





































FLUID CODE:	DESCRIPTION
AV	Atmospheric Vent
CWS	Cooling Water Supply
CWR	Cooling Water Return
FWG	Flare/Vent gas
IA	Instrument Air
OI	Hydraulic Oil
ST	Styrene
PR	Propane

HARDWARE		Instrument line and function symbols			
Symbol	Denomination	Symbol	Denomination	Symbol	Denomination
	Locally mounted		Field mounted, shared display, shared control		Connection to process
	Mounted on back panel		Function normally inaccessible to operator and installed in main control room		Pneumatic signal
	Mounted in main control room		Function normally accessible to operator and installed in main control room		Electric signal
	Mounted on back panel in auxiliary control room or on local panel		Function normally inaccessible to operator and installed in auxiliary control room or on local panel		Capillary tubing (FILLED SYSTEM)
	Mounted on panel in auxiliary control room or on local panel		Function normally accessible to operator and installed in auxiliary control room or on local panel		Internal system link (SOFTWARE / DATA LINK)
	Field relay		Software interlock logic normally inaccessible to operator and installed in main control room		Electromagnetic or sonic signal
	Back panel relay in auxiliary control room or on local panel		Sequential logic function		ELECTRONIC SIGNAL FIELDBUS TECHNOLOGY
	Mounted on back panel		Safety interlock logic		Summing function
	Star indicated that the instrument is supplied by package manufacturer		Package Control System PLC		Difference function
	SIGNAL LIGHT				Proportional function
	Foundation Fieldbus				Multiplying function
	Differential between two value				Dividing function
					High selecting function
					Low selecting function

Symbol	Denomination	Abbreviation
	CARTRIDGE Filter	FT
	Basket Filter	
	Suction Element	TST
	Coalescer	D
	Decanter	
	Compressor Screw	C
	Vertical Shell & Tube Exchanger	E
	Pump Reciprocating	P
	Ejector	EJ
	Aircooler	AE

