

FEX

H0(H120) Fire Damper



The Halton FEX fire dampers are type-approved class H0(H120) fire dampers for use in offshore, nuclear and navy ventilation systems. FEX dampers are used to protect the integrity of bulkheads 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 (low-leakage model) within the ventilation ductwork. When the blades are in an 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. An open-closed label is visible on the outside of the damper.

- Type approved by most recognized classification societies, class H0(H120) fire damper when suitably insulated
- ATEX approved
- Fixed frame and blades of stainless steel AISI 316L. Painted frame surface as an option on request
- Blades contain thermal expansion seals
- Nominal release temperatures of fuses are 50 °C, 74 °C and 100 °C degrees. 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. In case of high duct pressure, contact Halton Marine for finding the most suitable solution.

| PART | MATERIAL | FINISHING | NOTE |
|---------------------------|-----------------|-----------|--------------------------|
| Frame | Stainless steel | Painted | - |
| Frame | Stainless steel | - | - |
| Blades | Stainless steel | - | - |
| Blades | Stainless steel | - | - |
| Maintenance-free bearings | Stainless steel | - | Bronze bearings optional |
| Shafts | Stainless steel | - | - |

FEX DIMENSIONS AND MATERIAL THICKNESS

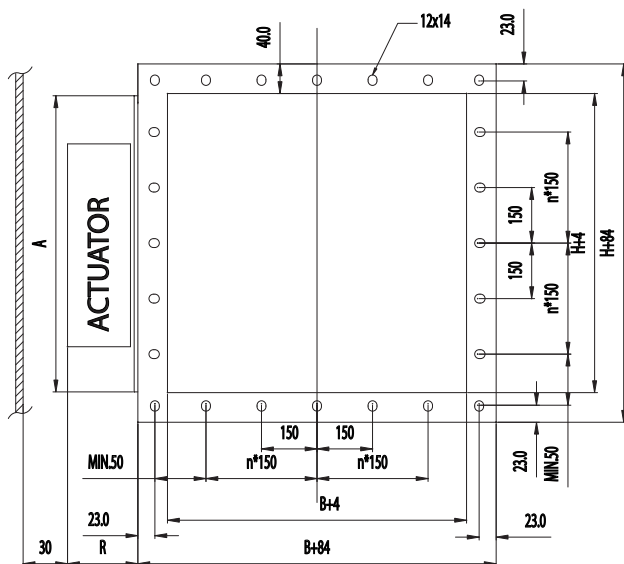
FEX fire dampers are manufactured for both rectangular and circular ducts. Sizes for rectangular ducts (BxH) are available from 100x100 mm to 1200x1200 mm in 1 mm increments of duct. Sizes for circular ducts (BxH) are available from diameter 100 mm to 1250 mm. Special non-standard dimensions available on request. Size of flange is 40 mm as standard. Flanges and drilling also available according to ISO 15138 standards or customer's own specifications. Standard frame material thickness 3 mm. Blades are made of two sheets each of them being 1mm thick.

Actuator effect on dimensions

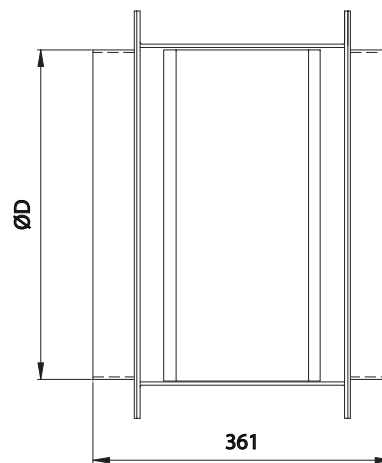
| ACTUATOR | | DIMENSIONS | |
|-----------------|-----------------------------------|------------|-------------------------------------|
| | | R | A |
| Pneumatical PNL | Linear actuator 245/300 N | 170 | $H \leq 500 = 500$ $H > 500 = H$ |
| Pneumatical PNR | Pneumatic rotating actuator AT100 | 170 | $H \leq 300 = 300$ $H > 300 = H$ |
| Pneumatical PNR | Pneumatic rotating actuator AT200 | 190 | $H \leq 350 = 350$ $H > 350 = H$ |
| Electrical | GGA 326.1E | 100 | $H \leq 300 = 300$ $H > 300 = H$ |
| Electrical, EX | Schischek ExMax / RedMax | 180 | $H \leq 300 = 300$ $H > 300 = H$ |
| Spring | Spring | 140 | H |

