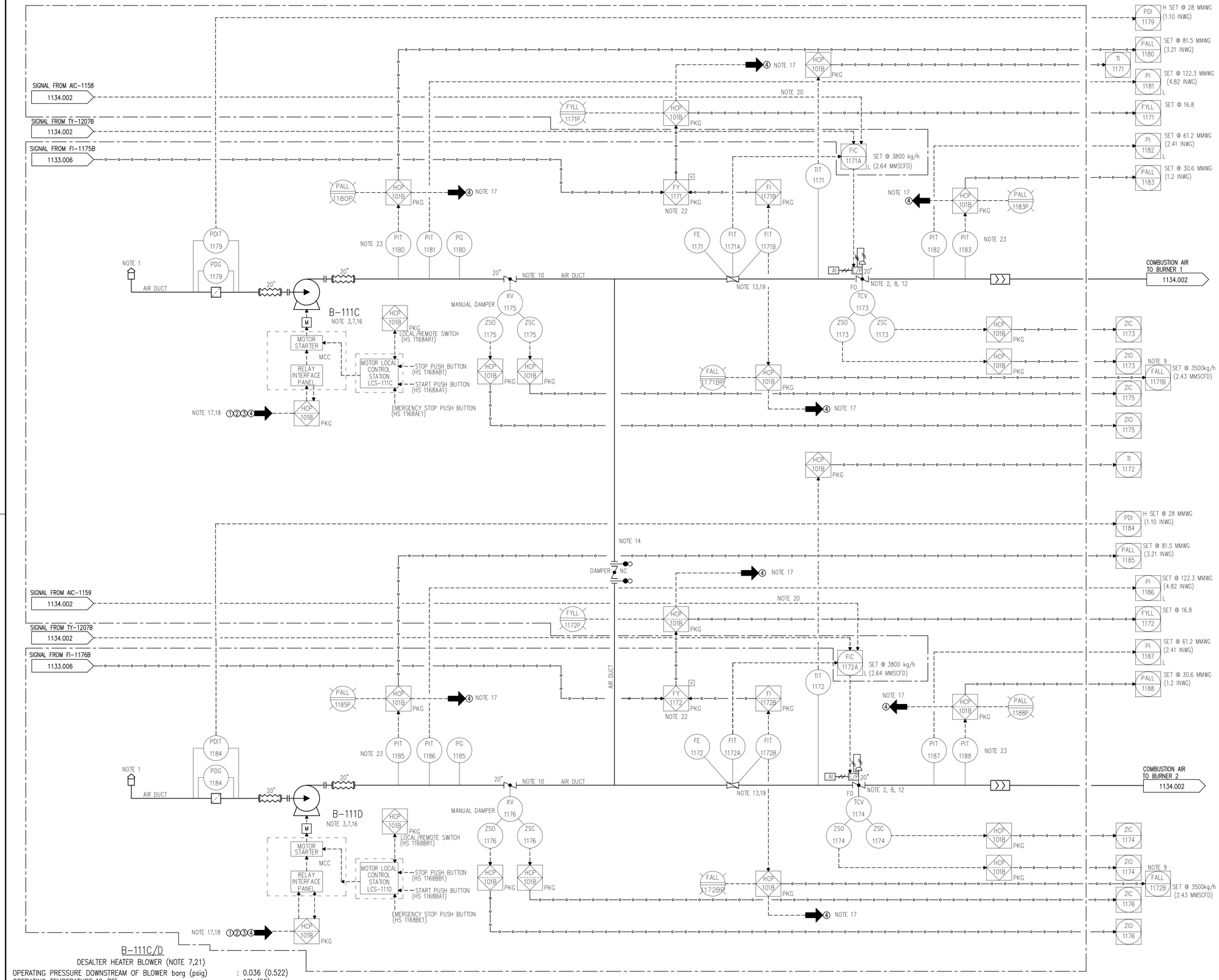

B-111C/D

DESALTER HEATER BLOWER (NOTE 7,21)

