L-121C/122C
INTERTIAL FILTERS

CAPACITY Nm3/h (MMSFD)	: 815.8 (0.729)
ID mm (ft.-in)	: N/A
LENGTH /T mm (ft.-in)	: N/A
OP PRESS / DES PRESSURE barg (psig)	: ATM / 0.5 (7.25)
OP TEMP / DESIGN TEMP °C (°F)	: AMB / 55 / -3 (AMB / 131 / 26.6)
UTC NO.	:
TRIM NO.	: L121C/122C-S10A

L-125C/126C
CHEMICAL FILTERS

CAPACITY Nm3/h (MMSFD)	: 815.8 (0.729)
ID mm (ft.-in)	: N/A
LENGTH /T mm (ft.-in)	: N/A
OP PRESS / DES PRESSURE barg (psig)	: ATM / 0.5 (7.25)
OP TEMP / DESIGN TEMP °C (°F)	: AMB / 55 / -3 (AMB / 131 / 26.6)
UTC NO.	:
TRIM NO.	: L125C/126C-S10A

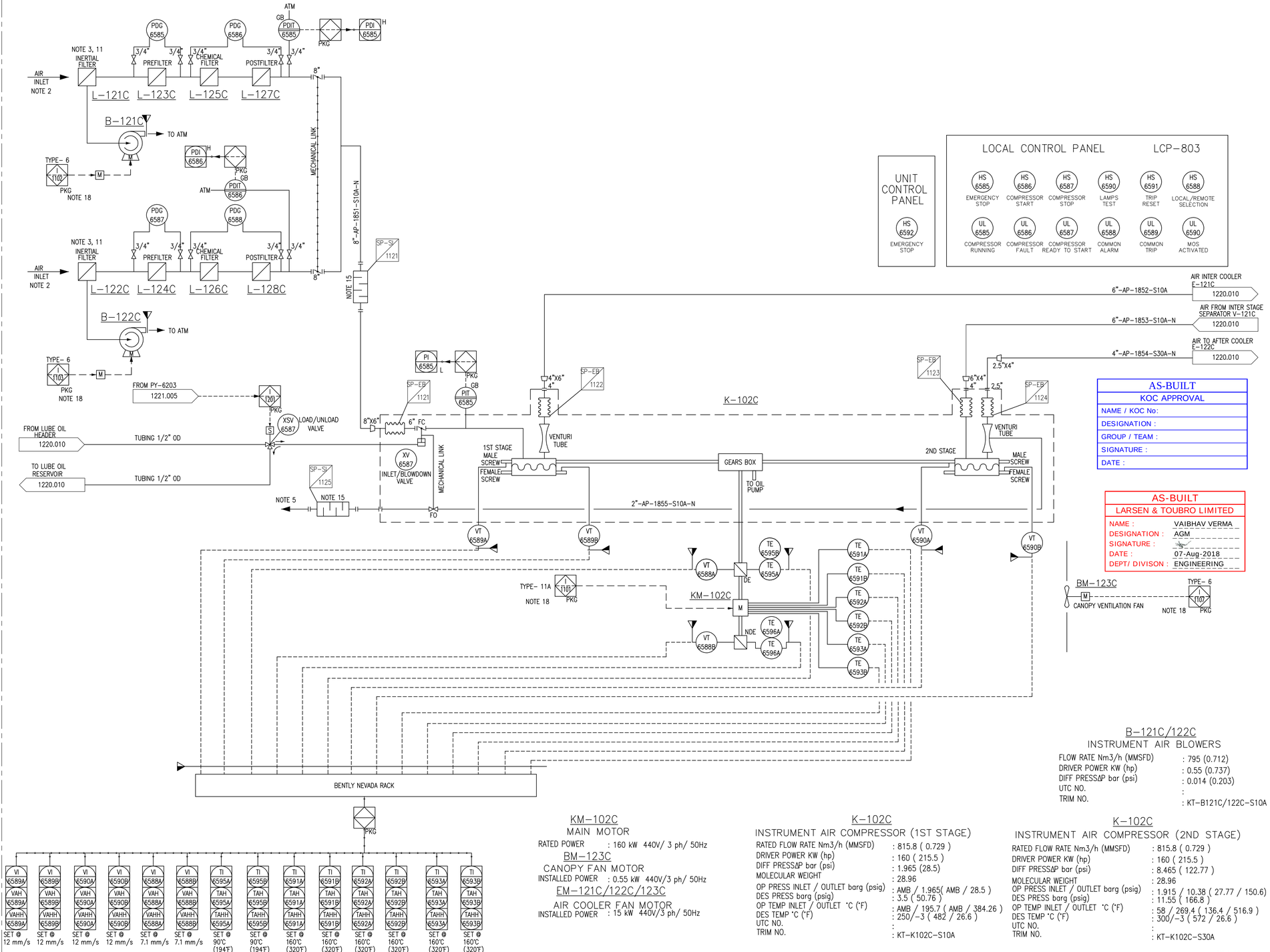
L-123C/124C
PRE FILTERS

CAPACITY Nm3/h (MMSFD)	: 815.8 (0.729)
ID mm (ft.-in)	: N/A
LENGTH /T mm (ft.-in)	: N/A
OP PRESS / DES PRESSURE barg (psig)	: ATM / 0.5 (7.25)
OP TEMP / DESIGN TEMP °C (°F)	: AMB / 55 / -3 (AMB / 131 / 26.6)
UTC NO.	:
TRIM NO.	: L123C/124C-S10A

L127C/128C
POST FILTERS

CAPACITY Nm3/h (MMSFD)	: 815.8 (0.729)
ID mm (ft.-in)	: N/A
LENGTH /T mm (ft.-in)	: N/A
OP PRESS / DES PRESSURE barg (psig)	: ATM / 0.5 (7.25)
OP TEMP / DESIGN TEMP °C (°F)	: AMB / 55 / -3 (AMB / 131 / 26.6)
UTC NO.	:
TRIM NO.	: L127C/128C-S10A

NOTE 16



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

AS-BUILT
LARSEN & TOUBRO LIMITED
NAME : VAIBHAV VERMA
DESIGNATION : AGM
SIGNATURE :
