OIL-X Die-cast Aluminium Compressed Air Filters

Grade WS Water Separators / Liquid Separators (1/4”~ 4”)

Water Separators /Liquid Separators

Untreated compressed air contains a minimum of 10 contaminants that must be treated for the system to operate safely, efficiently & cost effectively. Liquid water (and to a lesser extent, liquid oil) exist in all compressed air systems. Often these two liquids combine to make an aggressive, oily, acidic sludge, all of which causes problems such as corrosion of piping, permanent damage to valves, cylinders, pneumatic tools, machinery and reducing the effectiveness of aftercoolers and heat exchangers. Liquids are typically the first of 10 contaminants to be treated.

Parker OIL-X Grade WS high efficiency water separators have been designed for use with compressor inter coolers / after coolers, integration with refrigeration dryer heat exchangers or protection of coalescing filter from heavy liquid contamination. Traditional centrifugal water separators are designed for maximum separation efficiency at maximum flow rate, with separation efficiency falling off as flow rates vary (especially with variable speed compressors). As separators rarely operate at 100% of rated flow all the time, the Parker OIL-X Grade WS high efficiency water separators were designed with variable speed compressors in mind and provide >92% liquid separation from compressed air between 25% & 100% of their rated flow.

Parker OIL-X Grade WS water separators have also been designed with the perfect balance between air quality and energy efficiency to provide maximum separation efficiency with minimal operational costs.

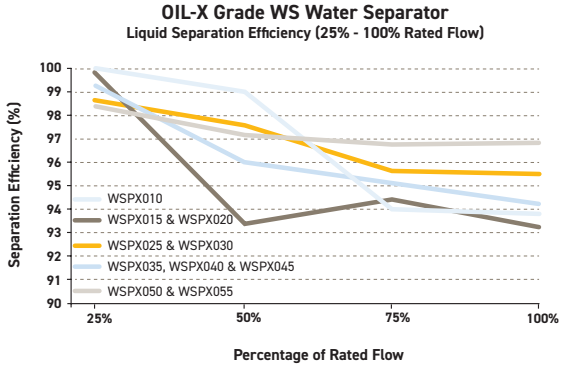
Advantages

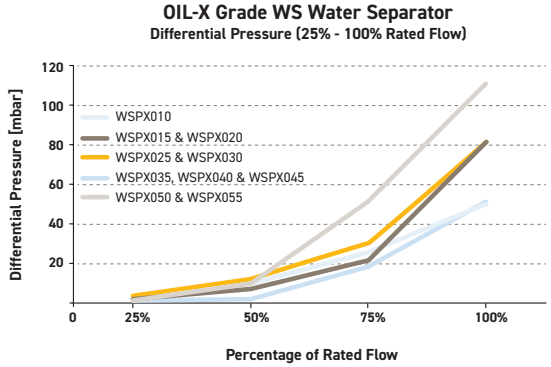
- Meets the requirements for air quality (liquids) shown in all editions of ISO8573-1, the international standard for compressed air quality
- Specifically designed to meet the needs of modern air compressors and optimised for use with variable speed air compressors
- Flow management system - Engineered to provide smooth air flow from entry to exit
- Water separator module design includes optimised vanes to spin the compressed air, a high efficiency impinger for maximum separation efficiency, vortex concentrator and 90-degree elbow with turning vanes to promote a consistent, optimum air flow with minimal pressure loss
- Parker OIL-X Grade WS Water Separators are fully tested – In accordance with ISO12500-4 & ISO8573-9 for liquid water
- Separation performance independently validated - by Lloyds Register
- Housing Guarantee - 10 year guarantee on filter housings
- Parker OIL-X materials of construction are FDA Title 21 CFR compliant & EX1935/2004 exempt

Grade WS Liquid Separator

Separation Performance

Filtration Grade	Filter Type	Particle Reduction (inc water & oil aerosols)	Max Remaining Oil Content at 21°C (70°F)	Liquid Separation Efficiency	Change Element Every	Precede with Filtration Grade
WS	Liquid	Not Applicable	Not Applicable	>93%	Not Applicable	Not Applicable





Technical Data

Filtration Grade	Water Separator 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
WS	PX010A - P055 (Float Drain)	1.5	22	16	232	2	35	65	149
WS	PX060 (Float Drain)	1	15	16	232	2	35	66	150