OPERATING PRESSURE DOWNSTREAM OF BLOWER barg (psig)	: 0.036 (0.522)
OPERATING TEMPERATURE °C (°F)	: 15° (59)
DIFFERENTIAL PRESSURE bar (psi)	: 0.037 (0.537)
FLOWRATE Nm3/hr (MMSCFD)	: 6713.3 (5.99)
DRIVER POWER KW (hp)	: 18.5 (24.8)
MOLECULAR WEIGHT kg/ kgmol (lb/lbmol)	: 28.8 (28.8)
UTC NO. :	
TRIM NO.	: KT-B111A-C13B

GENERAL NOTES:

A. FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001 & .002.
B. ALL EQUIPMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 530-.
C. ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 030-.
D. FOR TYPICAL INSTRUMENT CONNECTION SBDV, XV, MOV & ESDV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.002, .003, .004, .005, .006 & .007.
E. FOR MISCELLANEOUS PIPING TYPICAL VALVING, DRAINAGE & GENERAL ARRANGEMENT OF LEVEL INSTRUMENTS, PUMPS, STRAINERS & CONTROL VALVES SEE DRAWINGS 50489-530-020-PID-1108.001 TO 1108.010.
F. DRAWING NUMBERS SHOWN IN P&ID CONTINUATION BOXES ARE ABBREVIATED SHOWING DRAWING SEQUENTIAL NUMBERS ONLY. THE FULL FORM OF THE DRAWING NUMBER IS 50489-530-020-PID-XXXX.SHT.NO.
G. FOR MATERIAL SELECTION DIAGRAM SEE DRAWINGS 50489-530-020-MSD-1001.001 TO 1023.
H. DETAIL NUMBERING FOR CI, SC, CC & CP SEE DRAWING 50489-530-020-PID-1108.003.
I. PAINTING & COATING ARE IN ACCORDANCE WITH KOC-P-001.
J. LOW POINT DRAIN & HIGH POINT VENT ARE INDICATED IN P&ID.
K. FOR CAUSE & EFFECT REFER DOC. NO. 50489-530-020-PHL-1009.
L. FOR ALARM VALUES REFER DOC. NO. 50489-530-020-SUM-1006.

NOTES:

1. INLET STACK IS ELEVATED ABOVE DRIFTING SAND LEVEL. AIR INTAKE SILENCER AND FILTER IN AIR INTAKE STACK.
2. PROVISION AVAILABLE FOR LIMITING THE OPENING OF TCV TO LOW FIRE POSITION AT THE START-UP AND TO A HIGH FIRE POSITION AT THE MAXIMUM SAFE FIRING RATE . NECESSARY PROVING SWITCHES, INTERLOCKS & MANUAL LOADING STATIONS PROVIDED FOR START-UP AND SHUTDOWN.
3. BLOWER MOTOR IS INTERLOCKED WITH FLAME SAFETY AND SAFETY SHUTDOWN SYSTEM.
4. DELETED.
5. DELETED.
6. HEATER LOCAL CONTROL PANEL INCLUDE ALL RELATED ALARM SEQUENCE AND OPERATING LIGHT REPEATS.
7. BURNER CONFIGURATION IS 2x100% ACCORDINGLY BLOWERS ARE ABLE TO OPERATE AS 2x100%
8. MECHANICAL STOPPER IS PROVIDED TO PREVENT TOTAL CLOSURE OF AIR LINE. THIS CORRESPOND TO 4140 kg/h (2.87 MMSCFD) COMBUSTION AIR.
9. INTERLOCK TO START-UP PERMISSIVE.
10. THE MATERIAL OF AIR DUCT IS ASTM A36.
11. LOCAL CONTROL PANEL OF BURNERS ARE LOCATED ON FIELD (20m (66FT) FROM BURNERS).
12. DAMPER.
13. VENTURI FLOW METER.
14. BYPASS LINE IS OPTION FOR FUTURE.
15. FOR TRIP INTERLOCK WITH LEVEL OF SHUT DOWN PLEASE REFER TO VENDOR DOCUMENT 50489-530-020-29021-CAE-V001
16. PROVIDE ACCESS TO REMOVE SAND FROM BLOWER CASING.
17. SHUTDOWN LEVELS (1,2,3) ARE EXECUTED IN ESD AND SHUTDOWN LEVEL-4 IS EXECUTED IN BMS (BURNER MANAGEMENT SYSTEM) LOGIC
18. ALL INTERCONNECTING SIGNALS BETWEEN BMS AND RELAY INTERFACE PANEL ARE SHOWN ON P&ID NO. 50489-530-020-PID-1133.008.
19. STRAIGHT RUN : 15D UPSTREAM – 5D DOWNSTREAM.
20. AS SOON AS BURNER DUTY (I.E. FUEL GAS FLOW RATE) IS STABILIZED (CRITERION FG FLOW RATE VARIATION <4% OVER A PERIOD OF 5 MINUTES : WILL BE ADJUSTED DURING COMMISIONNING), CASCADE REGULATION AC 1158 –> FIC 1171A (RESPECTIVELY AC 1159 –> FIC 1172A) IS ACTIVE. REFER CONTROL PHILOSOPHY 50489-530-020-29021-PHL-V001.
21. INDICATED BLOWER INFO IS FOR NORMAL WINTER CASE (LEAN GAS, 15°C AND 100% DUTY) HOWEVER THE BLOWERS ARE DESIGNED CONSIDERING MAX. AIR TEMPERATURE OF 55°C.
22. FY IS RATIO AIR FLOW RATE (kg/h)/FG FLOW RATE (kg/h).
23. ISOLATION VALVE OF PRESSURE TRANSMITTER (CONNECTED TO ESD) SHALL BE LO TYPE.
24. PTC THERMISTOR EMBEDDED IN SERIES OF THREE-ONE BETWEEN EACH PHASE OF MOTOR IS INBUILT IN MOTOR FOR WINDING TEMPERATURE HIGH AND CONNECTED TO MOTOR STARTER IN MCC FOR TRIPPING THE MOTOR FROM MCC.

AS-BUILT	
KOC APPROVAL	
NAME / KOC No:	
DESIGNATION :	
GROUP / TEAM :	
SIGNATURE :	
DATE :	

AS-BUILT	
LARSEN & TOUBRO LIMITED	
NAME :	VAIBHAV VERMA
DESIGNATION :	AGM
SIGNATURE :	
DATE :	20-Sep-2018
DEPT/ DIVISON :	ENGINEERING

REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE
				APPRD.		
Z0	ISSUED FOR AS-BUILT	CHS	CHS	VAV	VAV	20.09.18
01	RE-ISSUED FOR CONSTRUCTION	CHS	CHS	VAV	VAV	24.02.18
0	ISSUED FOR CONSTRUCTION	HSH/PS	AKG	SRA	RAK	02.06.16
D	ISSUED INCORPORATED CLIENT COMMENTS	HSH/PS	AKG	SRA	RAK	29.04.16
C	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	11.09.15
B	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	17.02.15
A	ISSUED FOR APPROVAL	BAK/VSA	AKG	SRA	RAK	29.11.14

CONTRACTOR REVISION

KUWAIT OIL CO. K. S. C.
شركة نفط الكويت ش.م.ك.

CONTRACTOR DETAILS:–
LARSEN & TOUBRO LIMITED
FARIDABAD

PROJECT TITLE:–
NEW GATHERING CENTRE GC–30
IN NORTH KUWAIT

DOCUMENT TITLE:–
PIPING & INSTRUMENTATION DIAGRAM
DESALTER FEED HEATER BLOWER SYSTEM TRAIN A (F-101B)

PROJECT NO	DRAWING NO.			
EF1902	CONTRACTOR DRG. NO.	REV.	KOC DRG. NO.	REV.
	50489-530-020-PID-1133.005	Z0		
	SHEET NO. 5 OF 16		SHEET NO.	
	COMPANY DRG. NO.	REV.		
	EF1902-530-DCO-PID-0133.001	A2		
	SHEET NO.			

A1