



MXLE

Low energy heatless dryers



ENGINEERING YOUR SUCCESS.

Compressed air contamination is a real problem for industry

In today's modern production facilities, the use of compressed air is often pivotal to manufacturing processes. Irrespective of whether the compressed air comes into direct contact with the product or is used to automate a process, provide motive power, or even to generate other gases on-site, a clean, dry, reliable compressed air supply is essential to maintain efficient and cost effective production.

Parker provides complete compressed air treatment solutions to suit every industry, application & budget.

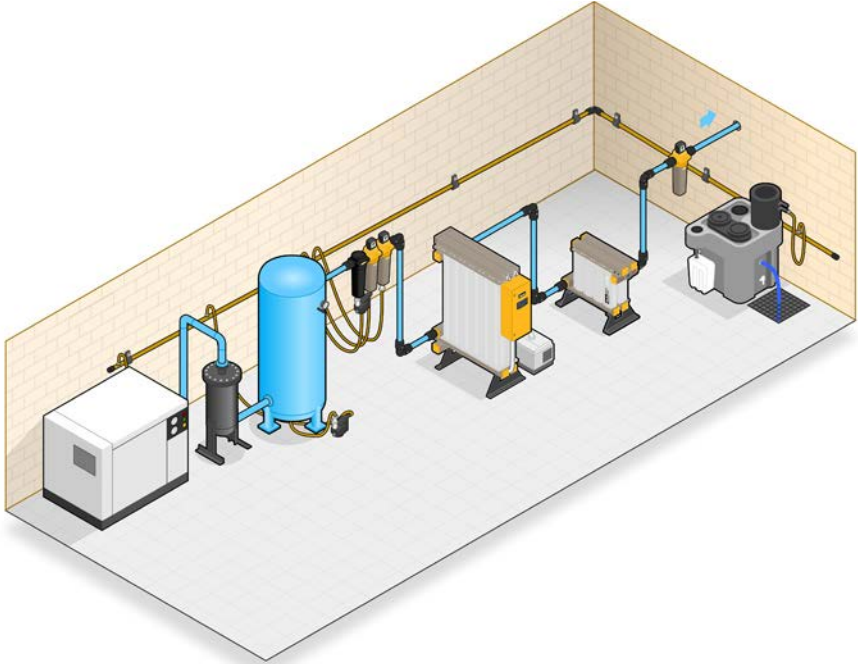
The benefits of using Parker compressed air treatment solutions:

- Plant Reliability - trouble free operation from equipment and processes using compressed air
- Clean Dry Air available for all applications
- No contamination of products / processes / equipment
- Low Maintenance Costs – Reduce or eliminate unexpected / unplanned plant maintenance for better budget control
- Lower plant energy consumption
- Lower plant environmental impact
- Legislation compliance – e.g. assist in complying with hygiene legislation in the Food, Beverage & Pharmaceutical industries



Compressed air dryers – The heart of the compressed air treatment solution

At the heart of any compressed air treatment solution is the dryer, it's purpose, to remove water vapour, stop condensation, corrosion and in the case of adsorption dryers, inhibit the growth of micro-organisms.



Heatless adsorption dryers (also known as PSA dryers) are the simplest type of adsorption dryer available and have long been the dryer of choice for many industries and applications. They are simple, reliable and cost effective and for small to medium flow systems, often

the only viable technology available. Additionally, modular heatless dryers such as MXLE provide an even more reliable, smaller, more compact & lightweight dryer which can be installed in both the compressor room or at the point of use.

Benefits of Heatless Adsorption Dryers

- Industry proven design
- Suitable for all industries and applications - some adsorption dryer regeneration methods prevent their use in certain industries / applications
- Lower capital investment compared to other adsorption dryer regeneration methods
- Reduced complexity compared to other adsorption dryer regeneration methods
- Robust & reliable
- Uses clean, dry compressed air for regeneration making them suitable for all industries and applications
- Lower maintenance costs compared to other adsorption dryer regeneration methods
- No heat / heaters / heat related issues



RELIABILITY



QUALITY



EFFICIENCY

Improving manufacturing efficiency

Every manufacturing organisation strives to improve its operational efficiency, especially in terms of energy consumption and environmental impact.

