# White Paper

How to Size and Select Parker GSFE
Compressed Air Treatment Products

By Mark White - Compressed Air Treatment Applications Manager

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# Selecting the right purification products for your compressed air system

To achieve the degree of air quality specified by ISO8573-1, a careful approach to system design, commissioning and operation must be adopted.

Parker recommends that compressed air is treated:

- Prior to entry into the distribution system
- At critical usage points and applications

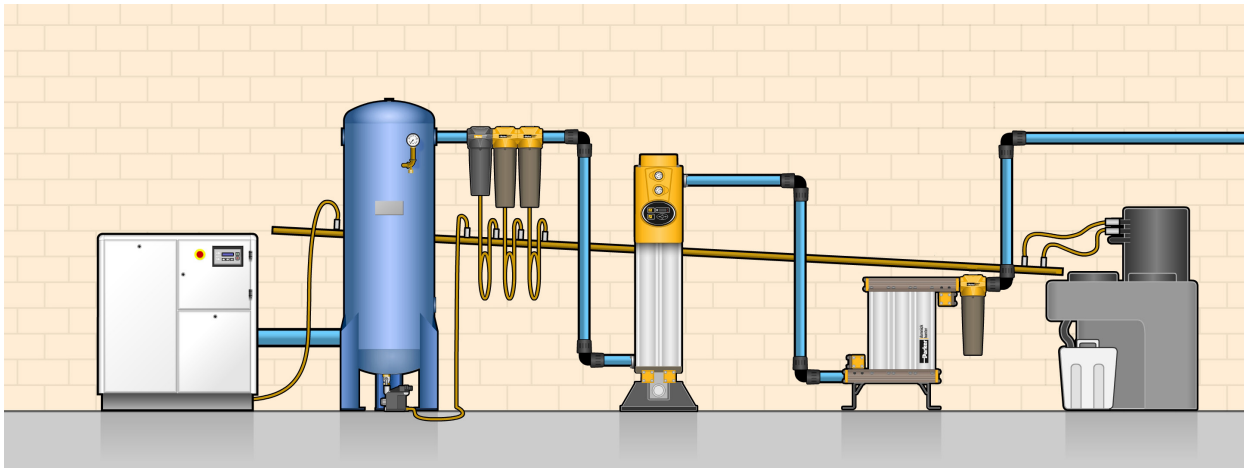
This ensures that contamination already in the distribution system is removed.

**Purification equipment should be installed where the air is at the lowest possible temperature (i.e. downstream of after-coolers and air receivers). Point-of-use purification equipment should be installed as close as possible to the application.**

In order to correctly size purification equipment, there are a number of primary operating parameters that must be obtained from the users site. These are:

- The MAXIMUM compressed air flow rate into the filters / dryer
- The MINIMUM operating pressure into the filters / dryer
- The MAXIMUM operating temperature into the filters / dryer
- The MAXIMUM ambient air temperature where the equipment is to be installed
- The required Dewpoint (dryers)

Individually, each of the primary operating parameters can influence product sizing however collectively they can have a major impact on product sizing and performance.



With the primary operating parameters, basic product selections can be made, however additional information may also be required to finalise product selection. Secondary parameters include:

- Minimum operating temperature
- Preferred pipe connections
- Available electrical supply (voltage / phase / frequency)
- Customers preference regarding drains, controllers or other options



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**Why is MAXIMUM Flow Rate Important?**
**Filtration:** As compressed air flow rates increase, contamination levels increase and a larger filtration surface area is required to ensure adequate filtration performance, low pressure drop and 12 month lifetime of filter elements.


**Dryers:** As compressed air flow rates increase, the amount of water vapour the dryer must remove also increases.

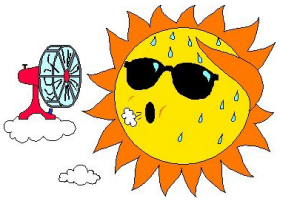
Adsorption dryers must be sized on the highest flow rate to ensure the desiccant bed is large enough to provide the correct contact time and dewpoint.

Refrigeration dryers must be sized to ensure the heat exchanger is large enough and has enough cooling capacity.

**Why is MINIMUM Inlet Pressure Important?**
**Dryers:** As pressure decreases, the volume of compressed air increases, as does the water vapour content, therefore the amount of water vapour the dryer must remove also increases. Dryers must be sized for minimum inlet pressure to account for the increased amount of water vapour present.

**Why is MAXIMUM Inlet Temperature Important?**
**Dryers:** As the temperature of the compressed air increases, so does the water vapour content, therefore the amount of water vapour the dryer must remove also increases. Dryers must be sized for maximum inlet temperature to account for the increased amount of water vapour present.

**Why is MAXIMUM Ambient Temperature Important?**
Refrigeration & Tandem Technology Dryers: Air cooled refrigeration & Tandem Technology dryers use ambient air for heat exchange.
The lower the ambient air temperature, the better the heat exchange process
Poor ventilation and / or high ambient air temperatures will result in loss of dewpoint.



**Why correct a dryer for Dewpoint?**
**Adsorption Dryers:** Dewpoint is derived from contact time between the air and the desiccant material, lower dewpoint's typically require the dryer to be de-rated to provide more contact time.
**Refrigeration Dryers:** The size of the heat exchangers affects the cooling capacity, too little cooling capacity results in poor dewpoint.


# Frequently asked questions
# High / Low Temperatures

**High Temperatures**
Max temp (inlet & ambient) for dryers is 50°C or 122°F. For temperatures above this it is more cost effective to install an after-cooler than oversize a dryer. Also as a dryer increases in size, so does the volume of purge required to regenerate the dryer. Fitting an after-cooler is also more cost effective in terms of energy consumption.

**Low Temperatures**
Freezing water causes damage to a dryer therefore as the temperature approaches freezing, the dryer and ancillaries need protection. Sub-zero temperatures also affect the function of seals and electronics.

- Always keep purification equipment under shelter and out of cold wind / direct air blasts
- Trace heat & insulate anywhere where moisture is present i.e. Inlet filtration / drain lines / Inlet valves / columns / exhaust valves



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# Correct Product Selection

Compressed air filter and dryer literature will typically show the flow rate of the purification equipment at a set of reference conditions (usually the reference conditions of a standard to which the product was tested to).

The users compressed air system will rarely match all of these conditions, and if the product is not "re-sized" to match the site conditions, the product will fail to provide the correct filtration performance or dewpoint and allow contamination to continue downstream.

To re-size purification equipment to match the site conditions, correction factors are typically applied to the literature flow rates in order to adjust the product performance to match site conditions and allow correct operation of the equipment.

Below are examples of how to correctly size compressed air filters and dryers.

## Filter Selection

Coalescing filters are installed to reduce six of the ten most common compressed air contaminants (water aerosols, oil aerosols, atmospheric particulate, rust, pipescale & micro-organisms). Dry particulate filters four of the ten contaminants (atmospheric particulate, rust, pipescale & micro-organisms). To ensure consistent filtration performance, filters must be sized for the maximum flow of compressed air at the minimum system operating pressure (not the discharge pressure of the compressor).

Unlike compressed air dryers or adsorption filters, only one correction factor is required

# Filter selection example

| | |
|---|---|
| Maximum Inlet Flow Rate | : 1500 $m^3$/hr |
| Minimum Inlet Pressure | : 8.3 bar g |
| Maximum Temperature | : 40°C |
| Minimum Temperature | : 10°C |
| Pipe connections required | : 2 ½" |
| Thread type required | : BSPP |
| Filtration grade required | : Grade AO & Grade AA |
| Incident monitor required | : No |

**1. Ensure the maximum and minimum operating temperatures and pressure are within the operational parameters of the filter range**

**2. Select the correction factor for minimum operating pressure from the CFP table**

Correction Factor for 8.3 bar g = 0.94

| Line Pressure | | Correction Factor Pressure (CFP) |
|---|---|---|
| bar g | psi g | |
| 6 | 87 | 1.08 |
| 7 | 100 | 1.00 |
| 8 | 116 | 0.94 |
| 9 | 131 | 0.88 |

**Important Notes:**
**Pressure: Always round down to nearest factor i.e. for 8.3 bar g use correction factor for 8 bar g**
**Flow: The Filter or Water Separator selected must have a flow rate equal to or greater than the minimum filtration capacity**

**3. Calculate the minimum filtration capacity**

**Minimum filtration capacity = Max compressed air flow rate x CFIP**

Minimum filtration capacity = 1500 $m^3$/hr x 0.94 = 1410 $m^3$/hr

**4. Using the minimum filtration capacity, select a filter model from the literature flow rate tables**

(filter selected must have a flow rate equal to or greater than the minimum filtration capacity)

**Filter Model selected = 050 size**

| Model | Port | Flow Rates | | | |
|---|---|---|---|---|---|
| | | L/s | $m^3$/min | $m^3$/hr | cfm |
| GRADE P045I □ (*) X | 2 ½" | 330 | 19.8 | 1188 | 699 |
| GRADE P050I □ (*) X | 2 ½" | 430 | 25.9 | 1548 | 911 |
| GRADE P055I □ (*) X | 2 ½" | 620 | 37.3 | 2232 | 1314 |
| GRADE P055J □ (*) X | 3" | 620 | 37.3 | 2232 | 1314 |

**5. Select the pipe connections for the filter model selected**

Existing pipe connections are 2 ½" therefore model selected = P050I

**6. Select thread type required for the filter model selected**

BSPP Threads are required therefore model selected = P050IG

**7. Select filtration grade or grades**

Grades AO & AA are required therefore models selected are AOP050IG & AAP050IG

**8. Select Coalescing or Dry Particulate Use (Drain Selection or Pressures above 16 bar g)**

If grade AO or AA is used as a coalescing filter then a float drain is required (up to 16 bar g). This is signified by using a letter F in the code.

If grade AO or AA is used as a dry particulate filter or for pressures above 16 bar then a manual drain is required. This is signified by using a letter M in the code. For ACS, the M for manual drain should be selected.

As filters are for use as coalescing filters and operating pressure is below 16 bar g, therefore models selected are AOP050IGF & AA050IGF

**9. Is an incident monitor required (blockage indicator)**

An incident monitor is standard up to 1 1/2" and is signified by the letter I. Filters from 2" to 4" are not available with an indicator from the factory (denoted by the letter X).

Final part numbers for the filters selected are **AOP050IGFX** & **AAP050IGFX**



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## Dryer Selection

Compressed air dryers are installed to reduce the amount of water vapour in compressed air. To ensure consistent outlet dewpoint, dryers must be sized for the maximum amount of water vapour in the compressed air system (worst case conditions). Water vapour content is highest when system pressure is lowest, system temperature is highest and air flow (usage) is at maximum.

In the first instance, dryer selection should be carried out using the Parker sizing and selection software. If selection software is unavailable, correction factors should be applied to the dryer flow rates shown within this document. Apply correction factors if the minimum operating parameters are different to the reference conditions shown.

# Dryer Selection Example

| | | | |
|---|---|---|---|
| Maximum Inlet Flow Rate | : 1500 m³/hr | Minimum Temperature | : 10°C |
| Minimum Inlet Pressure | : 8.3 bar g | Thread type required | : BSPP |
| Maximum Temperature | : 40°C | Controller required | : SMART |
| Maximum Ambient Temperature | : 30°C | Energy Management System required? | : Yes |
| Dewpoint of Compressed Air | : -40°C | | |

**1. Select an appropriate dryer range from the flow rate tables.**

**Dryer Ranges Providing -20°C PDP / -40°C PDP / -70°C PDP**

| Heatless | Flows (m³/hr) | Flows (cfm) |
|---|---|---|
| MiDAS - DAS | 5.1 - 34 | 3 - 20 |
| MIDI - DME 012 | 40 | 24 |
| CDAS HL 50 - 85 | 55 - 300 | 32 - 177 |
| OFAS HL 50 - 85 | 55 - 300 | 32 - 177 |
| MX 102c - 108 | 408 - 2040 | 240 - 1200 |
| K-MT 180 - 220 | 2500 - 6100 | 1472 - 3590 |

| Low Energy Dryers | Flows (m³/hr) | Flows (cfm) |
|---|---|---|
| MXLE 102c - 108 | 408 - 2040 | 240 - 1200 |
| Antares ATT025 - 0340 | 150 - 2040 | 88 - 2040 |
| WVM | 2300 - 14210 | 1354 - 8364 |

**Dryer Ranges Providing +3°C PDP / +7°C PDP / +10°C PDP**

| Refrigeration Dryers | Flows (m³/hr) | Flows (cfm) |
|---|---|---|
| Starlette SPE 004 - 100 | 24 - 600 | 14 - 353 |
| Polestar PST | 450 - 10800 | 235 - 6357 |
| Polestar Twin | 14400 - 21600 | 8470 - 12705 |
| Quasar | 10200 - 21000 | 6004 - 12361 |

**2. Ensure the maximum and minimum operating temperatures and pressure are within the operational parameters of the dryer range**

**3. Select the correction factor for maximum inlet temperature from the CFIT table**

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

Correction Factor for 40°C = 1.04

**4. Select the correction factor for Maximum Ambient Temperature**

| Maximum Ambient Temperature | | | | | | | |
|---|---|---|---|---|---|---|---|
| | °C | 25 | 30 | 35 | 40 | 45 | 50 |
| | °F | 77 | 86 | 95 | 104 | 113 | 122 |
| Correction Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Correction Factor for 30°C = 1.00

**5. Select the correction factor for minimum Inlet pressure from the CFP table**

| 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 |
| Correction Factor | | 1.33 | 1.14 | 1.00 | 0.89 | 0.80 | 0.73 | 0.67 | 0.62 | 0.57 |

Correction Factor for 8.3 bar g = 0.89

**6. Select the correction factor for the required dewpoint from the CFD**

| Maximum Inlet Temperature | | | | |
|---|---|---|---|---|
| | °C | -20 | -40 | -70 |
| | °F | -4 | -40 | -100 |
| Correction Factor | | 0.91 | 1 | 1.43 |

Correction Factor for -40°C PDP = 1.00

**Important Notes:**
**Temperature: Always round up to the next correction factor i.e. for 38°C select the correction factor for 40°C**
**Pressure: Always round down to nearest factor i.e. for 8.3 bar g select the correction factor for 8 bar g**
**Flow: The dryer selected must have a flow rate equal to or greater than the minimum filtration capacity**

**7. Calculate the minimum drying capacity**

Minimum drying capacity = Compressed air flow rate x CFIT x CFAT x CFP x CFD

Minimum drying capacity = 1500 m³/hr x 1.04 x 1.00 x 0.89 x 1.00 = 1388 m³/hr

Using the minimum drying capacity, select an MX dryer model from the literature flow rate tables

Model selected = MX106

| | Model | Flow | |
|---|---|---|---|
| | | m³/hr | cfm |
| Single Bank | MX ☐ 102C | 408 | 240 |
| | MX ☐ 103C | 612 | 360 |
| | MX ☐ 103 | 765 | 450 |
| | MX ☐ 104 | 1020 | 600 |
| | MX ☐ 105 | 1275 | 750 |
| | MX ☐ 106 | 1530 | 900 |
| | MX ☐ 107 | 1785 | 1050 |
| | MX ☐ 108 | 2040 | 1200 |

**8. Which controller is required?**

Smart controller is required therefore model selected = MXS106

**9. Is DDS Energy Management System required?**

DDS Energy Management system is required therefore model selected = MXS106DS



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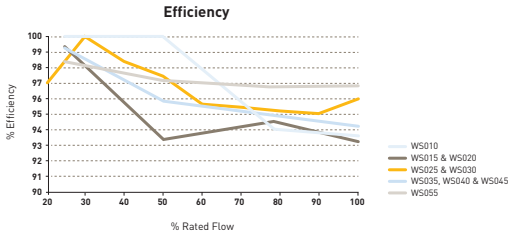
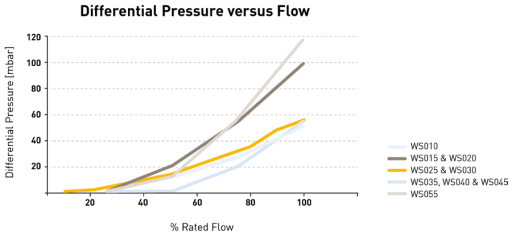
# OIL-X Water Separators

## Separation Performance

### Liquid Removal % versus Flow Performance (models WS010 - WS055)




### Differential Pressure versus Flow (models WS010 - WS055)




## Technical Data

| Grade | Water Separator Models | Min Operating Pressure | | Max Operating Pressure | | Min Operating Temp | | Max Operating Temp | |
|---|---|---|---|---|---|---|---|---|---|
| | | bar g | psi g | bar g | psi g | °C | °F | °C | °F |
| WS | P010A☐FX - P055J☐FX | 1 | 15 | 16 | 232 | 2 | 35 | 80 | 176 |
| WS | P060K☐FX | 1 | 15 | 16 | 232 | 2 | 35 | 66 | 150 |

## Flow Rates

| Model | Pipe Size | L/S | m³/min | m³/hr | cfm |
|---|---|---|---|---|---|
| WSP010A ☐ FX | 1/4" | 10 | 0.6 | 36 | 21 |
| WSP010B ☐ FX | 3/8" | 10 | 0.6 | 36 | 21 |
| WSP010C ☐ FX | 1/2" | 10 | 0.6 | 36 | 21 |
| WSP015C ☐ FX | 1/2" | 40 | 2.4 | 144 | 85 |
| WSP020D ☐ FX | 3/4" | 40 | 2.4 | 144 | 85 |
| WSP025D ☐ FX | 3/4" | 110 | 6.6 | 396 | 233 |
| WSP025E ☐ FX | 1" | 110 | 6.6 | 396 | 233 |
| WSP030G ☐ FX | 1 1/2" | 110 | 6.6 | 396 | 233 |
| WSP035G ☐ FX | 1 1/2" | 350 | 21 | 1260 | 742 |
| WSP040H ☐ FX | 2" | 350 | 21 | 1260 | 742 |
| WSP045I ☐ FX | 2 1/2" | 350 | 21 | 1260 | 742 |
| WSP050I ☐ FX | 2 1/2" | 800 | 48 | 2880 | 1695 |
| WSP055J ☐ FX | 3" | 800 | 48 | 2880 | 1695 |
| WSP060K ☐ FX | 4" | 1000 | 60 | 3600 | 2119 |

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. For flows at other pressures, apply the correction factors shown below.

