

E-310
TANK VAPOUR COMPRESSOR DISCHARGE COOLER (TRAIN C) NOTE 20
DUTY MMKcal (MMBTU/hr) : 0.35 (1.39)
OP PRESS /DES PRESS barg (PSIG): 3.53/7 (51.2/101.5)
OP TEMP INLET/OUTLET °C (°F) : 132.4/60 (270.3/140)
DESIGN TEMP °C (°F) : -3/200 (27/392)
UTC NO. :
TRIM NO. : ET- E310-S10B-PP

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

AS-BUILT
LARSEN & TOUBRO LIMITED
NAME : VAIBHAV VERMA
DESIGNATION : AGM
SIGNATURE :
DATE : 09-Dec-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 PREFIXED BY 530-.
- ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PREFIXED BY 030-.
- FOR TYPICAL INSTRUMENT CONNECTION SBDV, XV, MOV AND ESDV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.001, .002, .003, .004, .006 & .007.
- FOR MISCELLANEOUS PIPING TYPICAL VALVING, DRAINAGE AND GENERAL ARRANGEMENT OF LEVEL INSTRUMENTS, PUMPS STRAINERS & CONTROL VALVES SEE DRAWING 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. NO.
- FOR MATERIAL SELECTION DIAGRAM SEE DRAWINGS 50489-530-020-MSD-1001.001 TO 1018.001.
- DETAIL NUMBERING FOR CI, SC, CC & CP SEE DRAWING 50489-530-020-PID-1108.003.
- PAINTING & COATING SHALL BE IN ACCORDANCE WITH KOC-P-001.
- LOW POINT DRAIN & HIGH POINT VENT SHALL BE INDICATED IN P&ID AT AS-BUILT STAGE AS PER PIPING LAYOUT.
- FOR CAUSE & EFFECT REFER DOC. NO. 50489-530-020-PHL-1009.
- FOR ALARM VALUES REFER DOC. NO. 50489-530-020-SUM-1006.

NOTES:

- RELIEF VALVE INLET AND DISCHARGE VALVES ARE KEY INTERLOCKED SUCH THAT ONE RELIEF VALVE IS ALWAYS ON LINE AT ANY TIME.
- CHECK VALVE IS MINIMUM DISTANCE FROM COMPRESSOR DISCHARGE NOZZLE.
- SUPPORT LINE FOR 2-PHASE FLOW DOWNSTREAM OF E-310.
- CHECK VALVE IS NON-SLAM TYPE.
- DELETED.
- COMPRESSOR SUCTION/DISCHARGE ESDV'S & ANTI SURGE VALVE ARE OPENED BY STARTING SEQUENCE. ON COMPRESSOR TRIP, SUCTION & DISCHARGE ESDV'S ARE CLOSED.
- DELETED.
- REMOTE RESET IS PROVIDED AT GRADE.
- * MARKED ITEM IS SUPPLIED BY VENDOR.
- DELETED.
- COMMISSIONING STRAINERS SHALL BE PROVIDED.
- IF COMPRESSOR DISCHARGE PRESSURE IN PIT-3331 IS LESS THAN 2.5 BARG FOR 30MINUTES EVEN WHEN THE COMPRESSOR IS OPERATING ABOVE 80% SPEED, THE UCP PLC WILL OPEN PCV-3325 (LOW MW CONTROL VALVE) IN 50% FOR 5 MINUTES TO PURGE LOW MW GAS TO FLARE WITH HIGH MW GAS (MW= 36-48) FROM TV GAS HEADER.
- THE COMPRESSORS SHOULD BE CAPABLE OF RUNNING WITH OR WITHOUT LOAD SHARING MODE. VENDOR TO DESIGN THE CONTROL SYSTEM ACCORDINGLY.
- THE ANTI-SURGE CONTROL TO BE DEVELOPED AND SUPPLIED BY VENDORS.
- DELETED.
- HIGH TEMPERATURE PROTECTION ON DOWNSTREAM EQUIPMENT.
- 3 x 50% CENTRIFUGAL COMPRESSORS.
- ON SHUTDOWN, COMPRESSORS SHOULD AUTO-DEPRESSURISE BY OPENING SBDV-3123.
- VENDOR TO DECIDE ON COMPREHENSIVE CONTROL PHILOSOPHY FOR FLOW CONTROL AND MINIMUM DISCHARGE PRESSURE REQUIRED TO ROUTE THE COMPRESSED GAS TO THE EXPORT HEADER.
- AIR COOLER SHALL BE FORCED DRAFT.
- FOR CORROSION MONITORING STATIONS (CMS):-
 - CMS SHALL BE INSTALLED AS PER KOC-MP-035.
 - PROPER ACCESS PIT OR PLATFORM SHALL BE PROVIDED FOR RETRIEVAL OF COUPEN/PROBE.
 - MATERIAL FOR CMS SHALL BE PROCURED FROM KOC APPROVED VENDOR LIST.
 - CMS SHALL BE LOCATED IN BOTTOM 6 O'CLOCK POSITION.
 - EAG NUMBERING OF CMS SHALL BE AS PER APPENDIX-C OF KOC-MP-035.
- MINIMUM STRAIGHT LENGTH REQUIRED FOR ORIFICE FLOW (FE-3324/3325) METER SHALL BE 20 D UPSTREAM/5 D DOWNSTREAM.
- REFERENCE P&ID:- 50489-530-020-07355-PID-V001, SHEET 2 OF 6.
- MINIMUM STRAIGHT LENGTH OF PIPING REQUIRED UPSTREAM OF INLET = 3.5 D FOR COMPRESSOR SUCTION.
- MINIMUM STRAIGHT LENGTH OF PIPING REQUIRED DOWNSTREAM OF DISCHARGE = 3 D FOR COMPRESSOR DISCHARGE.
- ONE ADDITIONAL INTERNAL CORROSION MONITORING POINT SHALL BE INSTALLED AT THE TOP AT 12 O'CLOCK.
- MINIMUM STRAIGHT LENGTH REQUIRED FOR ORIFICE FLOW (FE-3323) METER SHALL BE 15 D UPSTREAM/5 D DOWNSTREAM.
- REFERENCE P&ID FOR DELUGE SYSTEM 50489-530-000-PID-1127.001 AND 50489-530-000-PID-1127.002.
- DRAIN AND VENT VALVE WITH BLIND FLANGE PROVIDED FOR LOCATION OF DRAIN & VENT VALVE REFER 50489-530-041-07831-GAD-V001.
- POSITION TRANSMITTER FOR ANTI-SURGE CONTROL VALVE PERCENTAGE FEEDBACK TO UCP.

