



















T-D Power Systems - ToyoDenki



A.C. GENERATOR

OUTPUT	TYPE	YEAR OF MANUFACTURE
STANDARD	WEIGHT	
NO. OF PHASES	ENCLOSURE SYSTEM	
NO. OF POLES	COOLING SYSTEM	
VOLTAGE (AC)	COOLANT TEMP.	
CURRENT (AC)	MAX. TEMP. OF ST. BY STD.	
FREQUENCY	CLASS OF INS. (IEC)	
SPEED	DRIVE	
LIMITING SPEED	GRS/OIL	
P.F.	CRY (unit/hrs)	
TYPE OF STATOR COOL.	LUB. INT.	
EXC. VOLTAGE (DC)	MIC. No.	
EXC. CURRENT (DC)	DUTY	
ALITUDE	PHASE SEQ.	
CONTINUOUS OVER LOAD	NOTATION VIEWING AT DRIVEN END.	ADW CB

MANUFACTURED BY T-D POWER SYSTEMS LIMITED, INDIA

GENERATOR LIFTING METHOD



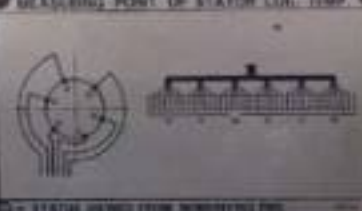
CAUTION

DO NOT USE LIFTING CRANE OR OTHER
LIFTING DEVICE WITHOUT THE
PROPERLY DESIGNED LIFTING POINT

LUBRICATION INSTRUCTION

CHECK OIL FLOW & LEVEL PRIOR TO START
OIL FLOW & LEVEL MUST BE CORRECT

MEASURING POINT OF STATOR COIL TEMP.



GEAR BOX	
GEAR BOX SERIAL NUMBER	0400X0000132HSGH
YEAR OF MANUFACTURING	
CON NO	0202
RATED POWER	3400 KW
INPUT/OUTPUT SPEED	7558 RPM / 1500 RPM
RATIO	5.039
SERVICE FACTOR	1.7
NO. OF TEETH GEAR/PINION	131 / 26
LUBE OIL RECOMMENDED	ISO - VG - 46
LUBE OIL QUANTITY	100 LPM
LUBE OIL PRESSURE	1.5 - 2.0 kg / cm ² g
MANUFACTURED BY : MaxWatt™	
MAXWATT TURBINES PVT. LTD. BANGALORE, INDIA	



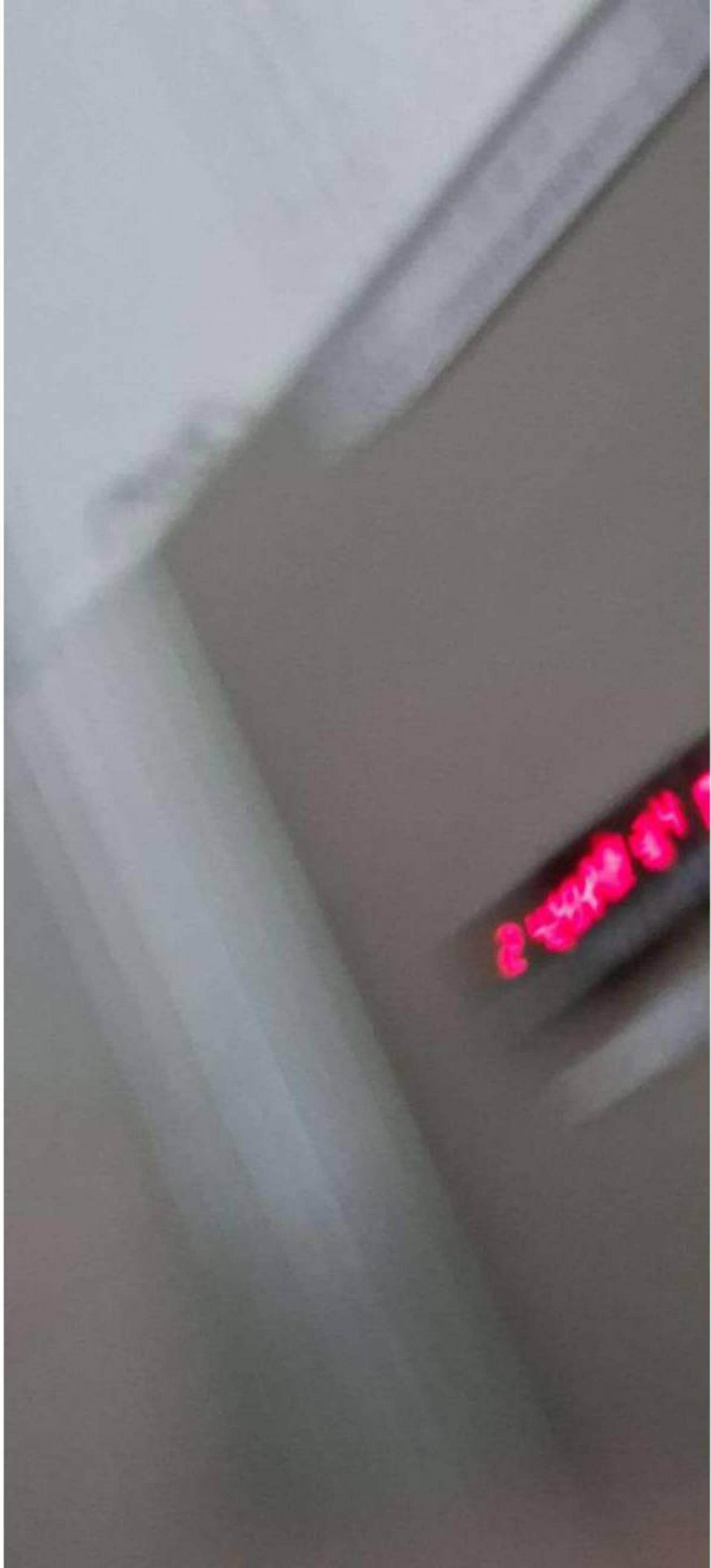
A.C. EXCITER			
MADE IN INDIA			
SYSTEM	BRUSHLESS EXCITATION SYSTEM		
OUTPUT (DC)	kW	ENCLOSURE SYSTEM	
VOLTAGE (DC)	V	COOLING SYSTEM	
CURRENT (DC)	A	CLASS OF INS.	
EXC. VOLTAGE (DC)	V	STANDARD	
EXC. CURRENT (DC)	A	M/C No.	
		YEAR OF MFG.	
MANUFACTURED BY ED POWER SYSTEMS LIMITED, INDIA			

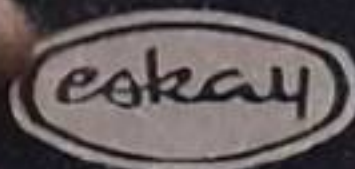












HEAT EXCHANGER

SIZE

04010066

TYPE

ST-BEM

SR. NO.

31623

YEAR

APR-2014

CAP: 75 KW

DESIGN PRESSURE - SHELL SIDE $7 \text{ Kg/cm}^2 @ 100^\circ\text{C}$

DESIGN PRESSURE - TUBE SIDE $5 \text{ Kg/cm}^2 @ 100^\circ\text{C}$

ESKAY HEAT TRANSFERS PVT. LTD.

(AN ISO 9001: 2008 COMPANY)

PLOT NO. 444 & 445 12th CROSS, IVth PHASE

PEENYA INDUSTRIAL AREA, BANGALORE. 560058



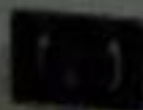
12



ABB

DANGER

 **HIGH
VOLTAGE**















ESKAY HEAT EXCHANGER

SIZE:

MODEL NO:

020116090

TYPE:

ST - GSC

SL NO:

MFG. DATE:

JUNE-2022

CON-349

DESIGN PRESSURE - SHELL SIDE:

1.5 MPa (at 34.5°C)

DESIGN PRESSURE - TUBE SIDE:

3.0 MPa (at 34.5°C)

ESKAY HEAT TRANSFERS PVT LTD.