## Water separator coding example

**WS010 - WS055**

| Grade | Model | Pipe Size | Connection Type | Drain Option | Incident Monitor Option |
|---|---|---|---|---|---|
| WS | P & 3 digit code denotes filter housing size | Letter denotes pipe size | G = BSPP<br>N = NPT<br>DN = Flanged | F = Float | X = None |
| Example code | | | | | |
| WS | P010 | A | G | F | X |

Note:
Connection options
Models WSP010 - WSP060 G = BSPP / N = NPT.
Models WS800F - WS7200F DN = flanged.

## Product Selection & Correction Factors

To correctly select a separator model, the flow rate of the separator 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 separator.
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. Minimum Filtration Capacity = Compressed Air Flow Rate x CFP
4. Using the minimum filtration capacity, select a separator model from the flow rate tables above (separator selected must have a flow rate equal to or greater than the minimum filtration capacity).

**CFP - 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 |



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# OIL-X Coalescing / Dry Particulate / Oil Vapour Removal Filters

## Filtration Performance

| Filtration Grade | Filter Type | Particle removal (inc water & oil aerosols) | Max Remaining Oil Content at 21°C (70°F) | Filtration Efficiency | Initial Dry Differential Pressure | Initial Saturated Differential Pressure | Change Element Every | Precede with Filtration Grade |
|---|---|---|---|---|---|---|---|---|
| AO | Coalescing & Dry Particulate | Down to 1 micron | 0.5 mg/m$^3$ 0.5 ppm(w) | 99.925% | <70 mbar (1 psi) | <125 mbar (1.8 psi) | 12 months | WS (for bulk liquid) |
| AA | Coalescing & Dry Particulate | Down to 0.01 micron | 0.01 mg/m$^3$ 0.01 ppm(w) | 99.9999% | <70 mbar (1 psi) | <125 mbar (1.8 psi) | 12 months | AO |
| ACS | Oil Vapour Removal | N/A | 0.003 mg/m$^3$ 0.003 ppm(w) | N/A | <140 mbar (2 psi) | N/A | When oil vapour is detected | AO+AA |

## Technical Data

| Filter Grade | Filter Models | Min Operating Pressure | | Max Operating Pressure | | Min Operating Temp | | Max Operating Temp | |
|---|---|---|---|---|---|---|---|---|---|
| | | bar g | psi g | bar g | psi g | °C | °F | °C | °F |
| AO/AA | P010 - P055 (Float Drain) | 1 | 15 | 16 | 232 | 2 | 35 | 80 | 176 |
| AO/AA | P010 - P055 (Manual Drain) | 1 | 15 | 20 | 290 | 2 | 35 | 80 | 176 |
| AO/AA | P060 (Float Drain) | 1 | 15 | 16 | 232 | 2 | 35 | 66 | 150 |
| AO/AA | P060 (Manual Drain) | 1 | 15 | 20 | 290 | 2 | 35 | 100 | 212 |
| AO/AA | 065 - 095 (Electronic Drain) | 1 | 15 | 16 | 232 | 2 | 35 | 60 | 140 |
| AO/AA | 065 - 095 (Manual Drain) | 1 | 15 | 16 | 232 | 2 | 35 | 80 | 176 |
| ACS | P010 - P055 (Manual Drain) | 1 | 15 | 20 | 290 | 2 | 35 | 50 | 122 |
| ACS | P060 (Manual Drain) | 1 | 15 | 20 | 290 | 2 | 35 | 50 | 122 |
| ACS | 065 - 095 (Manual Drain) | 1 | 15 | 16 | 232 | 2 | 35 | 50 | 122 |

## Flow Rates

| Model | Pipe Size | L/S | m$^3$/min | m$^3$/hr | cfm | Replacement Element kit | No. |
|---|---|---|---|---|---|---|---|
| grade P010A □□□ | 1/4" | 10 | 0.6 | 36 | 21 | P010 grade | 1 |
| grade P010B □□□ | 3/8" | 10 | 0.6 | 36 | 21 | P010 grade | 1 |
| grade P010C □□□ | 1/2" | 10 | 0.6 | 36 | 21 | P010 grade | 1 |
| grade P015C □□□ | 1/2" | 20 | 1.2 | 72 | 42 | P015 grade | 1 |
| grade P020C □□□ | 1/2" | 30 | 1.8 | 108 | 64 | P020 grade | 1 |
| grade P020D □□□ | 3/4" | 30 | 1.8 | 108 | 64 | P020 grade | 1 |
| grade P025D □□□ | 3/4" | 60 | 3.6 | 216 | 127 | P025 grade | 1 |
| grade P025E □□□ | 1" | 60 | 3.6 | 216 | 127 | P025 grade | 1 |
| grade P030G □□□ | 1 1/2" | 110 | 6.6 | 396 | 233 | P030 grade | 1 |
| grade P035G □□□ | 1 1/2" | 160 | 9.6 | 576 | 339 | P035 grade | 1 |
| grade P040H □□ X | 2" | 220 | 13.2 | 792 | 466 | P040 grade | 1 |
| grade P045I □□ X | 2 1/2" | 330 | 19.8 | 1188 | 699 | P045 grade | 1 |
| grade P050I □□ X | 2 1/2" | 430 | 25.9 | 1548 | 911 | P050 grade | 1 |
| grade P055I □□ X | 2 1/2" | 620 | 37.3 | 2232 | 1314 | P055 grade | 1 |
| grade P055J □□ X | 3" | 620 | 37.3 | 2232 | 1314 | P055 grade | 1 |
| grade P060K □□ X | 4" | 1000 | 60 | 3600 | 2119 | P060 grade | 3 |
| grade 065ND □□ X | DN80 | 620 | 37.2 | 2232 | 1312 | 200 grade | 1 |
| grade 070OD □□ X | DN100 | 1240 | 74.4 | 4464 | 2625 | 200 grade | 2 |
| grade 075PD □□ X | DN150 | 1860 | 111.6 | 6696 | 3938 | 200 grade | 3 |
| grade 080PD □□ X | DN150 | 2480 | 148.8 | 8928 | 5251 | 200 grade | 4 |
| grade 085QD □□ X | DN200 | 3720 | 223.2 | 13392 | 7877 | 200 grade | 6 |
| grade 090RD □□ X | DN250 | 6200 | 372 | 22320 | 13129 | 200 grade | 10 |
| grade 095SD □□ X | DN300 | 8680 | 520.8 | 31248 | 18380 | 200 grade | 14 |

## Filter coding example P010 - P055

| Grade | Model | Pipe Size | Connection Type | Drain Option | Incident Monitor Option |
|---|---|---|---|---|---|
| AO | P & 3 digit code denotes filter housing size | Letter denotes pipe size | G = BSPP<br>N = NPT<br>D = Flanged | F = Float<br>M = Manual | I = Indicator<br>X = None |

| Example code | | | | | |
|---|---|---|---|---|---|
| AO | P010 | A | G | F | I |

Note:
Connection options
Models P010 - P060 G = BSPP / N = NPT.
Models 065 - 095 D = flanged.

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.
For flows at other pressures, apply the correction factors shown below.

## Product Selection & Correction Factors

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. 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).

**CFP - 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 | 17 | 18 | 19 | 20 |
| | psi g | 15 | 29 | 44 | 58 | 73 | 87 | 100 | 116 | 131 | 145 | 160 | 174 | 189 | 203 | 218 | 232 | 248 | 263 | 277 | 290 |
| Correction Factor | | 2.65 | 1.87 | 1.53 | 1.32 | 1.18 | 1.08 | 1.00 | 0.94 | 0.88 | 0.84 | 0.80 | 0.76 | 0.73 | 0.71 | 0.68 | 0.66 | 0.64 | 0.62 | 0.61 | 0.59 |

When ordering a filter for pressures above 16 bar g (232 psi g), use a manual drain. Replace F with M in product code. e.g. AOP015BGFX becomes AOP015BGMX.
Models 150 - 500 are not suitable for pressures above 16 bar g (232 psi g)



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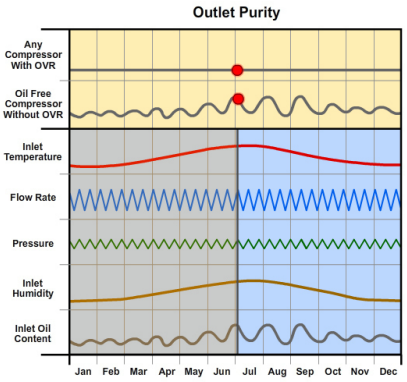
## OVR product selection

To ensure correct air quality, OIL-X EVOLUTION Grade OVR filters must always be installed downstream of OIL-X EVOLUTION Grade AO General Purpose and Grade AA High Efficiency coalescing filters to ensure the removal of oil aerosols.

Correctly selecting an OIL-X EVOLUTION Grade OVR filter ensures both consistent air quality and 12 months lifetime from the activated carbon cartridges.

Product selection requires the literature flow rate of the unit to be adjusted to match the actual operating pressure and maximum (summer) temperature of the compressed air system, location of the unit within the compressed air system (before or after a dryer) and for the type of air compressor used (oil lubricated or oil free).

Typically, the inlet oil vapour concentration of a standard compressed air system does not exceed 0.05 mg/m$^3$, therefore the standard OVR literature correction factors do not include factors for inlet concentration. There are circumstances where by the inlet concentration of oil vapour is known to be higher. In such instances, the additional correction factors shown on page 8 should be applied.




ISO8573-1 CLASS ZERO
OIL FREE AIR AT THE POINT OF USE

## 1 System Information Required for OVR Sizing & Selection

- Minimum pressure at the inlet of the OVR
- Compressor type (oil lubricated or oil free)
- Maximum inlet temperature at the inlet of the OVR (highest summer inlet temp)
- Maximum compressed air flow rate
- Dewpoint of the compressed air (i.e. is the proposed location of the unit before or after a compressed air dryer)
- Oil vapour concentration expected at the inlet of the OVR

## 2 Select correction factors

- For minimum inlet pressure, select a correction factor from the CFIP table that corresponds to the minimum inlet pressure of the compressed air system, remembering to always round down e.g. for 5.3 bar g use the 5 bar g correction factor.
- For maximum inlet temperature there are two tables, one for use with an oil lubricated compressor, the other for oil free compressor. Select a correction factor from the CFIT table for the relevant compressor type, remembering to always round up e.g. for 37°C use the 40°C correction factor.
- For pressure dewpoint, select a correction factor from the CFID table.
- For oil vapour concentration, select a correction factor from the CFIV table, remembering to always round up e.g. for 3.25g/m$^3$ use the correction factor for 4mg/m$^3$.

## 3 Calculate minimum filtration capacity

Minimum filtration Capacity = Compressed Air Flow x CFIT x CFIP x CFID x CFIV

- Using the minimum filtration capacity, select an OVR model from the flow rate tables.
- The OVR model selected must have a flow rate equal to or greater than the minimum filtration capacity.
- If the minimum filtration capacity exceeds the maximum values of the models shown within the tables, please contact Parker domnick hunter for advice regarding larger multi-banked units.



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# OVR

## Oil vapour removal filter

### OIL-X EVOLUTION - Plant scale / point of use oil vapour removal
### Grade OVR filtration performance

| Filtration Grade | Filter Type | Particle Removal (inc Water & Oil Aerosols) | Max Remaining Oil Content | Filtration Efficiency | Test Method Used | Inlet Challenge Concentration | Initial Dry Differential Pressure | Initial Saturated Differential Pressure | Adsorbent Life | Precede with Grade |
|---|---|---|---|---|---|---|---|---|---|---|
| OVR | Oil Vapour Removal | N/A | 0.003 mg/m³<br>0.003 ppm (w) | N/A | ISO8573-5 | 0.05mg/m³ | <350 mbar<br><5 psi | N/A | *12 months | AO + AA |

*When corrected to match systems conditions.

### Product selection grade OVR

Stated flows are for operation at 7 bar g (100 psi g), 35°C (95°F) for flows at other conditions use Correction Factors below.

| Model | Pipe Size | L/s | m³/min | m³/hr | cfm | Replacement Cartridge | No. Required |
|---|---|---|---|---|---|---|---|
| OVR300H ☐ XX | 2 | 87 | 5.2 | 314 | 185 | 300OVR | 1 |
| OVR350H ☐ XX | 2 | 177 | 10.6 | 637 | 375 | 350OVR | 1 |
| OVR400H ☐ XX | 2 | 354 | 21.2 | 1274 | 750 | 400OVR | 1 |
| OVR450I ☐ XX | 2 1/2 | 531 | 31.9 | 1911 | 1125 | 450OVR | 1 |
| OVR500I ☐ XX | 2 1/2 | 708 | 42.5 | 2549 | 1500 | 500OVR | 1 |
| OVR550I ☐ XX | 2 1/2 | 885 | 53.1 | 3186 | 1875 | 550OVR | 1 |
| 2 x OVR550I ☐ XX | 2 1/2 | 1770 | 106.2 | 6371 | 3750 | 550OVR | 2 |
| 3 x OVR550I ☐ XX | 2 1/2 | 2655 | 159.3 | 9557 | 5625 | 550OVR | 3 |
| 4 x OVR550I ☐ XX | 2 1/2 | 3540 | 212.4 | 12743 | 7500 | 550OVR | 4 |
| 5 x OVR550I ☐ XX | 2 1/2 | 4424 | 265.5 | 15928 | 9375 | 550OVR | 5 |

☐ G = BSPP / N=NPT

### Correction factors inlet temperature (CFIT)

| Oil lubricated compressors | | |
|---|---|---|
| °C | °F | Correction Factor |
| 25 | 77 | 1.00 |
| 30 | 86 | 1.00 |
| 35 | 95 | 1.00 |
| 40 | 104 | 1.25 |
| 45 | 113 | 1.55 |
| 50 | 122 | 1.90 |

### Correction factors inlet temperature (CFIT)

| Oil free compressors | | |
|---|---|---|
| °C | °F | Correction Factor |
| 25 | 77 | 1.00 |
| 30 | 86 | 1.00 |
| 35 | 95 | 1.00 |
| 40 | 104 | 1.02 |
| 45 | 113 | 1.04 |
| 50 | 122 | 1.05 |

### Correction factors pressure (CFIP)

| bar g | psi g | Correction Factor |
|---|---|---|
| 3 | 44 | 2.00 |
| 4 | 58 | 1.60 |
| 5 | 73 | 1.33 |
| 6 | 87 | 1.14 |
| 7 | 100 | 1.00 |
| 8 | 116 | 1.00 |
| 9 | 131 | 1.00 |
| 10 | 145 | 1.00 |
| 11 | 160 | 1.00 |
| 12 | 174 | 1.00 |
| 13 | 189 | 1.00 |
| 14 | 203 | 1.00 |
| 15 | 218 | 1.00 |
| 16 | 232 | 1.00 |

### Correction factors - Dewpoint (CFID)

| | Installation | Correction Factor |
|---|---|---|
| Dry | After Dryer | 1.00 |
| Wet | Before Dryer | 4.00 |

### Correction factors - Inlet vapour content (CFIV)

| mg/m³ | Correction Factor |
|---|---|
| 0.05 | 1 |
| 0.1 | 2 |
| 0.2 | 4 |
| 0.3 | 6 |
| 0.4 | 8 |
| 0.5 | 10 |
| 0.6 | 12 |
| 0.7 | 14 |
| 0.8 | 16 |
| 0.9 | 18 |
| 1.0 | 20 |
| 2.0 | 40 |
| 3.0 | 60 |
| 4.0 | 80 |
| 5.0 | 100 |



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Adsorption Dryer - Heatless MiDAS

## Dryer Performance

| Dryer Models | Dewpoint (Standard) °C | Dewpoint (Standard) °F | ISO8573-1:2010 Classification (Standard) | Dewpoint (Option 1) °C | Dewpoint (Option 1) °F | ISO8573-1:2010 Classification (Option 1) |
|---|---|---|---|---|---|---|
| MiDAS | -40 | -40 | Class 2.2.2 | -70 | -100 | Class 2.1.2 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Min Operating Pressure bar g | Min Operating Pressure psi g | Max Operating Pressure bar g | Max Operating Pressure psi g | Min Operating Temperature °C | Min Operating Temperature °F | Max Operating Temperature °C | Max Operating Temperature °F | Max Ambient Temperature °C | Max Ambient Temperature °F | Electrical Supply (Standard) | Electrical Supply (Optional) | Filter Thread Connections | Noise Level dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DAS 1 - 7 | 4 | 58 | 12 | 175 | 2 | 35 | 50 | 122 | 55 | 131 | 230 / 1ph / 50Hz | 115 / 1ph / 60Hz | BSPP or NPT | <75 |

## Flow Rates

| Model | Pipe Size BSPP or NPT | Inlet Flow Rate L/s | Inlet Flow Rate $m^3$/min | Inlet Flow Rate $m^3$/hr | Inlet Flow Rate cfm |
|---|---|---|---|---|---|
| DAS 1 | 3/8 | 1 | 0.09 | 5.1 | 3 |
| DAS 2 | 3/8 | 2 | 0.14 | 8.5 | 5 |
| DAS 3 | 3/8 | 3 | 0.23 | 13.6 | 8 |
| DAS 4 | 3/8 | 4 | 0.28 | 17.0 | 10 |
| DAS 5 | 3/8 | 5 | 0.37 | 22.1 | 13 |
| DAS 6 | 3/8 | 6 | 0.43 | 25.5 | 15 |
| DAS 7 | 3/8 | 7 | 0.57 | 34.0 | 20 |

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. For flows at other pressures, apply the correction factors shown below.

### Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

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

**CFAT - Correction Factor Maximum Ambient Temperature**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Maximum Ambient Temperature | °C | 25 | 30 | 35 | 40 | 45 | 50 |
| | °F | 77 | 86 | 95 | 104 | 113 | 122 |
| Correction Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**CFP - Correction Factor Minimum Inlet Pressure**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Minimum Inlet Pressure | bar g | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | psi g | 58 | 73 | 87 | 100 | 116 | 131 | 145 | 160 | 174 |
| Correction Factor | | 1.60 | 1.33 | 1.14 | 1.00 | 1.03 | 0.93 | 0.85 | 0.78 | 0.71 |

**CFD - Correction Factor Dewpoint**

| | | | |
|---|---|---|---|
| Maximum Inlet Temperature | °C | -40 | -70 |
| | °F | -40 | -100 |
| Correction Factor | | 1 | 1.43 |



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## Controller Functions

| Dryer | Controller Function | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Power On Indication | Visual Fault Indication | Dewpoint Display | DDS - Energy Saving Technology | Filter Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| DAS | • | • | | | • | • | | |

Recommended Filtration

| Model | Filter Pipe Size BSPT or NPT | Inlet General Purpose Pre-filter | Inlet High Efficiency Filter | Outlet Dust Filter |
|---|---|---|---|---|
| DAS1 | 3/8" | AO005B ☐ FX | Integrated* | Integrated* |
| DAS2 | 3/8" | AO005B ☐ FX | Integrated* | Integrated* |
| DAS3 | 3/8" | AO005B ☐ FX | Integrated* | Integrated* |
| DAS4 | 3/8" | AO005B ☐ FX | Integrated* | Integrated* |
| DAS5 | 3/8" | AO005B ☐ FX | Integrated* | Integrated* |
| DAS6 | 3/8" | AOP0010B ☐ F | Integrated* | Integrated* |
| DAS7 | 3/8" | AOP0010B ☐ F | Integrated* | Integrated* |

*MiDAS dryers include integral high efficiency pre and general purpose dust filters.

☐ = B (BSPT) or N (NPT)

Parker Catalogue Numbers

| DAS -40°C 230V /1ph/50Hz | |
|---|---|
| Item Number | GSFE Ref |
| DAS1 | 618310201 |
| DAS2 | 618310202 |
| DAS3 | 618310203 |
| DAS4 | 618310204 |
| DAS5 | 618310205 |
| DAS6 | 618310206 |
| DAS7 | 618310207 |

| DAS-40°C 115V/1ph/60Hz | |
|---|---|
| Item Number | GSFE Ref |
| DAS1-115-60-CSA | 618310101 |
| DAS2-115-60-CSA | 618310102 |
| DAS3-115-60-CSA | 618310103 |
| DAS4-115-60-CSA | 618310104 |
| DAS5-115-60-CSA | 618310105 |
| DAS6-115-60-CSA | 618310106 |
| DAS7-115-60-CSA | 618310107 |

For a -70°C PDP application please consult the factory.



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# Adsorption Dryer - Heatless MIDIplus

## 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 | |
| MIDI DME | -40 | -40 | Class 2.2.2 | -70 | -100 | Class 2.1.2 | -20 | -4 | Class 2.3.2 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Min Operating Pressure | | Max Operating Pressure | | Min Operating Temperature | | Max Operating Temperature | | Max Ambient Temperature | | Electrical Supply (Standard) | Electrical Supply (Optional) | Filter Thread Connections | Noise Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar g | psi g | bar g | psi g | °C | °F | °C | °F | °C | °F | | | | dB(A) |
| DME012 | 4 | 58 | 16 | 232 | 5 | 41 | 50 | 122 | 55 | 131 | 230V 1ph 50/60Hz | 110V 1ph 50/60Hz | BSPP or NPT | <75 |

## Flow Rates

| Model | Pipe Size BSPP or NPT | Inlet Flow Rate | | | |
|---|---|---|---|---|---|
| | | L/s | $m^3$/min | $m^3$/hr | cfm |
| DME012 | 3/4 | 11 | 0.67 | 40 | 24 |

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. For flows at other pressures, apply the correction factors shown below.


## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

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

**CFAT - Correction Factor Maximum Ambient Temperature**

| Maximum Ambient Temperature | °C | 25 | 30 | 35 | 40 | 45 | 50 |
|---|---|---|---|---|---|---|---|
| | °F | 77 | 86 | 95 | 104 | 113 | 122 |
| Correction Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**CFP - Correction Factor Minimum Inlet Pressure**

| Minimum Inlet Pressure | bar g | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | psi g | 58 | 73 | 87 | 100 | 116 | 131 | 145 | 160 | 174 | 189 | 203 | 218 | 232 |
| Correction Factor | | 1.60 | 1.33 | 1.14 | 1.00 | 0.89 | 0.80 | 0.73 | 0.67 | 0.62 | 0.57 | 0.53 | 0.50 | 0.47 |

**CFD - Correction Factor Dewpoint**

| Maximum Inlet Temperature | °C | -40 | -70 |
|---|---|---|---|
| | °F | -40 | -100 |
| Correction Factor | | 1.00 | 1.43 |

## Controller Functions

| Dryer | Controller Function | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Power On Indication | Visual Fault Indication | Dewpoint Display | DDS - Energy Saving Technology | Filter Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| DME | | | | | | | | |
| DME DS | • | • | | • | | | Option | • |

## Recommended Filtration

| For Dryer Model | Pipe Size BSPP or NPT | Inlet General Purpose Pre-filter |
|---|---|---|
| DME012 | 3/4 | AOP020D ☐ FI |

## Included Filtration

| For Dryer Model | Pipe Size BSPP or NPT | Inlet High Efficiency Filter | Oil Vapour Removal Filter | Outlet Dust Filter |
|---|---|---|---|---|
| DME012 | 3/4 | AAP020D ☐ FI | - | AOP020D ☐ MI |

The DME012 dryer is supplied with a High Efficiency Inlet Filter (Grade AA) & a General Purpose Dust Filter (Grade AO). For correct operation and to ensure the ISO8573-1 air quality classifications are met, a General purpose Inlet Filter must also be installed to protect the High Efficiency Filter (Grade AA). This additional filter should be ordered separately.

## Parker Catalogue Numbers

**230V/1ph/50Hz**

| DME -40°C | |
|---|---|
| Item Number | GSFE Ref |
| DME012BFK | 618330090 |

| DME/DS -40°C | |
|---|---|
| Item Number | GSFE Ref |
| DME012DSBFK | 618330130 |

| DME -70°C | |
|---|---|
| Item Number | GSFE Ref |
| DME012BFK-70 | 617330000 |

| DME/DS -70°C | |
|---|---|
| Item Number | GSFE Ref |
| DME012BFK-70 | 617330040 |

**110V/1ph/60Hz**

| DME -40°C | |
|---|---|
| Item Number | GSFE Ref |
| DME012-CSA | 618330150 |

| DME/DS -40°C | |
|---|---|
| Number Part | GSFE Ref |
| DME012-DS-CSA | 618330170 |

| DME -70°C | |
|---|---|
| Item Number | GSFE Ref |
| DME012 -70 CSA | 617330150 |

| DME/DS -70°C | |
|---|---|
| Item Number | GSFE Ref |
| DME012DS -70 CSA | 617330170 |



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# Adsorption Dryer - Heatless Clean Dry Air System CDAS

## 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 | |
| CDAS HL | -40 | -40 | Class 2.2.2 | -70 | -100 | Class 2.1.2 | -20 | -4 | Class 2.3.2 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Min Operating Pressure | | Max Operating Pressure | | Min Operating Temperature | | Max Operating Temperature | | Max Ambient Temperature | | Electrical Supply (Standard) | Electrical Supply (Optional) | Filter Thread Connections | Noise Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar g | psi g | bar g | psi g | °C | °F | °C | °F | °C | °F | | | | dB(A) |
| CDAS HL 50 - 85 | 4 | 58 | 16 | 232 | 5 | 41 | 50 | 122 | 55 | 131 | 85 - 265V 1ph 50/60Hz | 24V DC | BSPP or NPT | <75 |

## Flow Rates

| Model | Pipe Size BSPP or NPT | Inlet Flow Rate | | | |
|---|---|---|---|---|---|
| | | L/s | $m^3$/min | $m^3$/hr | cfm |
| CDAS HL 50 | 1/2 | 15 | 0.92 | 55 | 32 |
| CDAS HL 55 | 1/2 | 19 | 1.17 | 70 | 41 |
| CDAS HL 60 | 1/2 | 25 | 1.50 | 90 | 53 |
| CDAS HL 65 | 1/2 | 31 | 1.84 | 110 | 65 |
| CDAS HL 70 | 3/4 | 42 | 2.51 | 150 | 88 |
| CDAS HL 75 | 1 | 51 | 3.09 | 185 | 109 |
| CDAS HL 80 | 1 | 61 | 3.67 | 220 | 129 |
| CDAS HL 85 | 1 1/2 | 83 | 5.01 | 300 | 177 |

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. For flows at other pressures, apply the correction factors shown below.


## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

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

**CFAT - Correction Factor Maximum Ambient Temperature**

| Maximum Ambient Temperature | °C | 25 | 30 | 35 | 40 | 45 | 50 |
|---|---|---|---|---|---|---|---|
| | °F | 77 | 86 | 95 | 104 | 113 | 122 |
| Correction Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**CFP - Correction Factor Minimum Inlet Pressure**

| Minimum Inlet Pressure | bar g | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | psi g | 58 | 73 | 87 | 100 | 116 | 131 | 145 | 160 | 174 | 189 | 203 | 218 | 232 |
| Correction Factor | | 1.60 | 1.33 | 1.14 | 1.00 | 0.89 | 0.80 | 0.73 | 0.67 | 0.62 | 0.57 | 0.53 | 0.50 | 0.47 |

**CFD - Correction Factor Dewpoint**

| Maximum Inlet Temperature | °C | -20 | -40 | -70 |
|---|---|---|---|---|
| | °F | -4 | -40 | -100 |
| Correction Factor | | 0.91 | 1.00 | 2.00 |



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## Controller Functions

| Dryer | Controller Function | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Power On Indication | Visual Fault Indication | Dewpoint Display | EST - Energy Saving Technology | Filter Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| CDAS HL | • | • | • | • | • | • | • | • |

## Included Filtration

| For Dryer Model | Pipe Size BSPP or NPT | Inlet General Purpose Pre-filter | Inlet High Efficiency Filter | Oil Vapour Removal Filter | Outlet Dust Filter |
|---|---|---|---|---|---|
| CDAS HL 50 | 1/2 | AOP015CGFI | AAP015CGFI | - | AOP015CGMI |
| CDAS HL 55 | 1/2 | AOP015CGFI | AAP015CGFI | - | AOP015CGMI |
| CDAS HL 60 | 1/2 | AOP020CGFI | AAP020CGFI | - | AOP020CGMI |
| CDAS HL 65 | 1/2 | AOP025DGFI | AAP025DGFI | - | AOP025DGMI |
| CDAS HL 70 | 3/4 | AOP025DGFI | AAP025DGFI | - | AOP025DGMI |
| CDAS HL 75 | 1 | AOP025EGFI | AAP025EGFI | - | AOP025EGMI |
| CDAS HL 80 | 1 | AOP025EGFI | AAP025EGFI | - | AOP025EGMI |
| CDAS HL 85 | 1 1/2 | AOP030GGFI | AAP030GGFI | - | AOP030GGMI |

## Parker Catalogue Numbers

| Model | Catalogue Number -20°C PDP / -40°C PDP BSPP | Catalogue Number -70°C PDP BSPP |
|---|---|---|
| CDAS HL 50 | CDASHL050-40G16AE | CDASHL050-70G16AE |
| CDAS HL 55 | CDASHL055-40G16AE | CDASHL055-70G16AE |
| CDAS HL 60 | CDASHL060-40G16AE | CDASHL060-70G16AE |
| CDAS HL 65 | CDASHL065-40G16AE | CDASHL065-70G16AE |
| CDAS HL 70 | CDASHL070-40G16AE | CDASHL070-70G16AE |
| CDAS HL 75 | CDASHL075-40G16AE | CDASHL075-70G16AE |
| CDAS HL 80 | CDASHL080-40G16AE | CDASHL080-70G16AE |
| CDAS HL 85 | CDASHL085-40G16AE | CDASHL085-70G16AE |



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# Adsorption Dryer - Heatless Oil Free Air System OFAS

## 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 | |
| OFAS HL | -40 | -40 | Class 2.2.0 | -70 | -100 | Class 2.1.0 | -20 | -4 | Class 2.3.0 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Min Operating Pressure | | Max Operating Pressure | | Min Operating Temperature | | Max Operating Temperature | | Max Ambient Temperature | | Electrical Supply (Standard) | Electrical Supply (Optional) | Filter Thread Connections | Noise Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar g | psi g | bar g | psi g | °C | °F | °C | °F | °C | °F | | | | dB(A) |
| OFAS HL 50 - 85 | 4 | 58 | 16 | 232 | 5 | 41 | 50 | 122 | 55 | 131 | 85 - 265V 1ph 50/60Hz | 24V DC | BSPP or NPT | <75 |

## Flow Rates

| Model | Pipe Size BSPP or NPT | Inlet Flow Rate | | | |
|---|---|---|---|---|---|
| | | L/s | $m^3$/min | $m^3$/hr | cfm |
| OFAS HL 50 | 1/2 | 15 | 0.92 | 55 | 32 |
| OFAS HL 55 | 1/2 | 19 | 1.17 | 70 | 41 |
| OFAS HL 60 | 1/2 | 25 | 1.50 | 90 | 53 |
| OFAS HL 65 | 1/2 | 31 | 1.84 | 110 | 65 |
| OFAS HL 70 | 3/4 | 42 | 2.51 | 150 | 88 |
| OFAS HL 75 | 1 | 51 | 3.09 | 185 | 109 |
| OFAS HL 80 | 1 | 61 | 3.67 | 220 | 129 |
| OFAS HL 85 | 1 1/2 | 83 | 5.01 | 300 | 177 |

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. For flows at other pressures, apply the correction factors shown below.


## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

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

**CFAT - Correction Factor Maximum Ambient Temperature**

| Maximum Ambient Temperature | °C | 25 | 30 | 35 | 40 | 45 | 50 |
|---|---|---|---|---|---|---|---|
| | °F | 77 | 86 | 95 | 104 | 113 | 122 |
| Correction Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**CFP - Correction Factor Minimum Inlet Pressure**

| Minimum Inlet Pressure | bar g | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | psi g | 58 | 73 | 87 | 100 | 116 | 131 | 145 | 160 | 174 | 189 | 203 | 218 | 232 |
| Correction Factor | | 1.60 | 1.33 | 1.14 | 1.00 | 0.89 | 0.80 | 0.73 | 0.67 | 0.62 | 0.57 | 0.53 | 0.50 | 0.47 |

**CFD - Correction Factor Dewpoint**

| Maximum Inlet Temperature | °C | -20 | -40 | -70 |
|---|---|---|---|---|
| | °F | -4 | -40 | -100 |
| Correction Factor | | 0.91 | 1.00 | 2.00 |



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## Controller Functions

| Dryer | Controller Function | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Power On Indication | Visual Fault Indication | Dewpoint Display | EST - Energy Saving Technology | Filter Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| OFAS HL | • | • | • | • | • | • | • | • |

## Included Filtration

| For Dryer Model | Pipe Size BSPP or NPT | Inlet General Purpose Pre-filter | Inlet High Efficiency Filter | Oil Vapour Removal Filter | Outlet Dust Filter |
|---|---|---|---|---|---|
| OFAS HL 50 | 1/2 | AOP015CGFI | AAP015CGFI | Included | AOP015CGMI |
| OFAS HL 55 | 1/2 | AOP015CGFI | AAP015CGFI | Included | AOP015CGMI |
| OFAS HL 60 | 1/2 | AOP020CGFI | AAP020CGFI | Included | AOP020CGMI |
| OFAS HL 65 | 1/2 | AOP025DGFI | AAP025DGFI | Included | AOP025DGMI |
| OFAS HL 70 | 3/4 | AOP025DGFI | AAP025DGFI | Included | AOP025DGMI |
| OFAS HL 75 | 1 | AOP025EGFI | AAP025EGFI | Included | AOP025EGMI |
| OFAS HL 80 | 1 | AOP025EGFI | AAP025EGFI | Included | AOP025EGMI |
| OFAS HL 85 | 1 1/2 | AOP030GGFI | AAP030GGFI | Included | AOP030GGMI |

## Parker Catalogue Numbers

| Model | Catalogue Number -20°C PDP / -40°C PDP BSPP | Catalogue Number -70°C PDP BSPP |
|---|---|---|
| OFAS HL 50 | OFASHL050-40G16AE | OFASHL050-70G16AE |
| OFAS HL 55 | OFASHL055-40G16AE | OFASHL055-70G16AE |
| OFAS HL 60 | OFASHL060-40G16AE | OFASHL060-70G16AE |
| OFAS HL 65 | OFASHL065-40G16AE | OFASHL065-70G16AE |
| OFAS HL 70 | OFASHL070-40G16AE | OFASHL070-70G16AE |
| OFAS HL 75 | OFASHL075-40G16AE | OFASHL075-70G16AE |
| OFAS HL 80 | OFASHL080-40G16AE | OFASHL080-70G16AE |
| OFAS HL 85 | OFASHL085-40G16AE | OFASHL085-70G16AE |



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# Adsorption Dryer - Heatless MX

## 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 | |
| MX | -40 | -40 | Class 2.2.1 | -70 | -100 | Class 2.1.1 | -20 | -4 | Class 2.3.1 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Min Operating Pressure | | Max Operating Pressure | | Min Operating Temperature | | Max Operating Temperature | | Max Ambient Temperature | | Electrical Supply (Standard) | Electrical Supply (Optional) | Thread Connections | Noise Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar g | psi g | bar g | psi g | °C | °F | °C | °F | °C | °F | | | | dB(A) |
| MX102c - 108 | 4 | 58 | 13 | 190 | 5 | 41 | 50 | 122 | 55 | 131 | 85 - 265 V 1ph 50/60Hz | N/A | BSPP or NPT | <75 |

## Flow Rates

| Model | Pipe Size | Inlet Flow Rate | | | |
|---|---|---|---|---|---|
| | | L/s | m³/min | m³/hr | cfm |
| MX ☐ 102C | 2" | 113 | 6.81 | 408 | 240 |
| MX ☐ 103C | 2" | 170 | 10.22 | 612 | 360 |
| MX ☐ 103 | 2" | 213 | 12.78 | 795 | 450 |
| MX ☐ 104 | 2 1/2" | 283 | 17 | 1020 | 600 |
| MX ☐ 105 | 2 1/2" | 354 | 21 | 1275 | 750 |
| MX ☐ 106 | 2 1/2" | 425 | 26 | 1530 | 900 |
| MX ☐ 107 | 2 1/2" | 496 | 30 | 1785 | 1050 |
| MX ☐ 108 | 2 1/2" | 567 | 34 | 2040 | 1200 |
| 2 x MX ☐ 105 | 2 1/2" | 708 | 43 | 2550 | 1500 |
| 2 x MX ☐ 106 | 2 1/2" | 850 | 51 | 3060 | 1800 |
| 2 x MX ☐ 107 | 2 1/2" | 992 | 60 | 3570 | 2100 |
| 2 x MX ☐ 108 | 2 1/2" | 1133 | 68 | 4080 | 2400 |
| 3 x MX ☐ 106 | 2 1/2" | 1275 | 77 | 4590 | 2700 |
| 3 x MX ☐ 107 | 2 1/2" | 1488 | 89 | 5355 | 3150 |
| 3 x MX ☐ 108 | 2 1/2" | 1700 | 102 | 6120 | 3600 |

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.
For flows at other pressures, apply the correction factors shown below.

## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

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

**CFAT - Correction Factor Maximum Ambient Temperature**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Maximum Ambient Temperature | °C | 25 | 30 | 35 | 40 | 45 | 50 |
| | °F | 77 | 86 | 95 | 104 | 113 | 122 |
| Correction Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**CFP - Correction Factor Minimum Inlet Pressure**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| Correction Factor | | 1.33 | 1.14 | 1.00 | 0.89 | 0.80 | 0.73 | 0.67 | 0.62 | 0.57 |

**CFD - Correction Factor Dewpoint**

| | | | | |
|---|---|---|---|---|
| Maximum Inlet Temperature | °C | -20 | -40 | -70 |
| | °F | -4 | -40 | -100 |
| Correction Factor | | 0.91 | 1 | 1.43 |



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## Controller Functions

| Dryer | Controller Function | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Power On Indication | Visual Fault Indication | Dewpoint Display | DDS - Energy Saving Technology | Filter Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| MXS | • | | | | | • | | |
| MXS DS | • | • | • | | | • | | Option |
| MXA | • | • | • | • | • | • | • | • |

## Important Notes Regarding the Ordering of MX dryers

Please note that when ordering MX heatless dryers, the following items must be ordered separately.

- Dryer Model
- Inlet / Outlet Flange kit (BSPP or NPT)
- Pre / Post Filtration (Grades AO / AA/ AO)
- FCD (Flow Control Device) - only required for multi-bank installations
- QRV - Quick Re-presurisation Valve Part Number 608203833 is required for operating pressures above 9 bar g

## Parker Catalogue Numbers

| | MX | | MX / DS | | MX ADVANCED | | MXP Pneumatic | |
|---|---|---|---|---|---|---|---|---|
| | Catalogue Number | GSFE Ref | Catalogue Number | GSFE Ref | Catalogue Number | GSFE Ref | Catalogue Number | GSFE Ref |
| -20 | MXS102C-20 | 612620102 | MXS102CDS-20 | 712621102 | MXA102C-20 | 612646102 | MXP102C-20-ATEX | 662630102 |
| | MXS103C-20 | 612620103 | MXS103CDS-20 | 712621103 | MXA103C-20 | 612646103 | MXP103C-20-ATEX | 662630103 |
| | MXS103-20 | 612620123 | MXS103DS-20 | 712621123 | MXA103-20 | 712646123 | MXP103-20-ATEX | 662630123 |
| | MXS104-20 | 612620124 | MXS104DS-20 | 712621124 | MXA104-20 | 712646124 | MXP104-20-ATEX | 662630124 |
| | MXS105-20 | 612620125 | MXS105DS-20 | 612621125 | MXA105-20 | 612646125 | MXP105-20-ATEX | 662630125 |
| | MXS106-20 | 612620126 | MXS106DS-20 | 712621126 | MXA106-20 | 612646126 | MXP106-20-ATEX | 662630126 |
| | MXS107-20 | 612620127 | MXS107DS-20 | 612621127 | MXA107-20 | 712646127 | MXP107-20-ATEX | 662630127 |
| | MXS108-20 | 612620128 | MXS108DS-20 | 712621128 | MXA108-20 | 612646128 | MXP108-20-ATEX | 662630128 |
| -40 | MXS102C-40 | 714620102 | MXS102CDS-40 | 714621102 | MXA102C-40 | 714646102 | MXP102C-40-ATEX | 664630102 |
| | MXS103C-40 | 714620103 | MXS103CDS-40 | 714621103 | MXA103C-40 | 714646103 | MXP103C-40-ATEX | 664630103 |
| | MXS103-40 | 714620123 | MXS103DS-40 | 714621123 | MXA103-40 | 714646123 | MXP103-40-ATEX | 664630123 |
| | MXS104-40 | 714620124 | MXS104DS-40 | 714621124 | MXA104-40 | 714646124 | MXP104-40-ATEX | 664630124 |
| | MXS105-40 | 714620125 | MXS105DS-40 | 714621125 | MXA105-40 | 714646125 | MXP105-40-ATEX | 664630125 |
| | MXS106-40 | 714620126 | MXS106DS-40 | 714621126 | MXA106-40 | 714646126 | MXP106-40-ATEX | 664630126 |
| | MXS107-40 | 714620127 | MXS107DS-40 | 714621127 | MXA107-40 | 714646127 | MXP107-40-ATEX | 664630127 |
| | MXS108-40 | 714620128 | MXS108DS-40 | 714621128 | MXA108-40 | 714646128 | MXP108-40-ATEX | 664630128 |
| -70 | MXS102C-70 | 717620102 | MXS102CDS-70 | 717621102 | MXA102C-70 | 617646102 | MXP102C-70-ATEX | 667630102 |
| | MXS103C-70 | 617620103 | MXS103CDS-70 | 717621103 | MXA103C-70 | 717646103 | MXP103C-70-ATEX | 667630103 |
| | MXS103-70 | 717620123 | MXS103DS-70 | 717621123 | MXA103-70 | 717646123 | MXP103-70-ATEX | 667630123 |
| | MXS104 -70 | 617620124 | MXS104DS-70 | 717621124 | MXA104-70 | 617646124 | MXP104-70-ATEX | 667630124 |
| | MXS105 -70 | 617620125 | MXS105DS-70 | 617621125 | MXA105-70 | 717646125 | MXP105-70-ATEX | 667630125 |
| | MXS106-70 | 717620126 | MXS106DS-70 | 617621126 | MXA106-70 | 717646126 | MXP106-70-ATEX | 667630126 |
| | MXS107-70 | 717620127 | MXS107DS-70 | 717621127 | MXA107-70 | 617646127 | MXP107-70-ATEX | 667630127 |
| | MXS108 -70 | 617620128 | MXS108DS-70 | 717621128 | MXA108-70 | 617646128 | MXP108-70-ATEX | 667630128 |

**The dryer codes above do not include filtration - Please order filters separately**

## Required Filtration

| For Dryer Model | Pipe Size BSPP or NPT | Inlet General Purpose Pre-filter | Inlet High Efficiency Filter | Oil Vapour Removal Filter | Outlet Dust Filter |
|---|---|---|---|---|---|
| MX ☐ 102C | 2" | AOP040HGFX | AAP040HGFX | * | AOP040HGMX |
| MX ☐ 103C | 2" | AOP040HGFX | AAP040HGFX | * | AOP040HGMX |
| MX ☐ 103 | 2" | AOP040HGFX | AAP040HGFX | * | AOP040HGMX |
| MX ☐ 104 | 2½" | AOP045IGFX | AAP045IGFX | * | AOP045IGMX |
| MX ☐ 105 | 2½" | AOP050IGFX | AAP050IGFX | * | AOP050IGMX |
| MX ☐ 106 | 2½" | AOP050IGFX | AAP050IGFX | * | AOP050IGMX |
| MX ☐ 107 | 2½" | AOP055IGFX | AAP055IGFX | * | AOP055IGMX |
| MX ☐ 108 | 2½" | AOP055IGFX | AAP055IGFX | * | AOP055IGMX |

***Note:** 'Technically Oil Free Air' to ISO8573-1:2010 Class 0 (<0.003 mg/m$^3$) for Total Oil can be easily achieved by selecting an optional OIL-X OVR grade filter (refer to pages 7-8 of this document).



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# Flow Control Device

## Why do I need a Flow Control Device for multi-bank installations?

When the compressed air requirements of a facility requires the installation of more than one single MX dryer, flow control devices (known as FCD's or sonic nozzles) must be fitted to the outlet of each dryer to protect it from overflow or preferential flow.

FCD's are sized to an installation and are designed to provide no more than 125% of the outlet flow of the dryer. If the system usage tries to overflow the dryer by more than 125% the FCD will restrict air flow, increasing differential pressure.

### Benefits of fitting a Flow Control Device:

- Prevents preferential or significant overflow of the dryer
- Helps to maintain a constant outlet pressure dewpoint
- Indicates by high pressure drop when system demand exceeds rated capacity

Example of a multi-bank installation

### Flanged Connection Kits for MX dryers

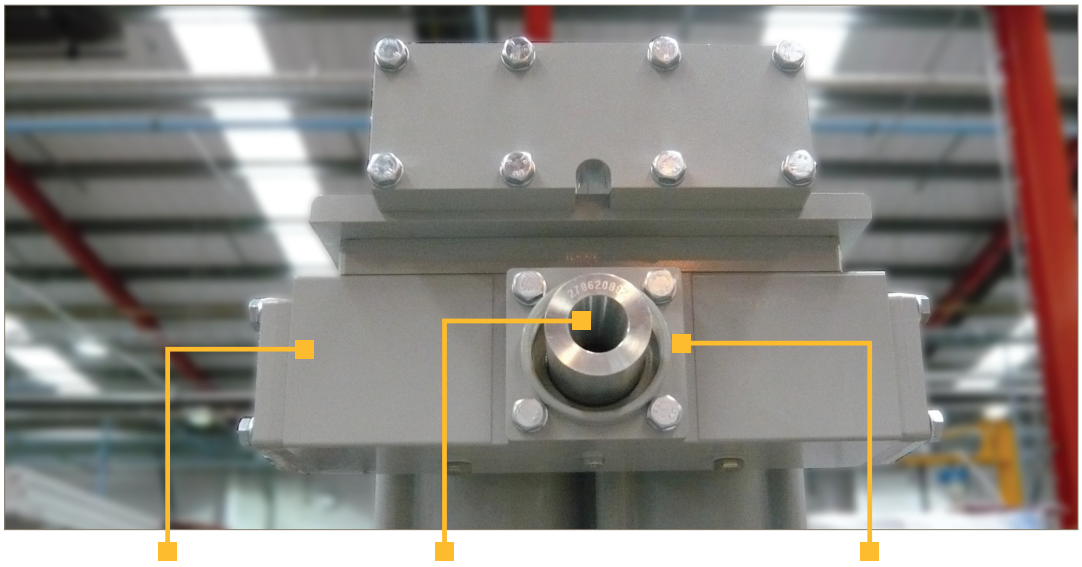
MX dryers do not include an inlet / outlet connection. When ordering an MX dryer the flanged connection kit must be ordered in addition to the dryer and must match the connection sizes of the inlet & outlet filtration.

When more than one dryer is installed (multi-bank installation), a Flow Control Device (FCD) is also required. The FCD will fit inside the outlet flange. Please order the appropriate inlet / outlet connection kit from the list below and FCD from the tables on the following pages.

**The MX102c – MX103 dryers have 2" connections**
608620076 FCD threaded connection 2" BSPP
608620078 FCD threaded connection 2" NPT

**The MX104 – MX108 dryers have 2.5" connections**
608620077 FCD threaded connection 2 ½" BSPP
608620079 FCD threaded connection 2 ½" NPT

608620077 thread connection kit (outlet flange on left)



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## Flow Control Device (FCD) Product Selection for MX Heatless dryer

To size FCD's correctly, the following information is required:

- Dryer Model
- Dewpoint dryer has been sized to deliver
- Minimum Inlet pressure
- Maximum Inlet Temperature

### Sizing Example

The customer orders 2 x MXS108 and requires BSPP connections. The site parameters are an inlet temperature of 35°C, inlet pressure of 7 bar g, and a pressure dewpoint of -40°C. The FCD is 608620053, and the correct flange kit is 608620077.

| 35°C Inlet Temperature -20°C PDP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pressure | MX 102c | MX 103c | MX 103 | MX 104 | MX 105 | MX 106 | MX 107 | MX 108 |
| 4 bar | 608620009 | 608620014 | 608620017 | 608620021 | 608620043 | 608620046 | 608620049 | 608620052 |
| 5 bar | 608620010 | 608620015 | 608620018 | 608620022 | 608620044 | 608620048 | 608620051 | 608620054 |
| 6 bar | 608620011 | 608620015 | 608620018 | 608620023 | 608620045 | 608620048 | 608620052 | 608620055 |
| 7 bar | 608620011 | 608620016 | 608620019 | 608620023 | 608620045 | 608620049 | 608620052 | 608620056 |
| 8 bar | 608620011 | 608620016 | 608620019 | 608620024 | 608620046 | 608620050 | 608620053 | 608620056 |
| 9 bar | 608620011 | 608620016 | 608620020 | 608620024 | 608620046 | 608620050 | 608620053 | 608620057 |
| 10 bar | 608620012 | 608620017 | 608620020 | 608620024 | 608620047 | 608620050 | 608620054 | 608620057 |
| 11 bar | 608620012 | 608620017 | 608620020 | 608620025 | 608620047 | 608620051 | 608620054 | 608620057 |
| 12 bar | 608620012 | 608620017 | 608620020 | 608620025 | 608620047 | 608620051 | 608620054 | Contact Pdh |
| 13 bar | 608620012 | 608620017 | 608620020 | 608620025 | 608620047 | 608620051 | 608620054 | Contact Pdh |

| 35°C Inlet Temperature -40°C PDP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pressure | MX 102c | MX 103c | MX 103 | MX 104 | MX 105 | MX 106 | MX 107 | MX 108 |
| 4 bar | 608620008 | 608620012 | 608620015 | 608620019 | 608620040 | 608620044 | 608620047 | 608620049 |
| 5 bar | 608620009 | 608620013 | 608620016 | 608620020 | 608620042 | 608620045 | 608620048 | 608620051 |
| 6 bar | 608620009 | 608620014 | 608620017 | 608620021 | 608620043 | 608620046 | 608620049 | 608620052 |
| 7 bar | 608620010 | 608620014 | 608620017 | 608620022 | 608620043 | 608620047 | 608620050 | 608620053 |
| 8 bar | 608620010 | 608620015 | 608620018 | 608620022 | 608620044 | 608620047 | 608620050 | 608620053 |
| 9 bar | 608620010 | 608620015 | 608620018 | 608620022 | 608620044 | 608620048 | 608620051 | 608620054 |
| 10 bar | 608620010 | 608620015 | 608620018 | 608620023 | 608620044 | 608620048 | 608620051 | 608620054 |
| 11 bar | 608620011 | 608620015 | 608620018 | 608620023 | 608620045 | 608620048 | 608620052 | 608620055 |
| 12 bar | 608620011 | 608620015 | 608620019 | 608620023 | 608620045 | 608620049 | 608620052 | 608620055 |
| 13 bar | 608620011 | 608620016 | 608620019 | 608620023 | 608620045 | 608620049 | 608620052 | 608620055 |

| 35°C Inlet Temperature -70°C PDP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pressure | MX 102c | MX 103c | MX 103 | MX 104 | MX 105 | MX 106 | MX 107 | MX 108 |
| 4 bar | 608620008 | 608620012 | 608620015 | 608620019 | 608620040 | 608620044 | 608620047 | 608620049 |
| 5 bar | 608620009 | 608620013 | 608620016 | 608620020 | 608620042 | 608620045 | 608620048 | 608620051 |
| 6 bar | 608620009 | 608620014 | 608620017 | 608620021 | 608620043 | 608620046 | 608620049 | 608620052 |
| 7 bar | 608620010 | 608620014 | 608620017 | 608620022 | 608620043 | 608620047 | 608620050 | 608620053 |
| 8 bar | 608620010 | 608620015 | 608620018 | 608620022 | 608620044 | 608620047 | 608620050 | 608620053 |
| 9 bar | 608620010 | 608620015 | 608620018 | 608620022 | 608620044 | 608620048 | 608620051 | 608620054 |
| 10 bar | 608620010 | 608620015 | 608620018 | 608620023 | 608620044 | 608620048 | 608620051 | 608620054 |
| 11 bar | 608620011 | 608620015 | 608620018 | 608620023 | 608620045 | 608620048 | 608620052 | 608620055 |
| 12 bar | 608620011 | 608620015 | 608620019 | 608620023 | 608620045 | 608620049 | 608620052 | 608620055 |
| 13 bar | 608620011 | 608620016 | 608620019 | 608620023 | 608620045 | 608620049 | 608620052 | 608620055 |



