



 **BINA EPC Contractor Co.**
(Executor of Oil, Gas, Petrochemical & Power Industries)

Toase-ehe Park Sanati Gohar Ofogh Petrochemical Co.

**CONCEPTUAL, BASIC and DETAIL DESIGN
ENGINEERING OF STYRENE PARK OFFSITE**

ENBR
TEKNOLOJI



Document Title: P&ID

Document No. : EI0127-HRC-VD-PR-PID-003-R0

Rev.: R0

Page 1 of 6

STYRENE PARK OFFSITE

Document Title:

P&ID

Rev.	Issued Date	DESCRIPTION	PREPARED	CHECKED	APPROVED
R0	20/02/2024	Issued for Comment	M.Tavakoli	E.Malek	H.Keshmiri



Toase-eh Park Sanati Gohar Ofogh Petrochemical Co.
**CONCEPTUAL, BASIC and DETAIL DESIGN ENGINEERING OF
 STYRENE PARK OFFSITE**



Document Title: P&ID

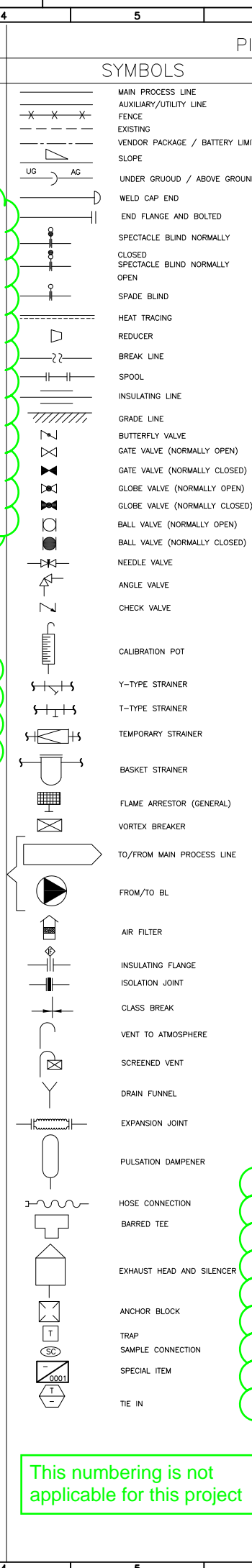
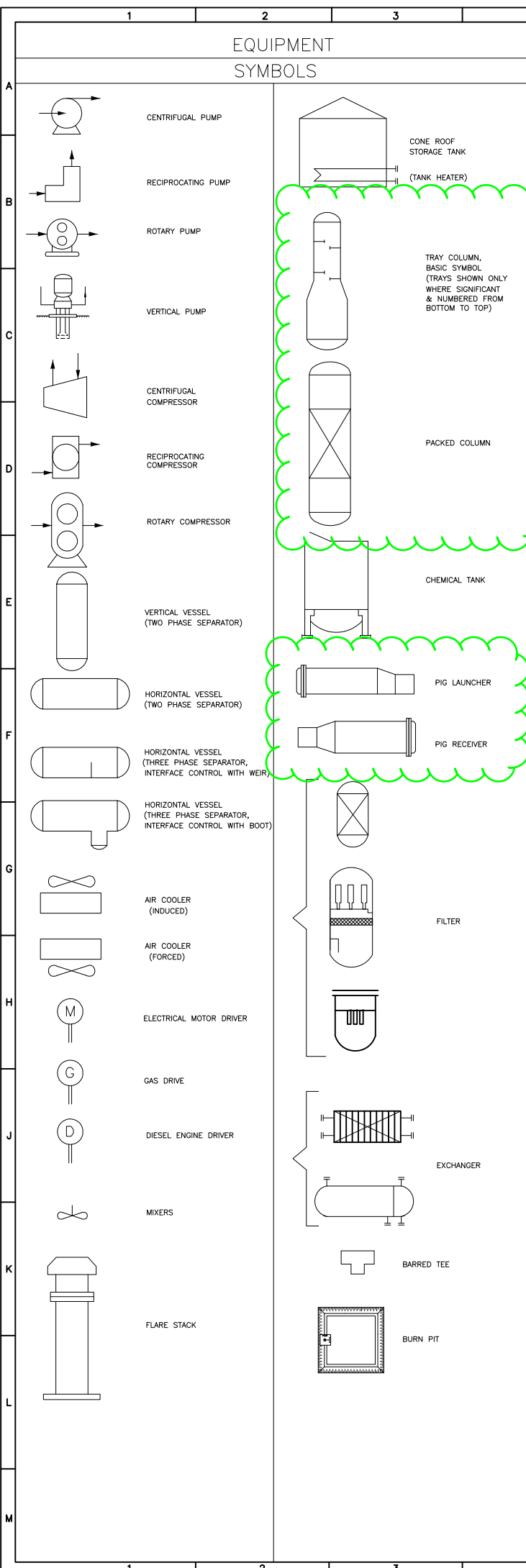
Document No. : EI0127-HRC-VD-PR-PID-003-R0

