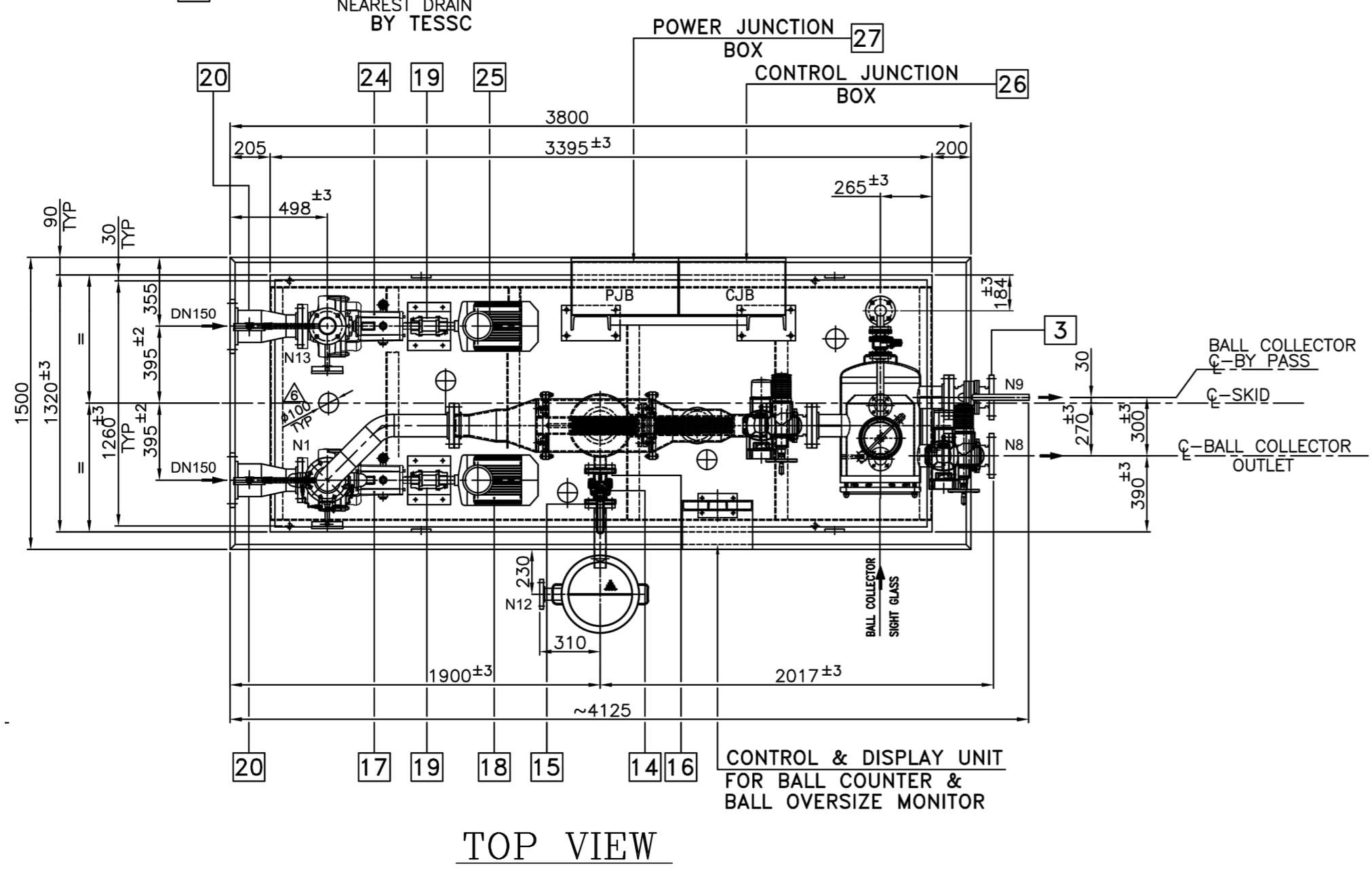
