

FEX H0(H120) FIRE DAMPER

For offshore and navy ventilation systems



MATERIALS

PART	MATERIAL	FINISHING
Frame	Carbon steel	Painted or galvanised
Frame	Stainless steel EN 1.4301 (AISI304), EN 1.4404 (AISI316L), EN 1.4432 (AISI316L)	-
Blades	Steel	Galvanized
Blades	Stainless steel EN 1.4301 (AISI304), EN 1.4404 (AISI316L), EN 1.4432 (AISI316L)	-
Maintenance-free bearings	Stainless steel EN 1.4404 (AISI316L)	-
Shafts	Stainless steel EN 1.4404 (AISI316L)	-

FEX PRODUCT OPTIONS

Halton FEX is available with following actuators:

- FEX-EL: Electrical spring return motor; standard actuators being 24 V or 230 V or 120 V. The motor contains built-in open-closed limit switches. Separate junction box included in the EL-model. A wide range of Ex actuators available, including a one second closing time function as an option.
- FEX-PNR: Pneumatic rotating actuator. Junction box available as an option.
- FEX-PNL: Pneumatic linear actuator, material stainless steel
- FEX-SP: Manual spring-actuated damper with fusible link

DOT: manual override function available for PNL, PNR and EL models.

HSO: Halton Smart Override function for HVAC damper black-start available for PNL, PNR and EL models. With automatic reset function when power and/or pneumatic air supply is reinstated.

A wide range of accessories available.

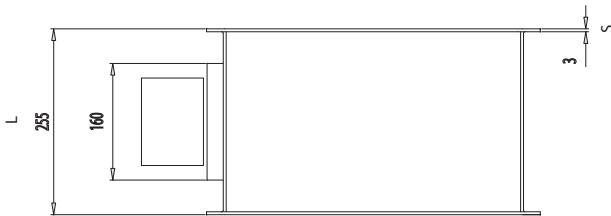
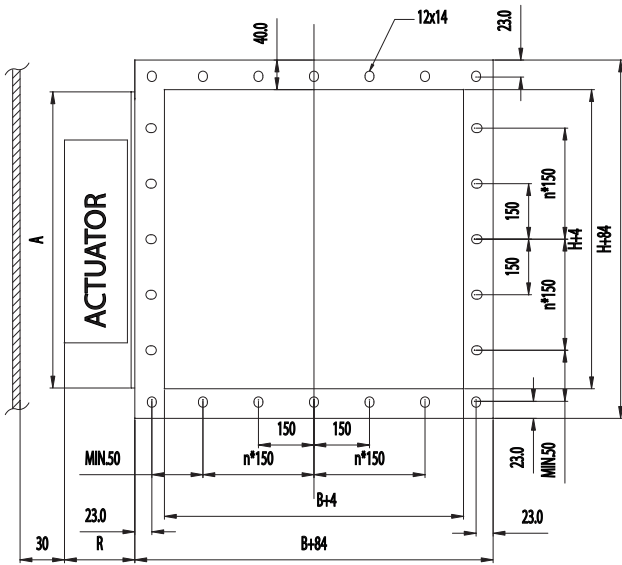
APPLICATIONS

The Halton FEX fire dampers are type-approved class H0(H120) fire dampers for use in offshore and navy ventilation systems. FEX dampers are used to protect the integrity of bulkheads and decks where they are penetrated by ventilation ducts. The Halton FEX dampers can be installed in rectangular or circular ducts. Dampers have a fusible link and they prevent the spread of fire and gases within the ventilation ductwork. When the blades are in a open position, the device does not cause significant pressure loss, noise or flow disturbance. FEX dampers are set from outside and are suitable to be installed in bulkheads and decks. An open-closed label is visible on the outside of the damper.