(AN ISO 9001: 2008 COMPANY)

PLOT NO. 444 & 445 12th CROSS, IVth PHASE,
PEENYA INDUSTRIAL AREA, BANGALORE. 560058













1992

100

1. 启动 (Start)
 2. 停止 (Stop)
 3. 运行 (Run)
 4. 故障 (Fault)
 5. 报警 (Alarm)
 6. 检修 (Maintenance)
 7. 测试 (Test)
 8. 复位 (Reset)
 9. 清除 (Clear)
 10. 确认 (Confirm)

1. 启动 (Start)
 2. 停止 (Stop)
 3. 运行 (Run)
 4. 故障 (Fault)
 5. 报警 (Alarm)
 6. 检修 (Maintenance)
 7. 测试 (Test)
 8. 复位 (Reset)
 9. 清除 (Clear)
 10. 确认 (Confirm)

[illegible]

⑥





GENERATOR METERING PANEL



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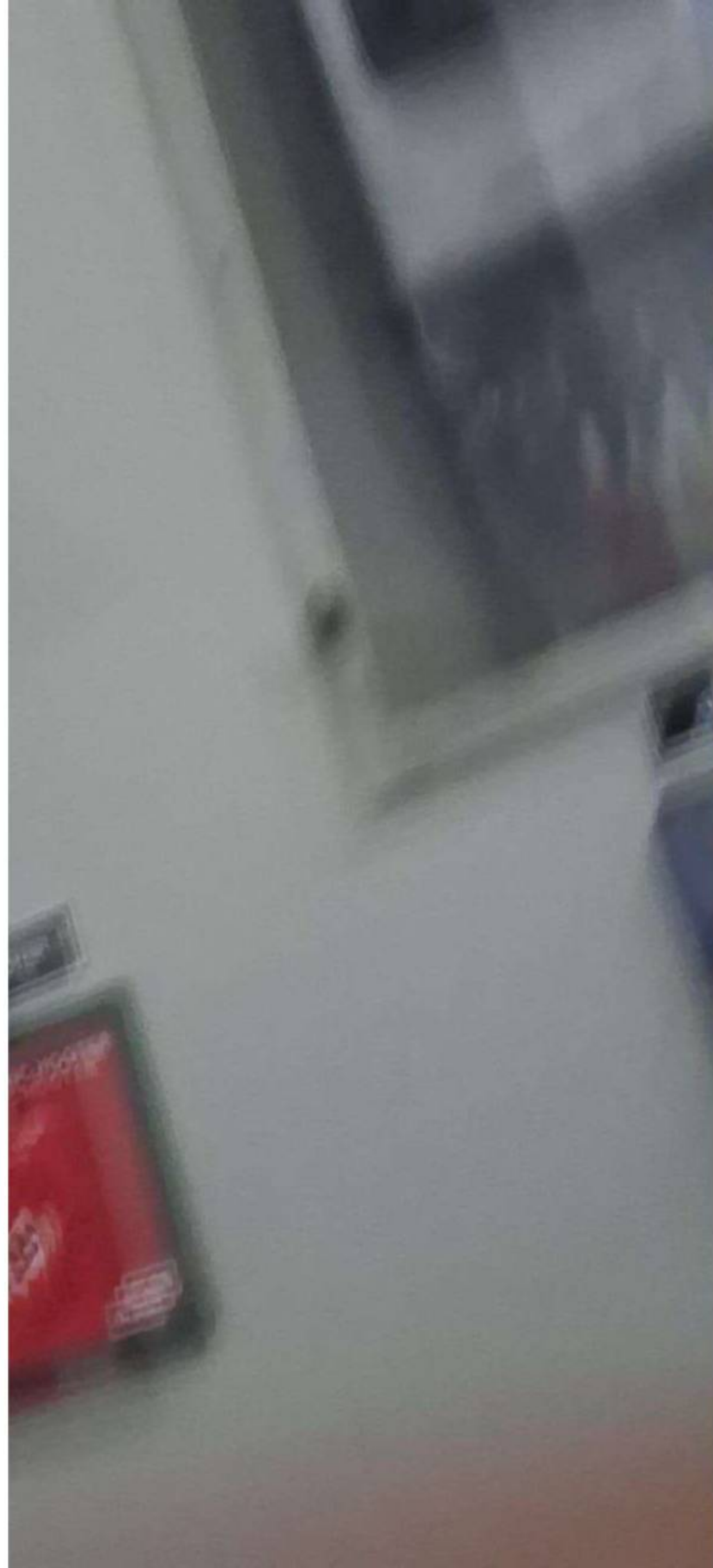
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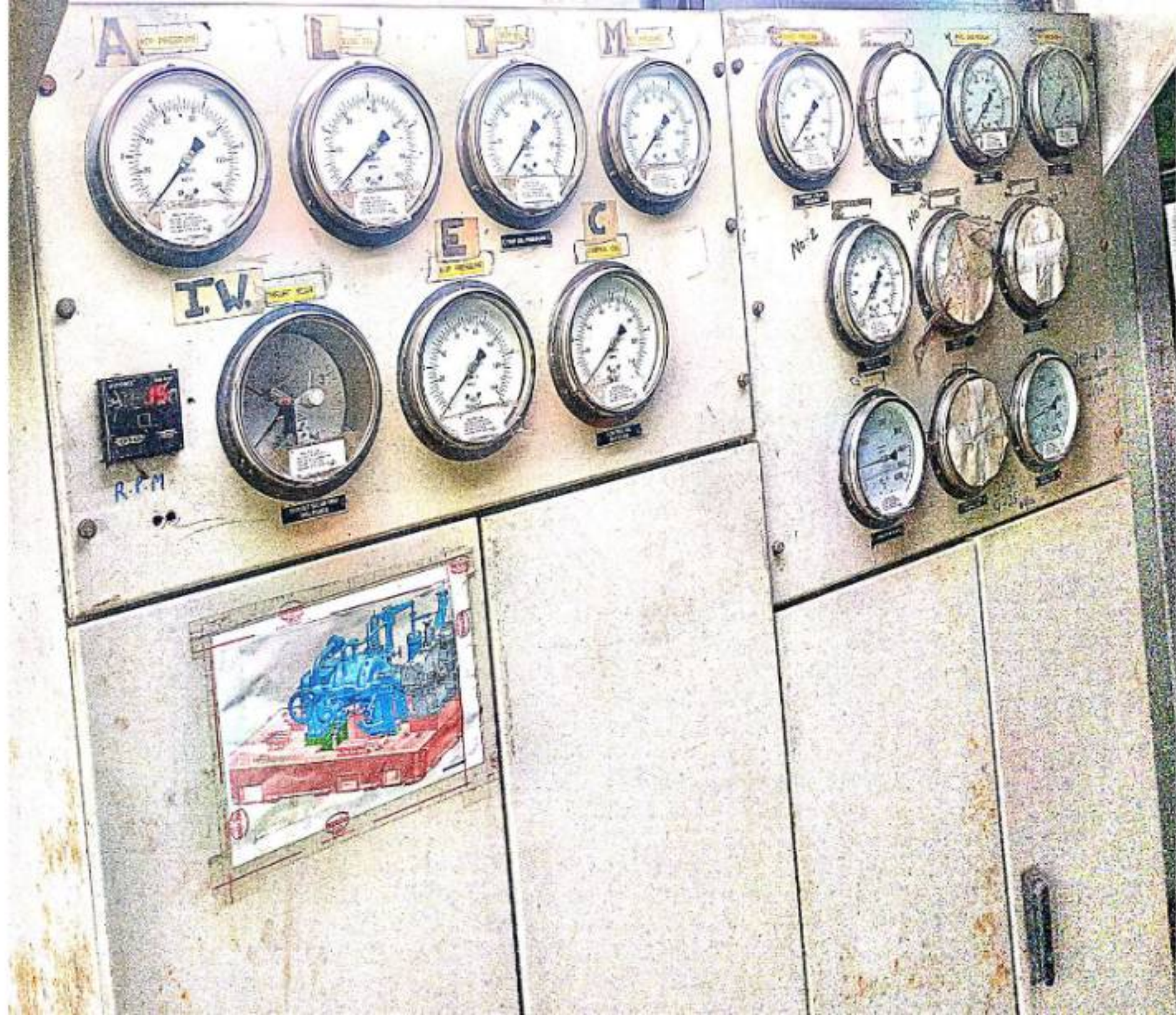
1265
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A.C.EXCITER

MADE IN INDIA



SYSTEM

BRUSHLESS EXCITATION SYSTEM

OUTPUT (DC)

48

kW

ENCLOSURE SYSTEM

1054

VOLTAGE (DC)

123

V

COOLING SYSTEM

1000

CURRENT (DC)

274

A

CLASS OF INS.

1

EXC.VOLTAGE (DC)

61

V

STANDARD

18 4722

EXC.CURRENT (DC)

100

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M/C No.

100

YEAR OF MFG.

