

# OIL-X Die-cast Aluminium Compressed Air Filters

Grade AO General Purpose & Grade AA High Efficiency Coalescing & Dry Particulate Filters (1/4" ~ 3")



## Coalescing & Dry Particulate Filters

Coalescing filters are the most important items of purification equipment in any compressed air system. They are designed to treat 6 of the 10 main contaminants found in compressed air (aerosols of oil & water and solid particulates such as atmospheric particulate, rust, pipescale and micro-organisms).

The origins of modern compressed air filtration can be traced back to domnick hunter in 1963, it was the first company to use microfibre filter media for purification applications, changing the compressed air industry forever. The OIL-X filter range was the first filter range to fully utilise this ground breaking technology and has always been synonymous with high quality compressed air. Now in the 21st century, the OIL-X name remains, but the technology has evolved beyond recognition.

## Parker domnick hunter OIL-X

Since the introduction of the first OIL-X range, Parker domnick hunter has continued to develop both the compressed air filter and the standards governing compressed air quality. Constantly innovated, OIL-X has become the leading technology for compressed air filtration, providing the exact balance between air quality, energy efficiency and low lifetime costs.



## Advantages

- Meets or exceeds the requirements for delivered air quality shown in all editions of ISO8573-1, the international standard for compressed air quality
- Deep pleated filter element – Filter media is constructed to reduce air flow velocity and pressure loss whilst providing increased dirt holding capacity, and improved filtration efficiency
- Flow management system - Engineered to provide smooth air flow from entry to exit, the filter element design includes a 90-degree elbow, turning vanes and conical flow diffuser to promote a consistent, optimum air flow with minimal pressure loss
- Filter Media Optimisation - The flow management system also evenly distributes compressed air flow throughout the element ensuring optimum filtration performance again with low pressure loss
- Parker OIL-X coalescing and dry particulate filters are fully tested – In accordance with ISO12500-1 / ISO8573-2 for oil aerosol and ISO8573-4 for particulate
- Filtration performance independently validated - by Lloyds Register
- Parker OIL-X materials of construction are FDA Title 21 CFR compliant & EX1935/2004 exempt
- Air Quality Guarantee - The only filter range to offer a one year air quality guarantee
- Housing Guarantee - 10 year guarantee on filter housings



ENGINEERING YOUR SUCCESS.

# Grade AO General Purpose Coalescing Filter

## Filtration Performance

Filtration Grade	Filter Type	Particle Reduction (inc water & oil aerosols)	Max Remaining Oil Content at 21°C (70°F)	Filtration Efficiency	Change Element Every	Precede with Filtration Grade
AO	Coalescing	Down to 1 micron	0.5 mg/m <sup>3</sup> 0.5 ppm(w)	99.925%	12 months	WS (for bulk liquid)

## Technical Data

Filtration Grade	Filter Models	Min Operating Pressure		Max Operating Pressure		Min Operating Temperature		Max Operating Temperature	
		bar g	psi g	bar g	psi g	°C	°F	°C	°F
AO	PX010 - PX055 (Float Drain)	1.5	22	16	232	2	35	65	149
AO	PX010 - PX055 (Manual Drain)	1	15	20	290	2	35	80	176

**Flow Rates** Stated flows are for operation at 7 bar (g) (102 psi g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure.

