

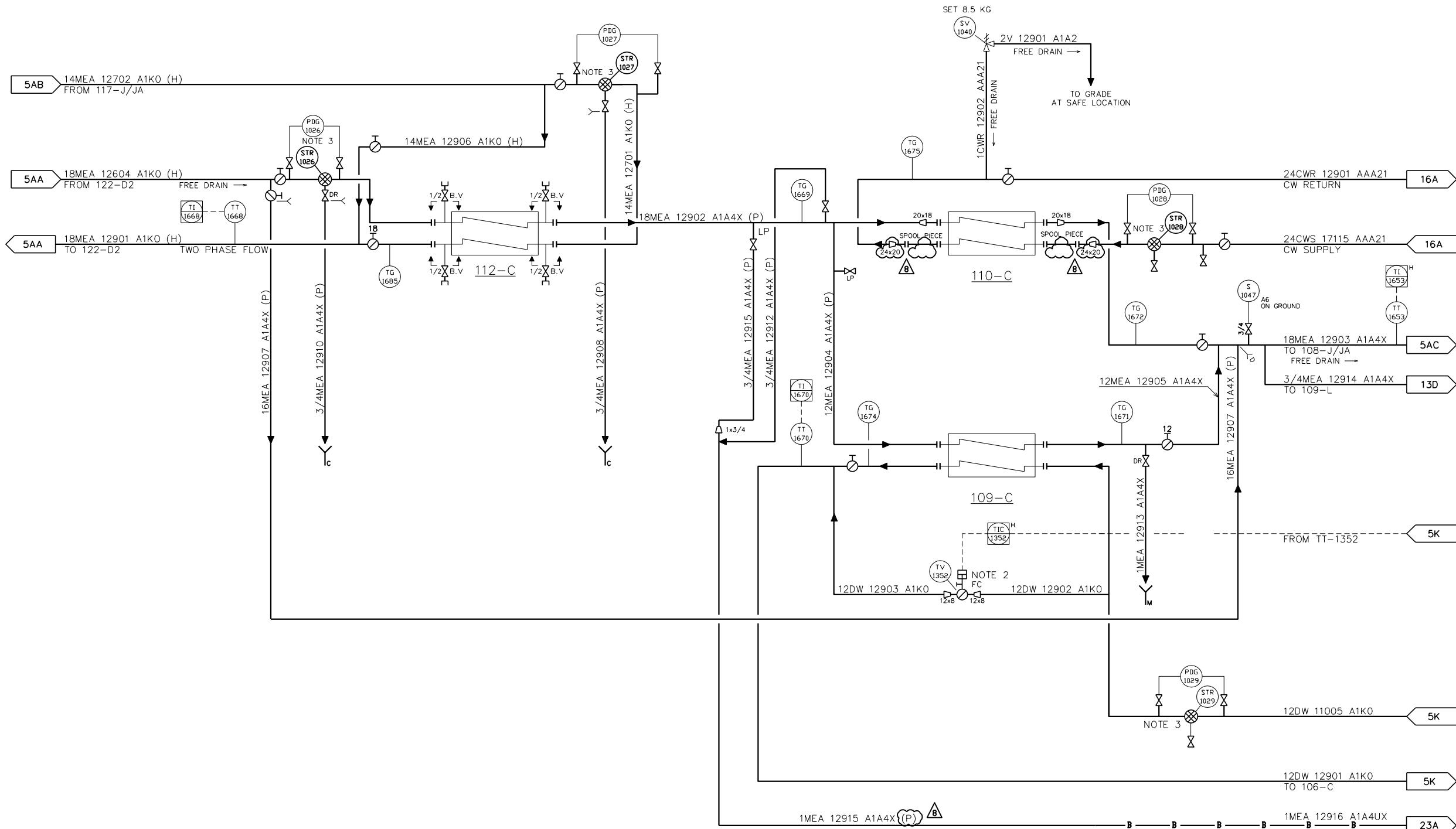
112-C	
LEAN/SEMI-LEAN SOLUTION EXCHANGER	
PLATE TYPE	
HOT SIDE	COLD SIDE
DES./OPER.TMP $^{\circ}\text{C}$ 150/121.2; 86.9	150/76.9; 110.5
DES./OPER.PRESS kg/cm <sup>2</sup> G 10(MAX); -0.52(MIN)/1.5	10(MAX); -0.52(MIN)/2.6
MATERIAL SS316L	
SURFACE AREA m <sup>2</sup> 1587.4	
HEAT DUTY Gcal/h 28.583	

