



Fire Damper

CX-4S

in libraries of
Fluid Desk
Building Information Modeling



EI 120 (v_e-h_e-i↔o) S
 EN 13501-3+A1:2010
 EN 15650:2010
 Certificate of Constancy of
 Performance
CE 1488-CPR-0279/W



GOLD MEDAL MTP

air handling intelligence



open in
PartShelf24

FUNCTION

CX-4S fire dampers are designed for buildings where in the event of a fire due to the rise in temperature in ventilation duct the affected zone should be isolated from the other zone. 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

CX-4S fire dampers are installed in vertical fire rated partition walls penetrated by air ducts. Fire dampers closes as a result of rise in temperature in ventilation duct above 72°C or 95°C and activation of fusible link. Closed fire dampers maintain the required fire resistance ratings of partitions and prevent the spread of fire into the adjoining compartments.

If the damper has been exposed to fire, it has to be replaced with a new one. Signalling of closure of the damper blade is provided by the use of micro switches.

DESCRIPTION

The CX-4S 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,
- accessories.



ACCESSORIES

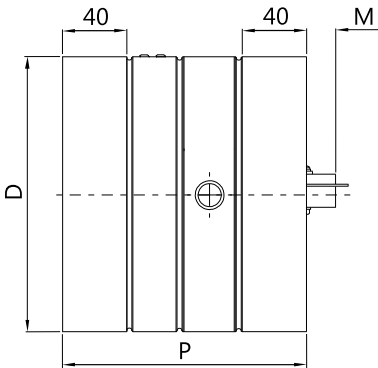
Optional configurations and accessories:

- installation bracket UM,
 - T-type EPDM gaskets - only for nipple connection,
 - microswitch indicating "open" position,
 - microswitch indicating "closed" position,
 - microswitch indicating "open" and "closed" positions,
 - handle for reopening the damper DZ and access door OR,
- FDG-WT-5 actuator,
 - FDG-WT-8 actuator.

DIMENSIONS AND INSTALLATION METHOD

CX-4S FUSE-ONLY WITH SLEEVE CONNECTION

D [mm]	P [mm]	M [mm]	S [dm ²]
100	145	0	0,6
123	145	0	0,9
160	145	18	1,6
200	145	38	1,6

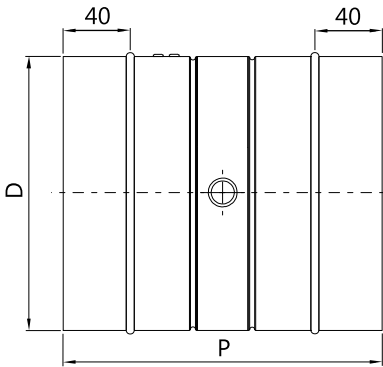


It is possible to manufacture a damper casing in non-standart P length in the range:
 $P_{\text{standard}} < P_{\text{required}} < 1000 \text{ mm}$

NOTE: If the damper is fitted with microswitches, to P dimension must be added 45 mm.

CX-4S FUSE-ONLY WITH NIPPLE CONNECTION

D [mm]	P [mm]	M [mm]	S [dm ²]
100	190	0	0,6
123	190	0	0,9
160	190	0	1,6
200	190	0	1,6