Model	Pipe Size	L/S	m <sup>3</sup> /min	m <sup>3</sup> /hr	cfm	Replacement Element	No.	Initial Saturated Differential Pressure							
								100% Flow		75% Flow		50% Flow		25% Flow	
								mbar	psi	mbar	psi	mbar	psi	mbar	psi
AOPX010A <input type="checkbox"/> FX	½"	10	0.6	36	21	P010AO	1	123	1.8	84	1.2	53	0.8	27	0.4
AOPX010B <input type="checkbox"/> FX	¾"	10	0.6	36	21	P010AO	1	124	1.8	85	1.2	55	0.8	30	0.4
AOPX010C <input type="checkbox"/> FX	½"	10	0.6	36	21	P010AO	1	121	1.8	82	1.2	44	0.6	15	0.2
AOPX015B <input type="checkbox"/> FX	¾"	20	1.2	72	42	P015AO	1	122	1.8	84	1.2	46	0.7	20	0.3
AOPX015C <input type="checkbox"/> FX	½"	20	1.2	72	42	P015AO	1	91	1.3	53	0.8	31	0.4	13	0.2
AOPX020C <input type="checkbox"/> FX	½"	30	1.8	108	64	P020AO	1	124	1.8	82	1.2	45	0.7	20	0.3
AOPX020D <input type="checkbox"/> FX	¾"	30	1.8	108	64	P020AO	1	113	1.6	72	1.0	34	0.5	10	0.1
AOPX025D <input type="checkbox"/> FX	¾"	60	3.6	216	127	P025AO	1	125	1.8	80	1.2	43	0.6	21	0.3
AOPX025E <input type="checkbox"/> FX	1"	60	3.6	216	127	P025AO	1	80	1.2	50	0.7	27	0.4	11	0.2
AOPX030E <input type="checkbox"/> FX	1"	110	6.6	396	233	P030AO	1	125	1.8	80	1.2	42	0.6	30	0.4
AOPX030G <input type="checkbox"/> FX	1 ½"	110	6.6	396	233	P030AO	1	90	1.3	49	0.7	27	0.4	9	0.1
AOPX035G <input type="checkbox"/> FX	1 ½"	160	9.6	576	339	P035AO	1	81	1.2	44	0.6	18	0.3	5	0.1
AOPX040H <input type="checkbox"/> FX	2"	220	13.2	792	466	P040AO	1	113	1.6	69	1.0	40	0.6	20	0.3
AOPX045H <input type="checkbox"/> FX	2"	330	19.8	1188	699	P045AO	1	123	1.8	81	1.2	44	0.6	21	0.3
AOPX045I <input type="checkbox"/> FX	2 ½"	330	19.8	1188	699	P045AO	1	95	1.4	64	0.9	35	0.5	15	0.2
AOPX050I <input type="checkbox"/> FX	2 ½"	430	25.9	1548	911	P050AO	1	116	1.7	75	1.1	42	0.6	17	0.2
AOPX055I <input type="checkbox"/> FX	2 ½"	620	37.3	2232	1314	P055AO	1	123	1.8	81	1.2	45	0.7	24	0.3
AOPX055J <input type="checkbox"/> FX	3"	620	37.3	2232	1314	P055AO	1	112	1.6	55	0.8	32	0.5	17	0.2

Select  for BSPP Threads / Select  for NPT Threads

When selecting a coalescing filter for pressures above 16 bar g (232 psi g), use manual drain version and fit an external automatic drain.

## Product Selection & Correction Factors

To correctly select a filter model, the flow rate of the filter must be adjusted for the minimum operating (inlet) pressure at the point of installation.

1. Obtain the minimum operating (inlet) pressure and maximum compressed air flow rate at the inlet of the filter.
2. Select the correction factor for minimum inlet pressure from the CFMIP table (always round down e.g. for 5.3 bar, use 5 bar correction factor)
3. Calculate the minimum filtration capacity. Minimum Filtration Capacity = Compressed Air Flow Rate x CFMIP
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).

## CFMIP - Correction Factor Minimum Inlet Pressure

Minimum Inlet Pressure	bar g	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	psi g	15	29	44	58	73	87	100	116	131	145	160	174	189	203	218	232	248	263	277	290
Correction Factor		2.65	1.87	1.53	1.32	1.18	1.08	1.00	0.94	0.88	0.84	0.80	0.76	0.73	0.71	0.68	0.66	0.64	0.62	0.61	0.59

# Grade AA High Efficiency Coalescing Filter

## Filtration Performance

Filtration Grade	Filter Type	Particle Reduction (inc water & oil aerosols)	Max Remaining Oil Content at 21°C (70°F)	Filtration Efficiency	Change Element Every	Precede with Filtration Grade
AA	Coalescing	Down to 0.01 micron	0.01 mg/m <sup>3</sup> 0.01 ppm(w)	99.9999%	12 months	AO

