

INSTRUMENT SCHEDULE

IR-1

S.NO	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATUR
1	LBA10CP001	MAIN STM.PRESS BEFORE ESV-1	IR1	STEAM	PT	250	166	KG/CM2	537
2	LBC10CP001	EXHAUST CASING HPT	IR1	STEAM	PT	60	45	KG/CM2	337
3	MAA50CP001	STEAM PRESSURE BEFORE DRUMSTAGE 1.CASING	IR1	STEAM	PT	200	154	KG/CM2	531
4	MAA50CP006	STEAM PRESSURE BEFORE DRUMSTAGE 1.CASING	IR1	STEAM	PT	200	154	KG/CM2	531
5	MAB50CP001	STEAM PRESSURE BEFORE IPTBLADING	IR1	STEAM	PT	60	40	KG/CM2	537

IR-2

S.NO	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATUR E
1	MAG10CP001	VACUUM CONDENSER	IR2	VACUUM	PT	1	0.11	KG/CM2(ABS)	45
2	MAG10CP002	VACUUM CONDENSER	IR2	VACUUM	PT	1	0.11	KG/CM2(ABS)	45
3	MAG10CP003	VACUUM CONDENSER	IR2	VACUUM	PT	1	0.11	KG/CM2(ABS)	45
4	MAG10CP004	VACUUM CONDENSER	IR2	VACUUM	PT	1	0.11	KG/CM2(ABS)	45
5	MAG10CP502	VACUUM CONDENSER	IR2	VACUUM	PG	+1.5	0.11	KG/CM2	45
6	MAC11CP001	LP INLET STEAM PRESSURE	IR2	STEAM	PT	9	7	KG/CM2	292
7	MAC11CP002	LP INLET STEAM PRESSURE	IR2	STEAM	PT	9	7	KG/CM2	292
8	MAC11CP003	LP INLET STEAM PRESSURE	IR2	STEAM	PT	9	7	KG/CM2	292

IR-3

S.NO	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATUR E
1	LBO50CP001	STEAM PRESSURE IN EXTR. LINE-5	IR3	STEAM	PT	25	17	KG/CM2	412
2	LBS21CP001	STEAM PRESSURE IN EXTR. LINE-2	IR3	STEAM	PT	3	1.5	KG/CM2	131
3	LBS31CP001	STEAM PRESSURE IN EXTR. LINE-3	IR3	STEAM	PT	3	2.8	KG/CM2	190
4	LBS40CP001	STEAM PRESSURE IN EXTR. LINE-4	IR3	STEAM	PT	9	7	KG/CM2	290

INSTRUMENT SCHEDULE

IR-4

S.NO	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	LBS11CP001	STEAM PRESSURE IN EXTR. LINE-1	IR4	STEAM	PT	3	0.36	KG/CM2	74
2	MAW20CP001	SHAFT SEAL STEAM HEADERPRESS.,REAR	IR4	STEAM	PT	900	1.04	MMWC	<150
3	MAW20CP011	SHAFT SEAL STEAM HEADERPRESS.,REAR	IR4	STEAM	PT	900	1.048	MMWC	< 150

IR-5

S.NO	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	LBA01CP002	MAIN STEAM PRESS BEF HP BYPASSCOMMON PIPE	IR5	STEAM	PT	250	166	KG/CM2	537
2	LBA01CP011	MAIN STEAM BEF.HP-BYP. COMMOOPERATING PRESSUREIPE	IR5	STEAM	PT	250	166	KG/CM2	537
3	LBB01CP002	REHEAT STEAM PRESS -LP-BYPASSCOMMON PIPE	IR5	STEAM	PT	60	40	KG/CM2	537
4	LBB01CP011	HRH STEAM PRESSBRANCH LP-BYPCOMMON PIPE	IR5	STEAM	PT	60	40	KG/CM2	537
5	LBB01CP012	HRH STEAM PRESS BEF BRANCH LP-BYP COMMON PIPE	IR5	STEAM	PT	60	40	KG/CM2	537
6	LBB10CP001	HRH STEAM PRES-SURE BEFOREIV 1	IR5	STEAM	PT	60	40	KG/CM2	537

IR-6

S.NO	KKS	DESCRIPTION	ountit	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	MAX46CP001	SECONDARY AUX FLUID PRESSURE	IR6	CONTROL FLUID	PT	6		KG/CM2	50
2	MAX47CP001	START UP FLUID PRESSURE	IR6	CONTROL FLUID	PT	16	8	KG/CM2	50
3	MAX48CP201	AUX START UP FLUID PRESSURE	IR6	CONTROL FLUID	PS	10	8	KG/CM2	50
4	MAX48CP202	AUX START UP FLUID PRESSURE	IR6	CONTROL FLUID	PS	10	8	KG/CM2	50
5	MAX48CP203	AUX START UP FLUID PRESSURE	IR6	CONTROL FLUID	PS	10	8	KG/CM2	50
6	MAX62CP211	TEST OVERSPEED GOVERNOR MIN	IR6	CONTROL FLUID	PS	10	8	KG/CM2	50
7	MAX62CP212	TEST OVERSPEED GOVERNOR MAX	IR6	CONTROL FLUID	PS	10	8	KG/CM2	50
8	MAX62CP213	TEST OVERSPEED GOVERNOR MIN	IR6	CONTROL FLUID	PS	2.5		KG/CM2	50

INSTRUMENT SCHEDULE

IR-7

S.NO	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	MAX51CP205	BETWEEN SV EMERGENCY STOP AND TEST DEVICE	IR7	CONTROL FLUID	PS	10	8	KG/CM2	50
2	MAX51CP206	CONTROL SLIDE VALVE	IR7	CONTROL FLUID	PS	10	8	KG/CM2	50
3	MAX51CP207	BETWEEN SOL.VAL.TRIPPING UNIT,CONT.SLID.VL	IR7	CONTROL FLUID	PS	10	8	KG/CM2	50
4	MAX51CP208	BETWEEN SOL.VALVE EMERGENCY STOP & TEST DEVIC	IR7	CONTROL FLUID	PS	10	8	KG/CM2	50
5	MAX51CP209	CONTROL SLIDE VALVE	IR7	CONTROL FLUID	PS	10	8	KG/CM2	50
6	MAX51CP210	BETWEEN SOL.VALVE TRIPPING UNIT,CONT.SLID.VL	IR7	CONTROL FLUID	PS	10	8	KG/CM2	50

IR-8

S.NO	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	MAX44CP001	PRIMARY OIL PRESSURE	IR8	CONTROL FLUID	PT	4	2.5	KG/CM2	50
2	MAX45CP001	SECONDARY FLUIDPRESSURE TOHP	IR8	CONTROL FLUID	PT	10	8	KG/CM2	50
3	MAX45CP011	SECONDARY FLUIDPRESSURE TOIP	IR8	CONTROL FLUID	PT	10	8	KG/CM2	50
4	MAX45CP211	SECONDARY FLUIDPRESSURE TOIP	IR8	CONTROL FLUID	PS	10	8	KG/CM2	50
5	MAX51CP001	TRIP FLUID PRES-SURE	IR8	CONTROL FLUID	PT	10	8	KG/CM2	50
6	MAX51CP002	TRIP FLUID PRES-SURE	IR8	CONTROL FLUID	PT	10	8	KG/CM2	50
7	MAX52CP211	AUXILIARY TRIP FLUID PRESSURE	IR8	CONTROL FLUID	PS	10	8	KG/CM2	50
8	MAX52CP212	AUXILIARY TRIP FLUID PRESSURE	IR8	CONTROL FLUID	PS	10	8	KG/CM2	50

IR-9

S.NO	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	MAV41CP501	LUBE OIL PRESS BEFORE OILCOOLERS	IR9	LUBE OIL	PG	10	5.2	KG/CM2	65
2	MAV41CP502	LUB OIL PRESS AFTER OILCOOLER	IR9	LUBE OIL	PG	10	8	KG/CM2	50
3	MAV42CP001	LUBE OIL PRESS AFTER OILCOOLERS	IR9	LUBE OIL	PT	4	1.5	KG/CM2	45

INSTRUMENT SCHEDULE

4	MAV42CP002	LUBE OIL PRESS AFTER OILCOOLERS	IR9	LUBE OIL	PT	4	1.5	KG/CM2	45
5	MAV42CP003	LUBE OIL PRESS AFTER OILCOOLERS	IR9	LUBE OIL	PT	4	1.5	KG/CM2	45
6	MAV51CP501	TURNING GEAR OIL PRESSURE	IR9	LUBE OIL	PG	10	8	KG/CM2	50

IR-10

S.NO	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	MAV21CP511	MAIN OIL PUMP SUCTION PRESS.BEFORE INJTN.1	IR10	LUBE OIL	PG	16	6.0	KG/CM2	<60
2	MAV21CP512	MAIN OIL PUMP SUCTION PRESSUREBEFORE INJTN.2	IR10	LUBE OIL	PG	16	6.0	KG/CM2	<60
3	MAV21CP521	MAIN OIL PUMP SUCTION PRESS.AFTER INJECTOR1	IR10	LUBE OIL	PG	15	0.5	KG/CM2	<60
4	MAV21CP522	MAIN OIL PUMP SUCTION PRESS.AFTER INJECTOR 2	IR10	LUBE OIL	PG	15	0.2	KG/CM2	<60
5	MAV31CP501	JACK OIL BEH PUMP 1	IR10	LUBE OIL	PG	250	2.3	KG/CM2	<60
6	MAV33CP501	JACK OIL BEH PUMP 2	IR10	LUBE OIL	PG	250		KG/CM2	
7	MAV35CP001	JACKING OIL PUMP DISCHARGEHEADER PRESSURE	IR10	LUBE OIL	PT	250	180	KG/CM2	<60
8	MAV35CP002	JACKING OIL PUMP DISCHARGEHEADER PRESSURE	IR10	LUBE OIL	PT	250	180	KG/CM2	<60

IR-11

S.NO	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	MAV21CP001	OIL PUMPS DIS- CHARGE HEADERPRESSURE	IR11	LUBE OIL	PT	10	8.4	KG/CM2	<60
2	MAV21CP002	OIL PUMPS DIS- CHARGE HEADERPRESSURE	IR11	LUBE OIL	PT	10	8.4	KG/CM2	<60
3	MAV22CP011	DIS.PRESS. OF AUX OIL PUMP-1	IR11	LUBE OIL	PS	10	7.0	KG/CM2	<60

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4	MAV22CP501	DISCHARGE PRESSOF AUXILIARYOIL PUMP-1	IR11	LUBE OIL	PG	10	7.0	KG/CM2	<60
5	MAV23CP011	DIS.PRESS. OF AUXI. OIL PUMP-2	IR11	LUBE OIL	PS	10	7.0	KG/CM2	<60
6	MAV23CP501	DISCHARGE PRESSOF AUXILIARYOIL PUMP-2	IR11	LUBE OIL	PG	10	7.0	KG/CM2	<60
7	MAV24CP011	DIS.PRESS. OF EMER. OIL PUMP	IR11	LUBE OIL	PS	10	2.3	KG/CM2	<60
8	MAV24CP501	DISCHARGE PRESSOF LUBE OILPUMP	IR11	LUBE OIL	PG	6	2.3	KG/CM2	<60
9	MAV42CP012	LUBE OIL PRESS AFTER OILCOOLERS	IR11	LUBE OIL	PS	2.5	1.5	KG/CM2	45

IR-12

S.NO	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATUR E
1	MAX16CP001	HP-CONTR. FLUIDBEH. PUMP 1	IR12	CONTROL FLUID	PT	60	32	KG/CM2	50
2	MAX16CP002	HP-CONTR. FLUIDBEH. PUMP 2	IR12	CONTROL FLUID	PT	60	32	KG/CM2	50
3	MAX16CP501	HP-CONTR. FLUIDBEH. PUMP 1	IR12	CONTROL FLUID	PG	60	32	KG/CM2	50
4	MAX16CP502	HP-CONTR. FLUIDBEH. PUMP 2	IR12	CONTROL FLUID	PG	60	32	KG/CM2	50
5	MAX18CP501	LP-CONTR. FLUIDBEH. PUMP 1	IR12	CONTROL FLUID	PG	16	8	KG/CM2	50
6	MAX18CP502	LP-CONTR. FLUIDBEH. PUMP 2	IR12	CONTROL FLUID	PG	16	8	KG/CM2	50
7	MAX31CP001	HP-CONTROL FLUID	IR12	CONTROL FLUID	PT	60	32	KG/CM2	50
8	MAX41CP001	LP-CONTROL FLUID	IR12	CONTROL FLUID	PT	16	8	KG/CM2	50
9	MAX41CP511	LP CONTROL FLUID	IR12	CONTROL FLUID	PG	16	8	KG/CM2	50

IR-13

S.NO	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATUR E
1	MAN42CP001	STEAM PRESS. AFTER LPBP-V1	IR13	STEAM	PT	60		KG/CM2	
2	MAN42CP002	STEAM PRESS. AFTER LPBP-V1	IR13	STEAM	PT	60		KG/CM2	
3	MAN52CP001	STEAM PRESS. AFTER LPBP-V2	IR13	STEAM	PT	60		KG/CM2	
4	MAN52CP002	STEAM PRESS. AFTER LPBP-V2	IR13	STEAM	PT	60		KG/CM2	
5	MAN43CF001	DIFF PRESS. ACROSS WATERINJECTION NOZZLE 1	IR13	STEAM	DPT	1800	22	mBar	35
6	MAN43CF002	DIFF PRESS. ACROSS WATERINJECTION NOZZLE 1	IR13	STEAM	DPT	1800	22	mBar	35
7	MAN53CF001	DIFF PRESS. ACROSS WATERINJECTION NOZZLE 2	IR13	STEAM	DPT	1800	22	mBar	35
8	MAN53CF002	DIFF PRESS. ACROSS WATERINJECTION NOZZLE 2	IR13	STEAM	DPT	1800	22	mBar	35

INSTRUMENT SCHEDULE

IR-1

S.NO.	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	RANGE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	MAA50CP001	HPT BLD U/STR P	IR1	STEAM	PT	(-1) - 299 BAR	291	242	bar	565
2	MAA50CP002	HPT BLD U/STR P	IR1	STEAM	PT	(-1) - 299 BAR	291	242	bar	565
3	MAA12CP021	MS C-V 1 D/STR P	IR1	STEAM	PT	0 - 300 BAR	300	245	bar	565
4	MAA14CP021	MS O/L-V D/STR P	IR1	STEAM	PT	0 - 200 BAR	200	160	bar	565

IR-2

S.NO.	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	RANGE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	LBA11CP004	MS ESV 1 U/STR P	IR2	STEAM	PT	0-300BAR	291	242	bar	565
2	LBA12CP004	MS ESV 1 U/STR P	IR2	STEAM	PT	0-300BAR	291	242	bar	565
3	LBC10CP001	CRH NRF U/STR P	IR2	STEAM	PT	(-1) - 79 BAR	73	55	bar	340
4	LBC10CP002	CRH NRF U/STR P	IR2	STEAM	PT	(-1) - 79 BAR	73	55	bar	340
5	LBC10CP003	CRH NRF U/STR P	IR2	STEAM	PT	(-1) - 79 BAR	73	55	bar	340

IR-3

S.NO.	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE		DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	MAG10CP002	CONDR 1 P	IR3	VACUUM	PT	0 - 1.3 BARABS	1	0.11	ABS	46
2	MAG10CP003	CONDR 1 P	IR3	VACUUM	PT	0 - 1.3 BARABS	1	0.11	ABS	46
3	MAG10CP004	CONDR 1 P	IR3	VACUUM	PT	0 - 1.3 BARABS	1	0.11	ABS	46
4	MAC11CP001	LPT 1 U/STR P	IR3	STEAM	PT	0 - 10 BARABS	7.5	6	ABS	282
5	MAC11CP002	LPT 1 U/STR P	IR3	STEAM	PT	0 - 10 BARABS	7.5	6	ABS	282
6	MAC11CP003	LPT 1 U/STR P	IR3	STEAM	PT	0 - 10 BARABS	7.5	6	ABS	282

IR-4

S.NO.	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE	RANGE	DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	MAG10CP012	CONDR 1 P	IR4	VACUUM	PT	0 - 1.3 BARABS	1	0.11	ABS	46
2	MAG10CP013	CONDR 1 P	IR4	VACUUM	PT	0 - 1.3 BARABS	1	0.11	ABS	46
3	MAG10CP014	CONDR 1 P	IR4	VACUUM	PT	0 - 1.3 BARABS	1	0.11	ABS	46
4	MAG10CP511	CONDR 1 PIP 1 WTR INJ P	IR4	WATER	PI	0 - 16 BAR	1	0.103	bar	46
5	MAG10CP512	CONDR 1 PIP 2 WTR INJ P	IR4	WATER	PI	0 - 16 BAR	1	0.103	bar	46

INSTRUMENT SCHEDULE

IR-5

S.NO.	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE		DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	LBQ60CP001	EXTN 6 P	IR5	STEAM	PT	(-1) - 39 BAR	29.7	24.7	bar	481
2	LBQ80CP001	EXTN 8 P	IR5	STEAM	PT	0 - 100 BAR	87	79.1	bar	387
3	LBS31CP001	EXTN 3.1 P	IR5	STEAM	PT	(-1) - 3 BAR	3.7	2.2	bar	173
4	LBS40CP001	EXTN 4 P	IR5	STEAM	PT	(-1) - 9 BAR	7.2	6.2	bar	387
5	LBS50CP001	EXTN 5 P	IR5	STEAM	PT	(-1) - 99 BAR	16	13.2	bar	387

IR-6

S.NO.	KKS	DESCRIPTION	Mounting	MEDIUM	INSTRUMENT TYPE		DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	LBG30CP011	SS SUP-V U/STR P	IR6	STEAM	PT	0 - 16 BAR	14	12	bar	295
2	LBG30CP012	SS SUP-V U/STR P	IR6	STEAM	PT	0 - 16 BAR	14	12	bar	295
3	LBS20CP001	EXTN 2 P	IR6	STEAM	PT	(-1) - 3 BAR	1.25	1.02	bar	103
4	MAW20CP001	SS MFLD P	IR6	STEAM	PT	(-10) - 90 Mbar	900	1.013	mmwc	540
5	MAW20CP002	SS MFLD P	IR6	STEAM	PT	(-10) - 90 Mbar	900	1.013	mmwc	540

IR-7

S.NO.	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE		DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	LBB21CP001	IPS B/P-V 1 U/STR P	IR7	STEAM	PT	0 - 80 BAR	72	50	bar	593
2	LBB21CP002	IPS B/P-V 1 U/STR P	IR7	STEAM	PT	0 - 80 BAR	72	50	bar	593
3	LBB22CP001	IPS B/P-V 2 U/STR P	IR7	STEAM	PT	0 - 80 BAR	72	50	bar	593
4	LBB22CP002	IPS B/P-V 2 U/STR P	IR7	STEAM	PT	0 - 80 BAR	72	50	bar	593
5	MAB50CP001	IPT BLD U/STR P	IR7	STEAM	PT	(-1) - 59 BAR	72	50	bar	593

