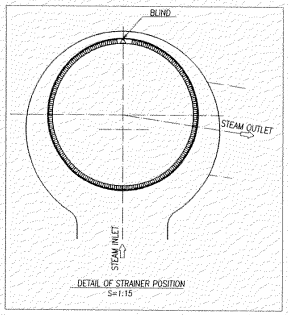
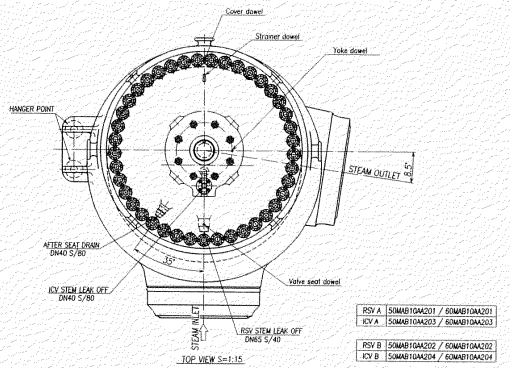
7-46 ~ 7-86

NOTE

1. Lubricate hot bolted and nut threads with anti-seize compound (NEVER SEEZ Standard grade).
2. Studs ④ require tightening extension with 0.59 to 0.66mm.
3. After ICV Stem ⑩ is installed in Connector ⑭, ream ø13$^{+0.18}_{0}$ through. Insert pin ⑲. Stake metal around pin in 2 places both sides.
4. Roll lip over all around.
6. Turn Mark "A" of stem toward the steam inlet.
7. Perform contact check on RSV & ICV valve seat area. If required, carry out lapping to obtain 360° continuous line contact. Check seat contact between RSV disc and valve seat, ICV disc and valve seat to obtain 360° continuous line contact.
9. Tighten Bolts, Nuts and Connector with Torque value specified in the drawing (See Torque Table.)
11. After Bush ⑧ ⑰ are installed in Seal Head ⑤, Check alignment of the bore by try-bar. Try-bar must slide freely through the bore. If this is not possible, Bush and Seal ring bore may be lapped taking care not to increase bores beyond drawing dimension.
12. After Bush ⑳ ⑬, ICV guide ⑱ and Seal ring ⑪ are installed in Upper Head ②, Check alignment of Bores by try-bar. Try-bar must slide freely through bores. If this is not possible, the bores may be lapped taking care not to increase bores beyond drawing dimension.
13. After Key ⑮ is installed in connector ⑭, Stake metal of connector around key in 4 places not to unfasten.
15. After tightning, stake metal around bolt in 3 places.
16. Before assembling ICV actuator to yoke, assemble the coupling ㉙ and spacer ㉚ to the stem connector ⑭. (It is impossible to assemble the coupling after installing the actuator.
17. When disassembling upper head follow the procedure mentioned below. (Be careful that the spring force is added to the ICV actuator)
    a) Loosen the bolts ㉘ holding the ICV actuator.
    b) When spring force reach to 0, loosen the coupling bolt ㉙, disassemble the coupling ㉙, spacer ㉚and remove ICV actuator.
    c) Now remove upper head and ICV valve.





