

AS-BUILT NAME / KOC No DESIGNATION GROUP / TEAM SIGNATURE

> VAIBHAV VERMA AGM SIGNATURE : DEPT/ DIVISON : ENGINEERING

WATER SPRAY NOZZLE SCHEDULE

	TYPE	SIZE	SPRAY ANGLE	K-FACTOR	FLOW @2.0 Bar DISCHARAGE PRESSURE	QUANTITY
	ΜV	1/2" NPT MALE	140*	51	72.12 LPM	21 OF EACH COMPRESSOR

DESIGN OBJECTIVE : FIRE EXTINGUISHMENT & EXPOS	URE PROTECTION				
DESIGN CALCULATION					
COMPRESSOR SURFACE AREA TO BE PROVIDED	54.4 m2				
WATER APPLICATION RATE (L/MIN/m2)	20.4				
THEORETICAL FLOW (LPM)	1497				
HYDRAULICALLY CALCULATED FLOW (LPM) REFER 50489-530-000-LAL-1015	1654.6				

GENERAL NOTES:

- A. FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001.
 B. ALL EQUIPMENT NOMBERS SHOWN ON THIS PADID ARE PRECEDED BY 530-.
 C. FOR ESDY, SBDY AND MOV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.001.
- D. FOR MISCELLANEOUS PIPING DETAILS SEE DRAWING 50489-530-020-PID-1108.001.

- UV/IR FLAME DETECTORS AUTOMATICALLY DETECT FIRE AND WHEN ACTIVATED
 A SIGNAL IS SENT TO THE FAG PANEL IN THE CCR.
 Z.AIR SET IS RITTED WITH AIR FLIER, REQULATOR AND PI.
 RO SUPPLIED TO GIVE PRESSURE/LOSS CHARACTERISTICS OF THE DELUGE VALVE.
- 4. 4 WAY SUCTION COLLECTION HEAD IS INSTALLED TO ALLOW SECONDARY SUPPLY OF WATER TO DELUGE SYSTEM.
 5. DELUGE WAS ARE DAYPHORD THE DESIGNED FOR DELUGE OFFRATION AND BE UL LISTED AND FIN APPROVED.
- 6. TRIGGER HEAD CONFIGURATION
 1/2" FUSABLE PLUGS OVER PROTECTED EQUIPMENT ON A GENERAL 3 x 3 METRE MATRO

- 1/2" FUSABLE PLUSS OVER PROTECTED EQUIPMENT ON A GENERAL 3 x 3 METRE MATRO 7.2 VALVES REQUIRED IN PRYSES UNE TO PREVENT UNINECESSARY LOS SO FEMALE PLUS TO GATE VALVE PASSANS.

 A JECULATE DONNINGET DIE SE PROVIDED ACOUND DELUGE SYSTEM TO AVOID A JECULATION OF THE STATE OF THE ST
- 13. DELUGE VALVE STATIONS SHALL BE PROTECTED FROM RADIATED HEAT BY THE PROVISION OF

- 13. DELIDE YALVE STATIONS SHALL BE PROTECTED FROM RADIATED HEAT BY THE PROVISION OF METAL RADIATION SHELDS.

 14. PIPE MICC (AS PER KOC-L-009):

 3. SIZE AND BELOW: 9.9-10 COPPER NIKEL TO ASTM B 466 UNS.

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 15. FLANCE ROSLIGHTON KITS ARE PROVIDED AT DISSULAR REFAL JUNCTIONS HAVING ELECTROMOTIVE POTATION. DIFFERENCE GREATER THAN 0.059.

 AS PER CAUSE 7.3.1.17.0 FOR COCK—12-009.

- AS PER CAUSE 7.3.1.17 OF KOC1-4-009.

 IS. INTERNALY OCATED US PIPING ARE FLANCED SPOOLS AS PER KOC-14-009.

 17. FLUSHING DRAIN PIT SHALL BE ACCESSIBLE FROM REQUIND LEVEL. IT IS THE THE MORERORMO SECTION IS STORRED HOPE AS PER KOC-1904 PART 6, REV-2 WITH THE WITENAUL PHENOLIC EPOXY ON THE PIPING SHALL BE AS PER KOC-9005 REV-1.
- 19. THE ABOVE GROUND PIPING SECTION IS COATED WITH SYSTEM A1-1 OF KOC-P-001 REV 3 13. THE ADDRESS AND THE SECURE SCHOOL SOUTH IN THIS THE TO PROJECT ON THE THE CAPTURE SCHOOL SOUTH IN THE SECURE SCHOOL SECURE SECURE SCHOOL SOUTH IN THE SECURE SCHOOL SCHOOL SCHOOL SECURE SCHOOL SC

LEGENDS:

SYMBOL	DESCRIPTION	
ş F₩	FIRE WATER PIPING	
\downarrow	SPRAY NOZZLE	
	REDUCER	
\bowtie	GATE VALVE	
\uparrow	END CAP	

REFERENCE DRAWINGS:

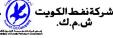
50489-530-000-CAL-1015 HYDRAULIC CALCULATION FOR WATER SPRAY SYSTEM FOR TANK K0C-L-009 KOC STANDARD FOR FIRE PROTECTION SYSTEMS 50489-530-000-LAD-1065 FIRE WATER NETWORK LAYOUT

PAK/DEU NIJ SRA RAK 30.09.18 Z1 RE-ISSUED FOR AS-BUILT PAK/DEU NIJ SRA RAK 05.08.18 ZO ISSUED FOR AS-BUILT PAK/DEU NIJ SRA RAK 13.05.16

01 RE-ISSUED FOR CONSTRUCTION PAK/DEU NIJ SRA RAK 16.07.16 0 ISSUED FOR CONSTRUCTION PAK/DEU NIJ SRA RAK 10.12.15 B RE ISSUED FOR APPROVAL PAK/DEU NIJ SRA RAK 20.04.15 A ISSUED FOR APPROVAL DRAWN CHECKED HOD PEM DATE DESCRIPTION

CONTRACTOR REVISION





LARSEN & TOUBRO LIMITED FARIDABAD

PROJECT TITLE:-

NEW GATHERING CENTRE GC-30 IN NORTH KUWAIT

DOCUMENT TITLE:-LE:- PIPING & INSTRUMENTATION DIAGRAM
DELUGE WATER SPRAY SYSTEM FOR TANK VAPOUR COMPRESSOR (530-K-101/201/301)

I	PROJECT NO.	DRAWING NO.								
ı		CONTRACTOR DRG. NO.			REV.					
l	EF1902	50489-530-000-PID-1127.002 SHEET NO. 2 OF 2								
ı				SHEET NO.						
ı		COMPANY DRG. NO.	REV.							
l										
ı		SHEET NO.								

COMPRESSOR

530-K-101

530-K-201

LINE No.4

LINE No.5

LINE No.6

4"-WF-9263-Q15A 4"-WF-9264-Q15A 3"-WF-9265-Q15A1 2"-WF-9266-Q15A1 2"-WF-9267-Q15A1

4"-WF-9272-Q15A 4"-WF-9273-Q15A 3"-WF-9274-Q15A1 2"-WF-9275-Q15A1 2"-WF-9276-Q15A1 4"-WF-9281-Q15A 4"-WF-9282-Q15A 3"-WF-9283-Q15A1 2"-WF-9284-Q15A1 2"-WF-9285-Q15A1

LINE No.7

LINE No.8