IR-8

S.NO.	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE		DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	LBB11CP004	INTCPT ESV 1 U/STR P	IR8	STEAM	PT	0 - 80 BAR	72	50	bar	593
2	LBB11CP005	INTCPT ESV 1 U/STR P	IR8	STEAM	PT	0 - 80 BAR	72	50	bar	593
3	LBB12CP004	INTCPT ESV 2 U/STR P	IR8	STEAM	PT	0 - 80 BAR	72	50	bar	593
4	LBB12CP005	INTCPT ESV 2 U/STR P	IR8	STEAM	PT	0 - 80 BAR	72	50	bar	593

INSTRUMENT SCHEDULE

IR-9

S.NO.	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE		DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	MAN52CP011	LPBP-V D/STR P	IR9	STEAM	PT	(-1) - 44 BAR	44		bar	150
2	MAN55CP011	LPBP-V 2 D/STR P	IR9	STEAM	PT	(-1) - 44 BAR	44		bar	150
3	MAN53CF001	LPBP INJ WTR F	IR9	WATER	DPT	0 - 1800 mBAR	180	22	mbar	35
4	MAN53CF002	LPBP INJ WTR F	IR9	WATER	DPT	0 - 1800 mBAR	180	22	mbar	35
5	MAN53CF003	LPBP INJ WTR F	IR9	WATER	DPT	0 - 1800 mBAR	180	22	mbar	35

IR-10

S.NO.	KKS	DESCRIPTION	IR	MEDIUM	INSTRUMENT TYPE		DESIGN PRESSURE	OPERATING PRESSURE	UNIT	OPERATING TEMPERATURE
1	MAN56CF001	LPBP INJ WTR F	IR10	WATER	DPT	0 - 1800 mBAR	1800	22	mbar	35
2	MAN56CF002	LPBP INJ WTR F	IR10	WATER	DPT	0 - 1800 mBAR	1800	22	mbar	35
3	MAN56CF003	LPBP INJ WTR F	IR10	WATER	DPT	0 - 1800 mBAR	1800	22	mbar	35
4	QFB01CP001	C-AIR MFLD P	IR10	AIR	PT	0 - 10 BAR	10	8	bar	45

COMMISSIONING SPARES FOR LOCAL INSTRUMENT RACKS (LIRs)

Sl. No.	ITEM DESCRIPTION	TOTAL QTY. IN 1 UNIT	Quantity Required	Unit
1	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM S.S. 316 / PR. TESTING 3000 PSI.	68	1	no
2	FORGED GLOBE VALVE/ BODY ASTM A182 F22/ASTM ASTM A182 Gr-F6A/ SIZE 1/2" NB SW/ CL 3000 SPL.	95	1	no
3	FORGED TEE/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	69	3	no
4	HALF COUPLING/ASTM A105/SIZE 1/2" NB SW / CL 3000 lbs.	64	3	no
5	TEE TUBE UNION/ SS316 / SIZE OD OF 1/2" NB SW x TO SUIT 1/2" OD S.S. TUBE.	94	3	no
6	TUBE FITTING DOUBLE FERRULE DOUBLE COMPRESSION/ MAT. SS316/ SIZE 1/2" NPTM x TO SUIT 1/2" OD S.S. TUBE.	228	10	no
7	SEAMLESS SS TUBE, ASTM A213 TP 316L/SIZE 1/2" OD, THICK 2.1mm	A/R	20	MTR.

TECHNICAL REQUIREMENTS:-

1. ALL THE COMMISSIONING SPARES SHALL BE MANUFACTURED & SUPPLIED CORRESPONDING TO THE MAIN EQUIPMENT.
2. INTERCHANGEABILITY OF ALL THE SPARES WITH THEIR RESPECTIVE PARTS FOR WHICH THEY ARE INTENDED FOR REPLACEMENTS, SHALL BE ENSURED BY THE SUPPLIER.
3. ALL THE SPARES MUST BE PACKED IN SEALED TRANSPARENT PLASTIC BAGS AND CLEARLY MARKED OR LABELED ON THE OUTSIDE OF THE PACKING WITH ITS DESCRIPTION & ASSEMBLY PART NUMBERS.
4. QUALITY CHECKS & TESTING NORMS/REQUIREMENTS FOR SPARES SHALL BE AS PER APPROVED QUALITY PLAN (QP) APPLICABLE FOR THE MAIN EQUIPMENT.
5. OFFERED ITEMS SHALL BE CORRELATED WITH THE ITEMS MENTIONED IN THIS DRAWING & WITH RESPECTIVE BOM OF MAIN EQUIPMENT DRAWING
6. UNIT PRICE OF EACH SPARE TO BE FURNISHED ALONGWITH OFFER

MAT. CODE:- W99318130058

00	09.02.16	418130D5001	SS Sd/-	VK Sd/-	BSR Sd/-
Rev	Date	DOC. NO.	PRPD. BY	CHKD. BY	APPD. BY

COMMISSIONING SPARES FOR LOCAL INSTRUMENT RACKS (LIRs)

Sl. No.	ITEM DESCRIPTION	TOTAL QTY. IN 1 UNIT	Quantity Required	Unit
1	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM S.S. 316 / PR. TESTING 3000 PSI.	41	1	no
2	FORGED GLOBE VALVE/ BODY ASTM A182 F22/ASTM ASTM A182 Gr-F6A/ SIZE 1/2" NB SW/ CL 3000 SPL.	52	1	no
3	FORGED TEE/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	24	3	no
4	HALF COUPLING/ASTM A105/SIZE 1/2" NB SW / CL 3000 lbs.	45	3	no
5	TEE TUBE UNION/ SS316 / SIZE OD OF 1/2" NB SW x TO SUIT 1/2" OD S.S. TUBE.	71	3	no
6	TUBE FITTING DOUBLE FERRULE DOUBLE COMPRESSION/ MAT. SS316/ SIZE 1/2" NPTM x TO SUIT 1/2" OD S.S. TUBE.	186	10	no
7	IMPULSE PIPE/ ASME SA213, Gr-T-91 /SIZE 1/2" NB/SCH-XXS. (21.3X7.47)	A/R	20	MTR.

TECHNICAL REQUIREMENTS:-

1. ALL THE COMMISSIONING SPARES SHALL BE MANUFACTURED & SUPPLIED CORRESPONDING TO THE MAIN EQUIPMENT.
2. INTERCHANGEABILITY OF ALL THE SPARES WITH THEIR RESPECTIVE PARTS FOR WHICH THEY ARE INTENDED FOR REPLACEMENTS, SHALL BE ENSURED BY THE SUPPLIER.
3. ALL THE SPARES MUST BE PACKED IN SEALED TRANSPARENT PLASTIC BAGS AND CLEARLY MARKED OR LABELED ON THE OUTSIDE OF THE PACKING WITH ITS DESCRIPTION & ASSEMBLY PART NUMBERS.
4. QUALITY CHECKS & TESTING NORMS/REQUIREMENTS FOR SPARES SHALL BE AS PER APPROVED QUALITY PLAN (QP) APPLICABLE FOR THE MAIN EQUIPMENT.
5. OFFERED ITEMS SHALL BE CORRELATED WITH THE ITEMS MENTIONED IN THIS DRAWING & WITH RESPECTIVE BOM OF MAIN EQUIPMENT DRAWING
6. UNIT PRICE OF EACH SPARE TO BE FURNISHED ALONGWITH OFFER

MAT. CODE:- W99318130040

00	12.10.15	418130D7001	SS Sd/-	VK Sd/-	BSR Sd/-
Rev	Date	DOC. NO.	PRPD. BY	CHKD. BY	APPD. BY

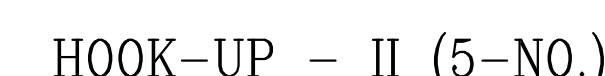
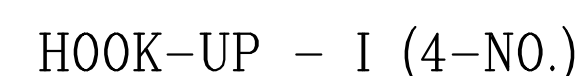
MANDATORY SPARES LOCAL INSTRUMENT RACKS (LIRs)

		DRAWING No. 11335363010 (IR-1 & IR-2)		DRAWING No. 21335460010 (IR-3 & IR-4)		DRAWING No. 21335562010 (IR-5 & IR-6)		DRAWING No. 21335660010 (IR-7 & IR-8)		DRAWING No. 21336060510 (IR-9 & IR-10)				QUANTITY TO BE OFFERED
Sl. No.	ITEM DESCRIPTION	ITEM No.	QTY.	ITEM No.	QTY.	ITEM No.	QTY.	ITEM No.	QTY.	ITEM No.	QTY.	TOTAL QTY. IN 1 UNIT	APPLICABLE SPARE QTY. TO BE SUPPLIED IN 1 UNIT (10%)	APPLICABLE SPARE QTY. TO BE SUPPLIED IN 2 UNITS (10%)
1	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM S.S. 316 / PR. TESTING 3000 PSI.	3	9	3	9	3	11	NA	0	3	3	32	4	8
2	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 9000PSI	NA	0	NA	0	NA	0	3	9	NA	0	9	1	2
3	FIVE VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 3000PSI	NA	0	NA	0	NA	0	NA	0	3A	6	6	1	2
4	FORGED GLOBE VALVE/ BODY ASTM A182 F22/ASTM ASTM A182 Gr-F6A/ SIZE 1/2" NB SW/ CL 3000 SPL.	4	24	NA	0	NA	0	4	22	NA	0	46	5	10
5	FORGED GLOBE VALVE/ BODY ASTM A105/STEM ASTM A182 Gr-F6A/ SIZE 1/2" NB SW/ CL 800.	NA	0	4	6	4	10	NA	0	4	26	42	5	10
6	FORGED GLOBE VALVE/ BODY ASTM A336 Gr. F91 CAS: X10 CrMOVNB9-1 OR EQUIVALENT.	4A	20	NA	0	NA	0	14	4	NA	0	24	3	6
7	THREE WAY GAUGE COCK/SS316/SIZE 1/2" NPTFx1/2"OD S.S. TUBE.	13	5	13	4	NA	0	13	3	NA	0	12	2	4

TECHNICAL REQUIREMENTS:-

1. ALL THE MANDATORY SPARES SHALL BE MANUFACTURED & SUPPLIED CORRESPONDING TO THE MAIN EQUIPMENT.
2. INTERCHANGEABILITY OF ALL THE SPARES WITH THEIR RESPECTIVE PARTS FOR WHICH THEY ARE INTENDED FOR REPLACEMENTS, SHALL BE ENSURED BY THE SUPPLIER.
3. ALL THE SPARES MUST BE PACKED IN SEALED TRANSPARENT PLASTIC BAGS AND CLEARLY MARKED OR LABELED ON THE OUTSIDE OF THE PACKING WITH ITS DESCRIPTION & ASSEMBLY PART NUMBERS.
4. QUALITY CHECKS & TESTING NORMS/REQUIREMENTS FOR SPARES SHALL BE AS PER APPROVED QUALITY PLAN (QP) APPLICABLE FOR THE MAIN EQUIPMENT.
5. OFFERED ITEMS SHALL BE CORRELATED WITH THE ITEMS MENTIONED IN THIS DRAWING & WITH RESPECTIVE BOM OF MAIN EQUIPMENT DRAWING.
6. UNIT PRICE OF EACH SPARE TO BE FURNISHED ALONGWITH OFFER

MATERIAL CODE :-W99318130015					
00	16.03.2015	418130D8001	S.Singh (Sd/-)	V.Kumar (Sd/-)	B.S.Rana (Sd/-)
Rev	Date	DOC. NO.	Prepared By	Agreed By	Approved By

[illegible]

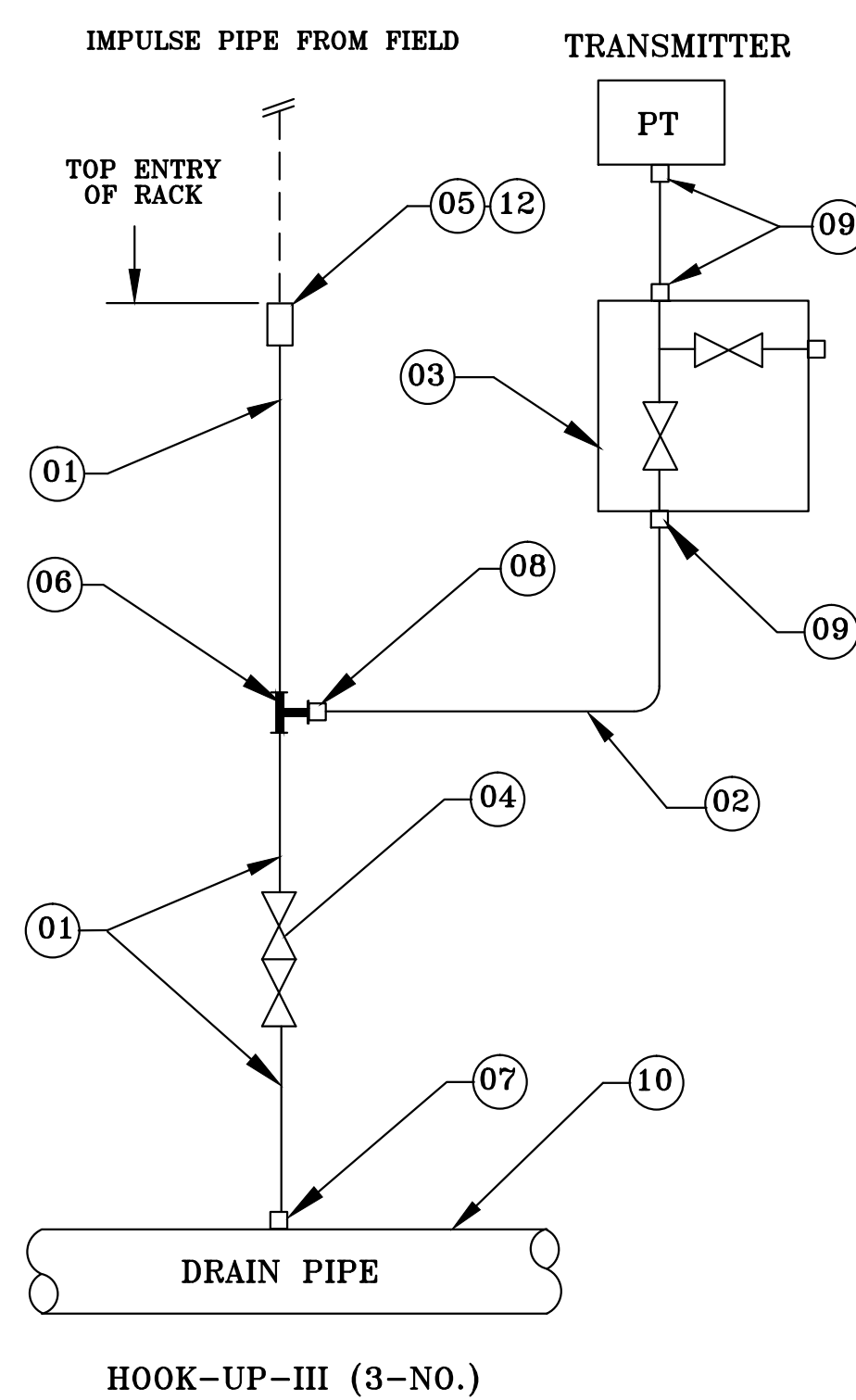
मंजोधन REV.	दिनांक DATE	कार्यकर्ता ALTERED BY जयशर्मा CHD	मंजोधन REV.	दिनांक DATE	कार्यकर्ता ALTERED BY जयशर्मा CHD

विभाग DEPTT.	STE		माप/SCALE N.T.S.	भार कि.ग्रा. WEIGHT (KG) 225	असेम्बली अभिकल्प का संदर्भ REFER TO ASSLY. DRG.	नाम क्रमांक ITEM NO.	मालिक का क्रमांक NO. OF ITE
कूट/CODE	4011						

ASSEMBLED RACK FOR
FRE INSTRUMENTS.

अभिकल्प संख्या/DRAWING NO.	
1133525301022	
अक्षर संख्या/Char. No.	अक्षरों की संख्या/Char. No.

आवृत्ति क्र. मंज्या / INVENTORY NO	कर्मचारी और तिथि / SIGN & DATE	संश्लेषण अधिकारी मंज्या / REFERENCE DRG.NO.
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विभाग DEPT.	STE		माप/SCALE	भार कि.ग्रा. WEIGHT (KG)	असेम्बली अभिकल्प का संदर्भ REFER TO ASS'LY. DRG.	मा क्रमिक ITEM NO.	पृ. सं. NO. OF
कूट/CODE	4011		N.T.S.	200			
नामक/TITLE ASSEMBLED RACK FOR M.S. PRESSURE INSTRUMENTS.					अभिकल्प संख्या/DRAWING NO. 11335353019		23

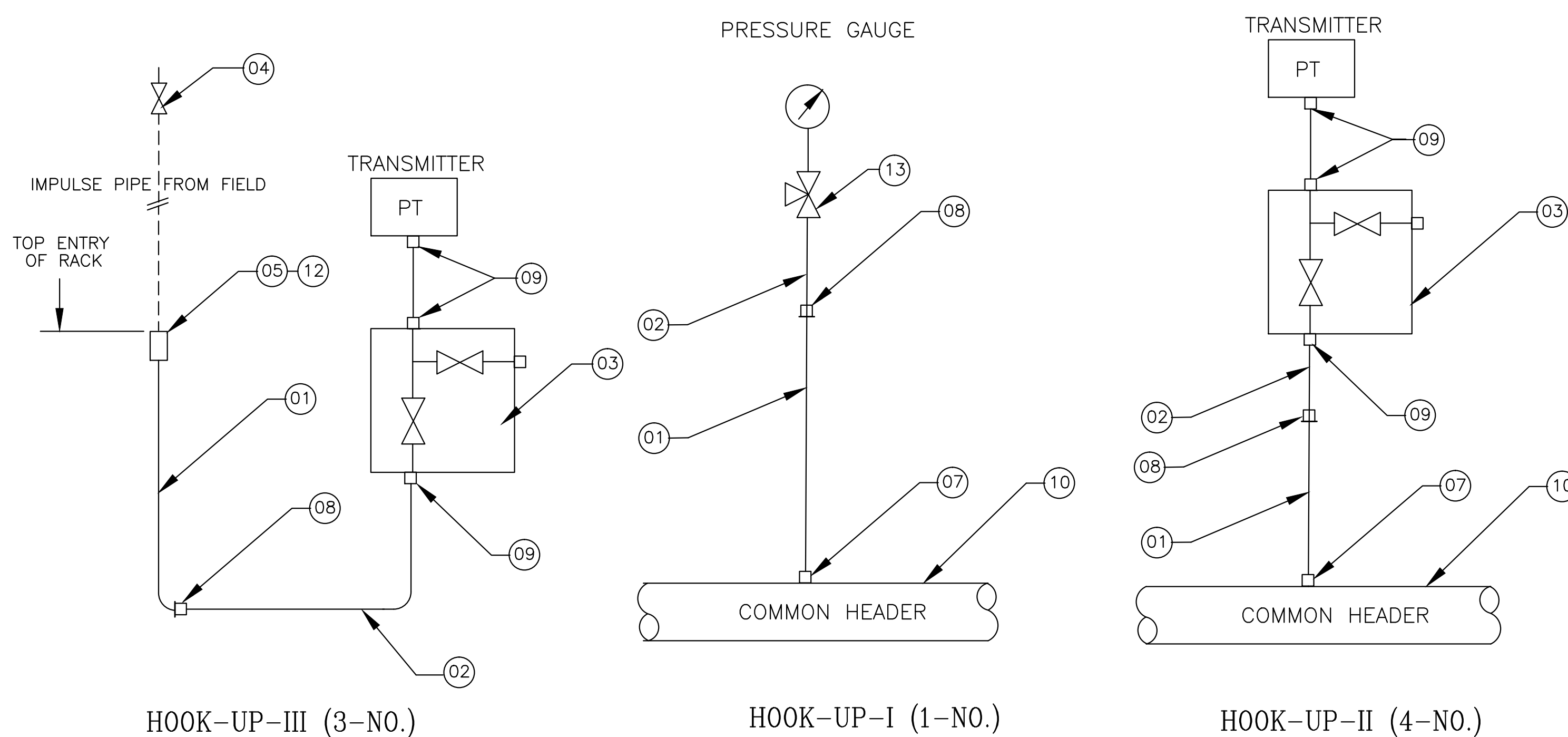
INSTRUMENT RACK NO. 01.(VAR.-00)
(TYPE-A)