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

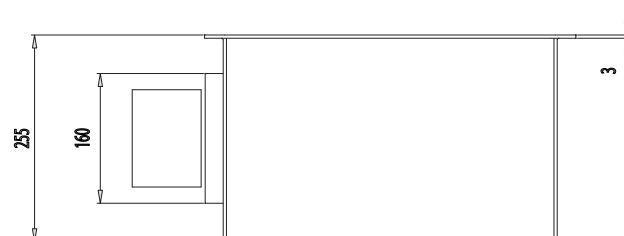
GENERAL FEX DRAWING



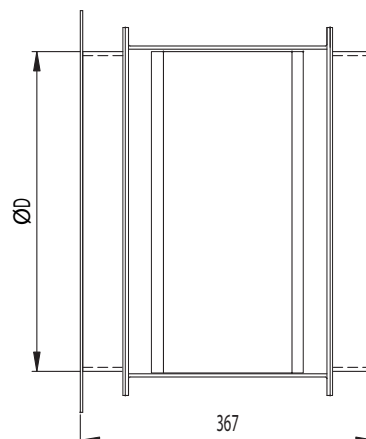
FEX CIRCULAR CONNECTIONS



GENERAL FEX DRAWING, TOP



FEX CIRCULAR, WITH CONNECTION FLANGES



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 eex-proof 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 AISI 316
- FEX-SP: Manual spring-actuated damper with fusible link.

DOT: manual override function available for PNL, PNR and EL models. A wide range of accessories available

OPERATION PRINCIPLE

In the event of a temperature rise in ductwork:

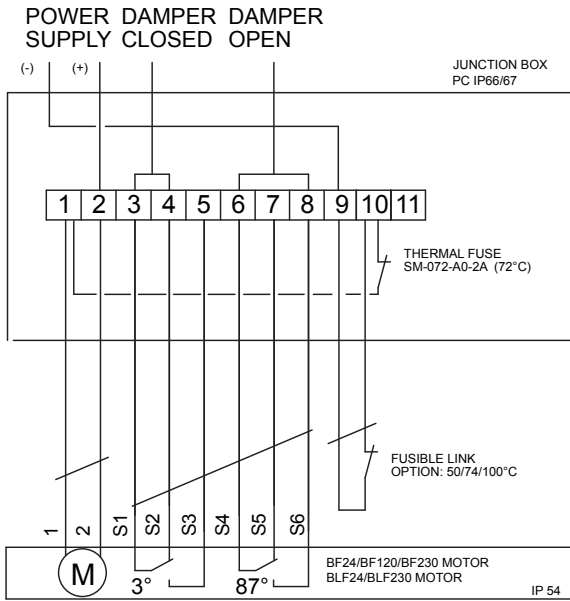
- FEX-EL: fusible link releases and cuts off operating voltage to the spring return motor, allowing the spring to close the damper blades. The fire damper opens automatically when the fuse has been changed and the operating voltage to the motor is re-established.
- FEX-PNR and FEX-PNL: fusible link releases 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 OF STANDARD HALTON MARINE FEX-EL DAMPERS (KG) without an actuator

| H/Height mm | B / Width (mm) | | | | | | | | | | | | D2 ØD mm | Weight kg |
|----------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------------|--------------|
| | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 | | |
| 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, 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.

FEX-EL WIRING DIAGRAM



FEX-PNR/PNL PNEUMATIC DIAGRAM

1. SPRING RETURN ACTUATOR
2. QUICK EXHAUST VALVE
3. SILENCER
4. FUSIBLE LINK VALVE
5. OPTION: SOLENOID VALVE
6. MALE CONNECTOR
7. DOUBLE NIPPLE
8. PLASTIC TUBE
9. OPTION: OPEN/CLOSED SWITCHES
10. OPTION: MANUAL VALVE
11. PRESSURE REGULATOR
12. MALE ELBOW
13. SPEED CONTROLLER

NOTICE!
ADDITIONAL SOLENOID VALVE
MAX 10 METER FROM FIRE
DAMPER

PNEU. INLET (5-10
BAR)

FOR A PLASTIC TUBE
Ø6 MM

