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三菱重工業(株)

IN CASE OF NO TOLERANCE SPECIFIED IT IS ALLOWANCE SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF FOLLOWING STANDARDS
JIS B 0405 GENERAL ALLOWANCE FOR LINEAR AND ANGULAR DIMENSIONS
JIS B 0419 GENERAL ALLOWANCE FOR PLATE, SHEET, PROFILE AND TUBE METAL CUTTING
JIS B 0408 GENERAL ALLOWANCE FOR CASTINGS
JIS B 0417 GENERAL ALLOWANCE FOR CUTTING

3rd ANGLE PROJECTION	PLAN RECORD
ISO/M SCREW THREADS	P1-Q0039を元に、インドBHEL用に本図作成。

Surface roughness: ▽▽▽▽ ▽▽ ▽ ～ ／

企業のない寸法の許容差は下記によること。（指示図による）
MS01-151 普通許容差(削り加工)之証
MS01-158 普通許容差(鋳造・溶接・型鍛加工)
JIS B0403 転写法－CT10・鋳肌法－CT11

面指示のないコーナR0.4~0.8 面取りC0.1~0.4のこと。
Corner R not specified in drawing shall be R0.4~0.8
Chamfer not specified in drawing shall be C0.1~0.4.

COUP. SIDE

END SIDE

1-DEPTH 14, DO THE MILLING (FOR THE LOWER HALF ONLY)
1-深さ 14 ミーリング加工のこと。
(ケーシング下半部のみ)

9-ø14 DEPTH 14, DO THE MILLING (FOR THE LOWER HALF ONLY)
9-ø14 深さ 14 ミーリング加工のこと。
(ケーシング下半部のみ)

6-ø42 DETAIL A

RELIEF MACHINING DEPTH 1
ヌスミ 深さ 1

TAP DEPTH 32
9-M30 DRILL DEPTH 36
ねじ深 32
9-M30 下穴深 36

TAP DEPTH 36
6-M36 DRILL DEPTH 42
(USE THE FLAT DRILL NOT TO PENETRATE THE DRILL)
ねじ深 36
6-M36 下穴深 42
(下穴が貫通せぬ様一文字錐を使用のこと。)

TAP DEPTH 23
5×2-M20 DRILL DEPTH 29
(PREPARE THE SCREW ACCORDING TO THE DRAWING OF SPLITTER)
ねじ深 23
5×2-M20 下穴深 29
(ねじはスプリッタ側にて手配のこと。)

THICKNESS 50
厚さ 50

4-MOUNTING HOLE
THESE HOLES SHALL BE PREPARED BY PUMP SHOP.
4-取付穴
ポンプ工作課にて施行

9-ø35 DETAIL B

FINISHING ALLOWANCE IS NO NEED. TRIM THE EXCESS METAL.
仕上げ代不要
余肉削りのこと。

SHADED AREA SHALL BE CUT OFF AFTER THE FINAL MACHINING.
斜線部は機械加工完了後削り取るのこと。

1ST. STAGE
2ND. STAGE
3RD. STAGE
4TH. STAGE
5TH. STAGE

DETAIL A

DETAIL B

SECTION CC

SECTION DD

DESIGNING COORDINATOR

Drg.No.CG8P0024 / PRO1,SHT 1/2
INNERCASING MATING FACE DRG.

P1-Q6129

R-0

ポンプ・水車部 原子炉ポンプグループ

FILE NAME = TAD/4461-P1-Q6129

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

DRG. NO.

3.2 / 0.8 / 1.6 / 6.3 / 12.5 /

8 HOLES TAPPED M24x3.0-6H
EQUI SPACED OFF CRS
ON 172 P.C.D.
MAX DRILL DEPTH 52
MIN FULL THREAD 36

1 HOLE TAPPED 1/2" N.P.T.
DRILLED Ø13x65 DEEP TO
POINT (FOR TEMPERATURE
CONNECTION)
(SEE ELEVATION FOR AXIAL
POSITION)

NOTE:
THIS AREA TO BE FINAL MACHINED
WITH BARREL LOCATED IN
POSITIONING FIXTURE.