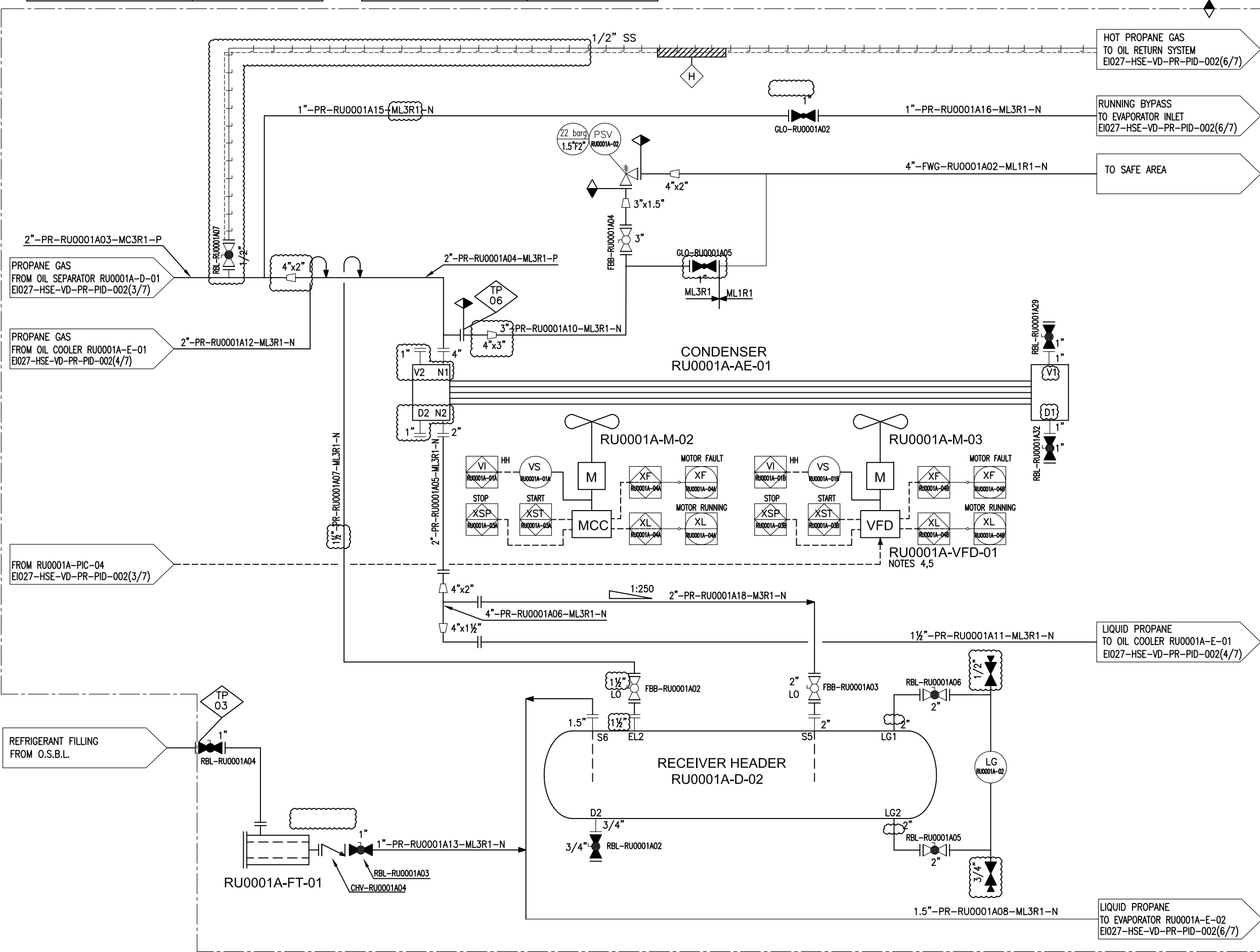
Piping and relevant components				
Symbol	Denomination	Symbol	Denomination	
	Piping		Auxiliary connections with quick coupling	Female Connection
				Male Connection
				Flange Connection
				Manhole
				Female nitrogen service
				Male nitrogen service
			Cone Type strainer	
			Temporary strainer	
			Y-Strainer	
			T-Strainer	
			Ring space	
			Spectacle blind - normally closed	
			Spectacle blind - normally open	
			Ring spacer	
	Process vent and drains			
			With gas or generic valve	
		All process vents and drains must be provided with plug or blind flange according to piping specification.		
	VALVES		Discharge to atmosphere	With flame trap
				With dumper or silencer
				Downward
				Upward
				Lateral
			Expansion joint	
				Locked Close Valve
			Locked Open Valve	
			Normally open valve	
			Normally closed valve	
			Car seal open valve	
			Car seal closed valve	
			Tight Shut Off Valve	
			Sight glass	
			Pipe line class change	

Instrument identification	
Symbol	Denomination
	Instrument tap on line
	Pressure tap with manifold valve
	Pressure tap with generic valves
	Pressure tap diaphragm type
	Fixed restriction orifice
	Primary flow element with transmitter
	Automatic regulator with integral flow indication
	Handwheel for automatic valves (valve with actuators)
	Diaphragm, spring-opposed
	spring-opposed single-acting
	Cylinder, spring-opposed double-acting
	Rotary motor
	Solenoid
	Solenoid valve with manual reset
	Hand actuator
	Butterfly Valve
	Pressure relief or safety valve
	Temperature relief or safety valve
	Two-Way Valve Fail Open
	Two-Way Valve Fail Close
	Two-Way valve fail locked
	Two-way valve fail indeterminate
	three-way valve fail open to path A-C
	MAGNETIC LEVEL GAUGE
	LEVEL TRANSMITTER WITH DIAPHRAGM SEPARATOR WITH EXTENSION
	Open Close

