Certificate No: PRJ11100398745/ O-39896
Issue Date: 17/03/2023
Expiry Date: 16/03/2028

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*	CDAS HL 050, CDAS HL 055, CDAS HL 060, CDAS HL 065, CDAS HL 070, CDAS HL 075, CDAS HL 080, CDAS HL 085

DESCRIPTION*	CDAS HL CLEAN DRY 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 ISO12500-1:2007 Filters for compressed air – Test methods Oil Aerosols.

PRODUCT RATINGS	Dryer sized for -20°C PDP ISO8573-1:2010 Class 2:3:2 Dryer sized for -40°C PDP ISO8573-1:2010 Class 2:2:2 Dryer sized for -70°C PDP ISO8573-1:2010 Class 2:1:2

TEST CONDITIONS	The CDAS HL Dry Air System is supplied as a package, comprising Grade AO and AA coalescing filters upstream of the dryer and 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 measured residual oil content downstream of the test filters averaged <0.01mg/m^3. As this dryer does not include an adsorption filter for the treatment of oil vapour, the resulting downstream air purity has been classed as Class 2 for oil, as defined by ISO8573-1.

TEST CONDITIONS CONTINUED	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 Dry Air System on test achieved the following outlet pressure dew points (PDP): • When flowed to achieve a pressure dew point of -20°C, the Dry Air System on test 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 Dry Air System on test 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 Dry Air System on test achieved a consistent outlet pressure dew point ≤ -70°C, equating to ISO8573-1 Class 1 for water. Power consumption (peak & average) & purge air volume were also tested and recorded in accordance with ISO7183. 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 CDAS HL Dry Air System in accordance with ISO 8573-4 is provided below: **Upstream air purity class** / **Downstream air purity class** / **Measurement uncertainty on concentration** Class 3 / Class 2 / ±2.5% *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-39902/PKC in conjunction with all supplementary Type Approval Terms & Conditions form part of this Certificate.*

"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."

Pradip Chongder
Manager – Design Appraisal, Inspection Services
LRQA Verification Limited
Phone: +44 (0) 330 414 1337
Email : Pradip.Chongder@lrqa.com

Office Details: 1 Trinity Park, Bickenhill Lane,
Birmingham, B37 7ES, UK.