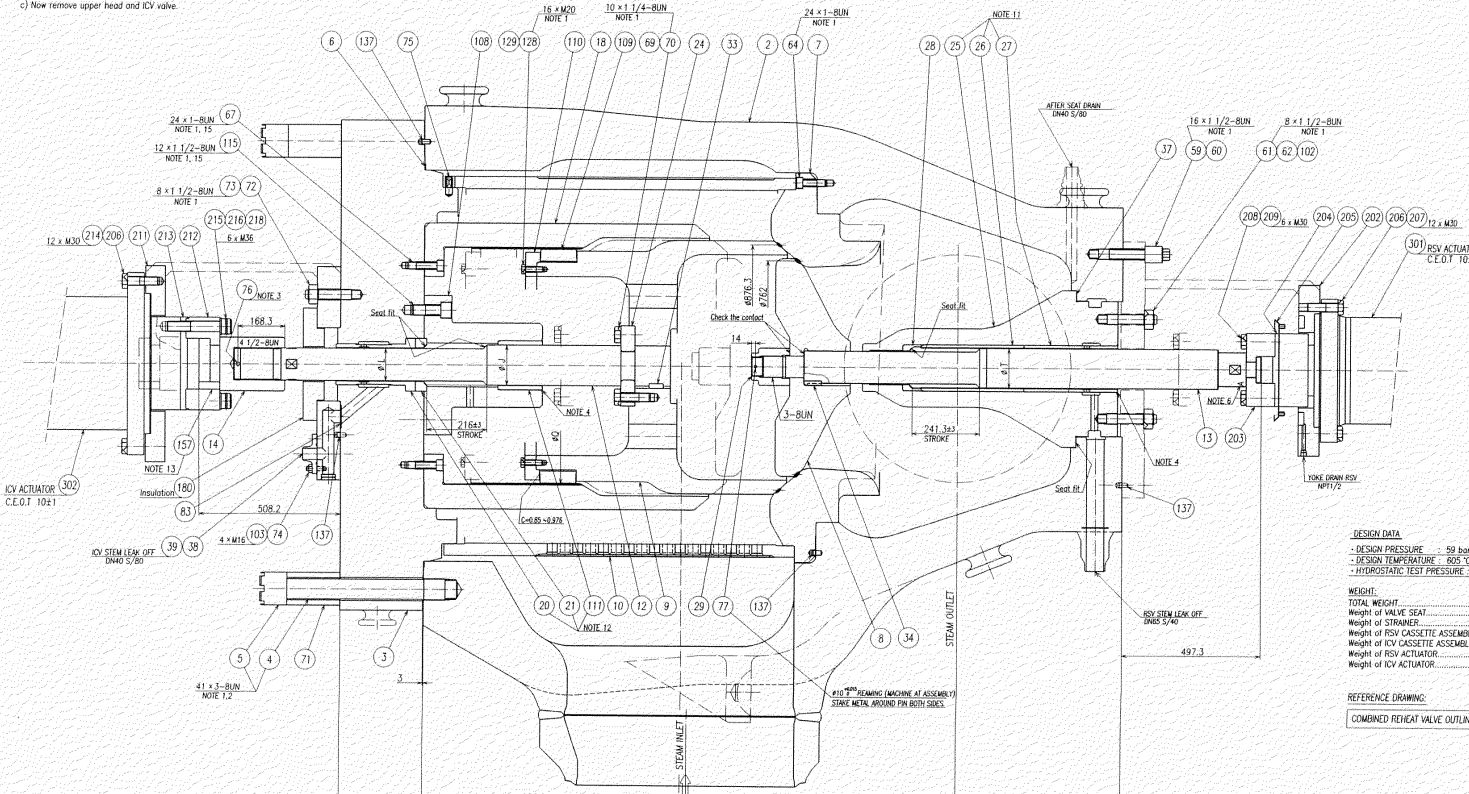
LETTER	HOLE SIDE	SHAFT SIDE	CLEARANCE
øJ	BUSH ø143.29 $^{+0.025}_{0}$	STEM (ICV) ø142.57 $^{0}_{-0.025}$	C=0.72~0.77
øL	BUSH ø115.59 $^{+0.025}_{0}$	STEM (ICV) ø115.0 $^{0}_{-0.025}$	C=0.59~0.64
øQ	SLEEVE ø838.2 $^{+0.050}_{0}$	SEAL RING ø835.62 $^{0}_{-0.035}$	C=2.53~2.68
øT	BUSH ø140.06 $^{+0.025}_{0}$	STEM (RSV) ø139.34 $^{0}_{-0.025}$	C=0.72~0.77