4	REFERENCE DRAWING	15	DWG NO.	76	REV.																														
NOTES :																																			
<p>1- AN ADDITIONAL "X" AFTER THE INSTRUMENT CODE MEANS THAT INSTRUMENT BELONGS TO ESD SYSTEM.</p> <p>2- FOR TEMPERATURE MEASURING INSTRUMENTS WHOSE SIGNAL HAS TO BE ROUTED TO A REMOTE SYSTEM (DCS, PLC), THE TRANSMITTER HAS BEEN ALWAYS INDICATED EVEN IF IT IS STRICTLY REQUIRED ONLY FOR CONTROL LOOPS, PROCESS INTERLOCKS AND SAFETY INTERLOCKS, IN CASE OF TEMPERATURE INDICATOR.</p> <p>3- IN ALL THE P&amp;ID, PACKAGES ARE REPRESENTED IN A SIMPLIFIED WAY. IN GENERAL, WHAT IS REPRESENTED IS LICENSOR MINIMUM REQUIREMENT. THE CHARACTERISTICS OF EACH PACKAGE ARE DESCRIBED IN THE RELEVANT DATA SHEET. IN ANY CASE, PACKAGES VENDORS SHALL SUPPLY FINAL P&amp;ID.</p> <p>4- FOR PIPES CARRYING THE FOLLOWING FLUIDS :</p> <ul style="list-style-type: none"> <li>- EB (ETHYLBENZENE)</li> <li>- AN (ACRYLONITRILE)</li> <li>- CD (ORGANIC LIQUID CONDENSATE)</li> <li>- ST (STYRENE)</li> <li>- BD (BUTADIENE)</li> </ul> <p>5- THE NUMBER OF FLANGES SHALL BE MINIMIZED.</p> <p>6- INSTALL DRAINS ON THE PIPING CIRCUITS (OR SINGLE LINES) LOWEST POINTS AND VENTS IN THE PIPING CIRCUITS (OR SINGLE LINES) HIGHEST POINTS.</p> <p>7- MINIMIZE FLANGED COUPLINGS ON HOT/THERMAL OIL (HO) MAIN DISTRIBUTION HEADER LINES. FOR THERMAL OIL (HO, CO) LINES INSTALLED ON PIPE RACKS, FLANGED COUPLINGS SHALL BE EQUIPPED WITH SAFE-RING OR EQUIVALENT FLANGES ON P&amp;ID.</p> <p>8- WHEN AN INTERLOCK OR A SEQUENCE REQUIRES TO PERFORM AN ACTION, THE INTERLOCK OR SEQUENCE ITSELF SHALL VERIFY IF THE ACTION HAS BEEN DONE. THIS HAS TO BE CONSIDERED AS STANDARD INSTALLATION AND IS NOT REPRESENTED ON P&amp;ID.</p> <p>9- IN GENERAL ON P&amp;IDs SEQUENCES CHECK PHASE IS NOT REPRESENTED EXCEPT FOR:</p> <ul style="list-style-type: none"> <li>- ABS PLANT: RUBBER DISSOLUTION SECTION</li> <li>- RUBBER PLANT: REACTION SECTION</li> </ul> <p>10- THE SIZE OF CONTROL VALVES BY-PASS VALVES WILL BE DEFINED / CONFIRMED ACCORDING TO THE FINAL SIZE OF CONTROL VALVES.</p> <p>11- IN CASE DRIP RING IS INDICATED ON P&amp;ID, IT SHALL BE SUPPLIED BY PIPING VENDOR. FOR DRIP RING TYPICAL SEE DOC. J-80/85/88-IN-STD-1500-0001 "DRIP RING FOR DIAPHRAGM INSTRUMENT TYPICAL".</p> <p>12- THE INSTALLATION OF ALL PI-TI-TT REPRESENTED ON P&amp;ID IS INDICATED IN THE TYPICAL.</p> <p>13- ALL SIGNALS FROM PLC TO ESD SHALL BE HARD-WIRED (NON-DATALINK)</p> <p>14- ALL SIGNALS FROM UNIT 88 INSTRUMENTS SHALL BE CONNECTED TO DCS /FCS /ESD OF RUBBER PLANT.</p> <p>15- ALL VALVES ON PSV INLET /OUTLET LINES SHALL BE FULL BORE TYPE. GATE VALVE ON FLARE LINE TO BE INSTALLED WITH STEM IN HORIZONTAL POSITION.