






ISSUED FOR AS-BUILT

REV	DATE	DESCRIPTION	BY	CHKD	APPD
1	26-Jan-22	Issued for As-Built	T.M	H.T	H.T
0	05-Feb-19	Issued for Use	T.M	H.T	H.T

OWNER
 **PT.Bhumi Jati Power**

PROJECT TITLE
TANJUNG JATI B EXPANSION (JAWA-4)
COAL FIRED STEAM POWER PLANT 2 x 1,000MW

OWNER'S ENGINEER
 **PÖYRY**

EPC CONTRACTORS
 **Sumitomo Corporation**
 **PT. Wasa Mitra Engineering**
 **AvantPower Japan Ltd.**

PROJECT DOCUMENT NO.			REV
TJB56-L1-OFF-C-LAC-M-DRD-2752			1

APPD	H.Tao	H.T	TITLE
CHKD	H.Tao	H.T	
BY	T.Miyazaki	T.M	

SECTION DRAWING FOR
MBFP AND BOOSTER PUMP MECHANICAL SEAL

EPC LOT SUB-CONTRACTOR	EPC LOT SUB-CONTRACTOR DOCUMENT NO.	REV
東芝エネルギーシステムズ株式会社 TOSHIBA ENERGY SYSTEMS & SOLUTIONS CORPORATION	R170411904-120	2

TITLE SECTION DRAWING FOR MBFP AND BOOSTER PUMP MECHANICAL SEAL

DOC. No. R170411904-120

REV. 2

CUSTOMER Toshiba Energy Systems & Solutions Corporation

COMPLETE IN WITH COVER 5 SHEETS

FINAL USER PT. Bhumi Jati Power

PROJECT TANJUNG JATI B EXPANSION (JAWA-4) COAL FIRED STEAM POWER PLANT 2 X 1,000MW

SERVICE Motor Driven Boiler Feedwater Pump

JOB No. -

EBARA SER. No. R170411904/905

ITEM No. -

MODEL/EQUIP. 14X14X16-5stg.HSB, 350X250KSM71 SET 1+1

P.O. No. -

-

TO SET

ISSUED BY PUMP ENGINEERING DEPARTMENT

5				
4				
3				
2	Issued for Use	2018/9/28	N.Anzai	N.Matsushita
1	Revised	2018/6/28	N.Anzai	N.Matsushita

