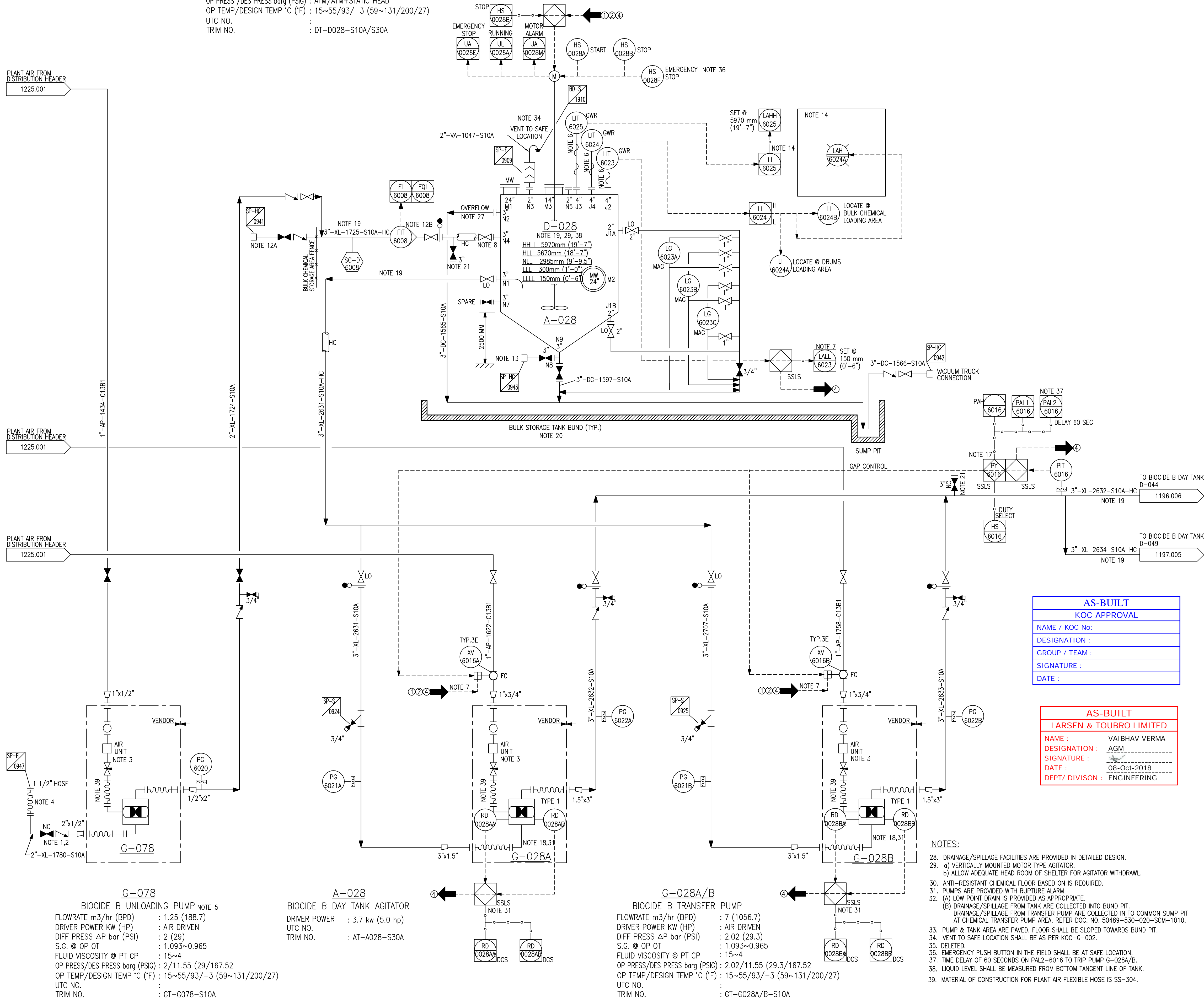


D-028  
BIOCID B BULK STORAGE TANK  
CAPACITY m3 (BBLs) : 84.38 (530.8)  
ID mm (ft.-in) : 4000 (13'-1")  
HEIGHT (F/T)mm (ft.-in) : 6330 (20'-9")  
OP PRESS /DES PRESS barg (PSIG) : ATM/ATM+STATIC HEAD  
OP TEMP/DESIGN TEMP °C (°F) : 15~55/93/-3 (59~131/200/27)  
UTC NO. :  
TRIM NO. : DT-D028-S10A/S30A