00	W90318130025
VAR.NO.	MATERIAL CODE

[illegible]

शीर्षक/TITLE	ASSEMBLED RACK FOR M.S. PRESSURE INSTRUMENTS.	अभिकल्प संख्या/DRAWING NO.	11335353010	23
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पुस्तक संख्या / INVENTORY NO.	कलाकार और चित्रण / SIGN & DATE	संशोधित अभिलेख संख्या / REFERENCE DRG.NO.
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IR NO. 02

	PRESSURE TRANSMITTER/PRESSURE GAUGE/PRESSURE SWITCH		BHEL SCOPE
13	THREE WAY GAUGE COCK/ SS316/ SIZE 1/2" NPTFx1/2" OD SS TUBE	01	
12	CAP NUT FOR BULK HEAD ASTM A105	03	
10	COMMON HEADER/ CS ASTM A106 Gr-C / SIZE 3" NB/ SCH-80(88.9X4)	01	
09	TUBE FITTING DOUBLE FERRULE DOUBLE COMPRESSION/ MAT. SS316/ SIZE 1/2" NPTM x TO SUIT 1/2" OD SS TUBE	21	
08	TEE TUBE UNION/ SS316 / SIZE OD OF 1/2" NB SW x TO SUIT 1/2" OD SS TUBE	08	
07	HALF COUPLING/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	05	
05	BULK HEAD/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	03	
04	FORGED GLOBE VALVE/ BODY ASTM A105/STEM ASTM A182 Gr-F6A/ SIZE 1/2" NB SW/ CL 800	03	
03	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 3000PSI	07	
02	SEAMLESS SS TUBE, ASTM A213 TP 316H/SIZE 1/2" OD, THICK 2.1mm	A/R	
01	IMPULSE PIPE/ ASTM A106, Gr-C /SIZE 1/2" NB/SCH-80	A/R	
ITEM	DESCRIPTION	QTY.	REMARKS

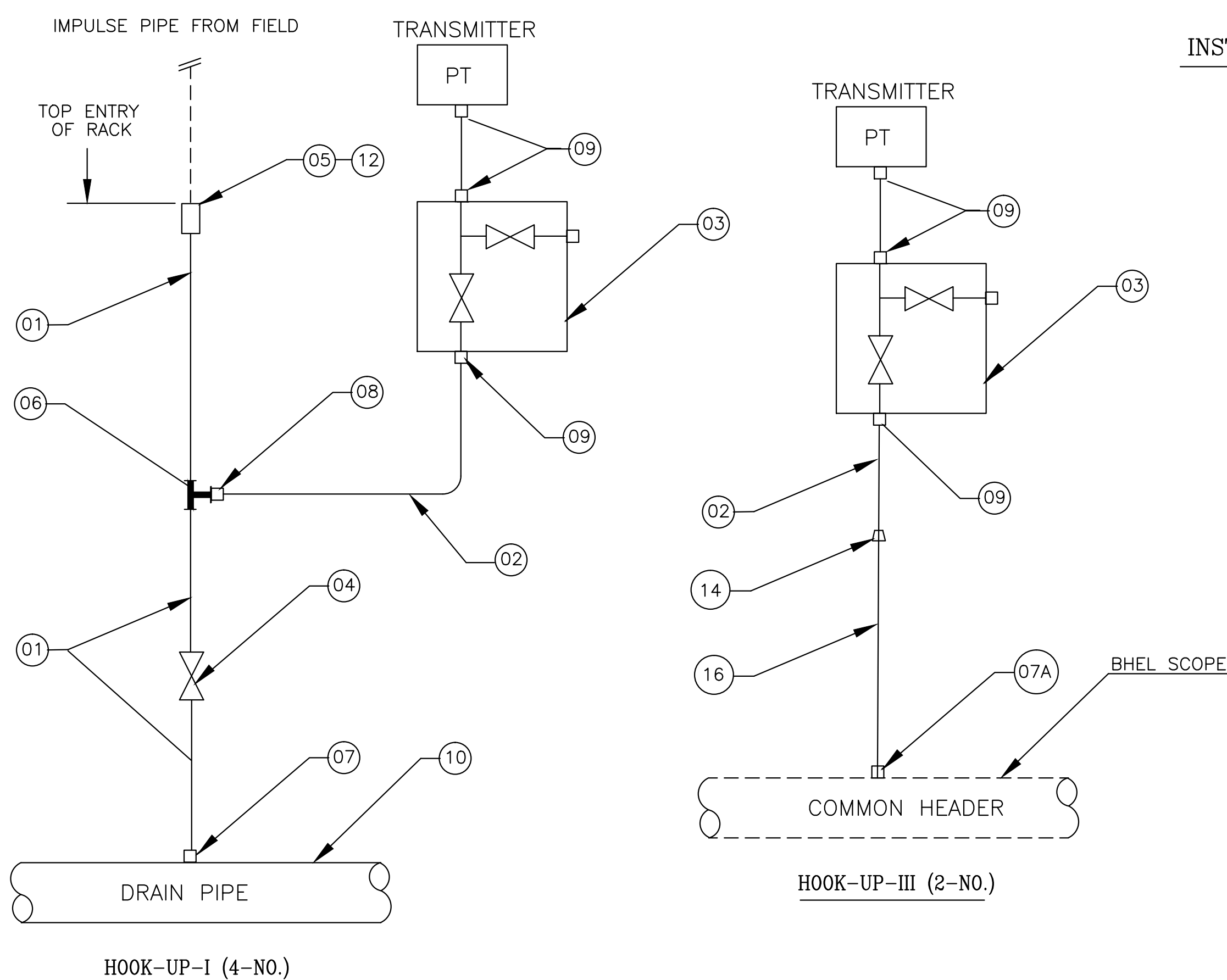
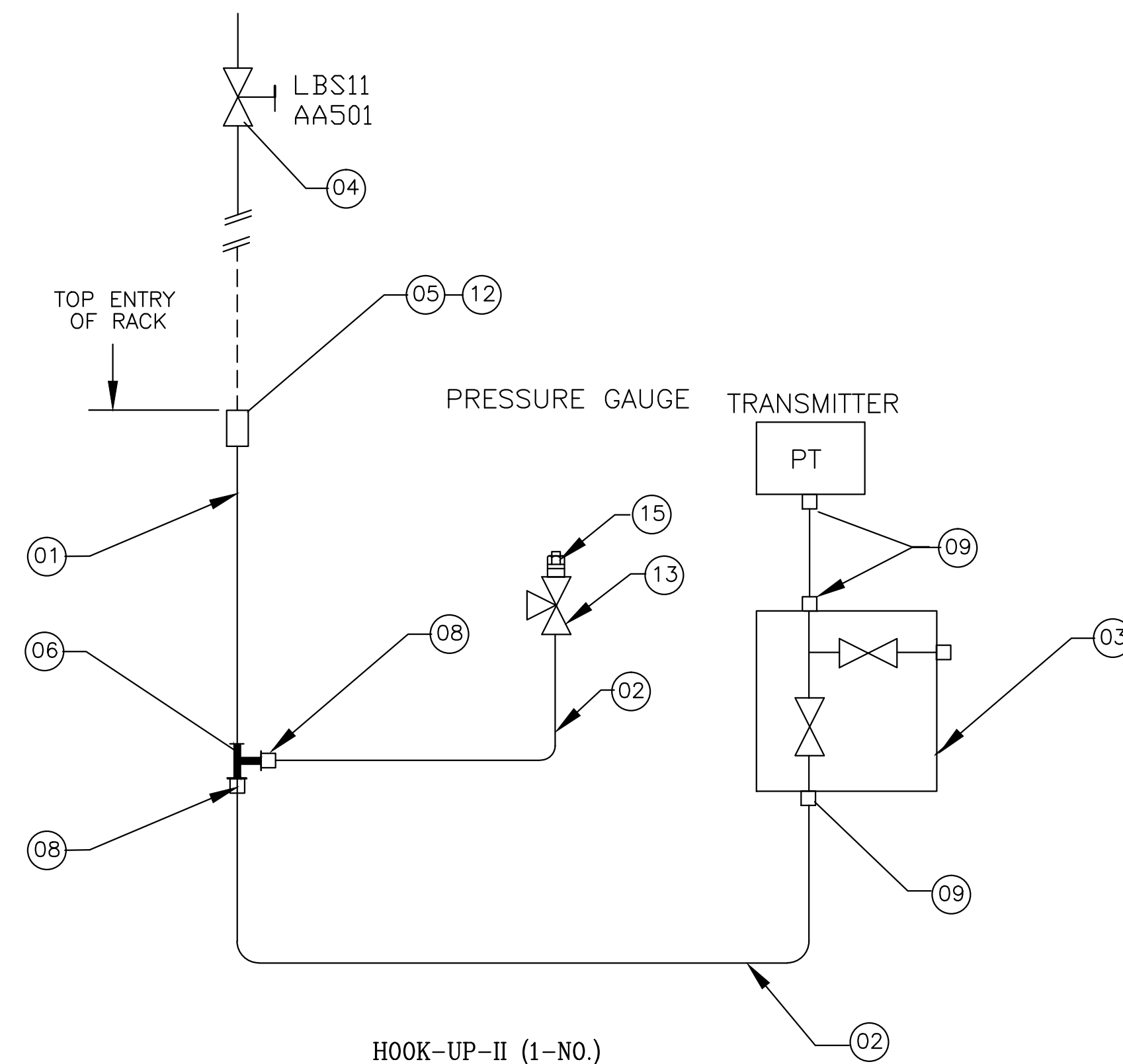
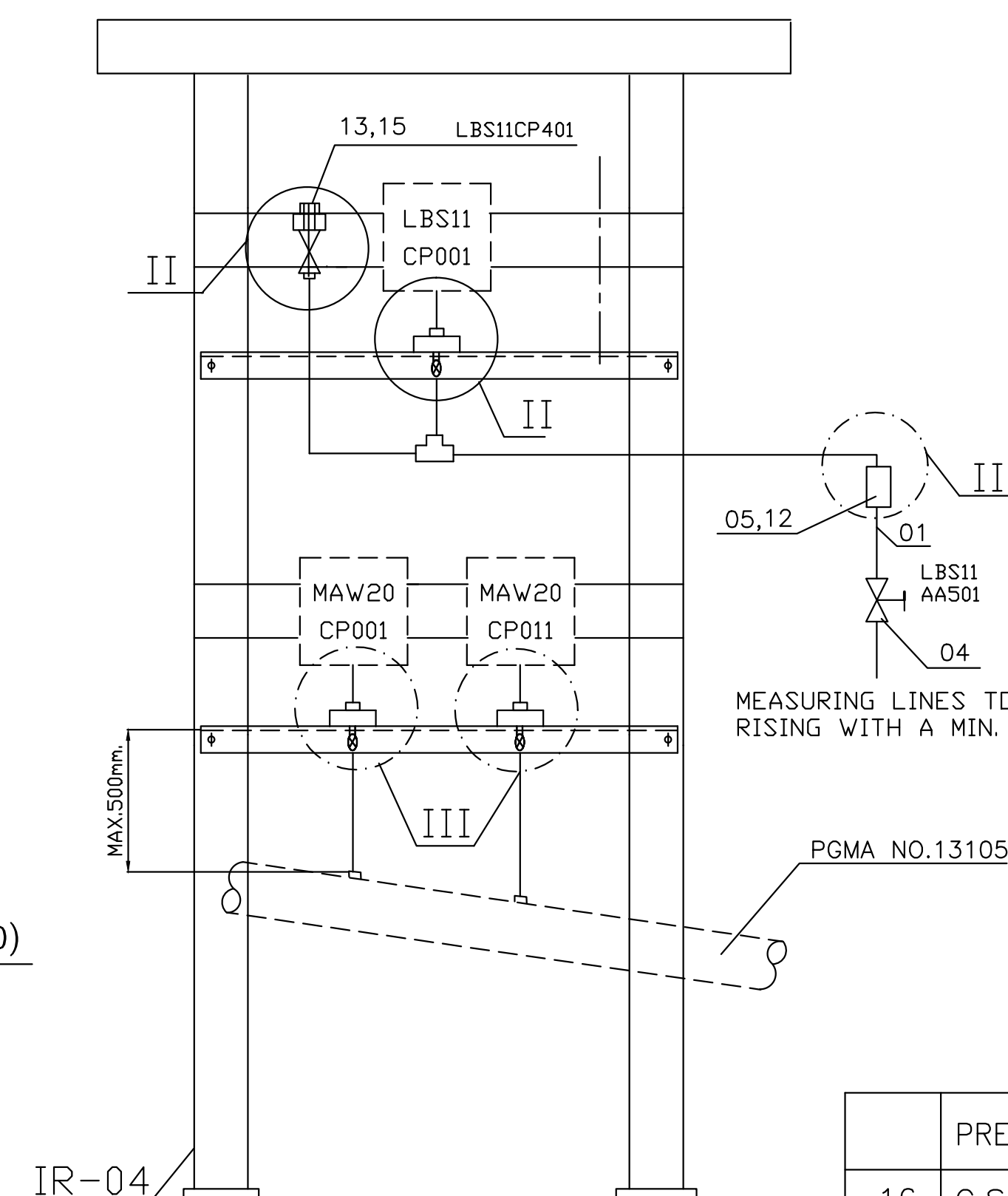
00	W90318130033
VAR.NO.	MATERIAL CODE

अमृत्य विभागों का वर्ग		मो.बी.ओ.एच./C.B.O.M.	ऑफिस का पता
GRADE OF UNO/FLORANCED DIMENSION		21335453000	उपस्थिति का पता
मशीनरी - एए0020008 एच	मशीनरी	नाम/NAME	दिनांक/DATE
MACHINING - AA0230208 m	APPROVED	SIGN.	
वेल्डिंग - एए0621104 को थियो बी			
WELDING-CLASS 'B' OF AA0621104			
गैस काटिंग - एए0621101 को माथगा 3			
GAS CUTTING-TABLE 3 OF AA0621101			

उत्पाद का प्रकार या ग्राहक/परियोजना का नाम		STEAM TURBINE				
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT						
	भारत हेवी इलेक्ट्रिकल्स लिमिटेड, रानीपुर, हरिद्वार	वॉ. /NAME	हस्ताक्षर /SIGN	दिनांक /DATE	दिनांक /Date	
	BHARAT HEAVY ELECTRICALS LIMITED, RANIPUR, HARDWAR	वॉ. /NAME	SSTEVSJB	SSTEVSJB	09/11/2010	
		वॉ. /NAME	SSTEVK	SSTEVK	10/11/2010	
		वॉ. /NAME	ASSTEKR	ASSTEKR	18/11/2010	
		वॉ. /NAME				

पद्या DEPT.	STE		माप/SCALE	भार कि.ग्रा. WEIGHT (KG)	असेम्बली अफ़्टर ड्राग मंदरं REFER TO ASSLY. DRG.	सामक ITEM NO.	प्रां NO. ITEM
कूट/CODE	4011		N.T.S.	215			
अफ़क/TITLE					अफ़कक संख्या/DRAWING NO.		
ASSEMBLED RACK FOR CONDENSER INSTRUMENTS.					11335453010		
					पृथ संख्या/Sheets No.1		
					पृथ संख्या/No. of Sheets 1		

गुणवत्ता गुण गुणवत्ता /INVENTORY NO	समाचार और निष्कर्ष/SGN & DATE	मार्गदर्शक अभियन्ता संख्या /REFERENCE DRG NO.
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	PRESSURE TRANSMITTER/PRESSURE GAUGE/PRESSURE SWITCH		BHEL SCOPE
16	C.S. TUBE/CS ASTM A106 Gr.-C/SIZE Ø33.7X3.38/SCH-80	01	
15	PLUG ASTM A105/SIZE 1/2" NPTM	01	
14	REDUCER ASTM 105 (33.7X3.38X21.3X2.6) CL 3000lbs	01	
13	THREE WAY GAUGE COCK/ SS316/ SIZE 1/2" NPTFx1/2" OD SS TUBE		
12	CAP NUT FOR BULK HEAD ASTM A105	05	
11	CAP NUT FOR HALF COUPLING ASTM A105	01	
10	DRAIN PIPE/ CS ASTM A106 Gr-C / SIZE 2" NB/ SCH-80	01	
09	TUBE FITTING DOUBLE FERRULE DOUBLE COMPRESSION/ MAT. SS316/ SIZE 1/2" NPTM x TO SUIT 1/2" OD SS TUBE	21	
08	TEE TUBE UNION/ SS316 / SIZE OD OF 1/2" NB SW x TO SUIT 1/2" OD SS TUBE	06	
07A	HALF COUPLING/ASTM A105/SIZE 3" NB SW / CL 3000lbs	02	
07	HALF COUPLING/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	05	
06	FORGED TEE/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	05	
05	BULK HEAD/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	05	
04	FORGED GLOBE VALVE/ BODY ASTM A105/STEM ASTM A182 Gr-F6A/ SIZE 1/2" NB SW/ CL 800	05	
03	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 3000PSI	07	
02	SEAMLESS SS TUBE, ASTM A213 TP 316H/SIZE 1/2" OD, THICK 2.1mm	A/R	
01A	IMPULSE PIPE/ ASTM A106, Gr-C /SIZE 1" NB/SCH-80	A/R	
01	IMPULSE PIPE/ ASTM A106, Gr-C /SIZE 1/2" NB/SCH-80	A/R	
ITEM	DESCRIPTION	QTY	REMARKS

