



Toase-che Park Sanati Gohar Ofogh Petrochemical Co.

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



Document Title: Equipment Data Sheet-Cartridge Filter

Document No. : EI027-ENR-VD-ME-DSH-002

Rev.: R1

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STYRENE PARK OFFSITE

Document Title:

Equipment Data Sheet-Cartridge Filter

Rev.	Issued Date	DESCRIPTION	PREPARED	CHECKED	APPROVED
R1	08/04/2024	Issued for Comment	M.Tavakoli	E.Malek	H.Keshmiri
R0	19/02/2024	Issued for Comment	M.Tavakoli	E.Malek	H.Keshmiri



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Page	Revisions						
	R0	R1	R2	R3	R4	R5	R6
1	X	X					
2	X	X					
3	X	X					
4	X	X					
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General

1	Items	QTY	STYRENE VENT FILTER PACKAGE	2
2	Tags	PK0001-A/B		
3	Service	VOC abatement from styrene storage tank effluent		

Process Data

Item	Description	Unit	Value	Rev.
4	Max. Ambient Design Temperature.	°C	85	
5	Expected Extreme Temperature	°C	52	
6	Min. Ambient Temperature	°C	5	
7	Max. Relative Humidity	%	80	
8	Min. Relative Humidity	%	65	

Process Data

Item	Description	Unit	Value	Rev.
9	Type of Fluid		Air+Styrene (3.5 g/Nm3)	1
10	Flow Rate (Operating/Design)	Nm3/hr	1080 / 1188 (Note 1)	1
11	Working Temperature	°C	15	1
12	Working Pressure (norm / max operating)	barg	-0.08 / 0.02	1
13	Design Temperature	°C	85	
14	Design Pressure	barg	3.5	1
15	Viscosity (Min./Max)	cP	0.02	1
16	Density (Min./Max)	Kg/m3	1.19	1
17	Particle Size	Micron	5μ and more	
18	Efficiency	%	95.0	
19	Dirty / Clean pressure drop	bar	0.1 / 0.06	
20	Insulation		No	

Mechanical Data

Item	Description	Unit	Value	Rev.
21	Filter Type		basket	
22	Shell Inside Diameter	mm	441.2 (18", SCH.10)	
23	Shell Length (T.L. / W.L.)	mm	1500	
24	Thickness (SHELL / HEAD)	mm	6 / 5.56 (Min. A.F.)	1
25	Corrosion allowance	mm	3.0	
26	Radiography (SHELL / HEAD)	%	85 / 100	
27	MDMT (Required / Calculated)	°C	-5 / -29	1
28	MAWP	barg	13.552	1
29	Hydrostatic Test Pressure	barg	17.618 (Ver.)	1
30	PWHT	-	No	
31	Impact test	-	No	
32	Painting		Acco. To Painting Spec.	
33	Fabricated Weight	Kg	810	1
34	Operating Weight	Kg	810	1
35	Shop Test Weight	Kg	1055	1
36	Ladder and Platform Weight	Kg	N/A	



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Material

Item	Description	Value	Rev.
1	Shell	SA 106 Gr.B	
2	Cap / Fittings	SA 234 GR.WPB	
3	Reinforcing Pad	SA 516 Gr.70	
4	Leg	SA 36	
5	Nozzle Neck and Pipe	SA 106 Gr. B	1
6	Forgings (including Flanges, etc)	SA 105	
7	Gasket	Spiral Wound (S.S.304 / Graphite)	
8	Cartridge	Polyester / Equ.	
9	Stud Bolt & Nut (External)	SA 193 Gr.B7 & SA 194 Gr.2H	
10	Stud Bolt & Nut (Internal)	SA 193 Gr.B8 & SA 194 Gr.8	

Nozzels

Item	Description	QTY	Size	Type	Rating	Face	SCH	Rev.
11	N1 Vent	1	1"	THRD.	6000	-	- / -	1
12	N2 Drain	1	2"	S.O.	150	R.F.	160 / -	1
13	N3 Gas inlet	1	6"	S.O.	150	R.F.	STD / -	1
14	N4 Gas outlet	1	6"	S.O.	150	R.F.	STD / -	1
15	Opening for cartridge removing	1	18"	S.O.	150	R.F.	- / -	1

Accessories

Item	Description	Rev.
16	<input checked="" type="checkbox"/> Nameplate	
17	<input checked="" type="checkbox"/> Lifting Lug	
18	<input checked="" type="checkbox"/> Earth Lug	
19	<input type="checkbox"/> Ladder and Platform	
20	<input checked="" type="checkbox"/> Internals (Cartridges and Supports)	
21	<input checked="" type="checkbox"/> Davite	

Notes

1- Feed stream is intermittent at loading time of upstream styrene storage tank.