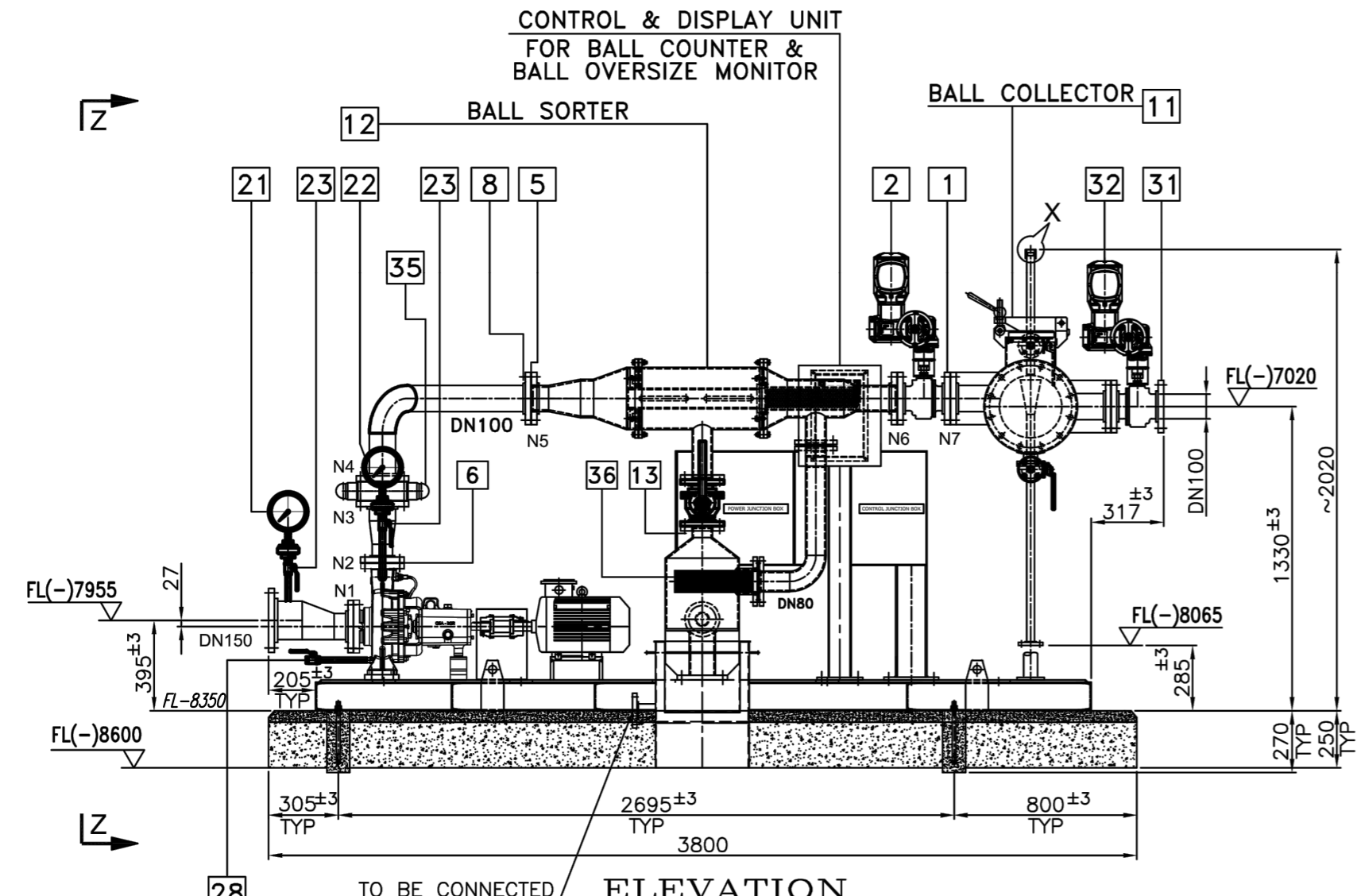