Rev.: R0

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	R0	R1	R2	R3	R4	R5	R6
1	X						
2	X						
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Page	Revisions						
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ABBREVIATIONS

AG	ABOVE GROUND
ATM	ATMOSPHERE
BL	BATTERY LIMIT
DBB	DOUBLE BLOCK & BLEED
FB	FULL BORE
FV	FULL VACUUM
ID/OD	INSIDE/OUTSIDE DIAMETER
LC	LOCKED CLOSED
LO	LOCKED OPEN
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
PFD	PROCESS FLOW DIAGRAM
P & ID	PIPING & INSTRUMENTATION DIAGRAM
NO	NORMALLY OPEN
RB	REDUCED BORE
SC	SAMPLE CONNECTION
TT	TANGENT TO TANGENT
UC	UTILITY CONNECTION
UCP	UNIT CONTROL PANEL
UG	UNDER GROUND
D	DRAIN
DP	DESIGN PRESSURE
DT	DESIGN TEMPERATURE
ELEV	ELEVATION
HLL	HIGH HIGH LIQUID LEVEL
HLL	HIGH LIQUID LEVEL
LLL	LOW LIQUID LEVEL
LLL	LOW LOW LIQUID LEVEL
MW	MANWAY
NLL	NORMAL LIQUID LEVEL
NNF	NORMALLY NO FLOW
P	PRESSURE
SPGR	SPECIFIC GRAVITY
VC	VENT CONNECTION
VB	VORTEX BREAKER
CSO	CAR SEALED OPEN
CSC	CAR SEALED CLOSE
PRV	PRESSURE RELIEF VALVE
PSV	PRESSURE SAFETY VALVE
CIP	CORROSION INHIBITOR POINT
SP	SPOOL
VF	VENDOR FURNISHED

FLUID ABBREVIATION

CDH	HYDROCARBON DRAIN
CSW	CHEMICAL SEWER
CHM	CHEMICALS
FLG	FUEL GAS
FLO	FUEL OIL
FWA	FIRE WATER
GDH	GLYCOL DRAIN
HCB	HYDROCARBON LIQUID
FLR	FLARE GAS
ISA	INSTRUMENT AIR
NSW	NON-OILY SEWER
NIT	NITROGEN
OWA	OILY WATER
OSW	OILY SOUR WATER
PLA	PLANT AIR
PRG	PROCESS GAS
PTW	POTABLE WATER
PWA	PLANT WATER
RWA	RAW WATER
SSW	SANITARY SEWER
TEG	THREE ETHYLENE GLYCOL

UNIT & TRAIN NUMBER

UNIT NUMBER	IDENTIFICATION FOR UNIT NUMBER	UNIT NAME
000	00	COMMON
110	11	GAS COMPRESSION
120	12	GAS DEHYDRATION
210	21	INSTRUMENT AND PLANT AIR SYSTEM
220	22	NITROGEN SYSTEM
230	23	FUEL GAS SYSTEM
240	24	FUEL OIL SYSTEM
250	25	CHEMICAL INJECTION
260	26	WATER SUPPLY
270	27	EFFLUENT TREATMENT
280	28	FLARE AND BURN PIT
290	29	HC CLOSED DRAIN
300	30	FIRE WATER SYSTEM

TRAIN NUMBER
=0 FOR SINGLE SECTION
=1,2,3 OR N FOR MULTI-SECTION UNITS

INSULATION/FINISHING CODE

ET	ELECTRICAL TRACED & INSULATED
IC	INSULATION COLD
IH	INSULATION HOT
IS	PERSONNEL PROTECTION
PT	PAINTING
NP	NO INSULATION, NO PAINTING
SLPE	5-LAYER POLYETHYLENE
3LPP	3-LAYER POLYPROPYLENE

LINE NUMBERING

000-0-0000-00

- INSULATION CODE
- PIPING CLASS CODE
- SERIAL NUMBER FROM 001 UP TO 999
- TRAIN NUMBER
- UNIT NUMBER
- FLUID ABBREVIATION
- NOMINAL PIPE SIZE

