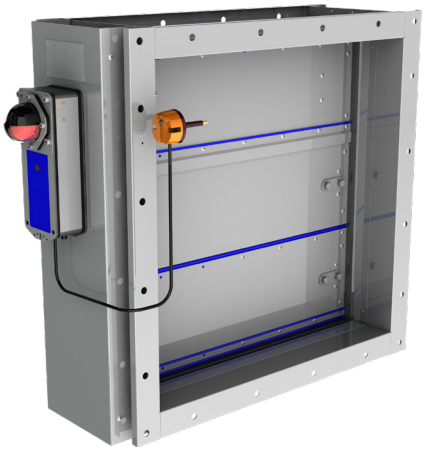
FCE FIRE DAMPER (EI 60 S)

For industrial ventilation systems



MATERIALS

PART	MATERIAL	FINISHING
Frame	Carbon steel (3 mm) Steel (1 mm)	Hot-dip galvanized / ISO 1464 Z275 / EN 10346:2015
Frame	Stainless steel EN 1.4301 (AISI304), EN 1.4404 (AISI316), EN 1.4432 (AISI316L)	(3 mm) Pickling / (1 mm) N/A
Blades	Steel	Z275 / EN 10346:2015
Blades	Stainless steel EN 1.4301 (AISI304), EN 1.4404 (AISI316), EN 1.4432 (AISI316L)	-
Blade insulation	Calcium silicate (EI 60 S) Ceramic wool (E 120 S)	-
Maintenance-free bearings	Oil bronze	-
Bearings	EN 1.4404 (AISI316) (Available as an option)	
Shafts	Stainless steel EN 1.4404 (AISI316)	-

FCE PRODUCT OPTIONS

Halton FCE is available with following actuators:

- FCE-EL: Electrical spring return motor; standard actuators being 24 V to 230 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.

HSO: Halton Smart Override function for HVAC damper black-start available. With automatic reset function when power is reinstated.

A wide range of accessories available.

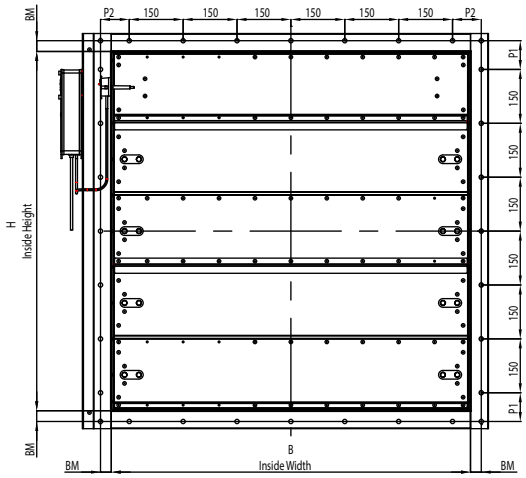
APPLICATIONS

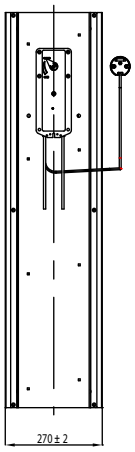
Halton FCE fire dampers are CE-marked according EN 15650:2010 and tested according to EN 1366-2 standard. Halton FCE fire dampers are used as safety-related components in ventilation systems to prevent fire and smoke spreading through ducting.
The FCE fire damper can be installed in rectangular ducts in solid walls, ceilings and lightweight partition wall. During normal operation, the fire damper is in the open position and does not cause significant pressure loss, noise or flow disturbance.