</p> <p>16- FOR SPECIAL PIPING ITEMS LIST REFER TO DCC-J-85-PI-LSC-8501.</p> <p>17- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.</p> <p>18- ELEVATION SHOWN ARE ABOVE THE HIGHEST POINT OF PAVING.</p> <p>19- ALL VALVES ARE LINE SIZE UNLESS OTHERWISE SHOWN.</p> <p>20- THIS FLOW DIAGRAM IS DIAGRAMATIC ONLY. DESIGN OF PIPE LINE MUST BE INVESTIGATED FOR VENTING OF GAS AND VAPOR POCKETS IN PIPING AND EQUIPMENT, LOW POINTS IN PIPING, PUMPS AND EQUIPMENT FOR DRAINING AND ACCESSIBILITY OF ALL VALVES, FLANGES AND INSTRUMENTS INCLUDING THERMOCOUPLES ETC.</p> <p>21- ALL ELECTRONIC INSTRUMENTATION SHALL BE INSTALLED AWAY FROM STEAM LINES AND HIGH TEMPERATURE HEAT SOURCE.</p> <p>22- SAMPLE TAPING FOR GAS SAMPLES SHALL BE FROM THE TOP OF THE MAIN LINE. FOR LIQUID SAMPLES TAPPING SHALL BE DONE FROM THE SIDE.</p> <p>23- EXCEPT FOR PROCESS REASONS, LOW POINT DRAINS AND HIGH POINT VENT ARE NOT SHOWN.</p> <p>24- CABLING BETWEEN DCS REMOTE I/O CARDS IN MCC CUBICLE CABINET AND MAIN CONTROL ROOM WILL BE VIA SOFT LINK EXCEPT FOR ESD SIGNALS TO MCC THAT WOULD BE HARD WIRED.</p> <p>25- EDLS MEANS EARTHING SWITCH LOW.</p> <p>26- SIGNALS OF CURRENT TRANSMITTERS ARE TAKEN FROM MCC.</p> <p>27- WHILE PURGING THE EQUIPMENTS, VENTS SHALL BE PROPERLY KEPT OPEN IN ORDER TO AVOID EQUIPMENT PRESSURIZATION ABOVE EQUIPMENT DESIGN/PS SET PRESSURE BY MAINTAINING PROPER ADMINISTRATIVE CONTROL, PRESSURE SAFETY VALVES AND RUPTURE DISCS ARE NOT DESIGNED FOR THE MAXIMUM PURGING CONDITION MENTIONED IN THE LICENSOR PDP DATA.</p>																																			
HOLDE:																																			
EQUIPMENT LIST:																																			
KEY PLAN :																																			
<table border="1"> <thead> <tr> <th></th><th></th><th></th><th></th><th></th><th></th></tr> </thead> <tbody> <tr> <td>O2</td><td>OCT-2024</td><td>ISSUED FOR APPROVAL (IFA)</td><td>A.K</td><td>F.SH</td><td>A.M</td></tr> <tr> <td>O1</td><td>AUG-2024</td><td>ISSUED FOR APPROVAL (IFA)</td><td>A.K</td><td>F.SH</td><td>A.M</td></tr> <tr> <td>O0</td><td>JUL-2024</td><td>ISSUED FOR APPROVAL (IFA)</td><td>A.K</td><td>F.SH</td><td>A.M</td></tr> <tr> <td>REV.</td><td>ISSUE DATE</td><td>DESCRIPTION</td><td>PREPARED</td><td>CHECKED</td><td>APPROVED</td></tr> </tbody> </table>												O2	OCT-2024	ISSUED FOR APPROVAL (IFA)	A.K	F.SH	A.M	O1	AUG-2024	ISSUED FOR APPROVAL (IFA)	A.K	F.SH	A.M	O0	JUL-2024	ISSUED FOR APPROVAL (IFA)	A.K	F.SH	A.M	REV.	ISSUE DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED
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REV.	ISSUE DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED																														
CLIENT																																			
																																			