01	W90318130050
00	W90318130041
VAR.NO.	MATERIAL CODE

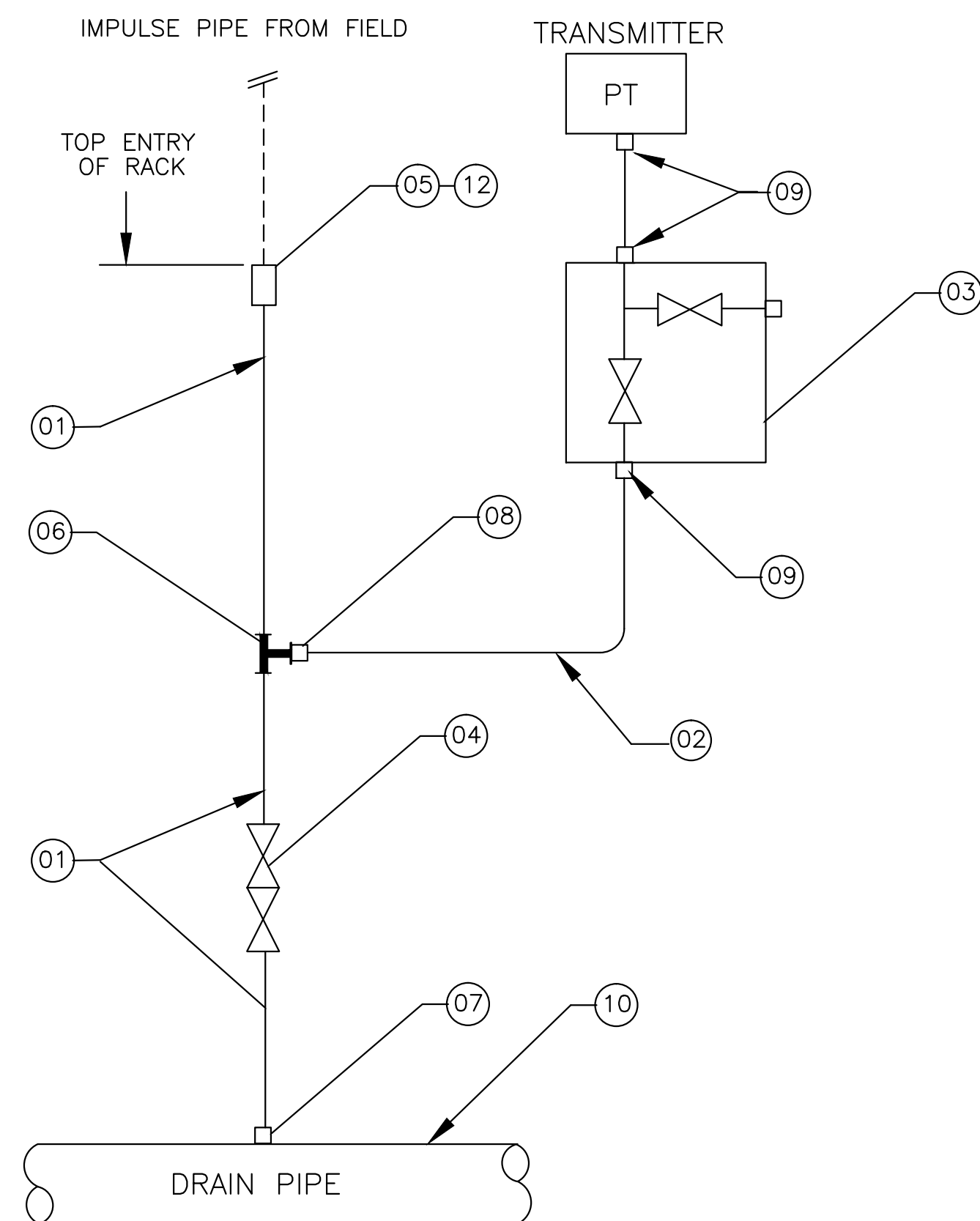
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GRADE OF UNFOLTERED DIMENSION		21335553000	STATUS OF DEC U
मशीनरी - एए0230208 ए		मौ. वि. ओ. ए./C.B.O.M.	जोड़क का न्यून
MACHINING - AA0230208 m		मौ. वि. ओ. ए./C.B.O.M.	जोड़क का न्यून
वेल्डिंग - एए0621104 को थोपा		मौ. वि. ओ. ए./C.B.O.M.	जोड़क का न्यून
WELDING-CLASS 'B' OF AA0621104		मौ. वि. ओ. ए./C.B.O.M.	जोड़क का न्यून
गैस कटिंग - एए0621101 को मशीन 3		मौ. वि. ओ. ए./C.B.O.M.	जोड़क का न्यून
GAS CUTTING-TABLE 3 OF AA0621101		मौ. वि. ओ. ए./C.B.O.M.	जोड़क का न्यून

उत्पाद का प्रकार या ग्राहक/परियोजना का नाम TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		STEAM TURBINE	
 भारत हेवी इलेक्ट्रिकल्स लिमिटेड, रानीपुर, हरिद्वार BHARAT HEAVY ELECTRICALS LIMITED, RANIPUR, HARDWAR	विकासकर्ता/नाम/NAME	हस्ताक्षर/SIGN	दिनांक/DATE
	संस्थापक/STEVEK	STEVEK	09/11/2010
	संस्थापक/STEVEK	STEVEK	10/11/2010
	संस्थापक/STEVEK	STEVEK	18/11/2010

संशोधन REV.	दिनांक DATE	संशोधन ALTERED BY	संशोधन REV.	दिनांक DATE	संशोधन ALTERED BY	विभाग DEPTT.	STE		माप/SCALE M.T.S.	भार कि.ग्रा. WEIGHT (KG)	असेम्बली अभिकल्प का संदर्भ REFER TO ASSLY. DRG.	नाम क्रमांक ITEM NO.	पंजी क्र. का NO. OF ITEM
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Q.C./CODE 4011	N.I.S.	155	अभिकल्प गंध्या/DRAWING NO.
ASSEMBLED RACK FOR EXTN.LINE & GLAND SEAL INSTRUMENTS.			11335553010
			प्राप्त संगणक अंकित No.1 जारी की तिथि संगणक No. of Sheet.1

प्राणी संख्या / INVENTORY NO.	डिपॉजिट डेटा / DATE	मंदिराज अंगिकाय संख्या / REFERENCE DRG.NO.
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H00K-UP-I (6-NO.)

	PRESSURE TRANSMITTER/PRESSURE GAUGE/PRESSURE SWITCH		BHEL SCOPE
12	CAP NUT FOR BULK HEAD ASTM A105	6	
11	CAP NUT FOR HALF COUPLING ASTM A105	6	
10	DRAIN PIPE/ CS ASTM A106 Gr-C / SIZE 2" NB/ SCH-80	1	
09	TUBE FITTING DOUBLE FERRULE DOUBLE COMPRESSION/ MAT. SS316/ SIZE 1/2" NPTM x TO SUIT 1/2" OD SS TUBE	18	
08	TEE TUBE UNION/ SS316 / SIZE OD OF 1/2" NB SW x TO SUIT 1/2" OD SS TUBE	6	
07	HALF COUPLING/ASTM A182 GR-F22/SIZE 1/2" NB SW/CL 9000lbs	11	
06	FORGED TEE/ASTM A182 GR-F22/SIZE 1/2" NB SW / CL 9000lbs	6	
05	BULK HEAD/ASTM A182 GR-F22/SIZE 1/2" NB SW / CL 9000lbs	6	
04	FORGED GLOBE VALVE/ BODY ASTM A182 F22/STEM ASTM A182 Gr-F6A/ SIZE 1/2" NB SW/ CL 3000 SPL	12	
03	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 9000PSI	6	
02	SEAMLESS SS TUBE, ASTM A213 TP 316H/SIZE 1/2" OD, THICK 2.1mm	A/R	
01	IMPULSE PIPE/ ASTM A335, Gr-P22/ SIZE 1/2" NB / SCH-XXS	A/R	
ITEM	DESCRIPTION	QTY	REMARKS

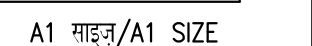
00	W90318130068
VAR.NO.	MATERIAL CODE

अभ्यर्थी विनाई का वर्ग		गो.बी.ओ.एच./C.B.O.M.	प्रमाणित अभ्यर्थी
GRADE OF UNTOLEFRANCED DIMENSION		21335653000	STATUS OF DR
मशीनरी - एए0230208 एच	आवृत्ति	नाम/NAME	दिनांक/DATE
MACHINING - AA0230208 m	AGROD, AGT1		
वेल्डिंग - एए0621104 को श्रेणी ३			
WELDING-CLASS "B" OF AA0621104			
गैस काटिंग - एए0621101 को मापण ३			
GAS CUTTING-TABLE 3 OF AA0621101			

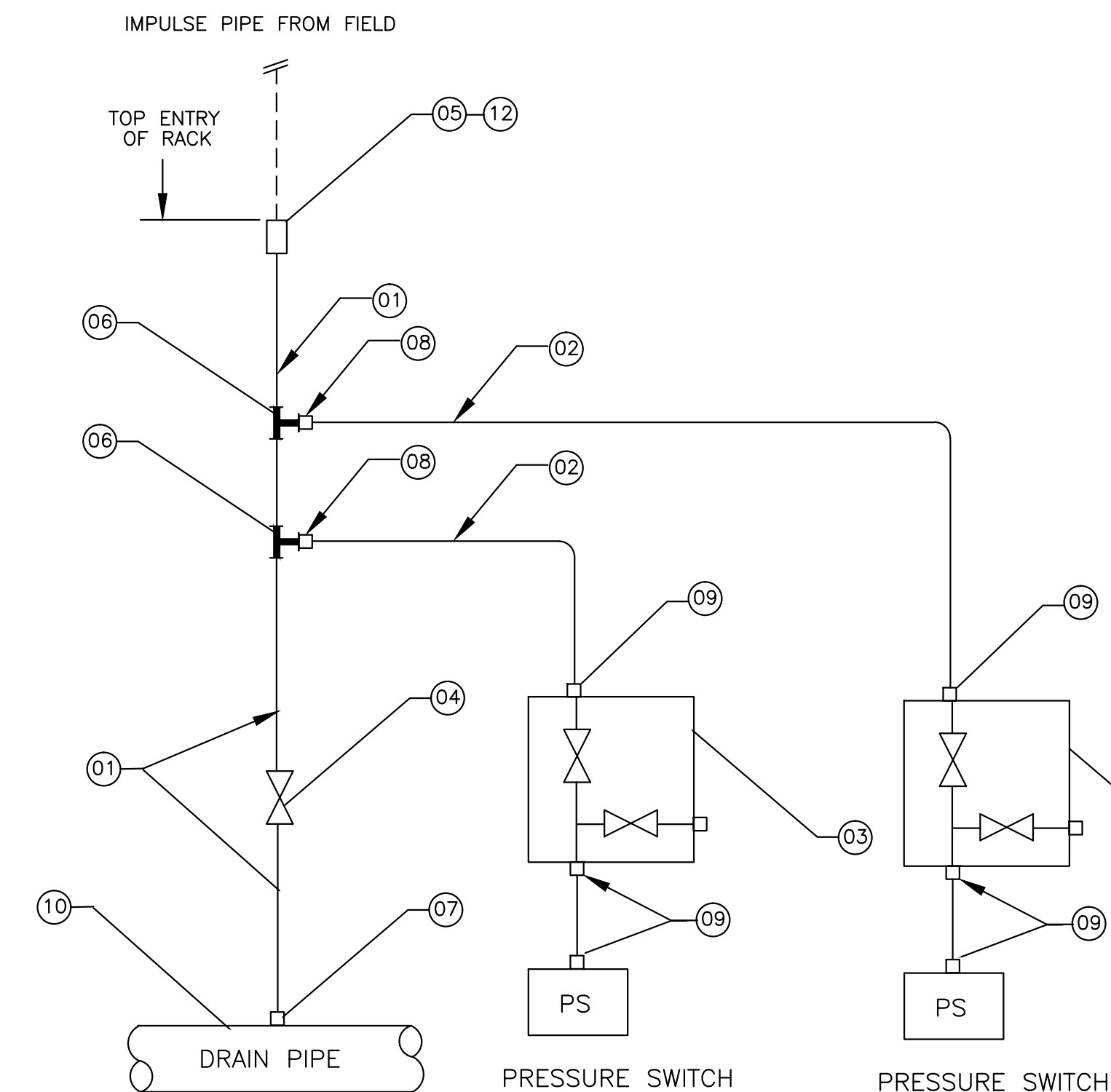
CUSTOMER PROJECT		नाम / NAME	हस्ताक्षर / SIGN	दिनांक / DATE	कॉपी नं. / No. of Ver.
	भारत हेवी इलेक्ट्रिकल लिमिटेड, राणीपुर, हरिद्वार	सहसंचालक	SSTEJSB	SSTEJSB	09/11/2010
	BHARAT HEAVY ELECTRICALS LIMITED,	प्रमुख चप	SSTEVK	SSTEVK	10/11/2010
	RANIPUR, HARDWAR	सहसंचालक	SSTFKBR	SSTFKBR	18/11/2010

भाग DEPT.	STE	माप/SCALE	माप कि.ग्रा. WEIGHT (KG)	असेम्बली अंशिक या पूर्ण REFER TO ASSLY. DRG.	मा. क्रमांक ITEM NO.	पृ. संख्या No. of ITEMS
कूट/CODE 4011		N.T.S.	210			
अंशक/TITLE	ASSY. RACK FOR HRH/MS PRESSURE INSTRUMENTS.			अंशिक संख्या/DRAWING NO. 11335653010	पृ. संख्या/Sheet No. 1	पृ. संख्या/No. of Sheets 1 2 3 24

यामगी सूची संख्या / INVENTORY NO.	रमाहर और दिनांक / SIGN & DATE	मंदीपत अगिडाय मंड्या / REFERENCE DRG.NO.
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प्राप्ति मधी मंडळा / INVENTORY NO.	हस्ताक्षर आणि दिनांक / SIGN & DATE	मंडळातील अभियंत्याचे मंडळा / REFERENCE DRG.NO.
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HOOK-UP-II (5-NO.)

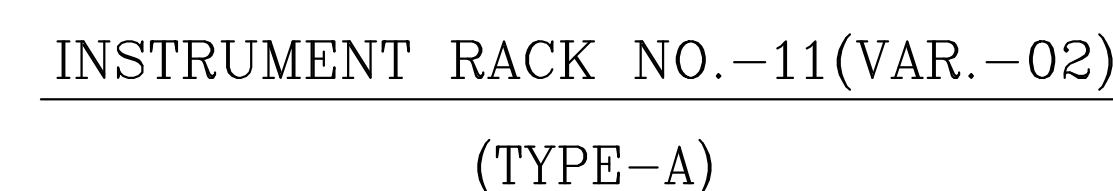
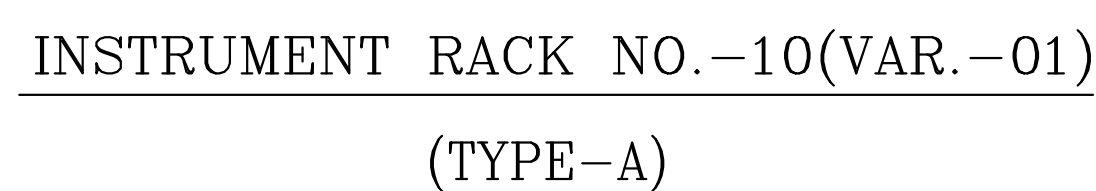


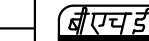
NOTE:- ITEM NO. 04 INDICATED BEYOND BULK HEAD, SHALL BE SUPPLIED AS LOOSE WITH THE ASSEMBLED RACK.

कूट/CODE 4011	17	N.T.S.	150	
शीट/PT.F	ASSEMBLED BACK FOR CONTROL			अभिकल्प संख्या/DRAWING NO.

