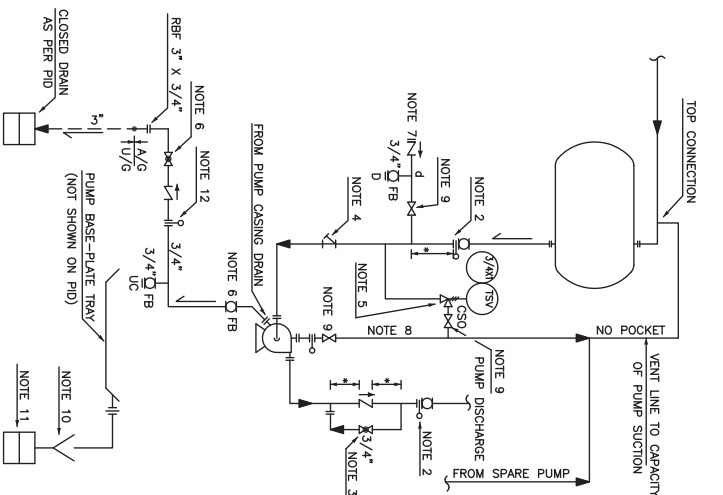
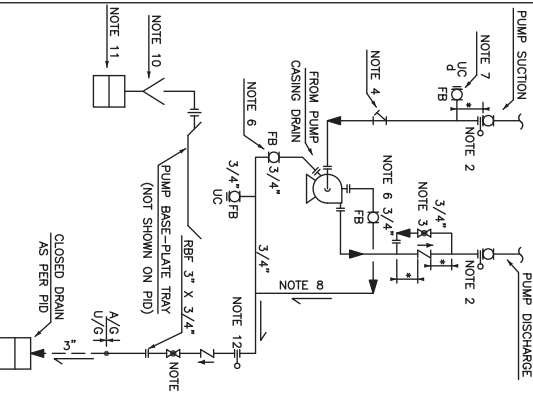


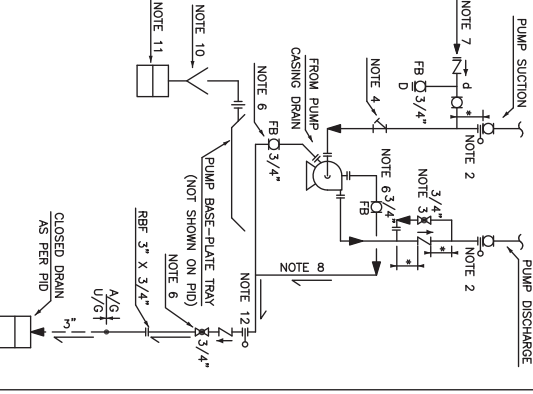
DETAIL 1
PUMPS HANDLING HYDROCARBON WITH A VAPOUR PRESSURE AT AMBIENT TEMPERATURE EXCEEDING 5 bar(g) (0.1, 0.2, 0.3, 0.4...)



DETAIL 2
PUMPS HANDLING HYDROCARBONS STABILISED OR NON STABILISED WITH CONDITIONS OTHER THAN 'DETAIL 1' (MAY ALSO BE USED FOR STABILISED HYDROCARBON IN PUMPS HANDLING LEAN AMINE, CAUSTIC, CHEMICALS...)



DETAIL 3
PUMPS HANDLING TOXIC PRODUCTS (RICH AMINE, SULF SERVICES...)



DETAIL 4
PUMPS HANDLING PROCESS WATER, BRW, CONDENSATES ETC... WITHOUT HAZARDOUS OR EXPENSIVE FLUIDS. (MAY ALSO BE USED FOR STABILISED HYDROCARBON IN OFF-SITE AREAS WHERE NO DRAIN NETWORK IS AVAILABLE).

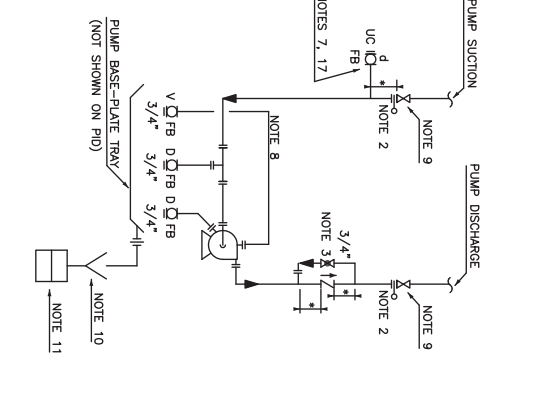
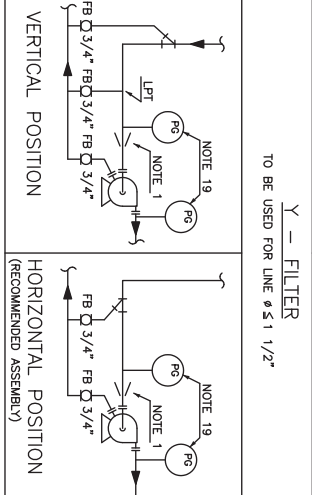
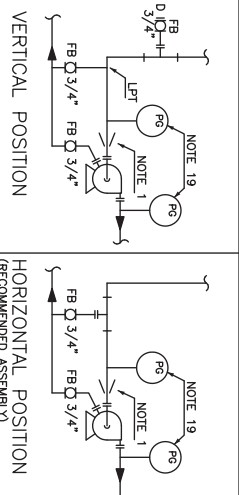
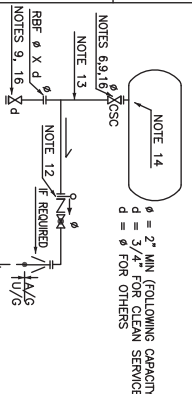