CONSULTING ENGINEER																																			
PROJECT: STYRENE PARK OFFSITE																																			
DRAWING TITLE:																																			
PROCESS & INSTRUMENTATION DIAGRAM (P&ID)-RU SYMBOL, ABBREVIATION AND GENERAL NOTES																																			
DRAWING NO.			REV.	SIZE	SHEET																														
EI027-HSE-VR-PID-002			02	A3	1 of 7																														

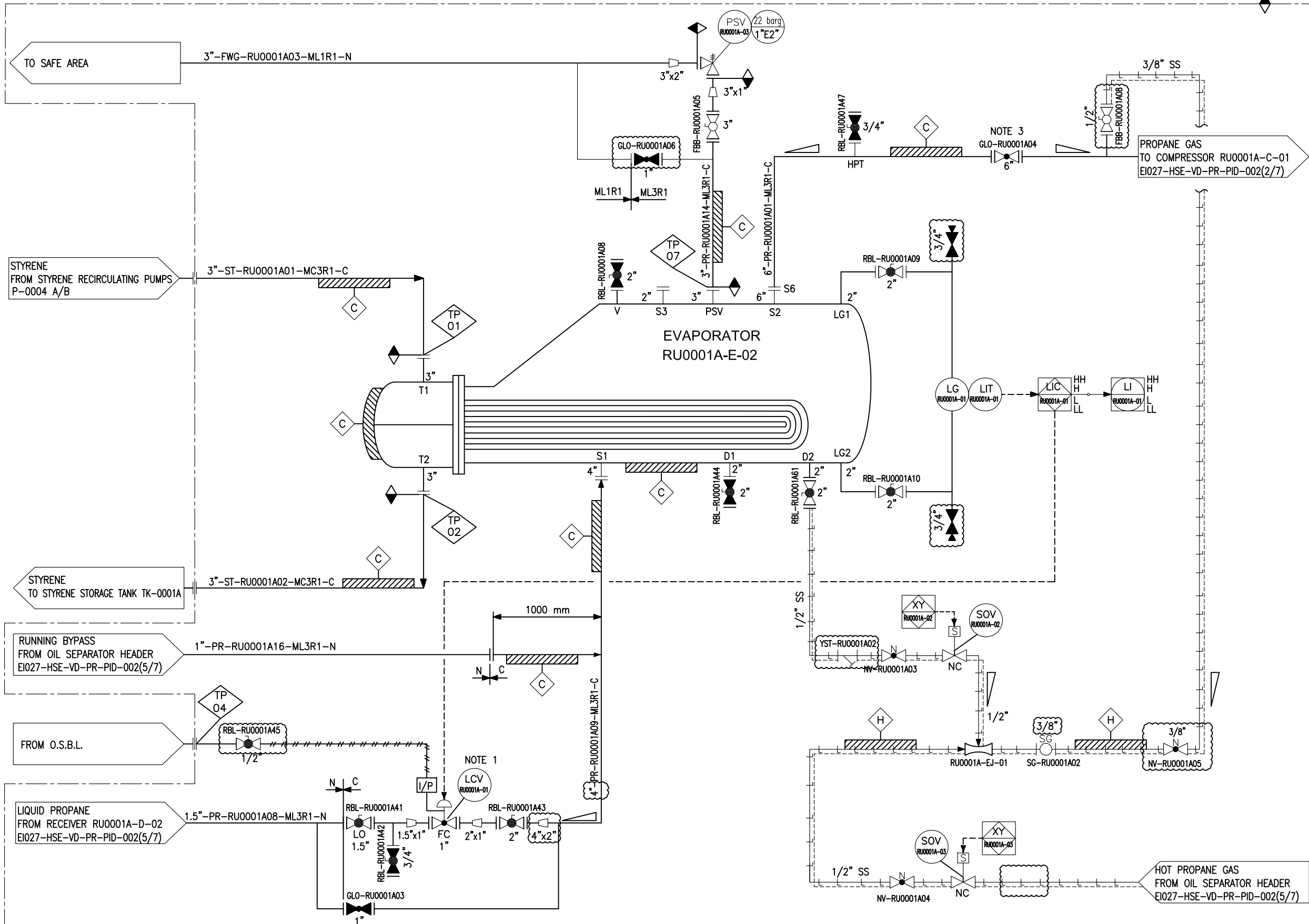
TAG NO.	RU0001A-AE-01
SERVICE	CONDENSER
DESIGN PRESS. (BARG)	22.0+FV
DESIGN TEMP. (°C)	-45/120
DESIGN DUTY (kW)	257