PROJECT CODE

CODE	PROJECT NAME
DELETED	DELETED
A01	AGHAJARI-1 COMPRESSOR STATION
A02	AGHAJARI-2 COMPRESSOR STATION AND GAS DEHYDRATION
A03	AGHAJARI-3 COMPRESSOR STATION AND GAS DEHYDRATION
A04	AGHAJARI-4 COMPRESSOR STATION
A05	AGHAJARI-5 COMPRESSOR STATION
A08	MARUN-3 GAS DEHYDRATION
A09	MARUN-5 COMPRESSOR STATION AND GAS DEHYDRATION
A10	RAMSHIR COMPRESSOR STATION AND GAS DEHYDRATION
A11	RAGSEFID-1 COMPRESSOR STATION AND GAS DEHYDRATION
A12	PAZANAN-1 GAS DEHYDRATION
B01	PIPELINE FOR GATHERING GAS FROM PROJECTS GROUP A AND TRANSFER TO PG BIDBOLAN GAS REFINERY
C01	SUPPLYING TWO ROLLS ROYCE TURBINES FOR GACHSARAN-1 & GACHSARAN-4
C02	SUPPLYING REQUIRED SPARE PARTS FOR GACHSARAN COMPRESSOR STATIONS
C03	REPLACEMENT OF THE 10" PIPELINE FROM RAGSEFID-1 TO RAGSEFID-2
C04	IMPROVING THE PERFORMANCE OF THREE COMPRESSION STAGES AND REPLACEMENT OF THE 4TH STAGE COMPRESSION IN RAGSEFID-1 CS
C05	IMPROVING THE PERFORMANCE OF THREE COMPRESSION STAGES AND REPLACEMENT OF THE 4TH STAGE COMPRESSION IN RAGSEFID-2 CS
C06	IMPROVING THE PERFORMANCE OF THREE COMPRESSION STAGES AND REPLACEMENT OF THE 4TH STAGE COMPRESSION IN BIBHAKMEH-1 CS
C07	IMPROVING THE PERFORMANCE OF THREE COMPRESSION STAGES AND REPLACEMENT OF THE 4TH STAGE COMPRESSION IN BIBHAKMEH-2 CS
C81	NEW COMPRESSOR STATION FOR BIBHAKMEH-1
C82	NEW COMPRESSOR STATION FOR BIBHAKMEH-2
C09	REPLACEMENT OF ONE TIME-WORN TRAIN OF ELECTRO-COMPRESSORS IN CS-200 KARANJ
C10	REPLACEMENT OF ONE TIME-WORN TRAIN OF ELECTRO-COMPRESSORS IN CS-400 PARS
D01	PROCUREMENT & INSTALLATION OF TWO TURBINES FOR GACHSARAN-2 & GACHSARAN-3
D02	GATHERING OF THE EXCESS GAS OF THE 2ND & 3RD STAGES OF GACHSARAN PU-4
D03	REPLACEMENT OF GAS TRANSFER PIPELINE & SLUG CATCHER OF SIAHMAKAN FACILITY
D04	CONSTRUCTION OF 18km OF 8" MEDIUM PRESSURE GAS PIPELINE FROM NGL-900 TO NGL-1300

EQUIPMENT CATEGORY SYMBOL

C	COMPRESSOR
AC	AIR COOLER
E	EXCHANGER
F	FILTER
FL	FLARE STACK
GT	GAS TURBINE
M	ELECTRIC MOTOR
MX	MIXER
PL	PIG LAUNCHER
P	PUMP
PR	PIG RECEIVER
SU	SUMP
T	COLUMN (TOWER)
TK	STORAGE TANK
V	VESSEL
X	MISCELLANEOUS
PK	PACKAGE
B	BLOWER
BU	BURN PIT

EQUIPMENT IDENTIFICATION

000-PK-00000-0000

- ALPHABET SYMBOL
- SERIAL NUMBER FROM 01 UP TO 99
- EQUIPMENT CATEGORY
- ALPHABET SYMBOL
- SERIAL NUMBER (FROM 1 UP TO 9)
- TRAIN NUMBER
- EQUIPMENT CATEGORY
- UNIT NUMBER
- PROJECT CODE

General Comments:

- Unnecessary items/symbols shall be removed (i.e. Launcher, Receiver, Tray column and ...). Applicable to all pages.
- It seems the "PROJECT CODE" is not related to this project. Then this section shall be revised totally.
- All items and sections shall be revised in accordance with the requirement of this project and all items related to other project shall be eliminated. Applicable to all pages.