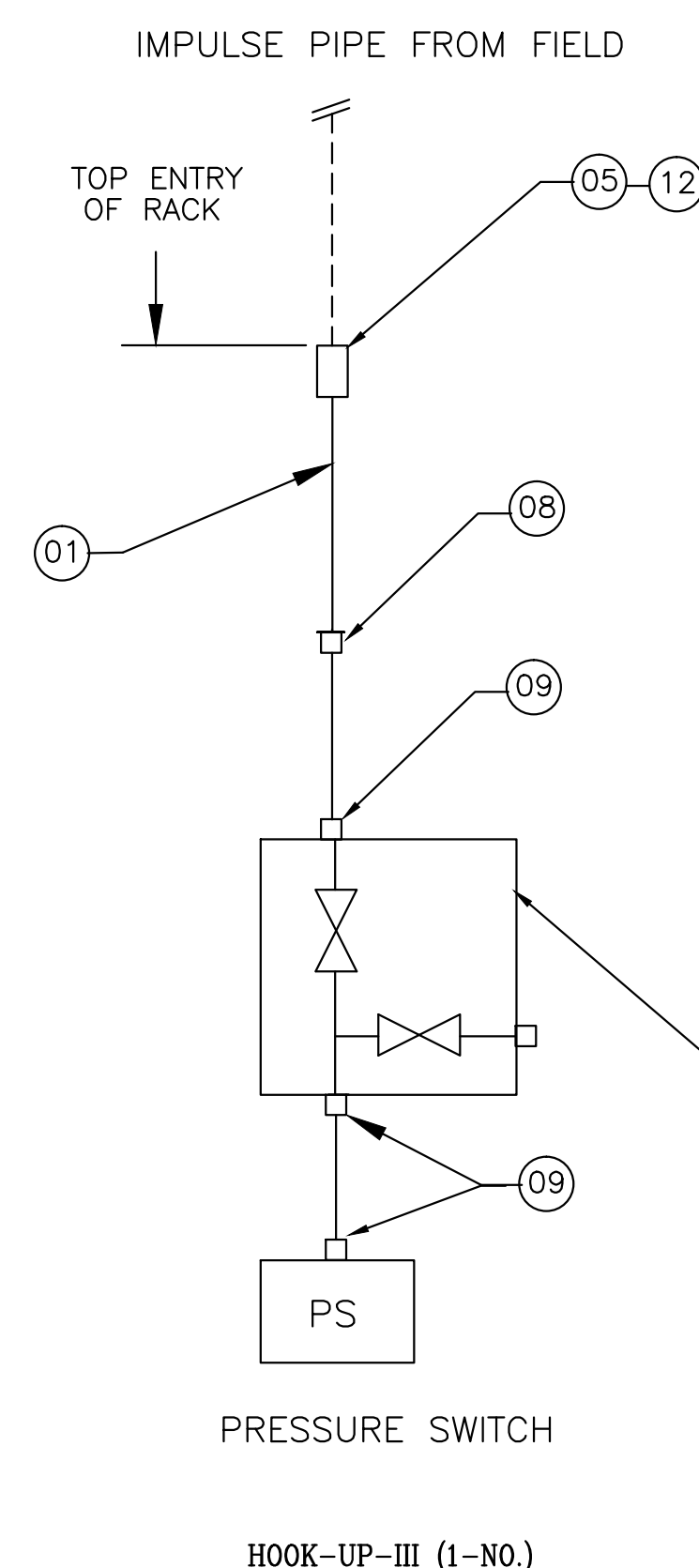
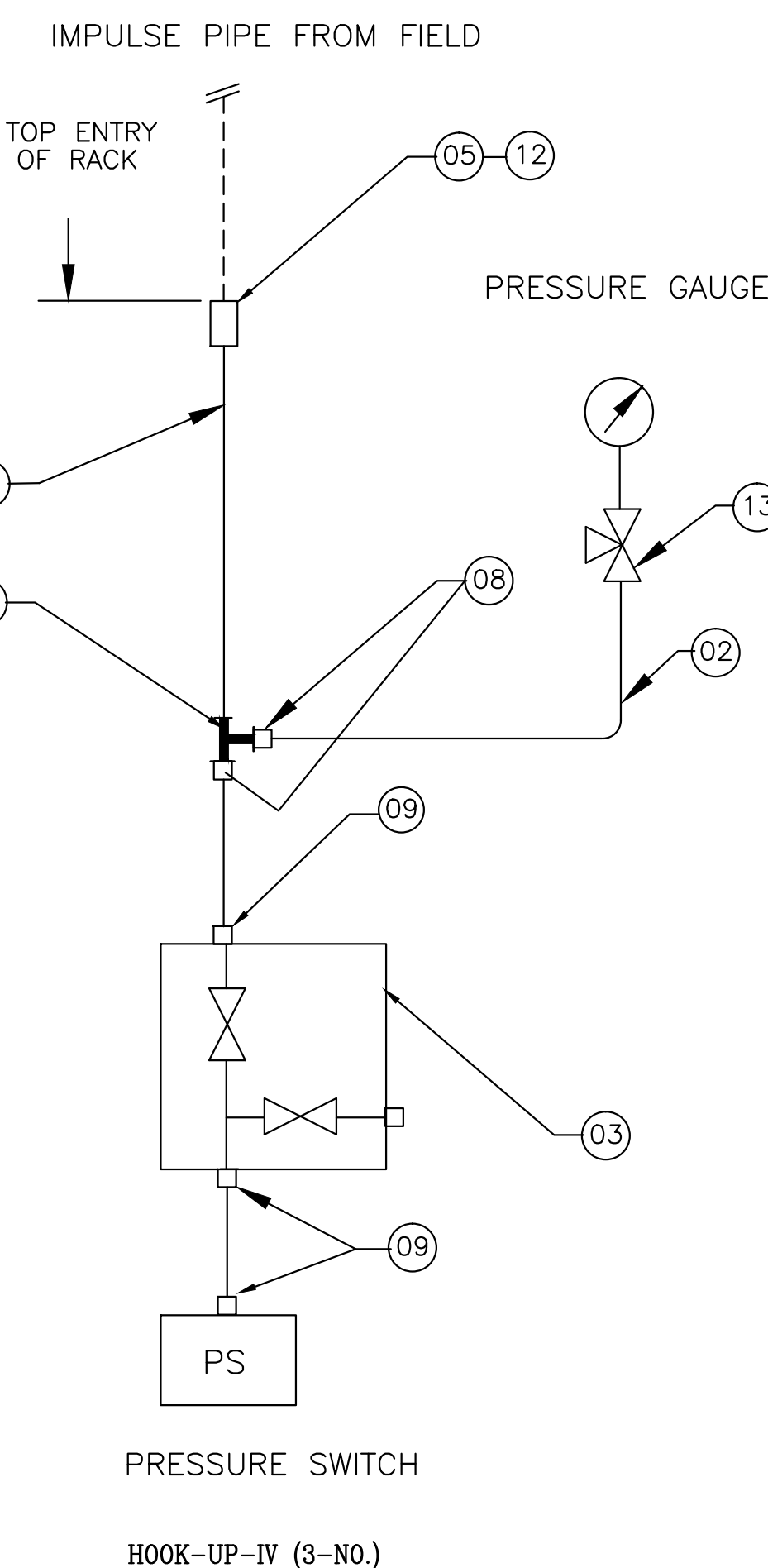
L	अभिकल्प संख्या/DRAWING NO.	
	11335753010	23
	पृष्ठ संख्या/Sheet No. 2	पृष्ठों की संख्या/No. of Sheet 2

संख्या / INVENTORY NO	दिनांक / SIGN & DATE	संशोधित अभिरक्षक संख्या / REFERENCE DRG.NO.
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			अन्य विमाओं का वर्ग GRADE OF INTOLERANTANCE DIMENSION			श्री.वी.ओ.एस./C.B.O.M. 21335953000			ऑथरिज्ड ड्रॉ शीट STATUS OF DRG. U			उत्पाद का प्रकार या ग्राहक/परियोजना का नाम TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT			STEAM TURBINE		
02	W90318130122		मशीनिंग - एए0230208 एम MACHINING - AA0230208 m			आवृत्ति FREQUENCY			नाम/NAME			सहसह SIGN			दिनांक/DATE		
01	W90318130114		वेल्डिंग - एए0621104 की श्रेणी बी WELDING-CLASS "B" OF AA0621104														
00	W90318130106		गैस काटिंग - एए0621101 की श्रेणी 3 GAS CUTTING-TABLE 3 OF AA0621101														
VAR.NO.			MATERIAL CODE														
मौद्रिक REV.			दिनांक DATE			परिवर्तन AUTHOR BY जोड़कर CHD			मौद्रिक REV.			दिनांक DATE			परिवर्तन AUTHOR BY जोड़कर CHD		
									मौद्रिक REV.			दिनांक DATE			परिवर्तन AUTHOR BY जोड़कर CHD		
												विभाग DEPT.			कूट/CODE 4011		
															भारत हेवी इलेक्ट्रिकल्स लिमिटेड, रानीपुर, हरिद्वार BHARAT HEAVY ELECTRICALS LIMITED, RANIPUR, HARDWAR		
												माप/SCALE N.T.S.			भार कि.ग्रा. WEIGHT (KG) 150		
												ऑथरिज्ड अभियंता का संदर्भ REFER TO ASSLY. DRG.			भार क्रमांक ITEM NO. 18/11/2010		
												ऑपक/TITLE ASSEMBLED RACK FOR LUBE OIL PRESS. INSTRUMENTS			ऑपक/TITLE ASSEMBLED RACK FOR LUBE OIL PRESS. INSTRUMENTS		
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															ऑपक/TITLE ASSEMBLED RACK FOR LUBE OIL PRESS. INSTRUMENTS		

प्राप्ति मंथन / INVENTORY NO.	हस्ताक्षर और तिथि / SIGN & DATE	संज्ञित अभिलेख संख्या / REFERENCE DRG.NO.
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	PRESSURE TRANSMITTER/PRESSURE GAUGE/PRESSURE SWITCH		BHEL SCOPE
13	THREE WAY GAUGE COCK/ SS316/ SIZE 1/2" NPTFx1/2" OD SS TUBE	12	
12	CAP NUT FOR BULK HEAD ASTM A105	20	
09	TUBE FITTING DOUBLE FERRULE DOUBLE COMPRESSION/ MAT. SS316/ SIZE 1/2" NPTM x TO SUIT 1/2" OD SS TUBE	33	
08	TEE TUBE UNION/ SS316 / SIZE OD OF 1/2" NB SW x TO SUIT 1/2" OD SS TUBE	23	
06	FORGED TEE/ASTM A105/SIZE 1/2" NB SW / CL 6000lbs	03	
05	BULK HEAD/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	20	
03	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 3000PSI	11	
02	SEAMLESS SS TUBE, ASTM A213 TP 316H/SIZE 1/2" OD, THICK 2.1mm	A/R	
01	IMPULSE PIPE/ ASTM A106, Gr-C /SIZE 1/2" NB/SCH-80	A/R	
ITEM	DESCRIPTION	QTY	REMARKS

			अमृत्य विभागों का संग			मौ.वी.ओ.ए./C.B.O.M.			अधिकार का नाम			उपादा क प्रकार या गाहक/परियोजना का नाम			STEAM TURBINE																							
			GRADE OF UNTOLERANCED DIMENSION			21335953000			STATUS OF DRG.			TYPE OF PRODUCT OR NAME OF																										
02			W90318130122			मशीनिंग - एण्ट020208 एम			MACHINING - AA0230208 m			मशीन/DEPT.			नाम/NAME			हस्ताक्षर/SIGN			दिनांक/DATE			शीट संख्या/No. of														
01			W90318130114			वेल्डिंग - एण्ट0621104 की श्रेणी बी			WELDING-CLASS "B" OF AA0621104																													
00			W90318130106			गैस कटिंग - एण्ट0621101 की माथिगा 3			GAS CUTTING-TABLE 3 OF AA0621101																													
VAR.NO.			MATERIAL CODE																																			
मशीन REV.			दिनांक DATE			अधिकार/ALTERED BY			मशीन REV.			दिनांक DATE			अधिकार/ALTERED BY			मशीन REV.			दिनांक DATE			अधिकार/ALTERED BY			मशीन REV.											
						अधिकार/CHG									अधिकार/CHG									मशीन/DEPT.			STE			माप/SCALE			माप कि.ग्रा. WEIGHT (KG)					
																											कूट/CODE 4011						N.T.S.			150		
																											शीट/TITLE			ASSEMBLED RACK FOR			अधिकार संख्या/DRAWING NO.					
																														L1335953010			23			24		
																														पृष्ठ संख्या/Sheets No 2			पृष्ठ की संख्या/No. of					

DRAWING NO.
11335363010

M.S. OVER LOAD VALVE

HP-SV&CV-2

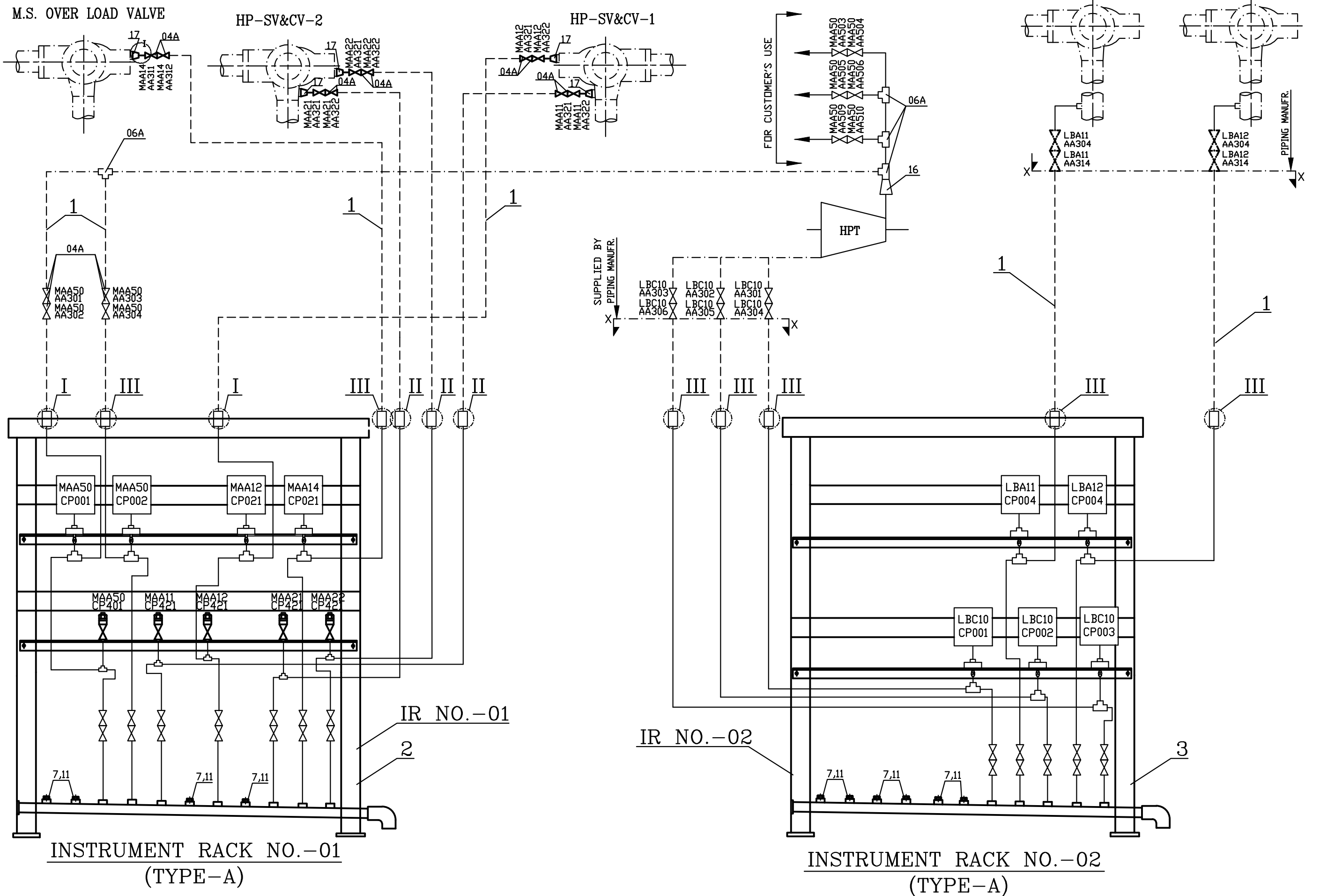
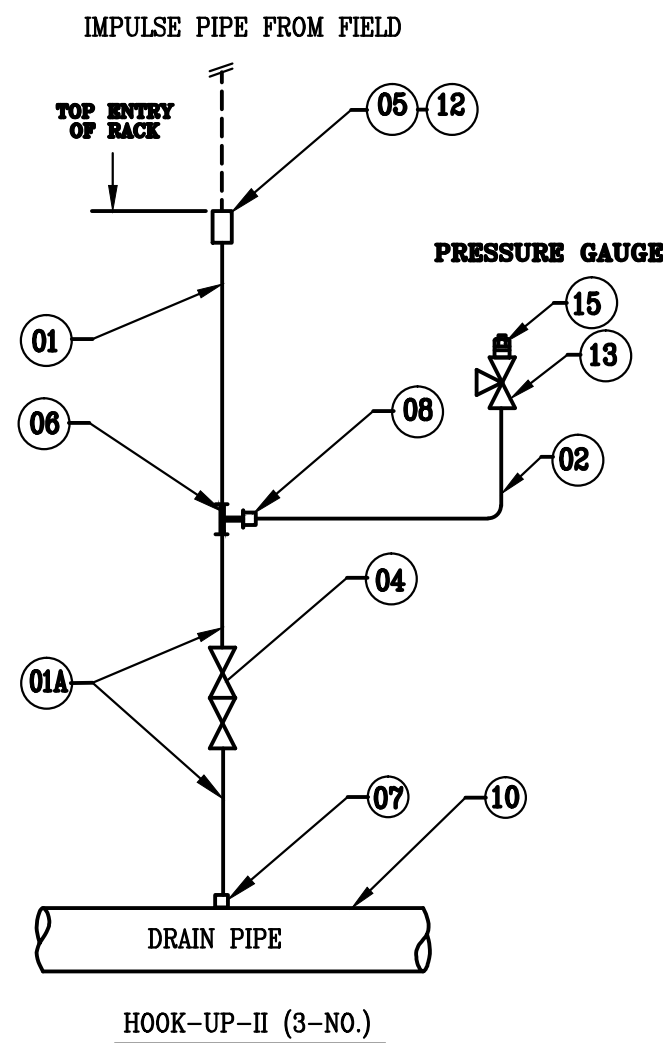
HP-SV&CV-1

HP STOP VALVE-1

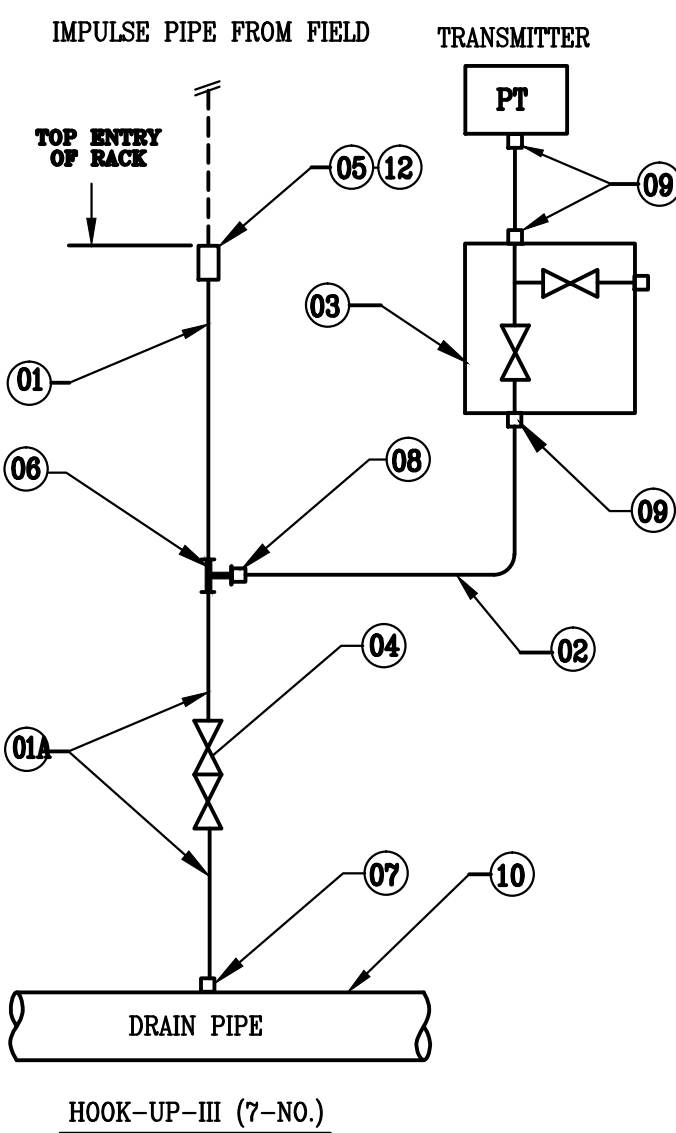
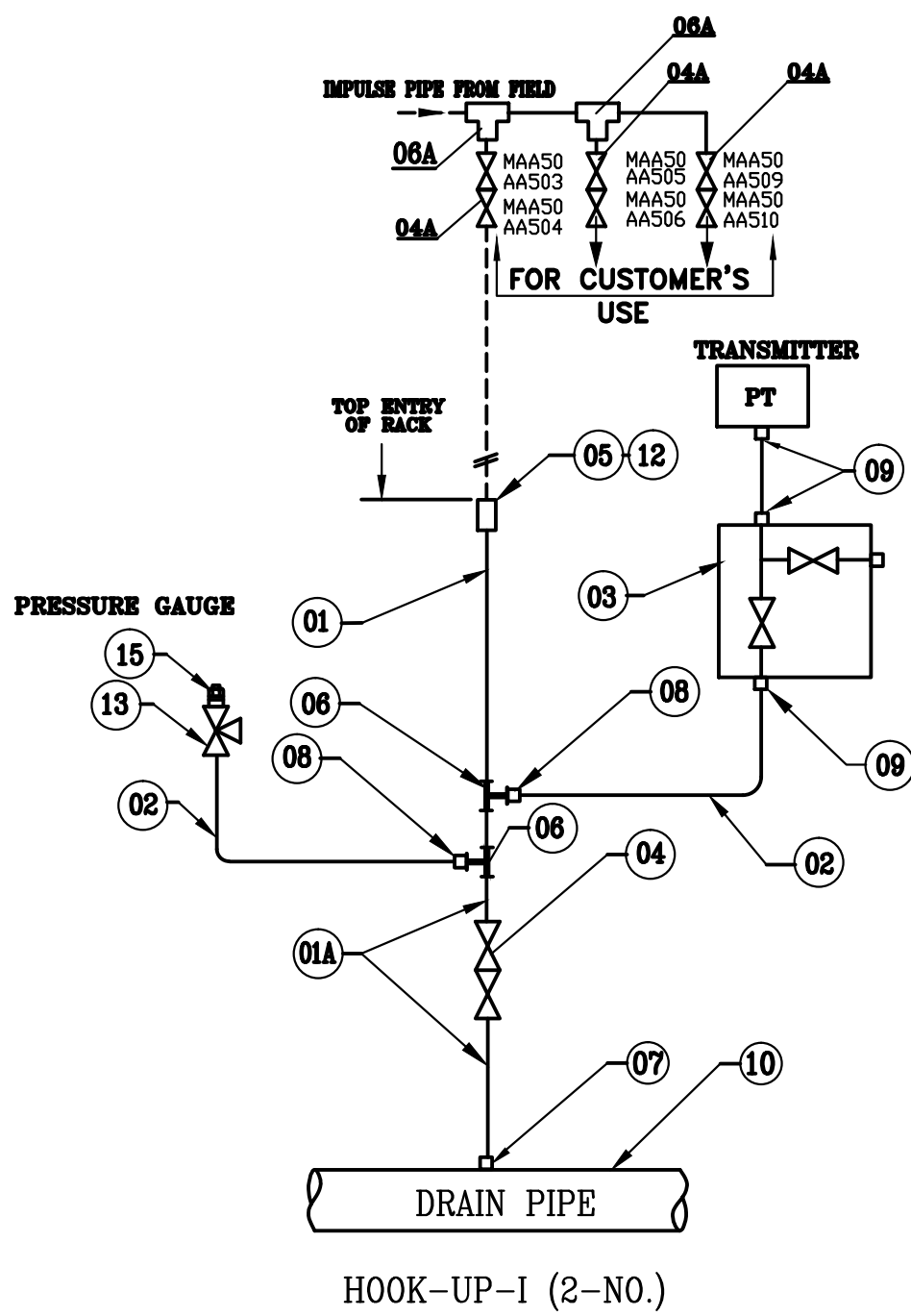
HP STOP VALVE-2

NOTE:-

- 1:-ITEM NO. 04A,6A,16&17 INDICATED BEYOND BULK HEAD, SHALL BE SUPPLIED AS LOOSE WITH THE ASSEMBLED RACK.
- 2:-ALL THE BULK HEAD & ITEM NO. 5, INDECATED IN SHALL BE ACCOMADETED & INSTALLED IN RESPECTIVE RACKS.



