



Smoke Control Damper

CX-5C

in libraries of



air handling intelligence



open in
PartShelf24

EI 120 (v_{ew}-h_{ow}-i↔o) S1500
C₁₀₀₀₀ AA multi
 EN 1366-10:2011
 EN 12101-8:2011
 Certificate of Constancy
 of Performance
CE 1391-CPR-0104/2014
Damper tightness class: 4
Casing tightness class: C
 EN-1751:2002



FUNCTION

The CX-5C smoke control dampers are designed for smoke control systems in buildings outfitted with a one-stage evacuation scenario based on the fire-affected zone separation principle. The dampers meet the requirements for buildings where in the event of a fire the affected zone should be isolated from the other zone, and the escape routes should be protected by means of mechanical smoke control system. The performance criteria are satisfied in case of fire from inside to outside of damper as well as outside to inside or both, respectively.

APPLICATION

The CX-5C dampers can be used in multi compartment systems and should be activated automatically. The dampers may be used in smoke control systems as well as in combined smoke control and environmental systems. Dampers installation is allowed within a duct passing through a vertical or horizontal building partition or directly in vertical or horizontal building partition. The CX-5C dampers are designed for use in systems over the range from the negative pressure of 1500 Pa up to a positive pressure of 500 Pa.

DESCRIPTION

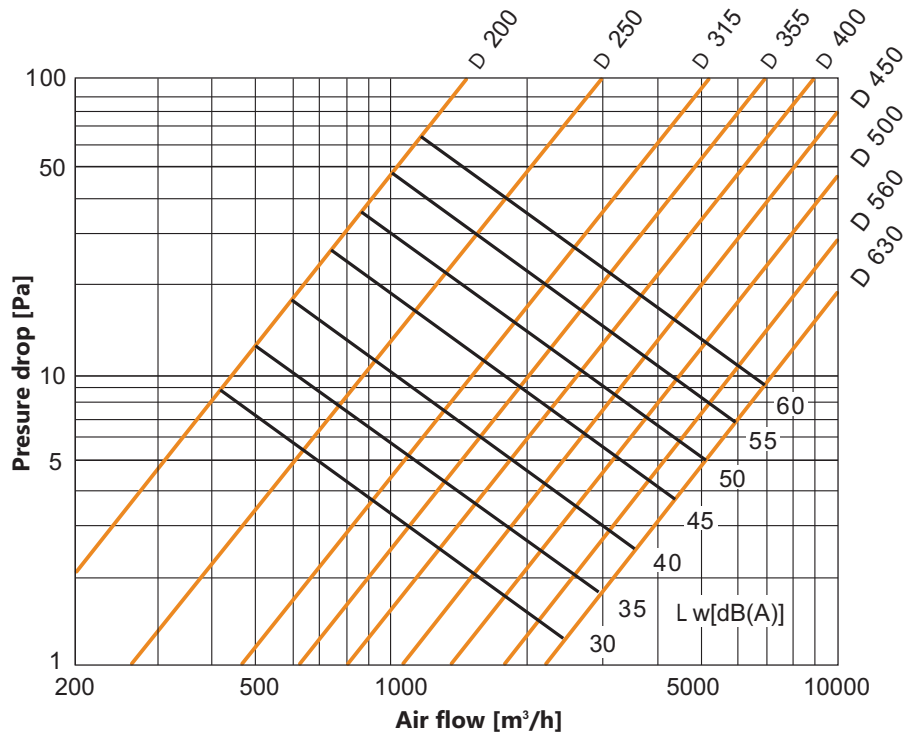
The CX-5C consists of:

- circular casing made of galvanized steel sheet alternatively stainless or acid proof steel,
- movable damper blade made of fire resistant board,
- combination of smoke and fire proof seals of damper blade,
- control mechanism and optional EMS module enabling fire damper assessment with the TZ tester.



