

50 barg refrigeration dryers

PoleStar Smart[®] HP



Operation

Cycling refrigeration dryers for high-pressure applications.

The range PoleStar Smart[®] HP PSH030-630

The standard model features:

- Maximum 50 barg operational pressure
- Ambient temperature up to 50°C.
- Inlet air temperature up to 65°C.
- Environmentally friendly R407C refrigerant in all models.
- Performance-enhancing condenser prefilter in PSH120 models and upwards.
- The heat exchanger is made of copper brazed stainless steel plates.
- Inlet and outlet air collectors and condensate separator are entirely made of stainless steel to increase resistance to corrosion effects.
- Integrated timed drain on all models across the range.

Recent technological advances and the use of highly sophisticated production processes have led to increased market demand for compressed air at pressures of up to 50 barg.

The excellent dewpoint stability from **stainless steel compressed air circuits** in conjunction with the numerous complex tests which each air dryer must undergo, means that PoleStar Smart HP can guarantee the highest possible quality of finished product.

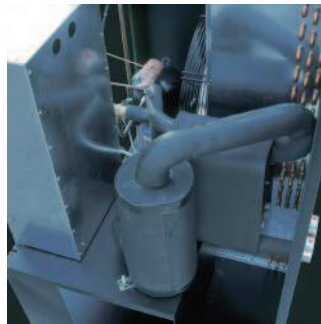
These also include the most complex technological processes, such as the production of bottles in PET recyclable plastic. In other words, maximum performance at minimum cost.

PoleStar Smart HP furthermore conforms to all major international directives and regulations, including the European PED 97/23 directive and North American ASME standards.

Parker Hiross offers a complete range of products (filters, separators, refrigerants and condensate drains) providing optimal treatment of compressed air and gas even at 50 barg pressure.

Free your Energy

50 barg refrigeration dryers



The **pneumatic circuit**, including a heat exchanger with copper brazed plates and condensate separator, is made of stainless steel to increase resistance to corrosion, which is common in certain environments and processes.

Models from PSH030 to 090 are controlled by an electronic board, models from PSH120 to 630 by the **SmartControl microprocessor**.



PSH120 models and upwards are enhanced by **compliant scroll compressors**.

Integrated timed condensate drain located in a **niche** for easy access and maintenance. The integral drain is controlled by the electronic board of the dryer.

The Parker Hiross solutions

Technical data

PoleStar Smart® HP

| Model | Air flow | | Nominal abs. power kW | Air connections in/out | Dimensions (mm) | | | Weight kg |
|--------|---------------------|-------------------|--------------------------|---------------------------|-----------------|-------------|------------|--------------|
| | m ³ /min | m ³ /h | | | A Width | B Height | C Depth | |
| PSH030 | 3 | 180 | 0.53 | 1 ¼" | 703 | 945 | 562 | 83 |
| PSH045 | 4,5 | 270 | 0.55 | 1 ¼" | 703 | 945 | 562 | 83 |
| PSH065 | 6,5 | 390 | 1.33 | 1 ¼" | 703 | 945 | 562 | 85 |
| PSH090 | 9 | 540 | 1.37 | 1 ¼" | 703 | 945 | 562 | 85 |
| PSH120 | 12 | 720 | 1.41 | 1 ¼" | 706 | 1.064 | 1.046 | 152 |
| PSH160 | 16 | 960 | 1.44 | 1 ¼" | 706 | 1.064 | 1.046 | 152 |
| PSH200 | 20 | 1.200 | 1.47 | 1 ¼" | 706 | 1.064 | 1.046 | 152 |
| PSH230 | 23 | 1.380 | 1.52 | 1 ¼" | 706 | 1.064 | 1.046 | 152 |
| PSH290 | 29 | 1.740 | 2.89 | 2 ½" ANSI | 1.007 | 1.690 | 1.097 | 356 |
| PSH380 | 38 | 2.280 | 3.18 | 2 ½" ANSI | 1.007 | 1.690 | 1.097 | 356 |
| PSH460 | 46 | 2.760 | 3.44 | 2 ½" ANSI | 1.007 | 1.690 | 1.097 | 356 |
| PSH630 | 63 | 3.780 | 4.12 | 2 ½" ANSI | 1.007 | 1.690 | 1.657 | 455 |

Performances refer to air-cooled model with air suction of FAD 20°C / 1 bar A, and 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 class 5 of DIN ISO8573-1. All indicated data refers to DIN ISO 7183. All models supplied with R407C. All models are supplied with timed integrated drain and designed for operation up to 50 barg. 50Hz models 030-090 supplied with 230V / 1Ph / 50Hz power supply, models 120-630 with 400V / 3Ph / 50Hz. Models PSH030-230 supplied with BSPT-F air connections. Flanged models supplied with stainless steel ANSI flanges; counterflanges and DIN flanges available on request. Please contact Parker Hiross for different models and versions.