APPROVED BY N.Anzai 11-Mar-18

CHECKED BY

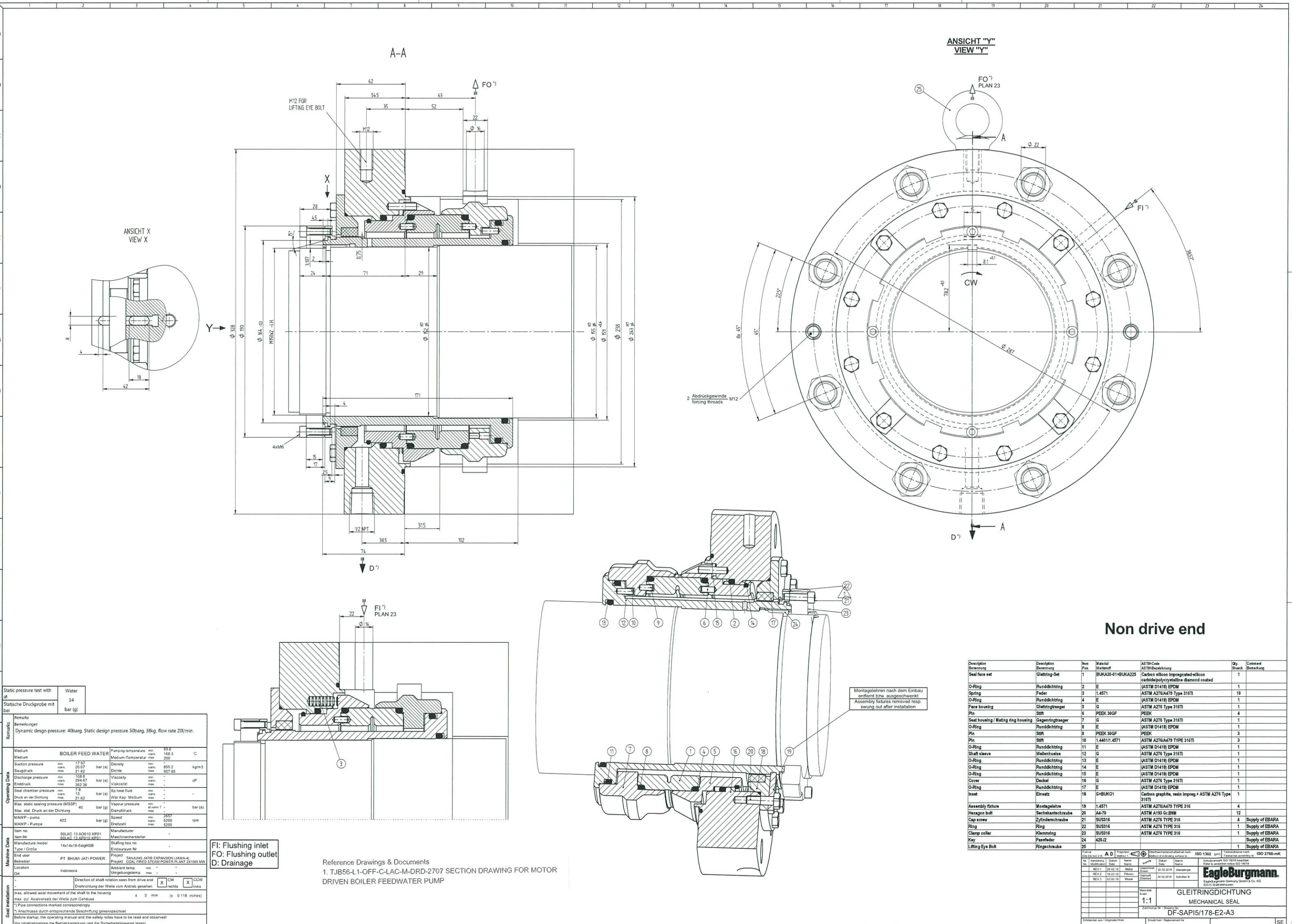
REV. PAGE DATE APP'D BY PREPARED BY N.Matsushita 11-Mar-18



EBARA CORPORATION

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Static pressure test with	Water
at	34
Statische Druckprobe mit	bei
	bar (g)

Remarks
Bemerkungen
Dynamic design pressure: 40 barg. Static design pressure 50 barg. 38 kg flow rate 20/min.

Medium		BOILER FEED WATER		Pumping temperature		min. 99.8		C	
Medium		Medium-Temperatur		min. 168.3					
Suction pressure	min. 17.97			Density	min. 890.2				
Saugdruck	max. 21.62	bar (g)		Dichte	max. 897.85			kg/m ³	
Discharge pressure	min. 108.8			Viscosity	min. -			cP	
Enddruck	max. 294.67	bar (g)		Viskosität	max. -				
Seal chamber pressure	min. 13	bar (g)		Sp. heat fluid	min. -				
Druck an der Dichtung	max. 21.62	bar (g)		Star-Kap. Medium	min. -				
Max. static sealing pressure (MSSP)	40	bar (g)		Vapor pressure	at norm. T.			bar (g)	
Max. stat. Druck an der Dichtung				Dampfdruck	max. -				
MAWP - pump	422	bar (g)		Speed	min. 2857			rpm	
MAWP - Pumpe				Drehzahl	max. 5206				
					min. 5250				

Machine Data		Manufacturer	
Item no.	SOLAC 13 A2610 KP01	Manufacturer	
Item-Nr.	SOLAC 13 A2610 KP01	Hersteller	
Manufacture model	14x14x16-54gHSB	Stufung box no.	
Type / Größe		Endbaureihe Nr.	
End user	PT BHUMI JATI POWER	Project	TANJUNG JATI EXPANSION (JAWA-4)
Location	Indonesia	Project	COAL FIRED STEAM POWER PLANT 2x1300 MW
Site		Ambient temp.	max. -
		Umgebungstemp.	max. -

F1: Flushing inlet
FO: Flushing outlet
D: Drainage

Reference Drawings & Documents
1. TJB56-L1-OFF-C-LAC-M-DRD-2707 SECTION DRAWING FOR MOTOR DRIVEN BOILER FEEDWATER PUMP

