C/H	図面番号 DRAWING NO.	変更種別 REVISION	名称 TITLE (ABBR)	品質管理 REMARKS	担当 PREP	M.F.	普通許容差ハ下記ニヨル
F1	1KT111801	* E2	C.R.V. ASM	1	FA	2	金属削リ KDAA3521 / 溶接品・ガス切断 KDAA3524
		MODEL CODE	CJM*,*, X.V.V.4.1, C.R.V., C.,				

PL分離 1 枚

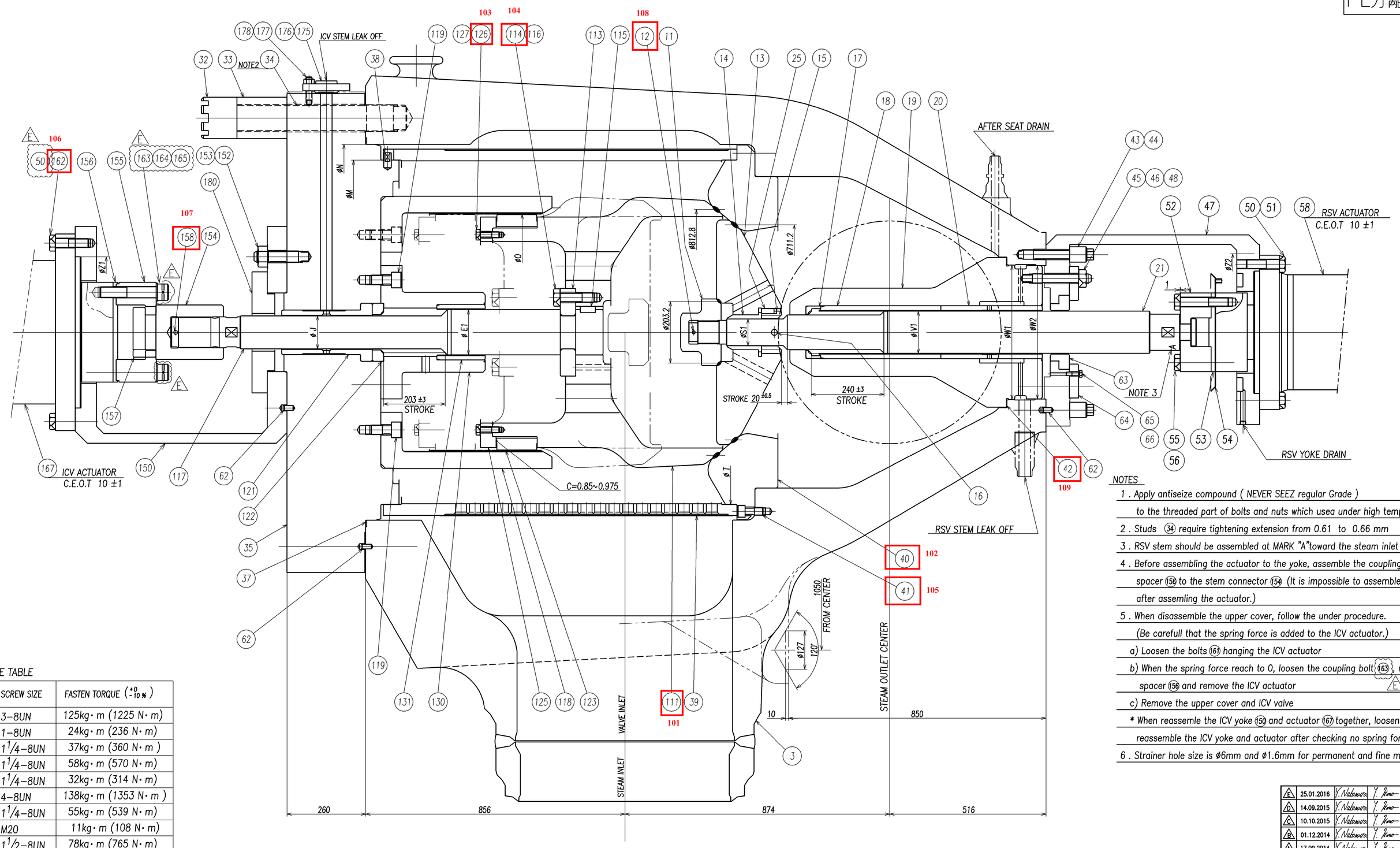
コノ図面デ指定スル規格・標準類ガ、発行年・変更記号ノ指示ガナイモノハ最新版ヲ適用スルコト