図面番号 DRAWING NO. 2KV006744 (1/2)  
 類似参考図  
 REV. MARK

C/H 図面番号 DRAWING NO. F1 2KV006744  
 変更種別名称 TITLE (ABBR) Jc COND BALL COL OUTL  
 品質管理 担当 M.F. 普通許容差 下記ニヨル  
 REMARKS PREP. 2 D14 2 金属剛リ KDA A3521  
 溶接品・ガス切断 KDA A3524

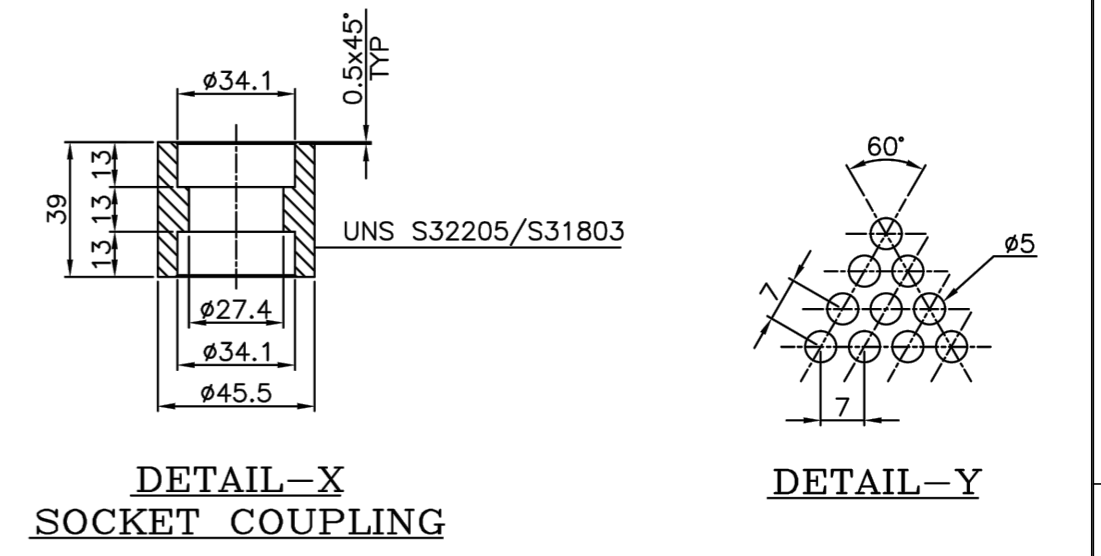
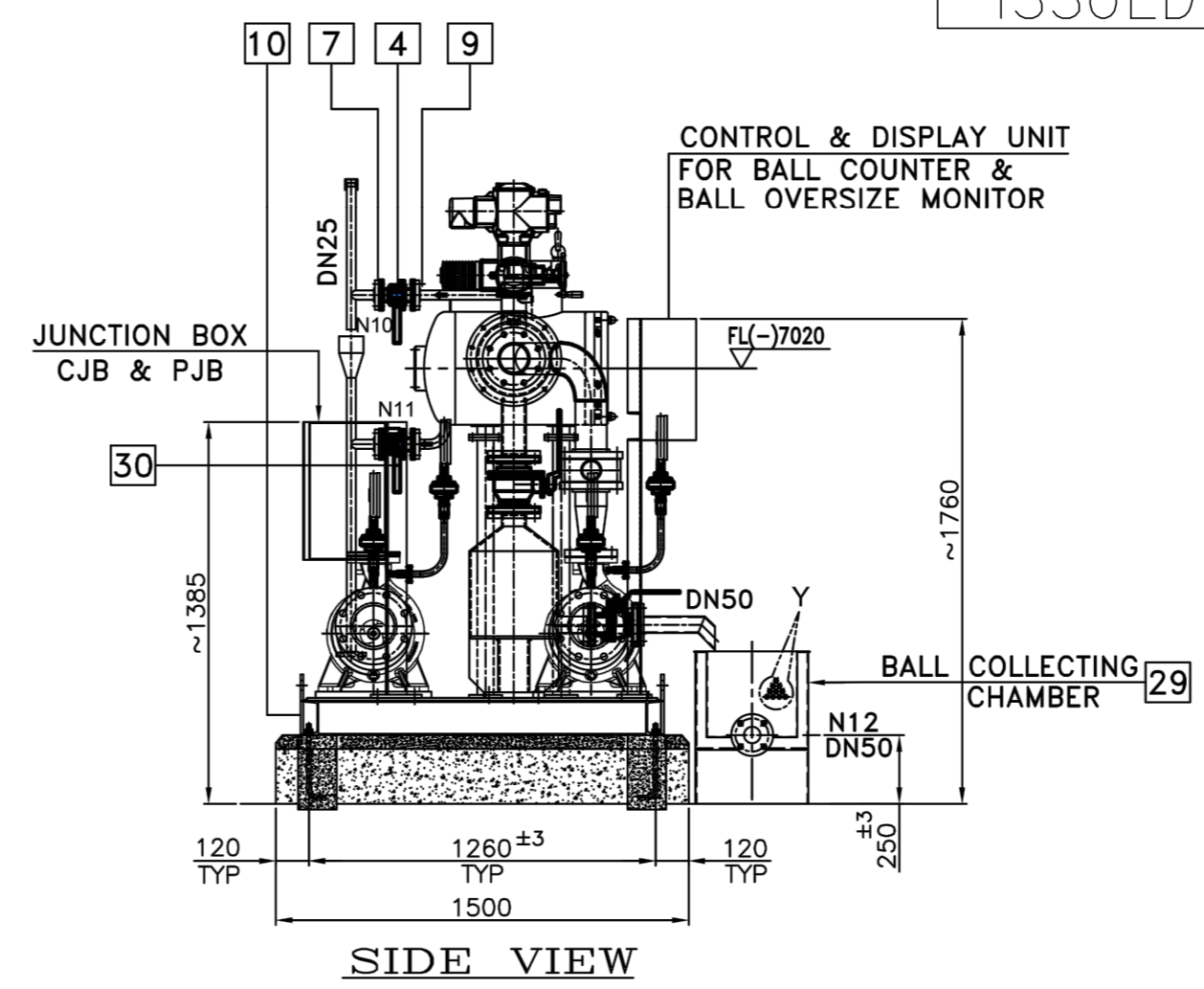
ISSUED FOR AS-BUILT

