

	CONCEPTUAL, BASIC and DETAIL DESIGN ENGINEERING OF STYRENE PARK OFFSITE		 
	Document Title: General Arrangement Drawing-Basket Filter for Filter Package		
Document No.: EI027-ENR-VD-ME-DWG-006		Rev. R1	Page 1 of 3

STYRENE PARK OFFSITE

Document Title

General Arrangement Drawing-Basket Filter

FOR

Filter Package

R1	2024/13/04	Issued For Approval	M.Teymouri	E.Malek	H.Keshmiri
R0	2024/05/03	Issued For Approval	M.Teymouri	E.Malek	H.Keshmiri
Rev.	Issued Date	DESCRIPTION	PREPARED	CHECKED	APPROVED



CONCEPTUAL, BASIC and DETAIL DESIGN
ENGINEERING OF STYRENE PARK OFFSITE



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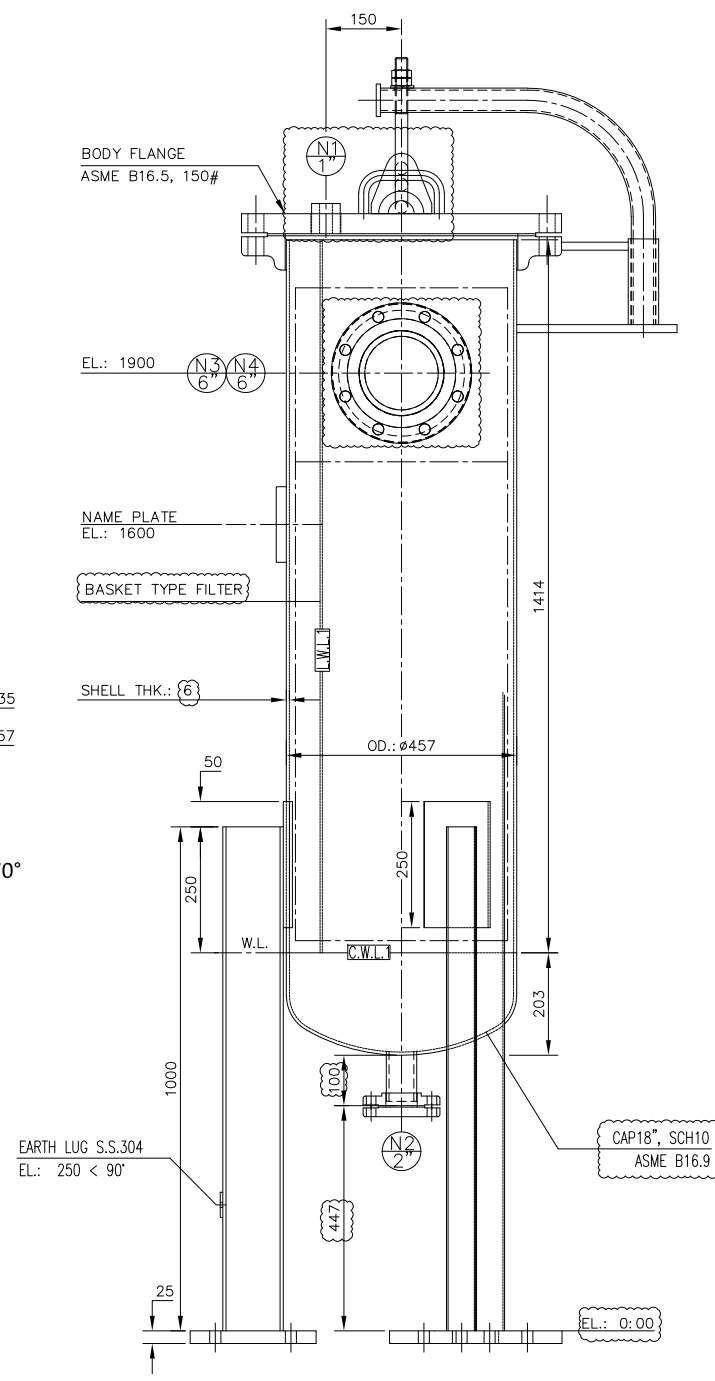
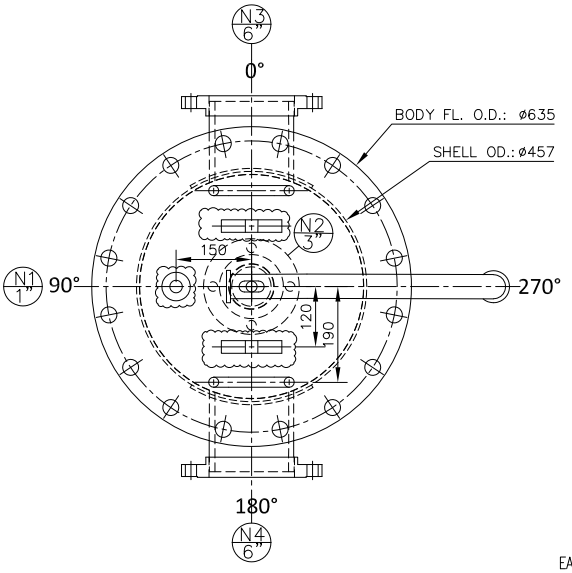
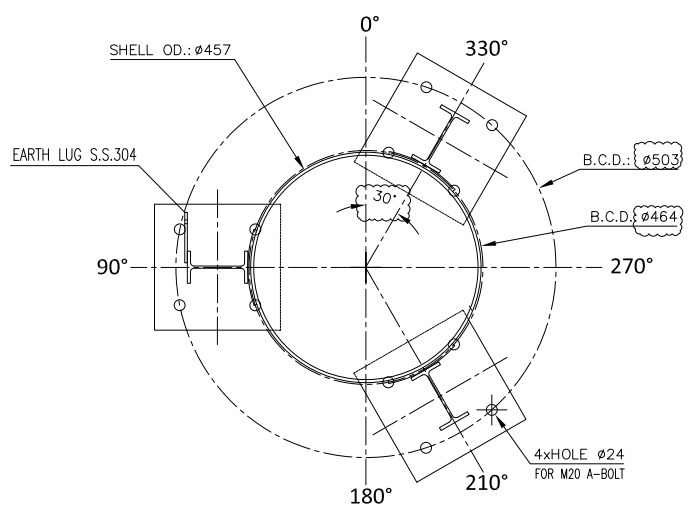
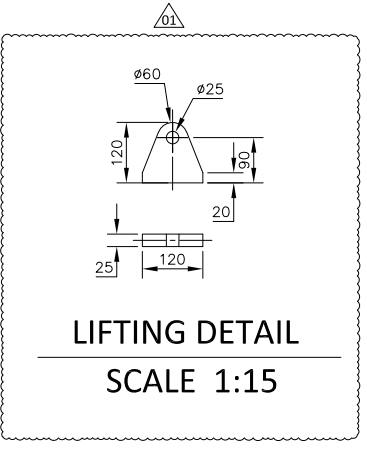
Page 2 of 3

REVISION RECORD SHEET

Page	Revisions							Page	Revisions						
	R0	R1	R2	R3	R4	R5	R6		R0	R1	R2	R3	R4	R5	R6
1	x	x						41							
2	x	x						42							
3	x	x						43							
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DESIGN DATA Δ