NOTES :

KEY PLAN :

RO	20-Feb-24	Issued for Comment	M.T.	E.M.	H.K.	HRCO
REV.	ISSUE DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED	COMPANY

CLIENT:

CONSULTING ENGINEER:

VENDOR:

PROJECT: **STYRENE PARK OFFSITE**

DRAWING TITLE: **P&ID**

DRAWING NO.	REV.	SIZE	SCALE	SHEET
E0127-HRC-VD-PR-PID-003	RO	A3	NTS	3 of 6

This numbering is not applicable for this project

These identifications is not applicable for this project

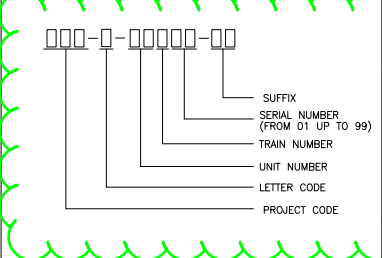
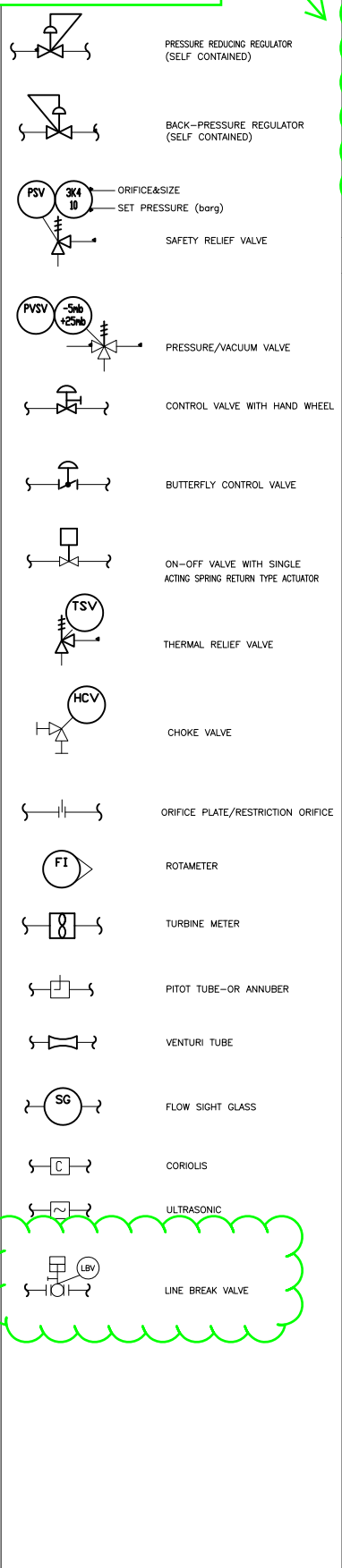
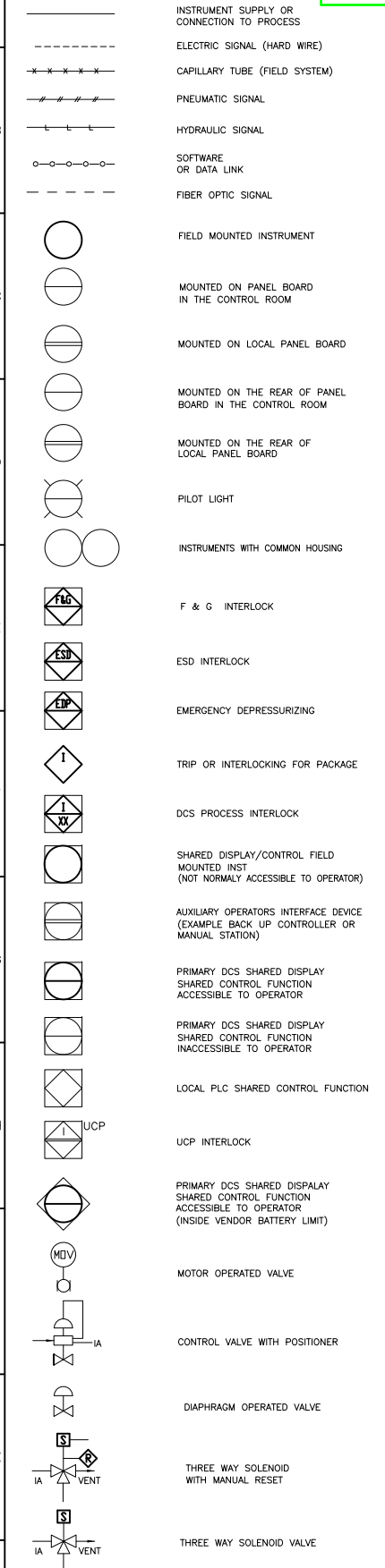
BINA logo shall be removed in all pages

This coding is not applicable to this project. Kindly revise this item.