1984

MANUFACTURED BY TD POWER SYSTEMS LIMITED, INDIA



T-D Power Systems - ToyoDENKI



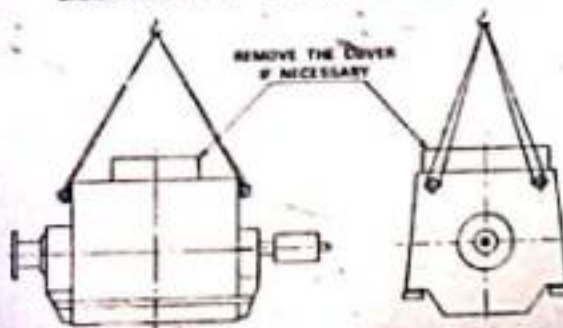
A.C.GENERATOR

MADE IN INDIA



OUTPUT	VA	TYPE	
STANDARD		YEAR OF MANUFACTURE	
NO OF PHASES		WEIGHT	kg
NO OF POLES		ENCLOSURE SYSTEM	
VOLTAGE (AC)	V	COOLING SYSTEM	
CURRENT (AC)	A	COOLANT TEMP	°C
FREQUENCY	Hz	MAX TEMP OF ST BY RTD	°C
SPEED	min	CLASS OF INS	FLD INDE
LIMITING SPEED	min	BRGS	DE hrg INDB hrg
PF		GRS OIL	
TYPE OF STATOR CONN		QTY (gms/lpm)	DE INDE
EXC VOLTAGE (DC)	V	LUB INT	DE hrg INDB hrg
EXC CURRENT (DC)	A	M.C No	
ALTITUDE		DUTY	S1
CONTINUOUS OVER LOAD	%	PHASE SEQ	ACW CW
ROTATION VIEWING AT DRIVEN END			

GENERATOR LIFTING METHOD



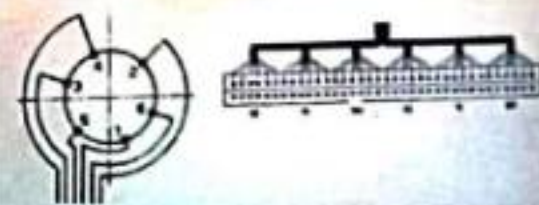
CAUTION

WHENEVER VACUUM CIRCUIT BREAKER IS USED, EMPLOYMENT OF SURGE PROTECTIVE DEVICE MUST BE CONSIDERED

LUBRICATION INSTRUCTION

CHECK OIL FLOW & LEVEL PRIOR TO START. SUPPLY OIL UNTIL MACHINE STOPS.

MEASURING POINT OF STATOR COIL TEMP



— STATOR VIEWED FROM NONDRIVING END



A.C.GENERATOR

MADE IN INDIA



OUTPUT	kVA	TYPE	
STANDARD		YEAR OF MANUFACTURE	
NO. OF PHASES		WEIGHT	kg
NO. OF POLES		ENCLOSURE SYSTEM	
VOLTAGE (AC)	V	COOLING SYSTEM	
CURRENT (AC)	A	COOLANT TEMP.	°C
FREQUENCY	Hz	MAX. TEMP OF ST. BY RTD	°C
SPEED	min ⁻¹	CLASS OF INS.	ARM. FLD.
LIMITING SPEED	min ⁻¹	BRGS.	DE NDE
P.F.		GRS/OIL	
TYPE OF STATOR CONN.		QTY.(gm/lpm)	DE NDE
EXC.VOLTAGE (DC)	V	LUB.INT.	DE hrs. NDE hrs.
EXC.CURRENT (DC)	A	M/C No.	
ALTITUDE		DUTY	S1
CONTINUOUS OVER LOAD	%	PHASE SEQ.	
ROTATION VIEWING AT DRIVEN END.		ACW	CW

MANUFACTURED BY TD POWER SYSTEMS LIMITED, INDIA



GEAR BOX

GEAR BOX SERIAL NUMBER
YEAR OF MANUFACTURING
CON NO
RATED POWER
INPUT/OUTPUT SPEED
RATIO
SERVICE FACTOR
NO. OF TEETH GEAR/PINION
LUBE OIL RECOMMENDED
LUBE OIL QUANTITY
LUBE OIL PRESSURE

0400X0000132HSGH

0202

3400 KW

7558 RPM / 1500 RPM

5.039

1.7

131 / 26

ISO - VG - 46

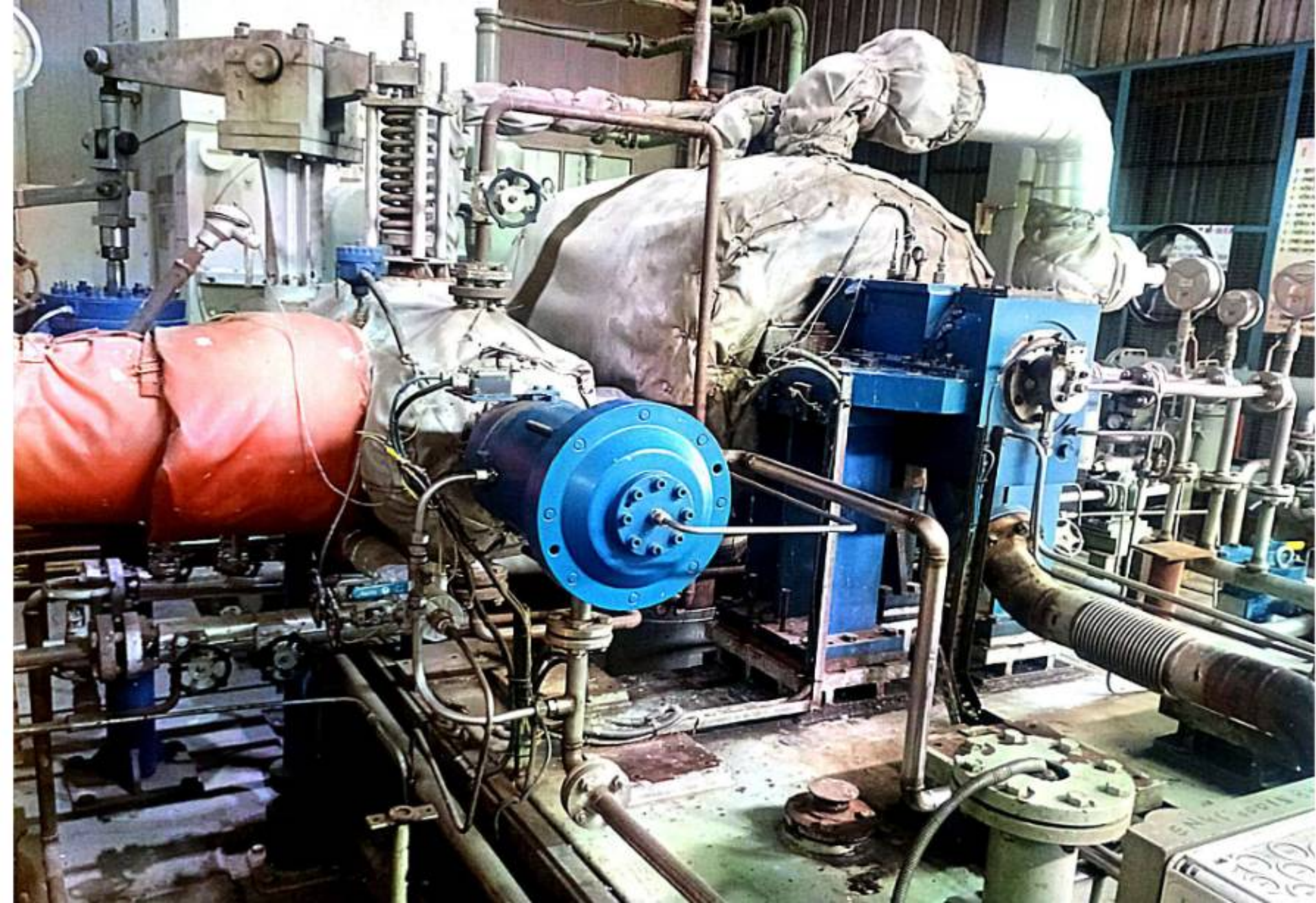
100 LPM

1.5 - 2.0 kg / cm² g

MANUFACTURED BY :

