

V-012A/B

AIR DRYER KO DRUM

CAPACITY Nm ³ /h (MMSFD)	: 1250 (1.11)
ID mm (ft.-in)	: 390 (1'-3.3")
LENGTH / I 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-V012A/B-S10A/S30A

L-012A/B

PRE-FILTERS

CAPACITY Nm ³ /h (MMSFD)	: 1250 (1.11)
ID mm (ft.-in)	: 202.8 (0'-8")
LENGTH / I 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-L012A/B-S10A/S30A

Z-012A/B

INSTRUMENT AIR DRYER PACKAGE

OUTLET CAPACITY Nm ³ /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:

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

NOTES:

- DELETED
- WEEP HOLE IS INSTALLED AT LOW POINT OF PSV OUTLET LINE.
- DELETED
- INSTRUMENT AIR DRYER PACKAGE IS CONTROLLED ONLY LOCALLY.
- ALL EQUIPMENT STATUS/ALARMS ARE AVAILABLE IN DCS.
- DELETED
- VENT TO SAFE LOCATION.
- DELETED
- FOR CONTINUATION, SEE DRAWING 50489-530-020-PID-1220.013.
- RELIEF VALVE INLET VALVES ARE KEY INTERLOCKED SUCH THAT ONE RELIEF VALVE IS ALWAYS ON-LINE.
- DRAINS ARE ROUTED TO THE NEAREST SWALE/SANITARY.
- 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.
- THE DRYER PACKAGE OPERATES ON THE PRESSURE SENSING 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 DRAIN VALVES CAN BE OPENED MANUALLY USING THE PUSHBUTTONS. IN CASE OF DIFFERENTIAL PRESSURE ALARM PHM-6208 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-PHL-V001.
- THE VALVE XV-6211 AND VALVE XV-6208 ARE FED AT THE SAME TIME BY THE SOLENOID VALVES XSV-6208A AND XSV-6208B. IN FACT XV-6211 AND XV-6208 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.
- PRE FILTER SYSTEM-B (V-012B & L012B) IS 100% SPARE FOR PRE FILTER SYSTEM-A (V-012A & L012B).

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

ZO	ISSUED FOR AS-BUILT	HSH/ABY	ARK	SRA	RAK	24.09.18
OT	ISSUED FOR CONSTRUCTION	HSH/ABY	ARK	SRA	RAK	22.08.16
B	ISSUED FOR CONSTRUCTION	PAK/ABY	ARK	SRA	RAK	14.06.16
O	ISSUED INCORPORATED CLIENT COMMENTS	PAK/ABY	ARK	SRA	RAK	18.05.16
A	ISSUED FOR APPROVAL	JSI/ABY	ARK	SRA	RAK	17.10.15
REV.	DESCRIPTION	DRAWN	CHECKED	MOD	ITEM	DATE

CONTRACTOR REVISION

KUWAIT OIL CO. K. S. C.	شركة نفط الكويت ك.س.م.ك.
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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 PRE-FILTERS
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PROJECT NO.	DRAWING NO.	REV.
50489-530-020-PID-1220.012	20	
SHEET NO. 12 OF 16		
COMPANY DRG. NO.	REV.	
EF1902	EF1902-530-DCO-PID-0221.003	A3
SHEET NO.		