THICKNESS OF TOTAL
FLANGE UNDER
SPOTFACE

1 HOLE DRILLED 27 DEEP TO POINT
TO SUIT Ø20 DOWEL PIN
POSITIONED T.D.C.
ON 584 P.C.D. ± 0.06mm
THIS HOLE TO BE PITCHED IN ON
HORIZONTAL BORING MACHINE

24 HOLES TAPPED M20x2.5-6H
EQUI SPACED OFF CRS.
ON 584 P.C.D.
MAX DRILL DEPTH 43
MIN FULL THREAD 20

DISCHARGE FACE

SUCTION R.F.

1 HOLE TAPPED 1/2" N.P.T.
DRILLED Ø13x206 DEEP TO
POINT (FOR TEMPERATURE
CONNECTION)
(SEE ELEVATION FOR AXIAL
POSITION)

SEE DETAIL-3

SECTION THRO X–X

SEE DETAIL 1

18 HOLES TAPPED M68x6.0-6H
EQUI SPACED OFF VERT. C
ON 787 P.C.D.
MAX. DRILL DEPTH 143.5
MIN. FULL THREAD 107

2 HOLES TAPPED M16x6.0-6H
SPACED AS SHOWN
MAX. DRILL DEPTH 35
MIN. FULL THREAD 24

JOINT FACE TO BE LAPPED

4HOLES TAPPED M24x3.0-6H
EQUI SPACED OFF CRS ON 108 P.C.D.
MAX DRILL DEPTH 35
MIN FULL THREAD 22

1 HOLE DRILLED Ø25 THRO
SEE DETAIL 2

1.5x45°

DETAIL 1
SCALE 1:1

DETAIL 2
SCALE 1:2

DETAIL 3

1 HOLE DRILLED THRU Ø45
(BALCNCE RETURN)

8 HOLES TAPPED M16x2.0-6K
EQUI SPACED OFF CRS ON 127 P.C.D.
MAX DRILL DEPTH 35
MIN FULL THREAD 24

VIEW ON ARROW 'B'
SCALE 1:2

16 HOLES DRILLED THRO
Ø32 SPOT FACED Ø54
EQUI SPACED OFF CRS.
ON 450.8 P.C.D

8 HOLES TAPPED M30x3
EQUI SPACED OFF CRS.
ON 305 P.C.D.
MAX DRILL DEPTH 50
MIN FULL THREAD 32

8 HOLES TAPPED THRO
M24x3-6H
(FOR JACKING SCREWS)

8 HOLES DRILLED
AS SHOWN BELOW

SECTION THRO 'Y'–'Y'

NOTE TO MACHINE SHOP:–

1. REFER DRG.NO 3 180 143 3315 FOR FORGING DETAILS.
2. REFER DRG.NO. 1 180 141 3313 FOR PRE WELD M/C.
3. REFER DRG.NO. 0 180 141 3266 FOR WELD ASSY.
4. REFER DRG. NO. 3180 141 4956 FOR BRACHES WELD PREPARATION. TO BE DONE AFTER PUMP PERFORMANCE TEST AND PRIOR TO DESPATCH.
5. RAISED FACE TO HAVE A CONTINUOUS SPIRAL GROOVE GENERATED BY A 1.6mm RADIUS ROUND NOSED TOOL AT A FEED OF 0.8mm PER REVOLUTION.
6. WHEN MACHINING CARE TO BE TAKEN THAT AT LEAST 6mm AUSTENITIC DEPOSIT IS LEFT ON FACE AND 6mm ON RADII.
7. 100% LPI ON AUSTENITIC DEPOSIT MACHINED AREAS AS PER STD. AA0850131 AND ACC. STD. AA0850129.
8. HYDRAULIC PRESSURE TEST TO BE DONE FOR 30 MINUTES ON ASSY, WITH SUCTION GUIDE & DISCHARGE COVER.
   SUCTION SIDE PRESSURE = 37 BAR(A).
   DISCHARGE SIDE PRESSURE = 537 BAR(A).

PLACE FOR HEAT NO / MELT NO.

THE FOLLOWING CONDITIONS APPLY EXCEPT OTHERWISE STATED...
1. REF.TO HY0230261 FOR UNSPECIFIED TOLERANCES.
2. CHAMFER M/CD SHARP EDGES 1.2 TO 1.0 AT 45°.
3. INTERNAL M/CD CORNER RADII 1 TO 0.7.
4. THE SURFACE ROUGHNESS WHEREVER NOT SHOWN SHALL BE TAKEN FROM THE SURFACE ROUGHNESS SHOWN OUT SIDE BACK SLASHES GIVEN AT THE TOP MOST RIGHT CORNER OF THE DRG.