MaxWatt™

MAXWATT TURBINES PVT. LTD.
BANGALORE, INDIA





TUNING CONTROL PANEL



505



GENERATOR METERING PANEL



12V 5W LED



MI PM 328



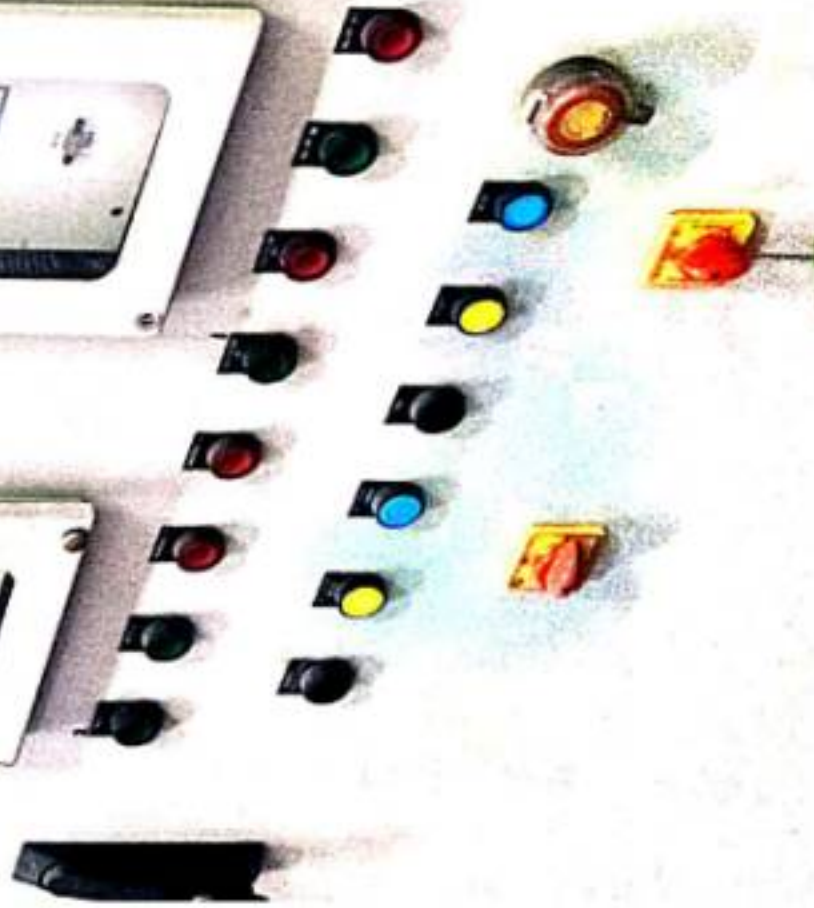
12V 5W LED



GENERATOR RELAY PANEL



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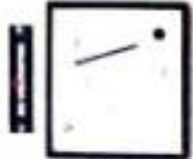
2HP EOP STARTER PANEL



Danger
415 Volts



EOP













ABB



STOP



STOP



STOP



STOP



12

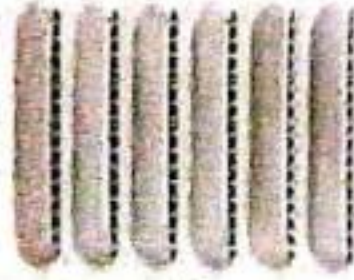


ABB





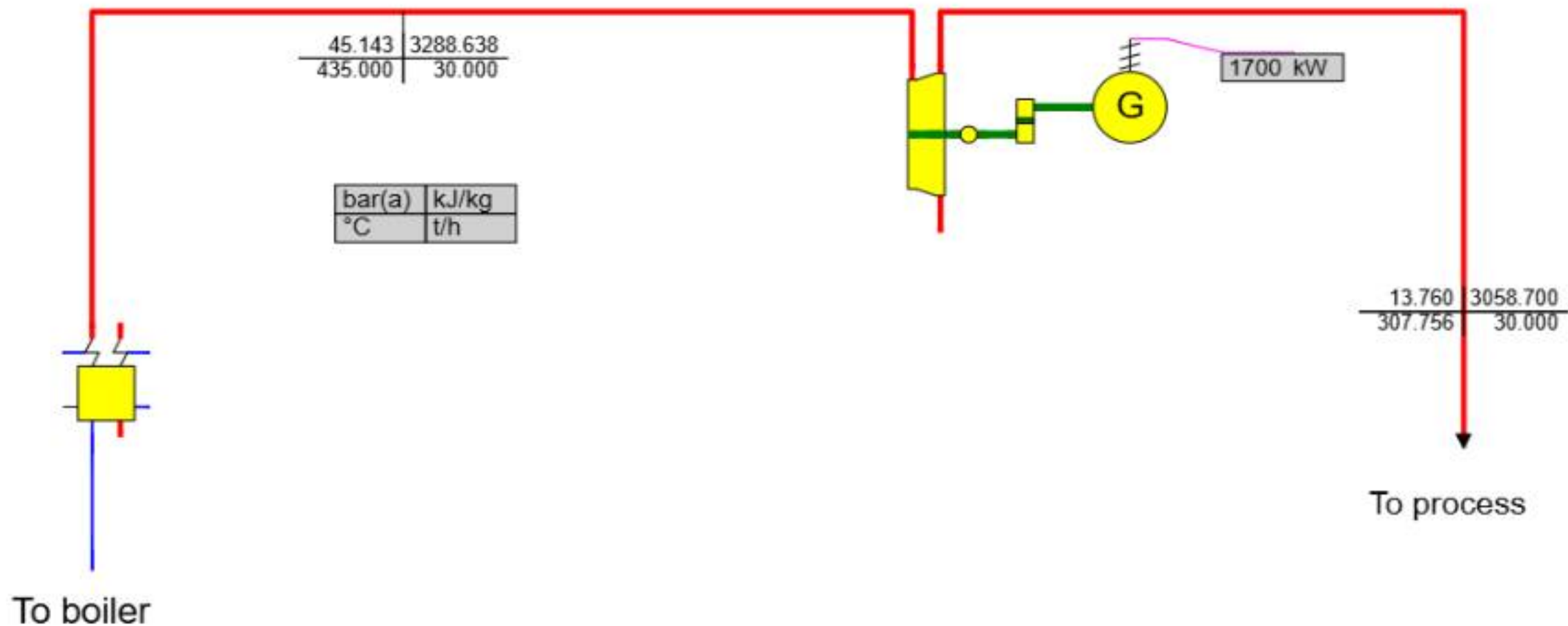
LIGHTNING ARRESTER SURGE CAPACITOR
POTENTIAL TRANSFORMER PANEL



13

NEUTRAL GROUND RESISTOR PANEL

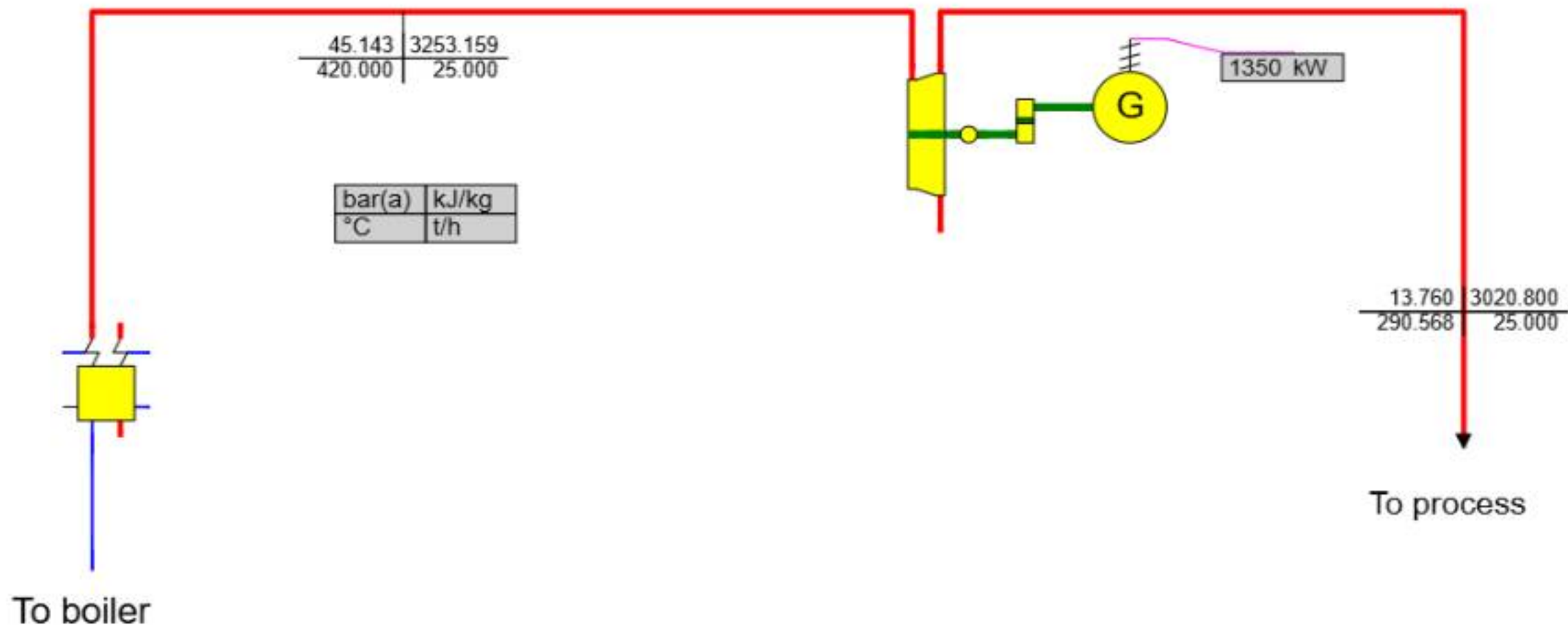
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Notes:

- Please note that additional losses outside of scope are not taken into account.

