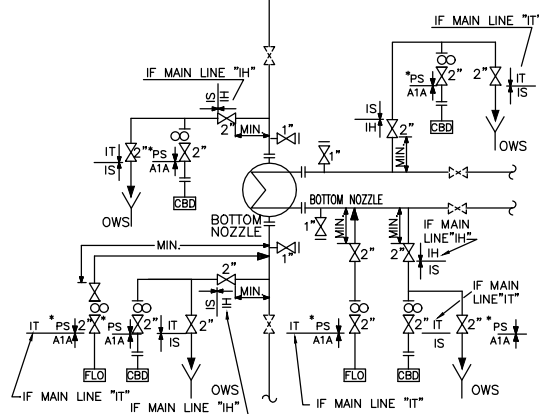


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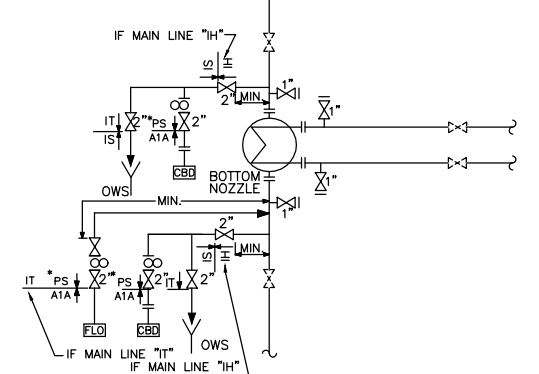
HEAT EXCHANGER FLUSHING AND DRAIN PLAN (REFER NOTE-14)

TYPE 'A'



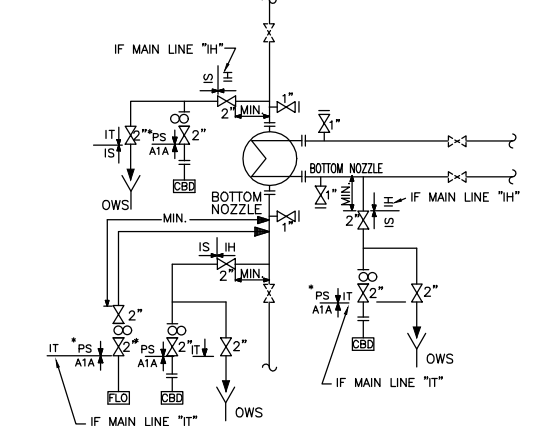
SERVICE : S/S & T/S CONGEALING HC

TYPE 'B'



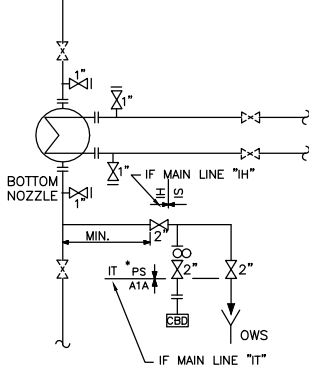
S/S CONGEALING HC, T/S NON HC

TYPE 'C'



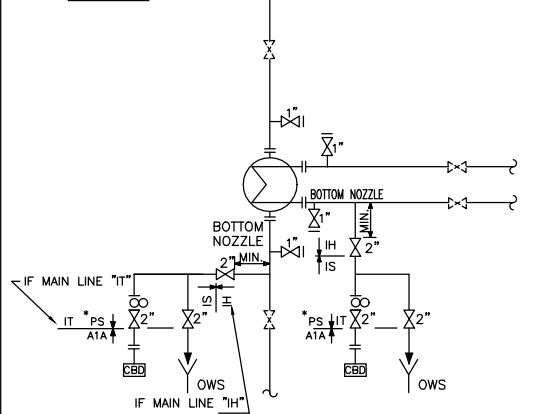
S/S CONGEALING HC, TS NONCONGEALING HC

TYPE 'D'



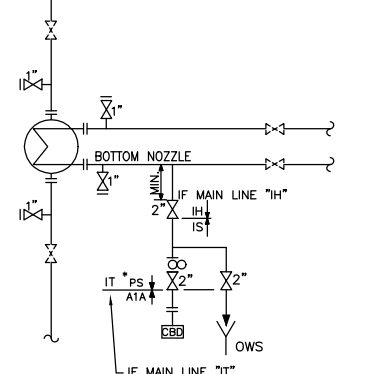
S/S NONCONGEALING HC, T/S NON HC

TYPE 'E'