TORQUE TABLE

P.No	BOLT SIZE	TORQUE($^{+10\%}_{0}$ N·m)
⑫	4 1/2-8UN	1353N·m (138Kg.m)
⑬	3-8UN	1353N·m (138Kg.m)
㊿	1 1/2-8UN	765N·m (78Kg.m)
⑧①	1 1/2-8UN	836N·m (85Kg.m)
⑥④	1-8UN	236N·m (24Kg.m)
⑥⑦	1-8UN	236N·m (24Kg.m)
⑥⑧	1 1/4-8UN	314N·m (32Kg.m)
⑦②	1 1/2-8UN	765N·m (78Kg.m)
⑪⑨	1 1/2-8UN	912N·m (93Kg.m)
⑫⑧	M20	288N·m (29Kg.m)
㉑⑳	M30	420N·m (42.8Kg·m)
⑥⑨	M36	705N·m (72.0Kg·m)

RSV A	50MAB10AA201 / 60MAB10AA201
ICV A	50MAB10AA203 / 50MAB10AA203
RSV B	50MAB10AA202 / 60MAB10AA202
ICV B	50MAB10AA204 / 50MAB10AA204

P.No.	PARTS NAME	QTY.	MATERIAL
2	CASING CRV	1	G-X12CrMoWVNbN10-1-1
3	UPPER HEAD	1	G-X12CrMoWVNbN10-1-1
4	TAP STUD	41	INCONEL718
5	CASTLE NUT	41	18Cr alloy steel
6	GASKET	1	GRAPHITE + INCONEL 600
7	VALVE SEAT	1	ASTM A182F91 w/stellite 6
8	VALVE RSV	1	ASTM A182F91 w/stellite 6
9	VALVE ICV	1	ASTM A182F91 w/stellite 6
10	STRAINER	1	ASTM A387Gr91
12	VALVE STEM ICV	1	INCOLOY901
13	VALVE STEM RSV	1	INCOLOY901
14	CONNECTOR	1	1CrMoV alloy steel
18	SLEEVE	1	ASTM A182F91 w/stellite 21
20	BUSH ICV	1	ASTM A182F91 w/stellite 6
21	SEAT RING	1	ASTM A182F91 w/stellite 6
24	SPLIT RING	1	INCOLOY901
25	SEAL HEAD	1	ASTM A182F91 or A217C12A
26	BUSH UPR (RSV)	1	ASTM A182F91 w/stellite 6
27	BUSH LOW (RSV)	1	ASTM A182F91 w/stellite 6
28	SEAT RING	1	ASTM A182F91 w/stellite 6
29	STEM NUT	1	18Cr alloy steel
33	KEY	1	12Cr alloy steel
34	KEY	1	12Cr alloy steel
37	GASKET	1	SUS410
38	FLANGE	1	ASTM A182F91
39	GASKET	1	GRAPHITE + INCONEL600
59	TAP STUD	16	12Cr alloy steel
60	BOX NUT	16	12Cr alloy steel
61	TAP STUD	8	INCONEL718
62	LOCK PLATE	1 set (divided by 8)	SUS410
64	HEX SOC BOLT	24	12Cr alloy steel
67	HEX SOC BOLT	24	12Cr alloy steel
69	HEX BOLT	10	12Cr alloy steel
70	LOCK PLATE	1 set (divided by 8)	SUS410
71	COLLAR	41	18Cr alloy steel
72	TAP STUD	8	12Cr alloy steel
73	HEX NUT	8	12Cr alloy steel
74	STUD	4	12Cr alloy steel
75	PIN	1	12Cr alloy steel
76	PIN	1	1CrMoV alloy steel
77	PIN	1	12Cr alloy steel
83	GASKET	1	GRAPHITE + INCONEL 600
102	HEX NUT	8	18Cr alloy steel
103	HEX NUT	4	12Cr alloy steel
108	STEM GUIDE ICV	1	ASTM A182F91
109	SEAL RING	1	INCOLOY901
110	RETAINING RING	1	ASTM A182F91
111	BUSHING	1	ASTM A182F91 w/stellite 6
115	HEX SOC BOLT	12	12Cr alloy steel
128	HEX BOLT	16	INCONEL718
129	LOCK PLATE	1 set (divided by 8)	SUS410
137	KNOCK PIN	4	12Cr alloy steel
157	KEY	1	S45C
180	INSULATION RING	1	SUS304 + GLASS FELT
202	YOKE	1	ASTM A387Gr22, SS400
203	COUPLING	1	S45C
204	SPACER	1	SS400
205	DRAIN CUT	1	SPCC
206	HEX BOLT	24	SCM435
207	LOCK PLATE	1 set (divided by 12)	SPCC
208	HEX BOLT	6	SCM435
209	LOCK PLATE	1 set (divided by 6)	SPCC
211	YOKE	1	ASTM A387Gr22, SS400
212	COUPLING	1	SB450
213	SPACER	1	SS400
214	LOCK PLATE	1 set (divided by 12)	SPCC
215	HEX SOC BOLT	6	SCM435
216	WIRE	1	SUS304
218	FLAT WASHER	6	SS400
301	RSV ACTUATOR	1	--
302	ICV ACTUATOR	1	--