TYPE OF PRODUCT
OR
NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.
HYDERABAD

	NAME	SIGN.	DATE	NO.OF VAR.
DRN.	M.S.RAM		21.07.1984	
CHD.	BRK		21.07.1984	NA
APPD.	BRK		21.07.1984	

DEPT. PUMPS ENGG. | SCALE 1 : 7.5 | WEIGHT (KG) NA | REF. TO ASSY DRG. NA | ITEM NO. NA | NO.OF ITEMS NA

CODE 4.10

TITLE: PUMP CASING

DRAWING NO. CG8P0024/PR02 | REV. 00

SHEET NO. 01 | NO OF SHEETS 01

REV.	DATE	ALTERED	CHECKED	APPD.	ZONE

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INVENTORY NO | SOIL AND DATE | REF. DRG. NO. | COMPUTER FILE NAME:

FORM = P1G

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三菱重工業(株)

IN CASE OF NO RELEVANCE SPECIFIED ITS ALLOWANCE SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF FOLLOWING STANDARDS
KSM-CS GENERAL ALLOWANCE(MACHINED)・CLASS 2
KSM-CS GENERAL ALLOWANCE(TOTAL PLATE,WELDING&CASTING)
JSSM01 IRON CASTINGS-CT9 , STEEL CASTINGS-CT11

公差のない寸法の許容差は下記によること。(基準図による)
MS01-151) 普通許容差(例り加工)-2級
MS01-158 普通許容差(鋳造・溶接・溶接加工)
JIS B0403 加算品-CT10・加算品-CT11

Surface Roughness	KSM-CS	▽▽▽▽	▽▽▽	▽▽	▽	～	3rd ANGLE PROJECTION	PLAN RECORD
	ISO1302	▽ 12.5	▽ 6.3	▽ 3.2	▽ 1.6		ISOM SCREW THREADS	P1-Q0038を元に、インFBHEL用に本図作成。

図面指示のないコーナR:R0.4~0.8 面取り:C:0.1~0.4のこと。
Corner R not specified in drawing shall be R0.4~0.8
Chamfer not specified in drawing shall be C0.1~0.4.

COUP. SIDE

END SIDE

1244

153 | 303 | 196 | 218 | 196 | 178

379 | 865±0.1

1ST. STAGE | 2ND. STAGE | 3RD. STAGE | 5TH. STAGE | 4TH. STAGE

⊥ 0.01 A

⊥ 0.02 A

◎ ø0.01 A

SEAT FOR PIN
割りよめピン用座

R0.6 R0.1

56 | 33 | 64 | 64 | 33 | 45 | 39 | 45 | 36 | 41 | 39 | 35 | 45 | 36 | 41 | 39 | 140 | 39 | 41 | 36 | 45 | 35 | 39 | 41 | 36 | 45 | 45 | 11

128 | 80 | 80 | 80 | 80

ø824 | ø820 | ø743 | ø380 | ø326 | ø310 | ø375 | ø390 | ø500 | ø824

320 | 50 | 50

67.5 | 151 | 71 | 72.5 | 109 | 67 | 153 | 153 | 67 | 109 | 114

161 | 81 | 82.5 | 119 | 77 | 173 | 163 | 77 | 119 | 114

1166.5 | 1005.5 | 924.5 | 842 | 723 | 646 | 473 | 310 | 233 | 114 | 0

CASING-UPPER HALF
CASING-LOWER HALF
Max. 1/100

GAP AT THE MATCHING FACE BETWEEN THE UPPER AND LOWER HALF, INDICATED BY THE MARK OF "※", SHALL BE LESS THAN 1/100. IF IT IS OVER, CORRECT IT BY THE OILSTONE.
※印部の上下合せ面が段違いにならない様、特に注意のこと。
組立時、1/100以下になる様油砥石で修正のこと。

DETAIL A

DETAIL B

IMPORTANT R
本R重要

R1.2±0.2

Drg.No.CG8P0024/PRO1,SHT 2/2
INNERCASING LONGITUDINAL SECTION DRG.

P1-Q6128 R-0

ポンプ・水車部 長筒ポンプグループ

FILE NAME = TAD/4460-P1-Q6128