



G-001A/B & G-002A NOTE 9, 13, 17
BALANCE TANK FEED PUMP
FLOWRATE m³/hr (BPD) : 1057 (159600)
DRIVER POWER KW (HP) : 155 (208)
DIFF PRESS ΔP bar (PSI) : 3.79 (55)
SP GRAVITY @ OP/OT : 1.17 ~ 1.14
FLUID VISCOSITY @ PT CP : 3.36 ~ 1.1
OP PRESS/DES PRESS barg (PSIG) : 3.79/5.9 (54.96/85.55)
OP TEMP/DESIGN TEMP °C (°F) : 15~55/93/-3 (59~149/200/27)
UTC NO. :
TRIM NO. : GT-G001A/B, G002A-Q15B

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 PRECEDED BY 530-.
- ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 030-.
- FOR TYPICAL INSTRUMENT CONNECTION SBDV, XV, MOV & ESDV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.002, .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.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:

- DELETED.
- DUPLEX STRAINERS WITH PROPER DRAINAGE TO DRAIN SYSTEM. REFER P&ID:- 50489-530-020-PID-1108.004.
- INTERFACE WITH WET/DUAL TANK SELECTOR SWITCH (HS-0045).
- DELETED.
- IN CASE HS-0045 (PID:-1122) IS WET MODE, THE MOV-0267 IS OPEN.
IN CASE HS-0045 (PID:-1122) IS DRY MODE, THE MOV-0267 IS CLOSED.
- (a) WHEN WET CRUDE TANK ONLY SELECTED, THE O/P OF LDIC-0075 (PID:-1123) IS ROUTED TO LDCV-0075. SIMILARLY FOR DUAL CRUDE TANK IN WET MODE ONLY, O/P OF LDIC-0046 (PID:-1122) IS ROUTED TO LDCV-0046.
(b) WHEN BOTH TANKS OPERATE IN PARALLEL, THE OUTPUT OF LDIC-0075 (PID:-1123) IS ROUTED TO LDCV-0075 & THE OUTPUT OF LDIC-0046 (PID:-1122) IS ROUTED TO LDCV-0046.
- FOR CHEMICAL INJECTION NOZZLE DETAIL SEE STANDARD DWG. 50489-530-020-PID-1108.001.
- DELETED.
- TWO OFF 50% PUMPS OPERATING AND ONE OFF 50% STANDBY.
- DELETED.
- PURGE CONNECTION IS PROVIDED TO PURGE THE PUMP FROM SUCTION LINE TO DISCHARGE LINE.
- DISSIMILAR TYPE CHECK VALVE.
- PUMP PARAMETERS MENTIONED ARE FOR 'LATER LIFE' CONDITION OF THE PUMP.
- ALL A/G PIPING SUPPORTS ARE FIRE PROOFED IN BALANCE TANK FEED PUMP SHELTER.
- STRAIGHT LENGTH REQUIRED FOR FLOW ORIFICE ARE 20D UPSTREAM & 5D DOWNSTREAM.
- FOR CORROSION MONITORING STATIONS (CMS):-
(a) CMS ARE INSTALLED AS PER KOC-MP-035.
(b) PROPER ACCESS PIT OR PLATFORM ARE PROVIDED FOR RETRIEVAL OF COUPON/PROBE.
(c) MATERIAL FOR CMS ARE PROCURED FROM KOC APPROVED VENDOR LIST.
(d) CMS IS LOCATED IN BOTTOM 6 O'CLOCK POSITION.
(e) TAG NUMBERING OF CMS IS AS PER APPENDIX-C OF KOC-MP-035.
- PUMP EARLY LIFE CAPACITY IS 437m³/hr (66000 BPD). LATER LIFE CAPACITY IS ACHIEVED BY CHANGING THE PUMP IMPELLER. PUMP MOTOR & ALL ANCILLARIES TO BE SIZED FOR LATER LIFE CONDITION WHILE THE INSTALLED IMPELLER IS DESIGNED FOR EARLY LIFE. DIFFERENTIAL PRESSURE & POWER FOR EARLY LIFE ARE 3.79 bar (55 PSI) & 63.5 KW (85 HP) RESPECTIVELY.
- BLEED POINT IS PROVIDED.
- OPENING OF MOV-0265 & 0266 IS PERMISSIVE TO START THE BALANCE TANK FEED PUMP & WILL NOT CLOSE DURING PUMP RUNNING.

AS-BUILT

KOC APPROVAL

NAME / KOC No.:

DESIGNATION:

GROUP / TEAM:

SIGNATURE:

DATE:

AS-BUILT

LARSEN & TOUBRO LIMITED

NAME: VAIBHAV VERMA

DESIGNATION: AGM

SIGNATURE: 06-Aug-2018

DATE: 06-Aug-2018

DEPT/ DIVISION: ENGINEERING

REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE
01	ISSUED FOR CONSTRUCTION	BAK/SSI	AKG	SRA	RAK	06.08.18
02	ISSUED FOR CONSTRUCTION	BAK/SSI	AKG	SRA	RAK	01.12.16
03	ISSUED FOR CONSTRUCTION	SHH/PRS	AKG	SRA	RAK	24.05.16
04	ISSUED INCORPORATED CLIENT COMMENTS	SHH/PS	AKG	SRA	RAK	18.04.16
05	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	14.10.15
06	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	30.05.15
07	ISSUED INCORPORATED CLIENT COMMENTS	JSI/VSA	AKG	SRA	RAK	19.02.15
08	ISSUED FOR APPROVAL	BAK/VSA	AKG	SRA	RAK	05.12.14

CONTRACTOR REVISION

KUWAIT OIL CO.
K. S. C.
شركة نفط الكويت
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
EFFLUENT WATER BALANCE TANK FEED PUMP (G-001A/B, G-002)

PROJECT NO.	DRAWING NO.	REV.	KOC DRG. NO.	REV.
EF1902	50489-530-020-PID-1150	Z0		
	SHEET NO. 1 OF 1			
	COMPANY DRG. NO.	REV.		
	EF1902-530-DCO-PID-0150.001	A5		
	SHEET NO.			