OIL-X EVOLUTION OVR

High Efficiency Oil Vapor Removal

Removing oil vapor from compressed air is necessary to meet the air quality standards required by many critical applications within industries such as pharmaceutical, medical, chemical, electronics and food and beverage. Parker domnick hunter OVR systems offer many benefits when compared to traditional systems.

The most effective way to remove oil vapor from compressed air is to use an adsorbent bed of activated carbon. Unlike welded steel pressure vessels which are large and bulky, OVR utilizes a high tensile aluminum extrusion, making its external dimensions smaller in comparison without compromising performance. OVR is ideal for those areas where space is an absolute premium.

OVR is very compact due to a technique known as snowstorm filling. This maximizes the packing density of activated carbon to give a longer adsorption bed life and provide an even flow through the bed. Snowstorm filling removes the possibility of preferential flow and bypass which can lead to oil carry over. The “snowstorm” filled cartridges also mean that servicing can be carried out quickly and effectively without the need to handle oil contaminated activated carbon granules.

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Benefits:

- **Delivered air quality in accordance with ISO 8573-1:2001, the international standard for compressed air quality.**
- **Filtration performance independently verified by Lloyds Register.**
- **Modular system can be multi-banked to give higher capacities.**
- **Corrosion protected.**
- **Compact and lightweight.**
- **Can be installed virtually anywhere.**
- **Pressure losses start low and stay low to save energy, money and the environment.**
- **Low lifetime costs.**
- **Easy to fit, cartridge system for quick, clean and simple servicing.**
- **Helps reduce the release of CO_2 into the environment.**
- **6000 hour service life.**

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Filtration Grades

Filtration Grade	Filter Type	Particle removal (inc water & oil aerosols)	Max Remaining Oil Content at 70°F (21°C)	Initial Dry Differential Pressure	Initial Saturated Differential Pressure	Absorbent Life	Precede with Filtration Grade
OVR	Oil Vapor Removal	N/A	0.003 ppm(w) 0.003 mg/m³	5 psi (<350 mbar)	N/A	6000hrs*	AA

* When corrected to match system conditions

Technical Data

Filter Grade	Filter Models	Min Operating Pressure		Max Operating Pressure		Min Operating Temp		Max Operating Temp	
		psi g	bar g	psi g	bar g	°F	°C	°F	°C
OVR	100E XX - 250J XX	15	1	232	16	35	2	122	50

Product Selection

	Model	Pipe Size NPT	Flow Rates cfm	Flow Rates m³/min	Flow Rates m³/hr	Flow Rates L/s	Replacement Element Kit	No.
Modular Aluminum range	**OVR100E ☐ XX**	1"	170	4.8	288	80	100OVR	1
	OVR150H ☐ XX	2"	339	9.6	576	160	100OVR	2
	OVR200H ☐ XX	2"	699	19.8	1188	330	100OVR	4
	OVR250J ☐ XX	3"	1314	37.2	2232	620	100OVR	6
	2 x OVR250J	3"	2628	74.5	4465	1240		
	3 x OVR250J	3"	3941	111.8	6696	1860		
	4 x OVR250J	3"	5255	149.1	8928	2480		
	5 x OVR250J	3"	6569	186.4	11160	3100		

CONNECTION TYPE — N = NPT, B= BSPT

CFT Inlet Air Temperature °F	CFT Inlet Air Temperature °C	Correction Factor
68	20	1
77	25	1.53
86	30	1.55
95	35	1.58
104	40	1.60
113	45	1.63
122	50	1.65

CFD Dewpoint	°F	°C	Correction Factor
Dry	-70 to +3	-100 to +38	1.00
Wet	+38 and above	+3 and above	2.00

CFP Inlet Pressure psi g	CFP Inlet Pressure bar g	Correction Factor
44	3	2.00
51	3.5	1.78
58	4	1.60
66	4.5	1.45
73	5	1.33
80	5.5	1.23
87	6	1.14
95	6.5	1.07
100	7	1.00
110	7.5	1.00
116	8	1.00
124	8.5	1.00
131	9	1.00

CFP Inlet Pressure psi g	CFP Inlet Pressure bar g	Correction Factor
139	9.5	1.00
145	10	1.00
153	10.5	1.00
160	11	1.00
168	11.5	1.00
174	12	1.00
183	12.5	1.00
189	13	1.00
197	13.5	1.00
203	14	1.00
212	14.5	1.00
218	15	1.00
226	15.5	1.00

Filter Selection - Grade OVR

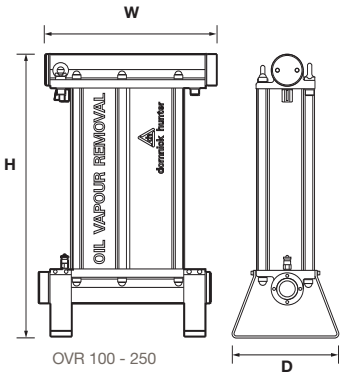
To correctly select an OVR oil vapor removal filter, the flow rate of the OVR must be adjusted for the minimum operating pressure, maximum operational temperature and pressure dewpoint of the system.

1. Obtain the minimum operating pressure, maximum inlet temperature, maximum compressed air flow rate and dewpoint of the compressed air at the inlet of the OVR.
2. Select correction factor for maximum inlet temperature from the CFT Table (always round up e.g. for 97°F (37°C) use 104°F (40°C) correction factor).
3. Select correction factor for minimum inlet pressure from the CFP table (always round down e.g. for 76.9 psi (5.3 bar) use 72.5 psi (5 bar) correction factor).
4. Select correction factor for pressure dewpoint from the CFD table.
5. Calculate minimum filtration capacity
   Minimum filtration Capacity =
   Compressed Air Flow x CFT x CFP x CFD
6. Using the minimum filtration capacity, select an OVR model from the flow rate tables above (OVR selected must have a flow rate equal to or greater than the minimum filtration capacity).
   If the minimum filtration capacity exceeds the maximum values of the models shown within the tables, please contact Parker domnick hunter for advice regarding larger multi-banked units.

It is assumed inlet oil vapor concentration does not exceed 0.05mg/m³ at 70°F (21°C) . For applications with higher oil vapor concentrations, please contact Parker domnick hunter for accurate sizing.

Weights and Dimensions

Model	Pipe Size NPT	Height (H) ins	Height (H) mm	Width (W) ins	Width (W) mm	Depth (D) ins	Depth (D) mm	Weight lbs	Weight kg
OVR100E	1"	26.3	670	13.8	352	9.8	250	55	25
OVR150H	2"	31.3	797	19.9	504	11.8	300	93	42
OVR200H	2"	31.3	797	32.6	829	11.8	300	163	74
OVR250J	3"	32.1	816	47.0	1194	11.8	300	235	107



OVR 100 - 250

 Catalogue: OVR NA Rev. 000 10/09

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