TABLE "A" (NOTE 18)
DRAIN FOR FILTER AT PUMP SUCTION

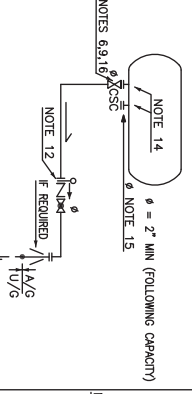
I - FILTER
Y - FILTER



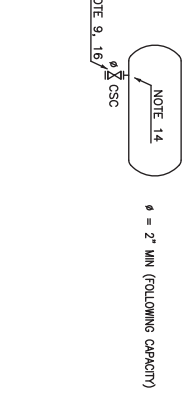
DETAIL 5
DRAINAGE OF RECOVERED NON TOXIC PRODUCTS



DETAIL 6
DRAINAGE OF RECOVERED TOXIC PRODUCTS (SUCH AS H2S, MERCAPTANS)



DETAIL 7
DRAINAGE OF NON HAZARDOUS & NON TOXIC PRODUCTS



- NOTES:**
- 1 - IF A REDUCER IS REQUIRED AT THE SUCTION OF THE PUMP IT SHALL BE ECONOMY WITH
 - 2 - SPARE SHALL BE INSERTED AT SUCTION AND AT DISCHARGE TO ISOLATE PUMPS FROM A DRAINING SITUATION (SEE DISCHARGE LINE)
 - 3 - A BYPASS WITH A VALVE (3/4" NO.) SHALL BE INSTALLED AROUND THE PUMP NON-RETURN VALVE. DISCHARGE AND SUCTION TEMPERATURES SHOULD BE MONITORED DURING DESIGN. TEMPERATURES ABOVE 230°C FOR SPARE PUMPS HEATING OR FLUID TEMPERATURE CONSIDERABLY BELOW AMBIENT TEMPERATURE, ALTERNATIVELY, DURING DETAILED ENGINEERING, A 5 mm (OR SUITABLE) WHEEP HOLE THROUGH CHECK VALVE MAY BE CONSIDERED FOR THIS PRESSURE IS ALSO USED FOR THE DRAINAGE OF ISOLATION BETWEEN CHECK VALVE DISCHARGE AND SUCTION (SEE DISCHARGE LINE). REFER TO TABLE "A" TYPE ACCORDING TO TABLE "A".
 - 4 - IF FILTER IS USED TO BE USED DRAINING TO TABLE "A" TYPE ACCORDING TO TABLE "A".
 - 5 - COMPASSION SAFETY VALVE MAY BE REQUIRED ACCORDING TO THE VAPOUR PRESSURE OF THE FLUID (REFER TO PROCESS PID).
 - 6 - FOR CL 1.6/2, 0.1% CA MINIMUM DISTANCE BETWEEN PUMP AND SAFETY VALVE SHALL BE 1000mm, IF NEEDED.
 - 7 - UTILITY CONNECTION FOR MAINTENANCE.
 - 8 - SITE VENT-ORIE BLOCK VALVE IS 3/4" DIAMETER IT SHALL BE A FULL BORE BALL VALVE.
 - 9 - TYPE OF VALVE FOLLOWING SELECTION DIAMETER IT SHALL BE A FULL BORE BALL VALVE.
 - 10 - INDIVIDUAL TUNDRISH TO BE DEFINED WHEN NECESSARY.
 - 11 - PIPES PROMINENT IN ACCORDANCE WITH SPACER INSTALLATION.
 - 12 - SPACER INSTALLED: FOR ANSI 600# AND ABOVE. FOR OPERATIONAL DRAIN: SPACER TO BE =BLIND TO REPLACE SPACER FOR 900# AND ABOVE. SPACER INSTALLED, DRAIN LINES (METALLURGY SELECTION, BATING) OR DRAIN AFTER FINAL DEPRESSURISATION TEMPERATURE ACTIVATED. A PAIR OF FLANGE SHALL BE INSTALLED, CORRESPONDING BLIND TO BE ALSO PROVIDED (AND REVERSED) WITH BOND TO AVOID SPANLESS STEEL LINE.
 - 13 - STRAIGHT LINE FOR WASHING PURPOSE.
 - 14 - NUMBER OF DRAINAGE POINTS ON HORIZONTAL VESSELS FOLLOWING LENGTH OF THE VESSEL (METERS OR FEET) SHALL BE AS FOLLOWS: 15 - IF DRAIN CONNECTION (PROVIDED FOR WASHING), 16 - IF OPEN BALL VALVE IS A BALL, IT SHALL BE 2" SPECIFIED FULL BORE FOR STABILISED HYDROCARBONS, CAN BE DELETED WHEN ASSEMBLED PRODUCT IS WATER.
 - 18 - PRESSURE GAUGES TO BE INSTALLED IN ARRANGEMENT WITH STANDARD, PREFERABLY IN HORIZONTAL POSITION AND SHALL BE EASILY READABLE.
- GENERAL NOTES:**
- UNLESS OTHER SPECIFIC REQUIREMENT SHOWN ON THE PROCESS PID, THE INSTALLATION POINT SHALL BE 600 MIN (MIN) IN THIS STANDARDISATION DRAWING HAVE TO BE FOLLOWED.
 - FOR PUMP DRAIN LINE SIZE, 3/4" SHALL BE CONSIDERED AS A MINIMUM, DURING DETAILED DESIGN, ENGINEERING AND/OR DATA SHALL BE CHECKED AND SIZE SHALL BE INCREASED IF NECESSARY.
 - THE DRAIN LINES OF UNIT 160 (INTERCONNECTED) WILL BE CONNECTED TO THE SUMP DRAIN LOCATED INSIDE THE CLOSEST UNIT.