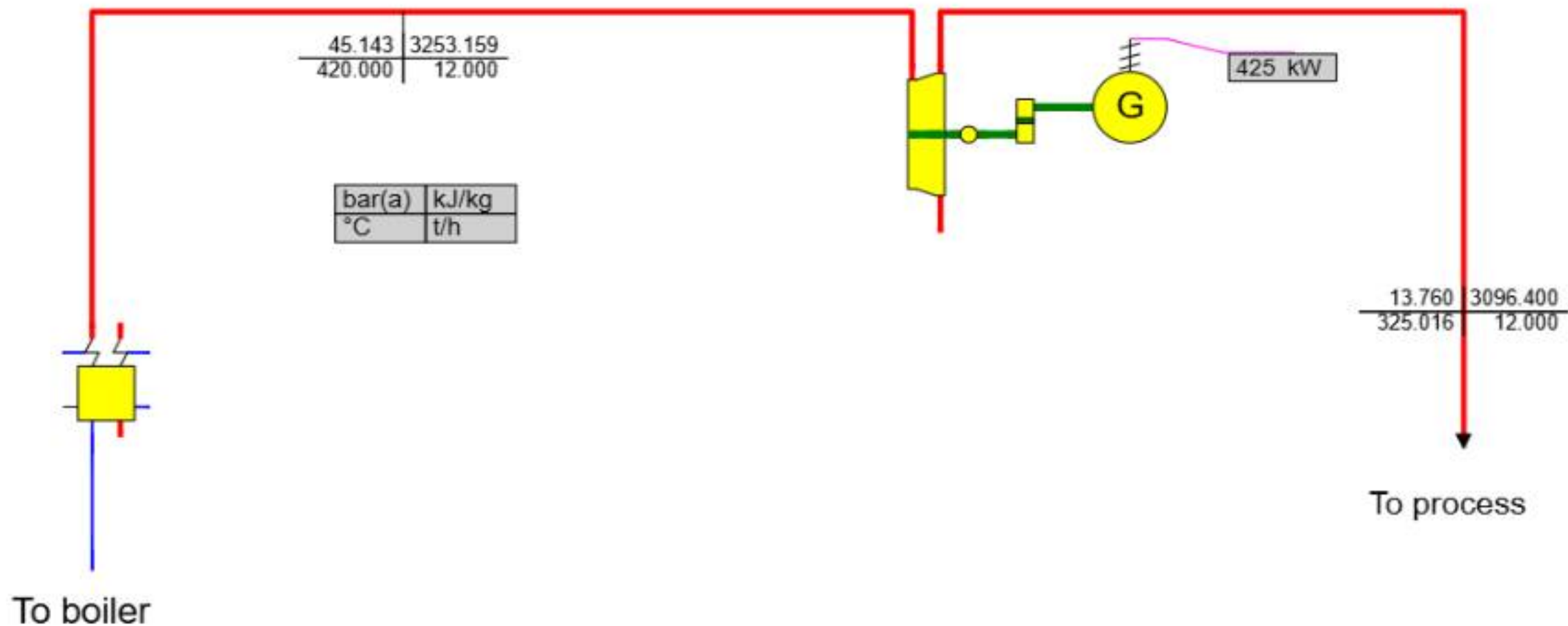
Client: Merino Industries	Heat Balance Diagram (HBD)	
	PRELIMINARY	
Revision: 02	Sheet No.: 1 of 4	Prepared by:
Date: 26.08.2021	Load Point: Design	Bid Ref No: RFMIL210041



Notes:

- Please note that additional losses outside of scope are not taken into account.

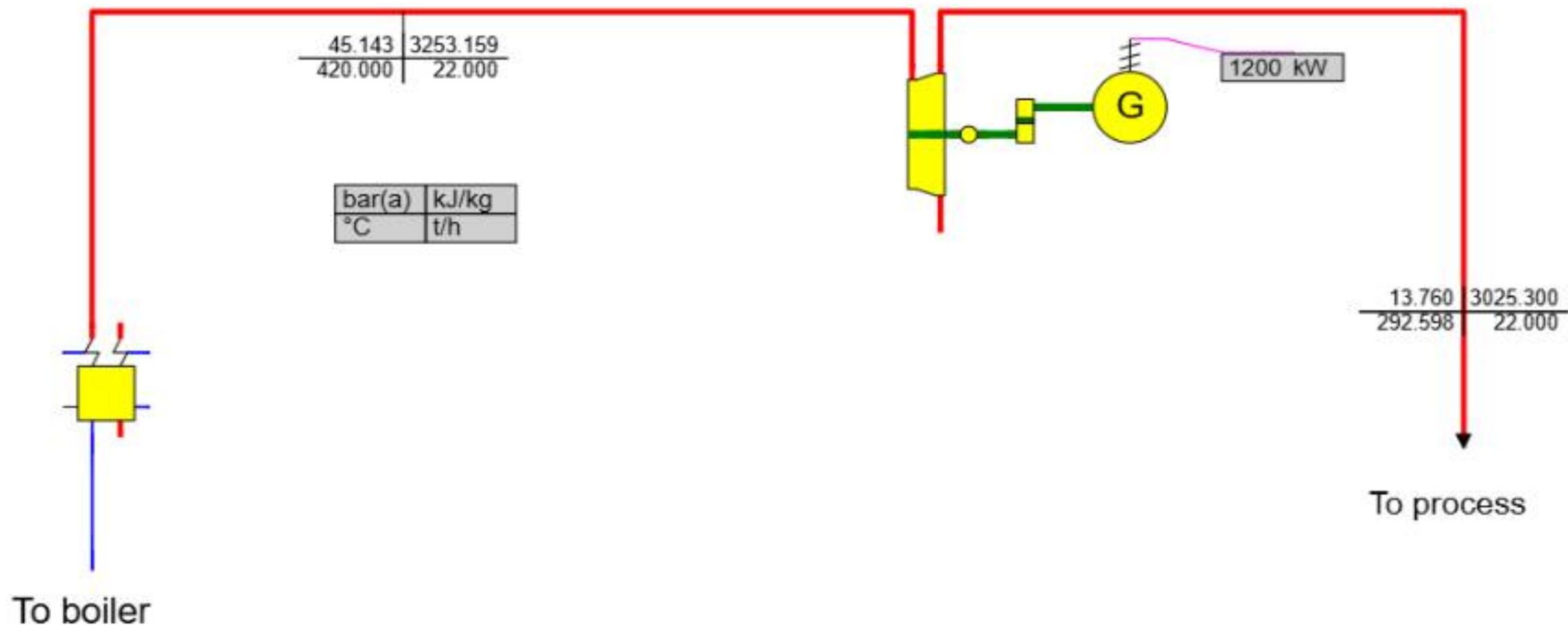
Client: Merino Industries	Heat Balance Diagram (HBD)	
	PRELIMINARY	
Revision: 02 Sheet No.: 2 of 4		Prepared by:
Date: 26.08.2021	Load Point: Design	Bid Ref No: RFMIL210041



Notes:

- Please note that additional losses outside of scope are not taken into account.