## Technical Data

Filtration Grade	Filter Models	Min Operating Pressure		Max Operating Pressure		Min Operating Temperature		Max Operating Temperature	
		bar g	psi g	bar g	psi g	°C	°F	°C	°F
AA	PX010 - PX055 (Float Drain)	1.5	22	16	232	2	35	65	149
AA	PX010 - PX055 (Manual Drain)	1	15	20	290	2	35	80	176

**Flow Rates** Stated flows are for operation at 7 bar (g) (102 psi g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure.

Model	Pipe Size	L/S	m <sup>3</sup> /min	m <sup>3</sup> /hr	cfm	Replacement Element	No.	Initial Saturated Differential Pressure								
								100% Flow		75% Flow		50% Flow		25% Flow		
								mbar	psi	mbar	psi	mbar	psi	mbar	psi	
AAPX010A	G FX	½"	10	0.6	36	21	P010AA	1	117	1.7	83	1.2	50	0.7	25	0.4
AAPX010B	G FX	¾"	10	0.6	36	21	P010AA	1	121	1.8	85	1.2	52	0.8	27	0.4
AAPX010C	G FX	½"	10	0.6	36	21	P010AA	1	111	1.6	75	1.1	41	0.6	20	0.3
AAPX015B	G FX	¾"	20	1.2	72	42	P015AA	1	115	1.7	79	1.1	44	0.6	24	0.3
AAPX015C	G FX	½"	20	1.2	72	42	P015AA	1	80	1.2	51	0.7	27	0.4	12	0.2
AAPX020C	G FX	½"	30	1.8	108	64	P020AA	1	122	1.8	80	1.2	41	0.6	18	0.3
AAPX020D	G FX	¾"	30	1.8	108	64	P020AA	1	100	1.5	60	0.9	37	0.5	24	0.3
AAPX025D	G FX	¾"	60	3.6	216	127	P025AA	1	86	1.2	57	0.8	33	0.5	10	0.1
AAPX025E	G FX	1"	60	3.6	216	127	P025AA	1	66	1.0	45	0.7	25	0.4	10	0.1
AAPX030E	G FX	1"	110	6.6	396	233	P030AA	1	122	1.8	82	1.2	42	0.6	11	0.2
AAPX030G	G FX	1 ½"	110	6.6	396	233	P030AA	1	104	1.5	55	0.8	30	0.4	10	0.1
AAPX035G	G FX	1 ½"	160	9.6	576	339	P035AA	1	75	1.1	45	0.7	20	0.3	5	0.1
AAPX040H	G FX	2"	220	13.2	792	466	P040AA	1	90	1.3	60	0.9	40	0.6	20	0.3
AAPX045H	G FX	2"	330	19.8	1188	699	P045AA	1	108	1.6	71	1.0	35	0.5	12	0.2
AAPX045I	G FX	2 ½"	330	19.8	1188	699	P045AA	1	108	1.6	70	1.0	32	0.5	15	0.2
AAPX050I	G FX	2 ½"	430	25.9	1548	911	P050AA	1	90	1.3	66	1.0	43	0.6	18	0.3
AAPX055I	G FX	2 ½"	620	37.3	2232	1314	P055AA	1	119	1.7	78	1.1	44	0.6	21	0.3
AAPX055J	G FX	3"	620	37.3	2232	1314	P055AA	1	104	1.5	52	0.8	25	0.4	17	0.2

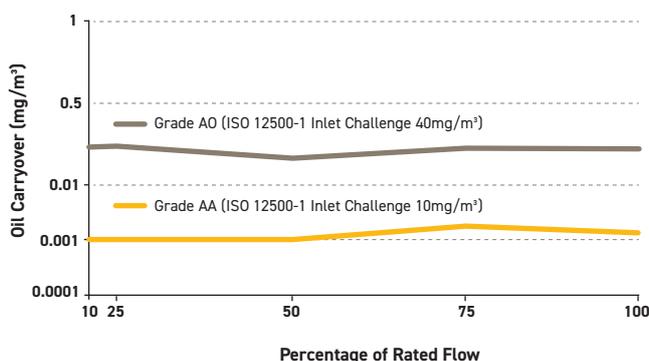
Select **G** for BSPP Threads / Select **N** for NPT Threads

When selecting a coalescing filter for pressures above 16 bar g (232 psi g), use manual drain version and fit an external automatic drain.