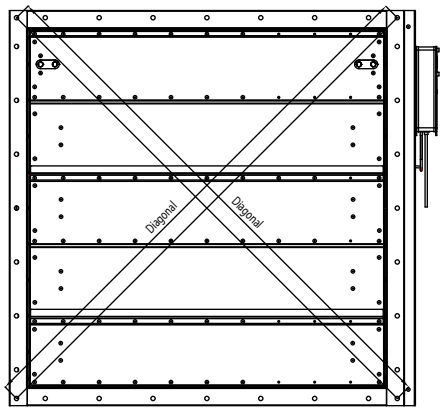
FEATURES

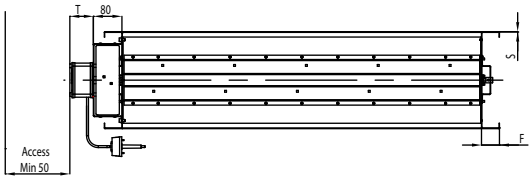
- Certified by Centrum Techniki Okretowej S.A.
- Automatic electrical operation system.
- Blades contain silicone seals (effective up to 300 °C) for low leakage in normal conditions and thermal expansion graphite seals (effective from 150 °C) to increase tightness in a case of fire
- Blades contain ceramic wool insulation or calcium silicate fire protective board depending on fire resistance class
- Low weight due to double skin blade structure
- Closed blade leakage to EN 1751, Class 3 size >=200x200
- Casing leakage to EN 1751, Class C
- Maximum duct pressure for damper construction 5000 Pa (3mm casing), 3000 Pa (1mm casing) and maximum air velocity 15 m/s
- Normal operation temperature for damper between -30 °C to +50 °C. Actuator and component selection can have an effect on this temperature range. Other temperatures available on request
- Option of circular connection
- Available as ATEX certified

GENERAL FCE DRAWINGS









ACTUATOR	T	T (External limit switch)
Belimo BF	112	163
Schischek BF	132	184
Petz QT.Ex-MFD	156	197

DIMENSIONS	ØC	F	P1	P2	BM
If longest side ≤ 350	10	50	75...150	75...150	20
If longest side 351...1000	12	50	75...150	75...150	30

FCE DIMENSIONS AND MATERIAL THICKNESS

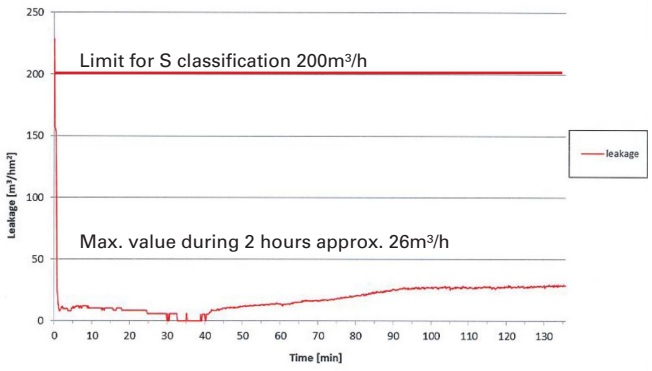
The FCE fire dampers meet international standards for both rectangular (width B 150-1000 mm with 25 mm division and height H 150-1000 mm with 50 mm division) and circular ducts (Ø100-1000 mm).
Standard flanges height 50 mm and drilling according to ISO 15138 standards. Frame thickness 1 mm to 3 mm. Blades are made of two sheets, each of being 1 mm thick (sandwich design).

OPERATION PRINCIPLE

If temperature increases (≥72°C) in case of fire or hot gases the damper blade closes automatically.
Alternatively, the FCE damper may be released by a local switch or common building automation system.

FCE LEAKAGE IN FIRE CONDITIONS

Test pressure 300 Pa. Damper size 1000x1000 mm. Test according to EN 1366-2.



FIRE CLASSIFICATION ACCORDING TO EN 13501-3

EI 60 (ve ho i ↔ o) S
E 120 (ve ho i ↔ o) S

E: Integrity (against flames & hot gases)
I: Insulation (against heat)
S: Smoke leakage (against gases & smoke)
ve: Vertical installation
ho: Horizontal installation
i ↔ o: Fire direction, outside & inside duct
60 Minutes integrity and insulation
120 Minutes integrity

M02Y2019/Halton Marine reserves the right to alter products without notice.