FEATURES

- Type approved by Bureau Veritas (until 07/2020) and ABS (until 06/2021), class H0(H120) fire damper when suitably insulated
- Available as ATEX approved
- Blades contain thermal expansion seals
- Closed damper fulfills the requirement of leakage (EN1751:2014) from class 1 to class 3 depending on size. Details available from Halton Marine.
- Casing leakage (EN1751:2014) class B
- Nominal fuse release temperature 50 °C, 74 °C or 100 °C. Other temperatures available.
- Automatic electrical, pneumatic or spring operation system available
- Maximum duct pressure for damper construction 5000 Pa and maximum air velocity 15 m/s
- Normal operation temperature for damper between -50 °C to +80 °C. Actuator and component selection can have an effect on this temperature range. Other temperatures available on request

GENERAL FEX DRAWINGS



FEX DIMENSIONS AND MATERIAL THICKNESS

FEX fire dampers are manufactured for both rectangular and circular ducts. Sizes for rectangular ducts (BxH) are available from 100x100 mm to 1200x1200 mm in 1 mm increments of duct.

Sizes for circular ducts (BxH) are available from diameter 100 mm to 1250 mm.

Size of flange is 40 mm as standard. Flanges and drilling also available according to ISO 15138 standards or customer's own specifications.

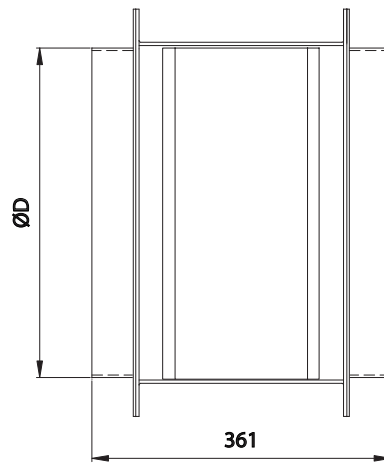
Frame thickness 3 mm or 3-5 mm according to SOLAS.

Blades are made of two sheets each of them being 1 mm thick (sandwich design).

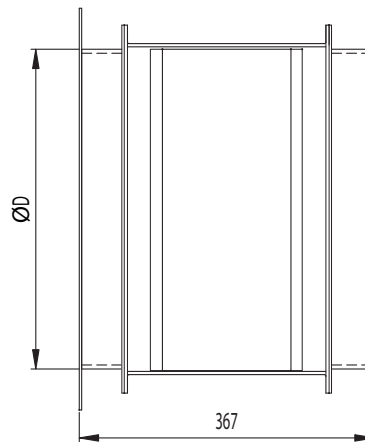
FRAME THICKNESS ACCORDING TO SOLAS

DIMENSIONS	S	L
If B or H ≥ 100 and ≤ 449	3	255
If B or H ≥ 450 and ≤ 649	4	257
If B or H ≥ 650	5	260

FEX CIRCULAR CONNECTION



FEX CIRCULAR, WITH CONNECTION FLANGES



ACTUATOR EFFECT ON DIMENSIONS

ACTUATOR		DIMENSIONS	
		R	A
Pneumatic PNL	Linear actuator 245/300 N	170	H ≤ 500 = 500 H > 500 = H
Pneumatic PNR	Pneumatic rotating actuator AT100	170	H ≤ 300 = 300 H > 300 = H
Pneumatic PNR	Pneumatic rotating actuator AT200	190	H ≤ 350 = 350 H > 350 = H
Electrical	BF230, BF24, BF120	100	H ≤ 300 = 300 H > 300 = H
Electrical	Schischek ExMax / RedMax	180	H ≤ 300 = 300 H > 300 = H
Spring	Spring	140	H

The above table contains only some examples of actuators and their effect on dimensions.