## Filtration Tested In Accordance With

Filtration Grade	AO with float drain	AA with float drain
Filter Type	Coalescing	Coalescing
Test Methods Used	ISO 8573-2:2018 ISO 8573-4: 2019 ISO 12500-1:2007	ISO 8573-2:2018 ISO 8573-4: 2019 ISO 12500-1:2007
ISO12500-1 Inlet Challenge Concentration	40 mg of oil aerosol per cubic metre of compressed air	10 mg of oil aerosol per cubic metre of compressed air

## OIL-X Grade AO & AA Oil Carryover versus Flow



# Grade AO General Purpose Dry Particulate Filter

## Filtration Performance

Filtration Grade	Filter Type	Particle Reduction (inc water & oil aerosols)	Max Remaining Oil Content at 21°C (70°F)	Filtration Efficiency	Change Element Every	Precede with Filtration Grade
AO	Dry Particulate	Down to 1 micron	Not Applicable	99.925%	12 months	Not Applicable

## Technical Data

Filtration Grade	Filter Models	Min Operating Pressure		Max Operating Pressure		Min Operating Temperature		Max Operating Temperature	
		bar g	psi g	bar g	psi g	°C	°F	°C	°F
AO	PX010 - PX055 (Float Drain)	1.5	22	16	232	2	35	65	149
AO	PX010 - PX055 (Manual Drain)	1	15	20	290	2	35	80	176

**Flow Rates** Stated flows are for operation at 7 bar (g) (102 psi g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure.

Model	Pipe Size	L/S	m³/min	m³/hr	cfm	Replacement Element	No.	Initial Dry Differential Pressure								
								100% Flow		75% Flow		50% Flow		25% Flow		
								mbar	psi	mbar	psi	mbar	psi	mbar	psi	
AOPX010A	G MX	½"	10	0.6	36	21	P010AO	1	61	0.9	40	0.6	20	0.3	9	0.1
AOPX010B	G MX	¾"	10	0.6	36	21	P010AO	1	63	0.9	43	0.6	22	0.3	11	0.2
AOPX010C	G MX	½"	10	0.6	36	21	P010AO	1	58	0.8	35	0.5	20	0.3	11	0.2
AOPX015B	G MX	¾"	20	1.2	72	42	P015AO	1	60	0.9	38	0.6	23	0.3	12	0.2
AOPX015C	G MX	½"	20	1.2	72	42	P015AO	1	27	0.4	15	0.2	10	0.1	5	0.1
AOPX020C	G MX	½"	30	1.8	108	64	P020AO	1	58	0.8	35	0.5	15	0.2	8	0.1
AOPX020D	G MX	¾"	30	1.8	108	64	P020AO	1	38	0.6	20	0.3	10	0.1	5	0.1
AOPX025D	G MX	¾"	60	3.6	216	127	P025AO	1	54	0.8	39	0.6	21	0.3	8	0.1
AOPX025E	G MX	1"	60	3.6	216	127	P025AO	1	22	0.3	15	0.2	9	0.1	5	0.1
AOPX030E	G MX	1"	110	6.6	396	233	P030AO	1	56	0.8	38	0.6	20	0.3	7	0.1
AOPX030G	G MX	1 ½"	110	6.6	396	233	P030AO	1	42	0.6	26	0.4	12	0.2	6	0.1
AOPX035G	G MX	1 ½"	160	9.6	576	339	P035AO	1	19	0.3	9	0.1	5	0.1	2	0.0
AOPX040H	G MX	2"	220	13.2	792	466	P040AO	1	31	0.4	19	0.3	16	0.2	7	0.1
AOPX045H	G MX	2"	330	19.8	1188	699	P045AO	1	51	0.7	36	0.5	18	0.3	8	0.1
AOPX045I	G MX	2 ½"	330	19.8	1188	699	P045AO	1	40	0.6	27	0.4	12	0.2	6	0.1
AOPX050I	G MX	2 ½"	430	25.9	1548	911	P050AO	1	36	0.5	23	0.3	16	0.2	7	0.1
AOPX055I	G MX	2 ½"	620	37.3	2232	1314	P055AO	1	38	0.6	25	0.4	17	0.2	10	0.1
AOPX055J	G MX	3"	620	37.3	2232	1314	P055AO	1	51	0.7	32	0.5	17	0.2	8	0.1