コノ図面ヲ指定スル規格・標準類デ、  
 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

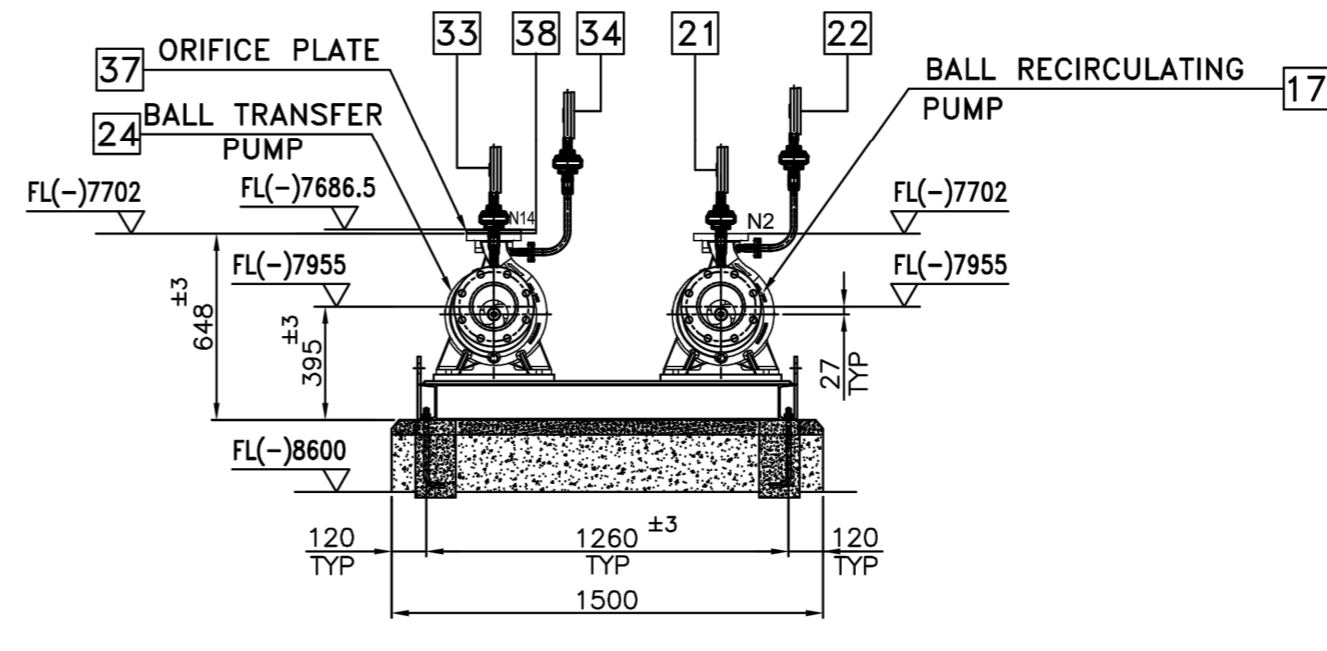


Y. Inoue	JAN.-26-'22	Y. Inoue	AUG.-29-'19	Y. Inoue	MAY-17-'19	Y. Inoue	FEB.-12-'19	Y. Inoue	JUL.-13-'18	Y. Inoue	MAY-30-'18	Y. Inoue	MAR.-22-'18	Y. Inoue	JAN.-30-'18	承認 APPROVED BY	Y. Inoue	JUL.-10-'17	調査 REVIEWED BY	Y. Inoue	JUL.-10-'17	名称 TITLE	OUTLINE DRAWING FOR CONDENSER TUBE BALL COLLECTOR AND STRAINER PUMP
Y. Inoue	JAN.-26-'22	Y. Inoue	AUG.-29-'19	Y. Inoue	MAY-17-'19	Y. Takagi	FEB.-12-'19	Y. Takagi	JUL.-10-'18	Y. Inoue	MAY-30-'18	Y. Inoue	MAR.-22-'18	Y. Inoue	JAN.-30-'18	調査 REVIEWED BY	Y. Inoue	JUL.-10-'17	担当 PREPARED BY	N. KANUNGO	JUL.-10-'17	図面番号 DRAWING NO.	2KV006744 (1/2)
D. Waki	JAN.-26-'22	S. Kurita	AUG.-29-'19	N. KANUNGO	MAY-17-'19	G	F	N. KANUNGO	JUL.-10-'18	Y. Takagi	MAY-29-'18	S. Kurita	MAR.-22-'18	S. Kurita	JAN.-30-'18	記事 CONTENTS	M211995 CE 1605 M211996 CE 1605	変更記号	J	電子承認システム適用	6	REV. MARK	J

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PUMP DESIGN SPECIFICATION		
	BALL RECIRCULATING PUMP	BALL TRANSFER PUMP
DESIGN PRESSURE	5.0 bar (g)	5.0 bar (g)
DESIGN TEMPERATURE	50 °C	50 °C
