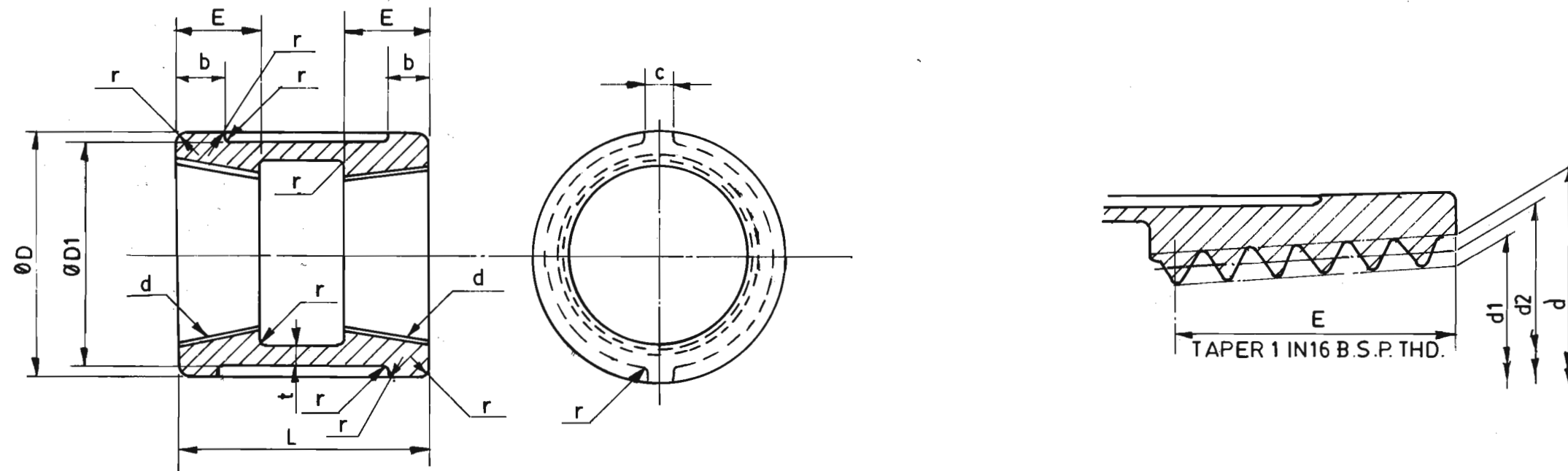
CLW 0/3/65/4
SIGN. & DATE REF. DRG. No.
INVENTORY No.

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

DRG. No. 2 719 65 01 007

DIMNL. TOL. — AS PER CORP. STD. AA 023 02 08 MEDIUM
GRADE UNLESS OTHERWISE STATED.



NOTES:—

- MATERIAL SPECN:— MALLEABLE CAST IRON TO IS. 2107 (1979) GR. WM-340 (WHITE HEART) OR IS. 2108 (1979) GRADE M-290 (BLACK HEART)
AS AN ALTERNATIVE TO MCI, FORGING STEEL TO IS:1875 CL-2 IS ALSO ACCEPTABLE.

