



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 LRQA Type Approval.

This certificate is issued to:

MANUFACTURER*	Parker Hannifin Manufacturing Limited
MANUFACTURER ADDRESS*	Dukesway Team Valley Trading Estate Gateshead Tyne & Wear, NE11 0PZ United Kingdom (UK)
TYPE*	OFAS HL 050, OFAS HL 055, OFAS HL 060, OFAS HL 065, OFAS HL 070, OFAS HL 075, OFAS HL 080, OFAS HL 085
DESCRIPTION*	OFAS HL OIL FREE AIR SYSTEM
APPLICATION	Compressed Air Treatment
SPECIFIED STANDARD	ISO 7183: 2007 Compressed-air dryers – Specifications and testing ISO8573-1:2010 Contaminant and purity classes ISO8573-2:2018 Contaminant measurement - Oil aerosol content ISO8573-3:1999 Test Methods for measurement of humidity ISO8573-4:2019 Contaminant measurement - Particle content ISO8573-5:2001 Test Methods for oil vapour & organic solvents ISO12500-1:2007 Filters for compressed air – Test methods Oil Aerosols.
PRODUCT RATINGS	Dryer sized for -20°C PDP ISO8573-1:2010 Class 2:3:0/1 (vapour / aerosol) Dryer sized for -40°C PDP ISO8573-1:2010 Class 2:2:0/1 (vapour / aerosol) Dryer sized for -70°C PDP ISO8573-1:2010 Class 2:1:0/1 (vapour / aerosol)
TEST CONDITIONS	The OFAS HL Oil Free Air System is supplied as a package, comprising Grade AO and AA coalescing filters upstream of the dryer with Grade OVR filter followed by Grade AO dry particulate filter downstream. The combined ISO8573-1 classifications are stated in the Ratings section above. The Grade AO and AA coalescing filters models upstream of the dryer have been tested at ISO reference conditions, in accordance with the requirements of ISO12500-1. When challenged with up to 40mg/m ³ of oil aerosol, the residual oil content measured downstream achieved an outlet air purity equal to Class 1 (<0.01mg/m ³); when challenged with up to 8mg/m ³ of oil vapour, the residual oil content measured downstream achieved an outlet air purity equal to Class 0 (<0.003mg/m ³) for oil, as defined by ISO8573-1.



TEST CONDITIONS CONTINUED	<p>When tested in accordance with the requirements of ISO 7183 and challenged with the inlet conditions of 7bar.g, 35°C, 100% humidity, 25°C ambient temperature and 100% rated flow (as required by Table 2, Option A1), the test dryers achieved the following outlet pressure dew points (PDP):</p> <ul style="list-style-type: none"> 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 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 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 Class 1 for water. <p>Power consumption (peak & average) & purge air volume were also tested and recorded in accordance with ISO7183.</p> <p>The Grade AO dry particulate filter has been tested in accordance with the requirements of ISO8573-4. The declared air purity class measured upstream and downstream of the OFAS HL Oil Free Air System in accordance with ISO 8573-4 is provided below:</p> <table border="1" data-bbox="548 982 1317 1125"> <thead> <tr> <th>Upstream air purity class</th> <th>Downstream air purity class</th> <th>Measurement uncertainty on concentration</th> </tr> </thead> <tbody> <tr> <td>Class 3</td> <td>Class 2</td> <td>±2.5%</td> </tr> </tbody> </table> <p><i>Details of the equipment, methodology and results are contained within the Technical Documentation Files referred to in the Design Appraisal Documents COV1613827 O-33199/DH, COV1713761 O-34016/DH, COV1713837 O-34723/DH and PRJ11100398745 O-39903/PKC in conjunction with all supplementary Type Approval Terms & Conditions form part of this Certificate.</i></p>	Upstream air purity class	Downstream air purity class	Measurement uncertainty on concentration	Class 3	Class 2	±2.5%
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Class 3	Class 2	±2.5%					

“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 LRQA Verification Limited of any modification or changes to the equipment in order to obtain a valid certificate.”

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