Heatless adsorption dryers use clean, dry process air for regeneration, but in real terms, this means that not all of the compressed air generated is available for manufacturing processes.

Generating compressed air uses electrical energy, so although heatless adsorption dryers have many benefits, the energy costs associated with this

type of dryer may be higher when compared to other types of adsorption dryers with different regeneration methods.

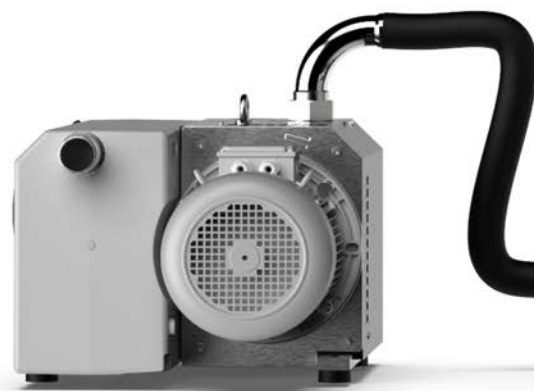


MXLE Low Energy Heatless Adsorption Dryers

MXLE has been specifically designed to provide all of the benefits of a traditional MX heatless adsorption dryer with the additional benefits of increased compressed air available for plant use, lower energy costs and lower environmental impact.

Dryer Selection

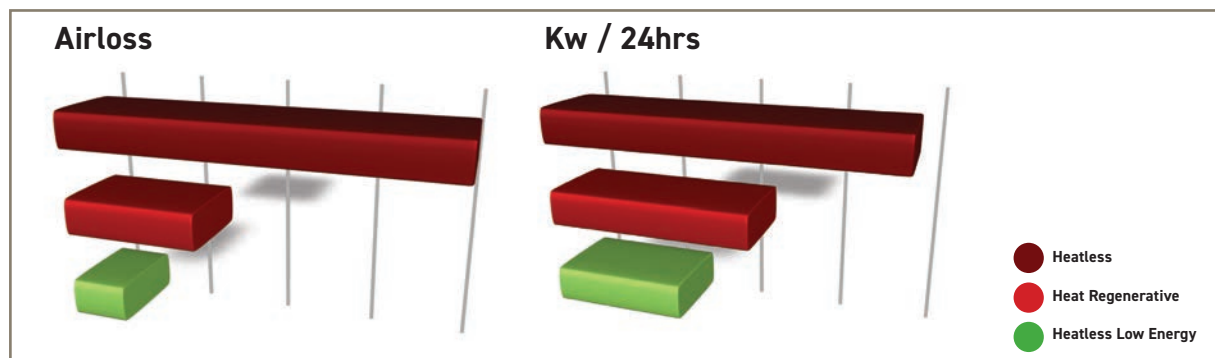
Dryers should not be selected upon energy costs alone, but on delivered air quality, their suitability for the industry & application in which they are to operate, reliability and total cost of ownership.



MXLE

Features & Benefits

- **Complete clean dry air solution with guaranteed air quality**
 - Includes Pre & Post Filtration
 - Delivered air quality in accordance with ISO8573-1
 - 3rd Party validated performance on both dryer and pre / post filtration
 - Dryer tested in accordance with ISO7183
 - Filters tested in accordance with ISO12500-1 / ISO8573-4
- **Modular construction**
 - Smaller, more compact & lightweight than traditional Twin Tower dryers
 - Fully expandable as your system grows
 - Existing MX dryers can be upgraded to extend life of existing capital equipment and lower capital expenditure
- **Low energy heatless technology**
 - 17% more air available for use than a comparative heatless dryer
 - On average, 60% lower energy consumption than a comparative heatless dryer & 39% lower energy consumption than a comparative heat regenerative dryer
- **Energy Management System fitted as standard for additional savings**
- **Suitable for all industrial applications**
- **Ideally suited for food, beverage and pharmaceutical industries & applications**
 - Uses clean dry process air for regeneration (no contamination of adsorption bed)
 - Materials of Construction FDA Title 21 Compliant and EC1935-2004 exempt
- **Heatless fall back mode for extra security**
 - Extra security – should a fault occur with the vacuum pump, dryer can be operated in full heatless mode to keep plant operational
- **Lower total cost of ownership**
 - Low running costs
 - Shorter maintenance times & extended preventative maintenance periods
 - Lower maintenance costs compared to other types of low energy dryer