Select **G** for BSP/PT Threads / Select **N** for NPT Threads

When selecting a coalescing filter for pressures above 16 bar g (232 psi g), use manual drain version and fit an external automatic drain.

## Product Selection & Correction Factors

To correctly select a filter model, the flow rate of the filter must be adjusted for the minimum operating (inlet) pressure at the point of installation.

1. Obtain the minimum operating (inlet) pressure and maximum compressed air flow rate at the inlet of the filter.
2. Select the correction factor for minimum inlet pressure from the CFMIP table (always round down e.g. for 5.3 bar, use 5 bar correction factor)
3. Calculate the minimum filtration capacity. Minimum Filtration Capacity = Compressed Air Flow Rate x CFMIP
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).

## CFMIP - Correction Factor Minimum Inlet Pressure

Minimum Inlet Pressure	bar g	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	psi g	15	29	44	58	73	87	100	116	131	145	160	174	189	203	218	232	248	263	277	290
<b>Correction Factor</b>		2.65	1.87	1.53	1.32	1.18	1.08	1.00	0.94	0.88	0.84	0.80	0.76	0.73	0.71	0.68	0.66	0.64	0.62	0.61	0.59

# Grade AA High Efficiency Dry Particulate Filter

## Filtration Performance

Filtration Grade	Filter Type	Particle Reduction (inc water & oil aerosols)	Max Remaining Oil Content at 21°C (70°F)	Filtration Efficiency	Change Element Every	Precede with Filtration Grade
AA	Not Applicable	Down to 0.01 micron	Not Applicable	99.9999%	12 months	AO Dry Particulate

## Technical Data

Filtration Grade	Filter Models	Min Operating Pressure		Max Operating Pressure		Min Operating Temperature		Max Operating Temperature	
		bar g	psi g	bar g	psi g	°C	°F	°C	°F
AA	PX010 - PX055 (Float Drain)	1.5	22	16	232	2	35	65	149
AA	PX010 - PX055 (Manual Drain)	1	15	20	290	2	35	80	176

**Flow Rates** Stated flows are for operation at 7 bar (g) (102 psi g) with reference to 20°C, 1 bar (a), 0% relative water vapour pressure.

