Lloyd's Register

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER	Parker Hannifin Manufacturing Limited
PLACE OF PRODUCTION	Dukesway Team Valley Trading Estate, Gateshead Tyne & Wear NE11 0PZ United Kingdom
DESCRIPTION	OFASHL OIL FREE AIR SYSTEM
TYPE	OFASHL 050, OFASHL 055, OFASHL 060, OFASHL 065, OFASHL 070, OFASHL 075, OFASHL 080, OFASHL 085
APPLICATION	Compressed Air Treatment
STANDARDS	ISO 7183: 2007 Compressed-air dryers – Specifications and testing ISO8573-1:2010 Contaminant and purity classes ISO8573-2:2007 Test Methods for oil aerosol content ISO8573-3:1999 Test Methods for measurement of humidity ISO8573-4:2001 Test Methods for solid particle content ISO8573-5:2001 Test Methods for oil vapour & organic solvents ISO12500-1:2007 Filters for compressed air – Test methods – Oil Aerosols
RATINGS	ISO8573-1:2010 Class 2 for particles ISO8573-1:2010 Class 0 and Class 1 for total oil (oil vapour & oil aerosol) ISO8573-1:2010 Class 3 for humidity and liquid water (for -20°C PDP) ISO8573-1:2010 Class 2 for humidity and liquid water (for -40°C PDP) ISO8573-1:2010 Class 1 for humidity and liquid water (for -70°C PDP)

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

Certificate No.	17/ 00003
Issue Date	13th January 2017
Expiry Date	12th January 2022
Sheet	1 of 2

D. Hardacre
Lead Specialist – Design Appraisal
LR Inspection Services

Lloyd's Register EMEA
71 Fenchurch Street, London EC3M 4BS

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When tested in accordance with the requirements of ISO 7183:2007 and challenged with the inlet conditions of 7bar.g, 35°C, 100% humidity, 25°C ambient temperature and 100% rated flow (as set out in the above standard in Table 2 Option A1), the test dryers achieved the following outlet pressure dew points (PDP):

- When flowed to achieve a pressure dew point of -20°C, the test dryers achieved a consistent outlet pressure dew point ≤ -20°C, equating to ISO8573-1:2010 Class 3 for water.
- When flowed to achieve a pressure dew point of -40°C, the test dryers achieved a consistent outlet pressure dew point ≤ -40°C, equating to ISO8573-1:2010 Class 2 for water.
- When flowed to achieve a pressure dew point of -70°C, the test dryers achieved a consistent outlet pressure dew point ≤ -70°C, equating to ISO8573-1:2010 Class 1 for water.

The OFAS HL dryer range is supplied as a package with Grade AO and AA coalescing filters, Grade AO dry particulate filters and Grade AC activated carbon filters. The combined ISO8573-1 classifications are stated in the Ratings section above. The class designation is ISO8573-1:2010 [A:B:C], where:

A is the purity class for particles;
B is the purity class for humidity and liquid water;
C is the purity class for oil.

The filter models described above have been tested at ISO reference conditions, in accordance with the requirements of ISO12500-1:2007. When challenged with up to 40mg/ m^3 of oil aerosol the upstream coalescing filters achieved an outlet air purity equal to Class 1 (< 0.01mg/ m^3) and when challenged with up to 8mg/ m^3 of oil vapour, the measured residual oil content downstream of the system achieved an outlet air purity equal to Class 0 (<0.003mg/ m^3) for oil, as defined by ISO8573-1:2010.

The filter models described above have been tested in accordance with the requirements of ISO8573-4:2001. The outlet filter removes particles down to 1 micron resulting in downstream air purity equal to Class 2 for solid particulate as defined by ISO8573-1:2010.

Power consumption (peak & average) & purge air volume were also tested and recorded in accordance with ISO7183:2007.

Details of the equipment, methodology and results are contained within the Technical Documentation File COV1613827/ TDF/ 1.

The Design Appraisal Document No. COV1613827 O-33199/DH and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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