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MIST-XL

Compressor Separator Failure Protection



ENGINEERING YOUR SUCCESS.

Guarantee oil-free air from a lubricated compressor at a fraction of the cost

To many manufacturers, the thought of oil from their air compressor entering the manufacturing process is totally unacceptable. Industry specific legislation, critical applications or the high costs of poor product quality and damaged reputation is enough to force heavy investment in “Oil Free” air compressors, but do these machines truly eliminate oil related issues and guarantee oil free compressed air?

What does oil free really mean?

To some, when referring to compressed air, the term “oil free” is often used to describe a type of compressor, whilst to others it refers to the quality of compressed air delivered by that compressor.

Do oil free compressors contain oil?

The term “oil-free compressor” is often misleading as it implies that such a compressor does not use oil. In reality, many oil free compressors, although not using oil in the compression stage(s), still use oil to lubricate bearings and gearboxes.

Is the compressed air really oil free?

Similarly, the claim that these compressors can deliver “oil-free air” is also misleading as airborne oil and unburned hydrocarbons are constantly drawn into the compressor which in itself, has no means of removing this and other contaminants.

I’ve got an oil free system, why do I still detect oil at the point of use?

Oil present in old air receivers and distribution piping will be present for years and is able to reach applications at the point of use. This can only be removed using point of use filtration.

What are the risks associated with using an oil lubricated machine?

Modern air / oil separators are very robust and on a well maintained lubricated compressor, the risks are very low, however the air / oil separator has long been identified as a potential risk should it fail. A failed separator allows all of the oil in the compressor sump to be carried downstream, overloading the purification system, contaminating the storage & distribution system, and ultimately the point of use.

So how do I really get oil free air?

Compressed air will never be totally oil free, but “Technically Oil Free” air can be achieved by installing a purification system. As there are 10 contaminants to remove from the compressed air, no matter whether an oil-free or oil lubricated compressor is used, the downstream purification equipment required for both types of compressors is exactly the same, however should a separator failure occur the purification system could be overloaded.

The solution – Parker domnick hunter MIST-XL, the cost effective alternative to an oil free compressor.

Did you know?

Oil Free Compressor

- Typically uses oil to lubricate bearings & gearboxes
- Typically uses 2 compression stages
- Does not require an Air / Oil Separator
- Oil carryover from ambient air only
- Does not deliver oil-free or contaminant free air
- Typically uses labyrinth seals / air seals or similar to prevent oil entering compression stage(s) introducing another potential failure path
- Typically has more parts than a lubricated machine with higher service costs
- Purification system required – identical to oil lubricated



Typical Oil Free Screw Compressor



Typical Oil Lubricated Screw Compressor

Oil Lubricated Compressor

- Uses oil to seal air end, lubricate bearings (& gearboxes if required)
- Typically uses only a single compression stage
- Requires an Air / Oil Separator to limit oil carryover downstream of the compressor
- Oil carryover from ambient air and lubricating oil
- Does not deliver oil-free or contaminant free air
- Directly injects oil into compression stage(s) for lubrication
- Typically has fewer parts than an oil free machine with lower maintenance costs
- Purification system required – identical to oil free

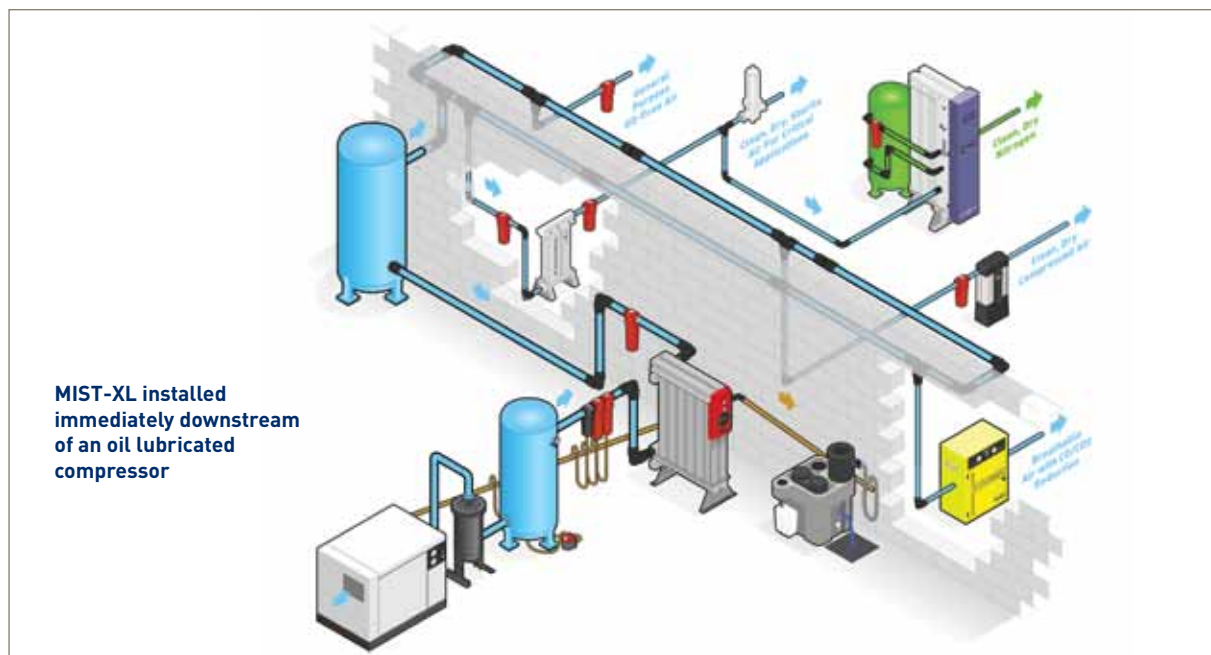
Parker domnick hunter MIST-XL Compressor Separator Failure Protection

The cost effective way to ensure “oil free” air.

