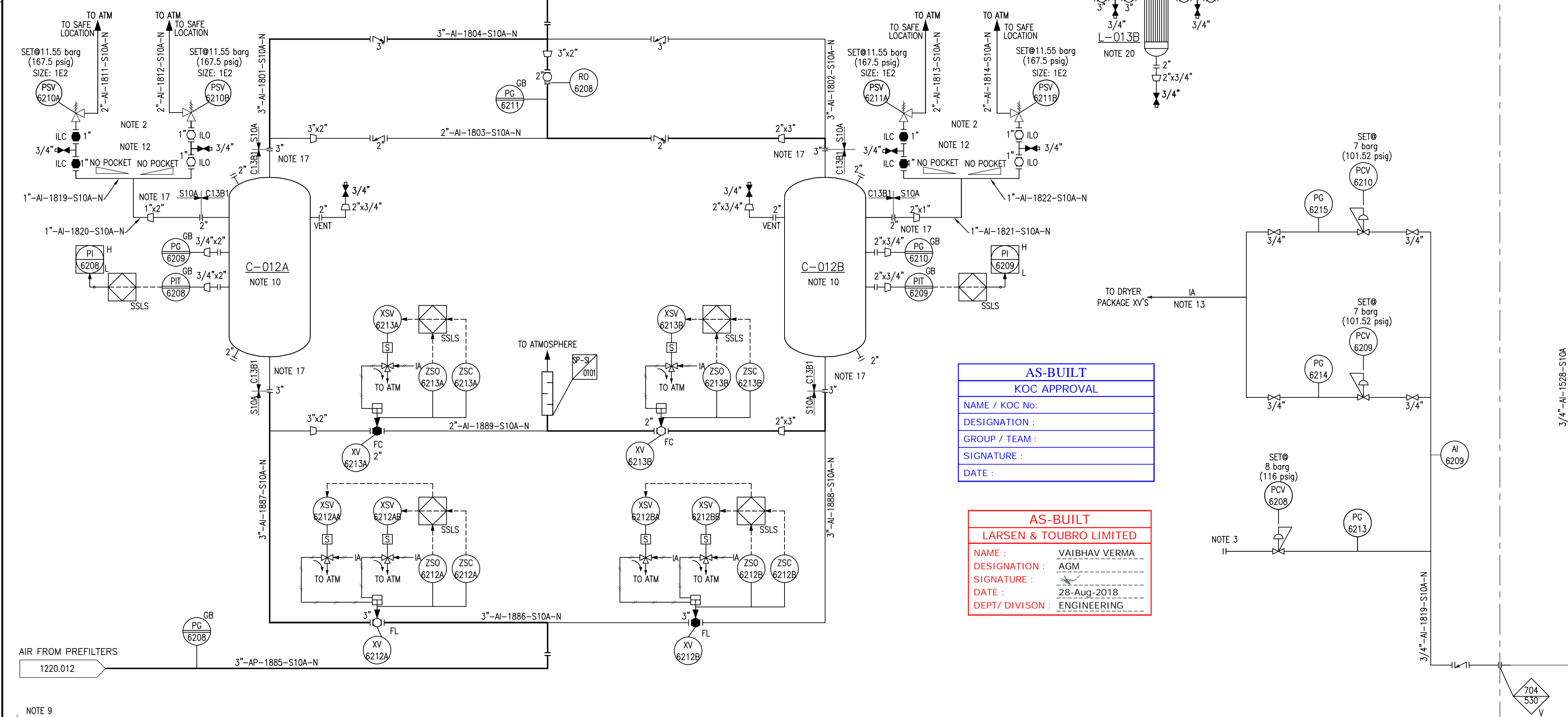


C-012A/B DRYER VESSELS		Z-012A/B INSTRUMENT AIR DRYER PACKAGE	
CAPACITY Nm ³ /hr (MMSFD)	: 1250 (1.11)	OUTLET CAPACITY Nm ³ /h (MMSFD)	: 1040 (0.93)
ID mm (ft.-in)	: 621 (2'-0.4")	OP PRESS / DES PRESSURE barg (psig)	: 9.3 / 11.55 (134.88 / 167.5)
LENGTH / T mm (ft.-in)	: 1580 (5'-2")	OP TEMP / DESIGN TEMP °C (°F)	: 65 / 93 / -3 (149 / 199.4 / 27)
OP PRESS / DES PRESS barg (psig)	: 9.6/11.55 (139.23/167.5)		
OP TEMP / DESIGN TEMP °C (°F)	: 65/93/-3 (149/199.4/27)		
UTC NO.	: CT-C-012A/B-C13B1		
TRIM NO.			
L-013A/B POSTFILTERS			
CAPACITY Nm ³ /h (MMSFD)	: 1250 (1.11)		
ID mm (ft.-in)	: 202.8 (0'-8")		
LENGTH / T mm (ft.-in)	: 1342 (4'-4.8")		
OP PRESS / DES PRESSURE barg (psig)	: 9.4 / 11.55 (136.3 / 166.8)		
OP TEMP / DESIGN TEMP °C (°F)	: 65 / 93 / -3 (149 / 199.4 / 27)		
UTC NO.	: VT-L013A/B-S10A/S30A		
TRIM NO.			

