

## CARBOLESCER SERIES

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There are contaminant effects that could be contained within the compressed air such as oil, water, and particles. This causes damage to compressed air system lines, pneumatic systems and equipment. The main reason is high oil and water content in compressed air systems. The ambient air is compressed by 7 times in order to achieve the desired pressure value and it gets down into smaller volumes. That means if the pressure is higher when the air is compressed, the concentration gets higher. Therefore compressors produce almost 7 times more oil or water-containing air than atmospheric air. In addition to these contaminants, oil can also enter the compressed air system through the ambient air even if it is oil-free.

Oil is carried by the compressed air in two forms: as an aerosol that is formed by the mechanical shearing in the compressor, and also as a vapor that is formed during the oil vaporization and compressor intake air. These oil forms have to be prevented in order to increase the product quality and pneumatic equipment lifespan. The main working principle for the separation of oil contents is about coalescing of the aerosol form by filter and separator and is about adsorption of the vapor form by desiccants.

There are some filters to remove liquid oil. However, an aerosol form of the oil cannot be separated from those filters. Mikropor's patented product Carboleser can remove both forms of the oil. Carboleser is a combination of a mist eliminator and a media impregnated activated carbon. It has plated coalescing media, carbon layer, and wrapped particulate media. Liquid formed oil is eliminated with the coalescing method in the plated media. As oil-flooded compressed air enters the unit, oil droplets accumulate and fall through the filter media. Collected liquid oil is drained from the egg drain. With plated coalescing media 0.01-micron-sized oil contaminants can be removed. In addition to the plated media, the activated carbon layer adsorbs the oil vapor. Oil vapor adheres physically through the active carbon media and in that way, **the remaining oil content can be decreased to 0.003 ppm**. Then, the layer of particulate media helps to remove particles that may remain. Finally, **oil-free compressed air can be achieved even after the screw compressors that is "Class 0" according to ISO 8573 standard**.



Models	ELM-US-C	G-ELM-US-C
Max. Remaining Oil Aerosol Content (@70°F) (ppm)	0.003	0.003
Max Operating Pressure (psig)	203	232
Max. Operating Temp. (°F)	176	
Min. Operating Temp. (°F)	40	

### Correction Factor:

For maximum flow rate, multiply model flow rate shown in the below table by the correction factor corresponding to the working pressure.

Operating Pressure (bar)	Operating Pressure (psi)	Correction Factor
1	15	0.5
3	44	0.71
5	73	0.87
7	100	1
9	131	1.12
11	160	1.22
13	189	1.32
14	200	1.38



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### Standard Features:

- Very low-pressure drops
- Maximum remaining oil aerosol content 0.003 ppm
- Equal air distribution
- Long service life
- User-friendly changing procedure

### Optional Feature:

- Oil indicator

### Technical Specification:

Models	Recommended Flow Rate (SCFM @100 psig)	Inlet-Outlet Size	Length (L) (inch)	Height (H) (inch)
G-ELM-US-100-C	20	1/2"	4	13
G-ELM-US-150-C	26	1/2"	5	17
G-ELM-US-200-C	30	1"	5	16
G-ELM-US-250-C	40	1"	5	18
G-ELM-US-300-C	50	1-1/2"	5	20
G-ELM-US-500-C	58	1-1/2"	5	21
G-ELM-US-600-C	76	1-1/2"	5	23
G-ELM-US-850-C	100	1-1/2"	6	26
G-ELM-US-1210-C	115	2"	6	29
ELM-US-150-C	150	2" 150# FLG	20	42
ELM-US-300-C	300	2" 150# FLG	20	46
ELM-US-600-C	600	2" 150# FLG	20	60
ELM-US-800-C	800	3" 150# FLG	20	68
ELM-US-1200-C	1200	3" 150# FLG	20	63
ELM-US-1600-C	1600	3" 150# FLG	24	69
ELM-US-2100-C	2100	4" 150# FLG	28	65
ELM-US-2750-C	2750	4" 150# FLG	28	70
ELM-US-4200-C	4200	6" 150# FLG	32	69
ELM-US-6000-C	6000	6" 150# FLG	32	78
ELM-US-8000-C	8000	8" 150# FLG	33	82
ELM-US-10000-C	10000	10" 150# FLG	39	86
ELM-US-12000-C	12000	12" 150# FLG	39	109

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