

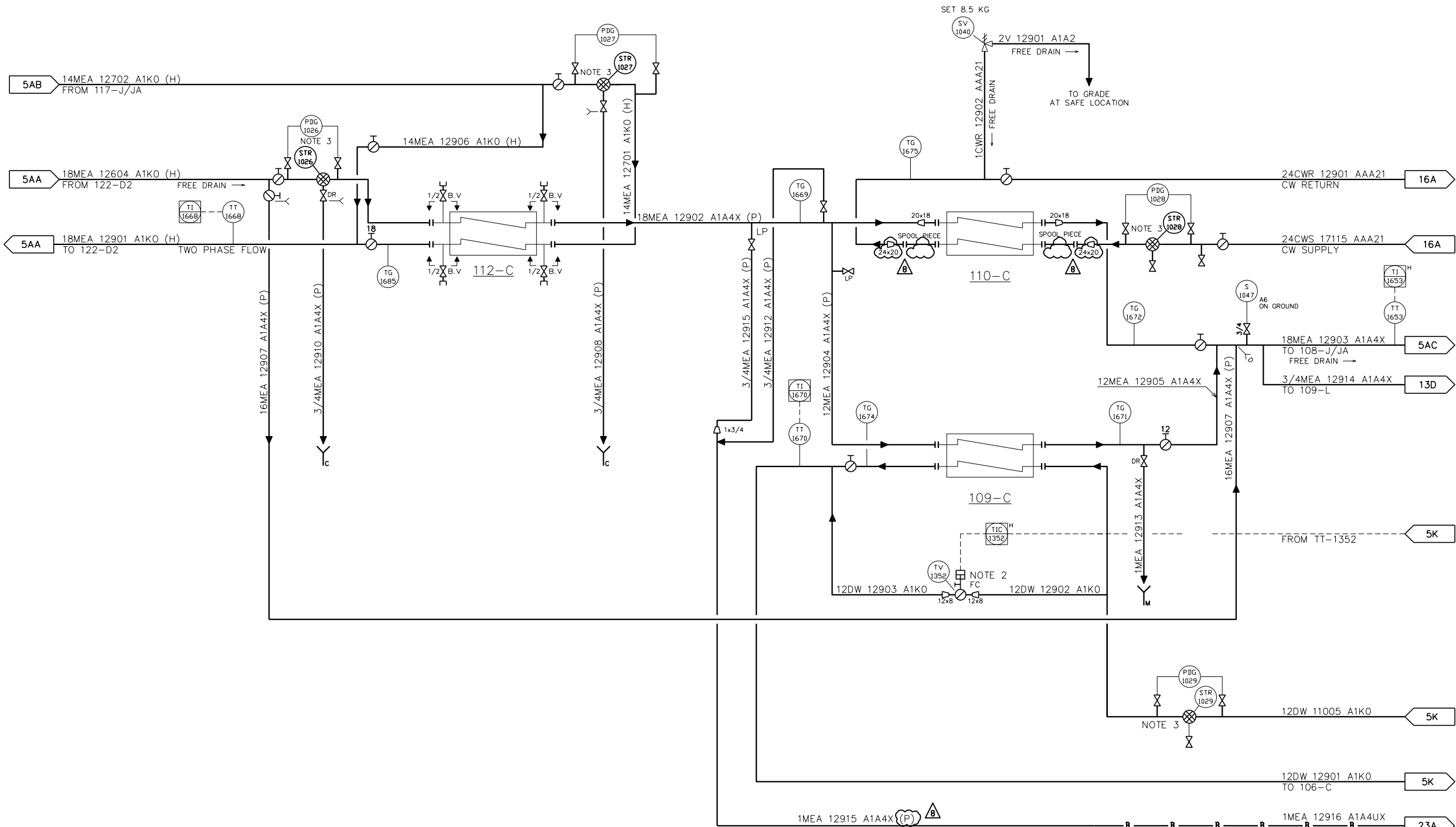
112-C			
LEAN/SEMI-LEAN SOLUTION EXCHANGER			
PLATE TYPE			
HOT SIDE		COLD SIDE	
DES./OPER.TEMP	°C 150/121.2;86.9	150/76.9;110.5	
DES./OPER.PRESS	kg/cm2G 10(MAX);-0.52(MIN)/1.5	10(MAX);-0.52(MIN)/2.6	
MATERIAL	SS316L		
SURFACE AREA	m² 1587.4		
HEAT DUTY	Gcal/h 28.583		

110-C			
LEAN SOLUTION WATER COOLER			
PLATE TYPE			
HOT SIDE		COLD SIDE	
DES./OPER.TEMP	°C 120/86.9; 50	80/36; 48	
DES./OPER.PRESS	kg/cm2G 10(MAX);-0.52(MIN)/1.2	10/4.5	
MATERIAL	SS316L		
SURFACE AREA	m² 595.6		
HEAT DUTY	Gcal/h 26.52		

109-C			
LEAN SOLUTION / DEMIN WATER PREHEATER			
PLATE TYPE			
HOT SIDE		COLD SIDE	
DES./OPER.TEMP	°C 120/86.9;56.8	86/45;56.5	
DES./OPER.PRESS	kg/cm2G 10(MAX);-0.52(MIN)/0.92	15.2/5.6	
MATERIAL	SS316L		
SURFACE AREA	m² 205.7		
HEAT DUTY	Gcal/h 6.16		

NOTES

- FOR GENERAL NOTES AND SYMBOLS SEE DRAWING 4A, 4B.
- DELETED.
- DUPLEX STRAINER.
- DELETED.
- DELETED.



REV.	DESCRIPTION	DRWN	CHNG	DESIGN	APPROV	DATE	
1	RE-ISSUED FOR CONSTRUCTION (AFC-3)	TS	ABA	DU	HCH	ANG	14/11/13
2	RE-ISSUED FOR CONSTRUCTION (AFC-2)	TS	ABA	DU	HCH	AA	29/06/13
3	RE-ISSUED FOR CONSTRUCTION (AFC-1)	TS	ABA	DU	HCH	AA	10/04/13
4	ISSUED FOR CONSTRUCTION (AFC)	EB	ABA	DU	RM	AA	25/11/12
5	RE-ISSUED FOR APPROVAL (AFD-1)	EB	ABA	DU	RM	LI	29/06/12
6	ISSUED FOR APPROVAL (AFD)	EB	ABA	DU	RM	LI	22/06/12
7	ISSUED FOR DETAIL DESIGN (ATP-2)	EB	ABA	244	YSA	BSP	14/02/12

PROJECT NAME : KALTIM-5 PROJECT
2500 MTPD AMMONIA AND 3500 MTPD UREA
BONTANG, EAST KALIMANTAN, INDONESIA
CLIENT NAME : PT. PUPUK KALIMANTAN TIMUR

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TOYO ENGINEERING CORPORATION
CONTRACTOR WORK NUMBER : 10107 / BA096300 / 11-018-01

PIPING & INSTRUMENT FLOW DIAGRAM
LEAN SOLUTION HEAT EXCHANGERS
SCALE : DWG. NO. K5-01-E1-PD-5AD-T
DOC. NO. K5-01-E1-PD-031-T SHEET 031/033 REV.8