APPLICABLE CODE	ASME, Sec.VIII, Div1 ,Ver.2017	DESIGN INT. PRESSURE	3.5	Bar(g)
WIND CODE	UBC	DESIGN EXT. PRESSURE	0.0	Bar(g)
WIND DESIGN DATA	SPEED:125 Km/hr EXPOSURE: C IMP. FACTOR: 1.15	OPERATING PRESSURE(norm/max.)	-0.08 / 0.02	Bar(g)
		VOLUME (Uncor./cor.)	0.240/0.247	m3
SEISMIC CODE	ASCE/SEI 7-16	HYDROSTATIC TYPE	UG-99(b)	Bar(g)
SEISMIC DESIGN DATA	SITE CLASS: C SEISMIC ZONE=1 I=1.25/R:2.0 Fa:1.05/Fv:1.1 Ss:1.31/S1:0.46 z/h:0.0/ap:0.0	HYDRO. TEST PRESSURE/POSITION	17.618/VERTICAL	Bar(g)
		M.A.W.P	13.552	Bar(g)
		J.E (Shell/Cap)	0.85/1.0	
		R.T (Shell/Cap)	SPOT/(N/A)	
SERVICE	VOC ABATEMENT FROM STYRENE STORAGE TANK EFFLUENT	CORROSION ALLOWANCE	3.0	mm
LOCATION	OUTDOOR	P.W.H.T	NO	
FLUID	Air+Styrene (3.5 g/Nm3)	INSULATION/FIRE PROOF	NO / NO	
DENSITY (Min./Max.)	1.19	IMPACT TEST	NO	
DESIGN TEMP.	85 °C	PAINTING	Acco. To Painting Spec.	
OPERATING TEMP.(Min./Max)	5/52 °C	M.D.M.T(REQU./ Cal)	-5/-29 °C	



MATERIAL LIST Δ

SHELL/CAP	SA-516 70/A234 WPB	STUD BOLT/NUT	SA-193 B7/SA-194 2H
FORGED FLANGE	SA-105	ANCHOR BOLT	SA-36
PIPE	SA-106 B	LIFTING LUG/EARTH LUG	SA-283 C/S.S. 304
FITTING	A234 WPB	NAME PLATE	S.S. 304
GASKET	S.W. Type, Graphite filled with inner/outer S.S. rings.	INTERNAL WELDED ATTACHMENT	SA-283 C OR SA-516 70
REINFORCING PAD	SA-516 70	REMOVAL INTERNAL	S.S. 304
BODY FLANGE/BLIND	SA-105/SA-516 70		

NOZZLES DATA TABLE Δ

ITEM	QTY.	TITLE	SIZE	FLANGE			SCH/THK - /mm	REINFORCING PAD (OD/THK.) mm	PROJ./EL. mm	ORIENTATION
				RATING	TYP.	FACE				
N1	1	Vent	1"	FULL COUPLING	TREADED	6000#		52/1250	90° (HED)	
N2	1	Drain	2"	#150	S.O.	R.F	160/-	160/6	AS DWG - (BHD)	
N3	1	Gas Inlet	6"	#150	S.O.	R.F	STD/-	250/6	150/1900 0° (SHL)	
N4	1	Gas Outlet	6"	#150	S.O.	R.F	STD/-	250/6	150/1900 180° (SHL)	

ALLOWABLE NOZZLE LOADS

NAME	SIZE	(Kgf)			(Kg-m)		
		Fx	Fy	Fz	Mx	My	Mz
N2	2"	64.8	-51.8	64.8	11.0	17.5	13.9
N3/N4	6"	180.7	-144.4	180.7	84.4	136.2	106.9

WEIGHTS (Kgf)

FABRICATED	498.3
EMPTY	564.4
OPERATING	564.7
FIELD TEST	692.6

UN-FACTORED FOUNDATION LOADS ON TOP OF ALL LEGS

WIND SHEAR LOAD (Kgf)	580.0	SEISMIC SHEAR LOAD (Kgf)	901.0
WIND MOMENT LOAD (Kg-m)	1135.0	SEISMIC MOMENT LOAD (Kg-m)	1744.0

