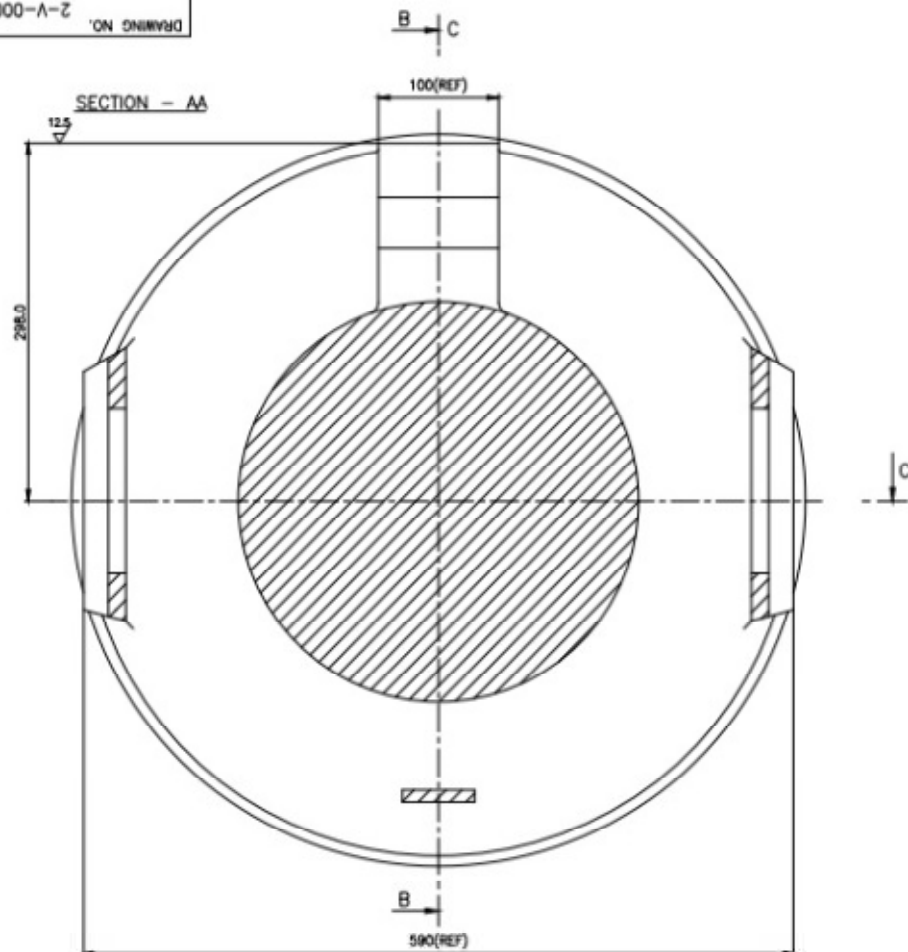
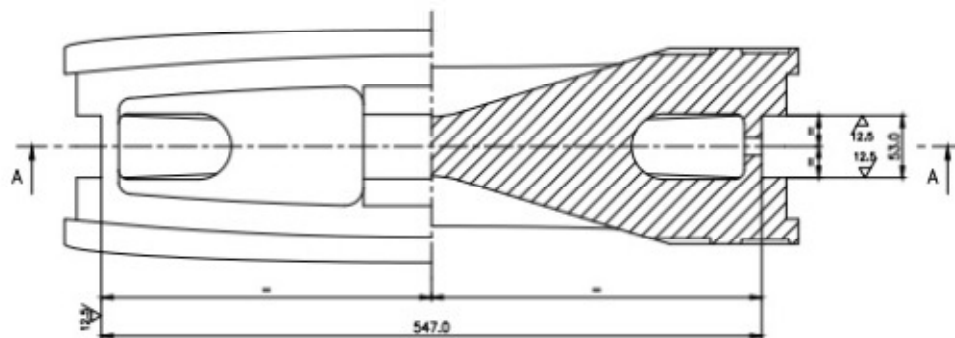


DRAWING NO. 2-V-0000-14236

SECTION - AA

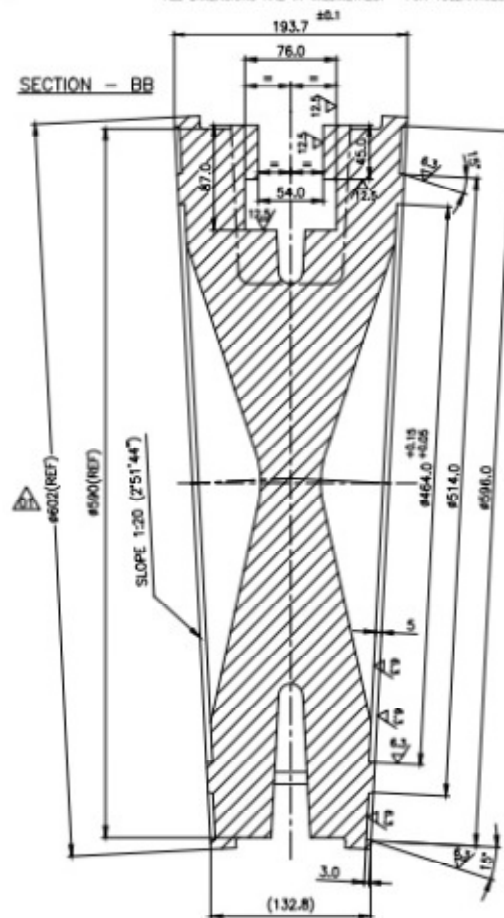


SECTION - CC



ALL DIMENSIONS ARE IN MILLIMETRES. FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP / GP

SECTION - BB



NOTE:

01. BREAK ALL SHARP CORNERS.

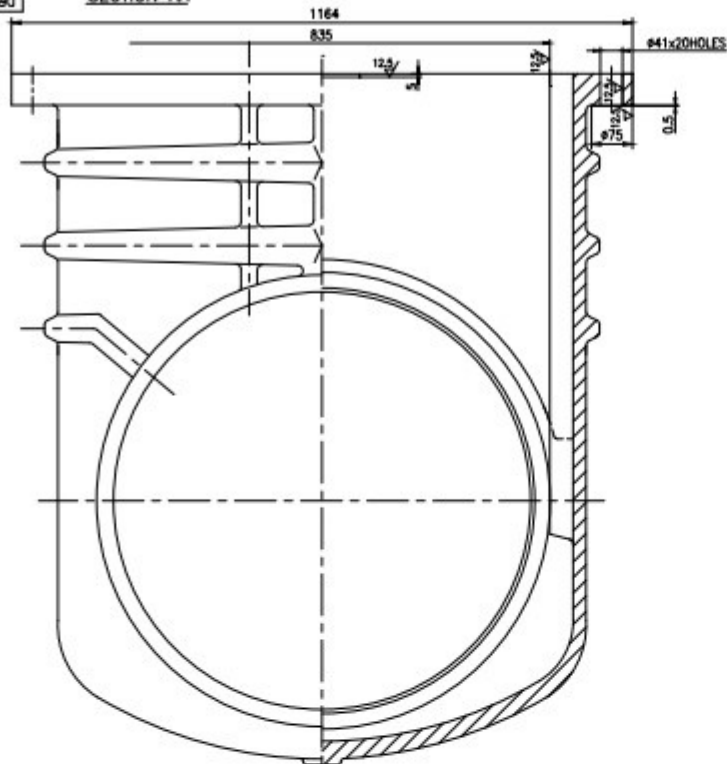
02	CASTING	92 201 747	ASTM A217 WCB - CERTIFY	NORMALISED & TEMPERED	20	204	214	2-V-NET-14236/01	007
01	CASTING	92 201 746	ASTM A216 WCB - CERTIFY	NORMALISED	10	204	214	93 201 261 5000	007
SL	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO.	ITER N°

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT, TRICHYRAIPALLY - 620014.									
DEPT	360-120	SCALE	NTS	WEIGHT (KG)	REF TABLE	REFERENCE INFORMATION			
CODE	320					CAD :C214236			
TITLE WEDGE ROUGH (22°-C300)						CAD CODE U 01	DRAWING NO. 2-V-0000-14236		REV 01

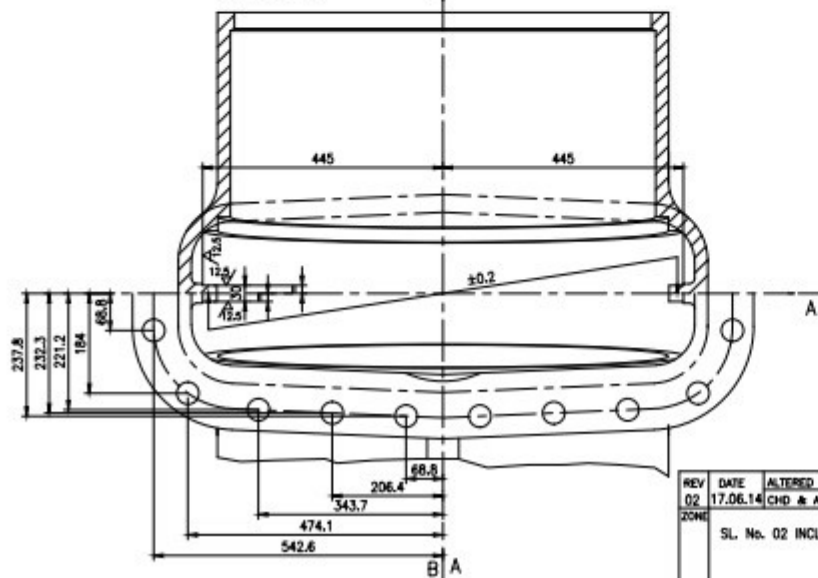
REV	DATE	ALTERED : R.P.SINGH
01	10.11.17	CHD & APPD : SSK & KRS
ZONE	DIMENSIONS #602 WAS #610	

CAUTION: The information on this drawing is for reference only. It must not be used directly or indirectly in any way detrimental to the interest of the company.

SECTION AA

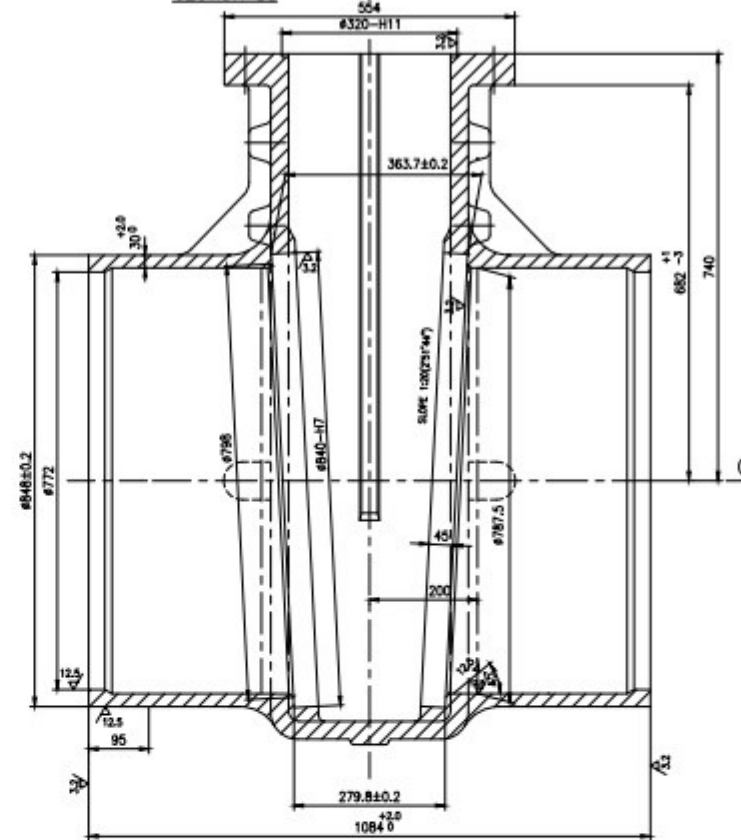


SECTION CC



ALL DIMENSIONS ARE IN MILLIMETRES. FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QOP / QP