SELECTION & DIMENSIONS

PRESSURE DROP ΔP [Pa] AND SOUND POWER LEVEL VALUES L_w [dB(A)]



Example

Conditions:

- CX-5C damper diameter $D=315$ mm
- Air flow = $1000\text{m}^3/\text{h}$

Result:

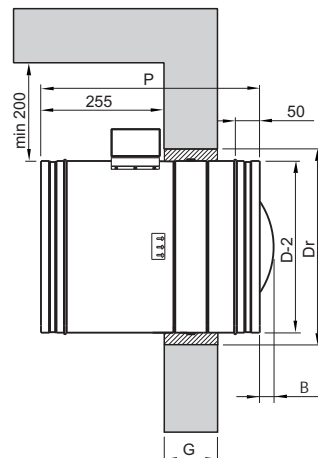
- $\Delta P=4,4$ Pa
- $L_w = 33$ dB(A)

DIMENSIONS

Table of dimensions for brick or concrete partition wall $G=110$ mm

D [mm]	P [mm]	B [mm]	Weight [kg]	S [dm ²]
200	390	-	7	2,15
250	450	-	8	3,67
315	450	9	9	6,23
355	450	28	10	8,13
400	450	51	11	10,58
450	450	75	13	12,67
500	450	100	15	17,15
560	450	130	17	21,84
630	450	165	19	28,04

$D=200-630$ mm



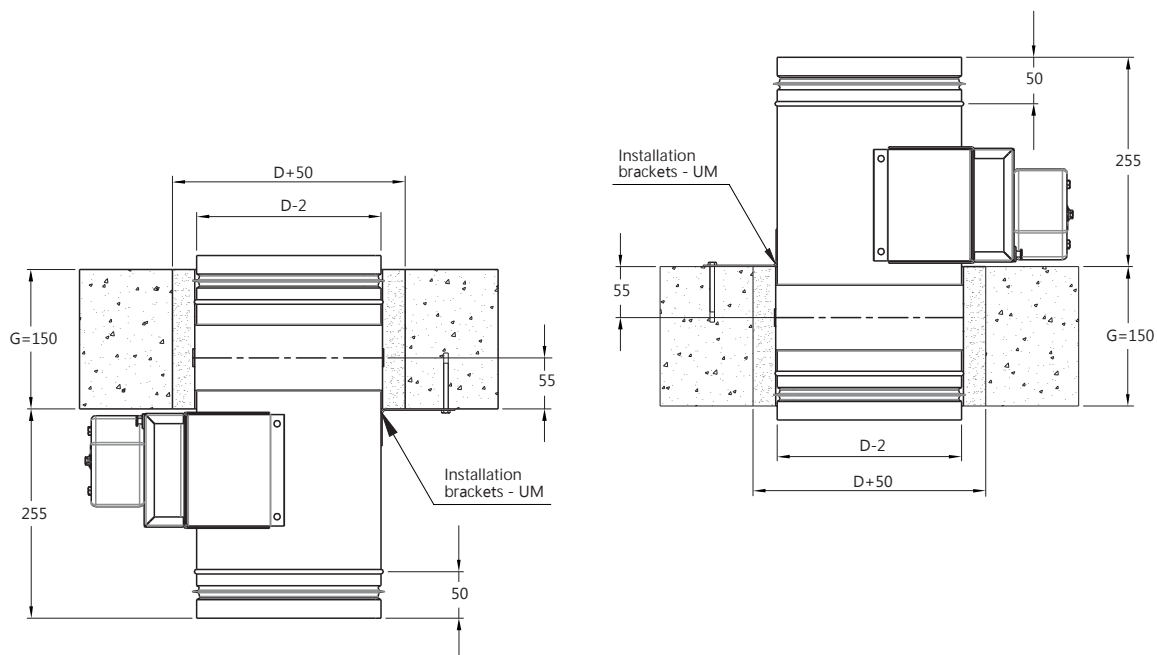
It is possible to order a damper with a non-standard casing length from the range:

$$P_{\text{standard}} < P_{\text{required}} < 1040 \text{ mm}$$

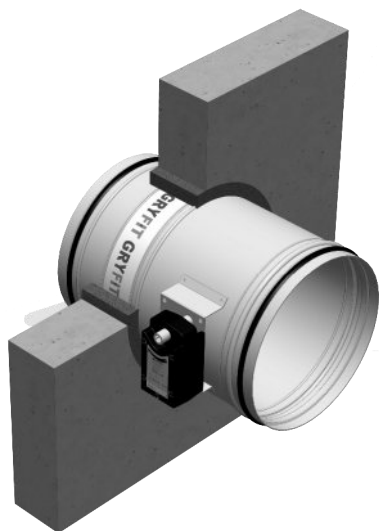


DIMENSIONS & INSTALATIONS

DIMENSIONS FOR SMOKE CONTROL DAMPER IN HORIZONTAL PARTITION



INSTALATION OF SMOKE CONTROL DAMPER IN A CONCRETE OR BRICK WALL



Minimum installation opening:

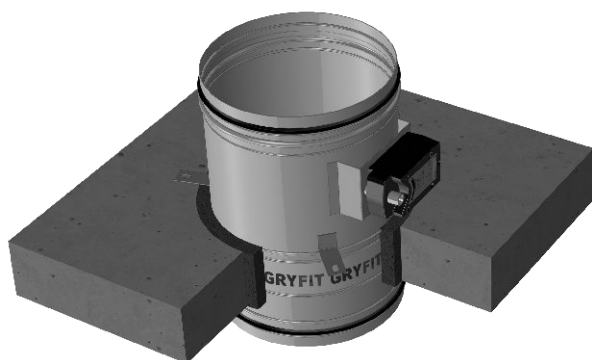
$D_r = D + 50$ mm

Mortaring border:

It is clearly marked by the label on the casing, damper blade should align with the center line of the partition wall's thickness for construction elements of 110mm thickness.

The **GRYFIT CX-5C** smoke control damper can be installed with its blade axis positioned horizontally or vertically.

INSTALATION OF SMOKE CONTROL DAMPER IN A HORIZONTAL PARTITION



Minimum installation opening:

$D_r = D + 50$ mm

Mortaring border:

It is clearly marked by the label on the casing

It is recommended to use mounting brackets to install smoke control damper in horizontal partition.



ACCESORIES

SMOKE CONTROL DAMPER WITH ELECTO-MAGNET AND MICROSWITCHES



Available options:

Electro-magnet controlled by impulse 24V DC - **EI24V**
 Electro-magnet controlled by impulse 230V AC - **EI230V**
 Electrical microswitch indicating „open“ position - **1WKP**
 Electrical microswitch indicating „closed“ position - **1WKK**
 Electrical microswitches indicating „open“ and „closed“ position - **1WKPP**
 Double electrical microswitches indicating „open“ and „closed“ position - **2WKPP**

SMOKE CONTROL DAMPER WITH SDG-15 ACTUATOR



Available options:

Actuator **SDG-15-24** - supply voltage - 24V AC/DC
 Actuator **SDG-15-230** - supply voltage - 230V AC

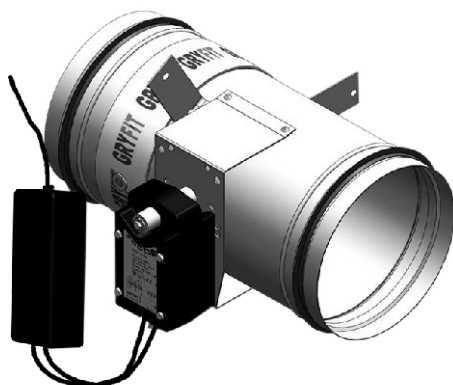
SMOKE CONTROL DAMPER WITH ELECTO-MAGNET AND ACTUATOR



Available options:

Electro-magnet controlled by impulse 24V DC - **EI24V**
 Electro-magnet controlled by impulse 230V AC - **EI230V**
 Actuator **FDG-8-24** - supply voltage - 24V AC/DC
 Actuator **FDG-8-230** - supply voltage - 230V AC
 Additional set of electrical microswitches indicating open and closed position – **1WKPP** set

ADDITIONAL ACESSORIES



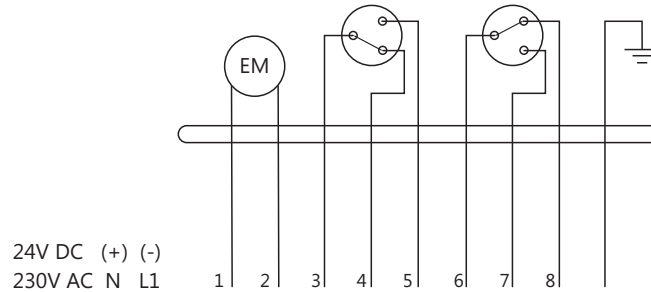
The CX-5C smoke control damper can be also equipped with:
 Installation brackets - to mount fire damper in horizontal partition - **UM** (delivered flat to be bended on site)
 T-type EPDM gasket - ensure a leakproof connection to the ventilation duct - **T**
 EMS module - suitable for connection of TZ tester - **EMS**



ELECTRICAL WIRING DIAGRAMS

SMOKE CONTROL DAMPER WITH ELECTO-MAGNET AND MICROSWITCHES

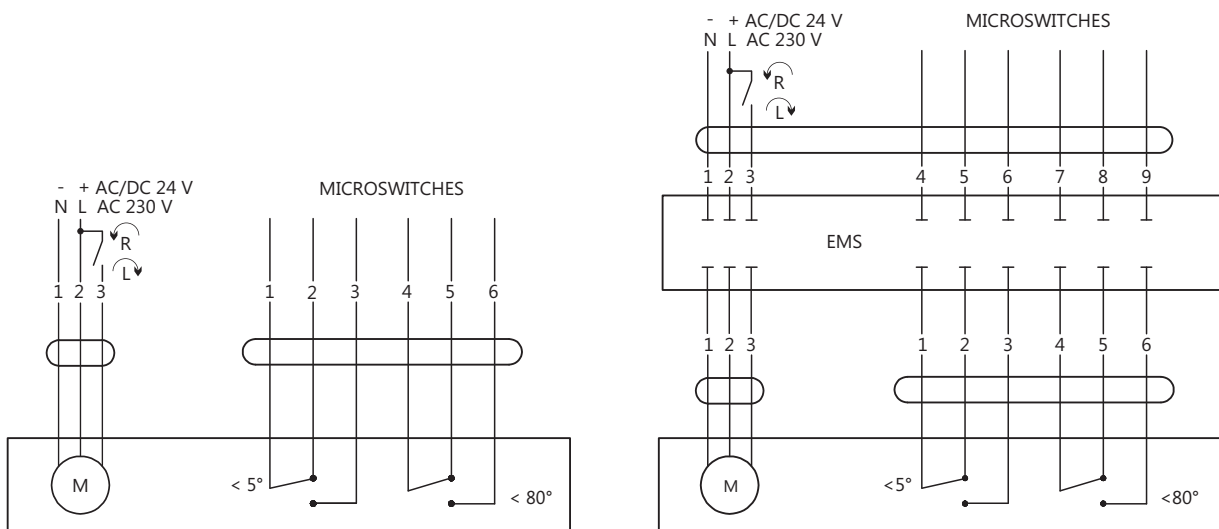
Electrical wiring diagram for electro-magnet and microswitches



ELECTRO-MAGNET CHARACTERISTICS		
Supply voltage	24/48 V DC impulse	230 V AC impulse
Power input	3,5 W	5,5 VA