REFERENCE DRAWING	DWG NO.	REV.
P&ID for Cartridge Filter	EI027-ENR-VD-PR-PID-003	R2
Equipment Data Sheet-Cartridge Filter	EI027-ENR-VD-ME-DSH-002	R1
Strength Calculation-Cartridge Filter	EI027-ENR-VD-ME-CAL-004	R2
GAD For Package	EI027-ENR-VD-PI-DWG-001	R0

LEGENDS Δ

EL:	ELEVATION	M.A.W.P:	MAX. ALLOWABLE WORKING PRES.
ID:	INTERNAL DIAMETER	J.E:	JOINT EFFICIENCY
OD:	OUTSIDE DIAMETER	R.T:	RADIOGRAPHY TEST
FL:	FLANGE	P.W.H.T:	POST WELD HEAT TREATMENT
W.L:	WELD LINE	M.D.M.T:	MIN. DESIGN METAL TEMP.
C.W.L:	CIRCUMFERENTIAL WELD LINE	A-BOLT:	ANCHOR BOLT
L.W.L:	LONGITUDINAL WELD LINE	SHL:	SHELL
B.C.D.:	BOLT CENTER DIAMETER	BHD:	BOTTOM HEAD
UNCR:	UN CORRODED	THD:	TOP HEAD
CR:	CORRODED		

NOTES

- 1- ALL DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
- 2- ALL THICKNESS SHOWN ON THIS DOCUMENT SHALL BE CONSIDERED AS A MINIMUM REQUIRED THICKNESS AFTER FORMING.
- 3- FLANGE BOLT HOLES SHALL BE STRADDLE TO EQUIPMENT MAIN AXIS.
- 4- FLANGE SURFACE FINISH ACCORDING TO ASME B16.5
- 5- HYDROSTATIC TEST PRESSURE SHALL BE ACCORDING TO UG-99(b)
- 6- ONE EARTH LUG HAS BEEN CONSIDERED ON LEG.
- 7- BOTTOM OF BASING PLATES HAS ELEVATION OF EL. 0.00 mm
- 8- ALL PROJECTIONS OF THE NOZZLES ON THE SHELL ARE MEASURED FROM THE FLANGE FACE TO THE VESSEL OD.
- 9- ALL PROJECTIONS OF THE NOZZLES ON THE HEAD ARE MEASURED FROM THE FLANGE FACE TO THE LOWER HEAD T.L. (i.e. B.L.).
- 10- THE BODY FLANG INCLUDES BLIND FLANGE WITH DAWT, GASKET, STUD BOLTS, AND NUTS.
- 11- ALL REMOVABLE INTERNALS (IF ANY) WILL BE DESIGNED TO PASS THROUGH THE MANHOLE.
- 12- SPIRAL WOUND GASKETS ARE MADE FROM S.S. 316 FOR INNER RING, GRAPHITE FIBER FOR WINDING, AND C.S. FOR OUTER RING.
- 13- ANY MATERIAL DIRECTLY WELDED TO THE BODY SHALL BE THE SAME AS THE BODY MATERIAL.
- 14- THE REPORTED M.A.W.P. BELONGS TO THE VESSEL'S BODY.
- 15- ALLOWABLE NOZZLE LOADS ARE APPLIED TO THE JUNCTION OF THE NOZZLE NECK WITH THE VESSEL.

KEY PLAN

REV.	ISSUE DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED	COMPANY
R1	13-Apr-24	Issued for Approval	M.T.	E.M.	H.K.	HRCO
RO	06-Mar-24	Issued for Approval	M.T.	E.M.	H.K.	HRCO

CLIENT:

CONSULTING ENGINEER:

PROJECT: **STYRENE PARK OFFSITE**

DRAWING TITLE: **General Arrangement Drawing-Basket Filter (PK0001-A/B)**

DRAWING NO.	REV.	SIZE	SCALE	SHEET
EI027-ENR-VD-ME-DWG-006	R1	A3	AS DWG	3 of 3