Model	Pipe Size	L/S	m³/min	m³/hr	cfm	Replacement Element	No.	Initial Dry Differential Pressure								
								100% Flow		75% Flow		50% Flow		25% Flow		
								mbar	psi	mbar	psi	mbar	psi	mbar	psi	
AAPX010A	G MX	½"	10	0.6	36	21	P010AA	1	64	0.9	36	0.5	21	0.3	10	0.1
AAPX010B	G MX	¾"	10	0.6	36	21	P010AA	1	65	0.9	38	0.6	22	0.3	11	0.2
AAPX010C	G MX	½"	10	0.6	36	21	P010AA	1	63	0.9	39	0.6	20	0.3	10	0.1
AAPX015B	G MX	¾"	20	1.2	72	42	P015AA	1	66	1.0	41	0.6	21	0.3	12	0.2
AAPX015C	G MX	½"	20	1.2	72	42	P015AA	1	22	0.3	51	0.7	27	0.4	11	0.2
AAPX020C	G MX	½"	30	1.8	108	64	P020AA	1	64	0.9	41	0.6	18	0.3	8	0.1
AAPX020D	G MX	¾"	30	1.8	108	64	P020AA	1	42	0.6	22	0.3	10	0.1	5	0.1
AAPX025D	G MX	¾"	60	3.6	216	127	P025AA	1	27	0.4	19	0.3	10	0.1	4	0.1
AAPX025E	G MX	1"	60	3.6	216	127	P025AA	1	29	0.4	19	0.3	10	0.1	5	0.1
AAPX030E	G MX	1"	110	6.6	396	233	P030AA	1	62	0.9	49	0.7	25	0.4	8	0.1
AAPX030G	G MX	1 ½"	110	6.6	396	233	P030AA	1	45	0.7	27	0.4	13	0.2	5	0.1
AAPX035G	G MX	1 ½"	160	9.6	576	339	P035AA	1	22	0.3	10	0.1	5	0.1	2	0.0
AAPX040H	G MX	2"	220	13.2	792	466	P040AA	1	36	0.5	24	0.3	15	0.2	8	0.1
AAPX045H	G MX	2"	330	19.8	1188	699	P045AA	1	47	0.7	25	0.4	18	0.3	15	0.2
AAPX045I	G MX	2 ½"	330	19.8	1188	699	P045AA	1	47	0.7	30	0.4	17	0.2	8	0.1
AAPX050I	G MX	2 ½"	430	25.9	1548	911	P050AA	1	40	0.6	27	0.4	16	0.2	8	0.1
AAPX055I	G MX	2 ½"	620	37.3	2232	1314	P055AA	1	45	0.7	27	0.4	17	0.2	10	0.1
AAPX055J	G MX	3"	620	37.3	2232	1314	P055AA	1	54	0.8	35	0.5	17	0.2	9	0.1

Select **G** for BSPPT Threads / Select **N** for NPT Threads

When selecting a coalescing filter for pressures above 16 bar g (232 psi g), use manual drain version and fit an external automatic drain.