SECTION BB



ø320-H11	+0.360
	0
ø540-H7	+0.090
	0

NOTE:

* 01 . QUALITY PROCEDURE AS APPLICABLE FOR SPECIAL CLASS VALVE

* 02	--	92203214	SA217 WCB ATTEST	NT	20	1353	1505	2.V.NHB4.0B327/1 932032920000	001
01	--	92201219	SA216 WCB ATTEST	NR	10	1353	1505	2.V.N929.0B327/1 931101420000	001
SL	DESCRIPTION	WATL CODE	WATL SPECN	HEAT TREAT	SCAP SORT	NET BT	GRSS BT	DRAWING NO COMPONENT CODE	ITEM

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT	
---	--



BHARAT HEAVY ELECTRICALS LTD.
UNIT: HIGH PRESSURE BOILER PLANT,
TRICHINAPALLI-620014.

DRN	NAME	SIGN	DATE
Y.	V. BAIRAKIAN		18.01.01
CHD	R.L. NARAYANAN		19.01.01
APPO	M. RAJAKUMAR		19.01.01

DEPT	VL
CODE	320
TITLE	

SCALE	WEIGHT (KG).
N T S	-

REFERENCE INFORMATION	
CAD REF. NO: C208327	

BODY

32"/150CLASS

CARD CODE
U 01

DRAWING NO.	2-V-0000-08327
-------------	----------------

03

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of

REV	DATE	ALTERED	A.MARUMUTH
03	20.08.14	CHD & APPD	MS & SSK

NOTE- 01 INCLUDED

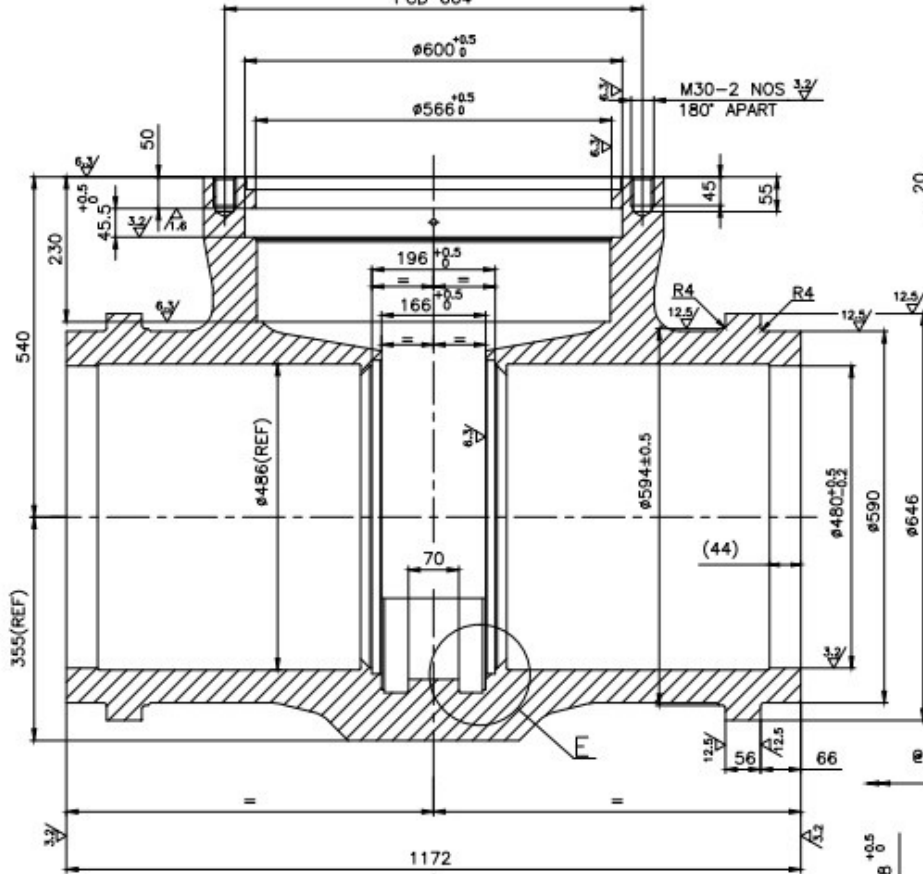
REV 02	DATE 17.06.14	ALTERED CHD	N.RAMESH	APPD SSK	KRS
ZONE	SL. No. 02 INCLUDED				
REV 01	DATE 07.09.01	ALTERED CHD	R.L	APPD MRK	
ZONE	DIM. 810 INCLUDED DCN NO. HM 0494				

SL. No. 02 INCLUDED

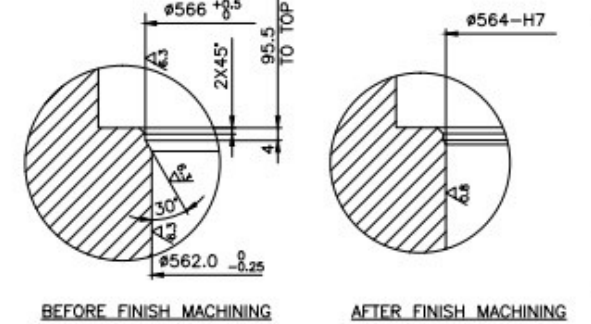
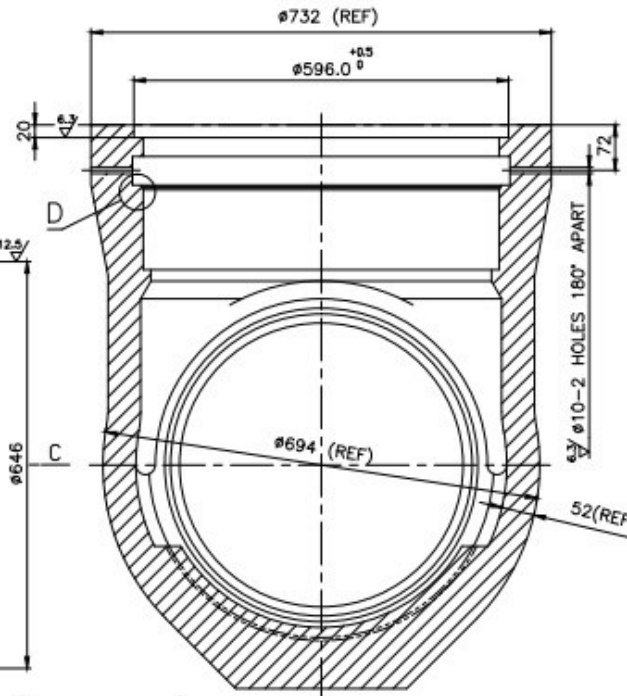
DIM. 810 INCLUDED
DCN NO. HM 0494