	80-90	3 ⁿ	105	99	25	75±2.5	13	7	87-884	86-405	84-926	11	2.0	5±1.5		009	SOCKET M.C.I. 80-90		SEE NOTE -1						
	50-60	2 ⁿ	73	69	20	60±2.5	11	5	59-614	58-135	56-656	11	1.5	4±0.7		008	SOCKET M.C.I. 50-60	706 302	SEE NOTE -1						
	40-49	1½ ⁿ	60	56	18	55±2.5	9	5	47-803	46-324	44-845	11	1.5	3.5±0.7		007	SOCKET M.C.I. 40-49		SEE NOTE -1						
	33-42	1¼ ⁿ	53	50	17	50±2.0	8	5	41-910	40-431	38-952	11	1.0	3.5±0.7		006	SOCKET M.C.I. 33-42		SEE NOTE -1						
	26-34	1 ⁿ	44	41	15	45±2.0	7	5	33-249	31-770	30-291	11	1.0	3±0.7		005	SOCKET M.C.I. 26-34		SEE NOTE -1						
642085	21-27	¾ ⁿ	36	33	13	40±2.0	6	4	26-441	25-279	24-117	14	1.0	3±0.7		004	SOCKET M.C.I. 21-27	706 032	SEE NOTE -1						
642084	15-21	½ ⁿ	30	27	11	35±2.0	6	4	20-955	19-793	18-631	14	1.0	2.5±0.5		003	SOCKET M.C.I. 15-21	706 031	SEE NOTE -1						
	12-17	⅜ ⁿ	26	23	9	30±1.5	5	3	16-662	15-806	14-950	19	1.0	2.5±0.5		002	SOCKET M.C.I. 12-17		SEE NOTE -1						
	8-13	¼ ⁿ	22	19	8	25±1.5	5	3	13-157	12-301	11-445	19	1.0	2.5±0.5		001	SOCKET M.C.I. 8-13		SEE NOTE -1						
STYLE NO FOR WAG-7 LOCO	NOM. SIZE ID-OD	IN INCH B.S.P SIZE	D	D1	E	L	b	c	d	d2	d1	n T.P.I.	r	t	REMARKS	VAR. No.	ITEM No.	DESCRIPTION	STD.	STYLE NO.	M.T.L. CODE	M.T.L. SPECN.	UNIT WT.	QTY.	ZONE

28 CARD TYPE-3

28 CARD TYPE-1

28 CARD TYPE-2

ADDITIONAL INFORMATION

STATUS OF DRAWING

DISTRIBUTION OF PRINTS

O/C - 1, IE - 1, QAX - 1,

PPC - 2, ASSY - 2,

BAY3 - 2, BAY1&2 - 2.

TYPE OF PRODUCT

OR

NAME OF CUSTOMER/PROJECT



BHARAT HEAVY ELECTRICALS LIMITED

JHANSI

DRN.

NAME

SIGN

DATE

CHD.

A. SAXENA

3.5.00

APPD.

G. GADIX

3.5.00

REF. TO ASSY. DRG.

ITEM No.

75 77

NO. OF

ITEMS

009

REV.

22 23 24

DRAWING No.

2 719 65 01 007

SHEET No.

