



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 these 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 can not be separated from those filters. Mikropor's patented product Carbolescer can remove both forms of the oil. Carbolescer 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 is adsorbed 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 possible to remained. Finally, oil-free compressed air can be achieved even after the screw compressors that is "Class 0" according to ISO 8573 standard.



Models	ELM-C	G-ELM-C
Max. Remaining Oil Aerosol Content (20°C) (ppm)	0.003	0.003
Max Operating Pressure (barg)	14	16
Max. Operating Temp. (°C)		80
Min. Operating Temp. (°C)		4

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



Standard Features

- Very low-pressure drops (80 mbar)
- Maximum remaining oil aerosol content 0.003 ppm
- Equal air distribution
- Long service life
- User-friendly changing procedure

Optional Feature

- Oil indicator



**OIL-FREE APPROVED
BY THIRD PARTY**

Technical Specification

Models	Max Remaining Oil Aerosol Content (@20°C)	Recommended Flow Rate (Nm ³ /h @7 barg)	Inlet-Outlet Flange Size	Length (mm)	Height (mm)
G-100 ELM-C	0.003 ppm	35	1/2"	102	302
G-150 ELM-C	0.003 ppm	45	1/2"	123	352
G-200 ELM-C	0.003 ppm	50	1"	123	412
G-250 ELM-C	0.003 ppm	70	1"	123	454
G-300 ELM-C	0.003 ppm	85	1 1/2"	123	507
G-500 ELM-C	0.003 ppm	100	1 1/2"	123	537
G-600 ELM-C	0.003 ppm	130	1 1/2"	123	583
G-850 ELM-C	0.003 ppm	170	1 1/2"	160	668
G-1210 ELM-C	0.003 ppm	200	2"	160	740
ELM-150-C	0.003 ppm	255	DN 50	500	1065
ELM-300-C	0.003 ppm	510	DN 50	500	1165
ELM-600-C	0.003 ppm	1020	DN 50	500	1523
ELM-800-C	0.003 ppm	1360	DN 80	500	1743
ELM-1200-C	0.003 ppm	2040	DN 80	600	1606
ELM-1600-C	0.003 ppm	2720	DN 80	600	1747
ELM-2100-C	0.003 ppm	3570	DN 100	700	1651
ELM-2750-C	0.003 ppm	4675	DN 100	700	1798
ELM-4200-C	0.003 ppm	7140	DN 150	800	1750
ELM-6000-C	0.003 ppm	10200	DN 150	800	1997
ELM-8000-C	0.003 ppm	13600	DN 200	850	2095
ELM-10000-C	0.003 ppm	17000	DN 250	1000	2208
ELM-12000-C	0.003 ppm	20400	DN 300	1000	2775