SECTION-BB

A C
PCD 664



SECTION-AA

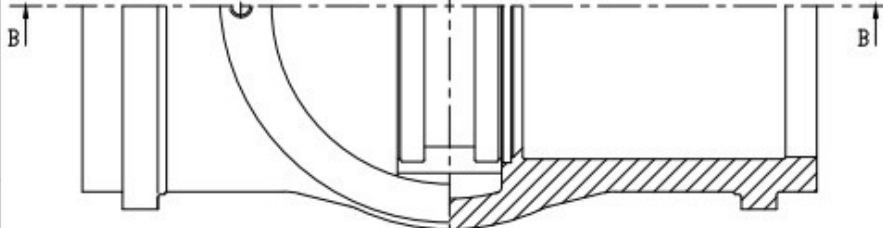


DETAIL-D

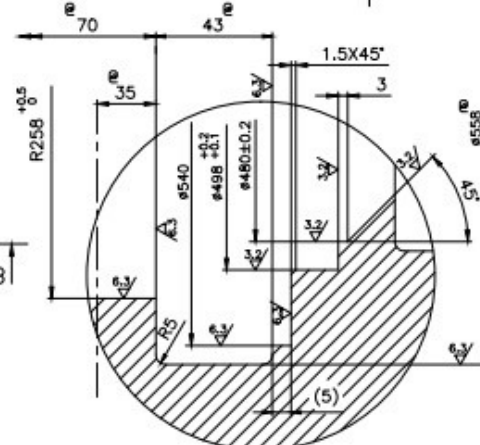
NOTE:-

1. UNSPECIFIED SHARP CORNERS TO BE CHAMFERED TO 1X45°.
2. ALLOWABLE DEVIATIONS FOR DIMENSION WITHOUT SPECIFIED TOLERANCE REFER: APPLICABLE QUALITY PROCEDURE.

SECTION-CC



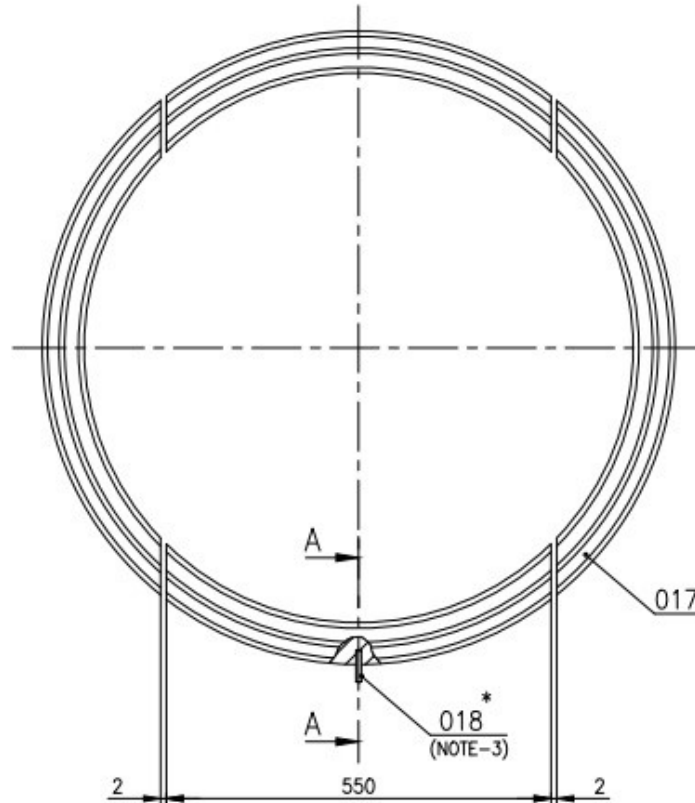
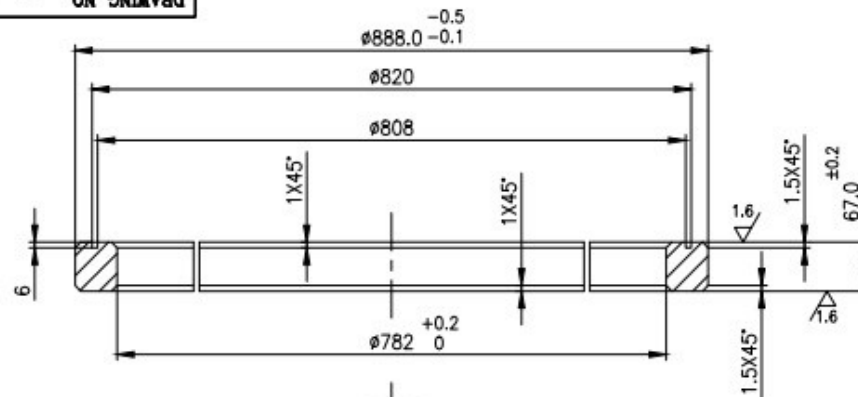
DETAIL-E