ITEM	DESCRIPTION	QTY	REMARKS
17	REDUCER <33.4X9.1>X<21.3X7.47> Gr.-F91	05	LOOSE
16	REDUCER 50X11X21.3X7.47 Gr.-F91	01	
15	PLUG 1/2" NPT "M".	05	
13	THREE WAY GAUGE COCK/SS316/SIZE 1/2" NPTx1/2"OD S.S. TUBE.	05	
12	CAP NUT FOR BULK HEAD ASTM A105.	12	
11	CAP NUT FOR HALF COUPLING ASTM A105.	10	
10	DRAIN PIPE/ CS ASTM A106 Gr-C / SIZE 2" NB/ SCH-80.	02	
09	TUBE FITTING DOUBLE FERRULE DOUBLE COMPRESSION/ MAT. SS316/ SIZE 1/2" NPTM x TO SUIT 1/2" OD S.S. TUBE.	27	
08	TEE TUBE UNION/ SS316 / SIZE OD OF 1/2" NB SW x TO SUIT 1/2" OD S.S. TUBE.	14	
07	HALF COUPLING/ASTM A105/SIZE 1/2" NB SW / CL 9000 lbs.	22	
06A	FORGED TEE / SIZE 1/2" NB/SW/F91 CAS: X10 CrMOVNB91 OR EQUIVALENT SIZE 1/2" <SW-DN-15> 21.3X7.47, CLASS 4500. TEE EQUAL 21.3X21.3X7.47	4	
06	FORGED TEE/ASTM A105/SIZE 1/2" NB SW / CL 9000 lbs. TEE UNEQUAL<21.3X7.47X13.5X2.6>	14	
05	BULK HEAD/ASME SA213, Gr.-T-91 SIZE 1/2" NB <21.3X7.47> SW / CL 9000 lbs.	12	
04A	FORGED GLOBE VALVE/ BODY ASTM A336 Gr. F91 CAS: X10 CrMOVNB9-1 OR EQUIVALENT.	20	
04	FORGED GLOBE VALVE/ BODY ASTM A182 F22/ASTM ASTM A182 Gr-F6A/ SIZE 1/2" NB SW/ CL 3000 SPL.	24	
03	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM S.S. 316 / PR. TESTING 3000 PSI.	09	
02	SEAMLESS S.S. TUBE ASTM A213 TP 316H/SIZE 1/2" OD, THICK 2.1mm.	A/R	
01A	IMPULSE PIPE/ ASTM A335, Gr-P-22 /SIZE 1/2" NB/SCH-XXS. <21.3X2.77>	A/R	
01	IMPULSE PIPE/ ASME SA213, Gr-T-91 /SIZE 1/2" NB/SCH-XXS. <21.3X7.47>	A/R	

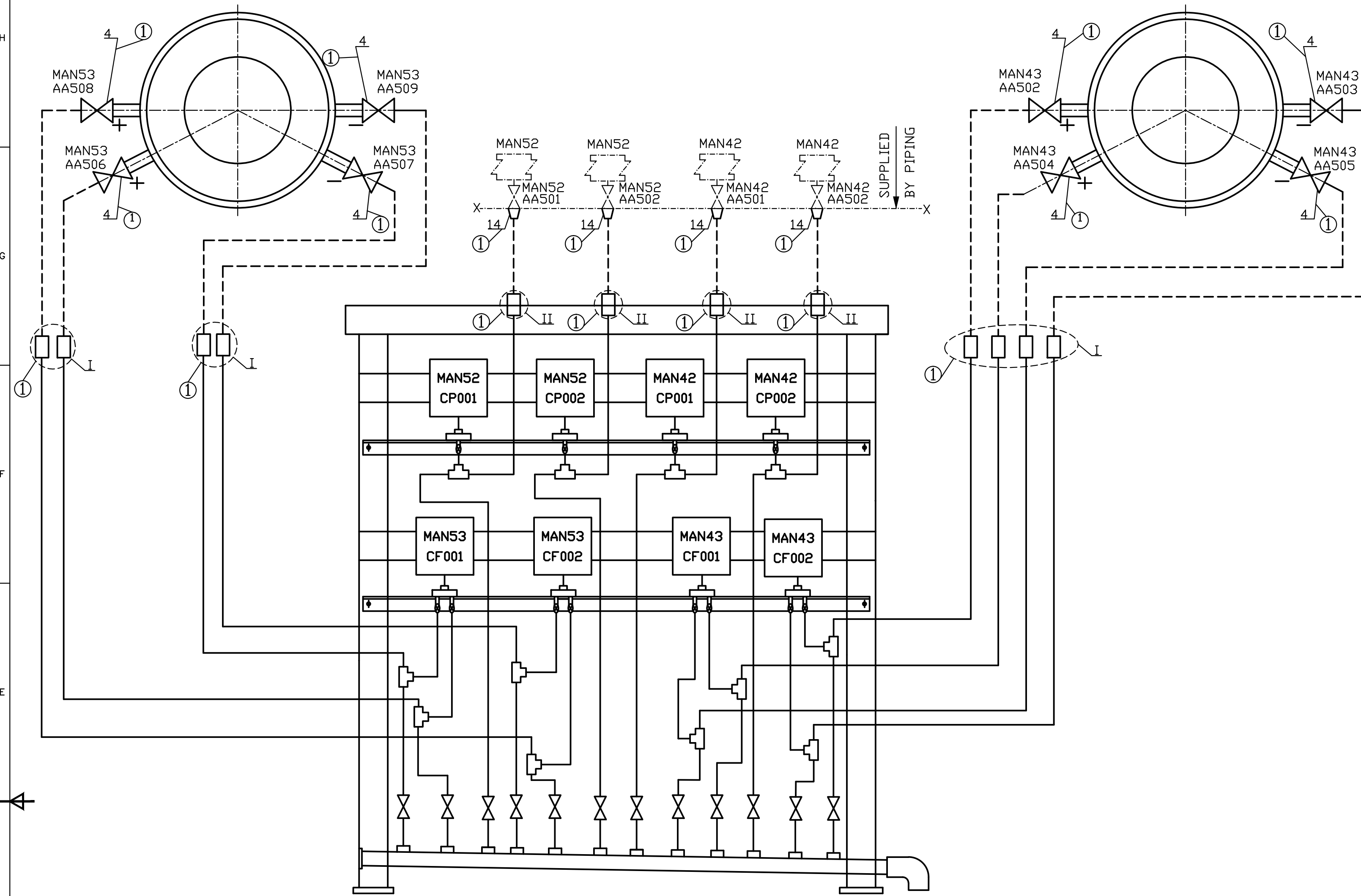
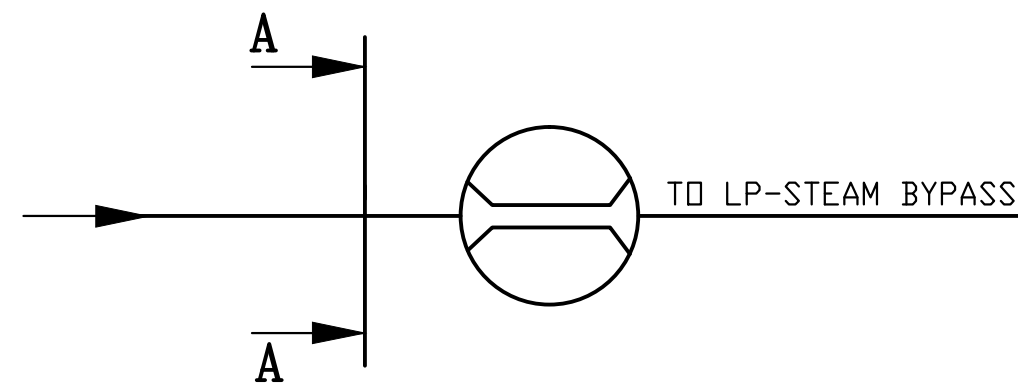


01	W90318130319	GRADE OF UNTOL. DIM:-
00	W90318130300	M/CG- V/C/M/F AA 0230208
VAR.NO.	MATERIAL CODE	WELDING-A/B/C/D-AA621104

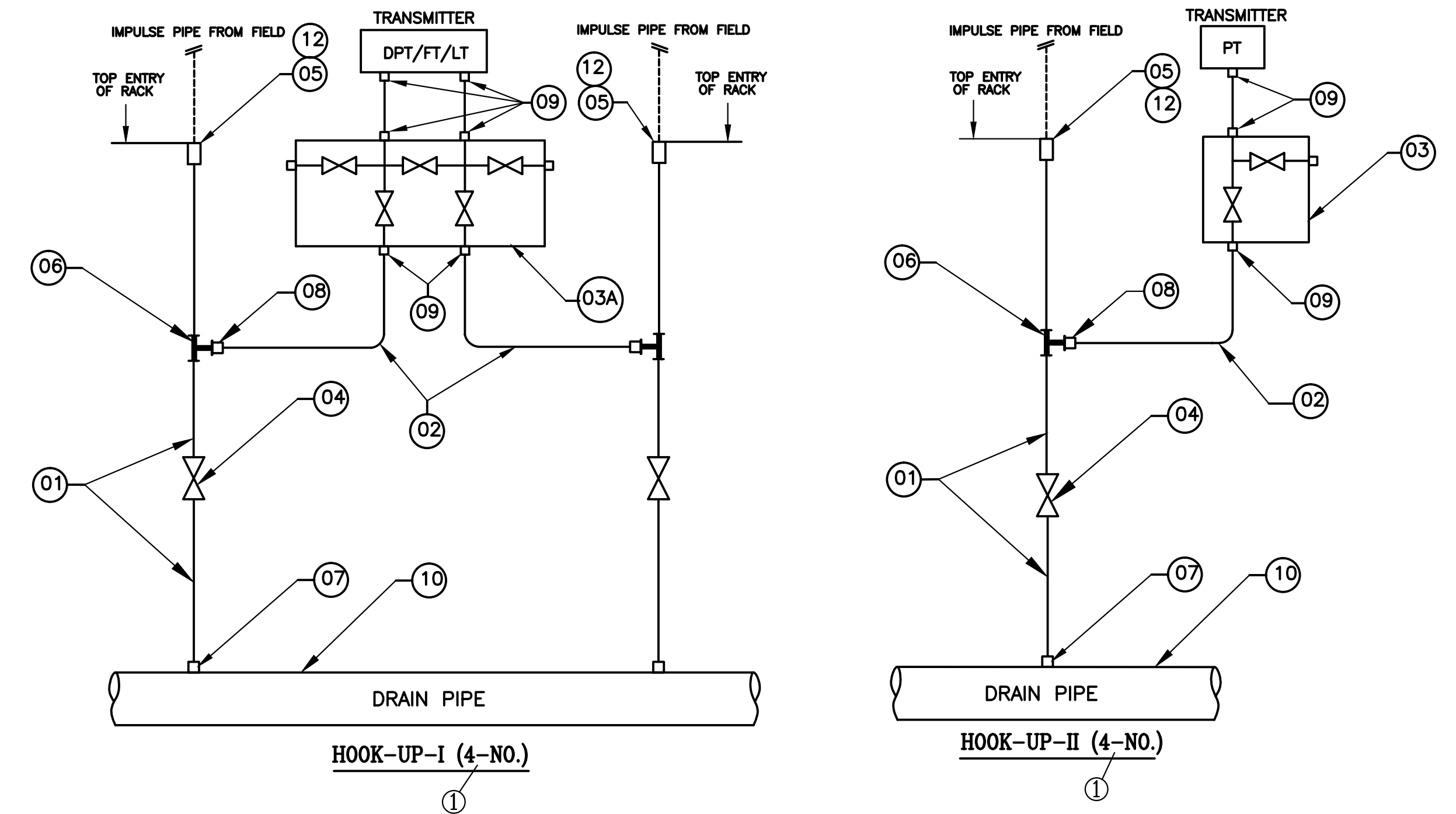
REV.	DATE	ALTERED	BRIJ LAL
02	10.08.15	CHECKED	SHEETAL
QTY. CHANGED OF ITEM NO. 07 FROM 13 TO 22			
QTY. CHANGED OF ITEM NO. 11 FROM 01 TO 10			
AS PER C/A NO- STE-15-F0251			

CBOM NO.	STATUS OF DRG.
21335363000	DATE
AGREED	NAME
DEPT.	SIGN
REV.	DATE
01	11.10.14
ALTERED	BRIJ LAL
CHECKED	SHEETAL
GENERALLY CHANGED AS PER C/A NO- STE-14-F0311	

TYPE OF PRODUCT OR NAME OF CUSTOMER/ PROJECT		STEAM TURBINE	
DEPT. STE	SCALE	WEIGHT(Kg.)	REF. TO ASSY. DRG.
CODE 4011	N.T.S.	200	
TITLE		DRAWING NO.	
ASSY.RACK FOR MS PRESS INSTRU.		11335363010	
		SHEET NO. 1	
		NO.OF SHEETS 1	

11336065510
DRAWING NO.INSTRUMENT RACK NO. 13.
(TYPE-A)

FLOW NOZZLE FOR WIV



ITEM	DESCRIPTION	QTY	REMARKS
14	REDUCER/ASTM A105 / SIZE 1" NB SW x 1/2" NB SW/CL 3000lbs	04	
12	CAP NUT FOR BULK HEAD ASTM A105	12	
10	DRAIN PIPE/ CS ASTM A106 Gr-C / SIZE 2" NB/ SCH-80	01	
09	TUBE FITTING DOUBLE FERRULE DOUBLE COMPRESSION/ MAT. SS316/ SIZE 1/2" NPTM x TO SUIT 1/2" OD SS TUBE	36	
08	TEE TUBE UNION/ SS316 / SIZE OD OF 1/2" NB SW x TO SUIT 1/2" OD SS TUBE	12	
06	FORGED TEE/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	12	
05	BULK HEAD/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	12	
04	FORGED GLOBE VALVE/ BODY ASTM A105/STEM ASTM A182 Gr-F6A/ SIZE 1/2" NB SW/ CL 800	20	
03A	FIVE VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 3000PSI	04	
03	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 3000PSI	04	
02	SEAMLESS SS TUBE, ASTM A213 TP 316H/SIZE 1/2" OD, THICK 2.1mm	A/R	
01	IMPULSE PIPE/ ASTM A106, Gr-C /SIZE 1/2" NB/SCH-80	A/R	

NOTE: 01. ITEM NO. 04,14 INDICATED BEYOND BULK HEAD, SHALL BE SUPPLIED AS LOOSE WITH THE ASSEMBLED RACK.