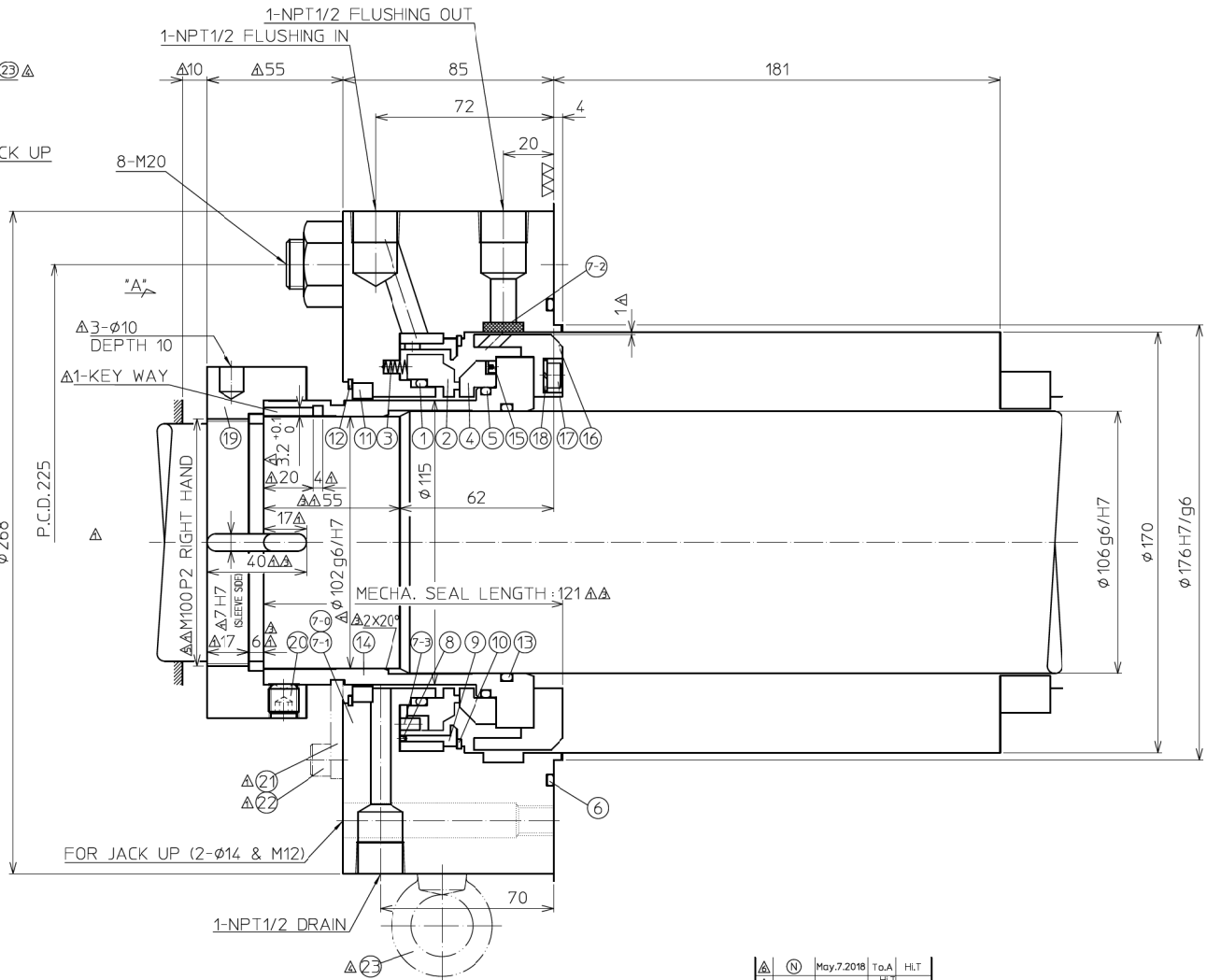
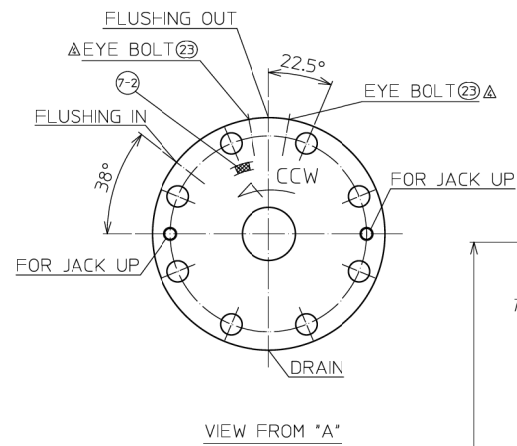
Description	Description	Item	Material	ASTM-Code	Qty.	Comment
Bemerkung	Bemerkung	Pos.	Werkstoff	ASTM-Bezeichnung	Stück	Bemerkung
Seal face set	Gleitring-Set	1	BUKAZO-01-BUKAZ25	Carbon silicon impregnated-silicon carbide/polycrystalline diamond coated	1	
O-Ring	Runddichtung	2	E	ASTM D1418 EPDM	1	
Spring	Feder	3	1.4571	ASTM A276/A479 Type 316Ti	10	
O-Ring	Runddichtung	4	E	ASTM D1418 EPDM	1	
Face housing	Gleitringträger	5	G	ASTM A276 Type 316Ti	1	
Pin	Stift	6	PEEK 30GF	PEEK	4	
Seal housing / Mating ring housing	Gegenringträger	7	G	ASTM A276 Type 316Ti	1	
O-Ring	Runddichtung	8	E	ASTM D1418 EPDM	1	
Pin	Stift	9	PEEK 30GF	PEEK	3	
Pin	Stift	10	1.4401/1.4571	ASTM A276/A479 TYPE 316Ti	3	
O-Ring	Runddichtung	11	E	ASTM D1418 EPDM	1	
Shaft sleeve	Wellenhülse	12	G	ASTM A276 Type 316Ti	1	
O-Ring	Runddichtung	13	E	ASTM D1418 EPDM	1	
O-Ring	Runddichtung	14	E	ASTM D1418 EPDM	1	
O-Ring	Runddichtung	15	E	ASTM D1418 EPDM	1	
Cover	Deckel	16	G	ASTM A276 Type 316Ti	1	
O-Ring	Runddichtung	17	E	ASTM D1418 EPDM	1	
Inset	Einsetz	18	G+BUK01	Carbon graph.ite, resin impreg.+ ASTM A276 Type 316Ti	1	
Assembly fixture	Montagelehre	19	1.4571	ASTM A276/A479 TYPE 316	4	
Hexagon bolt	Sechskantschraube	20	A4-70	ASTM A193 Gr.B/9M	12	
Cap screw	Zylinderschraube	21	SUS316	ASTM A276 TYPE 316	4	Supply of EBARA
Ring	Ring	22	SUS316	ASTM A276 TYPE 316	1	Supply of EBARA
Clamp collar	Klemmring	23	SUS316	ASTM A276 TYPE 316	1	Supply of EBARA
Key	Passfedel	24	A28J2		1	Supply of EBARA
Lifting Eye Bolt	Ringeschraube	25			1	Supply of EBARA