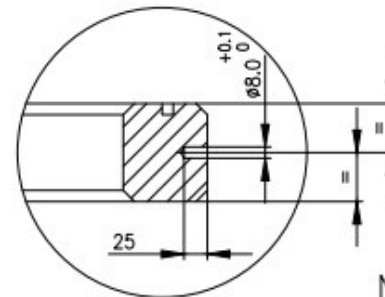
REV	DATE	ALTERED	M.SRINIVASAN	REV	DATE	ALTERED	M.SRINIVASAN	REV	DATE	ALTERED	M.SRINIVASAN	REV	DATE	ALTERED	M.SRINIVASAN	REV	DATE	ALTERED	M.SRINIVASAN
05	21.12.13	CHD & APPD	SSK & KRS	07	06.06.13	CHD & APPD	SSK & KRS	06	06.07.11	CHD & APPD	M.RAJAKUMAR	05	18.06.09	CHD & APPD	M.RAJAKUMAR	04	20.03.09	CHD & APPD	P.BOOMINATHAN
DIMENSION 66 & 1172 WERE 64 & 1168 ± 3.2				SL.No. 02 INCLUDED				DIMENSION (44) INCLUDED				DIMENSION 70, 43, 558 & (5) INCLUDED.				DIM. 558, 486, 52 WERE 544, 470 & 63 RESPLY. DIM. 540 INCLUDED.			
DCP : 801664								DCP:801194				DCP:800976				DCP:800936			

02	CASTING	92203133	SA217 C12A ATTEST	NORMALISED & TEMPERED	20	1270	1440	2-V-3390-05612	932030420000	001
01	CASTING	92033824	SA217 WC9 ATTEST	NORMALISED & TEMPERED	20	1270	1440	2-V-3308-05612/06	931663650000	001
SL NO.	DESCRIPTION	MATL CODE	MATL SPEC	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO	COMPONENT CODE	ITEM No
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT										
BHARAT HEAVY ELECTRICALS LTD. UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPPALLI-620014.										
DRN CHD APPD				NAME M.SRINIVASAN		SIGN		DA 22.05.93		
365-120				N.P.ESWARAN				22.05.93		
DEPT V.L.				SCALE N.T.S		WEIGHT (KG) 1270		REFERENCE INFORMATION COMPONENT CODE: 93 165 365 C		
CODE 380						CARD CODE U 01		DRAWING NO. 2-V-0000-05612		
TITLE BODY (550mm-C900)										

CAUTION: The information on this drawing is the property of BHARAT HEAVY ELECTRICALS LTD. and should not be used directly or indirectly in any way detrimental to the interest of the company.



SECTION-AA



SECTION-AA

6.3 / 1.6

NOTES

01. BREAK ALL SHARP CORNERS.

02. HARD Cr. PLATING TO BE CARRIED OUT ON FINISHED SPLIT RINGS TO A THICKNESS OF 0.015 MM TO 0.03 MM.

* 03. FIX ONE CYLINDRICAL PIN Ø8X55 FOR ASSEMBLING WITH BODY AT THE TIME OF ASSEMBLY.

03	CYL PIN Ø8X55	-	-	-	-	0.01	-	BPS 41702	018
	-	92 203 433	ASTM A182 F91 NT, CERTIFY	QT	40	72.0	-	417 02 08055 00	
02	CYL PIN Ø8X55	-	-	-	-	0.01	-	3-V-3311-24536	017
	-	92 203 249	AISI 4140 CERTIFY.	QT	40	72.0	-	93 203 960 0000	
01	CYL PIN Ø8X55	-	-	-	-	0.01	-	BPS 41702	018
	SUGGESTED SIZE PL68 -892 X 892	--	SA387 GR.22 CERTIFY.	NORMALISED & TEMPERED	20	71.99	333.6	417 02 08055 00	
SL No.	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
								COMP. CODE	

REV	DATE	ALTERED	BY	REV	DATE	ALTERED	BY
04	19.04.18	R.P.SINGH	CHD & APPD SSK & KRS	03	15.02.16	M.SRINIVASAN	CHD & APPD SSK & KRS
SL.NO. 03 INCLUDED				NOTES SL.NO. 2 MODIFIED.			

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.

UNIT: HIGH PRESSURE BOILER PLANT.
TIRUCHIRAPALLI-620014.DEPT
VL
CODE 320SCALE
NTSWEIGHT (KG).
72.0

REFERENCE INFORMATIONS

CAD : F324536

TITLE

SPLIT RING

CARD
CODE
U 01

DRAWING NO.

3-V-0000-24536

REV

04

NO. OF
VAR.

07.03.07

07.03.07

07.03.07

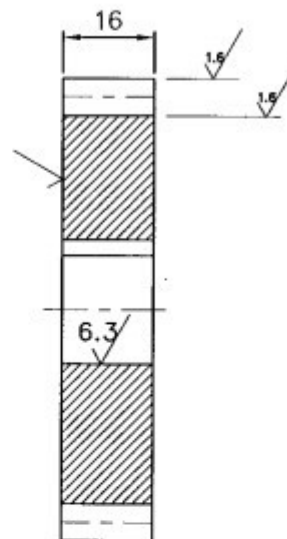
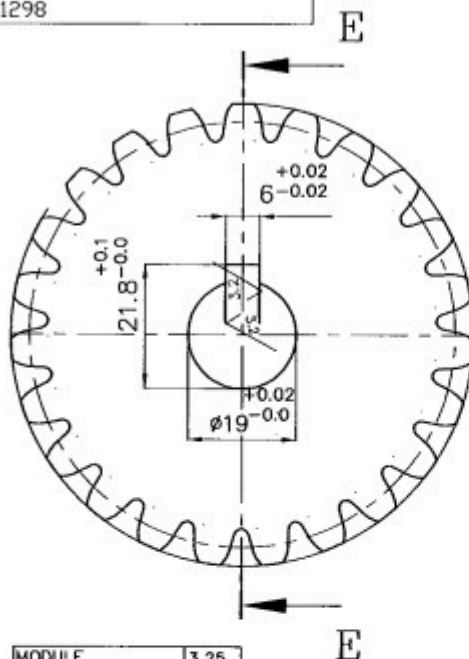
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP/QP

ALL DIMENSIONS ARE IN MILLIMETRES.