02. ALL THE BULK HEADS & ITEM NO. 5, INDICATED SHALL BE ACCOMODATED & INSTALLED IN RESPECTIVE RACKS.

00 W90318130386
VAR.NO. MATERIAL CODE

CBOM NO. 21336064500		STATUS OF DRG.		TYPE OF PRODUCT OR NAME OF CUSTOMER/ PROJECT		STEAM TURBINE	
AGREED	DEPT.	NAME	SIGN	DATE			
GRADE OF UNTOL. DIM.:-- M/CG- V/C/M/F AA 0230208 WELDING-A/B/C/D-AA621104 GAS CUTTING-T3'AA0621101					Bharat Heavy Electricals Ltd. HARDWAR		
REV.	DATE	ALTERED	B.LAL	DEPT. STE	SCALE	WEIGHT(Kg.)	REF. TO ASSY. DRG.
01	3.4.16	CHECKED	V.KUMAR	CODE 4011	N.T.S	200	21336064500
NOTE: ADDED, QTY OF HOOKUP INCREASED, HOOK UP NO. DEFINED. ITEM NO. 4,14 DEFINED. AS PER C/A NO. STE-16-F0116.					DRAWING NO. 11336065510		
					SHEET NO. 1 NO.OF SHEETS 1		

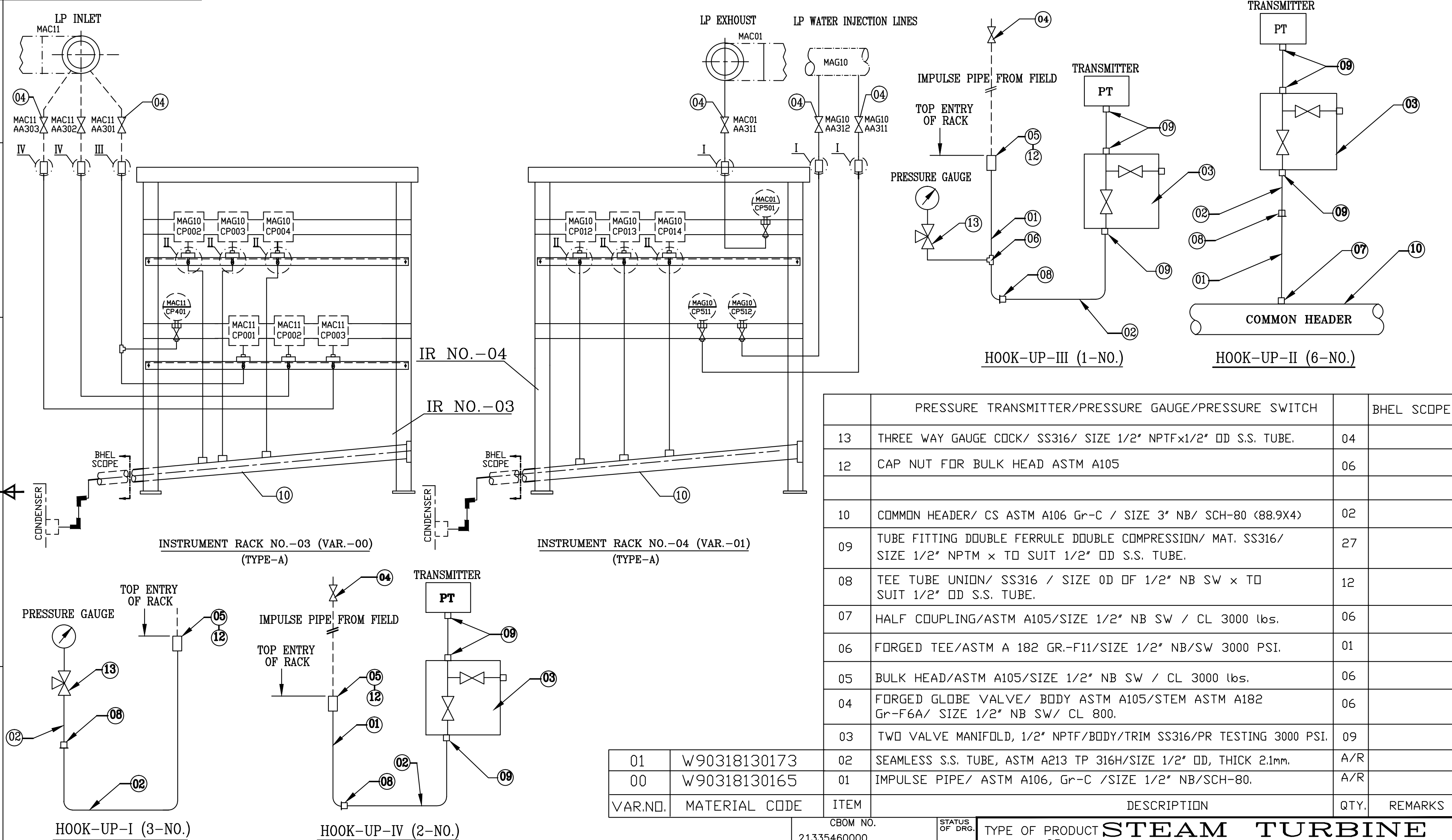
ASSY. RACK FOR
WATER INJECTION INST.

11336065510
SHEET NO. 1 NO.OF SHEETS 1

SIZE A1

21335460010
DRAWING NO.

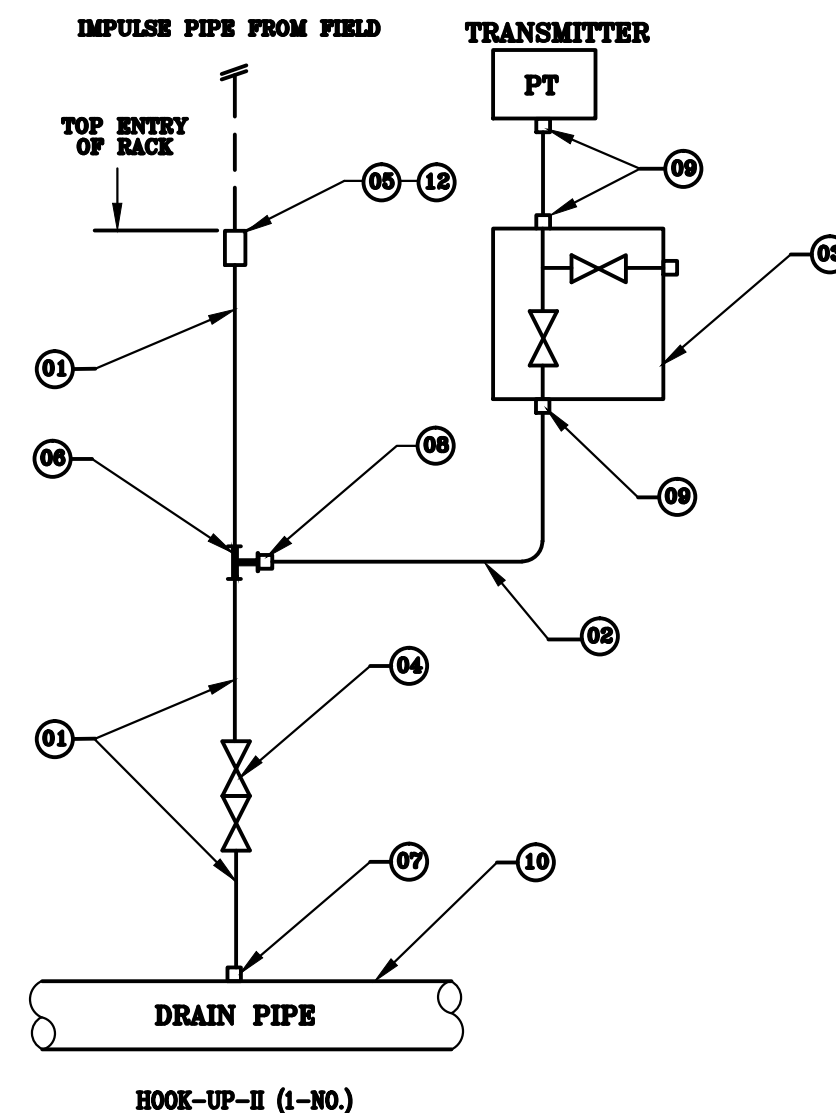
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THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED
IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.



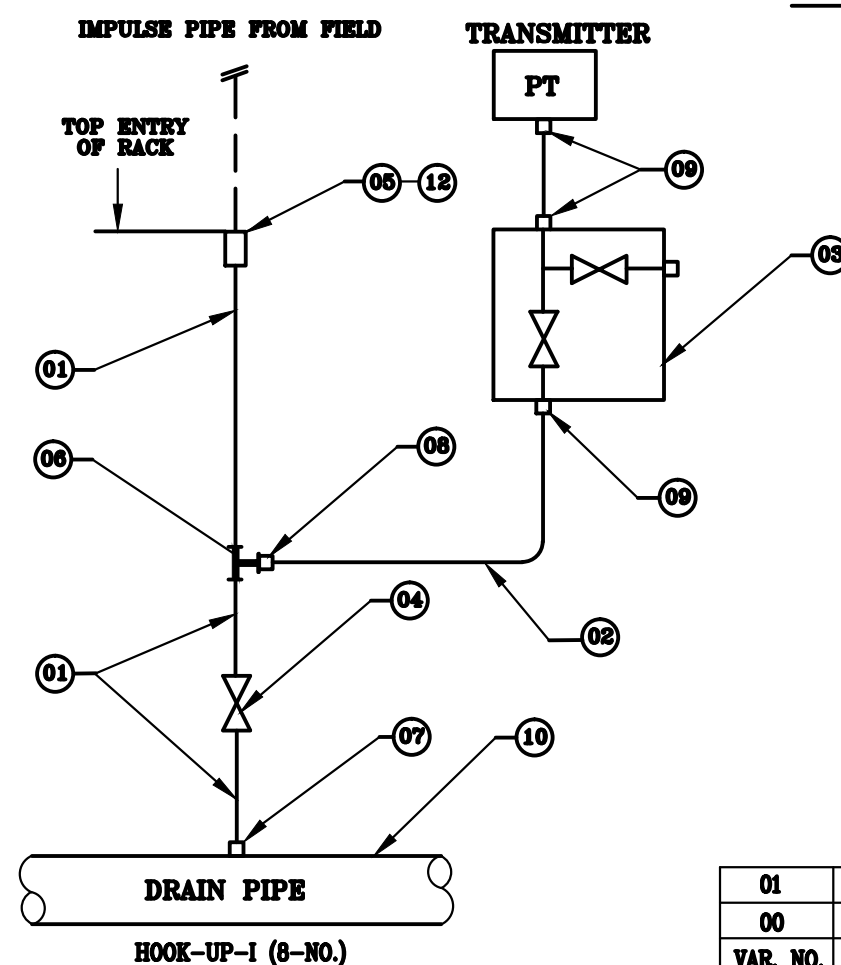
	PRESSURE TRANSMITTER/PRESSURE GAUGE/PRESSURE SWITCH	BHEL SCOPE	
13	THREE WAY GAUGE COCK/ SS316/ SIZE 1/2" NPTFx1/2" OD S.S. TUBE.	04	
12	CAP NUT FOR BULK HEAD ASTM A105	06	
10	COMMON HEADER/ CS ASTM A106 Gr-C / SIZE 3" NB/ SCH-80 (88.9X4)	02	
09	TUBE FITTING DOUBLE FERRULE DOUBLE COMPRESSION/ MAT. SS316/ SIZE 1/2" NPTM x TO SUIT 1/2" OD S.S. TUBE.	27	
08	TEE TUBE UNION/ SS316 / SIZE OD OF 1/2" NB SW x TO SUIT 1/2" OD S.S. TUBE.	12	
07	HALF COUPLING/ASTM A105/SIZE 1/2" NB SW / CL 3000 lbs.	06	
06	FORGED TEE/ASTM A 182 GR.-F11/SIZE 1/2" NB/SW 3000 PSI.	01	
05	BULK HEAD/ASTM A105/SIZE 1/2" NB SW / CL 3000 lbs.	06	
04	FORGED GLOBE VALVE/ BODY ASTM A105/STEM ASTM A182 Gr-F6A/ SIZE 1/2" NB SW/ CL 800.	06	
03	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 3000 PSI.	09	
02	SEAMLESS S.S. TUBE, ASTM A213 TP 316H/SIZE 1/2" OD, THICK 2.1mm.	A/R	
01	IMPULSE PIPE/ ASTM A106, Gr-C /SIZE 1/2" NB/SCH-80.	A/R	
VAR.NO.	MATERIAL CODE	ITEM	DESCRIPTION
			QTY.
			REMARKS

NOTE:- 01: ITEM NO. 04 INDICATED BEYOND BULK HEAD,SHALL BE SUPPLIED. AS LOOSE WITH THE ASSEMBLED RACK.
02: ALL THE BULK HEADS & ITEM NO. 5, INDICATED IN SHALL BE ACCOMMODATED & INSTALLED IN RESPECTIVE RACKS.

CBOM NO. 21335460000		STATUS OF DRG.		TYPE OF PRODUCT OR NAME OF CUSTOMER/ PROJECT	
AGREED DEPT.	NAME	SIGN	DATE		
GRADE OF UNTOL. DIM.:- M/CG- V/C/M/F AA 0230208 WELDING-A/B/C/D-AA621104 GAS CUTTING-T3'AA0621101					
REV.	DATE	ALTERED	BRIJ LAL	DEPT. STE	SCALE
		CHECKED	SHEETAL	CODE 4011	200
NOTE 2 ADDED AS PER C/A NO:- STE-14-F0255				TITLE ASSY.RACK COND. PRESS.INSTRUMENTS.	
				DRAWING NO. 21335460010	
				SHEET NO. 1 NO.OF SHEETS 1	
				SIZE A2	

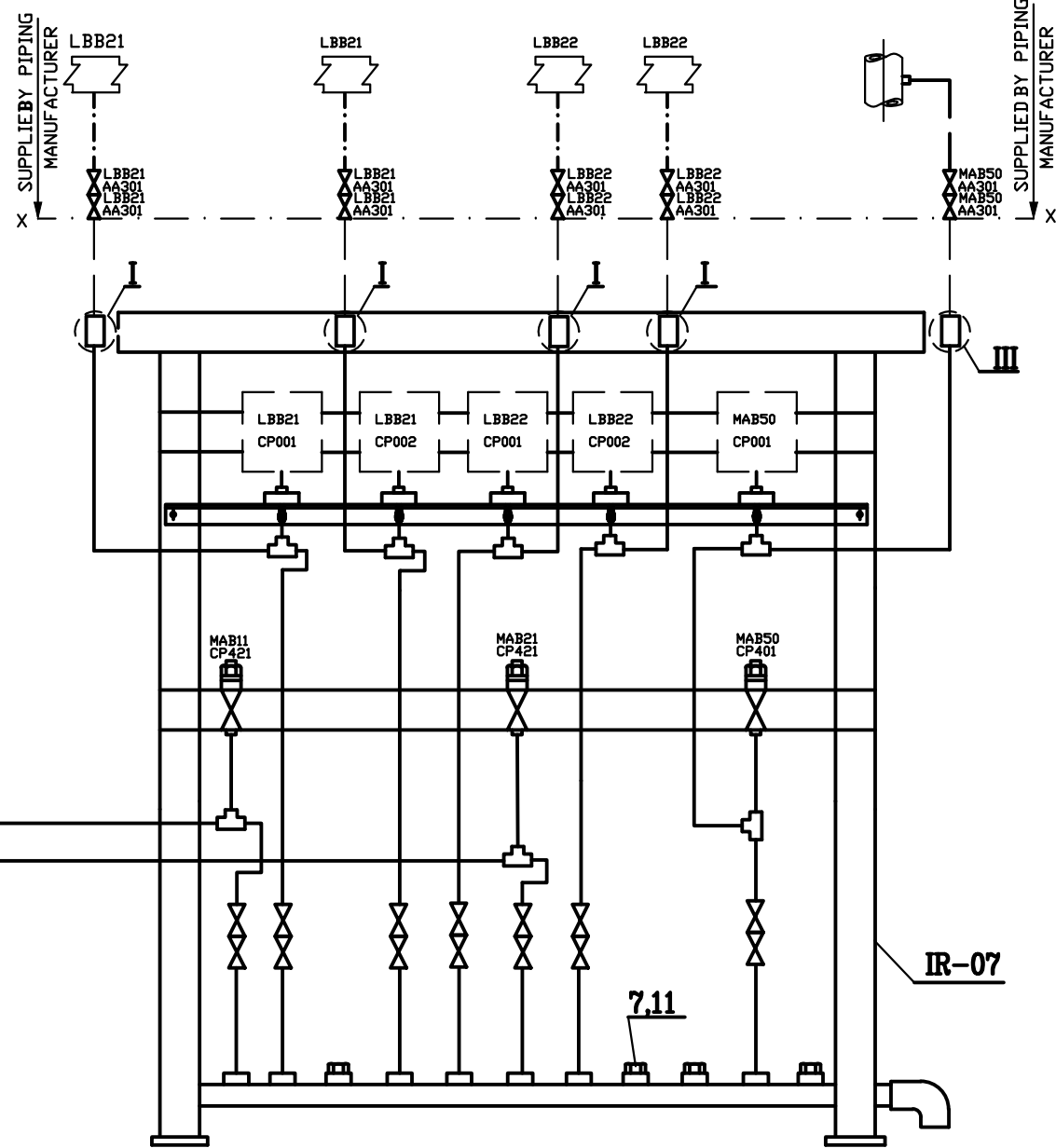
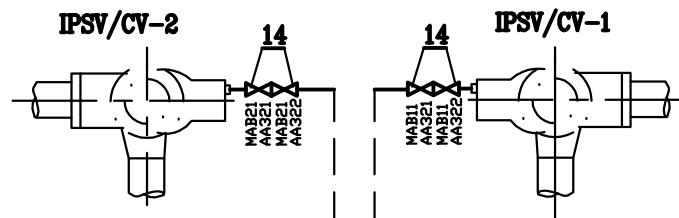
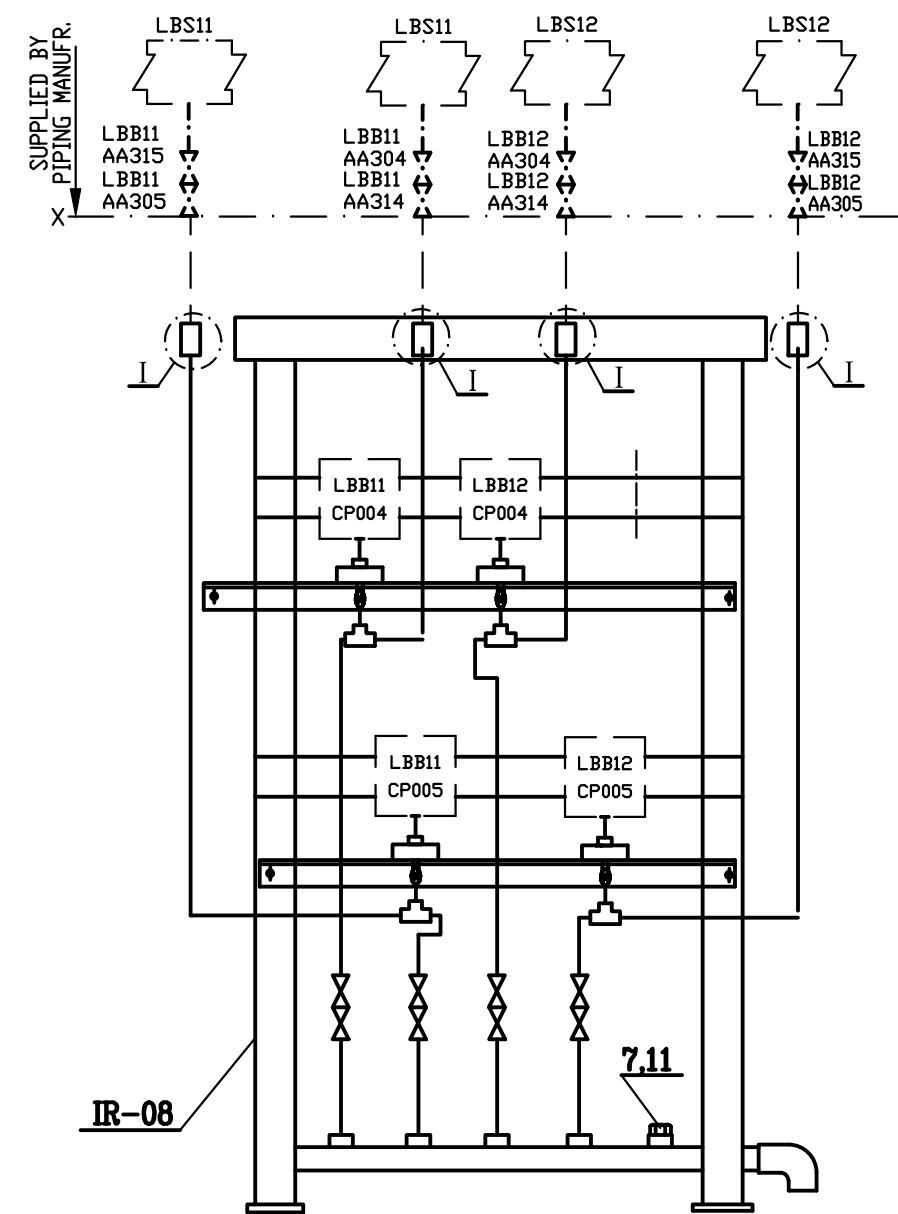


