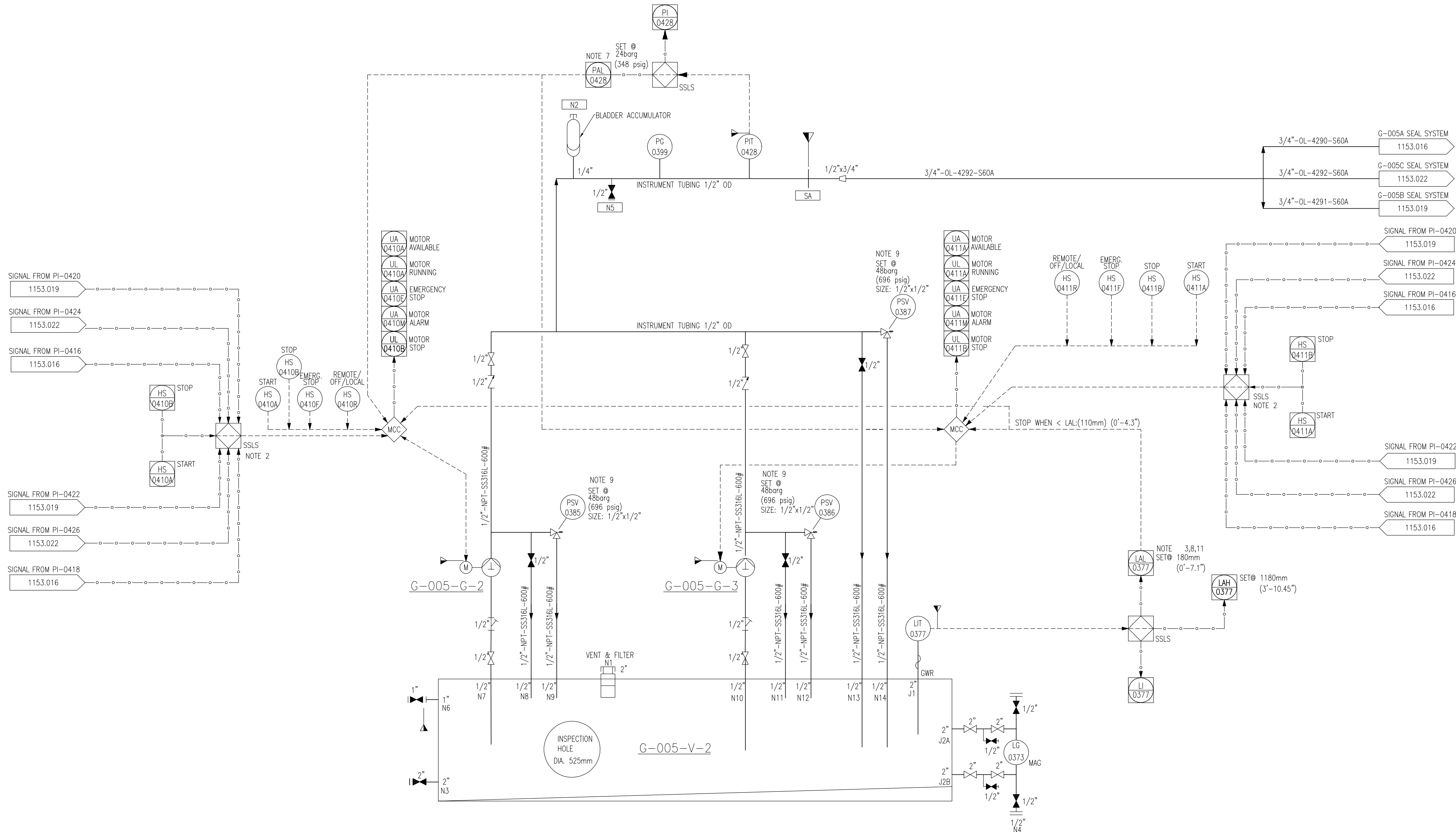


G-005-V-2
AUTOMATIC TOP UP UNIT RESERVOIR

CAPACITY m3 (BBLS) : 1.2 (181)
LENGTH mm (ft-inch) : 1475 (4'-10")
HEIGHT mm (ft-inch) : 1190 (3'-10.85")
WIDTH mm (ft-inch) : 685 (2'-3")
OP PRESS/DES PRESS barg (psig) : ATM / ATM + FULL OF LIQUID
OP TEMP/DESIGN TEMP °C (°F) : AMB / -3~93 (27~200)
TRIM : VT-G-005-V-2-SS316L-600#