REV	DATE	ALTERED
04	11.06.01	CHD & APPD
DRG. UPDATED AND REDRAWN.		
DCN:SB:1298		

✓/12.6/ 6.3/ 3.2/ 1.6/



SECTION EE

MODULE	3.25
NO OF TEETH	23
PITCH DIAMETER	74.75
PRESSURE ANGLE	20°
WHOLE DEPTH OF TEETH	7.31
OUTSIDE DIMETER	81.25
TOOTH CLEARANCE	0.813
CETRE DISTACE	102.38

TOLERANCE ON GEAR BLANK
TIP DIAMETER 81.25 $\begin{smallmatrix} 0.00 \\ -0.05 \end{smallmatrix}$

RADIAL AND AXIAL RUN OUT OF
REFERENCE SURFACES = 0.0170

TOLERANCE OF GEAR:

TEETH RUN OUT = 0.063

TIR W.R.T.BORG

WIDTH ACROSS THREE TEETH = 25.03 $\begin{smallmatrix} -0.09 \\ -0.16 \end{smallmatrix}$

ALL OTHER TOLERANCE ARE TO BE
AS PER APPLICABLE QP/QCP

NOTES:-

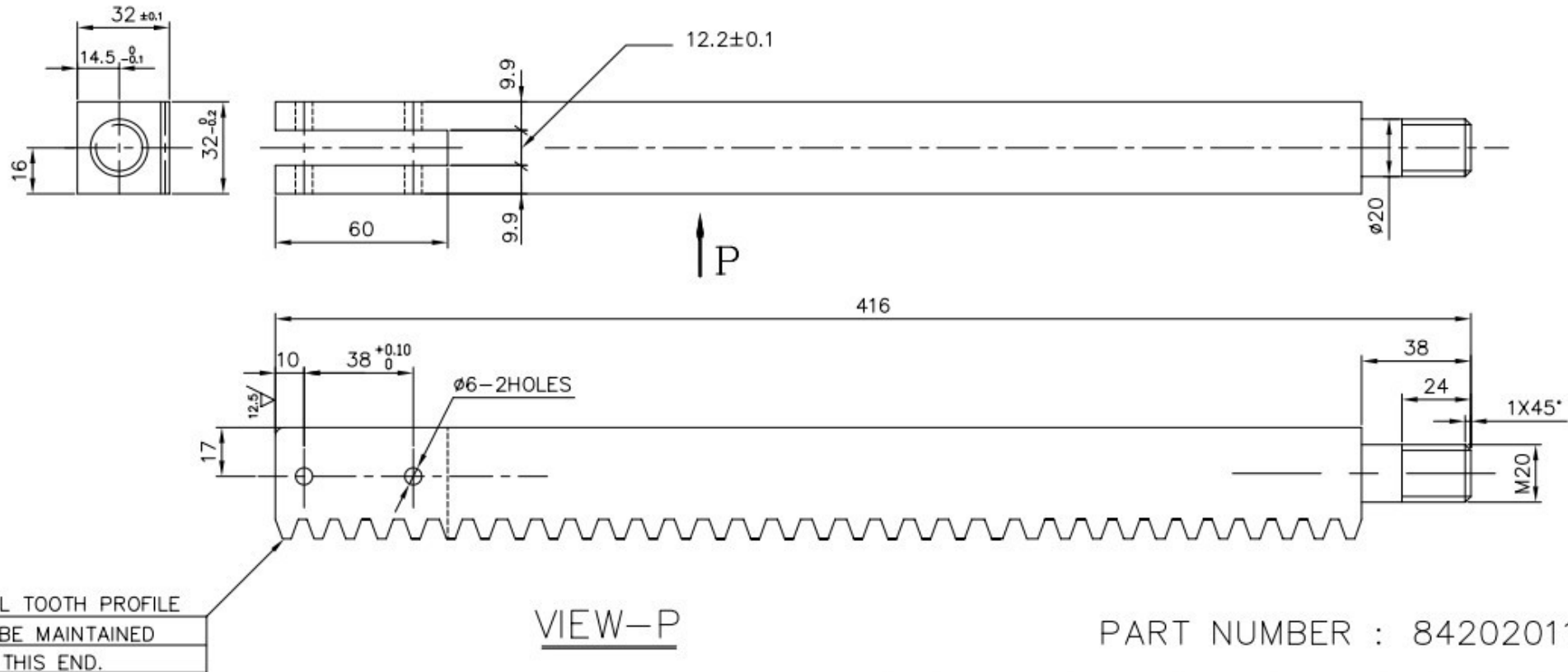
1. FOR QUALITY REQUIREMENTS REFER APPLICABLE LATEST QUALITY PROCEDURE.

PART CODE : 842020114500

01	FORGING D 100X20	920377780000	IS 1875 CL IV			1.250			01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
		BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014.			DRN	NAME V. ARUMUGAM		SIGN	DATE
					CHD	K. SRIDHARAN			
					APPD	S. NATARAJAN			
DEPT SB		SCALE NTS		WEIGHT (KG). 1.250		REFERENCE INFORMATION			NO. OF VAR
CODE 330						T-13566			
TITLE SPUR GEAR				CARD CODE U 01	DRAWING NO. 4-20-201-00252				REV 04

Size A4

DRAWING NO. 3-20-201-00138

$$\frac{6.3}{\nabla} \quad \left(\frac{12.5}{\nabla} \right)$$


FULL TOOTH PROFILE
TO BE MAINTAINED
AT THIS END.

VIEW-P

PART NUMBER : 842020116100

NOTES: –

1. FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURES.

MODULE	3
PRESSURE ANGLE	20°
WHOLE DEPTH	6.75

REV	DATE	ALTERED	K.S.
11	26.06.06	CHD & APPD	S.N.