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Product selection

| | Model | Pipe Size | Flowrates | | | |
|-------------|-----------|-----------|-----------|---------------------|--------------------|------|
| | | | L/s | m ³ /min | m ³ /hr | cfm |
| Single Bank | MXLE 102C | 2" | 113 | 6.81 | 408 | 240 |
| | MXLE 103C | 2" | 170 | 10.22 | 612 | 360 |
| | MXLE 103 | 2" | 213 | 12.78 | 765 | 450 |
| | MXLE 104 | 2½" | 283 | 17.03 | 1020 | 600 |
| | MXLE 105 | 2½" | 354 | 21 | 1275 | 750 |
| | MXLE 106 | 2½" | 425 | 26 | 1530 | 900 |
| | MXLE 107 | 2½" | 496 | 30 | 1785 | 1050 |
| | MXLE 108 | 2½" | 567 | 34 | 2040 | 1200 |



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.

Dryer performance

| Dryer Models | Dewpoint (Standard) | | ISO8573-1:2010 Classification (standard) | Dewpoint (Option 1) | | ISO8573-1:2010 Classification (Option 1) | Dewpoint (Option 2) | | ISO8573-1:2010 Classification (Option 2) |
|--------------|---------------------|-----|--|---------------------|------|--|---------------------|----|--|
| | °C | °F | | °C | °F | | °C | °F | |
| MXLE | -40 | -40 | Class 2:2:2 | -70 | -100 | Class 2:1:2 | -20 | -4 | Class 2:3:2 |

* ISO8573-1 Classifications when used with included Parker OIL-X pre / post filtration

Technical data

| Dryer Models | Min Operating Pressure | | Max Operating Pressure | | Min Operating Temp | | Max Operating Temp | | Max Ambient Temp | | Electrical supply (standard) | Electrical supply (optional) | Thread Connections | Noise Level dB (A) |
|--------------|------------------------|-------|------------------------|-------|--------------------|----|--------------------|-----|------------------|-----|--|------------------------------|--------------------|-----------------------|
| | bar g | psi g | bar g | psi g | °C | °F | °C | °F | °C | °F | | | | |
| MXLE | 5 | 58 | 13 | 190 | 5 | 41 | 50 | 122 | 55 | 131 | 400V +/- 10% 3PH 50Hz 460V +/- 4.35% 3PH 60Hz | N/A | BSPP | <75 |

| Model | | MXLE102c | MXLE103c | MXLE103 | MXLE104 | MXLE105 | MXLE106 | MXLE107 | MXLE108 |
|----------------|------|----------|----------|---------|---------|---------|---------|---------|---------|
| Vacuum Pump kW | 50Hz | 3 | 3 | 4 | 5.5 | 5.5 | 7 | 8.5 | 9.5 |
| | 60Hz | 3.6 | 3.6 | 4.8 | 6.6 | 6.6 | 8.4 | 10.2 | 11.4 |

Correction factors

| Temperature Correction Factor CFT | | | | | | | |
|-----------------------------------|-----|------|------|------|------|------|------|
| Maximum Inlet Temperature | °C | 25 | 30 | 35 | 40 | 45 | 50 |
| | °F | 77 | 86 | 95 | 104 | 113 | 122 |
| | CFT | 1.00 | 1.00 | 1.00 | 1.04 | 1.14 | 1.37 |

| Pressure Correction Factor CFP | | | | | | | | | | |
|--------------------------------|-------|------|------|------|------|------|------|------|------|------|
| Minimum Inlet Pressure | bar g | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | psi g | 73 | 87 | 100 | 116 | 131 | 145 | 160 | 174 | 189 |
| | CFP | 1.33 | 1.14 | 1.00 | 0.89 | 0.80 | 0.73 | 0.67 | 0.62 | 0.57 |