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| 40°C Inlet Temperature -20°C PDP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pressure | MX 102c | MX 103c | MX 103 | MX 104 | MX 105 | MX 106 | MX 107 | MX 108 |
| 4 bar | 608620009 | 608620014 | 608620016 | 608620021 | 608620042 | 608620046 | 608620049 | 608620051 |
| 5 bar | 608620010 | 608620014 | 608620017 | 608620022 | 608620043 | 608620047 | 608620050 | 608620053 |
| 6 bar | 608620010 | 608620015 | 608620018 | 608620022 | 608620044 | 608620048 | 608620051 | 608620054 |
| 7 bar | 608620011 | 608620015 | 608620018 | 608620023 | 608620045 | 608620048 | 608620052 | 608620055 |
| 8 bar | 608620011 | 608620016 | 608620019 | 608620023 | 608620045 | 608620049 | 608620052 | 608620055 |
| 9 bar | 608620011 | 608620016 | 608620019 | 608620024 | 608620046 | 608620049 | 608620053 | 608620056 |
| 10 bar | 608620011 | 608620016 | 608620019 | 608620024 | 608620046 | 608620050 | 608620053 | 608620056 |
| 11 bar | 608620011 | 608620016 | 608620020 | 608620024 | 608620046 | 608620050 | 608620053 | 608620057 |
| 12 bar | 608620012 | 608620017 | 608620020 | 608620024 | 608620047 | 608620050 | 608620054 | 608620057 |
| 13 bar | 608620011 | 608620017 | 608620020 | 608620025 | 608620047 | 608620050 | 608620054 | 608620057 |

| 40°C Inlet Temperature -40°C PDP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pressure | MX 102c | MX 103c | MX 103 | MX 104 | MX 105 | MX 106 | MX 107 | MX 108 |
| 4 bar | 608620008 | 608620012 | 608620015 | 608620018 | 608620040 | 608620043 | 608620046 | 608620048 |
| 5 bar | 608620009 | 608620013 | 608620016 | 608620020 | 608620042 | 608620044 | 608620047 | 608620050 |
| 6 bar | 608620009 | 608620013 | 608620016 | 608620020 | 608620043 | 608620045 | 608620048 | 608620051 |
| 7 bar | 608620009 | 608620014 | 608620017 | 608620021 | 608620043 | 608620046 | 608620059 | 608620052 |
| 8 bar | 608620010 | 608620014 | 608620017 | 608620021 | 608620044 | 608620047 | 608620050 | 608620053 |
| 9 bar | 608620010 | 608620015 | 608620017 | 608620022 | 608620044 | 608620047 | 608620050 | 608620053 |
| 10 bar | 608620010 | 608620015 | 608620018 | 608620022 | 608620044 | 608620047 | 608620051 | 608620054 |
| 11 bar | 608620010 | 608620015 | 608620018 | 608620022 | 608620045 | 608620048 | 608620051 | 608620054 |
| 12 bar | 608620010 | 608620015 | 608620018 | 608620023 | 608620045 | 608620048 | 608620051 | 608620054 |
| 13 bar | 608620010 | 608620015 | 608620018 | 608620023 | 608620045 | 608620048 | 608620051 | 608620054 |

| 40°C Inlet Temperature -70°C PDP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pressure | MX 102c | MX 103c | MX 103 | MX 104 | MX 105 | MX 106 | MX 107 | MX 108 |
| 4 bar | 608620003 | 608620006 | 608620008 | 608620011 | 608620032 | 608620034 | 608620036 | 608620038 |
| 5 bar | 608620004 | 608620007 | 608620009 | 608620013 | 608620033 | 608620036 | 608620038 | 608620040 |
| 6 bar | 608620005 | 608620008 | 608620010 | 608620014 | 608620034 | 608620037 | 608620039 | 608620042 |
| 7 bar | 608620005 | 608620009 | 608620011 | 608620014 | 608620035 | 608620038 | 608620040 | 608620043 |
| 8 bar | 608620006 | 608620009 | 608620012 | 608620015 | 608620036 | 608620039 | 608620041 | 608620043 |
| 9 bar | 608620006 | 608620010 | 608620012 | 608620015 | 608620036 | 608620039 | 608620042 | 608620044 |
| 10 bar | 608620006 | 608620010 | 608620012 | 608620016 | 608620037 | 608620040 | 608620042 | 608620045 |
| 11 bar | 608620006 | 608620010 | 608620012 | 608620016 | 608620037 | 608620040 | 608620043 | 608620045 |
| 12 bar | 608620006 | 608620010 | 608620013 | 608620016 | 608620037 | 608620040 | 608620043 | 608620045 |
| 13 bar | 608620007 | 608620010 | 608620013 | 608620016 | 608620038 | 608620041 | 608620043 | 608620046 |



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| 45°C Inlet Temperature -20°C PDP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pressure | MX 102c | MX 103c | MX 103 | MX 104 | MX 105 | MX 106 | MX 107 | MX 108 |
| 4 bar | 608620008 | 608620012 | 608620015 | 608620019 | 608620040 | 608620043 | 608620046 | 608620049 |
| 5 bar | 608620009 | 608620013 | 608620016 | 608620020 | 608620041 | 608620044 | 608620047 | 608620050 |
| 6 bar | 608620009 | 608620014 | 608620016 | 608620021 | 608620042 | 608620045 | 608620049 | 608620051 |
| 7 bar | 608620009 | 608620014 | 608620017 | 608620021 | 608620043 | 608620046 | 608620049 | 608620052 |
| 8 bar | 608620010 | 608620014 | 608620017 | 608620022 | 608620043 | 608620047 | 608620050 | 608620053 |
| 9 bar | 608620010 | 608620015 | 608620018 | 608620022 | 608620044 | 608620047 | 608620050 | 608620053 |
| 10 bar | 608620010 | 608620015 | 608620018 | 608620022 | 608620044 | 608620048 | 608620051 | 608620054 |
| 11 bar | 608620010 | 608620015 | 608620018 | 608620022 | 608620044 | 608620048 | 608620051 | 608620054 |
| 12 bar | 608620010 | 608620015 | 608620018 | 608620023 | 608620045 | 608620048 | 608620051 | 608620054 |
| 13 bar | 608620011 | 608620015 | 608620018 | 608620023 | 608620045 | 608620048 | 608620051 | 608620054 |

| 45°C Inlet Temperature -40°C PDP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pressure | MX 102c | MX 103c | MX 103 | MX 104 | MX 105 | MX 106 | MX 107 | MX 108 |
| 4 bar | 608620007 | 608620010 | 608620013 | 608620016 | 608620038 | 608620041 | 608620043 | 608620046 |
| 5 bar | 608620007 | 608620011 | 608620014 | 608620018 | 608620039 | 608620042 | 608620045 | 608620047 |
| 6 bar | 608620008 | 608620012 | 608620015 | 608620019 | 608620040 | 608620043 | 608620046 | 608620049 |
| 7 bar | 608620008 | 608620013 | 608620015 | 608620019 | 608620041 | 608620044 | 608620047 | 608620050 |
| 8 bar | 608620009 | 608620013 | 608620016 | 608620020 | 608620041 | 608620045 | 608620047 | 608620050 |
| 9 bar | 608620009 | 608620013 | 608620016 | 608620020 | 608620042 | 608620045 | 608620048 | 608620051 |
| 10 bar | 608620009 | 608620013 | 608620016 | 608620020 | 608620042 | 608620045 | 608620048 | 608620051 |
| 11 bar | 608620009 | 608620014 | 608620016 | 608620021 | 608620042 | 608620046 | 608620049 | 608620052 |
| 12 bar | 608620009 | 608620014 | 608620017 | 608620021 | 608620042 | 608620046 | 608620049 | 608620052 |
| 13 bar | 608620009 | 608620014 | 608620017 | 608620021 | 608620043 | 608620046 | 608620049 | 608620052 |

| 45°C Inlet Temperature -70°C PDP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pressure | MX 102c | MX 103c | MX 103 | MX 104 | MX 105 | MX 106 | MX 107 | MX 108 |
| 4 bar | 608620002 | 608620005 | 608620007 | 608620009 | 608620029 | 608620032 | 608620033 | 608620035 |
| 5 bar | 608620003 | 608620006 | 608620008 | 608620011 | 608620031 | 608620034 | 608620036 | 608620038 |
| 6 bar | 608620004 | 608620007 | 608620009 | 608620012 | 608620033 | 608620035 | 608620037 | 608620039 |
| 7 bar | 608620004 | 608620008 | 608620010 | 608620013 | 608620034 | 608620036 | 608620038 | 608620040 |
| 8 bar | 608620005 | 608620008 | 608620010 | 608620013 | 608620034 | 608620037 | 608620039 | 608620041 |
| 9 bar | 608620005 | 608620008 | 608620011 | 608620014 | 608620035 | 608620037 | 608620040 | 608620042 |
| 10 bar | 608620005 | 608620009 | 608620011 | 608620014 | 608620035 | 608620038 | 608620040 | 608620042 |
| 11 bar | 608620005 | 608620009 | 608620011 | 608620015 | 608620036 | 608620038 | 608620041 | 608620043 |
| 12 bar | 608620006 | 608620009 | 608620011 | 608620015 | 608620036 | 608620039 | 608620041 | 608620043 |
| 13 bar | 608620006 | 608620009 | 608620012 | 608620015 | 608620036 | 608620039 | 608620041 | 608620044 |



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| 50°C Inlet Temperature -20°C PDP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pressure | MX 102c | MX 103c | MX 103 | MX 104 | MX 105 | MX 106 | MX 107 | MX 108 |
| 4 bar | 608620005 | 608620009 | 608620011 | 608620015 | 608620036 | 608620038 | 608620041 | 608620043 |
| 5 bar | 608620006 | 608620010 | 608620012 | 608620026 | 608620037 | 608620040 | 608620043 | 608620045 |
| 6 bar | 608620007 | 608620011 | 608620013 | 608620017 | 608620038 | 608620041 | 608620044 | 608620046 |
| 7 bar | 608620007 | 608620011 | 608620014 | 608620018 | 608620039 | 608620042 | 608620045 | 608620047 |
| 8 bar | 608620008 | 608620012 | 608620014 | 608620018 | 608620040 | 608620043 | 608620045 | 608620048 |
| 9 bar | 608620008 | 608620012 | 608620015 | 608620019 | 608620040 | 608620043 | 608620046 | 608620049 |
| 10 bar | 608620008 | 608620012 | 608620015 | 608620019 | 608620040 | 608620043 | 608620046 | 608620049 |
| 11 bar | 608620008 | 608620012 | 608620015 | 608620019 | 608620041 | 608620044 | 608620047 | 608620049 |
| 12 bar | 608620008 | 608620013 | 608620015 | 608620019 | 608620041 | 608620044 | 608620047 | 608620050 |
| 13 bar | 608620008 | 608620013 | 608620016 | 608620020 | 608620041 | 608620044 | 608620047 | 608620050 |

| 50°C Inlet Temperature -40°C PDP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pressure | MX 102c | MX 103c | MX 103 | MX 104 | MX 105 | MX 106 | MX 107 | MX 108 |
| 4 bar | 608620004 | 608620007 | 608620010 | 608620013 | 608620033 | 608620036 | 608620038 | 608620040 |
| 5 bar | 608620005 | 608620009 | 608620011 | 608620014 | 608620035 | 608620038 | 608620040 | 608620042 |
| 6 bar | 608620006 | 608620009 | 608620012 | 608620015 | 608620036 | 608620039 | 608620041 | 608620044 |
| 7 bar | 608620006 | 608620010 | 608620012 | 608620016 | 608620037 | 608620040 | 608620042 | 608620045 |
| 8 bar | 608620007 | 608620010 | 608620013 | 608620016 | 608620038 | 608620040 | 608620043 | 608620046 |
| 9 bar | 608620007 | 608620011 | 608620013 | 608620017 | 608620038 | 608620041 | 608620044 | 608620046 |
| 10 bar | 608620007 | 608620011 | 608620013 | 608620017 | 608620038 | 608620041 | 608620044 | 608620047 |
| 11 bar | 608620007 | 608620011 | 608620014 | 608620017 | 608620039 | 608620042 | 608620044 | 608620047 |
| 12 bar | 608620007 | 608620011 | 608620014 | 608620018 | 608620039 | 608620042 | 608620045 | 608620047 |
| 13 bar | 608620007 | 608620012 | 608620014 | 608620018 | 608620039 | 608620042 | 608620045 | 608620048 |

| 50°C Inlet Temperature -70°C PDP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pressure | MX 102c | MX 103c | MX 103 | MX 104 | MX 105 | MX 106 | MX 107 | MX 108 |
| 4 bar | 608620001 | 608620002 | 608620003 | 608620005 | 608620028 | 608620027 | 608620028 | 608620030 |
| 5 bar | 608620001 | 608620003 | 608620005 | 608620007 | 608620028 | 608620029 | 608620031 | 608620033 |
| 6 bar | 608620002 | 608620004 | 608620006 | 608620009 | 608620029 | 608620031 | 608620033 | 608620035 |
| 7 bar | 608620002 | 608620005 | 608620007 | 608620010 | 608620030 | 608620032 | 608620034 | 608620036 |
| 8 bar | 608620003 | 608620006 | 608620008 | 608620010 | 608620031 | 608620033 | 608620035 | 608620037 |
| 9 bar | 608620003 | 608620006 | 608620008 | 608620011 | 608620031 | 608620034 | 608620036 | 608620038 |
| 10 bar | 608620003 | 608620006 | 608620008 | 608620011 | 608620032 | 608620034 | 608620036 | 608620038 |
| 11 bar | 608620004 | 608620007 | 608620009 | 608620012 | 608620032 | 608620035 | 608620037 | 608620039 |
| 12 bar | 608620004 | 608620007 | 608620009 | 608620012 | 608620033 | 608620035 | 608620037 | 608620039 |
| 13 bar | 608620004 | 608620007 | 608620009 | 608620012 | 608620033 | 608620035 | 608620038 | 608620040 |



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## MX Heatless Dryers

**Does the dryer have a fault alarm relay fitted?**
Yes, a single pole fault relay is fitted as standard.

**Are the inlet valves normally open or normally closed?**
The inlet valves on the MX dryer are normally closed as standard.

**What is the power requirement of the dryer?**
MXS, MXSDS = 15W. MXA = 35W.

**What IP rating is the dryer?**
IP65.

**Is a QRV (Quick Re-pressurisation Valve) fitted as standard?**
No, if the inlet pressure is equal to or greater than 9 bar, a QRV must be ordered with the dryer. Part Number: 608203833.

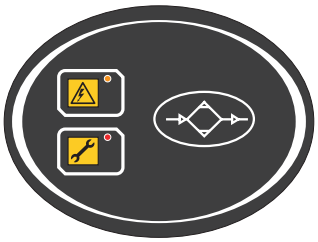
**Why do I have 3 sets of purge plates in the packing crate?**
As standard the dryer will be factory fitted with the 7 bar purge plates. If you are operating the dryer at a different pressure please use the appropriate purge plate.

**MX Displays**
MXS – The MXS display provides power and service interval indicators.

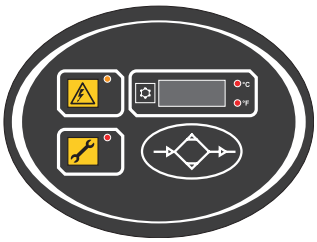
MXS/DS - In addition to the power supply and service interval indicators the dryer comes complete with a digital display. It will display dewpoint and has a ECO display when the dryer is in energy saving mode.

MXA – The advanced controller provides a complete system overview on an LCD status display screen.

## Controllers

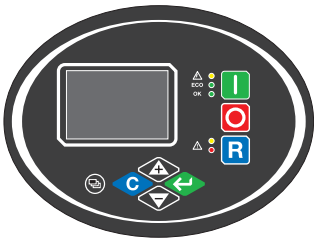


**MXS Controller**
Power On LED
Service interval LED
Volt free fault alarm



**MXS DS Controller**
Dewpoint Display
ECO - DDS active display
Sensor failure indication

**Option**
4-20mA dewpoint re-transmission




**Advanced Controller**
Power On LED
Dryer OK LED
DDS LED
Warning LED
Fault LED

**System status display**
10cm LCD display
Inlet temperature
Inlet pressure
Outlet PDP
Service interval indication
Fault messages
4-20m Amp pressure output
Volt free general alarm
Volt free dewpoint alarm



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# Adsorption Dryer - Heatless KE-MT

## 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 | |
| KE-MT | -40 | -40 | Class 2.2.2 | -70 | -100 | Class 2.1.2 | -20 | -4 | Class 2.3.2 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Min Operating Pressure | | Max Operating Pressure | | Min Operating Temperature | | Max Operating Temperature | | Max Ambient Temperature | | Electrical Supply (Standard) | Electrical Supply (Optional) | Thread Connections | Noise Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar g | psi g | bar g | psi g | °C | °F | °C | °F | °C | °F | | | | dB(A) |
| KE-MT 250 - 600 | 5 | 73 | 10 | 145 | 1.5 | 35 | 50 | 122 | 55 | 131 | 230V 1ph 50Hz | NA | DIN Flange | <75 |

## Flow Rates

| Model | Pipe Size | Inlet Flow Rate | | | |
|---|---|---|---|---|---|
| | | L/s | $m^3$/min | $m^3$/hr | cfm |
| KE-MT250 | DN 80 | 695 | 42 | 2500 | 1472 |
| KE-MT300 | DN 80 | 833 | 50 | 3000 | 1766 |
| KE-MT380 | DN 100 | 1056 | 63 | 3800 | 2237 |
| KE-MT500 | DN 100 | 1347 | 81 | 4850 | 2855 |
| KE-MT600 | DN 125 | 1695 | 102 | 6100 | 3590 |

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. For flows at other pressures, apply the correction factors shown below.

## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

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

**CFAT - Correction Factor Maximum Ambient Temperature**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Maximum Ambient Temperature | °C | 25 | 30 | 35 | 40 | 45 | 50 |
| | °F | 77 | 86 | 95 | 104 | 113 | 122 |
| Correction Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**CFP - Correction Factor Minimum Inlet Pressure**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Minimum Inlet Pressure | bar g | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | psi g | 58 | 73 | 87 | 100 | 116 | 131 | 145 | 160 | 174 | 189 |
| Correction Factor | | 1.60 | 1.33 | 1.14 | 1.00 | 0.89 | 0.80 | 0.73 | 0.67 | 0.62 | 0.57 |

**CFD - Correction Factor Dewpoint**

| | | | | |
|---|---|---|---|---|
| Maximum Inlet Temperature | °C | -20 | -40 | -70 |
| | °F | -4 | -40 | -100 |
| Correction Factor | | 0.91 | 1.00 | 1.43 |



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## Controller Functions

| Dryer | Controller Function | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Power On Indication | Visual Fault Indication | Dewpoint Display | EST - Energy Saving Technology | Filter Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| KE-MT | • | | • (option) | • (option) | | | | |

## Required Filtration

| For Dryer Model | Pipe Size | Inlet General Purpose Pre-filter | Inlet High Efficiency Filter | Oil Vapour Removal Filter | Outlet Dust Filter |
|---|---|---|---|---|---|
| KE-MT250 | DN 80 | A0070ODFX | AA070ODFX | - | A0070ODMX |
| KE-MT300 | DN 80 | A0070ODFX | AA070ODFX | - | A0070ODMX |
| KE-MT380 | DN 100 | A0070ODFX | AA070ODFX | - | A0070ODMX |
| KE-MT500 | DN 100 | A0075PDFX | AA075PDFX | - | A0075PDMX |
| KE-MT600 | DN 100 | A0075PDFX | AA075PDFX | - | A0075PDMX |

## Parker Catalogue Numbers

| Model | Catalogue Number Standard | Catalogue Number With Dewpoint Control |
|---|---|---|
| KE-MT250 | K250/10D1-F230M | K250/10D1-F230MT |
| KE-MT300 | K300/10D1-F230M | K300/10D1-F230MT |
| KE-MT380 | K380/10D1-F230M | K380/10D1-F230MT |
| KE-MT500 | K500/10D1-F230M | K500/10D1-F230MT |
| KE-MT600 | K600/10D1-F230M | K600/10D1-F230MT |



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# Adsorption Dryer - Heatless Low Energy - MXLE

## 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 2.2.1 | -70 | -100 | Class 2.1.1 | -20 | -4 | Class 2.3.1 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Min Operating Pressure | | Max Operating Pressure | | Min Operating Temperature | | Max Operating Temperature | | Max Ambient Temperature | | Electrical Supply (Standard) | Electrical Supply (Optional) | Thread Connections | Noise Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar g | psi g | bar g | psi g | °C | °F | °C | °F | °C | °F | | | | dB(A) |
| MXLE 102c - 108 | 5 | 73 | 13 | 190 | 5 | 41 | 50 | 122 | 55 | 131 | 400V +/-10% 3PH 50Hz | 460V +/-10% 3PH 60Hz | BSPP | <75 |

## Flow Rates

| Model | Pipe Size | Inlet Flow Rate | | | |
|---|---|---|---|---|---|
| | | L/s | $m^3$/min | $m^3$/hr | cfm |
| MXLE 102C | 2" | 113 | 6.81 | 408 | 240 |
| MXLE 103C | 2" | 170 | 10.22 | 612 | 360 |
| MXLE 103 | 2" | 213 | 12.78 | 795 | 450 |
| MXLE 104 | 2 1/2" | 283 | 17 | 1020 | 600 |
| MXLE 105 | 2 1/2" | 354 | 21 | 1275 | 750 |
| MXLE 106 | 2 1/2" | 425 | 26 | 1530 | 900 |
| MXLE 107 | 2 1/2" | 496 | 30 | 1785 | 1050 |
| MXLE 108 | 2 1/2" | 567 | 34 | 2040 | 1200 |

## Vacuum Pump kW

| Model | kW 50Hz Pump | kW 60Hz Pump |
|---|---|---|
| MXLE 102C | 3 | 4.8 |
| MXLE 103C | 3 | 4.8 |
| MXLE 103 | 4 | 6.5 |
| MXLE 104 | 5.5 | 9 |
| MXLE 105 | 5.5 | 9 |
| MXLE 106 | 8 | 13 |
| MXLE 107 | 9.5 | 15.5 |
| MXLE 108 | 9.5 | 15.5 |

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.
For flows at other pressures, apply the correction factors shown below.

## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

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

**CFAT - Correction Factor Maximum Ambient Temperature**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Maximum Ambient Temperature | °C | 25 | 30 | 35 | 40 | 45 | 50 |
| | °F | 77 | 86 | 95 | 104 | 113 | 122 |
| Correction Factor | | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**CFP - Correction Factor Minimum Inlet Pressure**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| Correction Factor | | 1.33 | 1.14 | 1.00 | 0.89 | 0.80 | 0.73 | 0.67 | 0.62 | 0.57 |

**CFD - Correction Factor Dewpoint**

| | | | | |
|---|---|---|---|---|
| Maximum Inlet Temperature | °C | -20 | -40 | -70 |
| | °F | -4 | -40 | -100 |
| Correction Factor | | 0.91 | 1 | 1.43 |



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## Controller Functions

| Dryer | Controller Function | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Power On Indication | Visual Fault Indication | Dewpoint Display | EST - Energy Saving Technology | Filter Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| MXLE | • | • | • | • | | • | • | • |

## Included Filtration

| For Dryer Model | Pipe Size BSPP | Inlet General Purpose Pre-filter | Inlet High Efficiency Filter | Oil Vapour Removal Filter | Outlet Dust Filter |
|---|---|---|---|---|---|
| MXLE 102C | 2" | AOP040HGFX | AAP040HGFX | * | AOP040HGMX |
| MXLE 103C | 2" | AOP040HGFX | AAP040HGFX | * | AOP040HGMX |
| MXLE 103 | 2" | AOP040HGFX | AAP040HGFX | * | AOP040HGMX |
| MXLE 104 | 2½" | AOP045IGFX | AAP045IGFX | * | AOP045IGMX |
| MXLE 105 | 2½" | AOP050IGFX | AAP050IGFX | * | AOP050IGMX |
| MXLE 106 | 2½" | AOP050IGFX | AAP050IGFX | * | AOP050IGMX |
| MXLE 107 | 2½" | AOP055IGFX | AAP055IGFX | * | AOP055IGMX |
| MXLE 108 | 2½" | AOP055IGFX | AAP055IGFX | * | AOP055IGMX |

***Note:** 'Technically Oil Free Air' to ISO8573-1:2010 Class 0 (<0.003 mg/m³) for Total Oil can be easily achieved by selecting an optional OIL-X OVR grade filter (refer to pages 7-8 of this document).

## Parker Catalogue Numbers

| Model | -20°C PDP / -40°C PDP BSPP Catalogue Number | -70°C PDP BSPP Catalogue Number | 50Hz Vacuum Pump Part Numbers | 60Hz Vacuum Pump Part Numbers | Dryer Upgrade Kit Part Numbers |
|---|---|---|---|---|---|
| MXLE102C | MXLE102C | MXLE102C-70 | MXLEP2C-E | MXLEP2C-E-60 | MXLEK2C |
| MXLE103C | MXLE103C | MXLE103C-70 | MXLEP3C-E | MXLEP3C-E-60 | MXLEK3C |
| MXLE103 | MXLE103 | MXLE103-70 | MXLEP3-E | MXLEP3-E-60 | MXLEK3 |
| MXLE104 | MXLE104 | MXLE104-70 | MXLEP4-E | MXLEP4-E-60 | MXLEK4 |
| MXLE105 | MXLE105 | MXLE105-70 | MXLEP5-E | MXLEP5-E-60 | MXLEK5 |
| MXLE106 | MXLE106 | MXLE106-70 | MXLEP6-E | MXLEP6-E-60 | MXLEK6 |
| MXLE107 | MXLE107 | MXLE107-70 | MXLEP7-E | MXLEP7-E-60 | MXLEK7 |
| MXLE108 | MXLE108 | MXLE108-70 | MXLEP8-E | MXLEP8-E-60 | MXLEK8 |



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# Adsorption Dryer - Vacuum Regeneration WVM

## Dryer Performance

| Dryer Models | Dewpoint (Standard) | | ISO8573-1:2010 Classification (Standard) | Dewpoint (Option 1) | | ISO8573-1:2010 Classification (Option 1) |
|---|---|---|---|---|---|---|
| | °C | °F | | °C | °F | |
| WVM | -40 | -40 | Class 2.2.2 | -25 | -13 | Class 2.3.2 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Min Operating Pressure | | Max Operating Pressure | | Min Operating Temperature | | Max Operating Temperature | | Max Ambient Temperature | | Electrical Supply (Standard) | Electrical Supply (Optional) | Thread Connections | Noise Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar g | psi g | bar g | psi g | °C | °F | °C | °F | °C | °F | | | | dB(A) |
| WVM | 4 | 58 | 10 | 145 | 1.5 | 35 | 40 | 104 | 40 | 104 | 400V 3ph 50Hz | N/A | DIN Flange | <75 |

## Flow Rates

| Model | Pipe Size | Inlet Flow Rate) | | | |
|---|---|---|---|---|---|
| | | L/s | $m^3$/min | $m^3$/hr | cfm |
| WVM 40 | DN 40 | 117 | 7.014 | 420 | 247 |
| WVM 50 | DN 40 | 142 | 8.517 | 510 | 300 |
| WVM 65 | DN 50 | 178 | 10.688 | 640 | 377 |
| WVM 85 | DN 50 | 236 | 14.195 | 850 | 500 |
| WVM 120 | DN 80 | 328 | 19.706 | 1180 | 695 |
| WVM 150 | DN 80 | 417 | 25.05 | 1500 | 883 |
| WVM 200 | DN 80 | 550 | 33.066 | 1980 | 1165 |
| WVM 235 | DN 100 | 653 | 39.245 | 2350 | 1383 |
| WVM 300 | DN 100 | 814 | 48.931 | 2930 | 1725 |
| WVM 355 | DN 100 | 986 | 59.285 | 3550 | 2090 |
| WVM 410 | DN 150 | 1139 | 68.47 | 4100 | 2413 |
| WVM 475 | DN 150 | 1317 | 79.158 | 4740 | 2790 |
| WVM 525 | DN 150 | 1458 | 87.675 | 5250 | 3090 |
| WVM 620 | DN 150 | 1725 | 103.707 | 6210 | 3655 |
| WVM 710 | DN 150 | 1972 | 118.57 | 7100 | 4179 |
| WVM 800 | DN 200 | 2222 | 133.6 | 8000 | 4709 |
| WVM 920 | DN 200 | 2556 | 153.64 | 9200 | 5415 |
| WVM 1080 | DN 200 | 3000 | 180.36 | 10800 | 6357 |
| WVM 1230 | DN 250 | 3417 | 205.41 | 12300 | 7240 |
| WVM 1450 | DN 250 | 4028 | 242.15 | 14500 | 8535 |

## Average Power kW

| Model | Average Power kW |
|---|---|
| WVM 40 | 3 |
| WVM 50 | 4 |
| WVM 65 | 5 |
| WVM 85 | 7 |
| WVM 120 | 8 |
| WVM 150 | 11 |
| WVM 200 | 12 |
| WVM 235 | 16 |
| WVM 300 | 20 |
| WVM 355 | 24 |
| WVM 410 | 28 |
| WVM 475 | 30 |
| WVM 525 | 32 |
| WVM 620 | 44 |
| WVM 710 | 47 |
| WVM 800 | 56 |
| WVM 920 | 63 |
| WVM 1080 | 72 |
| WVM 1230 | 84 |
| WVM 1450 | 98 |


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 and with a 25 °C ambient temperature, 60 % relative humidity. For flows at other pressures, apply the correction factors shown below.

## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the installation.
Please Note: The method of selecting WVM differs from the method used for other Parker dryers.

First select the correction factors for the required outlet dewpoint (-40°C PDP or -25°C PDP). For an outlet dewpoint of -70°C PDP, please contact Parker.

**Example:** Outlet dewpoint required -40°C. Maximum inlet flow = 4095 $m^3$/hr, at a minimum pressure of 9 bar g, and a maximum inlet temperature of 30 °C:

The -40°C PDP correction factor for 30°C & 9 bar = 0.96 should be applied to the maximum inlet flow.

4095 $m^3$/hr x 0.96 = 3931 $m^3$/hr.

Using the flow table above, select a dryer model with a flow rate equal to or greater than 4095 $m^3$/hr. Model selected = WVM 410 (for a pressure dew point of -40 °C)

**Correction Factors for -40°C Outlet Pressure Dewpoint**

| Temperature (°C / °F) | Pressure (bar g / psi g) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 4 (58) | 5 (73) | 6 (87) | 7 (102) | 8 (116) | 9 (131) | 10 (145) |
| 30°C / 86°F | 1.52 | 1.32 | 1.15 | 1.08 | 1.02 | 0.96 | 0.90 |
| 35°C / 95°F | 2.50 | 1.72 | 1.30 | 1.11 | 1.05 | 0.97 | 0.90 |
| 40°C / 104°F | 3.85 | 2.63 | 1.79 | 1.47 | 1.39 | 1.32 | 1.18 |

**Correction Factors for -25°C Outlet Pressure Dewpoint**

| Temperature (°C / °F) | Pressure (bar g / psi g) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 4 (58) | 5 (73) | 6 (87) | 7 (102) | 8 (116) | 9 (131) | 10 (145) |
| 30°C / 86°F | 1.45 | 1.25 | 1.11 | 0.98 | 0.94 | 0.85 | 0.78 |
| 35°C / 95°F | 2.27 | 1.61 | 1.25 | 1.00 | 0.95 | 0.86 | 0.78 |
| 40°C / 104°F | 3.57 | 2.38 | 1.69 | 1.43 | 1.27 | 1.14 | 1.04 |



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## Controller Functions

| Dryer | Controller Function | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Power On Indication | Visual Fault Indication | Dewpoint Display | EST - Energy Saving Technology | Filter Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| WVM | • | | • | • | | • | | |

## Recommended Filtration

| For Dryer Model | Pipe Size BSPP or NPT | Inlet General Purpose Pre-filter | Inlet High Efficiency Filter | Oil Vapour Removal Filter | Outlet Dust Filter |
|---|---|---|---|---|---|
| WVM 235 | DN 100 | AO070ODFX | AA070ODFX | - | AO070ODMX |
| WVM 300 | DN 100 | AO070ODFX | AA070ODFX | - | AO070ODMX |
| WVM 355 | DN 100 | AO070ODFX | AA070ODFX | - | AO070ODMX |
| WVM 410 | DN 150 | AO075PDFX | AA075PDFX | - | AO075PDMX |
| WVM 475 | DN 150 | AO075PDFX | AA075PDFX | - | AO075PDMX |
| WVM 525 | DN 150 | AO075PDFX | AA075PDFX | - | AO075PDMX |
| WVM 620 | DN 150 | AO075PDFX | AA075PDFX | - | AO075PDMX |
| WVM 710 | DN 150 | AO080PDFX | AA080PDFX | - | AO080PDMX |
| WVM 800 | DN 200 | AO085QDFX | AA085QDFX | - | AO085QDMX |
| WVM 920 | DN 200 | AO085QDFX | AA085QDFX | - | AO085QDMX |
| WVM 1080 | DN 200 | AO085QDFX | AA085QDFX | - | AO085QDMX |
| WVM 1230 | DN 250 | AO090RDFX | AA090RDFX | - | AO090RDMX |
| WVM 1450 | DN 250 | AO090RDFX | AA090RDFX | - | AO090RDMX |

## Parker Catalogue Numbers

| Model | Catalogue Number Standard Dryer with Pressure dew-point control | Catalogue Number Plus additional vessel insulation |
|---|---|---|
| WVM 40 | W40/10VM4-F400CT | W40/10VM4-F400CT/I |
| WVM 50 | W50/10VM4-F400CT | W50/10VM4-F400CT/I |
| WVM 65 | W65/10VM4-F400CT | W65/10VM4-F400CT/I |
| WVM 85 | W85/10VM4-F400CT | W85/10VM4-F400CT/I |
| WVM 120 | W120/10VM4-F400CT | W120/10VM4-F400CT/I |
| WVM 150 | W150/10VM4-F400CT | W150/10VM4-F400CT/I |
| WVM 200 | W200/10VM4-F400CT | W200/10VM4-F400CT/I |
| WVM 235 | W235/10VM4-F400CT | W235/10VM4-F400CT/I |
| WVM 300 | W300/10VM4-F400CT | W300/10VM4-F400CT/I |
| WVM 355 | W355/10VM4-F400CT | W355/10VM4-F400CT/I |
| WVM 410 | W410/10VM4-F400CT | W410/10VM4-F400CT/I |
| WVM 475 | W475/10VM4-F400CT | W475/10VM4-F400CT/I |
| WVM 525 | W525/10VM4-F400CT | W525/10VM4-F400CT/I |
| WVM 620 | W620/10VM4-F400CT | W620/10VM4-F400CT/I |
| WVM 710 | W710/10VM4-F400CT | W710/10VM4-F400CT/I |
| WVM 800 | W800/10VM4-F400CT | W800/10VM4-F400CT/I |
| WVM 920 | W920/10VM4-F400CT | W920/10VM4-F400CT/I |
| WVM 1080 | W1080/10VM4-F400CT | W1080/10VM4-F400CT/I |
| WVM 1230 | W1230/10VM4-F400CT | W1230/10VM4-F400CT/I |
| WVM 1450 | W1450/10VM4-F400CT | W1450/10VM4-F400CT/I |



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# Adsorption Dryer - Tandem Technology ATT

## Dryer Performance

| Dryer Models | Dewpoint (Standard) °C | Dewpoint (Standard) °F | ISO8573-1:2010 Classification (Standard) | Dewpoint (Option 1) °C | Dewpoint (Option 1) °F | ISO8573-1:2010 Classification (Option 1) | Dewpoint (Option 2) °C | Dewpoint (Option 2) °F | ISO8573-1:2010 Classification (Option 2) |
|---|---|---|---|---|---|---|---|---|---|
| Antares | -40 | -40 | Class 2.2.2 | -70 | -100 | Class 2.1.2 | -20 | -4 | Class 2.3.2 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Min Operating Pressure bar g | Min Operating Pressure psi g | Max Operating Pressure bar g | Max Operating Pressure psi g | Min Operating Temperature °C | Min Operating Temperature °F | Max Operating Temperature °C | Max Operating Temperature °F | Max Ambient Temperature °C | Max Ambient Temperature °F | Electrical Supply (Standard) | Electrical Supply (Optional) | Thread Connections | Noise Level dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ATT 025 - 040 | 2 | 29 | 16 | 232 | 5 | 41 | 65 | 149 | 50 | 122 | 230V 1ph 50Hz | N/A | BSPP | <75 |
| ATT 060 - 090 | 2 | 29 | 12 | 174 | 5 | 41 | 65 | 149 | 50 | 122 | 230V 1ph 50Hz | N/A | BSPP | <75 |
| ATT 090 - 140 | 2 | 29 | 12 | 174 | 5 | 41 | 65 | 149 | 50 | 122 | 400V 3ph 50Hz | N/A | BSPP | <75 |
| ATT 260 - 340 | 4 | 58 | 12 | 174 | 5 | 41 | 65 | 149 | 50 | 122 | 400V 3ph 50Hz | N/A | BSPP | <75 |

## Flow Rates

| Model | Pipe Size | Inlet Flow Rate L/s | Inlet Flow Rate m³/min | Inlet Flow Rate m³/hr | Inlet Flow Rate cfm |
|---|---|---|---|---|---|
| ATT 025 | G 1 | 42 | 2.5 | 150 | 88 |
| ATT 040 | G 1 | 67 | 4 | 240 | 141 |
| ATT 060 | G 1 1/2 | 100 | 6 | 360 | 212 |
| ATT 090 | G 1 1/2 | 150 | 9 | 540 | 318 |
| ATT 140 | G2 | 233 | 14 | 840 | 494 |
| ATT 260 | G 2 1/2 | 433 | 26 | 1560 | 918 |
| ATT 340 | G 2 1/2 | 567 | 34 | 2040 | 1200 |

## Average Power kW

| Model | Average Power kW |
|---|---|
| ATT 025 | 0.94 |
| ATT 040 | 1.3 |
| ATT 060 | 1.27 |
| ATT 090 | 1.94 |
| ATT 140 | 2.01 |
| ATT 260 | 4.02 |
| ATT 340 | 5.17 |


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.
For flows at other pressures, apply the correction factors shown below.

## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

| Maximum Inlet Temperature | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | °C | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
| | °F | 77 | 86 | 95 | 104 | 113 | 122 | 131 | 140 | 149 |
| Correction Factor 025 - 340 | | 0.82 | 0.82 | 1.00 | 1.23 | 1.45 | 1.69 | 1.92 | 2.17 | 2.50 |

**CFAT - Correction Factor Maximum Ambient Temperature**

| Maximum Ambient Temperature | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | °C | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| | °F | 68 | 77 | 86 | 95 | 104 | 113 | 122 |
| Correction Factor 025 - 060 | | 0.95 | 1.00 | 1.06 | 1.14 | 1.23 | 1.33 | 1.47 |
| Correction Factor 090 - 340 | | 0.94 | 1.00 | 1.05 | 1.11 | 1.20 | 1.30 | 1.39 |

**CFP - Correction Factor Minimum Inlet Pressure**

| Minimum Inlet Pressure | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar g | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | psi g | 58 | 73 | 87 | 100 | 116 | 131 | 145 | 160 | 174 | 189 | 203 | 218 | 232 |
| Correction Factor 025 - 040 | | 1.61 | 1.33 | 1.15 | 1.00 | 0.93 | 0.83 | 0.78 | 0.75 | 0.71 | 0.69 | 0.67 | 0.65 | 0.63 |
| Correction Factor 060 - 340 | | 1.61 | 1.33 | 1.15 | 1.00 | 0.93 | 0.83 | 0.78 | 0.75 | 0.71 | N/A | N/A | N/A | N/A |

**CFD - Correction Factor Dewpoint**

| Maximum Inlet Temperature | | | | |
|---|---|---|---|---|
| | °C | -20 | -40 | -70 |
| | °F | -4 | -40 | -100 |
| Correction Factor | | 1 | 1 | 1 |



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## Controller Functions

| Dryer | Controller Function | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Power On Indication | Visual Fault Indication | Dewpoint Display | EST - Energy Saving Technology | Filter Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| ATT | • | • | • | • | | • | • | |

## Included Filtration

| For Dryer Model | Pipe Size | Inlet General Purpose Pre-filter | Inlet High Efficiency Filter | Oil Vapour Removal Filter | Outlet Dust Filter |
|---|---|---|---|---|---|
| ATT 025 | G 1 | AOP025EGFX | AOP025EGFX | - | AOP025EGMX |
| ATT 040 | G 1 | AOP030GGFX | AOP030GGFX | - | AOP030GGMX |
| ATT 060 | G 1 1/2 | AOP030GGFX | AOP030GGFX | - | AOP030GGMX |
| ATT 090 | G 1 1/2 | AOP035GGFX | AOP035GGFX | - | AOP035GGMX |
| ATT 140 | G 2 | AOP045IGFX | AOP045IGFX | - | AOP045IGMX |
| ATT 260 | G 2 1/2 | AOP055JGFX | AOP055JGFX | - | AOP055JGMX |
| ATT 340 | G 2 1/2 | AOP055JGFX | AOP055JGFX | - | AOP055JGMX |

## Parker Catalogue Numbers

| Model | Catalogue Number Standard | Catalogue Number With By-Pass | Catalogue Number With Touchscreen | Catalogue Number With By-Pass & Touchscreen |
|---|---|---|---|---|
| ATT 025 | ATT025-A23015016TI | - | - | - |
| ATT 040 | ATT040-A23015016TI | - | - | - |
| ATT 060 | ATT060-A23015012TI | ATT060-A23015012TITB | - | - |
| ATT 090 | ATT090-A23015012TI | ATT090-A23015012TITB | - | - |
| ATT 140 | ATT140-A40035012EI | ATT140-A40035012EITB | ATT140-A40035012EITS | ATT140-A40035012EITBTS |
| ATT 260 | ATT260-A40035012EI | ATT260-A40035012EITB | ATT260-A40035012EITS | ATT260-A40035012EITBTS |
| ATT 340 | ATT340-A40035012EI | ATT340-A40035012EITB | ATT340-A40035012EITS | ATT340-A40035012EITBTS |



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# Refrigeration Dryer - Direct Expansion - SPE

## Dryer Performance

| Dryer Models | Dewpoint (Standard) °C | Dewpoint (Standard) °F | ISO8573-1:2010 Classification (Standard) | Dewpoint (Option 1) °C | Dewpoint (Option 1) °F | ISO8573-1:2010 Classification (Option 1) | Dewpoint (Option 2) °C | Dewpoint (Option 2) °F | ISO8573-1:2010 Classification (Option 2) |
|---|---|---|---|---|---|---|---|---|---|
| SPE | +3 | +37 | Class 2.4.2 | +7 | +45 | Class 2.5.2 | +10 | +50 | Class 2.6.2 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Min Operating Pressure bar g | Min Operating Pressure psi g | Max Operating Pressure bar g | Max Operating Pressure psi g | Min Operating Temperature °C | Min Operating Temperature °F | Max Operating Temperature °C | Max Operating Temperature °F | Max Ambient Temperature °C | Max Ambient Temperature °F | Electrical Supply (Standard) | Electrical Supply (Optional) | Thread Connections | Noise Level dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPE 004 - 062 | 2 | 15 | 16 | 232 | 5 | 41 | 65 | 149 | 50 | 122 | 230V 1ph 50Hz / 60Hz | N/A | BSPP | <75 |
| SPE 080 - 100 | | | 14 | 203 | | | | | | | | | | |

## Flow Rates

| Model | Pipe Size | Inlet Flow Rate 50 Hz L/s | Inlet Flow Rate 50 Hz m³/min | Inlet Flow Rate 50 Hz m³/hr | Inlet Flow Rate 50 Hz cfm | Inlet Flow Rate 60Hz L/s | Inlet Flow Rate 60Hz m³/min | Inlet Flow Rate 60Hz m³/hr | Inlet Flow Rate 60Hz cfm |
|---|---|---|---|---|---|---|---|---|---|
| SPE 004 | 1/2" | 7 | 0.4 | 24 | 14 | 8 | 0.47 | 28 | 16 |
| SPE 007 | 1/2" | 12 | 0.7 | 42 | 25 | 13 | 0.78 | 47 | 28 |
| SPE 009 | 1/2" | 15 | 0.9 | 54 | 32 | 17 | 1.00 | 60 | 35 |
| SPE 014 | 3/4" | 23 | 1.4 | 84 | 49 | 27 | 1.60 | 96 | 57 |
| SPE 018 | 3/4" | 30 | 1.8 | 108 | 64 | 34 | 2.07 | 124 | 73 |
| SPE 026 | 1" | 43 | 2.6 | 156 | 92 | 49 | 2.93 | 176 | 104 |
| SPE 032 | 1" | 53 | 3.2 | 192 | 113 | 61 | 3.63 | 218 | 128 |
| SPE 040 | 1" | 67 | 4.0 | 240 | 141 | 76 | 4.53 | 272 | 160 |
| SPE 052 | 1 1/2" | 87 | 5.2 | 312 | 184 | 100 | 6.02 | 361 | 212 |
| SPE 062 | 1 1/2" | 103 | 6.2 | 372 | 219 | 119 | 7.15 | 429 | 253 |
| SPE 080 | 1 1/2" | 133 | 8.0 | 480 | 282 | 154 | 9.25 | 555 | 327 |
| SPE 100 | 1 1/2" | 167 | 10.0 | 600 | 353 | 191 | 11.48 | 689 | 406 |

## Absorbed Power

| Model | 50Hz kW | 60Hz kW |
|---|---|---|
| SPE 004 | 0.13 | 0,16 |
| SPE 007 | 0.14 | 0,17 |
| SPE 009 | 0.15 | 0,19 |
| SPE 014 | 0.15 | 0,18 |
| SPE 018 | 0.16 | 0,20 |
| SPE 026 | 0.29 | 0,36 |
| SPE 032 | 0.30 | 0,37 |
| SPE 040 | 0.31 | 0,38 |
| SPE 052 | 0.46 | 0,56 |
| SPE 062 | 0.57 | 0,69 |
| SPE 080 | 0.73 | 0,90 |
| SPE 100 | 0.74 | 0,91 |


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. For flows at other pressures, apply the correction factors shown below.

## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Inlet Temperature | °C | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
| | °F | 77 | 86 | 95 | 104 | 113 | 122 | 131 | 140 | 149 |
| Correction Factor | 50Hz | 0.83 | 0.83 | 1.00 | 1.30 | 1.61 | 2.00 | 2.33 | 2.38 | 2.50 |
| | 60Hz | 0.85 | 0.85 | 1.00 | 1.32 | 1.61 | 2.04 | 2.56 | 2.63 | 2.78 |

**CFAT - Correction Factor Maximum Ambient Temperature**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Maximum Ambient Temperature | °C | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| | °F | 68 | 77 | 86 | 95 | 104 | 113 | 122 |
| Correction Factor | 50Hz | 0.93 | 1.00 | 1.02 | 1.09 | 1.15 | 1.22 | 1.28 |
| | 60Hz | 0.96 | 1.00 | 1.06 | 1.11 | 1.18 | 1.25 | 1.33 |

**CFP - Correction Factor Minimum Inlet Pressure**

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Minimum Inlet Pressure | bar g | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | psi g | 44 | 58 | 73 | 87 | 100 | 116 | 131 | 145 | 160 | 174 | 189 | 203 | 218 | 232 |
| Correction Factor | | 1.35 | 1.23 | 1.11 | 1.06 | 1.00 | 0.93 | 0.85 | 0.83 | 0.81 | 0.79 | 0.77 | 0.75 | 0.73 | 0.71 |

**CFD - Correction Factor Dewpoint**

| | | | | |
|---|---|---|---|---|
| Maximum Inlet Temperature | °C | +3 | +5 | +7 |
| | °F | +37 | +41 | +45 |
| Correction Factor | 50Hz | 1.00 | 0.78 | 0.70 |
| | 60Hz | 1.00 | 0.79 | 0.72 |



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## Controller Functions

| Dryer | Controller Function | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Power On Indication | Visual Fault Indication | Dewpoint Display | EST - Energy Saving Technology | Filter Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| SPE | • | • | | On E-Saving Models | | • | • | On E-Saving Models |

## Recommended Filtration

| For Dryer Model | Pipe Size BSPP | General Purpose Coalescing Filter | High Efficiency Coalescing Filter | Oil Vapour Removal Filter |
|---|---|---|---|---|
| SPE 004 | 1/2" | AOP010CGFI | AAP010CGFI | - |
| SPE 007 | 1/2" | AOP015CGFI | AAP015CGFI | - |
| SPE 009 | 1/2" | AOP015CGFI | AAP015CGFI | - |
| SPE 014 | 3/4" | AOP020DGFI | AAP020DGFI | - |
| SPE 018 | 3/4" | AOP020DGFI | AAP020DGFI | - |
| SPE 026 | 1" | AOP025EGFI | AAP025EGFI | - |
| SPE 032 | 1" | AOP025EGFI | AAP025EGFI | - |
| SPE 040 | 1" | AOP025EGFI | AAP025EGFI | - |
| SPE 052 | 1 1/2" | AOP030GGFI | AAP030GGFI | - |
| SPE 062 | 1 1/2" | AOP030GGFI | AAP030GGFI | - |
| SPE 080 | 1 1/2" | AOP035GGFX | AAP035GGFX | - |
| SPE 100 | 1 1/2" | AOP035GGFX | AAP035GGFX | - |

## Parker Catalogue Numbers

| Model | Catalogue Number With Timed Drain | Catalogue Number With Electronic Drain | Catalogue Number With Energy Saving |
|---|---|---|---|
| SPE 004 | SPE004-A2301DF16TIS | SPE004-A2301DF16EXS | - |
| SPE 007 | SPE007-A2301DF16TIS | SPE007-A2301DF16EXS | - |
| SPE 009 | SPE009-A2301DF16TIS | SPE009-A2301DF16EXS | - |
| SPE 014 | SPE014-A2301DF16TIS | SPE014-A2301DF16EXS | - |
| SPE 018 | SPE018-A2301DF16TIS | SPE018-A2301DF16EXS | - |
| SPE 026 | SPE026-A2301DF16TIS | SPE026-A2301DF16EXS | SPE026-A2301DF16EXSES |
| SPE 032 | SPE032-A2301DF16TIS | SPE032-A2301DF16EXS | SPE032-A2301DF16EXSES |
| SPE 040 | SPE040-A2301DF16TIS | SPE040-A2301DF16EXS | SPE040-A2301DF16EXSES |
| SPE 052 | SPE052-A2301DF16TIS | SPE052-A2301DF16EXS | SPE052-A2301DF16EXSES |
| SPE 062 | SPE062-A2301DF16TIS | SPE062-A2301DF16EXS | SPE062-A2301DF16EXSES |
| SPE 080 | SPE080-A2301DF14TIS | SPE080-A2301DF14EXS | SPE080-A2301DF14EXSES |
| SPE 100 | SPE100-A2301DF14TIS | SPE100-A2301DF14EXS | SPE100-A2301DF14EXSES |



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# Refrigeration Dryer - Direct Expansion - PST

## 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 | |
| PST | +3 | +37 | Class 2.4.2 | +7 | +45 | Class 2.5.2 | +10 | +50 | Class 2.6.2 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Min Operating Pressure | | Max Operating Pressure | | Min Operating Temperature | | Max Operating Temperature | | Max Ambient Temperature | | Electrical Supply (Standard) | Electrical Supply (Optional) | Thread Connections | Noise Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar g | psi g | bar g | psi g | °C | °F | °C | °F | °C | °F | | | | dB(A) |
| PST 0120 - 1800 | 3 | 44 | 14 | 203 | 5 | 41 | 65 | 149 | 50 | 122 | 400V 3ph 50Hz | N/A | BSPP & DIN Flange | <75 |

## Flow Rates

| Model | Pipe Size | Inlet Flow Rate | | | |
|---|---|---|---|---|---|
| | | L/s | m³/min | m³/hr | cfm |
| PST 120 | 2" | 200 | 12 | 720 | 424 |
| PST 140 | 2" | 233 | 14 | 840 | 494 |
| PST 180 | 2" | 300 | 18 | 1080 | 636 |
| PST 220 | 2 1/2" | 367 | 22 | 1320 | 777 |
| PST 260 | 2 1/2" | 433 | 26 | 1560 | 918 |
| PST 300 | 2 1/2" | 500 | 30 | 1800 | 1059 |
| PST 350 | 2 1/2" | 583 | 35 | 2100 | 1236 |
| PST 460 | DN100 | 767 | 46 | 2760 | 1625 |
| PST 520 | DN100 | 867 | 52 | 3120 | 1836 |
| PST 630 | DN100 | 1050 | 63 | 3780 | 2225 |
| PST 750 | DN150 | 1250 | 75 | 4500 | 2649 |
| PST 900 | DN150 | 1500 | 90 | 5400 | 3178 |
| PST 1200 | DN150 | 2000 | 120 | 7200 | 4238 |
| PST 1500 | DN200 | 2500 | 150 | 9000 | 5297 |
| PST 1800 | DN200 | 3000 | 180 | 10800 | 6357 |

## Average Power kW

| Model | kW |
|---|---|
| PST 120 | 1.13 |
| PST 140 | 1.14 |
| PST 180 | 1.46 |
| PST 220 | 1.68 |
| PST 260 | 2.19 |
| PST 300 | 2.41 |
| PST 350 | 3.06 |
| PST 460 | 3.14 |
| PST 520 | 3.54 |
| PST 630 | 4.64 |
| PST 750 | 5.73 |
| PST 900 | 7.63 |
| PST 1200 | 8.92 |
| PST 1500 | 12.35 |
| PST 1800 | 15.96 |

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. For flows at other pressures, apply the correction factors shown below.


## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

| Maximum Inlet Temperature | °C | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
|---|---|---|---|---|---|---|---|---|---|---|
| | °F | 77 | 86 | 95 | 104 | 113 | 122 | 131 | 140 | 149 |
| Correction Factor Models | | 0.81 | 0.81 | 1.00 | 1.19 | 1.43 | 1.69 | 2.00 | 2.22 | 2.50 |

**CFAT - Correction Factor Maximum Ambient Temperature**

| Maximum Ambient Temperature | °C | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|---|---|---|---|---|---|---|---|---|
| | °F | 68 | 77 | 86 | 95 | 104 | 113 | 122 |
| Correction Factor | | 0.94 | 1.00 | 1.05 | 1.11 | 1.20 | 1.30 | 1.39 |

**CFP - Correction Factor Minimum Inlet Pressure**

| Minimum Inlet Pressure | bar g | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | psi g | | 58 | 73 | 87 | 100 | 116 | 131 | 145 | 160 | 174 | 189 | 203 |
| Correction Factor | | 1.35 | 1.20 | 1.11 | 1.04 | 1.00 | 0.96 | 0.93 | 0.93 | 0.90 | 0.89 | 0.88 | 0.87 |

**CFD - Correction Factor Dewpoint**

| Maximum Inlet Temperature | °C | +3 | +5 | +7 | +10 |
|---|---|---|---|---|---|
| | °F | +37 | +41 | +45 | +50 |
| Correction Factor | | 1.00 | 0.91 | 0.83 | 0.71 |



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## Controller Functions

| Dryer | Controller Function | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Power On Indication | Visual Fault Indication | Dewpoint Display | EST - Energy Saving Technology | Filter Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| PST | • | • | • | • | | • | • | |

## Recommended Filtration

| For Dryer Model | Pipe Size BSPP / DIN | General Purpose Coalescing Filter | High Efficiency Coalescing Filter | Oil Vapour Removal Filter |
|---|---|---|---|---|
| PST 120 | 2" | AOP040HGFX | AAP040HGFX | - |
| PST 140 | 2" | AOP040HGFX | AAP040HGFX | - |
| PST 180 | 2 1/2" | AOP045IGFX | AAP045IGFX | - |
| PST 220 | 2 1/2" | AOP050IGFX | AAP050IGFX | - |
| PST 260 | 2 1/2" | AOP055IGFX | AAP055IGFX | - |
| PST 300 | 2 1/2" | AOP055IGFX | AAP055IGFX | - |
| PST 350 | 2 1/2" | AOP055IGFX | AAP055IGFX | - |
| PST 460 | DN100 | AO070ODFX | AO070ODFX | - |
| PST 520 | DN100 | AO070ODFX | AA070ODFX | - |
| PST 630 | DN100 | AO070ODFX | AA070ODFX | - |
| PST 750 | DN150 | AO075PDFX | AA075PDFX | - |
| PST 900 | DN150 | AO075PDFX | AA075PDFX | - |
| PST 1200 | DN150 | AO080PDFX | AA080PDFX | - |
| PST 1500 | DN200 | AO085QDFX | AA085QDFX | - |
| PST 1800 | DN200 | AO085QDFX | AA085QDFX | - |