01

NO. OF SHEETS

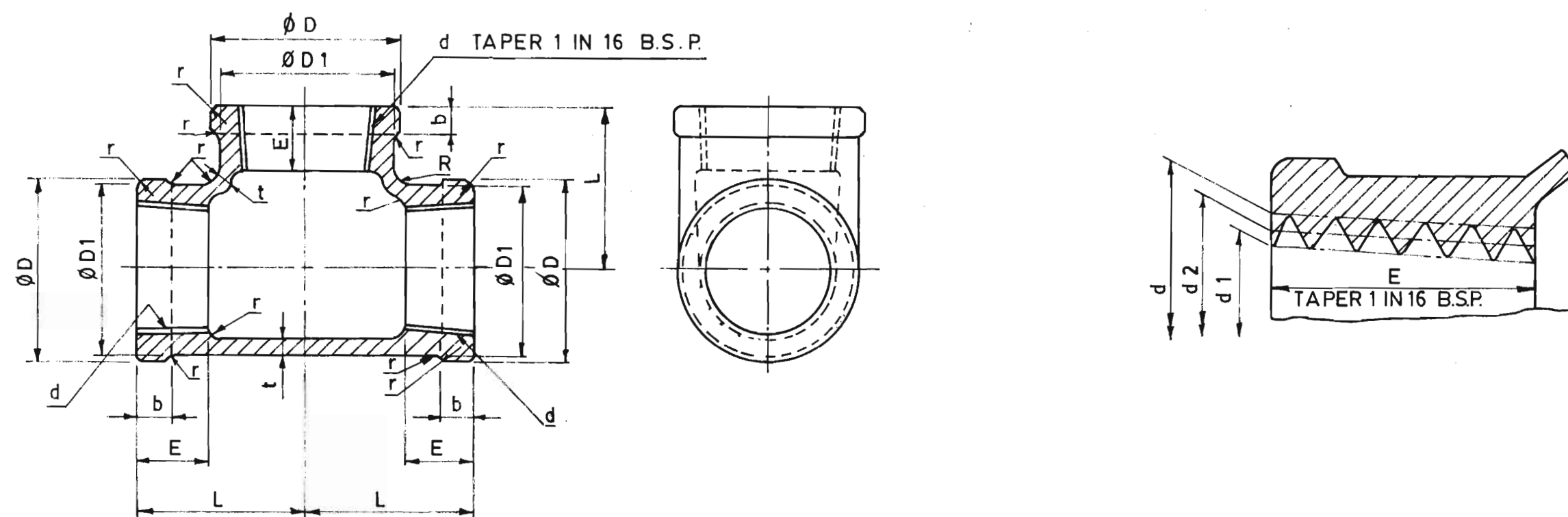
01

SIZE A2

(ALL DIMENSIONS ARE IN mm)

DIMNL. TOL. AS PER CORP. STD. AA 023 02 08 MEDIUM
GRADE UNLESS OTHERWISE STATED.

1. MATL. SPECN.:— MALLEABLE CAST IRON TO IS: 2107 (1979) GR. WM. 340 (WHITE HEART) OR IS: 2108 (1979) GR. M-290 (BLACK HEART).
AS AN ALTERNATIVE TO M.C.I. FORGING STEEL TO IS: 1875 CL-2 IS ALSO ACCEPTABLE.
2. ALL FINISH PIPE FITTINGS SHALL BE TESTED AS PER THE CLWS TEST SPECN. NO. M/EL/57/TS: 68 Dt. 8-5-85

[illegible]

28 —————▶ **CARD TYPE-**

28  CARD TYPE-

28 —————▶ CARD TYPE-

ADDITIONAL INFORMATION

TYPE OF PRODUCT

25 K.V. A. C. LOCO

STATUS OF DRAWING	
DATE	
DRAWN BY	
CHECKED BY	
APPROVED BY	

NAME OF CUSTOMER/PROJECT

DISTRIBUTION OF PRINTS
1 MF (SV) 1


BHARAT HEAVY ELECTRICALS LIMITED

ED	DRN.	NAME	SIGN.	DATE	73
		P. K. Khatri	P. Khatri	3/5/73	

LMP(DV) = 1

BHEI

ED	R.K.R.	K.P.	3/5/00	Nb.
CHD.	A.K.S.		3/5/00	VAN

LMM (DV) - 3

APPD	G.S. Jally	Myralli	3/5/00
------	------------	---------	--------

REV.	DATE	ALTER
------	------	-------

DEPT.	GRADE
LCE	

WT (Kg.)	REF. TO ASSY. DRG.	ITEM No.	75 No.
----------	--------------------	-------------	-----------

01	1.6.00	CHEC
ZONE	63115	

UN. TO	UN. TO
CODE	DIMC/M

NO.	ITEM
-----	------

ZONE	STYLE

D.	404	DIM.C/M
	TITLE	

1	3	7	DRAWING NO.	22	23
---	---	---	-------------	----	----

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	52
--	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----

10

CARD	DRAWING No. 2 719 65 01 008	REV 3
------	--------------------------------	----------

[illegible]

CODE 2 719 85 91 999 07

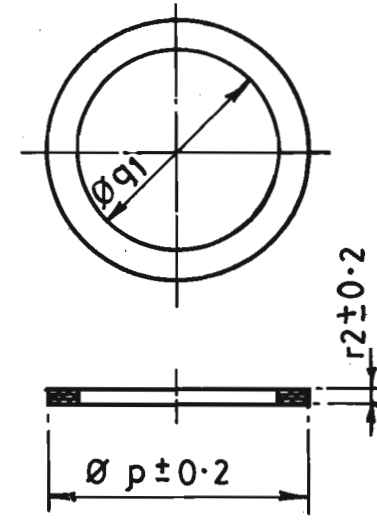
SHEET No	01	No OF SHEETS	07
----------	----	--------------	----

SHEET NO. 01 NO. OF SHEETS 01
 SIZE A

SIZE A2

(ALL DIMENSIONS ARE IN mm)

AS PER CORPT. STD. AA 0 23 02 08 COARSE GRADE UNLESS OTHERWISE STATED.