110-C	
LEAN SOLUTION WATER COOLER	
PLATE TYPE	
HOT SIDE	COLD SIDE
DES./OPER.TMP $^{\circ}\text{C}$ 120/86.9; 50	80/36; 48
DES./OPER.PRESS kg/cm <sup>2</sup> G 10(MAX); -0.52(MIN)/1.2	10/4.5
MATERIAL SS316L	
SURFACE AREA m <sup>2</sup> 395.6	
HEAT DUTY Gcal/h 26.52	

109-C	
LEAN SOLUTION / DEMIN WATER PREHEATER	
PLATE TYPE	
HOT SIDE	COLD SIDE
DES./OPER.TMP $^{\circ}\text{C}$ 120/86.9; 56.8	86/45; 56.5
DES./OPER.PRESS kg/cm <sup>2</sup> G 10(MAX); -0.52(MIN)/0.92	15.2/5.6
MATERIAL SS316L	
SURFACE AREA m <sup>2</sup> 205.7	
HEAT DUTY Gcal/h 6.16	

## NOTES

1. FOR GENERAL NOTES AND SYMBOLS SEE DRAWING 4A, 4B.
2. ~~DELETED.~~ 
3. DUPLEX STRAINER.
4. DELETED.
5. DELETED.



6/1 RE-ISSUED FOR CONSTRUCTION (AFC-3)	TS	AFA	DU	HOM	ANS	HK	US	OL	V	14/11/13
6/2 RE-ISSUED FOR CONSTRUCTION (AFC-2)	TS	AFA	DU	HOM	AM	HK	US	OL	V	28/06/13
5/1 ISSUED FOR CONSTRUCTION (AFC)	TS	AFA	DU	HOM	AM	SPN	US	OL	V	10/04/13
5/2 ISSUED FOR APPROVAL (AFD)	ED	AFA	DU	RK	AM	SPN	US	OL	V	26/11/12
5/3 ISSUED FOR APPROVAL (AFD)	ED	AFA	DU	RK	U	SPN	US	OL	V	29/06/12
2/1 ISSUED FOR DETAIL DESIGN (ADD-2)	ED	AFA	JAK	YSH	BOP	HN	SPN	OL	V	14/05/12
REV. DESCRIPTION	DRW	CHNG	DES	CHNG	APD	APD	APD	APD	APD	ISSUE DATE

REVISIONS

PROJECT NAME : KALTIM-5 PROJECT  
2500 MTPD AMMONIA AND 3500 MTPD UREA  
BONTANG, EAST KALIMANTAN, INDONESIACLIENT NAME : PUPUK KALTIM  
PT. PUPUK KALIMANTAN TIMUREngineering Services by  
KBR Technical Services, Inc.

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ABBR. FOR ISSUE  
C=CLIENT  
E=ENGINEER  
S=SITE  
V=VENDORCONTRACTOR : ISSUE MARK  
KBR PT. INDIKAYA PURBA TEKNIK  Toyo Engineering Corporation

CONTRACTOR WORK NUMBER : 10107 / BA096300 / 11-018-01

PIPING & INSTRUMENT FLOW DIAGRAM  
LEAN SOLUTION HEAT EXCHANGERSSCALE  DWG. NO. K5-01-E1-PD-5AD-T

DOC. NO. K5-01-E1-PD-031-T SHEET 03/073 REV.8