

D-030  
COAGULANT/FLOCCULANT BULK STORAGE TANK  
CAPACITY m3 (BBLs) : 22.09 (144.04)  
ID mm (ft.-in) : 2600 (8'-6")  
HEIGHT (F/T)mm (ft.-in) : 3910 (12'-10")  
OP PRESS /DES PRESS barg (PSIG) : ATM/ATM+STATIC HEAD  
OP TEMP/DESIGN TEMP °C (°F) : 15~55/93/-3 (59~131/200/27)  
UTC NO. :  
TRIM NO. : DT-D030-S10A/S30A

NOTES:

30. TIME DELAY OF 60 SECONDS ON PAL2-6021 TO TRIP PUMP G-030A/B.  
31. LIQUID LEVEL IS MEASURED FROM BOTTOM TANGENT LINE OF TANK.  
32. MATERIAL OF CONSTRUCTION OF PLANT AIR FLEXIBLE HOSE IS SS304.

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 PREFIXED BY 530-..  
C. ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PREFIXED BY 030-..  
D. FOR TYPICAL INSTRUMENT CONNECTION SDV, XV, MOV AND ESDV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.001, .002, .003, .004, .005, .006 & .007.  
E. FOR MISCELLANEOUS PIPING TYPICAL VALVING, DRAINAGE AND GENERAL ARRANGEMENT OF LEVEL INSTRUMENTS, PUMPS & CONTROL VALVES SEE DRAWING 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. FLEXIBLE HOSE WITH LONG PIPE END IS INSERTED INTO CHEMICAL DRUM FOR UNLOADING.  
2. COMBINATION FILTER, REGULATOR, PRESSURE GAUGE AND LUBRICATOR.  
3. FLEXIBLE HOSE IS CONNECTED TO HARD PIPE WITH 2"x1/2" REDUCING FLANGE WHICH IS OUTSIDE OF A FENCE AND CONNECTED TO SEMI-BULK CONTAINERS.  
4. TWO SPARE PUMPS G-080 AND G-081 WITH ALL THE ANCILLARIES ARE LOCATED IN THE MAINTENANCE BUILDING.  
5. GWR TYPE LEVEL TRANSMITTER.  
6. LOW LOW LIQUID LEVEL STOPS COAGULANT/FLOCCULANT TRANSFER PUMPS.  
7. LOCATE VALVE WITHIN SIGHT OF LEVEL GAUGE.  
8. TANK DIKE TO BE 115% CONTAINMENT OF D-030.  
9. TANK LEVEL INSTRUMENTS ARE CALIBRATED IN VOLUMETRIC UNITS.  
10. PUMPS ARE LOCATED IN CURBED AREA TO CONTAIN SPILLAGES.  
11. A. CHEMICAL TANKER LOADING CONNECTION.  
B. TRANSMITTER IS PROVIDED WITH LOCAL COUNTER WHICH IS RESETTABLE INSTANTANEOUS AND NON-RESETTABLE TOTAL INDICATIONS.  
12. PROVIDE STATE OF THE ART ANNUNCIATOR SCHEME TO SUIT REQUIREMENTS AS INDICATED. TANK HIGH LEVEL ALARM IS DEDICATED TO A SPECIAL LEVEL.  
(A) ONE TEST (IN DCS) FOR ALL CHEMICAL BULK DELIVERY & DRUMS UNLOADING / TRANSFER AREA FLASHER & HORNS.  
ONE RESET (IN DCS) FOR ALL CHEMICAL BULK DELIVERY & DRUMS UNLOADING / TRANSFER AREA FLASHERS.  
ONE ACCEPT (IN DCS) FOR ALL CHEMICAL BULK DELIVERY & DRUMS UNLOADING / TRANSFER AREA HORNS.  
(B) TANK (D-021) AREA HAS INDIVIDUAL FLASHING RED LIGHT ON TANK LEVEL HIGH: TWO (2) COMMON HORNS XA-6035B/XA-6029A ON ANY TANK LEVEL HIGH-HIGH.  
(C) UNLOADING AREA-ONE COMMON FLASHER ON ANY TANK HIGH LEVEL (LAH-6034A) ONE COMMON HORN XA-6035A ON ANY TANK LEVEL HIGH-HIGH.  
13. EYEWASH AND SAFETY SHOWERS ARE TO BE INSTALLED AT LOADING CONNECTION OUTSIDE FENCE, CHEMICAL TRANSFER PUMP SHELTER AND BULK CHEMICAL STORAGE TANK/INJECTION PUMP SHELTER AREAS.  
14. (A) HHLL IN D-050 STOPS DUTY AND STANDBY TRANSFER PUMPS G-030A/B BY SSLS LOGIC CLOSING XV-6021A/B.  
(B) PAH-6021 STOPS TRANSFER PUMP G-030A/B BY DCS CLOSING XV-6021A/B.  
(C) PAL1-6021 STARTS DUTY TRANSFER PUMP BY DCS OPENING XV-6021A OR B.  
(D) PAL2-6021 STARTS STANDBY PUMP BY DCS OPENING XV-6021A OR B.  
(E) ZSC OF LCV-6038 STOPS DUTY & STANDBY TRANSFER PUMPS G-030A/B BY SSLS LOGIC.  
(F) PUMP IN CASE OF DUTY PUMP DISCREPANCY START COMMAND & NO FEEDBACK OR RAPTURE OF TRANSFER PUMP.  
15. NEAREST POSSIBLE BYPASS CONNECTION FOR BULK STORAGE TANK TO TRANSFER PUMP DISCHARGE HEADER.  
16. DELETED.  
17. DRAINAGE/SPILLAGE FROM TANK ARE COLLECTED INTO SUMP PIT. DRAINAGE/SPILLAGE FROM TRANSFER PUMP ARE COLLECTED IN TO COMMON SUMP PIT AT CHEMICAL TRANSFER PUMP AREA.  
18. DELETED.  
19. DELETED.  
20. DELETED.  
21. PUMPS ARE PROVIDED WITH RUPTURE ALARM.  
22. OVERFLOW NOZZLE IS LOCATED ABOVE HHLL.  
23. PUMP & TANK AREA ARE PAVED. FLOOR IS SLOPED TOWARDS BUND PIT.  
24. VENT TO SAFE LOCATION ARE AS PER KOC-G-002.  
25. (A) LOW POINT DRAIN IS PROVIDED AS APPROPRIATE.  
(B) DELETED.  
26. ANTI RESISTANT CHEMICAL FLOOR BASED ON IS REQUIRED.  
27. DELETED.