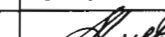
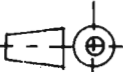


004



1. ALL SHARP EDGES AND CORNERS TO BE ROUNDED OFF.
2. MATERIAL SPECN:- MALLEABLE CAST-IRON TO IS:2107 (1991) GR.WM-340 (WHITE-HEART) OR IS:2108 (1991) GR.M-290 (BLACK HEART) AS AN ALTRENTATIVE TO MCI, FORGING STEEL TO IS:1875 CL-2 IS ALSO ACCEPTABLE.
3. ALL THE FINISH PIPE FITTINGS SHALL BE TESTED AS PER THE B.H.E.L. PURCHASE SPECN. NO. LME / PUR / 097
4. THE MATERIAL TO BE CLEANED PROPERLY & TO BE PHOSPHATED (IS:3618-91) AFTER MACHINING TO RESIST COROSSION.

[illegible]

28		CARD TYPE-3		28		CARD TYPE-3		28		CARD TYPE-7																							
ADDITIONAL INFORMATION						TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT						25 K.V.A.C./WCAM-2 / WCAM-3 LOCOMOTIVE M/S - INDIAN RAILWAY																					
STATUS OF DRAWING						U						DRN.		NAME		SIGN		DATE		73 74													
DISTRIBUTION OF PRINTS						 BHARAT HEAVY ELECTRICALS LIMITED JHANSI						CHD.		M.L.				17-10-96		VAR													
LME LMP LMM												APPD.		M.D.				19.10		01													
1		2		3				DEPT.		GRADE OF UNIT FOR DIM. COMP.				SCALE		WEIGHT (Kg)		REF. TO ASSY. DRG.		ITEM NO.		75 77											
REV		DATE		ALTERED		P308		LME						N.T.S.		—		—		—		NO. OF ITEMS											
01		17-5-98		CHECKED		PPPD		CODE		404												004											
ZONE						STYLE NO ADDED FOR WAG-7 LOCO.						TITLE						DRAWING NO. 2 719 65 01 020						SHEET NO.		NO. OF SHEETS		REV.					
												UNION ELBOW (MALE AND FEMALE)						3						7						23 24			
																		CARD CODE						01						01		01	

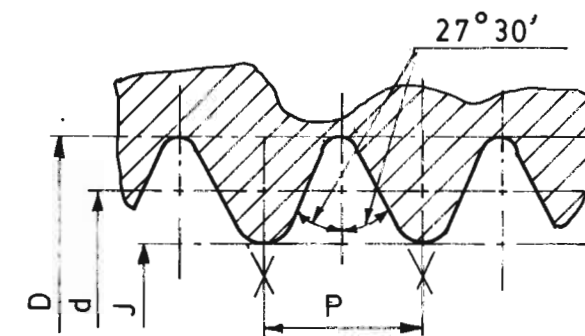
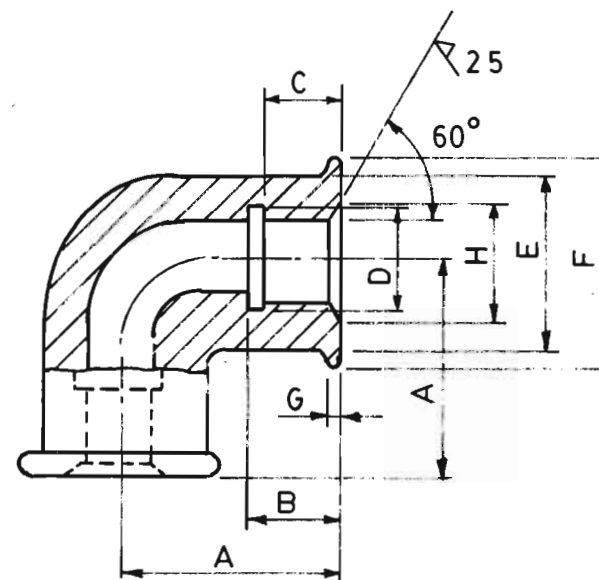
SIZE A 2