NOTE 9



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

AS-BUILT LARSEN & TOUBRO LIMITED	
NAME :	VAIBHAV VERMA
DESIGNATION :	AGM
SIGNATURE :	
DATE :	28-Aug-2018
DEPT/ DIVISION :	ENGINEERING

GENERAL NOTES:

- FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001 & .002.
- ALL EQUIPMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 530-.
- ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 030-.
- FOR TYPICAL INSTRUMENT CONNECTION, SBOV, XV, MOV & ESDV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.001, .002, .003, .004, .005, .006 & .007.
- 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.
- 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-XXXX.SHT.NO.
- FOR MATERIAL SELECTION DIAGRAM SEE DRAWINGS 50489-530-020-MSD-1001.001 TO 1023.
- DETAIL NUMBERING FOR CL, SC, CC & CP SEE DRAWING 50489-530-020-PID-1108.003.
- PAINTING & COATING ARE IN ACCORDANCE WITH KOC-P-001.
- LOW POINT DRAIN & HIGH POINT VENT ARE INDICATED IN P&ID.
- FOR CAUSE & EFFECT REFER DOC. NO. 50489-530-020-PHL-1009.
- FOR ALARM VALUES REFER DOC. NO. 50489-530-020-SUM-1006.

NOTES:

- DEW POINT ANALYSER.
- WEEP HOLE IS INSTALLED AT LOW POINT OF PSV OUTLET LINE.
- CONNECTION FOR MOBILE COMPRESSOR.
- INSTRUMENT AIR DRYER PACKAGE IS CONTROLLED ONLY LOCALLY. ALL EQUIPMENT STATUS/ALARMS ARE AVAILABLE IN DCS.
- DEW POINT IS 40°C BELOW AMBIENT AT 7 barg.
- DELETED
- VENT TO SAFE LOCATION.
- DELETED
- FOR CONTINUATION, SEE DRAWING 50489-530-020-PID-1220.012.
- DRYING MATERIAL IS ACTIVATED ALUMINA.
- WORKING OPERATIONS ARE DESCRIBED IN DOC. "PROCESS AND CONTROL PHILOSOPHY FOR INSTRUMENT AIR COMPRESSOR AND DRYER PACKAGE" 50489-530-020-00048-PHL-V001.
- RELIEF VALVE INLET VALVES ARE KEY INTERLOCKED SUCH THAT ONE RELIEF VALVE IS ALWAYS ON-LINE.
- INSTRUMENT AIR TO SOLENOID VALVES ON DRYER PACKAGES.
- WHEN DRYER IS OPERATING IN "DEW POINT CONTROL MODE", THE DEW-POINT VALUE AI-6208 CONTROLS THE DURATION OF THE CYCLE, FROM A MINIMUM OF 6 MINUTES (IF DEW-POINT IS OFF-SPEC) TO A MAXIMUM OF 60 MINUTES IN THE BEST POSSIBLE CONDITION. FOR MORE INFORMATION, REFER TO "PROCESS AND CONTROL PHILOSOPHY FOR INSTRUMENT AIR COMPRESSOR AND DRYER PACKAGE" 50489-530-020-00048-PHL-V001.
- THE PACKAGE LOGIC IS IMPLEMENTED IN SSLS. THE OPERATION OF THE PACKAGE IS FROM DCS. ALL RELEVANT SYMBOLS ARE TRANSFERRED TO DCS FOR SMOOTH OPERATION FROM DCS.
- THE DRYER PACKAGE OPERATES ON THE PRESSURE SWING PRINCIPLE, WITH ONE ADSORBING COLUMN ON DRYING DUTY WHILST THE OTHER ONE IS DEPRESSURIZED AND PURGED BY MEANS OF A STREAM OF DRY EXPANDED AIR TAKEN FROM THE OUTLET MANIFOLD. FOR THE OPERATION OF REGENERATION AND ADSORPTION, REFER TO THE CLAUSE 10.3.2 OF THE DOCUMENT "PROCESS AND CONTROL PHILOSOPHY FOR INSTRUMENT AIR COMPRESSOR AND DRYER PACKAGE" 50489-530-020-00048-PHL-V001.
- THE DRYER VESSELS ARE IN CARBON STEEL AND PIPING IS STAINLESS STEEL (PIPING CLASS S10A).
- THE VALVE XV-6214A AND VALVE XV-6214B ARE FEEDED AT THE SAME TIME BY THE SOLENOID VALVES XSV-6214A AND XSV-6214B. IN FACT XV-6214A AND XV-6214B WORK TOGETHER; WHEN THE FIRST IS OPEN, THE LATTER MUST BE OPEN TOO AND VICE VERSA, AS PER PROCESS & CONTROL PHILOSOPHY. (DOC. NO. 50489-530-020-00048-PHL-V001).
- VENDOR PID NO: 50489-530-020-00048-PID-V003 SHEET 2 & 3 OF 3.
- POST FILTER-B (L-013B) IS 100% SPARE FOR POST FILTER-A (L-013A).

REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE
20	ISSUED FOR AS-BUILT	HSB/ABY	AKG	SRA	RAK	28.08.18
01	ISSUED FOR CONSTRUCTION	HSB/ABY	AKG	SRA	RAK	22.08.16
0	ISSUED FOR CONSTRUCTION	PAK/ABY	AKG	SRA	RAK	14.06.16
B	ISSUED INCORPORATED CLIENT COMMENTS	PAK/ABY	AKG	SRA	RAK	17.05.16
A	ISSUED FOR APPROVAL	JSI/ABY	AKG	SRA	RAK	17.10.15

CONTRACTOR REVISION

KUWAIT OIL CO.
K. S. C.

شركة النفط 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 INSTRUMENT AIR DRYER TRAIN A DRYER SYSTEM	
PROJECT NO.	DRAWING NO.
EF1902	50489-530-020-PID-1220.013
CONTRACTOR DRG. NO.	REV. KOC DRG. NO.
50489-530-020-PID-1220.013	20
SHEET NO. 13 OF 16	SHEET NO.
COMPANY DRG. NO.	REV.
EF1902-530-DCO-PID-0221.003	A3
SHEET NO.	