OIL-X EVOLUTION

Coalescing & Dry Particulate Filters – Grades AO/AA/AR/AAR

Filtration Grades

Filtration Grade	Filter Type	Particle removal (inc water & oil aerosols)	Max Remaining Oil Content at 70°F (21°C)	Filtration Efficiency	Initial Dry Differential Pressure	Initial Saturated Differential Pressure	Change Element Every	Precede with Filtration Grade
AO	Coalescing	Down to 1 micron	0.5 ppm(w) 0.6 mg/m^3	99.925%	1psi (<70 mbar)	2psi (<140 mbar)	12 months	WS (for bulk liquid)
AA	Coalescing	Down to 0.01 micron	0.01 ppm(w) 0.01 mg/m^3	99.9999%	2psi (<140 mbar)	3psi (<200 mbar)	12 months	AO
AR	Dry Particulate	Down to 1 micron	N/A	99.925%	1psi (<70 mbar)	N/A	12 months	N/A
AAR	Dry Particulate	Down to 0.01 micron	N/A	99.9999%	2psi (<140 mbar)	N/A	12 months	AR

Product Selection

Stated flows are for operation at 100 psi g (7 bar g) with reference to 68°F (20°C), 1 bar a, 0% relative water vapor pressure.
For flows at other pressures apply the correction factors shown.

	Model	Pipe Size	cfm	L/S	m^3/min	m^3/hr	Replacement Element kit	No.
Cast Aluminum Filters	grade **010A** ☐☐X	1/4"	21	10	0.6	36	010 grade	1
	grade **010B** ☐☐X	3/8"	21	10	0.6	36	010 grade	1
	grade **010C** ☐☐X	1/2"	21	10	0.6	36	010 grade	1
	grade **015B** ☐☐☐	3/8"	42	20	1.2	72	015 grade	1
	grade **015C** ☐☐☐	1/2"	42	20	1.2	72	015 grade	1
	grade **020C** ☐☐☐	1/2"	64	30	1.8	108	020 grade	1
	grade **020D** ☐☐☐	3/4"	64	30	1.8	108	020 grade	1
	grade **020E** ☐☐☐	1"	64	30	1.8	108	020 grade	1
	grade **025D** ☐☐☐	3/4"	127	60	3.6	216	025 grade	1
	grade **025E** ☐☐☐	1"	127	60	3.6	216	025 grade	1
	grade **030E** ☐☐☐	1"	233	110	6.6	396	030 grade	1
	grade **030F** ☐☐☐	1 1/4"	233	110	6.6	396	030 grade	1
	grade **030G** ☐☐☐	1 1/2"	233	110	6.6	396	030 grade	1
	grade **035F** ☐☐☐	1 1/4"	339	160	9.6	576	035 grade	1
	grade **035G** ☐☐☐	1 1/2"	339	160	9.6	576	035 grade	1
	grade **040G** ☐☐☐	1 1/2"	466	220	13.2	792	040 grade	1
	grade **040H** ☐☐☐	2"	466	220	13.2	792	040 grade	1
	grade **045H** ☐☐☐	2"	699	330	19.8	1188	045 grade	1
	grade **050I** ☐☐☐	2 1/2"	911	430	25.9	1548	050 grade	1
	grade **050J** ☐☐☐	3"	911	430	25.9	1548	050 grade	1
	grade **055I** ☐☐☐	2 1/2"	1314	620	37.3	2232	055 grade	1
	grade **055J** ☐☐☐	3"	1314	620	37.3	2232	055 grade	1
	grade **060K** ☐☐☐	4"	2119	1000	60	3600	060 grade	3
Carbon Steel Filters	**DH-**grade**150ND** ☐☐**-1**	3" Flg	911	430	25.9	1548	150 grade	1
	DH-grade**200ND** ☐☐**-1**	3" Flg	1314	620	37.3	2232	200 grade	1
	DH-grade**250OD** ☐☐**-1**	4" Flg	2119	1000	60	3600	060 grade	3
	DH-grade**300OD** ☐☐**-1**	4" Flg	2755	1300	78	4680	060 grade	4
	DH-grade**350PD** ☐☐**-1**	6" Flg	4132	1950	117	7020	060 grade	6
	DH-grade**400QD** ☐☐**-1**	8" Flg	6886	3250	195.1	11699	060 grade	10
	DH-grade**450RD** ☐☐**-1**	10" Flg	11018	5200	312.1	18720	060 grade	16
	DH-grade**500SD** ☐☐**-1**	12" Flg	16527	7800	468.1	28080	060 grade	20

Note: Connection sizes, (010 - 055) NPT as standard, D = flanged connection.