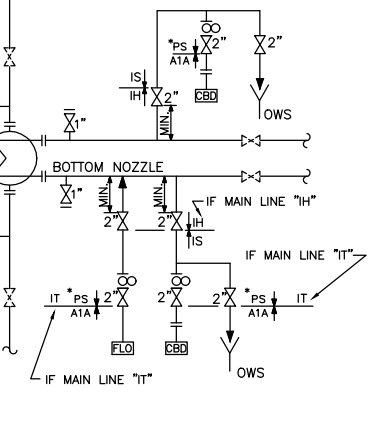
S/S & T/S NONCONGEALING HC

TYPE 'F'



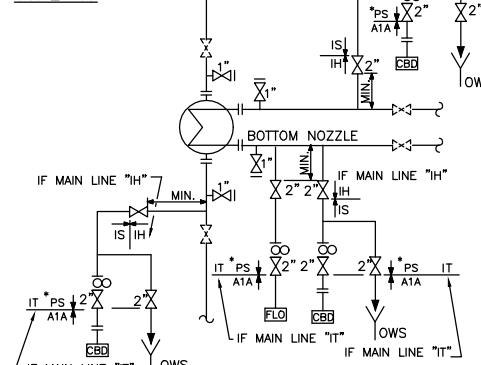
S/S NON HC T/S NONCONGEALING HC

TYPE 'G'



S/S NON HC T/S CONGEALING HC

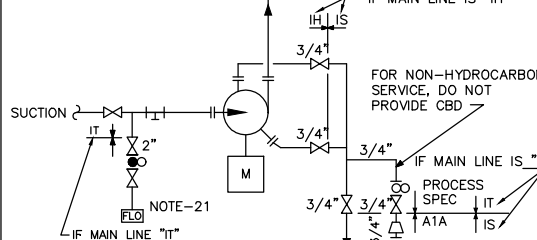
TYPE 'H'



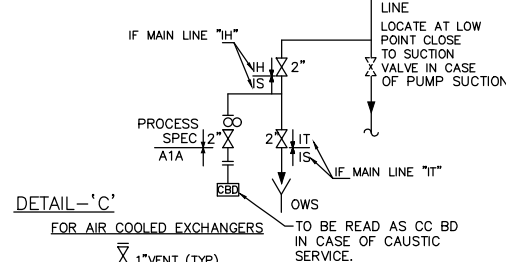
S/S NONCONGEALING HC T/S CONGEALING HC

PUMP VENT/RAIN/BLEEDER CONNECTION DETAILS

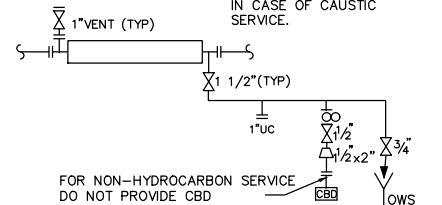
DETAIL - 'A' FOR PUMPS



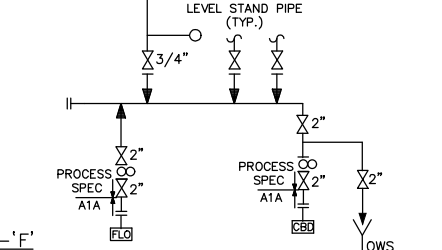
DETAIL - 'B' STANDARD CBD CONNECTION



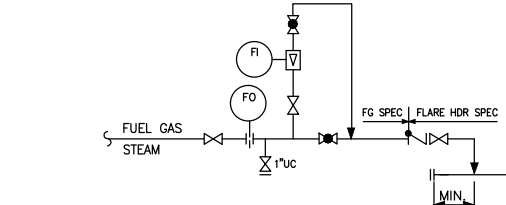
DETAIL - 'C' FOR AIR COOLED EXCHANGERS



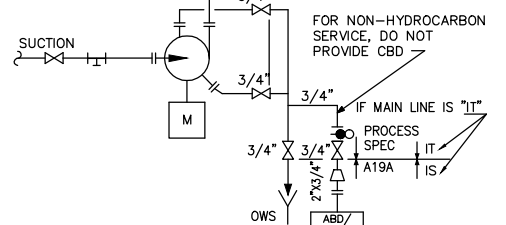
DETAIL - 'E'



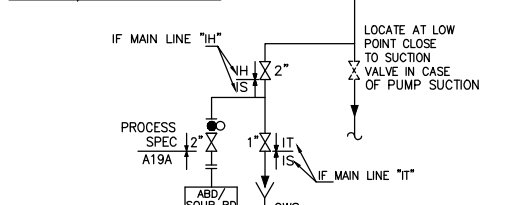
DETAIL - 'F' FUEL GAS / STEAM PURGE CONNECTION FOR UNIT FLARE HEADER (NOTE-18)