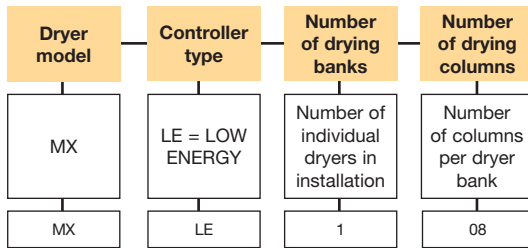
| Dewpoint Correction Factor CFD | | Option 2 | Standard | Option 1 |
|--------------------------------|--------|----------|----------|----------|
| Required Dewpoint | PDP °C | -20 | -40 | -70 |
| | PDP °F | -4 | -40 | -100 |
| | CFD | 0.91 | 1.00 | 1.43 |

For correct operation, compressed air dryers must be sized for the minimum inlet pressure, maximum inlet temperature and maximum flow rate at the point of installation.

To select a dryer, first calculate the MDC (Minimum Drying Capacity) using the formula below then select a dryer from the flow rate table above, with a flow rate equal to or greater than the MDC.

$$\text{Minimum Drying Capacity} = \text{System Flow} \times \text{CFT} \times \text{CFP} \times \text{CFD}$$

Dryer coding example



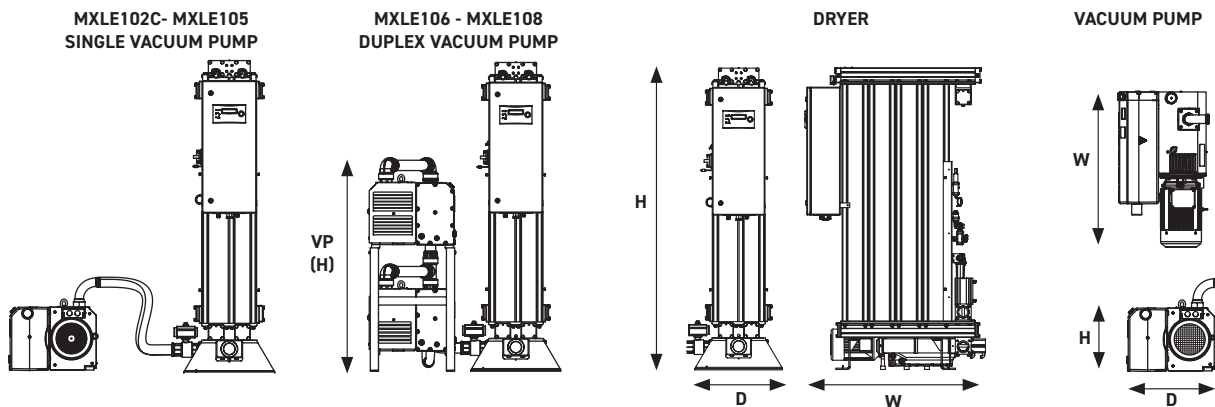
Part numbers

| Dryer Part Numbers | | Vacuum Pump Part Numbers 50Hz / 60Hz | Dryer Upgrade Kits Part Numbers |
|--------------------|-------------|---|---------------------------------|
| -20°C / -40°C PDP | -70°C PDP | | |
| MXLE102C | MXLE102C-70 | HLVAP-OL-01-100 | MXLEK2C |
| MXLE103C | MXLE103C-70 | HLVAP-OL-01-110 | MXLEK3C |
| MXLE103 | MXLE103-70 | HLVAP-OL-01-120 | MXLEK3 |
| MXLE104 | MXLE104-70 | HLVAP-OL-01-130 | MXLEK4 |
| MXLE105 | MXLE105-70 | HLVAP-OL-01-140 | MXLEK5 |
| MXLE106 | MXLE106-70 | HLVAP-OL-01-150 | MXLEK6 |
| MXLE107 | MXLE107-70 | HLVAP-OL-01-160 | MXLEK7 |
| MXLE108 | MXLE108-70 | HLVAP-OL-01-170 | MXLEK8 |