SMOKE CONTROL DAMPER WITH SDG-15 ACTUATOR

Electrical wiring diagrams for SDG-15 actuators



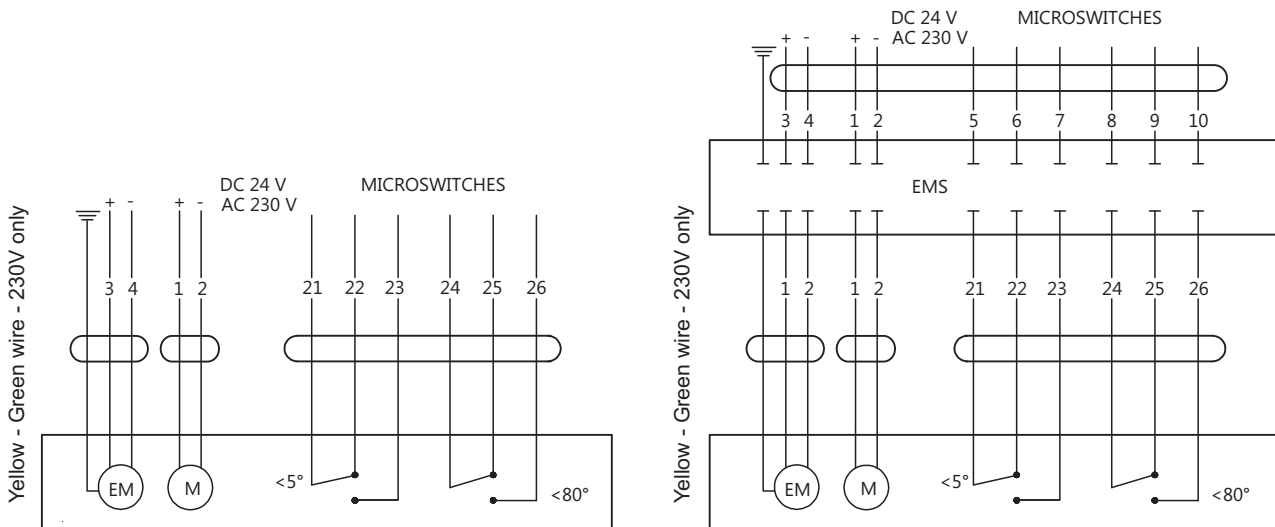
ACTUATOR CHARACTERISTICS		
Actuator type	SDG-15-24	SDG-15-230
Supply voltage	24 V AC/DC	230 V AC
Power consumption Motor (Motion)	7 W	7 W
Power consumption Standby (end position)	1,5 W	1,5W
Running time Motor	<30 s	<30 s
Torque motor	15 Nm	15 Nm
Protection class	IP54	IP54
Sound power level Motor	47 dB(A)	47 dB(A)



ELECTRICAL WIRING DIAGRAMS

SMOKE CONTROL DAMPER WITHOUT FUSIBLE LINK, ELECTO-MAGNET AND ACTUATOR

Electrical wiring diagrams for electro-magnet and FDG-8 actuators



ELECTRO-MAGNET CHARACTERISTICS		
Supply voltage	24/48 V DC impulse	230V AC impulse
Power input	3,5 W	5,5 VA

ACTUATOR CHARACTERISTICS		
Actuator type	FDG-8-24	FDG-8-230
Supply voltage	24 V AC/DC	230 V AC
Power input during tensioning the spring	3,5 W	9,2 VA
Time of movement – engine	55-71 s	55-71 s
Time of movement – spring	21 s	21 s
Torque motor	8 Nm	8 Nm
Protection class	IP54	IP54
Sound power level – actuator	47 dB(A)	47dB(A)
Sound power level – spring	52 dB(A)	52 dB(A)

EXAMPLE OF SPECIFICATION AND PURCHASE ORDER



Enquiry:

GRYFIT CX-5C smoke control damper D=315 mm, equipped with:
Actuator SDG-15-24
EMS module suitable for connection of TZ-5 tester,
EPDM gasket.

GRYFIT quotation:

GRYFIT CX-5C D315 + SDG-15-24 + EMS + T