G-005-G-2/G-005-G-3

AUTOMATIC TOP UP UNIT PUMP

FLOW RATE lph (BPD) : 20 (3.02)
DRIVER POWER KW (HP) : 0.75 (1.0)
OP PRESS/DES PRESS barg (psig) : 30 (435)/ 75 (1087.5)
OP TEMP/DESIGN TEMP °C (°F) : 60 (140)/-3~93 (27~200)
MATERIAL OF CONSTRUCTION : SS316Ti/PTFE

NOZZLE/TIE IN POINT NO.	DESCRIPTION	NOZZLE SIZE (nb)	RATING (Lbs)	TYPE	MATERIAL ASTM EQUIV.
SA	BARRIER FLUID SUPPLY	3/4"	600	RF	A182 F316L
N1	VENT & FILTER	2"	G2/M	—	A182 F316L
N2	N2 GAS PRECHARGE	1/4"	300	RF	A182 F316L
N3	RESERVOIR DRAIN	2"	BSP/M	—	A182 F316L
N4	LEVEL GAUGE VENT/DRAIN	1/2"	300	—	A182 F316L
N5	BARRIER FLUID DRAIN	1/2"	600	—	A182 F316L
N6	BARRIER FLUID FILLING	1"	150	—	A182 F316L

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-1106.001, .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.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.
- PERMISSIVE CONDITION FOR THE ASSOCIATED PUMP OF G-005A/B/C.
PI-0416 AND PI-0418 PRESSURE NOT LOW FOR G-005A.
PI-0420 AND PI-0422 PRESSURE NOT LOW FOR G-005B.
PI-0424 AND PI-0426 PRESSURE NOT LOW FOR G-005C.
- PERMISSIVE CONDITION FOR ATU PUMPS
4.

VENDOR

CONTRACTOR
- BARRIER FLUID: POTABLE WATER / PROPYLENE GLYCOL (85% / 15% BY VOLUME).
- DELETED
- WHEN BARRIER FLUID PRESSURE LOW IS DETECTED BY PAL-0428, ATU BACK UP PUMP WILL BE STARTED AUTOMATICALLY IN NORMAL CONDITION ATU PUMPS ARE STOPPED CONDITION AND START WHEN SEAL PRESSURE IS LOW.
- WHEN ATU TANK LEVEL LOW IS DETECTED BY LAL-0377, ATU PUMPS WILL BE STOPPED.
- ATU SYSTEM DESIGN PRESSURE (PIPING DESIGN PRESSURE) IS 50 BARG.
- ATU PUMP TYPE : DIAPHRAGM METERING
- PERMISSIVE CONDITION FOR ASSOCIATED PUMP OF G-005A/B/C.

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

AS-BUILT
LARSEN & TOUBRO LIMITED
NAME : VAIBHAV VERMA
DESIGNATION : AGM
SIGNATURE :
DATE : 20-Sep-2018
DEPT/ DIVISION : ENGINEERING

Z0	ISSUED FOR AS-BUILT	HSH/PRS	AKG	SRA	RAK	20.09.18
01	ISSUED FOR CONSTRUCTION	HSH/PRS	AKG	SRA	RAK	13.05.17
0	ISSUED FOR CONSTRUCTION	HSH/PRS	AKG	SRA	RAK	08.08.16
C	ISSUED INCORPORATED CLIENT COMMENTS	HSH/PRS	AKG	SRA	RAK	12.07.16
B	ISSUED INCORPORATED CLIENT COMMENTS	PAK/PRS	AKG	SRA	RAK	07.06.16
A	ISSUED FOR APPROVAL	HSH/PS	AKG	SRA	RAK	19.04.16
REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE
				APPRD.		

CONTRACTOR REVISION

KUWAIT OIL CO.
K. S. C.

A Subsidiary of Kuwait Petroleum Corporation

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
AUTOMATIC TOP UP UNIT FOR TREATED WATER
DISPOSAL PUMP G-005A/B/C SEAL

PROJECT NO.	DRAWING NO.
EF1902	50489-530-020-PID-1153.024
	SHEET NO. 24 OF 25
	COMPANY DRG. NO.
	SHEET NO.