HYDROSTATIC TEST PRESSURE	7.5 bar (g)	7.5 bar (g)
WATER QUALITY	SEA WATER	SEA WATER
PUMP FLOW RATE	60.0 m <sup>3</sup> /hr	60.0 m <sup>3</sup> /hr
TOTAL HEAD	20 mH <sub>2</sub> O	5 mH <sub>2</sub> O
SHAFT SEAL	MECHANICAL	MECHANICAL
MOTOR POWER	9.3 kW	3.7 kW



SECTION-ZZ  
 (BALL RECIRCULATING & BALL TRANSFER PUMP)  
 [VIEW FROM PUMP SUCTION SIDE]

REV	DATE	DESCRIPTION	BY	CHKD	APPD
3	Jan.26.2022	ISSUED FOR AS-BUILT	D.W	Y.I.	Y.I.
2	Aug.29.2019	REVISED AS PER DESIGN PROGRESS	S.K.	Y.I.	Y.I.
1	May.17.2019	REVISED AS PER DESIGN PROGRESS	N.K.	Y.I.	Y.I.
0	Feb.12.2019	ISSUED FOR CONSTRUCTION	N.K.	Y.T.	Y.I.

OWNER  
**PT. Bhumi Jati Power**

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

OWNER'S ENGINEER  
**POYRY**

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

PROJECT DRAWING NO.	TJB56-L1-0FF-C-PAH-M-DRD-2640	REV	3
APPD	INOU	Y.I.	SCALE
CHDK	INOU	Y.I.	NTS
BY	KANUNGO	NK.	UNITS/VIEW
EPC LOT SUB-CONTRACTOR	TOSHIBA	EPC LOT SUB-CONTRACTOR DRAWING NO.	2KV006744
		REV	J
		SHEET NO.	1 OF 2

承認 APPROVED BY  
 Y. Inoue JUL.-10-'17

調査 REVIEWED BY  
 Y. Inoue JUL.-10-'17

担当 PREPARED BY  
 N. KANUNGO JUL.-10-'17

図面番号 DRAWING NO.  
 2KV006744 (1/2)