INSTRUMENT

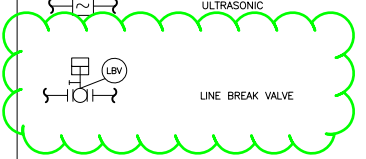
INSTRUMENT CODE

INSTRUMENT TYPICAL CONTROL SCHEMATICS



INSTRUMENT ABBREVIATIONS

SS	SELECTOR SWITCH
CAS	CASCADE
FC	FAIL CLOSED
FO	FAIL OPEN
PV	PROCESS VARIABLE
RSP	REMOTE SET POINT
SP	SET POINT
TW	THERMOWELL
REV	REVERSE
E/H	ELECTRIC TO HYDRAULIC
ADD	ADD
√	EXTRACT SQUARE ROOT
X	RATIO/MULTIPLY
□	HIGH SELECT
□	LOW SELECT
ESD	EMERGENCY SHUTDOWN
RO	RESTRICTION ORIFICE
BDV	BLOW DOWN VALVE
GOV	GAS OPERATED VALVE
ERP	ELECTRICAL RESISTANCE PROBE
CC	CORROSION COUPON
CP	CORROSION PROBE
TSO	TIGHT SHUT OFF
ZI	PIG SIGNALER
TDS	TRAP DOOR SWITCH
SPD	SIGNAL PIG DETECTOR
±	BIAS
LBV	LINE BREAK VALVE
PB	PUSH BUTTON
PLC	PROGRAMMABLE LOGIC CONTROLLER
MOV	MOTORIZED VALVE
MCC	MOTOR CONTROL CENTER



FIRST LETTER	INITIATING OR MEASURING VARIABLE	CONTROLLERS				DEVICES				ALARM DEVICES SHUT DOWN				TRANSMITTERS				SWITCH										
		RECORDING	INDICATING	BLIND	SELF-ACTIVATED REGULATOR WALK	RECORDER	INDICATOR	HIGH	LOW	COMB.	VERY HIGH	VERY LOW	LIGHT	BUZZER	RECORDING INDICATION BLIND	RELAYS, SOLENOIDS COMPUTING DEVICES	PRIMARY ELEMENT	WELL OR PROBE	VIEWING DEVICE GLASS	SAFETY DEVICE	FINAL ELEMENT	STATUS	HIGH	LOW	VERY HIGH	VERY LOW		
A	ANALYSIS	ARC	AIC	AC		AR	AI	AAH	AAL		AAHH	AALL			AT	AY	AE	AP					ASH	ASL	ASHH	ASLL		
B	BURNERS/COMBUSTION	BRC	BIC	BC		BR	BI	BAH	BAL		BAHH	BALL			BT	BY	BE											
C	DUTY CALCULATION							CAH																				
E	VOLTAGE							EI								EY					ESDV	ESH	ESL	ESHH	ESLL			
F	FLOW RATE	FRC	FIC	FC		FR	FI	FAH	FAL		FAHH	FALL			FT	FY	FE				FG	FV	FSH	FSL	FSHH	FSLL		
FQ	FLOW QUANTITY	FQRC	FQIC	FQC		FQR	FQI	FQAH	FQAL						FQIT	FQOT	FQY	FQE										
FF	FLOW RATIO	FFRC	FFIC	FFC		FFR	FFI	FFAH	FFAL														FFSH	FFSL	FFSHH	FFSLL		
H	HAND		HIC	HC										HS		HY						HV	HSH	HSL	HSHH	HSLL		
I	CURRENT		IIC					II	IA						IT													
J	POWER					JR	JI								JT													
K	TIME															KY												
L	LEVEL	LRC	LIC	LC	LCV	LR	LI	LAH	LAL		LAHH	LALL			LT	LY					LG	LV	LSH	LSL	LSHH	LSLL		
P	PRESSURE/VACUUM	PRC	PIC	PC	PCV	PR	PI	PAH	PAL		PAHH	PALL			PT	PY	PP	PI	PSV	PV		PP	PSH	PSL	PSHH	PSLL		
PD	PRESSURE DIFFERENTIAL	PDRC	PDIC	PDC	PDCV	PDR	PDI	PDH	PDAL		PDHH	PDALL			PDT	PDY						PDV	PDGH	PDGL	PDGHH	PDGLL		
Q	QUANTITY														QT													
S	SPEED/FREQUENCY	SRC	SIC	SC		SR	SI	SAH	SAL		SAHH	SALL			ST	SY	SE											
T	TEMPERATURE	TRC	TIC	TC	TCV	TR	TI	TAH	TAL		TAHH	TALL			TT	TY	TE	TW	TI			TV	TSH	TSL	TSHH	TSLL		
TD	TEMPERATURE DIFFERENTIAL	TDRC	TDIC	TDC		TDR	TDI	TDH	TDAL		TDHH	TDALL			TDY							TDV	TDGH	TDGL	TDGHH	TDGLL		
U	MULTIVARIABLE																											
V	VIBRATION/MACHINERY ANALYSIS					VR	VI	VAH	VAL		VAHH	VALL			VT	VY	VE						VSH	VSL	VSHH	VSLL		
W	WEIGHT/FORCE	WRC	WIC	WC		WR	WI	WAH	WAL		WAHH	WALL			WT	WE												
X	UNCLASSIFIED	XRC	XIC	XC		XR	XI	XAH	XAL		XAHH	XALL	XL	XS		XY	XE						XV	XL	XSH	XSL	XSHH	XSLL
Z	POSITION/DIMENSION REQUEST CONSENT					ZI	ZLO	ZLC	ZALH	ZALL					ZT	ZY							ZSH	ZSL	ZSHH	ZSLL		