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	Initial Saturated Differential Pressure							
						100% Flow		75% Flow		50% Flow		25% Flow	
						mbar	psi	mbar	psi	mbar	psi	mbar	psi
WSPX010A G FX	¼"	10	0.6	36	21	53	0.8	29	0.4	14	0.2	4	0.1
WSXP010B G FX	⅜"	10	0.6	36	21	51	0.7	27	0.4	12	0.2	2	0.0
WSPX010C G FX	½"	10	0.6	36	21	48	0.7	25	0.4	10	0.1	0	0.0
WSPX015B G FX	⅜"	40	2.4	144	85	64	0.9	25	0.4	12	0.2	6	0.1
WSPX015C G FX	½"	40	2.4	144	85	55	0.8	22	0.3	10	0.1	4	0.1
WSPX020D G FX	¾"	40	2.4	144	85	42	0.6	22	0.3	7	0.1	2	0.0
WSPX025D G FX	¾"	110	6.6	396	233	98	1.4	55	0.8	23	0.3	4	0.1
WSPX025E G FX	1"	110	6.6	396	233	95	1.4	52	0.8	20	0.3	1	0.0
WSPX030G G FX	1 ½"	110	6.6	396	233	82	1.2	30	0.4	13	0.2	4	0.1
WSPX035G G FX	1 ½"	350	21	1260	742	57	0.8	24	0.3	5	0.1	5	0.1
WSPX040H G FX	2"	350	21	1260	742	52	0.8	19	0.3	0	0.0	0	0.0
WSPX045I G FX	2 ½"	350	21	1260	742	55	0.8	22	0.3	3	0.0	1	0.0
WSPX050I G FX	2 ½"	800	48	2880	1695	116	1.7	57	0.8	16	0.2	5	0.1
WSPX055J G FX	3"	800	48	2880	1695	111	1.6	52	0.8	11	0.2	0	0.0
WSPX060K G FX	4"	1000	60	3600	2119	48	0.7	25	0.4	11	0.2	1	0.0

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.

Product Selection & Correction Factors

To correctly select a separator model, the flow rate of the separator 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 separator.
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 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).

CFMIP - Correction Factor Minimum Inlet Pressure

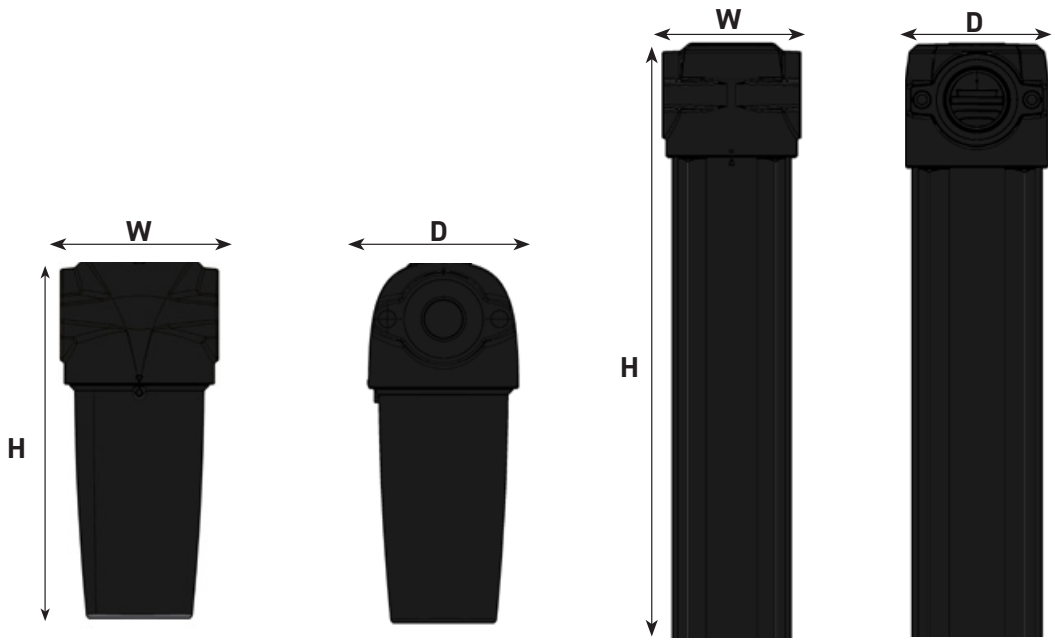
Minimum Inlet Pressure	bar g	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	psi g	15	29	44	58	73	87	100	116	131	145	160	174	189	203	218	232
Correction Factor		4.00	2.63	2.00	1.59	1.33	1.14	1.00	0.94	0.89	0.85	0.82	0.79	0.76	0.73	0.71	0.68

Liquid Separators Tested In Accordance With

Filtration Grade	**WS**
Filter Type	Liquid Separator
Test Methods Used	ISO 8573-9:2004 ISO 12500-4:2009
ISO12500-4 Inlet Challenge Concentration	33 ml of liquid water per cubic metre of compressed air

Weight & Dimensions

WSPX 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 / 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	277	10.91	120	4.72	115	4.53	2.66	5.86
035/040/ 045	440	17.32	164	6.46	157	6.18	6.87	15.14
050	614	24.17	192	7.56	183	7.20	8.47	18.66
055	515	20.28	192	7.56	183	7.20	8.47	18.66
060	847	33.30	420	16.54	282	11.10	44.50	98.11



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_2 & CO_2	

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