DETAIL - 'I' FOR PUMPS IN AMINE/SOUR WATER SERVICE

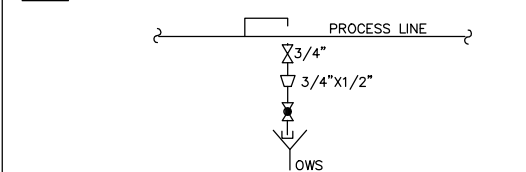


DETAIL - 'J' STANDARD CBD CONNECTION FOR AMINE/SOUR WATER SERVICE

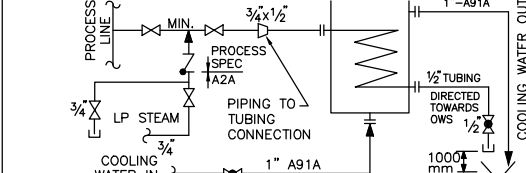


SAMPLE COOLER/COLLECTION DETAILS

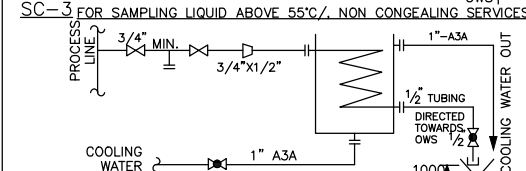
SC-1 FOR SAMPLING LIQUIDS AT OR LOWER THAN 55°C