14	15	16
REFERENCE DRAWING	DWG NO.	REV.

LEGENDS :

NOTES :

KEY PLAN :

RO	20-Feb-24	Issued for Comment	M.T.	E.M.	H.K.	HRCO
REV.	ISSUE DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED	COMPANY

CLIENT:

CONSULTING ENGINEER:

VENDOR:

PROJECT: **STYRENE PARK OFFSITE**

DRAWING TITLE: **P&ID**

DRAWING NO.	REV.	SIZE	SCALE	SHEET
E0127-HRC-VD-PR-PID-003	RO	A3	NTS	4 of 6

There is discrepancy between this design pressure and the reported value in the "Process Duty Specification For Activated Carbon Package" document. Kindly check and revise Considering the intermittent nature of the process and the change of ambient temperature, it is recommended to maintain these values for the design pressure.

Rated capacity shall be added
Noted

The "P&ID For Styrene Storage Tank" shall be added
Noted

PK-0001-F1 AIR CARBON FILTER	
TYPE	: ACTIVATED CARBON
ID x TT	: 2100 x 5300 mm
DP INT/EXT	: 0.2 barg / -0.1 barg
DT	: 85.0 °C
INSULATION	: No
MATERIAL	: CS

PK-0001-F2 AIR AFTER FILTER	
TYPE	: CARTRIDGE
ID x TT	: 441 x 1500 mm
DP INT/EXT	: 0.2 barg / -0.1 barg
DT	: 85.0 °C
INSULATION	: No
MATERIAL	: CS