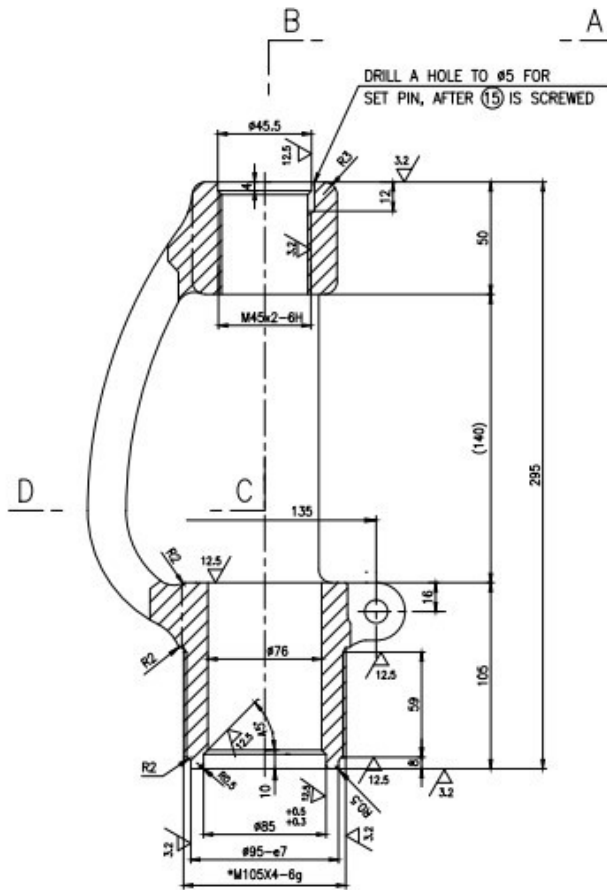
DRG. UPDATED AND REDRAWN.

DCN: 800547 Dt.02.01.06

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

01	ROUND Ø50MM	15 339 142	SA 105				3.680		01
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
TYPE OF PRODUCT									
OR NAME OF									
CUSTOMER/PROJECT									
 365-121					DRN	NAME S.NAPPI	SIGN S.N.	DATE 26.06.06	NO.OF VAR
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.					CHD	K.SRIDHARAN	K.S.	26.06.06	
					APPD	S.NATARAJAN	S.N.	26.06.06	
DEPT	VL		SCALE	WEIGHT (KG).		REFERENCE INFORMATION			NO. OF ITEMS
CODE	330		NTS	3.680					
TITLE				CARD CODE	DRAWING NO.				REV
RACK				U 01	3-20-201-00138				11

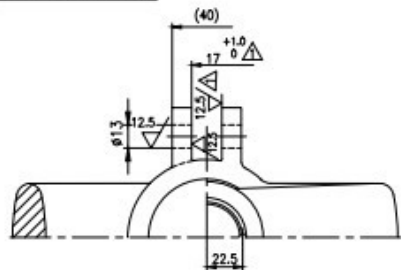
ALL DIMENSIONS ARE IN MILLIMETRES. FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP / QP



12 $\nabla / \nabla^{12.5} \nabla^{3.2}$

#95-e7	-0.072
	-0.107

SECTION ABCD



NOTES:

- * 1. NI PLATING TO A THICKNESS OF 25 TO 35 MICRONS.
2. LATEST APPLICABLE QUALITY WORK INSTRUCTION SHALL BE FOLLOWED IN ALL RESPECTS.

02	2-V-G047-15154/3	A217 WC6, NT PRODUCT ATTEST	931121170000	20					
01	2-V-G045-15154/3	A216 WC6, AN PRODUCT ATTEST	931121180000	10					
S/N NO.	DRAWING NO.	MATL. SPECN.	COMP. CODE	SCRAP SORT					
No OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET Wt (kg)	GROSS WT (kg)	DRAWING No	ITEM No

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

REDRAWN WITH REV.1 ON 24.10.13

REV	DATE	ALTERED	CR
3	24.10.13	CHD & APPD SSK & KRS	

ZONE

+1.0 12.5 /
DIMENSION 17 0 &  INCLUDED

DCP No.801630

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT, TIRUCHIRAPPALLI - 620014.		DRN CHD	NAME CHITRANJAN S.SATHEES	SIGN	DATE 24.10.13 24.10.13
365-120				APPO	K.RAJASEKARAN		24.10.13
DEPT VL		SCALE N T S	WEIGHT (KG.) 8.78	REFERENCE INFORMATION			
CODE 320				+			
TITLE YOKE 80/1500CLASS			CARD CODE U 01	DRAWING NO. 2-V-0000-1515			

S.No	Gr. No	Job/Component Description	Description of Valve/ Product (Used in)	Special Process
1	G2232	LOCK PIN-40021200	Wall Blower	Heat Treat to RC27 Cadmium Plating
2	G2193	SPINDLE SLEEVE-30015200	Wall Blower	Cadmium Plating
3	G2206	COVER PLATE-40012400	Wall Blower	Cadmium Plating
4	G2223	SPRING RETAINER-40019300	Wall Blower	Cadmium Plating
5	G2234	SWITCH MOUNT BRT-40024500	Wall Blower	Cadmium Plating
6	G2247	CAM-40079700	Wall Blower	Cadmium Plating
7	G2208	SHAFT COLLAR-40026100	Wall Blower	Galvanizing
8	G2186	WORM SHAFT-30015100	Wall Blower	to be phosphated
9	G2344	BASE PLATE-40159600	NOZZLE SETG.FIXT-30072500	to be phosphated
10	G2238	FLAT WASHER-40013000	Wall Blower	to be phosphated
11	G2204	GLAND PLATE-40011900	Wall Blower	to be phosphated
12	G2306	Stem	2.5-C1500-GLV/GNV-HO/MO-WCC	Chrome Plating
13	G2307b	Stem	3-C1500-GLV/GNV-BW-HO/MO-WCB	Chrome Plating
14	G2307	Stem	4-C1500-GLV/GNV-BW-HO/MO-WCB	Chrome Plating
15	G2346	Stem Machining	5-C1500-GLV-BW-MO-WC9	Chrome Plating
16	G1402	STEM (with Hard Chrome Plating)	10-C150-GV-WC6	Chrome Plating
17	G1405	STEM (with Hard Chrome Plating)	10-C300-GV-WC9	Chrome Plating
18	G1410	STEM (with Hard Chrome Plating)	12-C300-GV-WC9/WC6	Chrome Plating
19	G1414	STEM (with Hard Chrome Plating)	14-C300-GV-WC9	Chrome Plating
20	G1418	STEM (with Hard Chrome Plating)	16-C300-GV-WC9	Chrome Plating
21	G1428	STEM (with Hard Chrome Plating)	2-C300-RV/SV-WC6	Chrome Plating
22	G1442	STEM (with Hard Chrome Plating)	3-C300-RV/SV-WC6	Chrome Plating
23	G1447	STEM (with Hard Chrome Plating)	4-C150-GV-WC9	Chrome Plating
24	G1450	STEM (with Hard Chrome Plating)	4-C300-GV-WC6/WC9	Chrome Plating
25	G1453	STEM (with Hard Chrome Plating)	4-C300-RV/SV-WC6/WC9	Chrome Plating
26	G1469	STEM (with Hard Chrome Plating)	8-C150-GV-WC6/WC9	Chrome Plating
27	G1473	STEM (with Hard Chrome Plating)	8-C300-GV-WC9	Chrome Plating
28	G1458	STEM (with Hard Chrome Plating)	6-C150-GV-WC9	Chrome Plating
29	G1462	STEM (with Hard Chrome Plating)	6-C300-GV-WC6	Chrome Plating
30	G1465	STEM (with Hard Chrome Plating)	6-C300-RV/SV-WC9/WC6	Chrome Plating
31	G2530	Split Ring Assy-3200/3396	450/500-C500-CRHIV-BW-WCB/WCC/WC9	Chrome Plating
32	G2531	Split Ring Assy-3208/3390	550-C900-HRHIV-BW-WC9/C12A	Chrome Plating
33	G2425a	SPLIT RING ASSY	700-C600-CRHIV-BW-WCC	Chrome Plating
34	G2425	SPLIT RING ASSY-3245/3316	750-C600-CRHIV-BW-WCC	Chrome Plating
35	G2195	SWIVEL TUBE D60.3X4.8-30069900 (Chrome plating length - 1088mm Total length - 1218mm)	Wall Blower	Chrome Plating