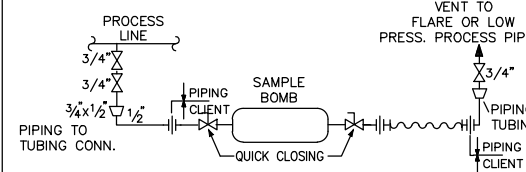
SC-2 SAMPLING LIQUID ABOVE 55°C / CONGEALING SERVICES



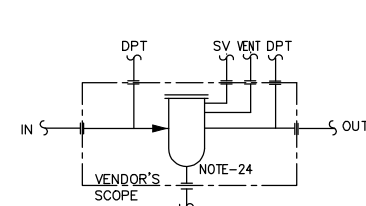
SC-3 FOR SAMPLING LIQUID ABOVE 55°C / NON CONGEALING SERVICES



SC-4 FOR HIGHLY VOLATILE LIQUIDS AND SOUR WATER



DETAIL - G FOR FILTER SCOPE



NOTES:-

- ALL INDICATED ELEVATIONS ARE WITH REFERENCE TO GRADE LEVEL WHICH IS 0.0MM.
- ALL INSTRUMENT TAG NUMBERS TO BE PREFIXED BY UNIT NUMBER.
- SIZES OF PUMP DRAIN/VENT SHOWN ARE TENTATIVE, WILL BE CONFIRMED BY PUMP VENDORS.
- UNDESIGNATED PIPING AND VALVING ON EQUIPMENT SHALL FOLLOW THE CLASS AND INSULATION OF ASSOCIATED PIPING OF THE EQUIPMENT UNLESS STATED OTHERWISE.
- VALVES AND MANIFOLDS ON INSTRUMENTS ARE NOT SHOWN IN P&ID'S AND SHALL BE AS PER ENGINEERING STANDARDS.
- ALL PSV UPSTREAM PIPING SHALL BE FREE DRAINING TOWARDS VESSEL AND DOWNSTREAM TOWARDS BLOW DOWN HEADER.
- ALL HYDROCARBON VENTS TO ATMOSPHERE SHOULD BE VENTED AT MINIMUM 3 METRES ABOVE THE NEAREST OPERATING PLATFORM EXISTING WITHIN A RADIUS OF 12 METRES. A 3/8" DIAMETER WEEP HOLE IN THE TAIL PIPE FOR DRAINAGE TO SAFE LOCATION AT LOW POINT OF LINE SHALL BE PROVIDED.
- ALL STEAM VENTS TO ATMOSPHERE SHOULD BE VENTED AT MINIMUM 3 METRES ABOVE THE NEAREST OPERATING PLATFORM EXISTING WITHIN A RADIUS OF 8 METRES A 3/8" DIAMETER WEEP HOLE FOR DRAINAGE AT LOW POINT OF LINE SHALL BE PROVIDED.
- THE INSTRUMENTATION SHOWN FOR VENDOR PACKAGE UNITS IS MINIMUM PROCESS REQUIREMENT. VENDOR TO PROVIDE ADEQUATE INSTRUMENTATION FOR SAFE OPERATION AND MACHINE SAFETY.
- CBD/OWS DRAINS FOR EQUIPMENT LOCATED AT ELEVATED PLATFORMS CAN BE CLUSTERED AND ROUTED TO RESPECTIVE HEADERS.
- HIGH POINT VENTS & LOW POINT DRAINS OF PIPING ARE NOT SHOWN IN THE P&ID.
- PSV ISOLATION VALVES (UPSTREAM/DOWNSTREAM) SHALL BE OF FULL PORT SIZE.
- ALL SAMPLE POINTS SHOULD BE CONVENIENTLY LOCATED AT GRADE LEVEL PREFERABLY NEAR BATTERY LIMIT & SHOULD BE APPROACHABLE THEY SHOULD BE CLOSE TO OILY WATER SEWER FUNNELS AS FAR AS POSSIBLE.
- i) ISOLATION VALVES SHOWN DOTTED WILL BE PRESENT WHEN INDICATED IN P&ID WHERE EXCHANGER APPEARS.
ii) DETAILS ARE APPLICABLE FOR INDIVIDUAL EXCHANGER ONLY WHEN SHELL SIDE AND TUBE SIDE ISOLATION VALVES ARE PROVIDED.
iii) WHEN A BANK OF EXCHANGERS ARE ISOLATED BY TWO ISOLATION VALVES, THEN ONLY ONE FLUSHING OIL CONNECTION IS PROVIDED. HOWEVER DRAIN CONNECTIONS FOR PROCESS FLUIDS FROM BOTTOM NOZZLES WILL BE PROVIDED FOR ALL INDIVIDUAL EXCHANGERS.
iv) WHEN EXCHANGERS ARE NOT PROVIDED WITH ANY ISOLATION VALVES, DRAIN CONNECTIONS FOR PROCESS FLUIDS AT BOTTOM NOZZLES WILL BE PROVIDED FOR EACH EXCHANGER. FLUSHING CONNECTION WILL BE PROVIDED AT ONLY ONE APPROPRIATE LOCATION.
- DRAINS OF ALL LEVEL INSTRUMENTS, STAND PIPES IN HC SERVICE PROVIDED AT ELEVATED PLATFORMS SHOULD BE COLLECTED IN A COMMON 2" HEADER FOR ROUTING TO CBD/OWS (DETAIL-E). A 2" FLUSHING OIL CONNECTION SHOULD BE PROVIDED NEAR THE BLIND END OF THE DRAIN HEADER FOR FLUSHING. COMMON HEADER TO BE PROVIDED FOR EACH ELEVATED PLATFORM THIS WORK IS TO BE EXECUTED BY SITE CONTRACTOR PIPING TO TAKE CARE OF THIS REQUIREMENT IN MTO.
- OPERATION OF ALL WARM UP LINES ON PUMPS (REQUIREMENT TO BE CONFIRMED FROM P&ID'S) SHALL BE SUCH THAT IF WARM UP LINE FLANGE OR VALVE GLAND LEAK OCCURS IT SHOULD NOT FALL ON CHECK VALVE & THE PUMP DISCHARGE VALVE.
- BEARING COOLING WATER DRAINS TO BE ROUTED TO OWS.
- STAND PIPES FOR ALL LEVEL INSTRUMENTS SHALL HAVE ISOLATION VALVES.
- PROVIDE ISOLATION, VENT & DRAIN ARRANGEMENT FOR ALL INSTRUMENTS DURING DETAILED ENGG.
- CONTROL VALVES ARE TO BE PREFERABLY LOCATED AT GRADE.
- TO BE PROVIDED FOR CONGEALING SERVICE ONLY.
- ALL GATE VALVES ON LINES LEADING TO FLARE HEADER (INCLUDING PSV ISOLATION VALVES) TO BE INSTALLED WITH STEM IN HORIZONTAL POSITION TO EXTENT POSSIBLE.
- PROVIDE ONE SET OF UTILITY STATION ON PSV RACK.
- MATCHING FLANGES FOR FILTER ARE IN VENDOR'S SCOPE.

A	28.02.19	ISSUED FOR COMMENTS	Varun	GS	JKS	SS
संख्या	तिथि	REVISIONS	संशोधन	ड्रॉन	जॉच	अनुमोदित
No.	DATE		DRN	BY	CHKD	APPD.

इंजिनियर्स
इंडिया लिमिटेड
(A Govt. of India Undertaking)



GAIL (INDIA) LIMITED
गैल (इन्डिया) लिमिटेड
GT COMPRESSOR PROJECT, GANDHAR

पाइपिंग एण्ड इंस्ट्रुमेंटेशन डायग्राम
PIPING AND INSTRUMENTATION DIAGRAM
GENERAL NOTES AND TYPICAL DETAILS

अनुमाप SCALE	कार्य संख्या JOB NO.	विभाग DEPT.	अनुभाग SECTN.	इकाई UNIT	आरेख संख्या DWG. No.	संशोधन REV.
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