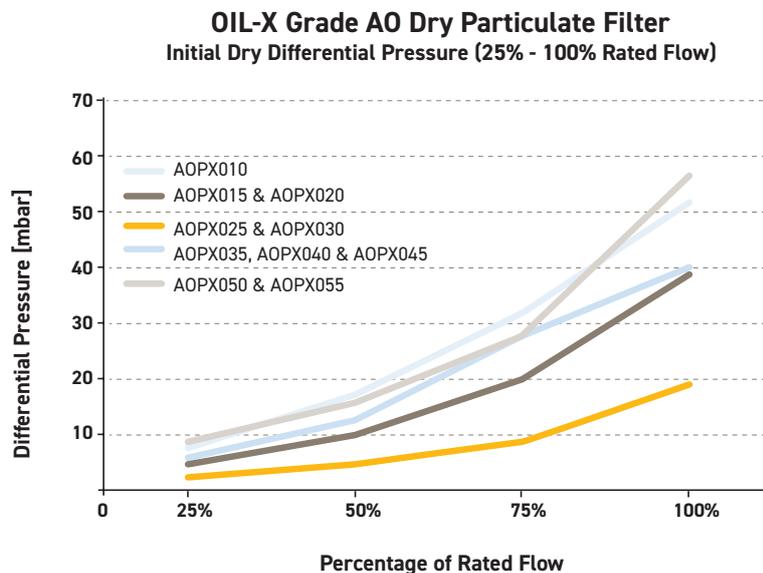
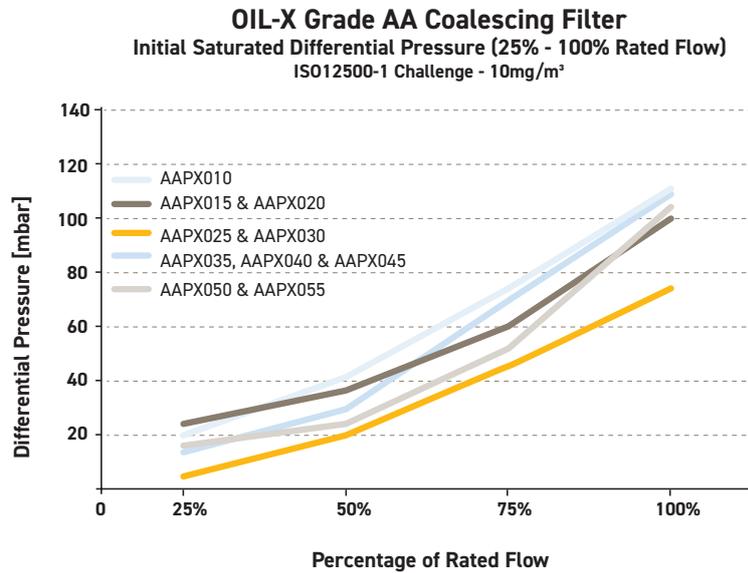
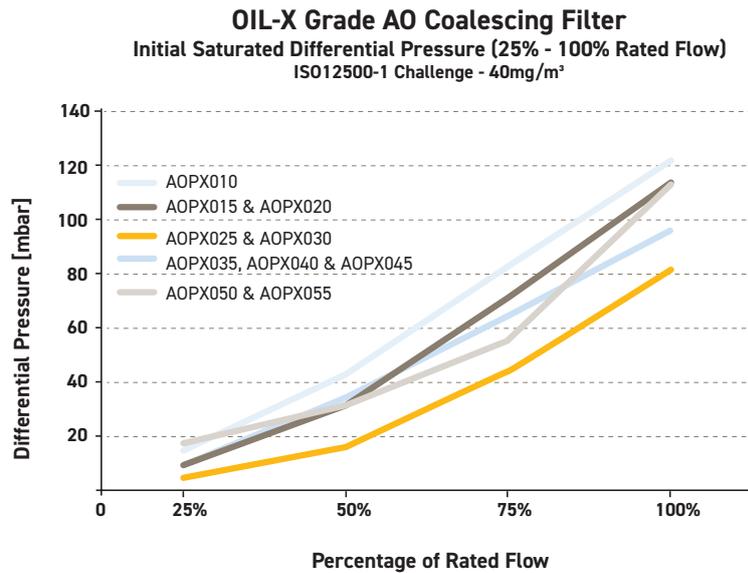
## Filtration Tested In Accordance With

Filtration Grade	AO with manual drain	AA with manual drain
Filter Type	Dry Particulate	Dry Particulate
Test Methods Used	ISO8573-4	ISO8573-4
ISO12500-1 Inlet Challenge Concentration	Not Applicable	Not Applicable

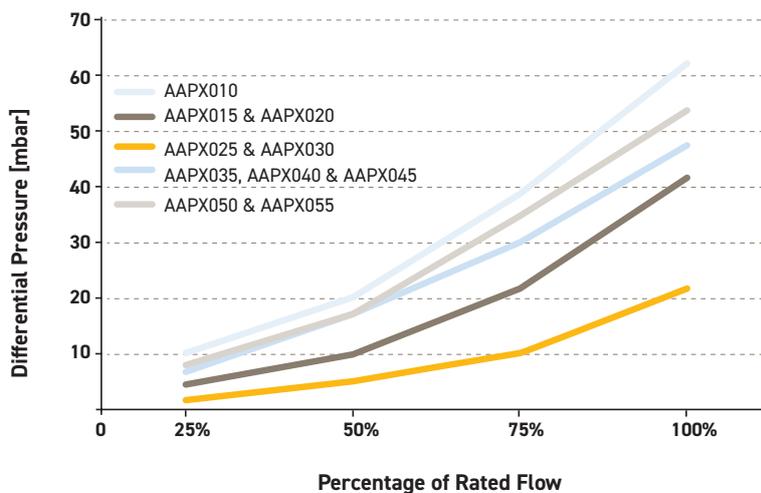
## ISO8573-1:2010 Classifications for OIL-X Grades