DATE : 07-Aug-2018
DEPT/ DIVISON : ENGINEERING

B-121C/122C
INSTRUMENT AIR BLOWERS

FLOW RATE Nm3/h (MMSFD)	: 795 (0.712)
DRIVER POWER KW (hp)	: 0.55 (0.737)
DIFF PRESSΔP bar (psi)	: 0.014 (0.203)
UTC NO.	:
TRIM NO.	: KT-B121C/122C-S10A

KM-102C
MAIN MOTOR
RATED POWER : 160 kW 440V/ 3 ph/ 50Hz

BM-123C
CANOPY FAN MOTOR
INSTALLED POWER : 0.55 kW 440V/3 ph/ 50Hz

EM-121C/122C/123C
AIR COOLER FAN MOTOR
INSTALLED POWER : 15 kW 440V/3 ph/ 50Hz

K-102C
INSTRUMENT AIR COMPRESSOR (1ST STAGE)

RATED FLOW RATE Nm3/h (MMSFD)	: 815.8 (0.729)
DRIVER POWER KW (hp)	: 160 (215.5)
DIFF PRESSΔP bar (psi)	: 1.965 (28.5)
MOLECULAR WEIGHT	: 28.96
OP PRESS INLET / OUTLET barg (psig)	: AMB / 1.965(AMB / 28.5)
DES PRESS barg (psig)	: 3.5 (50.76)
OP TEMP INLET / OUTLET °C (°F)	: AMB / 195.7 (AMB / 384.26)
DES TEMP °C (°F)	: 250/-3 (482 / 26.6)
UTC NO.	:
TRIM NO.	: KT-K102C-S10A

K-102C
INSTRUMENT AIR COMPRESSOR (2ND STAGE)

RATED FLOW RATE Nm3/h (MMSFD)	: 815.8 (0.729)
DRIVER POWER KW (hp)	: 160 (215.5)
DIFF PRESSΔP bar (psi)	: 8.465 (122.77)
MOLECULAR WEIGHT	: 28.96
OP PRESS INLET / OUTLET barg (psig)	: 1.915 / 10.38 (27.77 / 150.6)
DES PRESS barg (psig)	: 11.55 (166.8)
OP TEMP INLET / OUTLET °C (°F)	: 58 / 269.4 (136.4 / 516.9)
DES TEMP °C (°F)	: 300/-3 (572 / 26.6)
UTC NO.	:
TRIM NO.	: KT-K102C-S30A