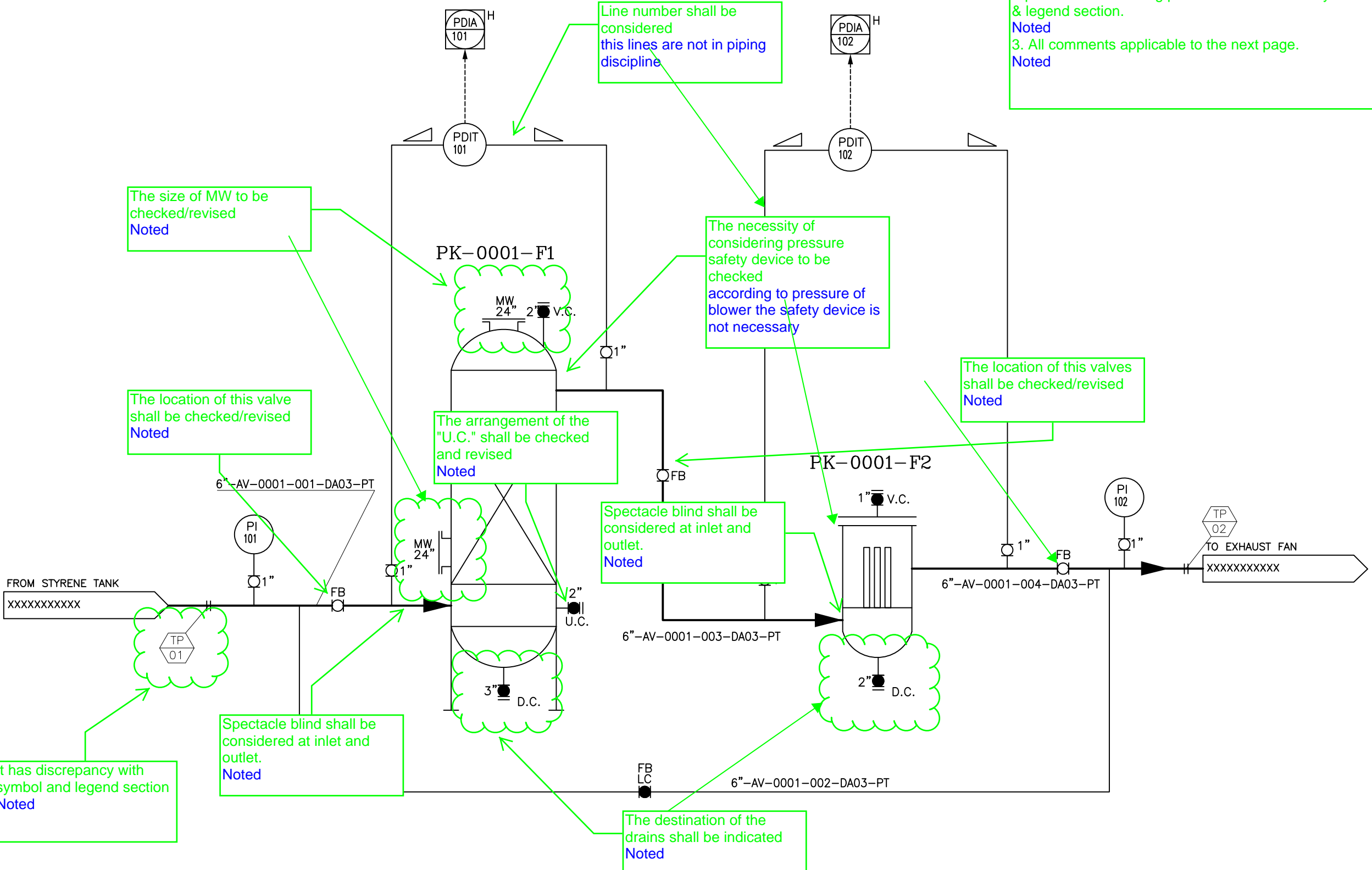
General Comments:
1. For all valves, size and pressure class shall be indicated.
Noted
2. All numbering shall be in accordance with represented numbering procedure indicated in symbol & legend section.
Noted
3. All comments applicable to the next page.
Noted

REFERENCE DRAWING	DWG NO.	REV.
PFD	E10127-HRC-VD-PR-PFD-002	RO

LEGENDS :

NOTES :

- The package is skid mounted



Line number shall be considered
this lines are not in piping discipline

The necessity of considering pressure safety device to be checked according to pressure of blower the safety device is not necessary

The location of this valves shall be checked/revise
Noted

The arrangement of the "U.C." shall be checked and revised
Noted

Spectacle blind shall be considered at inlet and outlet.
Noted

Spectacle blind shall be considered at inlet and outlet.
Noted

The destination of the drains shall be indicated
Noted

The size of MW to be checked/revise
Noted

The location of this valve shall be checked/revise
Noted

It has discrepancy with symbol and legend section
Noted

KEY PLAN :

REV.	ISSUE DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED	COMPANY
RO	20-Feb-24	Issued for Comment	M.T.	E.M.	H.K.	HRCO

