



CERTIFICATE OF FIRE APPROVAL

This is to certify that

The product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer	Swegon Air Management LTD (Actionair)
Address	Joseph Wilson Industrial estate South Street, Whitstable Kent, CT53DU United Kingdom
Type	FIRE DAMPER (STANDARD FIRE TEST)
Description	Single or Multi Bladed Rectangular Fire Damper - Type "A-60 Marine Fire Damper" for use in steel bulkheads and decks
Specified Standard	IMO Res. MSC.307(88) - (FTP Code) Annex 1, Part 3 IMO Res. MSC.61 (67) - (FTP Code) Annex 1 Part 3 IMO MSC/Circ.1120 IMO Res. MSC.307 (88)-(2010 FTP Code) Section 8

The attached Design Appraisal Document forms part of this certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

Date of issue 13 April 2017 Expiry date 12 April 2022

Certificate No. SAS F170079 Signed 

Sheet No 1 of 4 Name S. Abraham
Surveyor to Lloyd's Register EMEA
A Member of the Lloyd's Register Group

Note:

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

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DESIGN APPRAISAL DOCUMENT

Date 13 April 2017	Quote this reference on all future communications SOUTSO/SFS/TA/FF/SA/WP26418253&WP28369168
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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F170079

This Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

Tests conducted to the new 2010 FTP Code [IMO Res. MSC.307(88)] Annex 1, Part 3

Test Laboratory of RINA Services SpA, Genoa, Italy, Fire Test Reports No: 2015CS013908/1, 2015CS013908/2, 2015CS013908/3 and 2015CS013908/4, all dated 9 June 2016.

Tests conducted to the previous FTP Code [IMO Res. MSC.61(67)] Annex 1 Part 3

BRE Research Station, Hertfordshire, UK, Fire Test Report No: 208147A, dated 17 May 2002. Fire Protection Research Laboratory (RINA), Genoa, Italy, Report No. 2005CS013898 and 2006S013874, dated 13 October 2005 and 11 October 2006 respectively.

CONDITIONS OF CERTIFICATION

- For applications in A-15, A-30 and A-60 Class steel bulkheads and decks, the fire damper and ducting are to be protected by an approved insulation system suitable for the fire rating of the division. Table 1 below shows minimum total duct insulation lengths, which may be interpolated for intermediate sizes based on internal cross-section area of the duct.

Table 1: Minimum total duct insulation lengths based on cross-sectional area

	100mm x 100mm	400mm x 400mm	1000mm x 1000mm	Two rectangular dampers each 1000mm x 1000mm, joined by a mullion and with single duct/coaming 2080mm wide x 1000mm high
Bulkhead	750mm	750mm	1150mm	1150mm
Deck	750mm	1050mm	1350mm	1350mm

- For applications in A-0 Class steel bulkheads and decks, multiple damper assemblies of cross-sectional areas above 1000mm x 1000mm are to be fitted with the same or equivalent A-60 Class insulation arrangements as-tested, on the fire damper only and the ductwork need not be insulated. All smaller dampers including single dampers up to a maximum approved size of 1000mmx1000mm need not be insulated when used in A-0 Class divisions
- Fire dampers are suitable for use in A-0, A-15, A-30 and A-60 Class steel bulkheads and decks with a spring return, fail safe close actuator of appropriate torque rating depending on the damper size and with associated thermal release mechanisms as described in Table 2 below



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Table 2: Approved closing mechanisms based on damper size and required torque

Damper size range	Actuator	Thermal release mechanism	Torque
100mm x100mm up to 400mm x 400mm	Actionair Compact Version 1 (24v, 120v, 230v)	Electrical Thermal Release (ETR)	6Nm spring return
100mm x100mm up to 400mm x 400mm	Actionair Compact Version 2 (24v, 120v, 230v)	Electrical Thermal Release (ETR)	7Nm spring return
401mm x 401mm up to 1000mm x 1000mm	Actionair Universal (24v, 120v, 230v)	Electrical Thermal Release (ETR)	20Nm spring return
100mm x100mm up to 1000mm x 1000mm	Festo DFPB20SF05 Pneumatic	Pneumatic Thermal Release (PTR)	20Nm @5bar
100mm x100mm up to 1000mm x 1000mm	Hytork XL071 (S-90) Pneumatic	Pneumatic Thermal Release (PTR)	20Nm @5.5bar
100mm x100mm up to 400mm x 400mm	Schischek 5.10 BF (BF-A-45.9Lb) ExMax, RedMax, InMax, VAS, CTS, BF1	ExPro-TT Thermal Trigger	5 or 10Nm
401mm x 401mm up to 1000mm x 1000mm	Schischek 15BF (BF-A-45.9Lb)ExMax, RedMax, InMax, VAS, CTS, BF2	ExPro-TT Thermal Trigger	15Nm

4. Mono or multi blade fire dampers with outer casing composed of either galvanised/zinc carbon steel or 316 grade stainless steel, in thickness options of 1.2mm, 2mm or 3mm. Blades are composed of Stainless Steel of thickness 0.5mm, shaped to double skin hollow profile of 12.7mm thick
5. Minimum permissible clear opening of single unit fire damper: 100mm x 100mm
6. Maximum permissible clear opening of single unit fire damper: 1000mm x 1000mm
7. Maximum permissible clear opening of multiple unit fire damper assembly with mullion: 2080mm wide x 1000mm high. Each fire damper unit to be fitted with an appropriate actuator and associated thermal release mechanism depending on the damper size and torque requirement as per Table 2 above.
8. Depth of damper casing: 150mm or 210mm
9. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype



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PLACE OF PRODUCTION

Swegon Air Management LTD (Actionair)
Joseph Wilson Industrial Estate
South Street,
Whitstable,
Kent, CT5 3DU
United Kingdom (UK)



Saji Abraham
Senior Specialist
Statutory Fire & Safety
Southampton Technical Support Office, Marine & Offshore
Lloyd's Register EMEA

Supplementary Type Approval Terms and Conditions

This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s).