INVENTORY NO	SIGN & DATE	CLW - 0 / 3 / 65 / 11
		REF DBG NO AIT NO 5

(ALL DIMENSIONS ARE IN mm)

DRG. No. 2 719 65 01 029

DIMNL. TOL. AS PER CORP. STD. AA 023 02 08 MEDIUM
GRADE UNLESS OTHERWISE STATED.



FEMALE THREAD NUT

DETAIL OF PARALLEL PIPE THREAD NUT (FEMALE THREAD CLOSE NUT)							
NOM. SIZE		BSP. SIZE	MAJOR DIA.	EFFECTIVE DIA.		MINOR DIA.	
I.D.	O.D.	IN. inch.	MIN. DIA.	MAX. d.	MIN. d.	MAX. J	MIN. J
5-10		1/8"	9.728	9.218	9.146	8.847	8.565
8-13		1/4"	13.157	12.382	12.301	11.890	11.445
12-17		3/8"	16.662	15.890	15.806	15.395	14.950
15-21		1/2"	20.955	19.888	19.794	19.174	18.633
21-27		3/4"	26.441	25.382	25.281	24.661	24.120
26-34		1"	33.249	31.879	31.770	30.932	30.292
33-42		1 1/4"	41.910	40.548	40.432	39.593	38.953
40-49		1 1/2"	47.803	46.446	46.324	45.486	44.846
50-60		2"	59.614				
66-76		2 1/2"	75.184				

NOTES ÷

- 1 MATL. SPECN.÷MALLEABLE CAST IRON TO IS:2107 (1979) GR. WM-340 (WHITE HEART) OR IS:2108(1979) GR. M-290 (BLACK HEART).
AS AN ALTERNATIVE TO MCL.FORGING STEEL TO IS:1875 CL-2 IS ALSO ACCEPTABLE.
- 2 ALL THE FINISH PIPE FITTINGS SHALL BE TESTED AS PER THE CLW'S TEST SPECN. NO. M/EL/57/TS:68 DATED_ 8-5 -85.

[illegible]

28 CARD TYPE-3

28 —————▶ CARDTYPE-1

28 —————▶ **CARDTYPE-2**

ADDITIONAL INFORMATION

TYPE OF PRODUCT

25 K.V.A. C. LOCO WAG 5A

[illegible]

OR
NAME OF CUSTOMER/PROJECT

INDIAN RAILWAY BOARD NEW DELHI

DISTRIBUTION OF PRINTS

LME(DV) - 1

LMM (DV) - 3

BHARAT HEAVY ELECTRICALS LIMITED

ED	DRN.	NAME SUDHEER
----	------	-----------------

SIGN. <i>[Signature]</i>	DATE 15.5.00	73 74 No. OF
------------------------------------	------------------------	-----------------

BHEL JHANSI

CHD.	A. SAXENA

Ch	15.5.00	VAR.
----	---------	------

REF	GRADE	SCALE
-----	-------	-------

	APP
WEIGHT (K)	

D	G.S. JALY	Mybali	15.5.00	
	REF TO AGCM PRO		ITEM	75 77

DEPT.	GRADE OF	SCALE
LME	UN. TOL.	

WEIGHT (Kg.)