図面番号 DRAWING NO. 1KT111801 (1)

参考図 1KT111305 (XIME1)

REV. MARK E

SYMBOL	PARTS NAME	QUANTITY	MATERIAL
3	CASING	1	G-X12CrMoWVNbN10-1-1
11	BYPASS VALVE	1	18Cr alloy steel w/stellite 6
12	PIN	1	12Cr alloy steel 108
13	VALVE RSV	1	ASTM A182F91 w/stellite 6
14	RSV VALVE BUSH	1	ASTM A182F91 w/stellite 6
15	RSV KEEPER RING	1	ASTM A182F91 w/stellite 6
16	PIN	1	INCOLOY901
17	SEALING RING	1	ASTM A182F91 w/stellite 6
18	BUSH UPPER	1	ASTM A182F91 w/stellite 6
19	SEAL HEAD	1	ASTM A182F91
20	BUSH LOWER	1	ASTM A182F91 w/stellite 6
21	RSV STEM	1	INCOLOY901
25	KEY	1	12Cr alloy steel
32	CASTLE NUT	24	18Cr alloy steel
33	COLLER	24	18Cr alloy steel
34	THRU STUD	24	INCONEL 718
35	HEAD	1	G-X12CrMoWVNbN10-1-1 or ASTM A182F91
37	S GASKET	1	GRAPHITE + INCONEL 600
38	DOWEL PIN	1	12Cr alloy steel
39	STRAINER	1	ASTM A387Gr91
40	VALVE SEAT	1	ASTM A182F91 w/stellite 6 102
41	HEX SOC BOLT	18	12Cr alloy steel 105
42	M GASKET	1	SUS410 109
43	STUD BOLT	16	12Cr alloy steel for RSV yoke
44	CAP NUT	16	12Cr alloy steel
45	STUD BOLT	10	INCONEL 718
46	HEX NUT	10	18Cr alloy steel
47	YOKE	1	ASTM A387Gr22, SS400
48	LOCK PLATE	1 set	SUS410 for seal head
50	HEX BOLT	24	SCM435-Q (CrMo alloy steel)
51	LOCK PLATE	1 set	SPCC-SD (Carbon steel)
52	COUPLING	1	S45C-N (Carbon steel)
53	SPACER	1	SS400 (Carbon steel)
54	DRAIN CUT	1	SPCC-SD (Carbon steel)
55	HEX BOLT	6	SCM435-Q (CrMo alloy steel)
56	LOCK PLATE	1 set	SPCC-SD (Carbon steel) for coupling RSV
58	RSV ACTUATOR	1	–
62	DOWEL PIN	1	12Cr alloy steel
63	BUSH	1	1.25CrMoV alloy steel
64	RETAINING RING	1	ASTM A387Gr22
65	HEX BOLT	5	12Cr alloy steel
66	FLAT WASHER	5	SUS304
111	VALVE ICV	1	ASTM A182F91 w/stellite 6 101
113	RING	1	INCOLOY901
114	HEX BOLT	8	12Cr alloy steel 104
115	KEY	1	12Cr alloy steel
116	LOCK PLATE	4	SUS410 for ring
117	ICV STEM	1	INCOLOY901
118	CHAMBER	1	ASTM A182F91 w/stellite 21
119	HEX SOC BOLT	26	12Cr alloy steel
121	BUSH	1	ASTM A182F91 w/stellite 6
122	SEAT RING	1	ASTM A182F91 w/stellite 6
123	SEAL RING	1	INCOLOY901
125	RETAINER	1	ASTM A182F91
126	HEX BOLT	16	12Cr alloy steel 103
127	LOCK PLATE	1 set	SUS410 chamber
130	GUIDE	1	ASTM A182F91
131	BUSH	1	ASTM A182F91 w/stellite 6
150	YOKE	1	ASTM A387Gr22, SS400
152	TAP STUD	8	12Cr alloy steel
153	HEX NUT	8	12Cr alloy steel
154	CONNECTOR	1	1CrMoV alloy steel
155	COUPLING	1	SB450NSR (Carbon steel)
156	SPACER	1	SS400 (Carbon steel)
157	KEY	1	S45C-N (Carbon steel)
158	PIN	1	12Cr alloy steel 107
162	LOCK PLATE	1 set	SPCC-SD (Carbon steel) 106
163	HEX SOC BOLT	6	12Cr alloy steel
164	WIRE	1	SUS304
165	FLAT WASHER	6	Carbon steel Lông đền đai ốc ICV
167	ICV ACTUATOR	1	–
175	FLANGE	1	ASTM A182F91
176	S GASKET	1	GRAPHITE + INCONEL 600
177	STUD BOLT	4	12Cr alloy steel
178	HEX NUT	4	12Cr alloy steel
180	INSULATION RING	1	CERAMIC WOOL