Formal: A 0
 1:1
 GLEITRINGDICHTUNG
 MECHANICAL SEAL
 DF-SAP15/178-E2-A3
 EagleBurgmann
 ISO 2768-mK

AUTO ENTRY

A					D					G					H					K				
No.	PART NAME	MATERIAL	QTY	CODE	No.	PART NAME	MATERIAL	QTY	CODE	No.	PART NAME	MATERIAL	QTY	CODE	No.	PART NAME	MATERIAL	QTY	CODE					
1	O RING	FKM	1		7-3	KNOCK PIN	SUS316	4		16	COLLAR	SUS316	1											
2	SEAL RING	CARBON	1		8	KNOCK PIN	SUS316	1		17	HEX.SOCKET BOLT	SUS316L	5											
3	COIL SPRING	HAS-C	16		9	CASE	SUS316	1		18	SPRING WASHER	SUS316	5											
4	MATING RING	S.CARBIDE	1		10	SNAP RING	SUS316	1		19	SLEEVE COLLAR	SUS304	1											
5	O RING	FKM	1		11	BUSH	CARBON	1		20	SET SCREW	SCM435	8											
6	O RING	FKM	1	φ190.09xφ197.15xφ353	12	SNAP RING	SUS316	1		△21	SET PLATE	SCS13 or SUS304	2											
7-0	SEAL COVER ASY		1		13	O RING	FKM	1	φ107.54xφ114.6xφ353	△22	HEX.SOCKET BOLT	SUS304	2											
7-1	SEAL COVER	SUS316	1		14	SLEEVE	SUS316	1		△23	EYE BOLT	S20C	2											
7-2	BLANK PIECE	SUS316	1		15	DRIVE PIN	SUS316	5																