To correctly select a filter model, the flow rate of the filter must be adjusted for the minimum operating pressure of the system

1. Obtain the minimum operating pressure and maximum compressed air flow rate at the inlet of the filter.
2. Select the correction factor for minimum operating pressure from the CFP table (always round down e.g. for 75 psi, use 73 psi correction factor)
3. Calculate the minimum filtration capacity
   Minimum Filtration Capacity = Compressed Air Flow Rate x CFP
4. Using the minimum filtration capacity, select a filter model from the flow rate tables above
   (filter selected must have a flow rate equal to or greater than the minimum filtration capacity)

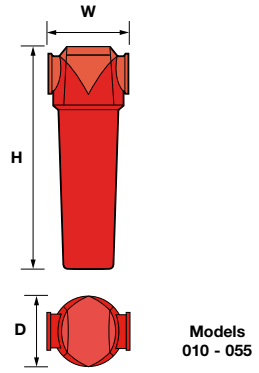
Correction Factors

Line Pressure psi g	Line Pressure bar g	Correction Factor pressure (CFP)
15	1	2.65
22	1.5	2.16
29	2	1.87
37	2.5	1.67
44	3	1.53
51	3.5	1.41
58	4	1.32
66	4.5	1.25
73	5	1.18
80	5.5	1.13
87	6	1.08
95	6.5	1.04
100	7	1.00
110	7.5	0.97
116	8	0.94
124	8.5	0.91
131	9	0.88
139	9.5	0.86
145	10	0.84
153	10.5	0.82
160	11	0.80
168	11.5	0.78
174	12	0.76
183	12.5	0.75
189	13	0.73
197	13.5	0.72
203	14	0.71
212	14.5	0.69
218	15	0.68
226	15.5	0.67
232	16	0.66
When ordering an AO/AA filter for pressures above 232 psi g (16 bar g), use manual drain. Replace F with M in product code. e.g. 015BNFX becomes 015BNMX. Models 150 - 500 not suitable for pressures above 232 psi g (16 bar g)		
241	16.5	0.65
248	17	0.64
256	17.5	0.63
263	18	0.62
270	18.5	0.62
277	19	0.61
285	19.5	0.60
290	20	0.59

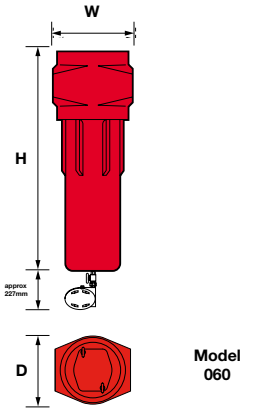
Technical Data

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
AO/AA	010 □□ FX - 055 □□ FX	15	1	232	16	35	2	176	80
AO/AA	010 □□ MX - 055 □□ MX	15	1	290	20	35	2	212	100
AO/AA	060K □ FX	15	1	232	16	35	2	150	66
AO/AA	060K □ MX	15	1	290	20	35	2	212	100
DH-AO/AA	150NDFX-1 - 500SDFX-1	15	1	232	16	35	2	150	66
DH-AO/AA	150NDMX-1 - 500SDMX-1	15	1	232	16	35	2	212	100
AO/AA	010□□ FI - 055 □□ FI	15	1	232	16	35	2	176	80
AO/AA	010□□ MI - 055 □□ MI	15	1	290	20	35	2	212	100
AO/AA	060K □ FI	15	1	232	16	35	2	150	66
AO/AA	060K □ MI	15	1	290	20	35	2	150	66
DH-AO/AA	150NDFI-1 - 500SDFI-1	15	1	232	16	35	2	150	66
DH-AO/AA	150NDMI-1 - 500SDMI-1	15	1	232	16	35	2	150	66
AR/AAR	010□□ MX - 055 □□ MX	15	1	290	20	35	2	212	100
AR/AAR	060K □ MX	15	1	290	20	35	2	212	100
DH-AR/AAR	150NDMX-1 - 500SDMX-1	15	1	232	16	35	2	212	100
AR/AAR	010□□ MI - 055 □□ MI	15	1	290	20	35	2	212	100
AR/AAR	060K □ MI	15	1	290	20	35	2	150	66
DH-AR/AAR	150NDMI-1 - 500SDMI-1	15	1	232	16	35	2	150	66

