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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	AA High Efficiency Coalescing and Dry Particulate Filters
TYPE	Die-cast: P010, P015, P020, P025, P030, P035, P040, P045, P050, P055 & P060
APPLICATION	Filters for compressed air, nitrogen and all relevant Group 2 gases
STANDARD	ISO12500-1:2007 Filters for Compressed Air – Test Methods – Oil Aerosols ISO8573-1:2010 Contaminant and Purity Classes ISO8573-2:2007 Test Methods for Oil Aerosol Content ISO8573-4:2001 Test Methods for Solid Particulate Content
RATINGS	Class 2 for oil as defined by ISO8573-1:2010 Class 1 for solid particulate 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/ 00080(E1)
Issue Date	7 th October 2016
Expiry Date	6 th October 2021
Sheet	1 of 2

D. Hardacre
Lead Specialist – Design Appraisal
LR Inspection Services

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The coalescing filter models described above and in Table 1 have been tested at ISO reference conditions, in accordance with the requirements of ISO12500-1:2007. Die-cast filter models were challenged with 10mg/ m³ of oil aerosol.

The measured residual oil content downstream of the test filters averaged <0.01mg/ m³, resulting in a downstream air purity equal to Class 2 for oil as defined by ISO8573-1:2010.

The initial dry differential pressure measured across each AA filter tested did not exceed 70mbar (1psi) and the initial saturated differential pressure measured across each AA filter tested did not exceed 125mbar (1.8psi).

The coalescing and dry particulate filter models described above have been tested in accordance with the requirements of ISO8573-4:2001.

The filter removed particles down to 0.01 micron resulting in downstream air purity equal to Class 1 for solid particulate as defined by ISO8573-1:2010.

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

AA - High Efficiency Coalescing and Dry Particulate Filters

Test No.	LR Cert Reference	Issue	Standard	Yr Date	Inlet Oil Aerosol Challenge	Remaining Oil Content	Saturated Pressure Drop mbar (PSI)	Filter Grade	Models	Diecast - DC
1	COV0413801/1	6	ISO8573-2	2007	10 mg/m ³	<0.01 mg/m ³	<125 mbar (1.8 psi)	AA	(1)	DC
2	COV1527423/1	1	ISO12500-1	2007	10 mg/m ³	<0.01 mg/m ³	<125 mbar (1.8 psi)	AA	(2)	DC
Test No.	LR Cert Reference	Issue	Standard	Yr Date	Nominal Rating	Initial Dry Pressure Drop (*) mbar (PSI)	Filter Grade	Models	Diecast - DC	
3	COV0413801/4	3	ISO8573-4	2001	0.01 Micron	<70 mbar (1 psi)	AA	(3)	DC	
Models	(1) P010,P015,P020,P025,P030,P035,P040,P045,P050 & P055 (2) P010,P015,P020,P025,P030,P035,P040,P045,P050,P055 & P060 (3) P010,P015,P020,P025,P030,P035,P040,P045,P050 & P055									
Standards	ISO8573-2 Test Methods for Oil Aerosol Content ISO8573-4 Test Methods for Solid Particle Content ISO12500-1 Filters for Compressed Air - Test Methods - Part 1 Oil Aerosols (*) Defined as the maximum differential pressure for a new dry particulate filter									

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