DESIGN DATA

- DESIGN PRESSURE : 59 bar(g)
- DESIGN TEMPERATURE : 605 °C
- HYDROSTATIC TEST PRESSURE : 97.8 bar(g)

WEIGHT:

TOTAL WEIGHT	53000 kg (approx.)
Weight of VALVE SEAT	2200 kg (approx.)
Weight of STRAINER	2100 kg (approx.)
Weight of RSV CASSETTE ASSEMBLY	1500 kg (approx.)
Weight of ICV CASSETTE ASSEMBLY	12000 kg (approx.)
Weight of RSV ACTUATOR	2500 kg (approx.)
Weight of ICV ACTUATOR	2500 kg (approx.)

REFERENCE DRAWING:

COMBINED REHEAT VALVE OUTLINE	TJB56-L1-OFF-C-MAB-M-DRD-2646

REV	DATE	DESCRIPTION	BY	CHK	APP'D
A	2018/8/9	ISSUED FOR CONSTRUCTION	SK	AK	KT
B	2018/11/16	REVISED AS PER CUSTOMER COMMENT	SK	AK	KT
C	2019/4/16	FIRST ISSUE	SK	AK	KT

PT.Bhumi Jati Power

PROJECT TITLE: TANJUNG JATI B EXPANSION (UNIT#5~6) COAL FIRED STEAM POWER PLANT 2 x 1,000 MW

OWNER'S ENGINEER: J. HOYEY

EPC CONTRACTOR: Sumitomo Corporation / PT. Wasa Mitra Engineering / AvantPower Japan Ltd.

PROJECT DRAWING NO.: TJB56-L1-OFF-C-MAB-M-DRD-2745 REV: 0

FOR CONSTRUCTION

The information in this material is confidential and contains our intellectual property including know-how. It shall not be disclosed to any third party, copied, reproduced, used for unauthorized purposes nor modified without prior written consent of Toshiba Energy Systems & Solutions Corporation. Even if you have rights to it, Toshiba Energy Systems & Solutions Corporation holds Prior to Use Rights.

DRS-M0143BR	DRS-M0140ZR	MDS-M515931
S.Takahashi '18.8.9	S.Takahashi '18.8.9	S.Takahashi '18.8.9
S.Takahashi '18.11.15	S.Takahashi '18.11.15	S.Takahashi '18.11.15
S.Maekawa '18.11.15	S.Maekawa '18.11.15	S.Maekawa '18.11.15
C1 - XM05	B1 - XM05	REVISION XM05
FOR CONSTRUCTION	Reviewed as per Customer comment.	SCALE 1/16

APPROVED BY T. Takahashi APR-25-'18 | REVIEWED BY T. Takahashi APR-25-'18 | PREPARED BY K. Mori APR-25-'18

SCALE 1/16 | UNITS mm | SHEET SIZE A1 | NO. OF SHEETS 1

TOSHIBA ENERGY SYSTEMS & SOLUTIONS CORPORATION

TITLE: COMBINED REHEAT VALVE ASSEMBLY
Tanjung Jati B
Re-Expansion Project Unit 5&6

DRAWING NO. OKT003158 REV. C

(原紙) 図面管理室 2019/04/16 電子承認システム適用