REF. TO ASSY. DRG.	ITEM No.	75 77 No. OF
--------------------	-------------	-----------------

7	CODE 404	DIM.C/M/F		
---	-------------	-----------	--	--

			ITEMS 010
--	--	--	--------------

TITLE	
-------	--

1 3 7 DRAWING No. 22 23 24
REV

CARD CODE	2 719 65 01 029	REV. 01
--------------	-----------------	------------

SHEET No. 01		No. OF SHEETS 01	
--------------	--	------------------	--

SIZE A2

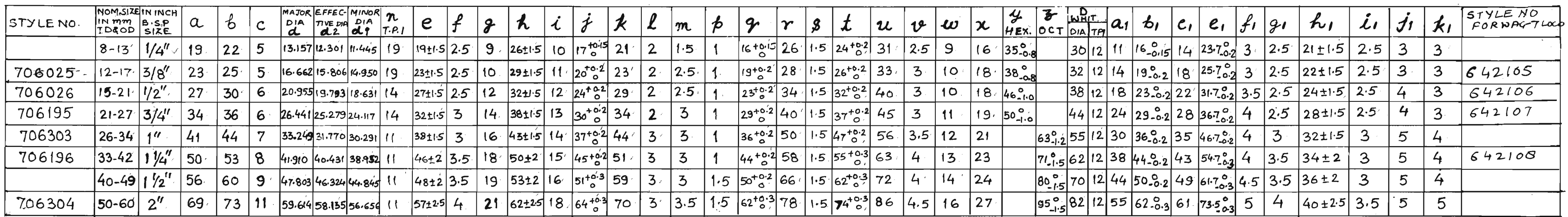
THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

CLW/AC / 128
SIGN & DATE REF DRG No.

INVENTORY NO.

(ALL DIMENSIONS ARE IN mm)

1



1. MATERIAL SPECN.:- MALLEABLE CAST IRON TO IS: 2107 (1979) GR. WM-340 (WHITE HEART) OR IS: 2108 (1979) GR.M-290 (BLACK HEART). AS AN ALTERNATIVE TO MC-I, FORGING STEEL TO IS: 1875 CL-2 IS ALSO ACCEPTABLE.

[illegible]

28 ————— CARD TYPE-3

28 — CARD TYPE 1

28 ————— CARD TYPE-2

ADDITIONAL INFORMATION

TYPE OF PRODUCT : AC/DIESEL LOCOMOTIVES

STATUS OF DRAWING

NAME OF CUSTOMER/PROJECT

DISTRIBUTION OF PRINTS
LME, LMP, LMM

बी एच ई एल
BH
BHARAT HEAVY ELECTRICALS LIMITED
JHANSI

DRN	NAME	SIGN	DATE	73 74
	Anil kumar	Anil kumar	15-5-2000	NC OF
CHD.	A. Saxena	Ah	18-5-00	VAR
APPD	G.S.J/A.P.	G.S.J	18-5-00	

REV 01	DATE 17-5-0	ALTERED <i>PCW</i>
		CHECKED <i>AAPD.</i>

DEPT	LME	GRADE OF
CODE	404	UNTOL
		DIM C/MF

SCALE

WEIGHT (Kg)

REF. TO ASSY. DRG.	ITEM NO.	75 77 NO OF ITEMS 004
--------------------	----------	--------------------------------

TITLE
UNION TEE FEMALE (B)

1	3	7	22	23	24
CARD CODE		DRAWING NO. 2719 65 01 047		REV 01	
SHEET NO. 01		NO OF SHEETS 01			

SIZE A 2

(ALL DIMENSIONS ARE IN mm)