NOTE 16

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-1106.001, .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. ALL THE DRAINS FROM THE COMPRESSOR PACKAGE/VESSELS ARE COMBINED INTO A COMMON HEADER AND ROUTED TO THE NEAREST SWALE/SOAKAWAY.
2. AIR INTAKE FILTER MOUNTED AT SAFE LOCATION, AWAY FROM HYDROCARBONS.
3. AIR INTAKE IS CAPABLE OF REJECTING SAND, 100 % REMOVAL OF ALL PARTICLES LARGER THAN 1 MICRON.
4. PACKAGE INCLUDES AFTER/INTERCOOLERS, MOISTURE SEPARATORS AND ALL NECESSARY INSTRUMENTATION AND CONTROLS. ALL COOLING BY AMBIENT AIR.
5. VENT TO SAFE LOCATION.
6. INSTRUMENT AIR COMPRESSORS ARE ALSO ON EMERGENCY POWER SUPPLY.
7. DELETED.
8. THE MASTER CONTROL MAINTAINS TWO COMPRESSOR RUNNING AND ONE IN STANDBY (3X50%).WHEN ONE OF THE TWO COMPRESSOR RUNNING TRIPS, THE MASTER CONTROLLER STARTS THE STANDBY COMPRESSOR. FOR MORE INFORMATIONS REFER, LOADING/UNLOADING OPERATIONS AS DESCRIBED IN DOC." PROCESS AND CONTROL PHILOSOPHY FOR INSTRUMENT AIR COMPRESSOR AND DRYER PACKAGE" 50489-530-020-00048-PHL-V001.
9. DELETED
10. PROVIDED H2S DETECTOR AT AIR INTAKE FILTER.
11. INLET FILTERS ARE COMPOSED BY FOUR FILTRATION STAGES (INERTIAL FILTER IS INERTIAL GRID WITH AIR BLOWER FOR THE EXTRACTION OF SAND; PREFILTER IS A POCKET FILTER FOR FURTHER SAND REMOVAL; CHEMICAL FILTER IS A MODULE FOR H2S REMOVAL AND POSTFILTER IS GLASS MICROFIBER FILTER FOR LAST PARTICLE REMOVAL).THE FILTERS WORK WITH 2X100% LOGIC.THE COMPRESSOR USES THE MAIN DRIVE MOTOR FOR BOTH STAGES OF COMPRESSION AND FOR THE LUBE OIL PUMP.
12. THE COMPRESSOR USES THE MAIN DRIVE MOTOR FOR BOTH STAGES OF COMPRESSION AND FOR THE LUBE OIL PUMP.
13. DELETED
14. DELETED
15. THESE ARE THE IN-LINE SILENCERS.
16. FOR CONTINUATION, SEE DRAWING 50489-530-020-PID-1220.010.
17. FOR SET POINTS OF ALARM, REFER TO VENDOR DOCUMENT "50489-530-020-00048-LST-V002 ALARM & TRIP SET-POINT SUMMARY FOR INSTRUMENT AIR COMPRESSOR AND DRYER PACKAGE"
18. FOR MORE DETAIL,REFER 50489-530-020-PID-1220.016.
19. PACKAGE LOGIC IS IMPLEMENTED IN PACKAGE PLC. ALL RELEVANT SIGNALS ARE TRANSFERRED TO DCS FOR SMOOTH OPERATION FROM DCS.
20. INSTRUMENT AIR COMPRESSORS ARE ALSO ON EMERGENCY POWER SUPPLY.
21. MOTOR WINDING RTDS ARE SIMPLEX TYPE, WHILE BEARING RTDS ARE DUPLEX TYPE.
22. VENDOR PID NO: 50489-530-020-00048-PID-V001 SHEET 1 OF 3.

REV.	DESCRIPTION	DRAWN	CHECKED	HOD APPRD.	PEM	DATE
		PAK/ABY	AKG	SRA	RAK	
Z0	ISSUED FOR AS-BUILT	PAK/ABY	AKG	SRA	RAK	07.08.18
0	ISSUED FOR CONSTRUCTION	PAK/ABY	AKG	SRA	RAK	10.06.16
B	ISSUED INCORPORATED CLIENT COMMENTS	PAK/ABY	AKG	SRA	RAK	13.05.16
A	ISSUED FOR APPROVAL	JSI/ABY	AKG	SRA	RAK	29.10.15

CONTRACTOR REVISION

KUWAIT OIL CO. K. S. C.
شركة نفط الكويت ش.م.ك.
A Subsidiary of Kuwait Petroleum Corporation

CONTRACTOR DETAILS:-
LARSEN & TOUBRO LIMITED
FARIDABAD

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

DOCUMENT TITLE:-
PIPING & INSTRUMENTATION DIAGRAM
INSTRUMENT AIR COMPRESSOR (K-102C)

PROJECT NO.	DRAWING NO.				
EF1902	CONTRACTOR DRG. NO.	REV.	KOC DRG. NO.		REV.
	50489-530-020-PID-1220.009	Z0			
	SHEET NO. 09 OF 16		SHEET NO.		
	COMPANY DRG. NO.	REV.			
	EF1902-530-DCO-PID-0220.001	A3			
	SHEET NO.				

A1