	PRESSURE TRANSMITTER/PRESSURE GAUGE/PRESSURE SWITCH		BHEL SCOPE
14	C.S. TUBE/CS ASTM A106 Gr.-C/SIZE ø33.7X3.38/SCH-80	AR	
13	REDUCER ASTM 105 (33.7X3.38X21.3X2.6) CL 3000lbs	02	
12	CAP NUT FOR BULK HEAD ASTM A105	09	
11	CAP NUT FOR HALF COUPLING ASTM A105	02	
10	DRAIN PIPE/ CS ASTM A106 Gr-C / SIZE 2" NB/ SCH-80	02	
09	TUBE FITTING DOUBLE FERRULE DOUBLE COMPRESSION/ MAT. SS316/ SIZE 1/2" NPTM x TO SUIT 1/2" OD SS TUBE	33	
08	TEE TUBE UNION/ SS316 / SIZE OD OF 1/2" NB SW x TO SUIT 1/2" OD SS TUBE	09	
07A	HALF COUPLING/ASTM A105/SIZE 3" NB SW / CL 3000lbs	02	LOOSE
07	HALF COUPLING/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	11	
06	FORGED TEE/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	09	
05	BULK HEAD/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	09	
04	FORGED GLOBE VALVE/ BODY ASTM A105/STEM ASTM A182 Gr-F6A/ SIZE 1/2" NB SW/ CL 800	10	
03	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 3000PSI	11	
02	SEAMLESS SS TUBE, ASTM A213 TP 316H/SIZE 1/2" OD, THICK 2.1mm	A/R	
01	IMPULSE PIPE/ ASTM A106, Gr-C /SIZE 1/2" NB/SCH-80	A/R	
ITEM	DESCRIPTION	QTY	REMARKS

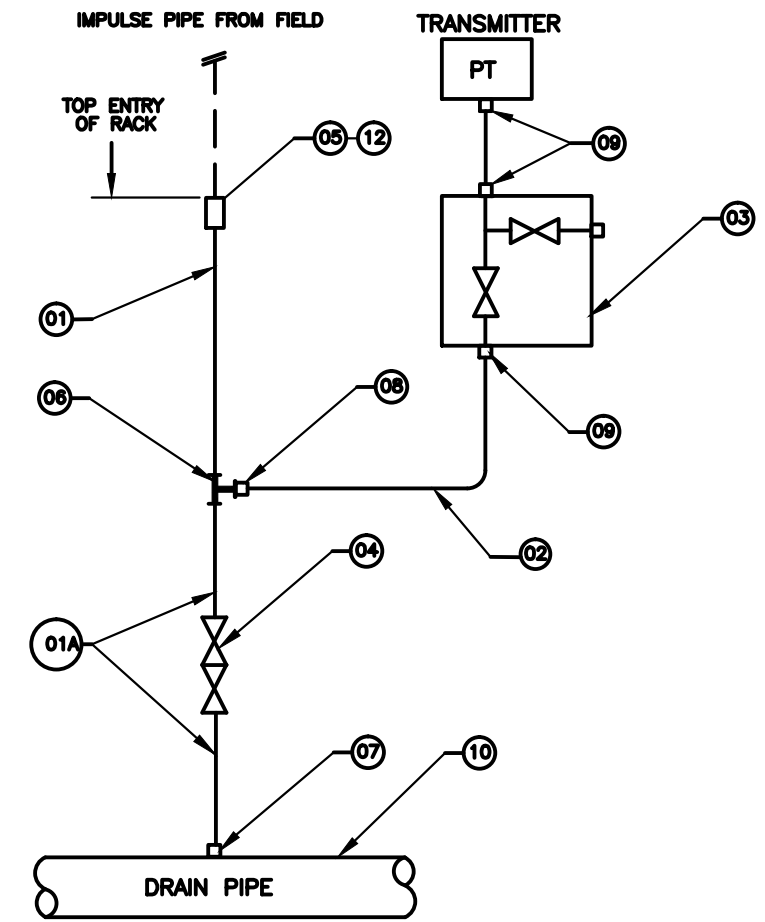


TYPE OF PRODUCT OR NAME OF CUSTOMER/ PROJECT		STEAM TURBINE				
 BHARAT HEAVY ELECTRICALS LTD. HARDWAR			NAME	SIGN	DATE	NO.OF VAR.
		DRN	SSTEBLR	SSTEBLR	08/04/2013	
		CHD	SSTEGG	SSTEGG	08/04/2013	
		APD	ASTEVK	ASTEVK	16/04/2013	73, 74
DEPT. STE		SCALE	WEIGHT(Kg.)	REF. TO ASSY. DRG.	ITEM NO.	NO.OF ITEMS
CODE 4011		N.T.S	155			75, 77
TITLE ASSY.RACK FOR EX.& GLAND SEAL INST.		1	3	DRAWING NO.		
				21335560010		
				SHEET NO. 1	NO.OF SHEETS 1	22, 23, 24

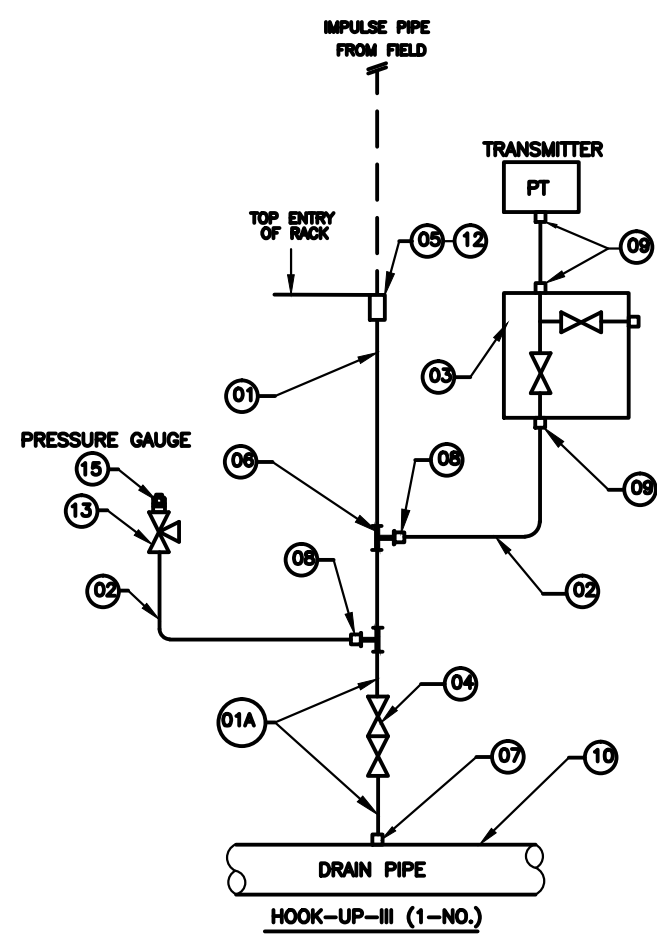
NOTE:-01: ALL THE BULK HEADS & ITEM NO. 5, INDICATED IN SHALL BE ACCOMMODATED & INSTALLED IN RESPECTIVE RACKS.

21335660010
DRAWING NO.INSTRUMENT RACK NO. 07.(VAR-00)
(TYPE-A)INSTRUMENT RACK NO. 08(VAR.-01).
(TYPE-B)

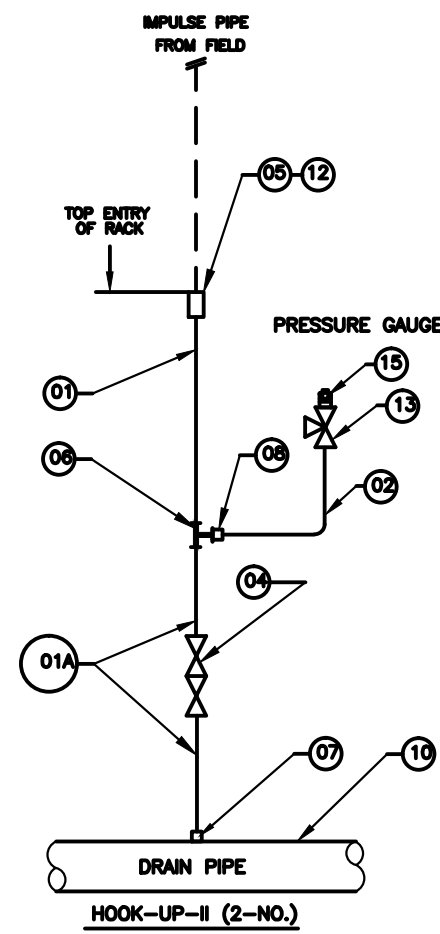
NOTE:- 01: ITEM NO.-14, INDICATED BEYOND BULK HEAD, SHALL BE SUPPLIED AS LOOSE WITH THE ASSEMBLED RACK
02: ALL THE BULK HEADS & ITEM NO. 5, INDICATED IN SHALL BE ACCOMMODATED & INSTALLED IN RESPECTIVE RACKS.



HOOK-UP-I (8-NO.)



HOOK-UP-III (1-NO.)



HOOK-UP-II (2-NO.)

ITEM	DESCRIPTION	QTY	REMARKS
15	PLUG 1/2" NPTM	3	
14	FORGED GLOBE VALVE ASTM,336, Gr. A F91 (AS: X10CrMOVNB 9-1 Or EQUIVALENT	4	
13	THREE WAY GAUGE COCK/ S316/ SIZE 1/2" NPTFx1/2" OD SS TUBE	3	
12	CAP NUT FOR BULK HEAD ASTM A105	11	
11	CAP NUT FOR HALF COUPLING ASTM A105	5	
10	DRAIN PIPE/ CS ASTM A106 Gr-C / SIZE 2" NB/ SCH-80	2	
09	TUBE FITTING DOUBLE FERRULE DOUBLE COMPRESSION/ MAT. SS316/ SIZE 1/2" NPTM x TO SUIT 1/2" OD SS TUBE	27	
08	TEE TUBE UNION/ SS316 / SIZE OD OF 1/2" NB SW x TO SUIT 1/2" OD SS TUBE	12	
07	HALF COUPLING/ASTM A182 GR-F22/SIZE 1/2" NB SW/CL 9000lbs	16	
06	FORGED TEE/ASME SA213 Gr. T91/SIZE 1/2" NB SW / CL 9000lbs	12	
05	BULK HEAD/ASME SA213 Gr. T91/SIZE 1/2" NB SW / CL 9000lbs	11	
04	FORGED GLOBE VALVE/ BODY ASTM A182 F22/STEM ASTM A182 Gr-F8A/ SIZE 1/2" NB SW/ CL 3000 SPL	22	
03	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 9000PSI	9	
02	SEAMLESS SS TUBE, ASME SA213 Gr. T91 316H/SIZE 1/2" OD, THICK 2.1mm	A/R	
01A	IMPULSE PIPE/ ASTM A335, Gr.P22/ SIZE 1/2" NB/ SCH-XXS	A/R	
01	IMPULSE PIPE/ ASME A335, Gr-T91/ SIZE 1/2" NB/ SCH-XXS	A/R	

01	W90318130211	CBOM NO.	STATUS OF DRG.
00	W90318130203	21335660000	
VAR. NO.	MATERIAL CODE	AGREED DEPT.	NAME SIGN DATE

GRADE OF UNTOL. DIM.:-	
M/CG- V/C/M/F AA 0230208	
WELDING-A/B/C/D-AA621104	
GAS CUTTING-T3'AA0621101	

REV.	DATE	ALTERED	BRIJ LAL
		CHECKED	SHEETAL

NOTE 2 ADDED AS PER
C/A NO- STE-14-F0249

TYPE OF PRODUCT OR NAME OF CUSTOMER/ PROJECT		STEAM TURBINE	
BHARAT HEAVY ELECTRICALS LTD. HARDWAR		NAME	SIGN
DEPT. STE		DRN	SSTEBLR
CODE 4011		CHD	SSTEGG
SCALE N.T.S.		APD	ASTEVK
WEIGHT(Kg.) 210		DATE	NO.OF VAR.
REF. TO ASSY. DRG.		08/04/2013	08/04/2013
TITLE ASSY.RACK FOR HRH/MS PRESSURE INSTRUMENTS		16/04/2013	73, 74
DRAWING NO. 21335660010		ITEM NO.	NO.OF ITEMS
SHEET NO. 1		NO.OF SHEETS 1	75, 77

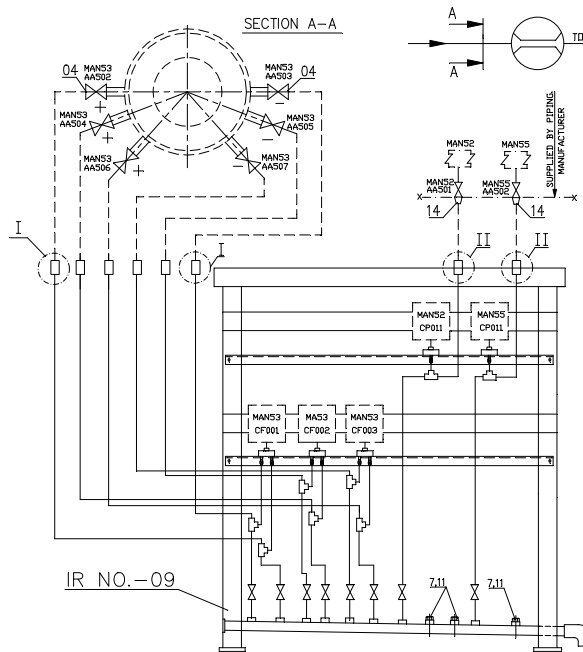
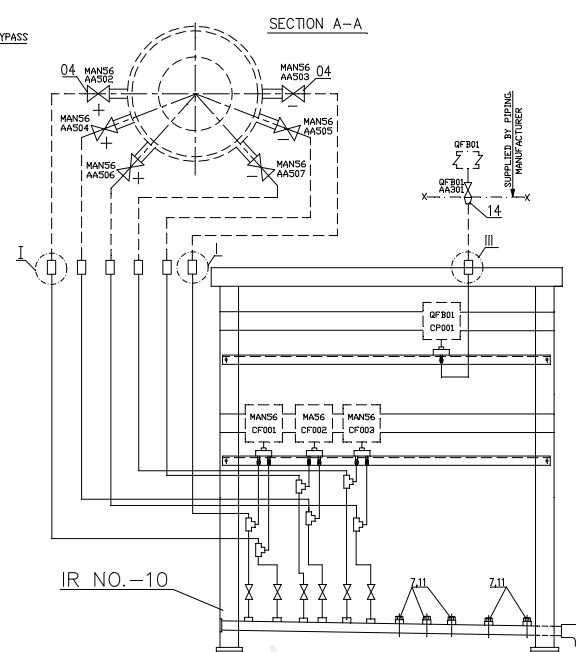
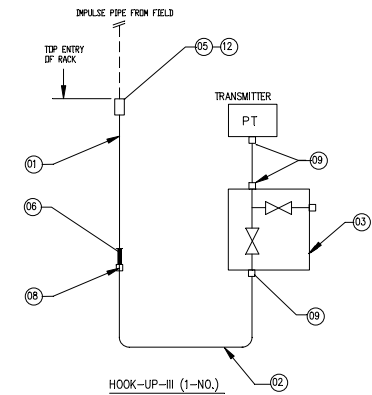
SIZE A2

DRAWING NO.
21336060510

SECTION A-A

SECTION A-A

NOTE:- 01: ITEM NO. 04,14 INDICATED BEYOND BULK HEAD, SHALL BE SUPPLIED AS LOOSE WITH THE ASSEMBLED RACK.
02: ALL THE BULK HEADS & ITEM NO. 5, INDICATED IN SHALL BE ACCOMMODATED & INSTALLED IN RESPECTIVE RACKS.

INSTRUMENT RACK NO.-09 (VAR.-00)
(TYPE-A)INSTRUMENT RACK NO.-10 (VAR.-01)
(TYPE-A)

HOOK-UP-III (1-NO.)

ITEM	DESCRIPTION	QTY	REMARKS
14	REDUCER/ASTM A105 / SIZE 1" NB SW x 1/2" NB SW/CL 3000lbs	03	
12	CAP NUT FOR BULK HEAD ASTM A105	15	
11	CAP NUT FOR HALF COUPLING ASTM A105	08	
10	DRAIN PIPE/ CS ASTM A106 Gr-C / SIZE 2" NB/ SCH-80	02	
09	TUBE FITTING DOUBLE FERRULE DOUBLE COMPRESSION/ MAT. SS316/ SIZE 1/2" NPTM x TO SUIT 1/2" OD SS TUBE	45	
08	TEE TUBE UNION/ SS316 / SIZE OD OF 1/2" NB SW x TO SUIT 1/2" OD SS TUBE	15	
07	HALF COUPLING/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	22	
06	FORGED TEE/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	15	
05	BULK HEAD/ASTM A105/SIZE 1/2" NB SW / CL 3000lbs	15	
04	FORGED GLOBE VALVE/ BODY ASTM A105/STEM ASTM A182 Gr-F6A/ SIZE 1/2" NB SW/ CL 800	26	
03A	FIVE VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 3000PSI	06	
03	TWO VALVE MANIFOLD, 1/2" NPTF/BODY/TRIM SS316/PR TESTING 3000PSI	03	
02	SEAMLESS SS TUBE, ASTM A213 TP 316H/SIZE 1/2" OD, THICK 2.1mm	A/R	
01	IMPULSE PIPE/ ASTM A106, Gr-C / SIZE 1/2" NB/SCH-80	A/R	

01	W90318130238
00	W90318130220
VAR.NO.	MATERIAL CODE

CBOM NO.	STATUS OF DRG.
21336060500	AGREED DEPT.
NAME	SIGN
DATE	DATE

GRADE OF UNTOL. DIM.: -
M/CG- V/C/M/F AA 0230208
WELDING-A/B/C/D-AA621104
GAS CUTTING-T3'AA0621101

REV. DATE ALTERED
01 19.08.14 CHECKED SHEETAL

REV. DATE ALTERED
01 19.08.14 CHECKED SHEETAL

NOTE 2 ADDED AS PER
C/A NO:- STE-14-F0254

TYPE OF PRODUCT OR NAME OF CUSTOMER/ PROJECT		STEAM TURBINE	
Bharat Heavy Electricals Ltd. HARDWAR		DRN SSTEJSB CHD SSTEVK APD ASSTEVK	
DEPT. STE	SCALE	WEIGHT(Kg.)	REF. TO ASSY. DRG.
CODE 4011	200	21336060500	21336060510
TITLE ASSY.RACK FOR WATER INJECTION INSTRUMENTS.		DRAWING NO. 21336060510	
SHEET NO. 1		NO.OF SHEETS 1	