WEIGHTS ACCORDING TO FIRE RESISTANCE CLASS ES 120

STANDARD HALTON MARINE FCE DAMPERS (KG), WITHOUT AN ACTUATOR, FRAME THICKNESS 1 mm

H /	B / WIDTH (mm)																	
mm	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
150	7	7	8	9	10	11	11	12	13	14	15	16	16	17	18	19	20	21
200	7	8	9	10	11	11	12	13	14	15	16	17	17	18	19	20	21	22
250	8	9	10	11	11	12	13	14	15	16	17	17	18	19	20	21	22	22
300	10	11	12	13	14	15	16	18	19	20	21	22	23	24	25	26	27	28
350	11	12	13	14	15	16	18	19	20	21	22	23	24	25	26	27	28	29
400	12	13	14	15	17	18	19	20	21	22	23	24	25	26	27	28	29	30
450	14	16	17	18	20	21	22	23	25	26	27	29	30	31	33	34	35	36
500	16	17	18	19	21	22	23	25	26	27	29	30	31	32	34	35	36	38
550	17	18	19	21	22	23	24	26	27	28	30	31	32	34	35	36	37	39
600	18	19	20	22	23	24	26	27	28	29	31	32	33	35	36	37	39	40
650	20	21	23	24	26	28	29	31	32	34	35	37	38	40	41	43	44	46
700	21	23	24	26	27	29	30	32	33	35	36	38	39	41	42	44	45	47
750	22	24	25	27	28	30	31	33	34	36	37	39	40	42	43	45	47	48
800	23	25	26	28	29	31	32	34	35	37	38	40	42	43	45	46	48	49
850	25	27	29	31	32	34	36	38	39	41	43	45	46	48	50	52	53	55
900	27	28	30	32	34	35	37	39	41	42	44	46	48	49	51	53	55	56
950	28	29	31	33	35	36	38	40	42	43	45	47	49	50	52	54	56	57
1000	29	30	32	34	36	37	39	41	43	44	46	48	50	51	53	55	57	58

STANDARD HALTON MARINE FCE DAMPERS (KG), WITHOUT AN ACTUATOR, FRAME THICKNESS 3 mm

H /	B / WIDTH (mm)																	
mm	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
150	12	12	14	15	16	18	19	20	21	22	23	25	26	27	28	29	31	32
200	12	14	15	16	17	19	20	21	22	24	25	26	27	28	29	31	32	33
250	14	15	16	17	18	20	21	22	24	25	26	27	28	29	31	32	33	34
300	16	17	19	20	22	23	25	26	28	29	30	32	33	35	36	37	39	40
350	17	19	20	22	23	25	26	28	29	30	32	33	35	36	38	39	40	42
400	19	20	22	23	24	26	28	29	31	32	33	35	36	38	39	40	42	43
450	22	23	25	27	28	30	32	33	35	36	38	40	41	43	45	46	48	50
500	23	25	26	28	30	31	33	35	36	38	40	41	43	44	46	48	49	51
550	25	26	28	30	31	33	34	36	38	39	41	43	44	46	48	49	51	52
600	26	28	29	31	33	34	36	38	39	41	42	44	46	47	49	51	52	54
650	29	30	32	34	36	38	40	42	43	45	47	49	51	53	55	56	58	60
700	30	32	34	36	37	39	41	43	45	47	49	51	52	54	56	58	60	62
750	32	33	35	37	39	41	43	45	46	48	50	52	54	56	58	59	61	63
800	33	35	37	39	40	42	44	46	48	50	52	53	55	57	59	61	63	65
850	35	38	40	42	44	46	48	50	52	54	56	58	60	63	65	67	69	71
900	37	39	41	43	45	47	49	51	54	56	58	60	62	64	66	68	70	72
950	38	40	43	45	47	49	51	53	55	57	59	61	63	65	68	70	72	74
1000	40	42	44	46	48	50	52	54	56	59	61	63	65	67	69	71	73	75

Actuator options	Closing time	Material	Weight (appr.)
Ex/InMax-BF	3/10 seconds	Aluminium	3,5 kg
Ex/InMax-BF	3/10 seconds	Stainless steel	7 kg
QT.Ex-MFD	3 seconds	High Tech Polymer	4,1 kg
BF230-T	16 seconds	Steel	3,1 kg
BF24-T	16 seconds	Steel	2,8 kg