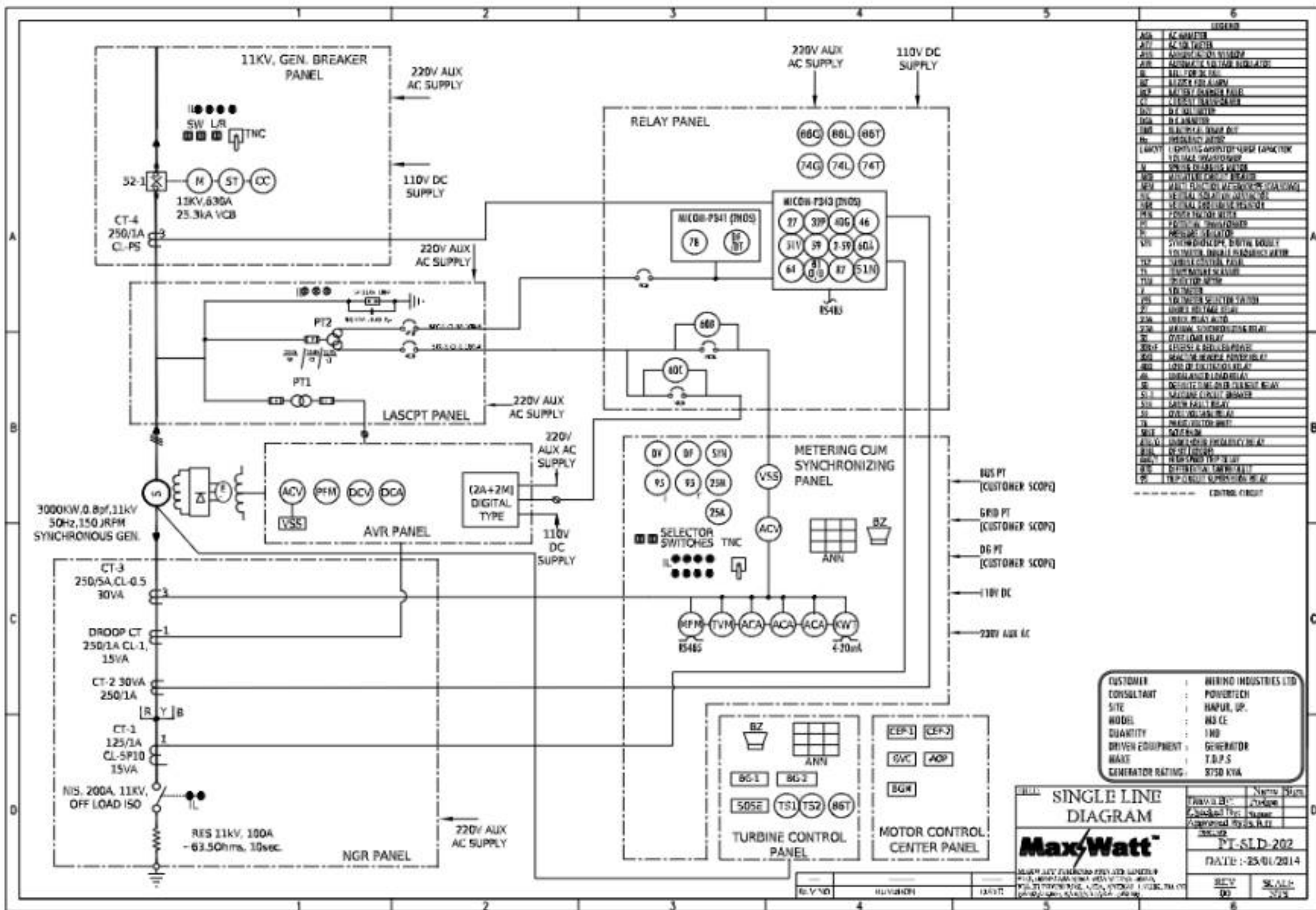
Client: Merino Industries	Heat Balance Diagram (HBD)	
	PRELIMINARY	
Revision: 02	Sheet No.: 3 of 4	Prepared by:
Date: 26.08.2021	Load Point: Design	Bid Ref No: RFMIL210041



Notes:

- Please note that additional losses outside of scope are not taken into account.

Client: Merino Industries	Heat Balance Diagram (HBD)	
	PRELIMINARY	
Revision: 02	Sheet No.: 4 of 4	Prepared by:
Date: 26.08.2021	Load Point: Design	Bid Ref No: RFMIL210041



3 Technical data and curves

3.1 Technical data sheet

Technical Data Sheet	
Customer : Merino Industries Ltd.	CON349
End customer :	Rev No. : 00
DOC. NO.: TDD/FT/03	Date : 09-11-2022

3.1.1 Steam turbine

Sr. No	Description	Unit	Details
01	Make		MAN Energy Solutions India Pvt. Ltd.
02	Type		Straight Back-pressure
03	Model		MST 020
04	Number of main steam inlet connections		1
05	Number of Control/Governing valves		1
06	Operating speed	rpm	7558
07	First critical speed of turbine	rpm	5000-6000
08	Number of stages		8
09	Height of first stage moving blades	mm	19
10	Mean diameter of first stage moving blades	mm	405
11	Height of last stage moving blades	mm	24
12	Mean diameter of last stage moving blades	mm	323
13	Type of blade roots		T-Grooves
14	Steam inlet size		6", CLASS 900 WNRF, ANSI B 16.5
15	Steam extraction size		NA
16	Steam exhaust size	mm	12", CLASS 300 WNRF, ANSI B 16.5
17	Direction of rotation of turbine rotor shaft (looking from steam entry side)		Anti-clockwise
18	Rotor type (solid/built-up)		Solid forged and machined
19	Turbine casing split (horizontal/vertical)		Horizontal
20	Noise level		95 db @1Meter
21	ST coasting down time	minutes	5 to 6
22	ST set dimension (Length x Width x Height)	m	9.2 x 3.5 x 3.4 (Appx.)
23	Turbine rotor weight	kg	950 (Appx.)

Project:	MERINO INDUSTRIES LIMITED						
End User:	MERINO INDUSTRIES LIMITED						
STG Supplier:	MAN ENERGY SOLUTIONS INDIA PRIVATE LIMITED (Formerly MAN Diesel & Turbo India Pvt.Ltd)						
Project:	1X1.7MW BACK PRESSURE TURBINE						
Title:	PIPING & INSTRUMENTATION DIAGRAM						
Doc / Drg. No.: MAN_PI_349_R02			Rev No.: 02			Total No. of Pages : 07 (Incl.cover sheet)	
Stamp:	APPROVED POWERTECH 08/01/2022 FOR APPROVAL						
REVISION STATUS							
Rev No.	Prepared		Reviewed			Approved	
	Name	Date	Name		Date	Name	Date
			Systems	I&C			
00	PLN	15/Nov/2021	Prithvi YSR	Avinash	15/Nov/2021	PC/S.B.H	15/Nov/2021
01	PLN	25/Nov/2021	Prithvi YSR	Avinash	25/Nov/2021	PC/S.B.H	25/Nov/2021
02	PLN	07/Jan/2022	Prithvi YSR	Avinash	07/Jan/2022	PC/S.B.H	07/Jan/2022

REVISION SUMMARY SHEET

Rev No.	Details / Description	Date
00	Issued for Approval	15/Nov/2021
01	Updated as per customer comments	25/Nov/2021
02	Updated as per customer comments	07/Jan/2022

APPROVED

POWERTECH
08/01/2022

[illegible]

SYMBOL	DESCRIPTION
ADP	AIR DRYING DEHUMID
ACC	AIR-COOLING CONDENSER
AE	AIR-EXHAUST
AI	AIR-INTAKE
AT	AIR-TRANSMITTER
ACT	ACTUATOR
BLV	BLIND VALVE
BNR	BURNER/BOILER BURNER
CDP	CANDID DRYING UNIT
CH	CANISTER SYSTEM
CDM	CONDENSATE DRYING UNIT
CM	CONDENSATE REGENERATION UNIT
CP	CONDENSATE EXTRACTION PUMP
D	DRAIN
DPS	DISTILLING DISTILLING SYSTEM
DPS	DISTILLING PRESSURE REGULATOR/SAFETY
DPT	DISTILLING PRESSURE TRANSDUCER
DSP	DISTILLING DRY PUMP
ESV	EMERGENCY STOP VALVE
ED	EXPANSION BELLOWS
EC	EXHAUST
FT	FLOW TRANSMITTER
FI	FLOW INDICATOR
FTR	FULL FLOW/RETRACT VALVE
FB	FLOW BALL
HR	HIGH-PRESSURE AIR/COOLING
J	JUNCTION BOX
LPT	LOW PRESSURE TAP
LA	LOW-ACTUATING METER
LG	LEVEL GAUGE

SYMBOL	DESCRIPTION
IGS	LEVEL GAGE ATTACHMENT
IS	LEVEL SWITCH
LI	LEVEL INDICATOR
LT	LEVEL TRANSMITTER
LSR	LOCAL SINK SENSOR
LSF	LOCAL SOURCE FLOW
MP	MAIN PUMP
PS	INTERLOCK PRESS
WPT	WINDWARD TANK TOP
WST	WINDWARD SATE WARE
WPU	WINDWARD PICK UP UNIT
WT	WIND TANK
WVL	WIND VENT LEVEL
WV	WIND VENT VALVE
WT	WIND TANK TOP
	WINDMILL WITH TANK TOP
DF	DRY FILTER
DF	DRY FLOW
PS	PRESSURE GAGE
PS	PRESSURE SWITCH
PT	PRESSURE TRANSDUCER
PI	PRESSURE INDICATOR
PSN	PRESSURE SENSING SENSOR
PSN	PRESSURE CONTROL VALVE
PSA	PRESSURE GAGE WITH SWITCH
PLC	PROGRAMMABLE LOGIC CONTROLLER
SV	SHUTTING VALVE
SV	SHUTTING VALVE
SI	SPEED INDICATOR
SC	STEAM SURFACE CONDENSER