NOTES

1. Apply antiseize compound (NEVER SEEZ regular Grade) to the threaded part of bolts and nuts which usea under high temperature condition
2. Studs (34) require tightening extension from 0.61 to 0.66 mm
3. RSV stem should be assembled at MARK "A"toward the steam inlet direction
4. Before assembling the actuator to the yoke, assemble the coupling (158) and spacer (156) to the stem connector (154) (It is impossible to assemble to the coupling (155) after assemling the actuator.)
5. When disassemble the upper cover, follow the under procedure. (Be carefull that the spring force is added to the ICV actuator.)
   a) Loosen the bolts (161) hanging the ICV actuator
   b) When the spring force reach to 0, loosen the coupling bolt (163), reassemnle the coupling (156) spacer (156) and remove the ICV actuator
   c) Remove the upper cover and ICV valve
   * When reassemle the ICV yoke (150) and actuator (167) together, loosens coupling bolt (163) reassemble the ICV yoke and actuator after checking no spring force.
6. Strainer hole size is Ø6mm and Ø1.6mm for permanent and fine mesh strainer respectively.

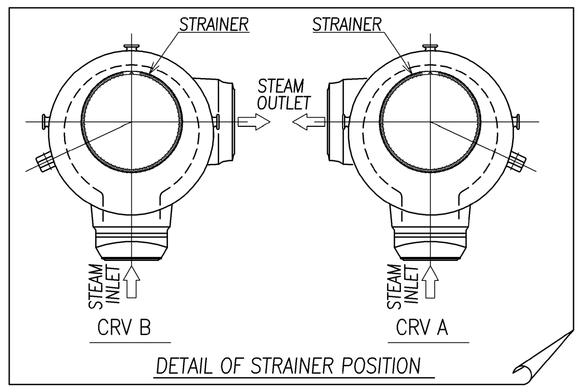
TORQUE TABLE

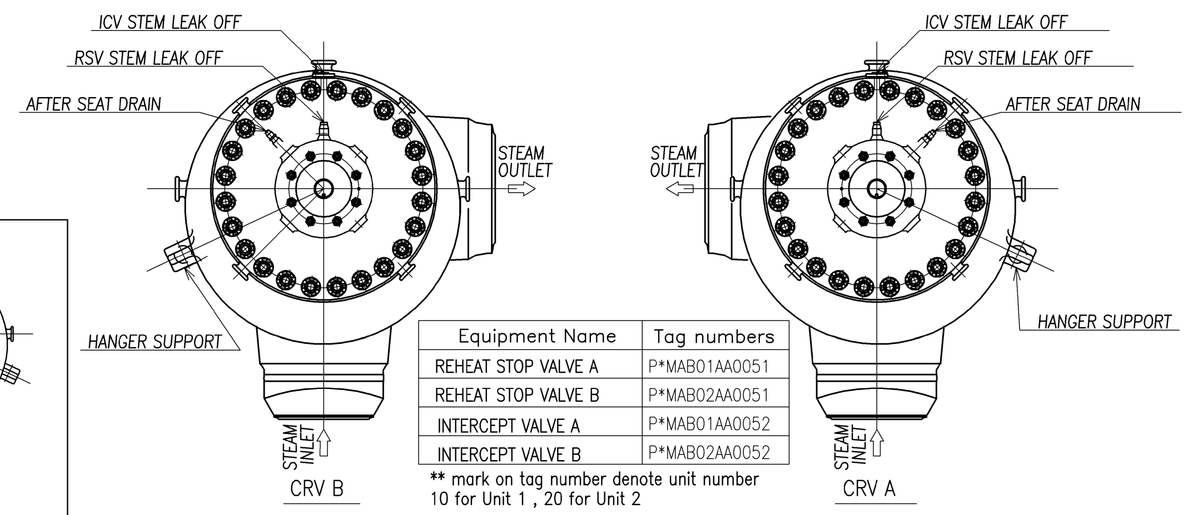
P.No	SCREW SIZE	FASTEN TORQUE ($^{+0}_{-10\%}$)
21	3-8UN	125kg·m (1225 N·m)
41	1-8UN	24kg·m (236 N·m)