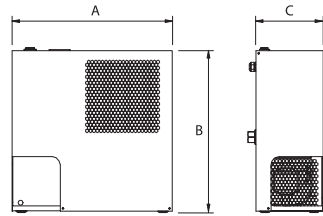
Air flow correction factors for differing working conditions

| | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|
| A) working pressure | barg | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 |
| correction factors | | 0,85 | 0,91 | 0,94 | 0,97 | 0,99 | 1 | 1,01 | 1,01 |
| B) air inlet temperature | °C | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 |
| correction factors | | 1,18 | 1 | 0,87 | 0,77 | 0,69 | 0,62 | 0,56 | 0,50 |
| C) ambient temperature | °C | 20 | 25 | 30 | 35 | 40 | 45 | 50 | |
| correction factors | | 1,02 | 1 | 0,98 | 0,95 | 0,93 | 0,90 | 0,86 | |

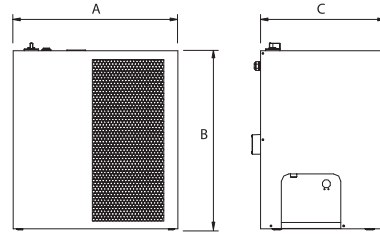
To obtain the required air flow multiply the air flow by the above correction factors (ie. Air flow x A x B x C). PoleStar Smart HP can operate up to ambient temperature of 50°C and inlet temperature of 65°C. The above correction factors are approximative; for a precise selection always refer to the software selection program or contact your Parker Hiross partner.

Free your Energy

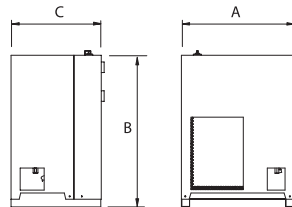
Dimensional drawings



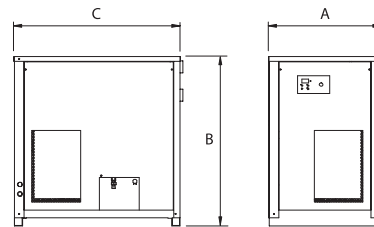
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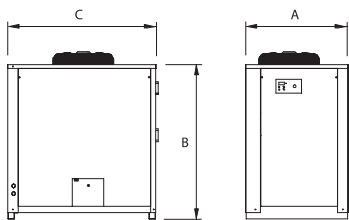
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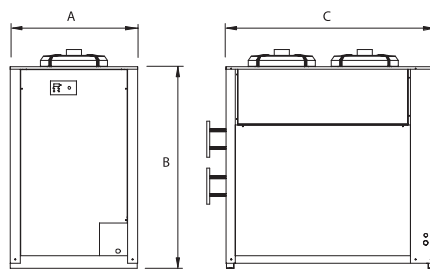
PST075-095
PSH030-090



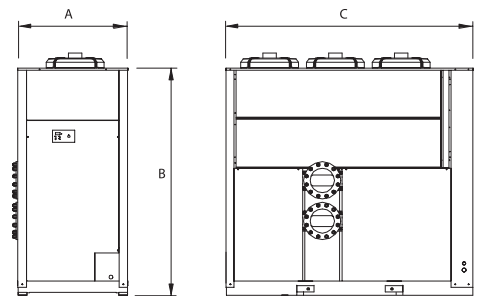
PST120-180
PSH120-230



PST220-350



PST460-1200
PSH290-630



PST1500-1800

Data contained in this publication is indicative only. The manufacturer reserves the right to modify data without prior notice.

The Parker Hiross solutions

www.dh-hiross.com
sales.dhh@parker.com

Parker Hiross S.p.A.

Strada Z.I. 4 - 35020 S. Angelo di Piove (PD) - ITALY - tel.: +39 049 9712111 - fax: +39 049 9701911



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