SYMBOL	DESCRIPTION
SC	STEEL CYLINDER
SS	STAINLESS STEEL
SPH	SPHERE BALLS
ST	STRAIGHT
STB	STRETCH FILM GLASS
SW	SWITCHES AND
TH	TEMPERATURE MEASURING ELEMENT
TC	TEMPERATURE CONTROL VALVE
TCF	TEMPERATURE CONTROL FLUID
TS	TEMPERATURE GAUGE
TE	TEMPERATURE ELEMENT
TT	TEMPERATURE TRANSDUCER
T	TEMPERATURE INDICATOR
TR	INTERNAL FILLING VALVE
TRF	TRIP POINT TRIP
VS	VIBRATION SENSOR
VI	VIBRATION INDICATOR
VT	VIBRATION TRANSDUCER
VW	VISUAL SIGNALING DEVICE
WS	WASHER SWITCH
WSC	WASHER SWITCH CLOSURE
WSB	WASHER SWITCHES
ZS	LIMIT SWITCH
ZSD	LIMIT SWITCH DEVICE
ZSC	LIMIT SWITCH CLOSURE
ZT	POSITION TRANSDUCER
ZI	POSITION INDICATOR
ZF	POSITION SWITCH/ALARM
SL	SPEED ELEMENT
TR	INTERNAL FILLING VALVE

SYMBOL	DESCRIPTION
A/D	AIR TO DRY
A/C	AIR TO CASE
A/S	AIR FLOW STOP PBT
F/L	FAN TO LUBE
	AIR FILTER INDICATOR
	CURRENT TO HYDRAULIC
	SHAFT POSITION LOW CONTROL
	SHAFT POSITION PRESSURE CONTROL
	SHAFT POSITION TEMPERATURE CONTROL
	LIFT INVENTION CONTROLLER
	PRESSURE REDUCTION CONTROL
	TEMPERATURE REDUCTION CONTROL
	SAFETY PUMP
	SAFETY GENERAL
	CONTROL VALVE PUMP
	INJECTION COMPRESSION
	GEAR PUMP
	PUMP GENERAL
	STARTING START INDICATOR (HOLE)
	TORQUE BRAKE
A/C/P	AUXILIARY CONTROL LIFT PUMP
B/P	BREAST PUMP
A/H	AUTOMATIC SELECT VALVE
D/S	DRIVE SHAFT
	VALVE OF SUPPLY
	PLATE TYPE HEAT EXCHANGER (HX)
H/L	HYDRAULIC ACTUATOR

SYMBOL	RISK OPTION
A	ALARM
T	TEP
I	INTERLOCK
L	LOCK
LL	LOCK LOW
LD	LOCK DRAIN
LC	LOCK CIRCUL
H	HIGH
HH	HIGH HIGH
	FIELD MONITORED
	LOW MONITORED
	MANUAL OPERATION
	PCS
	PIC
	TEP DIL LINE
	STEAM LINE
	CENTER LINE
	STEAM TRAP LINE
	OIL DRAIN LINE
	DILTY OIL DRAIN

SYMBOL	DESCRIPTION
=====	FEEDBACK LINE
--- -- -- -- -- -- -- -- -- --	SIGNAL LINE
=====	CONTROL SIGNAL LINE
--- -- -- -- -- -- -- -- -- --	DATA LINE
=====	FEEDBACK LINE

POWERTECH
08/01/2022

CUSTOMER	M. J. HEROLD INDUSTRIES LTD
END CUSTOMER	M. J. HEROLD INDUSTRIES LTD
SIZE	84898, 02
WORK ORDER	0001349
QUANTITY	1780
WORKS EQUIPMENT	SPRINKLER

02	Updated as per Design Changes	07-01-2020	Parham	Adrian
03	Updated as per customer Comments	10-11-2020	Parham	Adrian
08	Final Issue	10-11-2021	Parham	Adrian
Item no.	Revision	Date	Rev. by	Chk. by

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TITLE: LEGEND FOR P&ID	Drawn by: Checked by: Appd by:	Name Signature Parag Avinash Prakash Prashant S.D.H.
	MAN-LGD-349	
	SCALE NTS RHV-02	DATE 12-11-2021 SHEET SIZE-A SHEET : 1 OF 1
	MAN Group, India Pvt. Ltd. Private Limited Plot No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 78	

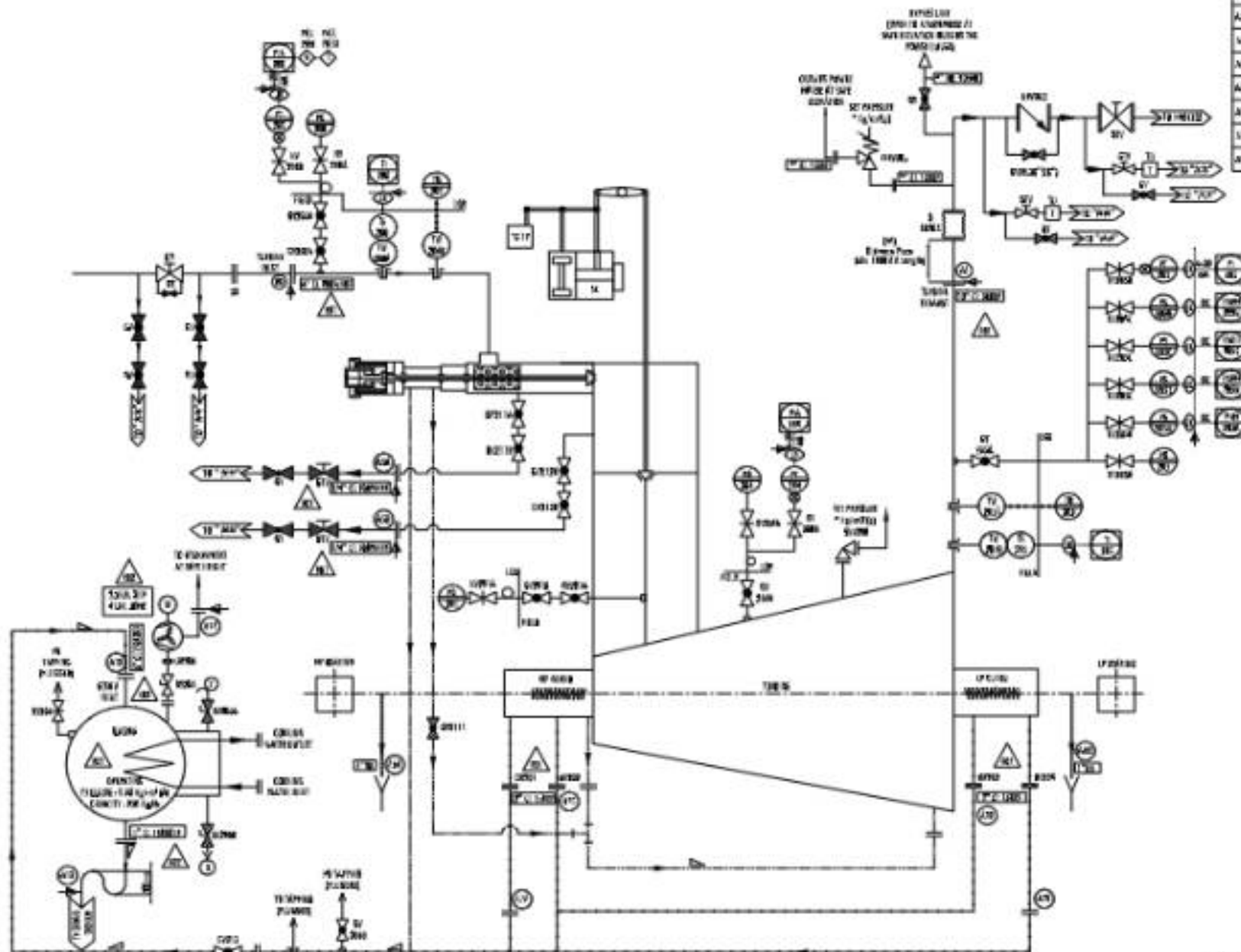
NOTES:

1. ALL TYPING, CORRECTIONS, ETC. BY THE SUPPLIER.
2. ALL TYPING, CORRECTIONS, ETC. BY THE SUPPLIER.
3. ALL TYPING, CORRECTIONS, ETC. BY THE SUPPLIER.
4. ALL TYPING, CORRECTIONS, ETC. BY THE SUPPLIER.
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19. ALL TYPING, CORRECTIONS, ETC. BY THE SUPPLIER.
20. ALL TYPING, CORRECTIONS, ETC. BY THE SUPPLIER.