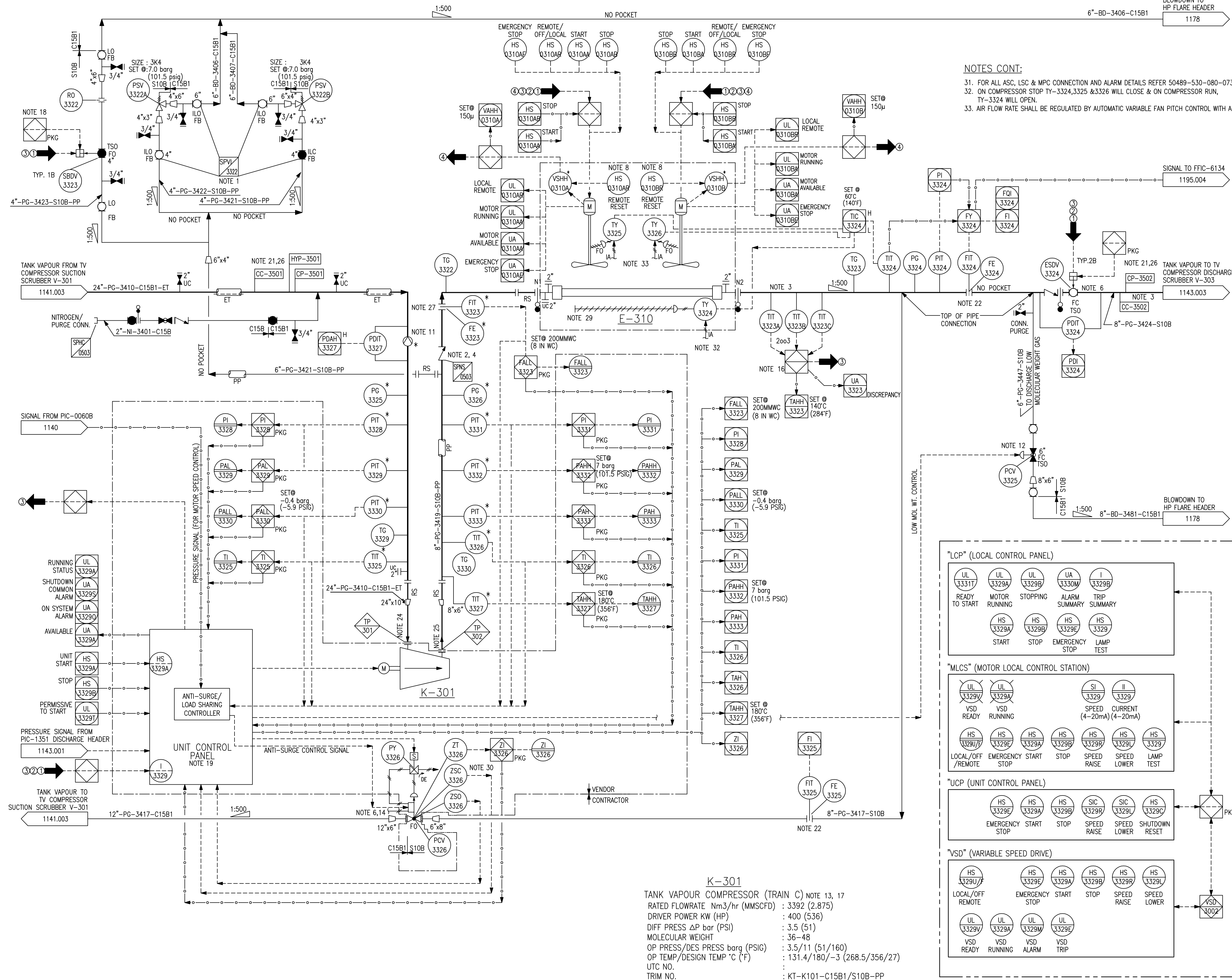
Z1	ISSUED FOR AS-BUILT	BAK/SSI	AKG	SRA	DER	09.12.18
Z0	ISSUED FOR AS-BUILT	BAK/SSI	AKG	SRA	DER	23.09.18
3	ISSUED FOR CONSTRUCTION	BAK/SSI	AKG	SRA	DER	20.12.16
2	RE-ISSUED FOR CONSTRUCTION	HSB/VSA	AKG	SRA	RAK	25.07.16
1	RE-ISSUED FOR CONSTRUCTION	HSB/VSA	AKG	SRA	RAK	13.06.16
0	ISSUED FOR CONSTRUCTION	PAK/VSA	AKG	SRA	RAK	06.05.16
D	ISSUED INCORPORATED CLIENT COMMENTS	HSB/VSA	AKG	SRA	RAK	12.03.16
C	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	28.10.15
OC	ISSUED INCORPORATED CLIENT COMMENTS	JSI/VSA	AKG	SRA	RAK	30.05.15
B	ISSUED INCORPORATED CLIENT COMMENTS	JSI/VSA	AKG	SRA	RAK	17.02.15
A	ISSUED FOR APPROVAL	BAK/VSA	AKG	SRA	RAK	05.12.14
REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE

CONTRACTOR REVISION



CONTRACTOR DETAILS:-
LARSEN & TOUBRO LIMITED
FARIDABAD
PROJECT TITLE:-
NEW GATHERING CENTRE GC-30
IN NORTH KUWAIT

DOCUMENT TITLE:-		DRAWING NO.	
PIPING & INSTRUMENTATION DIAGRAM		TANK VAPOUR COMPRESSOR (K-301) TRAIN C	
PROJECT NO.	CONTRACTOR DRG. NO.	REV.	KOC DRG. NO.
EF1902	50498-530-020-PID-1142.011	Z1	
	SHEET NO. 11 OF 15	REV.	SHEET NO.
	COMPANY DRG. NO.		
	EF1902-530-DCO-PID-0142.001	A2	
	SHEET NO.		



K-301
TANK VAPOUR COMPRESSOR (TRAIN C) NOTE 13, 17
RATED FLOWRATE Nm³/hr (MMSCFD) : 3392 (2.875)
DRIVER POWER KW (HP) : 400 (536)
DIFF PRESS ΔP bar (PSI) : 3.5 (51)
MOLECULAR WEIGHT : 36-48
OP PRESS/DES PRESS barg (PSIG) : 3.5/11 (51/160)
OP TEMP/DESIGN TEMP °C (°F) : 131.4/180/-3 (268.5/356/27)
UTC NO. :
TRIM NO. : KT-K101-C15B1/S10B-PP