WEIGHTS ACCORDING TO FIRE RESISTANCE CLASS EI 60 S

STANDARD HALTON MARINE FCE DAMPERS (KG), WITHOUT AN ACTUATOR, FRAME THICKNESS 1 mm

H /	B / WIDTH (mm)																	
mm	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
150	7	8	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
200	8	9	10	11	11	12	13	14	15	16	17	18	19	20	21	22	23	24
250	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
300	11	12	13	14	16	17	18	19	21	22	23	25	26	27	28	30	31	32
350	12	13	14	16	17	18	20	21	22	24	25	26	27	29	30	31	33	34
400	13	14	16	17	18	20	21	22	24	25	26	28	29	30	32	33	34	36
450	15	17	18	20	22	23	25	26	28	30	31	33	34	36	38	39	41	42
500	16	18	20	21	23	25	26	28	29	31	33	34	36	38	39	41	42	44
550	18	19	21	23	24	26	28	29	31	33	34	36	38	39	41	43	44	46
600	19	21	22	24	26	27	29	31	32	34	36	38	39	41	43	44	46	48
650	21	23	25	27	29	31	33	35	37	39	41	43	45	47	48	50	52	54
700	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56
750	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58
800	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	56	58	60
850	27	29	32	34	36	39	41	43	46	48	50	52	55	57	59	62	64	66
900	28	31	33	35	38	40	42	45	47	49	52	54	56	59	61	63	66	68
950	29	32	34	37	39	41	44	46	48	51	53	56	58	60	63	65	67	70
1000	31	33	36	38	40	43	45	48	50	52	55	57	60	62	64	67	69	72

STANDARD HALTON MARINE FCE DAMPERS (KG), WITHOUT AN ACTUATOR, FRAME THICKNESS 3 mm

H /	B / WIDTH (mm)																	
mm	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
150	12	13	14	15	17	18	20	21	22	23	25	26	27	29	30	31	32	34
200	13	14	15	17	18	20	21	22	24	25	26	28	29	30	32	33	34	36
250	14	15	17	18	19	21	23	24	25	27	28	29	31	32	33	35	36	37
300	16	18	20	21	23	25	27	28	30	31	33	35	36	38	39	41	43	44
350	18	20	21	23	25	27	28	30	32	33	35	37	38	40	41	43	45	46
400	20	21	23	25	26	28	30	32	33	35	37	38	40	42	43	45	47	48
450	23	25	26	28	30	32	34	36	38	40	42	44	46	48	50	52	53	55
500	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58
550	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
600	27	29	31	33	35	37	39	41	43	46	48	50	52	54	56	58	60	62
650	30	32	34	37	39	41	44	46	48	50	53	55	57	60	62	64	66	69
700	31	34	36	38	41	43	45	48	50	52	55	57	59	62	64	66	68	71
750	33	35	38	40	42	45	47	49	52	54	56	59	61	63	66	68	71	73
800	35	37	39	42	44	46	49	51	54	56	58	61	63	65	68	70	73	75
850	37	40	42	45	48	50	53	56	58	61	63	66	69	71	74	77	79	82
900	39	41	44	47	49	52	55	57	60	63	65	68	71	73	76	79	81	84
950	40	43	46	48	51	54	56	59	62	65	67	70	73	75	78	81	83	86
1000	42	44	47	50	53	55	58	61	64	66	69	72	75	77	80	83	86	88

Actuator options	Closing time	Material	Weight (appr.)
Ex/InMax-BF	3/10 seconds	Aluminium	3,5 kg
Ex/InMax-BF	3/10 seconds	Stainless steel	7 kg
QT.Ex-MFD	3 seconds	High Tech Polymer	4,1 kg
BF230-T	16 seconds	Steel	3,1 kg
BF24-T	16 seconds	Steel	2,8 kg

M02Y2019/Halton Marine reserves the right to alter products without notice.