Terminal Details of Turbine & Accessories

Terminal Number	Location	Size	Pressure (bar)	Temperature (°C)	Service
A0	Steam Inlet	200mm	40.0	400	Continuous
A1	Steam Inlet	200mm	40.0	400	Continuous
A2	Exhaust Steam	200mm	40.0	400	Continuous
A3	Exhaust Steam	200mm	40.0	400	Continuous
A4	Exhaust Steam	200mm	40.0	400	Continuous
A5	Exhaust Steam	200mm	40.0	400	Continuous
A6	Exhaust Steam	200mm	40.0	400	Continuous
A7	Exhaust Steam	200mm	40.0	400	Continuous
A8	Exhaust Steam	200mm	40.0	400	Continuous
A9	Exhaust Steam	200mm	40.0	400	Continuous
A10	Exhaust Steam	200mm	40.0	400	Continuous
A11	Exhaust Steam	200mm	40.0	400	Continuous
A12	Exhaust Steam	200mm	40.0	400	Continuous
A13	Exhaust Steam	200mm	40.0	400	Continuous
A14	Exhaust Steam	200mm	40.0	400	Continuous
A15	Exhaust Steam	200mm	40.0	400	Continuous
A16	Exhaust Steam	200mm	40.0	400	Continuous
A17	Exhaust Steam	200mm	40.0	400	Continuous
A18	Exhaust Steam	200mm	40.0	400	Continuous
A19	Exhaust Steam	200mm	40.0	400	Continuous
A20	Exhaust Steam	200mm	40.0	400	Continuous

APPROVED
POWERTECH
08/01/2022



AP	Approved by: [Signature]	01/01/2022	Project	Lead
DP	Design by: [Signature]	01/01/2022	Project	Lead
IP	Issued by: [Signature]	01/01/2022	Project	Lead
Rev	Revised by: [Signature]	01/01/2022	Project	Lead

The design is based on the information provided by the client. The design is subject to change without notice. The design is not to be used for any other purpose without the written consent of the design engineer.

P&ID FOR STEAM & DRAIN SYSTEM

MAN-PI-349-02

DATE: 01/01/2022

REVISION: 01/01/2022

DESIGNER: [Signature]

CHECKED BY: [Signature]

APPROVED BY: [Signature]

MAN-PI-349-02

DATE: 01/01/2022

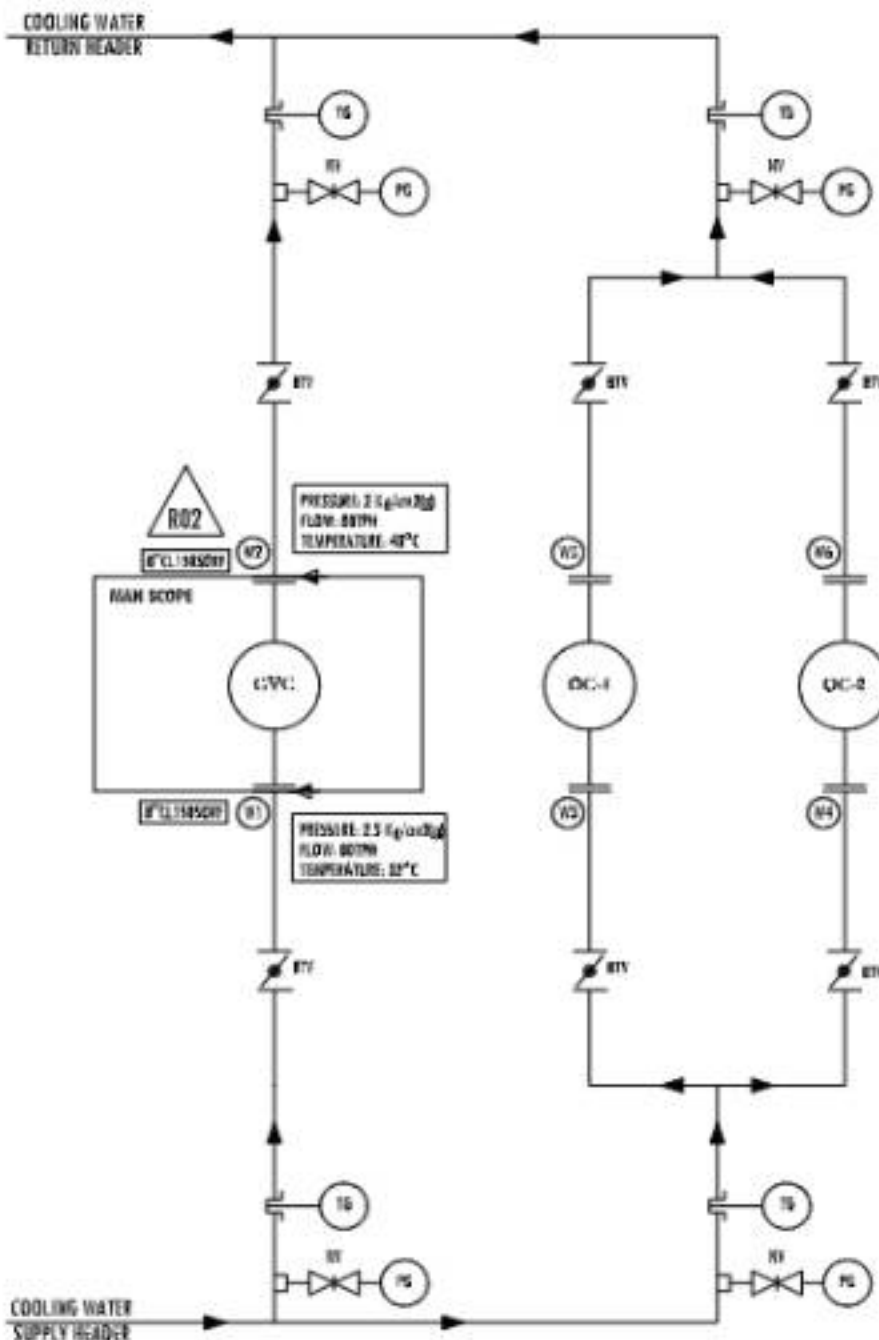
REVISION: 01/01/2022

DESIGNER: [Signature]

CHECKED BY: [Signature]

APPROVED BY: [Signature]

SCOPE OF SUPPLY
MAN
01/01/2022



NOTE:

- 1) ALL TERMINAL CONNECTION SHALL BE OF ANSI B16.5 STANDARD.
- 2) HEATING HEATING FLANGES, GASKETS & GASTIGHTS FOR TUBING SHALL BE IN INHERENT SCOPE OF SUPPLY.
- 3) REFER BELOW DRAWINGS & DOCUMENTS FOR ADDITIONAL INFORMATION & INSTALLATION GUIDE LINES.
 - a. UTILITY LIST : SHALL BE FURNISHED LATER.
 - b. OSC DRAWING NO : SHALL BE FURNISHED LATER.

Terminal Connection:

W1	GVC COOLING WATER INLET
W2	GVC COOLING WATER OUTLET

APPROVED

POWERTECH
08/01/2022

CUSTOMER	M/S. MINDO INDUSTRIES LTD.
FOR CUSTOMER	M/S. MINDO INDUSTRIES LTD.
DATE	12/11/2021
QUANTITY	CDN 349
ORDER NO.	110
ORDER NO.	110

Rev. No.	Rev. Description	Date	Rev. by	Chk. by
01	ISC Cooling Water Process Flow updated	07-01-2022	Parag	Aravind
02	Updated as per Customer Comments	23-11-2021	Parag	Aravind
03	Final Issue	12-11-2021	Parag	Aravind

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TITLE: P&ID FOR WATER SYSTEM	Drawn by: Parag	Name: Parag	Sign: Parag
	Checked by: Aravind	Name: Aravind	Sign: Aravind
	Appd by: S.R.H.	Name: S.R.H.	Sign: S.R.H.
	DATE: 12-11-2021	DATE: 12-11-2021	DATE: 12-11-2021



SCOPE OF SUPPLY
 MANI
 CUSTOMER

SCALE: NTS	DATE: 12-11-2021
REV: 07/01/2022	STATUS: SHEET : 1 OF 1