ISO 8573-1:2010 CLASS	Solid Particulate		Water	Oil
	Wet Particulate	Dry Particulate	Vapour	Total Oil (aerosol liquid and vapour)
0	—	—	—	OIL-X Grades AO + AA + OVR
1	OIL-X Grades AO + AA	OIL-X Grades AO (M) + AA (M)	Dryer sized for <-70°C PDP	OIL-X Grades AO + AA + OVR OIL-X Grades AO + AA + ACS
2	OIL-X Grade AO	OIL-X Grade AO (M)	Dryer sized for <-40°C PDP	OIL-X Grades AO + AA
3	OIL-X Grade AO	OIL-X Grade AO (M)	Dryer sized for <-20°C PDP	OIL-X Grades AO
4	OIL-X Grade AO	OIL-X Grade AO (M)	Dryer sized for <+3°C PDP	OIL-X Grades AO
5	OIL-X Grade AO	OIL-X Grade AO (M)	Dryer sized for <+7°C PDP	—
6	—	—	Dryer sized for <+10°C PDP	—

## OIL-X Grades AO & AA - Differential Pressure Curves

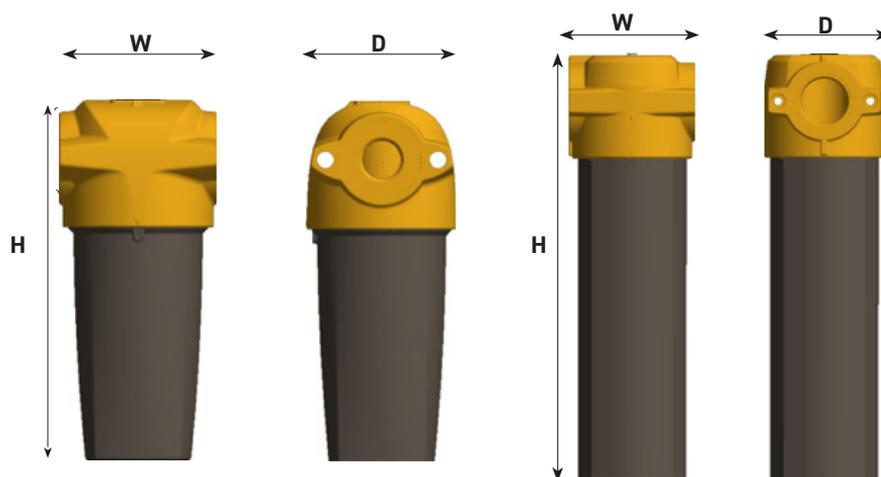


### OIL-X Grade AA Dry Particulate Filter Initial Dry Differential Pressure (25% - 100% Rated Flow)



#### Weight & Dimensions

Model	Height (H)		Width (W)		Depth (D)		Weight	
	mm	ins	mm	ins	mm	ins	kg	lbs
010	180	7.09	76	2.99	65	2.56	0.81	1.78
015	238	9.37	89	3.50	84	3.31	1.41	3.10
020	238	9.37	89	3.50	84	3.31	1.41	3.10
025	277	10.91	120	4.72	115	4.53	2.66	5.86
030	367	14.45	120	4.72	115	4.53	3.01	6.63
035	440	17.32	164	6.46	157	6.18	6.87	15.14
040	532	20.94	164	6.46	157	6.18	7.18	15.82
045	532	20.94	164	6.46	157	6.18	7.18	15.82
050	654	25.75	192	7.56	183	7.20	10.18	22.43
055	844	33.23	192	7.56	183	7.20	15.78	34.78



#### Quality Assurance / IP Rating / Pressure Vessel Approvals

Development / Manufacture	ISO 9001 / ISO 14001
Ingress Protection Rating	Not Applicable
EU	Pressure vessel approved for fluid group 2 in accordance with the Pressure Equipment Directive 2014/68/EU
USA	Approval to ASME VIII Div. 1 not required
AUS	Approval to AS1210 not required
RUSSIA	TR (formerly GOST-R)

For use with Compressed Air, N<sub>2</sub> & CO<sub>2</sub>

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