CLIENT:  **پتروشیمی توسعه پارک صنعتی گوهر الماس**

CONSULTING ENGINEER:  **BINA EPC CONTRACTOR CO.**

VENDOR:  **ENER TEKNOLOJI**  **HAMOON RAH**

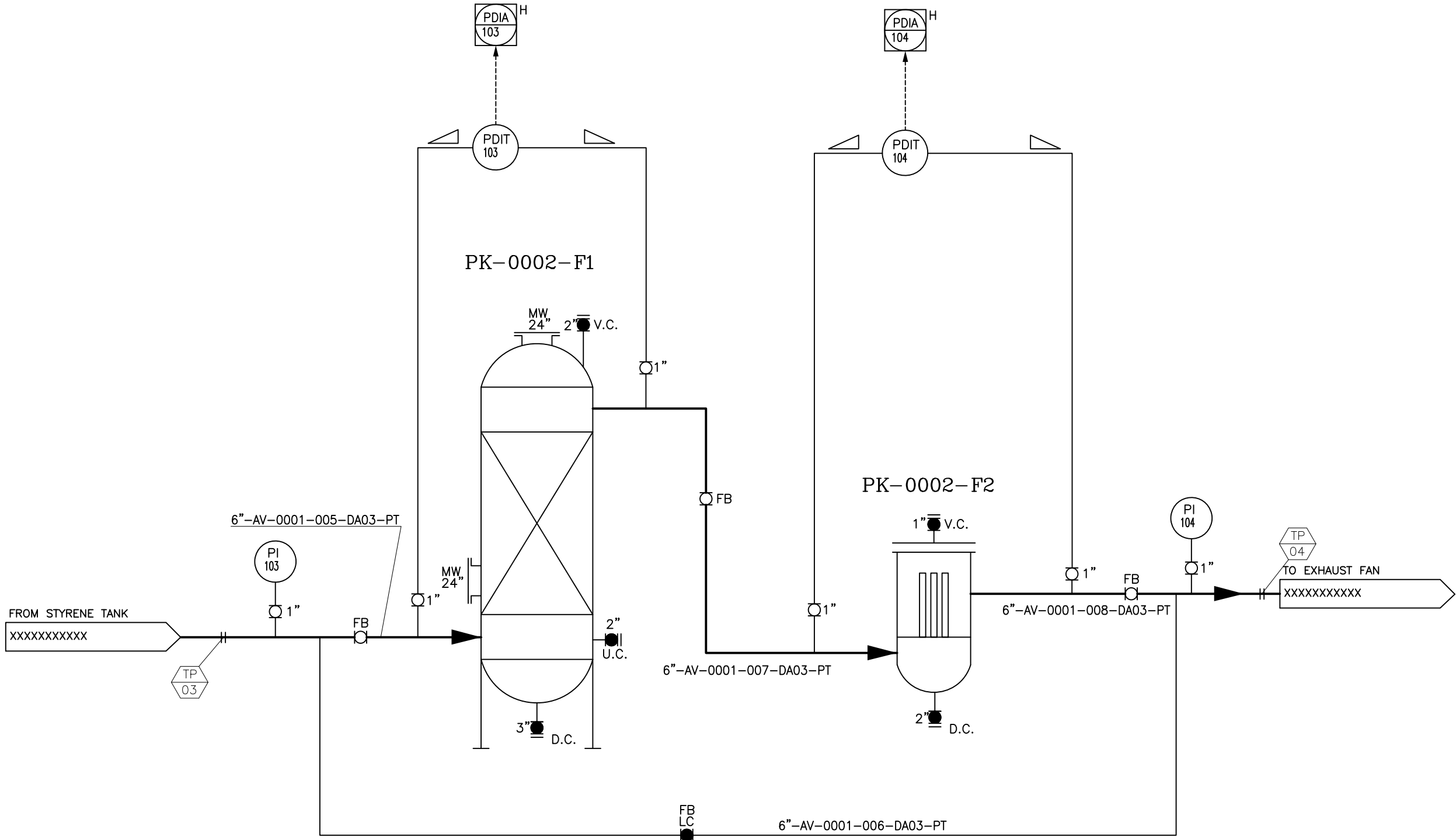
PROJECT: **STYRENE PARK OFFSITE**

DRAWING TITLE: **P&ID**

DRAWING NO.	REV.	SIZE	SCALE	SHEET
E10127-HRC-VD-PR-PID-003	RO	A3	NTS	5 of 6

PK-0002-F1 AIR CARBON FILTER	
TYPE	: ACTIVATED CARBON
ID x TT	: 2100 x 5300 mm
DP INT/EXT	: 0.2 barg / -0.1 barg
DT	: 85.0 °C
INSULATION	: No
MATERIAL	: CS

PK-0002-F2 AIR AFTER FILTER	
TYPE	: CARTRIDGE
ID x TT	: 441 x 1500 mm
DP INT/EXT	: 0.2 barg / -0.1 barg
DT	: 85.0 °C
INSULATION	: No
MATERIAL	: CS



REFERENCE DRAWING	DWG NO.	REV.
PFD	EI0127-HRC-VD-PR-PFD-002	RO

LEGENDS :

NOTES :

- The package is skid mounted

KEY PLAN :

REV.	ISSUE DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED	COMPANY
RO	20-Feb-24	Issued for Comment	M.T.	E.M.	H.K.	HRCO

CLIENT:  **پتروشیمی توسعه پارک**
 صنعتی گوهر الماس

CONSULTING ENGINEER:  **BINA EPC CONTRACTOR CO.**

VENDOR:  **ENER TEKNOLOJI**  **HAMOON RAH**

PROJECT: **STYRENE PARK OFFSITE**

DRAWING TITLE: **P&ID**

DRAWING NO.	REV.	SIZE	SCALE	SHEET
EI0127-HRC-VD-PR-PID-003	RO	A3	NTS	6 of 6