## 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, .005, .006 & .007.
- 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.
- 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 1023.
- DETAIL NUMBERING FOR CI, 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:

- FLEXIBLE HOSE WITH LONG PIPE END IS INSERTED INTO CHEMICAL DRUM FOR UNLOADING.
- UTILITY STATION TO BE PROVIDED IN DRUM UNLOADING AREA.
- COMBINATION FILTER, REGULATOR, PRESSURE GAUGE AND LUBRICATOR.
- FLEXIBLE HOSE WITH DRY BREAK COUPLING IS CONNECTED TO HARD PIPE WITH 2"x1 1/2" REDUCING FLANGE FOR CONNECTION TO DRUM / SEMI-BULK CONTAINER (APPLICABLE FOR ALL BULK STORAGE TANK).
- TWO SPARE PUMPS G-080 AND G-081 WITH ALL THE ANGLIARIES ARE LOCATED IN THE MAINTENANCE BUILDING.
- GWR TYPE LEVEL TRANSMITTER.
- LOW LIQUID LEVEL STOPS BIOCID B TRANSFER PUMPS G-028A/B AND AGITATOR, A-028.
- LOCATE VALVE WITHIN SIGHT OF LEVEL GAUGE.
11. DELETED.
- A. CHEMICAL TANKER LOADING CONNECTION.  
B. TRANSMITTER IS PROVIDED WITH LOCAL COUNTER WHICH IS RESETTABLE INSTANTANEOUS AND NON-RESETTABLE TOTAL INDICATIONS.
- CHEMICAL PUMP OUT CONNECTION TO BE EASILY ACCESSIBLE.
- PROVIDE ANNUNCIATOR SCHEME TO SUIT REQUIREMENTS AS INDICATED.  
TANK HIGH LEVEL ALARM IS DEDICATED TO A SPECIFIC LEVEL.  
(A) ONE TEST (N DCS) FOR ALL CHEMICAL BULK DELIVERY & DRUMS UNLOADING / TRANSFER AREA FLASHER & HORNS.  
ONE RESET (N DCS) FOR ALL CHEMICAL BULK DELIVERY & DRUMS UNLOADING / TRANSFER AREA FLASHERS.  
ONE ACCEPT (N 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-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.
- EYEWASH & SAFETY SHOWERS ARE INSTALLED AT LOADING CONNECTION OUTSIDE FENCE, CHEMICAL TRANSFER PUMP SHELTER AND BULK CHEMICAL STORAGE TANK/INJECTION PUMP SHELTER AREAS.
- DELETED.
- (A) HLL IN BOTH D-044 OR D-049 STOPS DUTY AND STANDBY TRANSFER PUMPS G-028A/B BY SLS LOGIC CLOSING XV-6016A/B.  
(B) PAH-6016 STOPS DUTY AND STANDBY PUMPS BY DCS CLOSING XV-6016A OR B.  
(C) PAL1-6016 STARTS DUTY TRANSFER PUMP BY DCS OPENING XV-6016A OR B.  
(D) PAL2-6016 STARTS STANDBY PUMP BY DCS OPENING XV-6016A OR B.  
(E) ZSC OF LCV-6098 & LCV-6113 STOPS DUTY & STANDBY TRANSFER PUMP G-028A/B BY SLS LOGIC.  
(F) PUMP IN CASE OF DUTY PUMP DISCREPANCY (START COMMAND & NO FEEDBACK) OR RAPTURE OF TRANSFER PUMP.
- PUMPS ARE LOCATED IN CURBED AREA TO CONTAIN SPILLAGES.
- BIOCID B SHALL BE STORED BELOW 60°C. INJECTION PUMP SUCTION LINE SHALL BE KEPT TO A MINIMUM BULK STORAGE TANK, PUMP SUCTION AND DISCHARGE SHALL BE PROTECTED FROM DIRECT SUNLIGHT.
- TANK CONCRETE BUND IS 115% CONTAINMENT OF D-028.
- NEAREST POSSIBLE BYPASS CONNECTION FOR BULK STORAGE TANK TO BIOCID-B TRANSFER PUMP DISCHARGE HEADER.
- 22,23,24,25. DELETED.
- BIOCID B IS CARCINOGENIC. DETAILED DESIGN SHALL ENSURE PERSONNEL PROTECTION INCLUDING BUT NOT LIMITED TO: VENTS TO SAFE LOCATION, COVERED DRAIN PIT, FENCING TO RESTRICT PERSONNEL ACCESS.
- OVERFLOW NOZZLE TO BE ABOVE HLL.