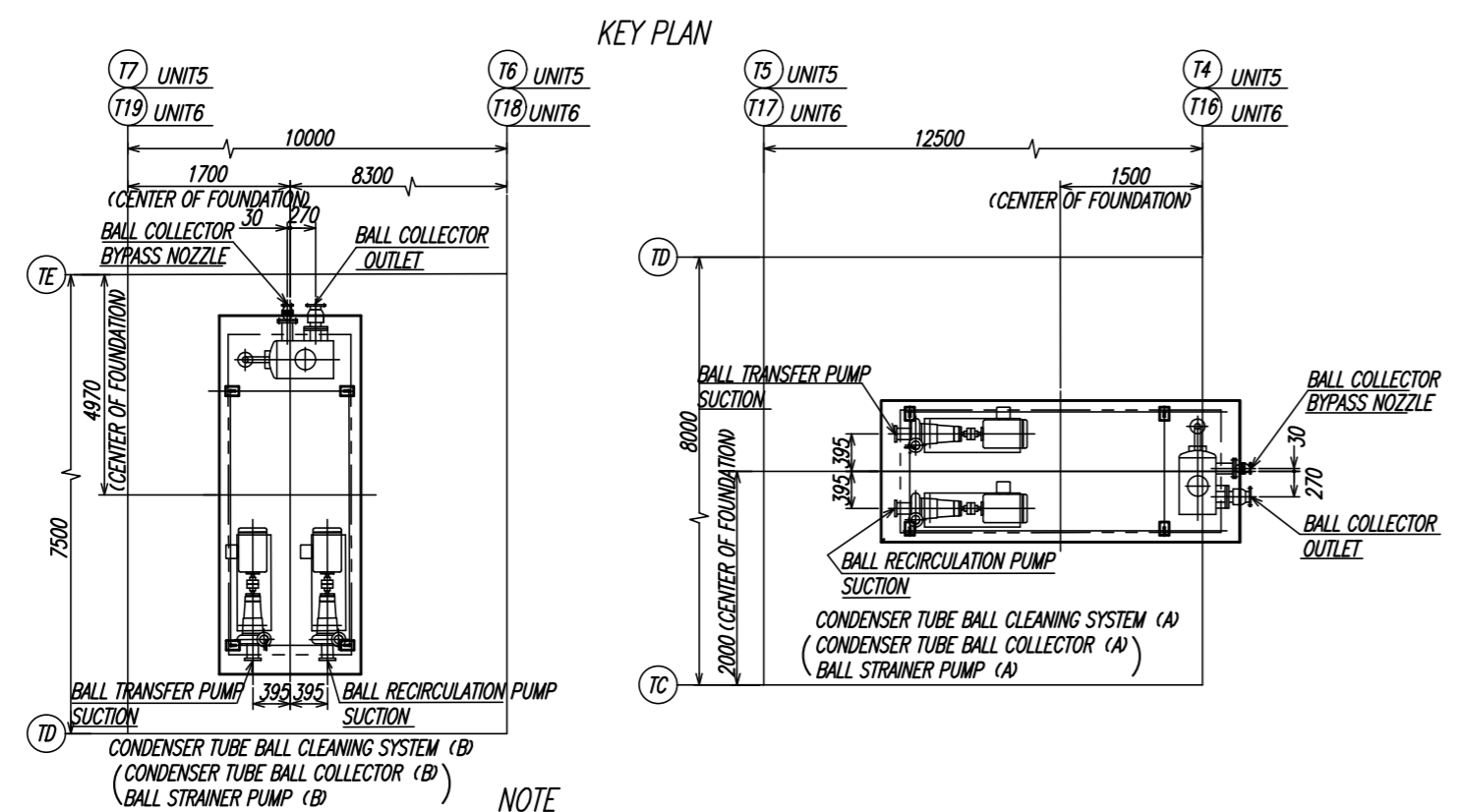
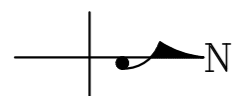
REV. MARK  
 J