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DIMENSIONS	S	L
If A < 0.075 m ²	3	255
If A ≥ 0.075 and A ≤ 0.45 m ²	4	257
If A > 0.45 m ²	5	260

OPERATION PRINCIPLE

In the event of a temperature rise in ductwork:

- FEX-EL: fusible link releases and cuts off operating voltage to the spring return motor, allowing the spring to close the damper blades. The fire damper opens automatically when the fuse has been changed and the operating voltage to the motor is re-established.
- FEX-PNR and FEX-PNL: fusible link releases and cuts off operating pressure to the spring return actuator, allowing springs to close the damper blades. The fire damper opens automatically when the fuse has been changed and the pneumatic air supply is re-established.
- FEX-SP: fusible link releases allowing the spring to close the damper blades. When the fuse has been changed, the fire damper must be reset into open position manually.

WEIGHTS

STANDARD HALTON MARINE FEX DAMPERS (KG) without an actuator. Frame thickness 3 mm.

H/HEIGHT	B / WIDTH (mm)												D2 ØD	WEIGHT
mm	100	200	300	400	500	600	700	800	900	1000	1100	1200	mm	kg
100	6	8	10	12	14	17	19	21	23	25	27	29	100	8
200	8	11	13	15	17	19	22	24	26	28	30	32	125	9
300	11	14	16	18	20	23	25	27	30	32	34	37	160	14
400	13	16	18	21	23	26	28	31	33	35	38	40	200	14
500	16	19	22	24	27	30	32	35	38	40	43	46	250	20
600	18	21	24	27	30	33	35	38	41	44	47	50	315	21
700	21	24	27	30	33	37	40	43	46	49	52	55	400	28
800	23	27	30	33	36	39	43	46	49	52	56	59	500	37
900	26	30	33	37	40	43	47	50	54	57	61	64	630	48
1000	28	32	36	39	43	46	50	54	57	61	64	68	800	64
1100	31	35	39	43	46	50	54	58	62	66	69	73	1000	86
1200	33	37	41	45	49	53	57	61	65	69	73	77	1250	117

Examples of actuator weights: FEX-EL GGA 326.1E 2,3 kg, GNA 326.1E 1,3 kg, BF230 +3,2 kg, BLF230 +1,7 kg, ExMax/Redmax +4 kg, CSQP +3 kg., FEX-PNR AT100 +2,1 kg, AT100 as AISI316 4,4 kg, AT200 +3,2 kg, AT200 as AISI316 +6,2 kg, FEX-PNL Roder +4 kg, FEX-SP +1 kg. Control enclosure +4 kg.

STANDARD HALTON MARINE FEX DAMPERS (KG) without an actuator. Frame thickness 3-5 mm according to SOLAS

H/HEIGHT	B / WIDTH (mm)												D2 ØD	WEIGHT
mm	100	200	300	400	500	600	700	800	900	1000	1100	1200	mm	kg
100	6	8	10	12	16	19	28	31	34	37	40	43	100	8
200	8	11	13	15	19	22	32	35	38	41	44	48	125	9
300	11	14	16	18	23	26	36	40	43	46	50	53	160	14
400	13	16	18	21	26	29	40	44	47	51	54	58	200	14
500	20	23	26	29	33	36	46	49	53	57	60	64	250	20
600	22	26	29	32	36	39	50	54	57	61	65	69	315	21
700	30	34	38	43	47	51	55	59	63	67	71	75	400	28
800	33	38	42	46	50	55	59	63	67	72	76	80	500	46
900	37	42	46	51	55	60	64	69	73	78	82	86	630	63
1000	40	45	50	54	59	64	68	73	77	82	87	91	800	93
1100	44	49	54	59	64	69	73	78	83	88	93	98	1000	123
1200	47	52	57	62	67	72	77	82	87	92	97	102	1250	167

Examples of actuator weights: FEX-EL GGA 326.1E 2,3 kg, GNA 326.1E 1,3 kg, BF230 +3,2 kg, BLF230 +1,7 kg, ExMax/Redmax +4 kg, CSQP +3 kg., FEX-PNR AT100 +2,1 kg, AT100 as AISI316 4,4 kg, AT200 +3,2 kg, AT200 as AISI316 +6,2 kg, FEX-PNL Roder +4 kg, FEX-SP +1 kg. Control enclosure +4 kg.