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

AS-BUILT	
LARSEN & TOUBRO LIMITED	
NAME :	VAIBHAV VERMA
DESIGNATION :	AGM
SIGNATURE :	
DATE :	08-Oct-2018
DEPT/ DIVISION :	ENGINEERING

## NOTES:

- DRAINAGE/SPILLAGE FACILITIES ARE PROVIDED IN DETAILED DESIGN.
- a) VERTICALLY MOUNTED MOTOR TYPE AGITATOR.  
b) ALLOW ADEQUATE HEAD ROOM OF SHELTER FOR AGITATOR WITHDRAWAL.
- ANTI-RESISTANT CHEMICAL FLOOR BASED ON IS REQUIRED.
- PUMPS ARE PROVIDED WITH RUPTURE ALARM.
- (A) LOW POINT DRAIN IS PROVIDED AS APPROPRIATE.
- (B) DRAINAGE/SPILLAGE FROM TANK ARE COLLECTED INTO BUND PIT.  
DRAINAGE/SPILLAGE FROM TRANSFER PUMP ARE COLLECTED IN TO COMMON SUMP PIT AT CHEMICAL TRANSFER PUMP AREA. REFER DOC. NO. 50489-530-020-SCM-1010.
- PUMP & TANK AREA ARE PAVED. FLOOR SHALL BE SLOPED TOWARDS BUND PIT.
- VENT TO SAFE LOCATION SHALL BE AS PER KOC-G-002.
- DELETED.
- EMERGENCY PUSH BUTTON IN THE FIELD SHALL BE AT SAFE LOCATION.
- TIME DELAY OF 60 SECONDS ON PAL2-6016 TO TRIP PUMP G-028A/B.
- LIQUID LEVEL SHALL BE MEASURED FROM BOTTOM TANGENT LINE OF TANK.
- MATERIAL OF CONSTRUCTION FOR PLANT AIR FLEXIBLE HOSE IS SS-304.

Z1	ISSUED FOR AS-BUILT	BAK/CHS	AKG	SRA	RAK	08.10.18
Z0	ISSUED FOR AS-BUILT	BAK/CHS	AKG	SRA	RAK	29.08.18
O1	ISSUED FOR CONSTRUCTION	BAK/CHS	AKG	SRA	RAK	23.11.16
O	ISSUED FOR CONSTRUCTION	HSR/VSA	AKG	SRA	RAK	01.04.16
C	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	21.10.15
OC	ISSUED INCORPORATED CLIENT COMMENTS	JSI/SSI	AKG	SRA	RAK	03.06.15
B	ISSUED INCORPORATED CLIENT COMMENTS	JSI/VSA	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 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**  
**BIOCID B STORAGE TANK (D-028) AND DISTRIBUTION**

PROJECT NO.		DRAWING NO.	
EF1902	CONTRACTOR DRG. NO.	REV.	KOC DRG. NO.
	50489-530-020-PID-1192	Z1	
	SHEET NO. 1 OF 1		SHEET NO.
	COMPANY DRG. NO.	REV.	
	EF1902-530-DCO-PID-0192.001	A5	
	SHEET NO.		