MATERIAL (JIS)	MATERIAL (ASTM Eq.)
SUS316	ASTM A276-316
SUS316L	ASTM A276-316L
SUS304	ASTM A276-304
HAS-C	ASTM B574-85
SCM435	AISI 4137
SCS13	ASTM A743-CF8
S20C	AISI 1020



CONFIDENTIAL

DE SIDE

NDE SIDE DRAWING No.: LL-0481018 00002

NOTE:

- Remove the SET PLATE(P/N21) and HEX.SOCKET BOLT(P/N22) before running the pump. keep the SET PLATE(P/N21) and HEX.SOCKET BOLT(P/N22) for next service.
- All dimension in mm.
- Weight : app 32kg.

OPERATING CONDITIONS		SPECIAL REQUIREMENT	
SEALING FLUID	BOILER FEED WATER 000523	ITEM	FLOW V/HR
SP.GR.	MAX.957.85 kg/m ³	(WITH COOLER)	PRESS. barA
VIS.	MAX.0.01 mm	SELF FLUSHING	TEMP. °C
ABRASIVE	MAX.10.04 NOR9.77	COOLING	MAX.60
TEMP.	MAX.168.3 NOR.168.3 °C	QUENCHING	
SHAFT SPEED	Δ1490 min	JACKET	
ROTATION FROM DRIVE END	CCW	ACCESSORIES	
API PLAN	23+61	COOLER DRAWING No.	-FA-0014954 00004
API CODE	BSTFN	THROTTLE BUSHING CLEARANCES	1.2~1.4 mm ON DIA.
QUANTITY		ASSY	2 sets
		PARTS	2 sets(P/N 5.13)

ORIGINAL PRODUCT CODE	LL-0481000	DATE	Dec.07.2017	DRAWN	T.Yamada	CHECKED	H.Tanaka	APPROVED	M.Kita
CUSTOMER CODE	100089	OPTIONAL CODE		ITEM TYPE	SIZE	MATERIAL CODE		SCALE	NONE
USER CODE	108565	ITEM TYPE	LL9UC	SIZE	1.15	MATERIAL CODE	VAVVC	SCALE	NONE
REVISIONS		DATE	APR.3.2018	T.O.A	H.L.T				
		DATE	MAR.7.2018	T.O.A	H.L.T				
		DATE	FEB.8.2018	T.O.A	H.L.T				
		DATE	JAN.8.2018	T.O.A	H.L.T				

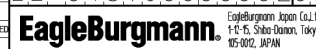
OLD TYPE :
OLD CODE :
COLUMN FOR PURCHASER OF PUMPS
△ Ref. Drawings & Documents
TJB56-L1-OFF-C-LAC-M-DRD-2708
SECTION DRAWING FOR MBFP
BOOSTER PUMP

COLUMN FOR PUMP MANUFACTURER
PUMP MANUFACTURER
EBARA CORPORATION

APPROVED BY :
CHECKED BY :
DOCUMENT NO. : R170411905/R170411911-20
JOB NO. :
MFG NO. : R170411905/R170411911
PUMP TYPE : 350X250KSM

FOR MESSRS. △
TOSHIBA ENERGY SYSTEMS & SOLUTIONS CORPORATION
/P.T. BHUMI JATI POWER

PROJECT NAME
TANJUNG JATI B EXPANSION (JAWA-4)
COAL FIRED STEAM POWER PLANT 2 X 1000MW
EQUIPMENT NAME
MBFP BOOSTER PUMP
ITEM No.
50LAC13 AP010KP01/60LAC13 AP010KP01
MECHANICAL SEAL



CAD-DRAWING - no modification by hand
All dimensions in millimeter
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