図面番号 DRAWING NO.  
2KV006744 (2)  
REV. MARK  
J

NOZZLE LIST				
NOZZLE No.	SERVICE	SIZE	FLANGE STANDARD	MATERIAL
N1	BALL RECIRCULATING PUMP SUCTION NOZZLE	DN 100 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N2	BALL RECIRCULATING PUMP DELIVERY NOZZLE	DN 80 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N3	BALL COUNTER INLET NOZZLE	DN 100 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N4	BALL COUNTER OUTLET NOZZLE	DN 100 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N5	BALL SORTER INLET NOZZLE	DN 100 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N6	BALL SORTER OUTLET NOZZLE	DN 100 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N7	BALL COLLECTOR INLET NOZZLE	DN 100 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N8	BALL COLLECTOR OUTLET NOZZLE	DN 100 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N9	BALL COLLECTOR BYPASS NOZZLE	DN 100 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N10	BALL COLLECTOR VENT NOZZLE	DN 25 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N11	BALL COLLECTOR DRAIN NOZZLE	DN 25 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N12	BALL COLLECTING CHAMBER DRAIN NOZZLE	DN 50 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N13	BALL TRANSFER PUMP SUCTION NOZZLE	DN 100 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803
N14	BALL TRANSFER PUMP DELIVERY NOZZLE	DN 80 x SCH 40	ASME B16.5 SOFF	UNS S32205/S31803

PART No.	DESCRIPTION	QTY./SYS.	SIZE / TYPE	REMARKS
1	BALL COLLECTOR INLET BALL VALVE (N01)	1	DN 100 / ACTUATOR OPERATED	
2	BALL COLLECTOR INLET VALVE ACTUATOR (T01)	1	SQ7.2 AM1.1	
3	BALL COLLECTOR BYPASS VALVE (N05)	1	DN 100 / MANUAL OPERATED	
4	BALL COLLECTOR VENT VALVE (N91)	1	DN 25	
5	GASKET (DN 100)	9	EPDM, SH70'A±5	
6	GASKET (DN 80)	-	EPDM, SH70'A±5	
7	GASKET (DN 25)	4	EPDM, SH70'A±5	
8	BOLT,NUT & WASHER (DN 80&100)	-	A4 SS 316	
9	BOLT,NUT & WASHER (DN 25)	16 SET	A4 SS 316	
10	BASE FRAME	1	CARBON STEEL	
11	BALL COLLECTOR (DN 400)	1	DUPLEX STEEL	
12	BALL SORTER (DAS)	1	DUPLEX STEEL	
13	BALL SORTER VALVE (N60)	1	DN 80/BALL VALVE	
14	BALL SORTER DRAIN VALVE (N61)	1	DN 50/BALL VALVE	
15	GASKET (DN 50)	2	EPDM, SH70'A±5	
16	BOLT,NUT & WASHER (DN 50)	8 SET	A4 SS 316	
17	BALL RECIRCULATING PUMP (F01)	1	NON-CLOG	
18	MOTOR FOR BALL RECIRCULATING PUMP (T91)	1	SQ.CAGE INDN.MOTOR	
19	COUPLING	2	FLEXIBLE	
20	SPOOL PIECE (DN 150/100)	2	DUPLEX STEEL	
21	BALL RECIRCULATING PUMP PRESSURE INDICATOR (SUCTION)	1	BOURDON	
22	BALL RECIRCULATING PUMP PRESSURE INDICATOR (DELIVERY)	1	BOURDON	
23	PRESSURE GAUGE VALVE	4	DN15/SCREWED BALL VALVE	
24	BALL TRANSFER PUMP (F02)	1	NON-CLOG	
25	MOTOR FOR BALL TRANSFER PUMP (T92)	1	SQ.CAGE INDN.MOTOR	
26	CONTROL JUNCTION BOX	1	--	
27	POWER JUNCTION BOX	1	--	
28	PUMP DRAIN VALVE	2	DN15/SCREWED BALL VALVE	
29	BALL COLLECTING CHAMBER	1	DUPLEX STEEL	
30	BALL COLLECTOR DRAIN VALVE (N92)	1	DN 25	
31	BALL COLLECTOR OUTLET VALVE (N02)	1	DN 100 / ACTUATOR OPERATED	
32	BALL COLLECTOR OUTLET VALVE ACTUATOR (T02)	1	SQ7.2 AM1.1	
33	BALL TRANSFER PUMP PRESSURE INDICATOR (SUCTION)	1	BOURDON	
34	BALL TRANSFER PUMP PRESSURE INDICATOR (DELIVERY)	1	BOURDON	
35	BALL COUNTER	1	DN 100	
36	CONDENSER TUBE BALL REJECTED BALL COLLECTOR	1	DUPLEX STEEL	
37	ORIFICE PLATE	1	DUPLEX STEEL	
38	GASKET (DN 80)	2	EPDM, SH70'A±5	