43	1 1/4-8UN	37kg·m (360 N·m)
45	1 1/4-8UN	58kg·m (570 N·m)
114	1 1/4-8UN	32kg·m (314 N·m)
117	4-8UN	138kg·m (1353 N·m)
119	1 1/4-8UN	55kg·m (539 N·m)
126	M20	11kg·m (108 N·m)
152	1 1/2-8UN	78kg·m (765 N·m)
50, 55	M30	43kg·m (420 N·m)
163	M36	72kg·m (705 N·m)

Note : The specified torque must be reached in at least two passes and sequentially tightened.

CLEARANCE TABLE

LETTER	HOLE SIDE	SHAFT SIDE	CLEARANCE
ØE1	BUSH Ø150.62 $^{+0.025}_{0}$	STEM(ICV) Ø149.95 $^{0}_{-0.025}$	C=0.67~0.72
ØJ	BUSH Ø109.54 $^{+0.025}_{0}$	STEM(ICV) Ø108.95 $^{0}_{-0.025}$	C=0.59~0.64
ØM	STRAINER Ø1138.0 $^{+0.13}_{0}$	HEAD Ø1137.37 $^{0}_{-0.13}$	C=0.63~0.89
ØN	CASING Ø1242.0 $^{+0.05}_{0}$	HEAD Ø1241.67 $^{0}_{-0.05}$	C=0.33~0.43
ØO	SLEEVE Ø780.68 $^{+0.025}_{0}$	SEAL RING Ø778.36 $^{0}_{-0.025}$	C=2.32~2.37
ØS1	BUSH Ø88.76 $^{+0.025}_{0}$	STEM(RSV) Ø88.00 $^{0}_{-0.025}$	C=0.76~0.81
ØT	STRAINER Ø1138.0 $^{+0.13}_{0}$	VALVE SEAT Ø1137.6 $^{0}_{-0.13}$	C=0.40~0.66
ØV1	BUSH Ø140.06 $^{+0.025}_{0}$	STEM(RSV) Ø139.34 $^{0}_{-0.025}$	C=0.72~0.77
ØW1	CASING Ø444.5	SEAL HEAD Ø441.3	C=3.2
ØW2	CASING Ø441.33 $^{+0.025}_{0}$	YOKE(RSV) Ø440.98 $^{0}_{-0.025}$	C=0.35~0.40
ØZ1	YOKE(ICV) Ø720.0 $^{+0.05}_{0}$	ICV ACTUATOR Ø720.0 $^{-0.08}_{-0.205}$	C=0.08~0.255
ØZ2	YOKE(RSV) Ø620.0 $^{+0.05}_{0}$	RSV ACTUATOR Ø620.0 $^{-0.078}_{-0.186}$	C=0.078~0.236





