



A-001
CHEMICAL INLINE STATIC MIXER
EFFLUENT FLOWRATE MAX m³/hr (BWPD) : 1921.3 (290000)
CHEMICAL FLOWRATE MAX l/h (USGPH) : 46.1 (12.2)
CHEMICAL SP. GRAVITY @ OP OT : 1.0~1.32
OP PRESS/DES PRESS barg (PSIG) : 6/13.5 (87/195.8)
OP TEMP/DESIGN TEMP °C (°F) : 15~55/93/-3 (59~131/200/27)

A-002
CHEMICAL INLINE STATIC MIXER
EFFLUENT FLOWRATE MAX m³/hr (BWPD) : 1921.3 (290000)
CHEMICAL FLOWRATE MAX l/h (USGPH) : 167 (44.1)
CHEMICAL SP. GRAVITY @ OP OT : 1.0~1.32
OP PRESS/DES PRESS barg (PSIG) : 6/13.5 (87/195.8)
OP TEMP/DESIGN TEMP °C (°F) : 15~55/93/-3 (59~131/200/27)

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.
- DELETED.
- FUNCTION BLOCK WITHIN UCP (WATER TREATMENT) TO PROVIDE RATIO RANGING FOR EACH TRAIN PLUS BY-PASS.
- DISSIMILAR TYPE CHECK VALVE.
- FOR CHEMICAL INJECTION NOZZLE DETAIL SEE STANDARD DWG. 50489-530-020-PID-1108.001.
- ALL CONTROLS AND SHUTDOWN ARE UNDERTAKEN IN GC DCS AND ESD SYSTEMS.
- DELETED.
- DELETED.
- LOOSE SUPPLY BY EWTP VENDOR.
- MINIMUM 3D STRAIGHT LENGTH IS MAINTAINED IN DOWNSTREAM OF STATIC MIXER.
- FOR EARLY LIFE OPERATION
SET POINT : 835(126000)m³/hr.(BPD).
FOR LATER LIFE OPERATION
SET POINT : 1630(246000)m³/hr.(BPD).
- SET POINT WITHOUT FUTURE FILTER AT OUTLET OF EWTP : 2.8 barg (40.6 PSIG)
SET POINT WITH FUTURE FILTER AT OUTLET OF EWTP : 4.4 barg (63.81 PSIG)
- SET POINT TO FFIC IS LIMITED TO A MAXIMUM OF 960.5(145000)m³/hr.(BPD). THE FFIC SHALL NORMALLY OPERATE IN CASCADE MODE USING THE REMOTE SET POINT FROM FI-0280.
- THE EXCESS FLOW OF 2 TRAINS IS ROUTED VIA THE BYPASS LINE. HOWEVER THE BYPASS LINE SIZED FOR 1921(290000) m³/hr.(BPD).
- STRAIGHT LENGTH REQUIRED :
(A) FOR ORIFICE FLOW METER : 20D UPSTREAM & 5D DOWN STREAM.
(B) FOR MAGNETIC FLOW METER : 5D UPSTREAM & 2D DOWN STREAM.
(C) DELETED
- LOCATE PIT-1270 & PG-1271, PIT-2270 & PG-2271, PIT-3270 & PG-3271 NEAR TO V-110, V-210 & V-310 RESPECTIVELY.

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

AS-BUILT	
LARSEN & TOUBRO LIMITED	
NAME :	VAIBHAV VERMA
DESIGNATION :	AGM
SIGNATURE :	
DATE :	06-Sep-2018
DEPT/ DIVISION :	ENGINEERING

Z0	ISSUED FOR AS-BUILT	BAK/SSI	AKG	SRA	RAK	06.09.18
01	ISSUED FOR CONSTRUCTION	BAK/SSI	AKG	SRA	RAK	22.11.16
0	ISSUED FOR CONSTRUCTION	HSB/VSA	AKG	SRA	RAK	29.03.16
D	ISSUED INCORPORATED CLIENT COMMENTS	JSI/ABY	AKG	SRA	RAK	31.12.15
C	ISSUED INCORPORATED CLIENT COMMENTS	BAK/ABY	AKG	SRA	RAK	20.10.15
OC	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	02.06.15
B	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	20.02.15
A	ISSUED FOR APPROVAL	PK/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:-
PIPING & INSTRUMENTATION DIAGRAM
EFFLUENT WATER TREATMENT PLANT FLOW DISTRIBUTION

PROJECT NO.	DRAWING NO.
CONTRACTOR DRG. NO.	REV. KOC DRG. NO.
50489-530-020-PID-1268	Z0
SHEET NO. 1 OF 1	SHEET NO.
COMPANY DRG. NO.	REV.
EF1902-530-DCO-PID-0268.001	A3
SHEET NO.	