

V-012C/D
AIR DRYER KO DRUM
CAPACITY Nm³/h (MMSFD) : 1250 (1.11)
ID mm (ft.-in) : 390 (1'-3.3")
LENGTH / T mm (ft.-in) : 980 (3'-2.6")
OP PRESS / DES PRESSURE barg (psig) : 9.75 / 11.55 (141.41 / 167.8)
OP TEMP / DESIGN TEMP °C (°F) : 65 / 93 / -3 (149 / 199.4 / 27)
UTC NO. :
TRIM NO. : VT-V012C/D-S10A/S30A

L-012C/D
PREFILTERS
CAPACITY Nm³/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) : 9.7 / 11.55 (140.68 / 166.8)
OP TEMP / DESIGN TEMP °C (°F) : 65 / 93 / -3 (149 / 199.4 / 27)
UTC NO. :
TRIM NO. : VT-L012C/D-S10A/S30A

Z-012B
INSTRUMENT AIR DRYER PACKAGE
OUTLET CAPACITY Nm³/h (MMSFD) : 1040 (0.93)
OP PRESS / DES PRESSURE barg (psig) : 9.3 / 11.55 (134.88 / 166.8)
OP TEMP / DESIGN TEMP °C (°F) : 65 / 93 / -3 (149 / 199.4 / 27)

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, SHOW XY, MOV & ESDN DETAILS SEE DRAWINGS 50489-530-020-PID-1108.001, .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-1108.010 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.SHEET NO.
- G. FOR MATERIAL SELECTION DIAGRAM SEE DRAWINGS 50489-530-020-MSD-1001.001 TO 1023.
- H. DETAIL NUMBERING FOR CL, 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-PHE-1009.
- L. FOR ALARM VALUES REFER DOC. NO. 50489-530-020-SUM-1006.

NOTES:

- 1. DELETED
- 2. WEEP HOLE IS INSTALLED AT LOW POINT OF PSV OUTLET LINE.
- 3. DELETED
- 4. INSTRUMENT AIR DRYER PACKAGE IS CONTROLLED LOCALLY. ALL EQUIPMENT STATUS/ALARMS ARE AVAILABLE IN DCS.
- 5. DELETED
- 6. DELETED
- 7. VENT TO SAFE LOCATION.
- 8. DELETED
- 9. FOR CONTINUATION, SEE DRAWING 50489-530-020-PID-1220.015.
- 10. RELIEF VALVE INLET VALVES ARE KEY INTERLOCKED SUCH THAT ONE RELIEF VALVE IS ALWAYS ON-LINE.
- 11. DRAINS ARE ROUTED TO THE NEAREST SWALE/STORMWAY.
- 12. THE PACKAGE LOGIC IS IMPLEMENTED IN SSS. THE OPERATION OF THE PACKAGE IS FROM DCS. ALL RELEVANT SIGNALS ARE TRANSFERRED TO DCS FOR SMOOTH OPERATION FROM DCS.
- 13. THE DRYER PACKAGE OPERATES ON THE PRESSURE SWING PRINCIPLE. WITH ONE ADSORBING COLUMN ON DRYING DUTY WHILE 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-PHE-V001.
- 14. THE DRAIN VALVES CAN BE OPENED MANUALLY USING THE PUSHBUTTONS. IN CASE OF DIFFERENTIAL PRESSURE ALARM PDW-6408 OF SELECTED FILTER, THE DRAIN VALVE WILL OPEN FOR 5 SECONDS AFTER 3 MINUTES. IF THE DRAIN DOES NOT RESOLVE THE ALARM AND THE DIFFERENTIAL PRESSURE IS STILL OVER THE ALARM THRESHOLD AFTER 10 MINUTES, AN ALARM IS GENERATED AND THE FILTER IS SWITCHED AUTOMATICALLY. FOR MORE INFORMATION, REFER TO CLAUSE 10.3 OF "PROCESS AND CONTROL PHILOSOPHY FOR INSTRUMENT AIR COMPRESSOR AND DRYER PACKAGE" 50489-530-020-00048-PHE-V001.
- 15. THE VALVE XV-6411 AND VALVE XV-6408 ARE FED AT THE SAME TIME BY THE SOLENOID VALVES XSV-6408A AND XSV-6408B. IN FACT XV-6411 AND XV-6408 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-PHE-V001).
- 16. VENDOR PID NO. 50489-530-020-00048-PID-V003 SHEET 2 OF 3.
- 17. PRE FILTER SYSTEM-B (V-012B & L012B) IS 100% SPARE FOR PRE FILTER SYSTEM-A (V-012A & L012A).

AS-BUILT		AS-BUILT	
KOC APPROVAL		LARSEN & TOUBRO LIMITED	
NAME / KOC No.:		NAME:	VAIBHAV VERMA
DESIGNATION:		DESIGNATION:	ALCA
GROUP / TEAM:		SIGNATURE:	
SIGNATURE:		DATE:	24-Sep-2018
DATE:		DEPT/DIVISION:	ENGINEERING

Z0	ISSUED FOR AS-BUILT	HSH/ABY	AKG	SRA	RAK	24.09.18
O1	ISSUED FOR CONSTRUCTION	HSH/ABY	AKG	SRA	RAK	22.08.16
O	ISSUED FOR CONSTRUCTION	PAK/ABY	AKG	SRA	RAK	14.06.16
B	ISSUED INCORPORATED CLIENT COMMENTS	PAK/ABY	AKG	SRA	RAK	18.05.16
A	ISSUED FOR APPROVAL	JSI/ABY	AKG	SRA	RAK	29.10.15
REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE

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 INSTRUMENT AIR DRYER TRAIN B PRE-FILTERS**

PROJECT NO.	DRAWING NO.	REV.
50489-530-020-PID-1220.014	Z0	
SHEET NO. 14 OF 16		
COMPANY DNG. NO.	REV.	
EF1902-530-DCO-PID-0221.003	A3	
SHEET NO.		