1



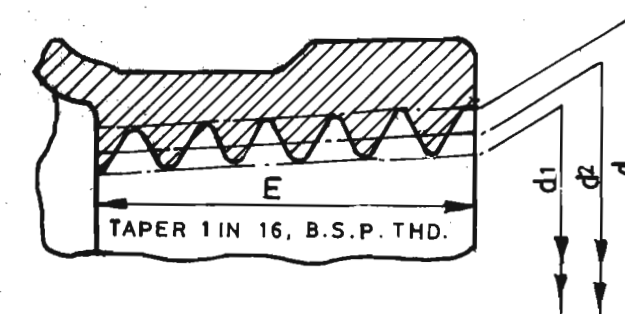
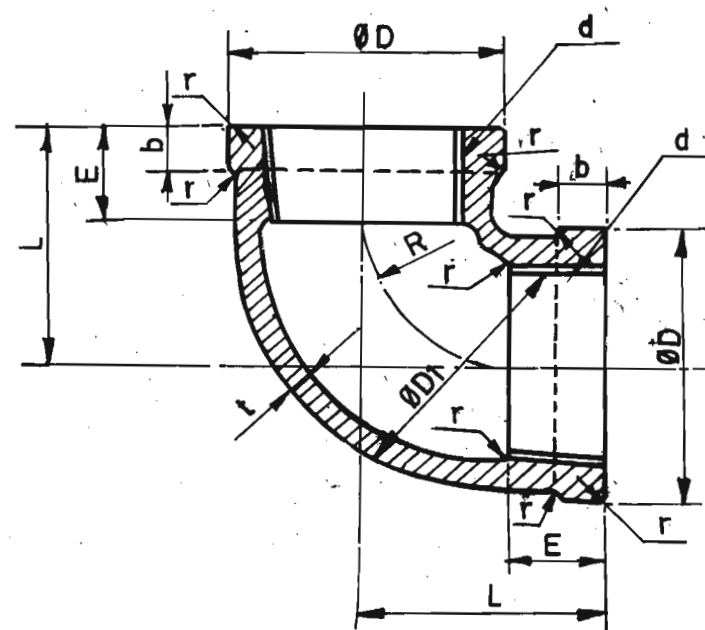
NOTES:-

- [illegible]

SIZE A 2

100 10 59 617 E ON 080

50 ALL OVER



STYLE NO	NOM SIZE IN MM ID - OD	IN INCH B.S.P. SIZE	D	D1	E	L	R	b	d	d2	d1	n T.P.I.	r	t
	8-13	1/4"	22	19	8	19±1.5	11	5	13.157	12.301	11.445	19	1	2.5±0.5
	12-17	3/8"	26	23	9	23±1.5	14	5	16.662	15.806	14.950	19	1	2.5±0.5
	15-21	1/2"	30	27	11	27±1.5	16	6	20.955	19.793	18.631	14	1	2.5±0.5
955248	21-27	3/4"	36	33	13	32±2	20	6	26.441	25.279	24.117	14	1	3±0.7
706033	26-34	1"	44	41	15	38±2	24	7	33.249	31.770	30.291	11	1	3±0.7
955248														
706034	33-42	1 1/4"	53	50	17	46±2	28	8	41.910	40.431	38.952	11	1	3.5±0.7
	40-49	1 1/2"	60	56	18	48±2	32	9	47.803	46.324	44.845	11	1.5	3.5±0.7
706253	50-60	2"	73	69	20	57±2.5	38	11	59.614	58.135	56.656	11	1.5	4±0.7
	80-90	3"	105	99	25	78±3	55	13	87.884	86.405	84.926	11	2	5±1.5

NOTES:—

- MATERIAL SPECN:—MALLEABLE CAST IRON TO IS:2107(1979)GR.WM-340(WHITE HEART) OR IS:2108(1979)GR.M-290(BLACK HEART) VIDE SR.C&M'S LETTER NO.M/6/163/948 DT.13-8-79 AS AN ALTERNATIVE TO MCI. FORGING STEEL TO IS:1875 CL-2 IS ALSO ACCEPTABLE.
- ALL THE FINISH PIPE FITTINGS SHALL BE TESTED AS PER THE CLW'S TEST SPECN. NO.M/EL/ST/TS:68 DT.8-5-85.