Equipment Name	Tag numbers
REHEAT STOP VALVE A	P*MAB01AA0051
REHEAT STOP VALVE B	P*MAB02AA0051
INTERCEPT VALVE A	P*MAB01AA0052
INTERCEPT VALVE B	P*MAB02AA0052

** mark on tag number denote unit number 10 for Unit 1 , 20 for Unit 2

TOP VIEW (1:30)

Rev.	Date (DD.MM.YYYY)	Prepared	Checked	Approved	Details of Revision
E	25.01.2016	Y. Watanabe	Y. Kono	Y. Kono	FOR CONSTRUCTION
D	14.09.2015	Y. Watanabe	Y. Kono	Y. Kono	FOR CONSTRUCTION
C	10.10.2015	Y. Watanabe	Y. Kono	Y. Kono	REVISED AS PER CUSTOMER'S COMMENTS.
B	01.12.2014	Y. Watanabe	Y. Kono	Y. Kono	REVISED AS PER CUSTOMER'S COMMENTS.
A	17.09.2014	Y. Watanabe	Y. Kono	Y. Kono	

Client: EVN — VIETNAM ELECTRICITY

Owner's Engineer: EVNPECC3 — POWER ENGINEERING CONSULTING JS COMPANY 3

Contractor: DOOSAN, Mitsubishi Corporation, EVNPECC2, PACIFIC

Sub-Suppliers: TOSHIBA

Project: VINH TAN 4 THERMAL POWER PLANT PROJECT (600MW x 2 units)

	Date	Name
Drawn	25.01.2016	Y.NAKAMURA
Checked	25.01.2016	Y.KONO
Approved	25.01.2016	Y.KONO
Dept.		

Scale: Title: COMBINED REHEAT VALVE ASSEMBLY

Project Code: VT4 | UAS Code: YK01 | Unit Code: P0 | KKS Code: MAA | Reg. No: 220003 | Rev.: E

Drawing No.: VT4-YK01-P0MAA-220003 | Page-No.: 1 of 1

FOR CONSTRUCTION

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DRS-M011694	DRS-A011317	DRS-M010986	DRS-M010742	NDS-M513498
Y. Kono JAN.-25.-'16	Y. Kono SEP.-14.-'15	S. Watanabe APR.-10.-'15	S. Watanabe DEC.-01.-'14	承認 APPROVED BY
Y. Nakamura JAN.-25.-'16	Y. Kono SEP.-14.-'15	S. Watanabe APR.-10.-'15	S. Watanabe DEC.-01.-'14	調査 REVIEWED BY
N. Tochihara JAN.-25.-'16	Y. Nakamura SEP.-14.-'15	Y. Nakamura APR.-10.-'15	Y. Nakamura DEC.-01.-'14	担当 PREPARED BY
E –	D –	C –	B –	REV. 箇所 XW41
For construction.	For construction.	Revised as per Customer's comments.	Revised as per Customer's comments.	記事 CONTENTS

REVISIONS

承認 APPROVED BY S. Watanabe SEP.-17.-'14

調査 REVIEWED BY / . .

尺度 SCALE 1 : 8

単位 UNITS mm

調査 REVIEWED BY Y. Nakamura SEP.-17.-'14

担当 PREPARED BY J. Marasigan SEP.-17.-'14

TOSHIBA 株式会社東芝 TOSHIBA CORPORATION

T 保管 REGISTERED 承認 APPROVED JAN.-25.-'16

電子承認システム適用

名称 TITLE COMBINED REHEAT VALVE ASSEMBLY

VINH TAN 4 THERMAL POWER PROJECT 600MW×2 Units

図面番号 DRAWING NO. 1KT111801 (1)

REV. MARK E