Weights and dimensions

| Model | Pipe Size | Dryer Dimensions | | | | | | | |
|-----------|-----------|------------------|------|-----------|------|-----------|------|--------|------|
| | | Height (H) | | Width (W) | | Depth (D) | | Weight | |
| | | mm | ins | mm | ins | mm | ins | kg | lbs |
| MXLE 102C | 2" | 1647 | 64.8 | 793.5 | 31.5 | 550 | 21.7 | 265 | 583 |
| MXLE 103C | 2" | 1647 | 64.8 | 962.5 | 37.9 | 550 | 21.7 | 346 | 761 |
| MXLE103 | 2" | 1892 | 74.5 | 962.5 | 37.9 | 550 | 21.7 | 385 | 847 |
| MXLE104 | 2½" | 1892 | 74.5 | 1131.5 | 44.6 | 550 | 21.7 | 480 | 1056 |
| MXLE105 | 2½" | 1892 | 74.5 | 1300.5 | 51.2 | 550 | 21.7 | 573 | 1261 |
| MXLE106 | 2½" | 1892 | 74.5 | 1469.5 | 57.9 | 550 | 21.7 | 667 | 1467 |
| MXLE107 | 2½" | 1892 | 74.5 | 1641.5 | 64.6 | 550 | 21.7 | 761 | 1674 |
| MXLE108 | 2½" | 1892 | 74.5 | 1807.5 | 71.2 | 550 | 21.7 | 855 | 1881 |

| Model | Vacuum Pump Dimensions | | | | | | | |
|-----------------|------------------------|------|-----------|------|-----------|------|--------|-----|
| | Height (H) | | Width (W) | | Depth (D) | | Weight | |
| | mm | ins | mm | ins | mm | ins | kg | lbs |
| HLVAP-OL-01-100 | 354 | 13.9 | 835 | 32.9 | 510 | 20.1 | 119 | 262 |
| HLVAP-OL-01-110 | 354 | 13.9 | 835 | 32.9 | 510 | 20.1 | 119 | 262 |
| HLVAP-OL-01-120 | 354 | 13.9 | 854 | 33.6 | 510 | 20.1 | 128 | 282 |
| HLVAP-OL-01-130 | 354 | 13.9 | 946 | 37.2 | 510 | 20.1 | 171 | 377 |
| HLVAP-OL-01-140 | 354 | 13.9 | 946 | 37.2 | 510 | 20.1 | 171 | 377 |
| HLVAP-OL-01-150 | 1320 | 52.0 | 980 | 38.6 | 650 | 25.6 | 287 | 633 |
| HLVAP-OL-01-160 | 1320 | 52.0 | 1070 | 42.1 | 650 | 25.6 | 330 | 728 |
| HLVAP-OL-01-170 | 1320 | 52.0 | 1070 | 42.1 | 650 | 25.6 | 339 | 747 |



Included filtration

| For Dryer Model | Filter Pipe Size BSPP | Inlet General Purpose Pre-filter | Inlet High Efficiency Filter | Outlet Dry Particulate Filter |
|-----------------|--------------------------|--|---------------------------------|----------------------------------|
| MXLE 102C | 2" | AOPX040H | AAPX040H | AOPX040H |
| MXLE 103C | 2" | AOPX040H | AAPX040H | AOPX040H |
| MXLE 103 | 2" | AOPX040H | AAPX040H | AOPX040H |
| MXLE 104 | 2½" | AOPX045I | AAPX045I | AOPX045I |
| MXLE 105 | 2½" | AOPX050I | AAPX050I | AOPX050I |
| MXLE 106 | 2½" | AOPX050I | AAPX050I | AOPX050I |
| MXLE 107 | 2½" | AOPX055I | AAPX055I | AOPX055I |
| MXLE 108 | 2½" | AOPX055I | AAPX055I | AOPX055I |

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