WEIGHTS		
	COMPLETE-DRY	OPERATING
BALL COLLECTOR & BALL FEED PUMP	1700 kg	2000 kg



NOTE  
 1. BALL COLLECTOR UNIT(A) IS IDENTICAL TO BALL COLLECTOR UNIT(B).  
 2. INSIDE SURFACES ARE LINED WITH 5mm CHLOROPRENE RUBBER LINING.  
 3. APPLIED CODE: ASME SECTION VIII WITH MANUFACTURER'S STANDARD

	KKS CODE	
	UNIT-1	UNIT-2
CNDR TBCS BALL COLLECTOR	TBCS (A) 50PAH11 BB010	60PAH11 BB010
	TBCS (B) 50PAH12 BB010	60PAH12 BB010
CNDR TBCS BALL SORTER	TBCS (A) 50PAH11 BB020	60PAH11 BB020
	TBCS (B) 50PAH12 BB020	60PAH12 BB020
CNDR TBCS BALL COUNTER	TBCS (A) 50PAH11 BB030	60PAH11 BB030
	TBCS (B) 50PAH12 BB030	60PAH12 BB030

REFERENCE DRAWING  
 FOUNDATION OUTLINE FOR CONDENSER TUBE BALL COLLECTOR & BALL STRAINER PUMP: TJB56-L1-OFF-C-PAH-M-DFN-3030 (2KV006690)  
 PIPING AND INSTRUMENT DIAGRAM FOR MAIN & AUXILIARY COOLING WATER SYSTEM: TJB56-L1-OFF-C-PAB-M-PID-2107 (0GMH00411)

ISSUED FOR AS-BUILT

REV	DATE	DESCRIPTION	BY	CHKD	APPD
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OWNER  
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 COAL FIRED STEAM POWER PLANT  
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EPC CONTRACTORS  
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**PT. Wasa Mitra Engineering**  
**AvantPower Japan Ltd.**

PROJECT DRAWING NO. TJB56-L1-OFF-C-PAH-M-DRD-2640	REV 3
APPD INQY YI SCALE CHKD INQY YI NTS	TITLE OUTLINE DRAWING FOR CONDENSER TUBE BALL COLLECTOR AND STRAINER PUMP
BY KANUNGO NK mm/m ISO/PLAN/1ST/3RD	UNITS VIEW COLLECTOR AND STRAINER PUMP
EPC LOT SUB-CONTRACTOR	EPC LOT SUB-CONTRACTOR REV DRAWING NO. 2KV006744 SHEET NO. 2 OF 2

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Y. Inoue	JAN.-26-'22	Y. Inoue	AUG.-29-'19	Y. Inoue	MAY-17-'19	Y. Takagi	FEB.-12-'19	Y. Takagi	JUL.-10-'18	Y. Inoue	MAY-30-'18	Y. Inoue	MAR.-22-'18	Y. Inoue	JAN.-30-'18	調査 REVIEWED BY Y. Inoue JUL.-10-'17
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J		H		G		F		E		D		C		B		記事 CONTENTS M211995 CE 1605 M211996 CE 1605
ISSUED FOR AS-BUILT		No change in this sheet.		Revised as per design progress		Issued for construction		Revised as per customer's comments and design progress		Revised as per Customer's Comment		Revised as per Customer's Comment		Revised as per Customer's Comment		TOSHIBA 東芝エネルギーシステムズ株式会社 TOSHIBA ENERGY SYSTEMS & SOLUTIONS CORPORATION

名称 TITLE  
**OUTLINE DRAWING FOR  
 CONDENSER TUBE BALL COLLECTOR  
 AND STRAINER PUMP**

図面番号 DRAWING NO.  
**2KV006744 (2)**

変更記号  
**J**

電子承認システム適用