ZO	ISSUED FOR AS-BUILT	PAK/CHS	AKG	SRA	RAK	29.08.18
O1	ISSUED FOR CONSTRUCTION	PAK/CHS	AKG	SRA	RAK	30.09.16
O	ISSUED FOR CONSTRUCTION	PAK/CHS	AKG	SRA	RAK	10.06.16
E	ISSUED INCORPORATED CLIENT COMMENTS	PAK/CHS	AKG	SRA	RAK	01.04.16
D	ISSUED INCORPORATED CLIENT COMMENTS	JSI/ABY	AKG	SRA	RAK	02.01.16
C	ISSUED INCORPORATED CLIENT COMMENTS	JSI/ABY	AKG	SRA	RAK	23.08.15
OC	ISSUED INCORPORATED CLIENT COMMENTS	JSI/SSI	AKG	SRA	RAK	03.06.15
B	ISSUED INCORPORATED CLIENT COMMENTS	JSI/ISA	AKG	SRA	RAK	21.02.15
A	ISSUED FOR APPROVAL	BAK/ABY	AKG	SRA	RAK	12.12.14
REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE
				APPRD.		

CONTRACTOR REVISION

**KUWAIT OIL CO. K. S. C.** **شركة النفط الكويتي 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  
COAGULANT/FLOCCULANT STORAGE TANK (D-030) & DISTRIBUTION

PROJECT NO.	CONTRACTOR DRG. NO.	DRAWING NO.	REV.
EF1902	50489-530-020-PID-1199	ZO	
	SHEET NO. 1 OF 1	SHEET NO.	
	COMPANY DRG. NO.	REV.	
	EF1902-530-DCO-PID-0199.001	A5	
	SHEET NO.		