SEE NOTES		001	ELBOW																																																
VAR 00	REMARKS	NO.	ITEM NO.	DESCRIPTION	STD.	DRAWING NO.	IT. NO.	MATL. CODE	UNIT	UNIT WT.	QTY.	ZONE																																							
CARD TYPE-3			CARD TYPE-1			CARD TYPE-2																																													
ADDITIONAL INFORMATION															TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT																																				
STATUS OF DRAWING															Bharat Heavy Electricals Limited Jhansi																																				
DISTRIBUTION OF PRINTS LME (DV) - 1 LMP (DV) - 1 LMM (DV) - 3															<table border="1"> <tr> <td>DRN.</td> <td>NAME</td> <td>SIGN</td> <td>DATE</td> <td>NO. OF VAR.</td> </tr> <tr> <td>CHD</td> <td>V S</td> <td></td> <td>8.11.90</td> <td></td> </tr> <tr> <td>APPD</td> <td>P G K</td> <td></td> <td>8.11.90</td> <td></td> </tr> </table>															DRN.	NAME	SIGN	DATE	NO. OF VAR.	CHD	V S		8.11.90		APPD	P G K		8.11.90								
DRN.	NAME	SIGN	DATE	NO. OF VAR.																																															
CHD	V S		8.11.90																																																
APPD	P G K		8.11.90																																																
<table border="1"> <tr> <td>REV.</td> <td>DATE</td> <td>ALTERED</td> <td>BY</td> <td>NO.</td> </tr> <tr> <td>02</td> <td>1.6.00</td> <td>CHD</td> <td></td> <td></td> </tr> </table>															REV.	DATE	ALTERED	BY	NO.	02	1.6.00	CHD			<table border="1"> <tr> <td>DEPT.</td> <td>GRADE OF UN. TOL.</td> <td>SCALE</td> <td>WEIGHT (Kg.)</td> <td>REF. TO ASSY. DRG.</td> <td>ITEM NO.</td> </tr> <tr> <td>LCE</td> <td>404</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>															DEPT.	GRADE OF UN. TOL.	SCALE	WEIGHT (Kg.)	REF. TO ASSY. DRG.	ITEM NO.	LCE	404				
REV.	DATE	ALTERED	BY	NO.																																															
02	1.6.00	CHD																																																	
DEPT.	GRADE OF UN. TOL.	SCALE	WEIGHT (Kg.)	REF. TO ASSY. DRG.	ITEM NO.																																														
LCE	404																																																		
<table border="1"> <tr> <td>REV.</td> <td>DATE</td> <td>ALTERED</td> <td>BY</td> <td>NO.</td> </tr> <tr> <td>01</td> <td>12.5.00</td> <td>CHECKED</td> <td></td> <td></td> </tr> </table>															REV.	DATE	ALTERED	BY	NO.	01	12.5.00	CHECKED			<table border="1"> <tr> <td>TITLE</td> <td>DRAWING NO.</td> <td>NO. OF SHEETS</td> </tr> <tr> <td>ELBOW-90° EQUAL (TAPER)</td> <td>3 719 65 01 001</td> <td>01</td> </tr> </table>															TITLE	DRAWING NO.	NO. OF SHEETS	ELBOW-90° EQUAL (TAPER)	3 719 65 01 001	01						
REV.	DATE	ALTERED	BY	NO.																																															
01	12.5.00	CHECKED																																																	
TITLE	DRAWING NO.	NO. OF SHEETS																																																	
ELBOW-90° EQUAL (TAPER)	3 719 65 01 001	01																																																	

S.E.S. DPL. SIZE A

(ALL DIMENSIONS ARE IN mm)

THIS INFORMATION ON THE DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

VAR00 & VAR01 (1/2" BSP PARALLEL)

(VAR00 (1/4" BSP PARALLEL))
(VAR01 (3/8" BSP PARALLEL))

REDUCING BOSS

NOTES :-

1. MATERIAL SPECN:- MALLEABLE CAST IRON TO IS: 2107 (1991) GR. WM-340 (WHITE HEART) OR IS: 2108 (1991) GR. M-290 (BLACK HEART) VIDE AN ALTERNATIVE TO MCI, FORGING STEEL TO IS: 1875 CL-2 IS ALSO ACCEPTABLE.
2. ALL THE FINISH PIPE FITTINGS SHALL BE TESTED AS PER THE BHEL PURCHASE SPECN. NO. LME/PUR/097
3. MATERIAL TO BE CLEANED PROPERLY & TO BE PHOSPHATED (IS : 3618-91) AFTER MACHINING TO RESIST CORROSION.
4. SUPPLIER IS REQUIRED TO SUBMIT DETAIL DIMENSION DRAWING | STANDARD FOR APPROVAL.

[illegible]

SIZE A3