The NEW range of Parker domnick hunter MIST-XL Compressor Separator Failure Protectors are the result of extensive research and development, and 50 years experience in the design and manufacture of high efficiency compressed air treatment equipment.

MIST-XL Compressor Separator Failure Protectors are the ideal alternative to expensive “oil-free” compressors providing efficient removal of bulk liquid oil and oil-mist carryover from piston or oil flooded rotary compressors.

With an extremely low pressure drop and long service life, MIST-XL Compressor Separator Failure Protectors will complement and protect the existing purification equipment to provide total peace of mind.



Parker MIST-XL Compressor Separator Failure Protection

Features:

- Optimum protection against catastrophic air/oil separator failure
- Heavy duty drain for rapid removal of oil & condensate
- Low pressure drop element – only 30 mbar (0.5 psi)
- Fully corrosion protected
- Dry powder epoxy coated internally & externally
- 10 Year housing warranty
- Heavy duty element construction
- PED approved

Benefits:

- Protect air receiver, distribution piping and purification equipment from bulk oil contamination
- Lower capital investment cost than an oil free compressor
- Lower system operating costs than an oil free compressor
- Lower system maintenance costs than an oil free compressor
- Low pressure loss
- 5 year element life



Product Selection

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

Model	Pipe Size	FLOW				Replacement Element
		l/s	m ³ /min	m ³ /hr	cfm	
MIST-XL 125	2" BSPP	59	3.54	212	125	K125MXL
MIST-XL 250	2" BSPP	118	7.08	425	250	K250MXL
MIST-XL 500	2" BSPP	236	14.16	850	500	K500MXL
MIST-XL 1000	DN80	472	28.32	1700	1000	K1000MXL
MIST-XL 1200	DN80	566	33.98	2039	1200	K1200MXL
MIST-XL 1500	DN100	708	42.48	2550	1500	K1500MXL
MIST-XL 2000	DN100	944	56.64	3400	2000	K2000MXL
MIST-XL 3000	DN100	1416	84.96	5100	3000	K3000MXL

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

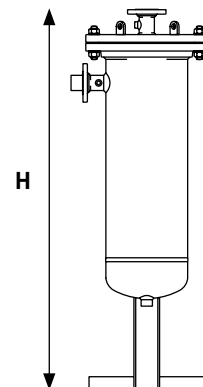
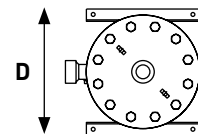
1. Obtain the minimum operating pressure and maximum compressed air flow rate at the inlet of the filter.
2. Select the correction factor for minimum operating pressure from the CFP table (always round down e.g. for 5.3 bar, use 5 bar correction factor)
3. Calculate the minimum filtration capacity: Compressed 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		Correction Factor pressure (CFP)
bar g	psi g	
1	15	2.65
1.5	22	2.16
2	29	1.87
2.5	37	1.67
3	44	1.53
3.5	51	1.41
4	58	1.32
4.5	66	1.25
5	73	1.18
5.5	80	1.13
6	87	1.08
6.5	95	1.04
7	100	1.00
7.5	110	0.97
8	116	0.94
8.5	124	0.91
9	131	0.88
9.5	139	0.86
10	145	0.84
10.5	153	0.82

Technical Data

Model	Min Operating Pressure		Max Operating Pressure		Min Operating Temperature		Max Operating Temperature	
	bar g	psi g	bar g	psi g	°C	°F	°C	°F
MIST-XL 125	1	15	16	232	2	35	100	212
MIST-XL 250	1	15	16	232	2	35	100	212
MIST-XL 500	1	15	16	232	2	35	100	212
MIST-XL 1000	1	15	16	232	2	35	100	212
MIST-XL 1200	1	15	16	232	2	35	100	212
MIST-XL 1500	1	15	16	232	2	35	100	212
MIST-XL 2000	1	15	16	232	2	35	100	212
MIST-XL 3000	1	15	16	232	2	35	100	212



Weights & Dimensions

Model	Pipe Size	Height (H)		Width (W)		Depth (D)		Weight	
		mm	ins	mm	ins	mm	ins	kg	lbs
MIST-XL 125	2" BSPP	1075	42.3	460	18	510	20	160	353
MIST-XL 250	2" BSPP	1230	48.4	460	18	510	20	195	386
MIST-XL 500	2" BSPP	1540	60.6	460	18	510	20	195	430
MIST-XL 1000	DN80	1830	72.1	460	18	510	20	265	584
MIST-XL 1200	DN80	1635	64.4	620	24.4	710	28	315	694
MIST-XL 1500	DN100	1795	70.7	620	24.4	710	28	535	1179
MIST-XL 2000	DN100	1620	63.8	690	27.2	760	30	580	1279
MIST-XL 3000	DN100	1855	73.0	690	27.2	760	30	635	1400