## Parker Catalogue Numbers

| Model | Catalogue Number Air Cooled | Catalogue Number Water Cooled |
|---|---|---|
| PST 120 | PST120-A40035014EI | - |
| PST 140 | PST140-A40035014EI | - |
| PST 180 | PST180-A40035014EI | - |
| PST 220 | PST220-A40035014EI | PST220-W40035014EI |
| PST 260 | PST260-A40035014EI | PST260-W40035014EI |
| PST 300 | PST300-A40035014EI | PST300-W40035014EI |
| PST 350 | PST350-A40035014EI | PST350-W40035014EI |
| PST 460 | PST460-A40035014EI | PST460-W40035014EI |
| PST 520 | PST520-A40035014EI | PST520-W40035014EI |
| PST 630 | PST630-A40035014EI | PST630-W40035014EI |
| PST 750 | PST750-A40035014EI | PST750-W40035014EI |
| PST 900 | PST900-A40035014EI | PST900-W40035014EI |
| PST 1200 | PST1200-A40035014EI | PST1200-W40035014EI |
| PST 1500 | PST1500-A40035014EI | PST1500-W40035014EI |
| PST 1800 | PST1800-A40035014EI | PST1800-W40035014EI |



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# Refrigeration Dryer - Direct Expansion - PST Twin

## 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 | |
| PST | +3 | +37 | Class 2.4.2 | +7 | +45 | Class 2.5.2 | +10 | +50 | Class 2.6.2 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Min Operating Pressure | | Max Operating Pressure | | Min Operating Temperature | | Max Operating Temperature | | Max Ambient Temperature | | Electrical Supply (Standard) | Electrical Supply (Optional) | Thread Connections | Noise Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar g | psi g | bar g | psi g | °C | °F | °C | °F | °C | °F | | | | dB(A) |
| PST 2400 - 3600 | 3 | 44 | 14 | 203 | 5 | 41 | 65 | 149 | 50 | 122 | 400V 3ph 50Hz | N/A | DIN Flange | <75 |

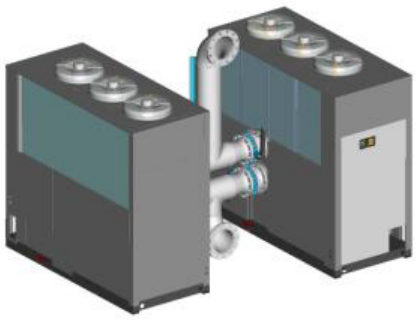
## Flow Rates

| Model | Pipe Size | Inlet Flow Rate | | | |
|---|---|---|---|---|---|
| | | L/s | m³/min | m³/hr | cfm |
| PST 2400 | DN200 | 4000 | 240 | 14400 | 8470 |
| PST 3000 | DN250 | 5000 | 300 | 18000 | 10588 |
| PST 3600 | DN250 | 6000 | 360 | 21600 | 12705 |

## Average Power kW

| Model | kW |
|---|---|
| PST 2400 | 18 |
| PST 3000 | 25 |
| PST 3600 | 32 |

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.
For flows at other pressures, apply the correction factors shown below.
*Twin models supplied with master controller, electronic integral drains, manifolds, manual valves and a class 3 coarse grade Parker Hiross pre-filter with automatic drain.



## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

| Maximum Inlet Temperature | °C | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
|---|---|---|---|---|---|---|---|---|---|---|
| | °F | 77 | 86 | 95 | 104 | 113 | 122 | 131 | 140 | 149 |
| Correction Factor Models | | 0.81 | 0.81 | 1.00 | 1.19 | 1.43 | 1.69 | 2.00 | 2.22 | 2.50 |

**CFAT - Correction Factor Maximum Ambient Temperature**

| Maximum Ambient Temperature | °C | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
|---|---|---|---|---|---|---|---|---|
| | °F | 68 | 77 | 86 | 95 | 104 | 113 | 122 |
| Correction Factor | | 0.94 | 1.00 | 1.05 | 1.11 | 1.20 | 1.30 | 1.39 |

**CFP - Correction Factor Minimum Inlet Pressure**

| Minimum Inlet Pressure | bar g | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | psi g | | 58 | 73 | 87 | 100 | 116 | 131 | 145 | 160 | 174 | 189 | 203 |
| Correction Factor | | 1.35 | 1.20 | 1.11 | 1.04 | 1.00 | 0.96 | 0.93 | 0.93 | 0.90 | 0.89 | 0.88 | 0.87 |

**CFD - Correction Factor Dewpoint**

| Maximum Inlet Temperature | °C | +3 | +5 | +7 | +10 |
|---|---|---|---|---|---|
| | °F | +37 | +41 | +45 | +50 |
| Correction Factor | | 1.00 | 0.91 | 0.83 | 0.71 |

## Controller Functions

| Dryer | Controller Function | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Power On Indication | Visual Fault Indication | Dewpoint Display | EST - Energy Saving Technology | Filter Service Indicator | Dryer Service Indicator | Fault Relay: Power Loss Dewpoint Alarm Sensor Failure | 4-20mA Dewpoint Re-transmission |
| PST | • | • | • | • | | • | • | |

## Parker Catalogue Numbers

| Model | Catalogue Number Air Cooled | Catalogue Number Water Cooled |
|---|---|---|
| PST 2400 | PST2400-A40035014EITF | PST2400-W40035014EITF |
| PST 3000 | PST3000-A40035014EITF | PST3000-W40035014EITF |
| PST 3600 | PST3600-A40035014EITF | PST3600-W40035014EITF |



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# SPH 004 - 018 (50 bar Direct Expansion Refrigeration Dryers)

## 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 | |
| SPH | +3 | -37 | Class 2.4.2 | +7 | +45 | Class 2.5.2 | +10 | +50 | Class 2.6.2 |

ISO8573-1 Classifications when used with Parker pre / post filtration

## Technical Data

| Dryer Models | Max Operating Pressure | | Min Operating Temperature | | Max Operating Temperature | | Max Ambient Temperature | | Electrical Supply (Standard) | Electrical Supply (Optional) | Thread Connections | Noise Level |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | bar g | psi g | °C | °F | °C | °F | °C | °F | | | | dB(A) |
| **SPH 004 - 018** | 50 | 725 | 5 | 41 | 60 | 149 | 50 | 122 | 230V 1ph 50Hz | 60Hz on request | BSPT-F | <55 |

## Flow Rates

| Model | Pipe Size BSPP or NPT | Inlet Flow Rate | | | |
|---|---|---|---|---|---|
| | | L/s | $m^3$/min | $m^3$/hr | cfm |
| **SPH 004** | 1/2 | 7 | 0.4 | 25 | 15 |
| **SPH 006** | 1/2 | 10 | 0.6 | 37 | 22 |
| **SPH 012** | 1/2 | 21 | 1.3 | 75 | 44 |
| **SPH 018** | 1/2 | 36 | 2.2 | 131 | 77 |

## Absorbed Power

| Model | kW |
|---|---|
| **SPH 004** | 0.17 |
| **SPH 006** | 0.17 |
| **SPH 012** | 0.25 |
| **SPH 018** | 0.57 |


Performances refer to air-cooled model with air suction of FAD 20°C / 1 bar A, and at the following operating conditions: air suction 25°C / 60%RH, 40 barg working pressure, 25°C cooling air temperature, 35°C compressed air inlet temperature and pressure dewpoint in accordance with ISO8573-1. All indicated data refers to DIN ISO 7183. SPH supplied with refrigerant R134a. All models designed for operation up to 50 barg. Data refers to 50Hz models.

## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Inlet Temperature | °C | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
| | °F | 77 | 86 | 95 | 104 | 113 | 122 | 131 | 140 | 149 |
| Correction Factor | | 0.85 | 0.85 | 1.00 | 1.15 | 1.30 | 1.45 | 1.61 | 1.79 | 2.00 |

**CFAT - Correction Factor Maximum Ambient Temperature**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Maximum Ambient Temperature | °C | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| | °F | 68 | 77 | 80 | 95 | 104 | 113 | 122 |
| Correction Factor | | 0.98 | 1.00 | 1.02 | 1.05 | 1.08 | 1.11 | 1.16 |

**CFP - Correction Factor Minimum Inlet Pressure**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Minimum Inlet Pressure | bar g | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| | psi g | 218 | 290 | 363 | 435 | 508 | 580 | 653 | 725 |
| Correction Factor | | 1.18 | 1.10 | 1.06 | 1.03 | 1.01 | 1.00 | 0.99 | 0.99 |

**CFD - Correction Factor Dewpoint**

| | | | | | |
|---|---|---|---|---|---|
| Maximum Inlet Temperature | °C | +3 | +5 | +7 | +10 |
| | °F | +37 | +41 | +45 | +50 |
| Correction Factor | | 1.00 | 0.86 | 0.80 | 0.71 |



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## Controller Functions

| Dryer | Controller Function | |
|---|---|---|
| | Power On Indication | Dewpoint Indicator |
| SPH | • | • |

## Recommended Filtration

| For Dryer Model | Pipe Size BSP or NPT | General Purpose Pre-filter | High Efficiency Filter | Oil Vapour Removal Filter |
|---|---|---|---|---|
| **SPH 004** | 1/2 | G2/50ZP | G2/50XP | G2/50A |
| **SPH 006** | 1/2 | G2/50ZP | G2/50XP | G2/50A |
| **SPH 012** | 1/2 | G3/50ZP | G3/50XP | G2/50A |
| **SPH 018** | 1/2 | G5/50ZP | G5/50XP | G2/50A |

## Parker Catalogue Numbers

| Model | Catalogue Number |
|---|---|
| **SPH 004** | SPH004-A23015050TXS |
| **SPH 006** | SPH006-A23015050TXS |
| **SPH 012** | SPH012-A23015050TXS |
| **SPH 018** | SPH018-A23015050TXS |



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# PSH 030 - 1200 (50 bar Direct Expansion Refrigeration Dryers)

## Dryer Performance

| Dryer Models | Dewpoint (Standard) °C | Dewpoint (Standard) °F | ISO8573-1:2010 Classification (Standard) | Dewpoint (Option 1) °C | Dewpoint (Option 1) °F | ISO8573-1:2010 Classification (Option 1) | Dewpoint (Option 2) °C | Dewpoint (Option 2) °F | ISO8573-1:2010 Classification (Option 2) |
|---|---|---|---|---|---|---|---|---|---|
| PSH | +3 | -37 | Class 2.4.2 | +7 | +45 | Class 2.5.2 | +10 | +50 | Class 2.6.2 |

ISO8573-1 Classifications when used with Parker domnick hunter OIL-X pre / post filtration

## Technical Data

| Dryer Models | Max Operating Pressure bar g | Max Operating Pressure psi g | Min Operating Temperature °C | Min Operating Temperature °F | Max Operating Temperature °C | Max Operating Temperature °F | Max Ambient Temperature °C | Max Ambient Temperature °F | Electrical Supply (Standard) | Electrical Supply (Optional) | Thread Connections | Noise Level dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PSH 030 - 090** | 50 | 725 | 5 | 41 | 65 | 149 | 50 | 122 | 230V 1ph 50Hz | 60Hz on request | BSPT-F | <55 |
| **PSH 0120 - 1200** | 50 | 725 | 5 | 41 | 65 | 149 | 50 | 122 | 400V 3ph 50Hz | 60Hz on request | BSPT-F & 2 1/2" Flange | <55 |

## Flow Rates

| Model | Pipe Size BSPP or NPT | Inlet Flow Rate L/s | Inlet Flow Rate $m^3$/min | Inlet Flow Rate $m^3$/hr | Inlet Flow Rate cfm |
|---|---|---|---|---|---|
| **PSH030** | 1 1/4" | 50 | 3.0 | 180 | 106 |
| **PSH045** | 1 1/4" | 75 | 4.5 | 270 | 159 |
| **PSH065** | 1 1/4" | 108 | 6.5 | 390 | 230 |
| **PSH090** | 1 1/4" | 150 | 9 | 540 | 318 |
| **PSH120** | 1 1/4" | 200 | 12 | 720 | 424 |
| **PSH160** | 1 1/4" | 267 | 16 | 960 | 565 |
| **PSH200** | 1 1/4" | 333 | 20 | 1200 | 706 |
| **PSH230** | 1 1/4" | 383 | 23 | 1380 | 812 |
| **PSH290** | 2 1/2" ANSI | 483 | 29 | 1740 | 1024 |
| **PSH380** | 2 1/2" ANSI | 633 | 38 | 2280 | 1342 |
| **PSH460** | 2 1/2" ANSI | 767 | 46 | 2760 | 1625 |
| **PSH630** | 2 1/2" ANSI | 1050 | 63 | 3780 | 2225 |
| **PSH800** | 2 1/2" ANSI | 1333 | 80 | 4800 | 2825 |
| **PSH1000** | 2 1/2" ANSI | 1667 | 100 | 6000 | 3531 |
| **PSH1200** | 2 1/2" ANSI | 2000 | 120 | 7200 | 4238 |

## Absorbed Power

| Model | kW |
|---|---|
| **PSH030** | 0.53 |
| **PSH045** | 0.55 |
| **PSH065** | 1.33 |
| **PSH090** | 1.37 |
| **PSH120** | 1.41 |
| **PSH160** | 1.44 |
| **PSH200** | 1.47 |
| **PSH230** | 1.52 |
| **PSH290** | 2.89 |
| **PSH380** | 3.18 |
| **PSH460** | 3.44 |
| **PSH630** | 4.12 |
| **PSH800** | 6.6 |
| **PSH1000** | 6.9 |
| **PSH1200** | 7.3 |


Performances refer to air-cooled model with air suction of FAD 20°C / 1 bar A, and at the following operating conditions: air suction 25°C / 60%RH, 40 barg working pressure, 25°C cooling air temperature, 35°C compressed air inlet temperature and pressure dewpoint in accordance with ISO8573-1. All indicated data refers toDIN ISO 7183. SPH supplied with refrigerant R134a. All models designed for operation up to 50 barg. Data refers to 50Hz models.

## Product Selection & Correction Factors

For correct operation, compressed air dryers must be sized using for the minimum pressure, maximum temperature and maximum flow rate of the 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 above the MDC.

Minimum Drying Capacity = System Flow x CFIT x CFAT x CFP x CFD

CFIT - Correction Factor Maximum Inlet Temperature

| Maximum Inlet Temperature | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| °C | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
| °F | 77 | 86 | 95 | 104 | 113 | 122 | 131 | 140 | 149 |
| Correction Factor | 0.85 | 0.85 | 1.00 | 1.15 | 1.30 | 1.45 | 1.61 | 1.79 | 2.00 |

**CFAT - Correction Factor Maximum Ambient Temperature**

| Maximum Ambient Temperature | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| °C | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| °F | 68 | 77 | 80 | 95 | 104 | 113 | 122 |
| Correction Factor | 0.98 | 1.00 | 1.02 | 1.05 | 1.08 | 1.11 | 1.16 |

**CFP - Correction Factor Minimum Inlet Pressure**

| Minimum Inlet Pressure | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| bar g | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| psi g | 218 | 290 | 363 | 435 | 508 | 580 | 653 | 725 |
| Correction Factor | 1.18 | 1.10 | 1.06 | 1.03 | 1.01 | 1.00 | 0.99 | 0.99 |

**CFD - Correction Factor Dewpoint**

| Maximum Inlet Temperature | | | | | |
|---|---|---|---|---|---|
| °C | +3 | +5 | +7 | +10 |
| °F | +37 | +41 | +45 | +50 |
| Correction Factor | 1.00 | 0.86 | 0.80 | 0.71 |



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## Controller Functions

| Dryer | Controller Function | | | | |
|---|---|---|---|---|---|
| | Power On Indication | Digital Dewpoint Indicator | Display Fault Condition Values | Configurable Alarm Settings | Remote Volt Free Alarm Contacts |
| PSH | • | • | From model PSH120 | From model PSH120 | From model PSH120 |

## Recommended Filtration

| For Dryer Model | Pipe Size BSP or NPT | General Purpose Pre-filter | High Efficiency Filter | Oil Vapour Removal Filter |
|---|---|---|---|---|
| **PSH030** | 1 1/2" | G7/50ZP | G7/50XP | G7/50A |
| **PSH045** | 1 1/2" | G9/50ZP | G9/50XP | G9/50A |
| **PSH065** | 1 1/2" | G11/50ZP | G11/50XP | G11/50A |
| **PSH090** | 1 1/2" | G11/50ZP | G11/50XP | G11/50A |
| **PSH120** | 1 1/2" | G12/50ZP | G12/50XP | G12/50A |
| **PSH160** | 1 1/2" | G13/50ZP | G13/50XP | G13/50A |
| **PSH200** | 1 1/2" | G13/50ZP | G13/50XP | G13/50A |
| **PSH230** | 1 1/2" | G13/50ZP | G13/50XP | G13/50A |
| **PSH290** | CONTACT PARKER Hiross | | | |
| **PSH380** | CONTACT PARKER Hiross | | | |
| **PSH460** | CONTACT PARKER Hiross | | | |
| **PSH630** | CONTACT PARKER Hiross | | | |
| **PSH800** | CONTACT PARKER Hiross | | | |
| **PSH1000** | CONTACT PARKER Hiross | | | |
| **PSH1200** | CONTACT PARKER Hiross | | | |

## Parker Catalogue Numbers

| Model | Catalogue Number | Catalogue Number |
|---|---|---|
| **PSH030** | PSH030-A23015050TI | N/A |
| **PSH045** | PSH045-A23015050TI | N/A |
| **PSH065** | PSH065-A23015050TI | N/A |
| **PSH090** | PSH090-A23015050TI | N/A |
| **PSH120** | PSH120-A40035050TI | N/A |
| **PSH160** | PSH160-A40035050TI | N/A |
| **PSH200** | PSH200-A40035050TI | N/A |
| **PSH230** | PSH230-A40035050TI | N/A |
| **PSH290** | PSH290-A40035050TI | PSH290-W40035050TI |
| **PSH380** | PSH380-A40035050TI | PSH380-W40035050TI |
| **PSH460** | PSH460-A40035050TI | PSH460-W40035050TI |
| **PSH630** | PSH630-A40035050TI | PSH630-W40035050TI |
| **PSH800** | PSH800-A40035050TI | PSH800-W40035050TI |
| **PSH1000** | PSH1000-A40035050TI | PSH1000-W40035050TI |
| **PSH1200** | PSH1200-A40035050TI | PSH1200-W40035050TI |



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