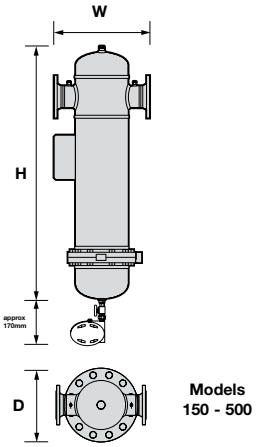
Model	Pipe Size	Height (H)		Width (W)		Depth (D)		Weight	
		ins	mm	ins	mm	ins	mm	lbs	kg
010A	1/4"	7.2	181	3.0	76	2.5	64	1.3	0.6
010B	3/8"	7.2	181	3.0	76	2.5	64	1.3	0.6
010C	1/2"	7.2	181	3.0	76	2.5	64	1.3	0.6
015B	3/8"	9.3	235	3.8	97	3.3	84	2.4	1.1
015C	1/2"	9.3	235	3.8	97	3.3	84	2.4	1.1
020C	1/2"	9.3	235	3.8	97	3.3	84	2.4	1.1
020D	3/4"	9.3	235	3.8	97	3.3	84	2.4	1.1
020E	1"	9.3	235	3.8	97	3.3	84	2.4	1.1
025D	3/4"	10.8	275	5.1	129	4.5	115	4.8	2.2
025E	1"	10.8	275	5.1	129	4.5	115	4.8	2.2
030E	1"	14.3	364	5.1	129	4.5	115	5.9	2.7
030F	1 1/4"	14.3	364	5.1	129	4.5	115	5.9	2.7
030G	1 1/2"	14.3	364	5.1	129	4.5	115	5.9	2.7
035F	1 1/4"	17.0	432	6.7	170	6.1	156	11.2	5.1
035G	1 1/2"	17.0	432	6.7	170	6.1	156	11.2	5.1
040G	1 1/2"	20.6	524	6.7	170	6.1	156	12.5	5.7
040H	2"	20.6	524	6.7	170	6.1	156	12.5	5.7
045H	2"	20.6	524	6.7	170	6.1	156	12.5	5.7
050I	2 1/2"	25.3	641	8.1	205	7.1	181	24.4	11.1
050J	3"	25.3	641	8.1	205	7.1	181	24.4	11.1
055I	2 1/2"	32.8	832	8.1	205	7.1	181	30.6	13.9
055J	3"	32.8	832	8.1	205	7.1	181	30.6	13.9
060K	4"	33.3	847	16.5	420	11.1	282	98.1	44.5
150ND	3" Flg	40.0	1016	14.6	370	11.0	279	135	61.2
200ND	3" Flg	48.0	1220	14.6	370	11.0	279	150	68.0
250OD	4" Flg	55.9	1420	21.1	536	15.9	404	310	140.6
300OD	4" Flg	55.9	1420	21.1	536	15.9	404	325	147.4
350PD	6" Flg	56.6	1438	23.8	605	19.0	483	425	192.8
400QD	8" Flg	66.0	1676	28.8	732	25.0	635	720	326.6
450RD	10" Flg	63.4	1610	29.1	739	27.5	699	870	394.6
500SD	12" Flg	71.3	1811	39.4	1000	32.1	815	1215	551.1



Models 010 - 055



Model 060



Models 150 - 500

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Filter coding examples

Cast aluminum filters 010 - 060

Grade	Model	Pipe Size	Connection Type	Drain Option	Incident Monitor Option
AO, AA, AR, AAR	3 digit code denotes filter housing size	Letter denotes pipe size	N = NPT G = BSPP	F = Float M = Manual	X = None
Example code					
AA	**010**	**A**	**N**	**F**	**X**

Carbon steel filters 150 - 500

Grade	Model	Pipe Size	Connection Type	Drain Option	Incident Monitor Option
AO, AA, AR, AAR	4 digit code denotes filter housing size	Letter denotes Flange Connection	D = DN	F = Float N = No Drain M = Manual	X = None I = Incident Monitor
Example code					
A0	**150**	**N**	**D**	**F**	**X**

Optional accessories 010 - 060

Incident monitor
Used to indicate premature high differential pressure. Indicator can be retrofitted to existing housings without depressurising the system.

Filter model	
015 - 055	DPM
060	DPM - 060

Filter fixing kits
Fixing clamp allows quick and simple connection of multiple filter housings.

Filter model	
010	FXKE1
015 - 020	FXKE2
025 - 030	FXKE3
035 - 045	FXKE4
050 - 055	FXKE5

Filter mounting brackets
Mounting brackets provide additional support to filters installed in flexible piping systems or OEM equipment.

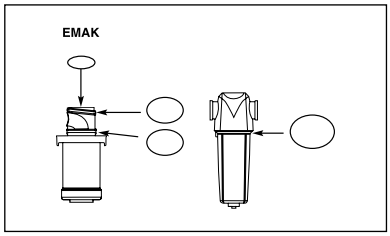
Filter model	
010	MBKE1
015 - 020	MBKE2
025 - 030	MBKE3
035 - 045	MBKE4
050 - 055	MBKE5

Oil Indicator

Filter Models	
AC010 - AC030	605009902

Replacement Drains

EF1 Float Drain	EM1 Manual Drain
WS/AO/AA Grade filters fitted with float drains as standard.	AR/AAR/ACS Grade filters fitted with a manual drain.



Filter Models	
010	EMAK1
015 - 020	EMAK2
025 - 030	EMAK3
035 - 045	EMAK4
050 - 055	EMAK5