TAG NO.	RU0001A-D-02
SERVICE	RECEIVER HEADER
DESIGN PRESS. (BARG)	22.0+FV
DESIGN TEMP. (°C)	-45/120
ID x L (mm)	437 x 4000



14	15	16	REV.
REFERENCE DRAWING	DWG NO.		
NOTES :			
1- DELETED.			
2- MANUAL FAN PITCH HAS BEEN CONSIDERED FOR EACH FAN.			
3- MAINTAIN TEMPERATURE FOR ELECTRICAL INSULATIONS IS 30°C.			
4- VARIABLE FREQUENCY DRIVE IS INSTALLED IN MOTOR CONTROL CENTER.			
5- MOTOR HARDWIRE CONNECTED TO VARIABLE FREQUENCY DRIVE.			
LEGEND:			
<div><div>VENDOR</div><div>CUSTOMER</div></div>			
HOLDE:			
EQUIPMENT LIST:			
KEY PLAN :			
02	OCT-2024	ISSUED FOR APPROVAL (IFA)	A.K F.SH A.M
01	AUG-2024	ISSUED FOR APPROVAL (IFA)	A.K F.SH A.M
00	JUL-2024	ISSUED FOR APPROVAL (IFA)	A.K F.SH A.M
REV.	ISSUE DATE	DESCRIPTION	PREPARED CHECKED APPROVED
CLIENT			
<div><div></div><div>پتروشیمی توسهه پارک صنعتی گوهر افق</div></div>			
CONSULTING ENGINEER			
PROJECT: STYRENE PARK OFFSITE			
DRAWING TITLE: PROCESS & INSTRUMENTATION DIAGRAM (P&ID)-RU			
DRAWING NO.	REV.	SIZE	SCALE
EIO27-HSE-VD-PR-PID-002	02	A3	NTC
			SHEET
			5 of 7

<b>TAG NO.</b>	<b>RU0001A-E-02</b>
<b>SERVICE</b>	<b>EVAPORATOR</b>
<b>DESIGN PRESS. (barg)</b>	<b>S: 22.0+FV, T: 6.8+FV</b>
<b>DESIGN TEMP. (°C)</b>	<b>S: -45/120, T: 85</b>
<b>DESIGN DUTY (kW)</b>	<b>166.6</b>
<b>SHELL ID x TUBE L (mm)</b>	<b>600-925 x 2300</b>
<b>TEMA TYPE</b>	<b>BKU</b>



14	15	16			
REFERENCE DRAWING	DWG NO.	REV.			
NOTES :					
1- TRAVEL DOWN BLOCK TO BE SET AND LOCKED AT MINIMUM OPENING DURING COMMISSIONING (2 ~ 5%).					
2- DELETED.					
3- AT STAND STILL CONDITION, VALVE NEEDS TO BE CLOSED COMPLETELY. DURING START-UP VALVE TO BE OPENED SMOOTHLY.					
4- MAINTAIN TEMPERATURE FOR ELECTRICAL INSULATIONS IS 30°C.					
LEGEND:					
<div><div>VENDOR</div><div></div><div>CUSTOMER</div></div>					
HOLDE:					
EQUIPMENT LIST:					
KEY PLAN :					
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CONSULTING ENGINEER					
PROJECT: STYRENE PARK OFFSITE					
DRAWING TITLE: PROCESS & INSTRUMENTATION DIAGRAM (P&ID)-RU					
DRAWING NO.		REV.	SIZE	SCALE	SHEET
EI027-HSE-VD-PR-PID-002		02	A3	NTC	6 of 7