



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	OIL-X Die-cast Filter Range
FILTRATION GRADE	WS Water Separators
TYPE	WSP010, WSP015, WSP020, WSP025, WSP030, WSP035, WSP040, WSP045, WSP050 & WSP055
APPLICATION	Filters for compressed air, nitrogen and all relevant Group 2 gases.
STANDARD	ISO12500-4:2009 Filters for Compressed Air – Methods of Test – Water ISO8573-1:2010 Contaminant and Purity Classes ISO8573-9:2004 Test Methods for Liquid Water Content
RATINGS	Class 8 for liquid water as defined by ISO8573-1:2010.

"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.	16/ 00072(E1)
Issue Date	13 th January 2017
Expiry Date	6 th October 2021
Sheet	1 of 2

D. Hardacre
Lead Specialist – Design Appraisal
LR Inspection Services

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The water separator filter models described above and in Table 1 have been tested at ISO reference conditions, in accordance with the requirements of ISO12500 4:2009 and challenged with 33 ml of liquid water per m³ of air, per hour.

With a flow rate between 25% & 100% of full rated flow, a measured separation efficiency of greater than or equal to 92% was recorded, resulting in downstream air purity equal to Class 8 for liquid water as defined by ISO8573-1:2010.

The differential pressure measured when flowed between 25% & 100% of full rated flow was a maximum of 111mbar (1.61psi).

Details of the equipment, methodology and results are contained within the Technical Documentation File COV1527423/ TDF.

The Design Appraisal Document No. COV1613518 O-32811/DH and its supplementary Type Approval Terms and Conditions form part of this Certificate

Table 1 : OIL-X Die-Cast Filter Range

WS - Water Separators

Test No.	LR Cert Reference	Issue	Standard	Yr Date	Water Content Challenge	Water Separation Efficiency	Differential Pressure Drop	Filter Grade	Models	Diecast - DC
1	COV0523080/1	0	ISO8573-9 ISO12500-4	2004 2009	33 ml/m ³ /hr	>=92%	<=111 mbar(1.61psi)	WS	(1)	DC
Models	(1) WSP010,WSP015,WSP020,WSP025,WSP030,WSP035,WSP040,WSP045,WSP050 & WSP055									
Standards	ISO8573-9 ISO12500-4 Test Methods for Liquid Water Content Filters for Compressed Air - Methods of Test - Part 4 Water									

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