S.No	Gr. No	Job/Component Description	Description of Valve/ Product (Used in)	Special Process
36	G2195a	EXT. SWIVEL TUBE D60.3X4.8-30208600 (Chrome plating length - 1488 mm Total length - 1618 mm)	Wall Blower	Chrome Plating
37	G2195b	EXT. SWIVEL TUBE D60.3X4.8-30212301 (Chrome plating length - 2088 mm Total length - 2218 mm)	Wall Blower	Chrome Plating
38	G2195a	EXT. SWIVEL TUBE D60.3X4.8-30212301 (Chrome plating length - 1388 mm Total length - 1518 mm)	Wall Blower	Chrome Plating
39	G2195a	EXT. SWIVEL TUBE D60.3X4.8-30212303 (Chrome plating length - 1575 mm Total length - 1705 mm)	Wall Blower	Chrome Plating
40	G2224	GUIDE ROD-40019500	Wall Blower	Chrome Plating
41	G2235	THRUST WASHER-40025000	Wall Blower	Case Hardening to RC 40-45
42	G2179	WORM-30011901	Wall Blower	Case Hardening to RC 60-66
43	G2181	WORM L.H-30011902	Wall Blower	Case Hardening to RC 60-66
44	G2325a	Sunk Key	2.5/3-C1500-GLV/GNV-BW- WCC/WCB/WC9	Hardness required is min 240 BHN
45	G2325b	Sunk Key	4-C1500-GLV-BW-HO-WCB	Hardness required is min 240 BHN
46	G1486	SUNK KEY-W057	Extension spindle valves	
47	G2178	VALVE STEM CAP-40019800	Wall Blower	Heat Treat to 38-41 HRC
48	G2183	RAMP CAM-30013700	Wall Blower	Heat Treat to 50-55 RC
49	G2185	CAM SHAFT COLLAR-30014700	Wall Blower	Heat Treat to HRC 28
50	G2189	WORM GEAR SHAFT-30015500	Wall Blower	Heat Treat to RC 40-44
51	G2493	Orifice Plate		
52		KEY-40114200	SPECIAL KEY-40114100 (842099634400)	
53	G2308	Yoke Machining	2.5-C1500-GLV-HO/MO- WCC/WCB/WC9	Nickel Plating
54	G2345	Yoke Machining	3-C1500-GLV-BW-HO-WC9	
55	G2309	Yoke Machining	4-C1500-GLV-HO/MO- WCC/WCB/WC9	Nickel Plating
56	G2311a	Disc Final	2.5-C1500-GLV-BW-HO-WC9	Tufftriding/ Liquid nitriding
57	G2311b	Disc Final	3-C1500-GLV-BW-HO-WC9	Tufftriding/ Liquid nitriding
58	G2311j	Disc Final	3-C3500-GLV-BW-MO-WC9	Tufftriding/ Liquid nitriding
59	G2311c	Disc Final	4-C1500-GLV-BW-HO-WCB	Tufftriding/ Liquid nitriding
60	G2311k	Disc Final	6-C3500-GLV-BW-MO-WC9	Tufftriding/ Liquid nitriding

S.No	Gr. No	Job/Component Description	Description of Valve/ Product (Used in)	Special Process
61	G2311i	Disc Final	6-C2500-GLV-BW-MO-WCC	Liquid Nitriding
62	G2316a	Disc Nut	2.5-C1500-GLV-BW-HO-WC9	Tufftriding/ Liquid nitriding
63	G2316b	Disc Nut	3-C1500-GLV-BW-HO-WC9	Tufftriding/ Liquid nitriding
64	G2316c	Disc Nut	4-C1500-GLV-BW-HO-WCB	Tufftriding/ Liquid nitriding
65	G2316d	Disc Nut	5-C1500-GLV-BW-GO-WC9	Tufftriding/ Liquid nitriding
66	G2317	WASHER-0009	2.5-C1500-GNV-BW-HO-WCC	Liquid Nitriding
67	G2317	WASHER-0010	3-C1500-GNV-BW-HO-WCC	Liquid Nitriding
68	G2317	WASHER-0012	4-C1500-GLV-BW-HO-WCB	Liquid Nitriding
69	G2317	WASHER-0014	5-C1500-GNV-BW-MO-WC9	Liquid Nitriding