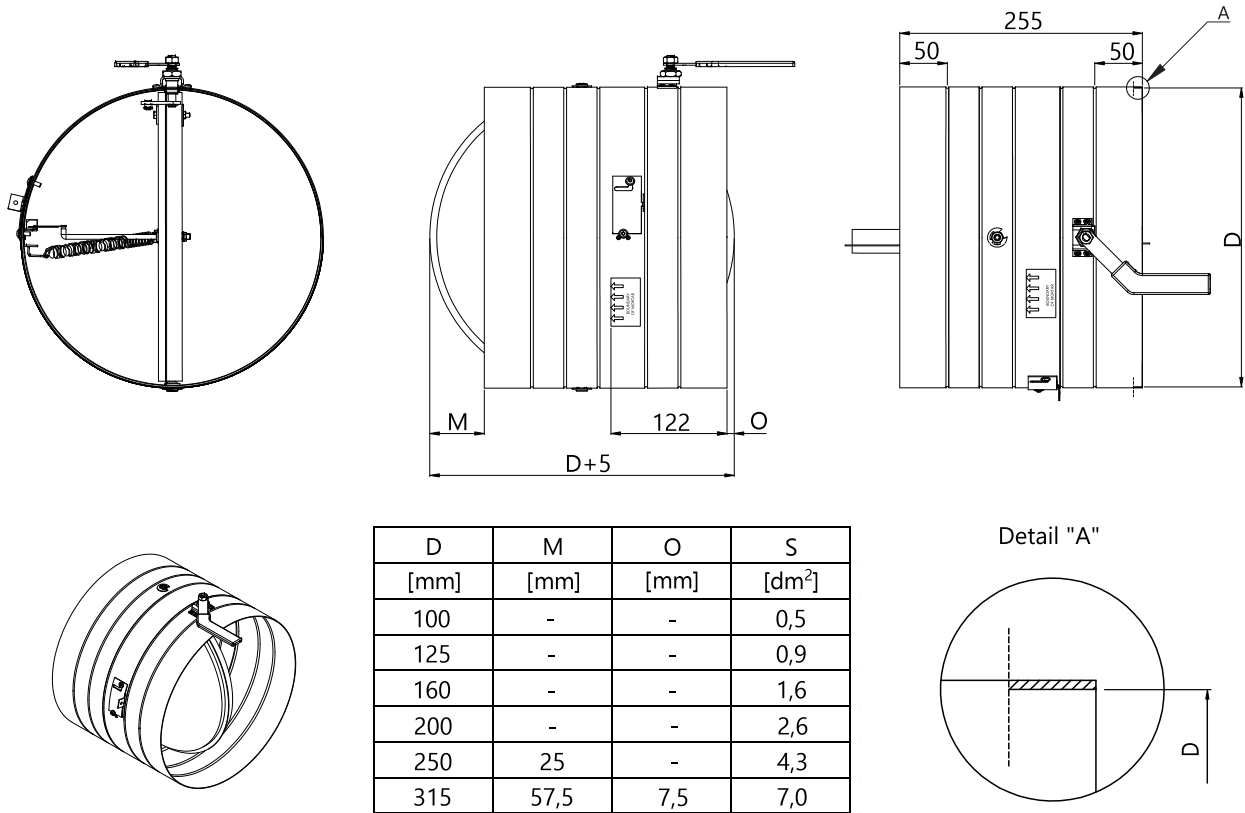


It is possible to manufacture a damper casing in non-standart P length in the range:
 $P_{\text{standard}} < P_{\text{required}} < 1000 \text{ mm}$

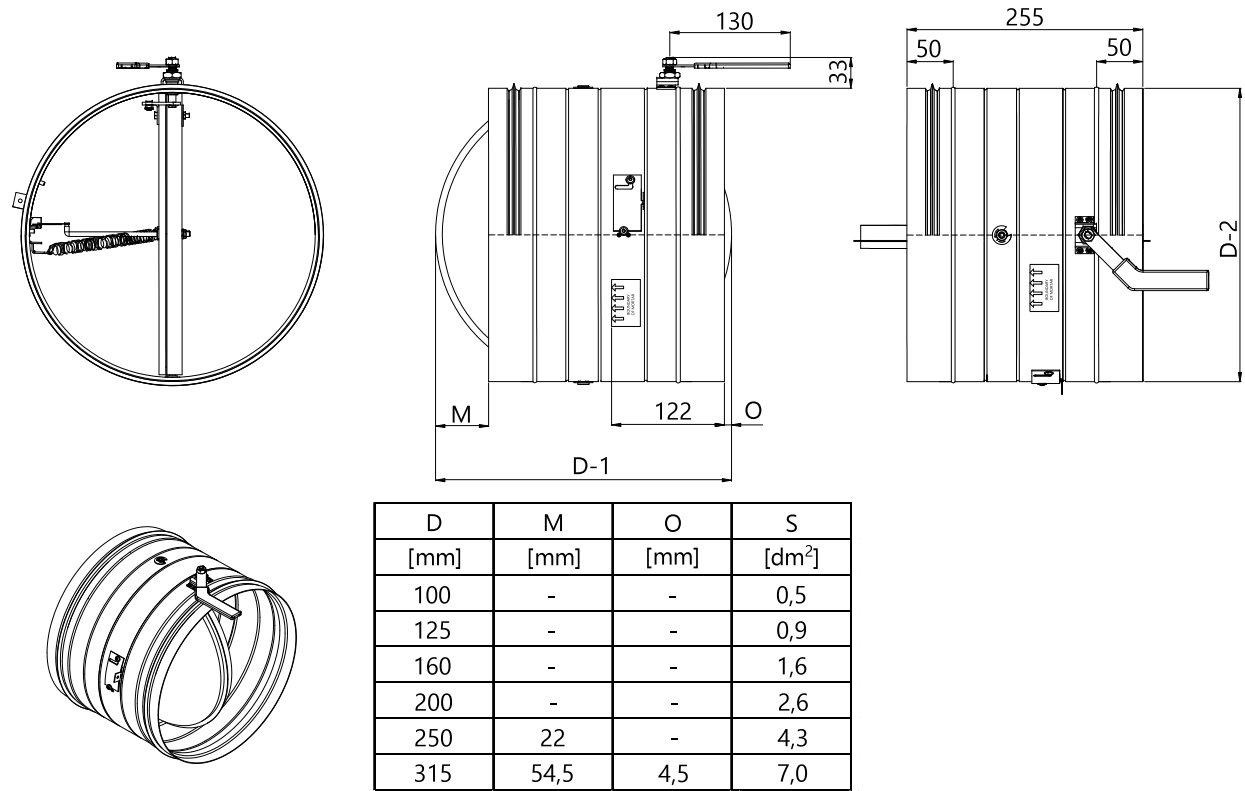
NOTE: If the damper is fitted with microswitches, to P dimension must be added 30 mm.

DIMENSIONS AND INSTALLATION METHOD

CX-4S FUSE-ONLY WITH SLEEVE CONNECTION
WITH OPTIONAL DZ HANDLE AND OR ACCESS DOOR

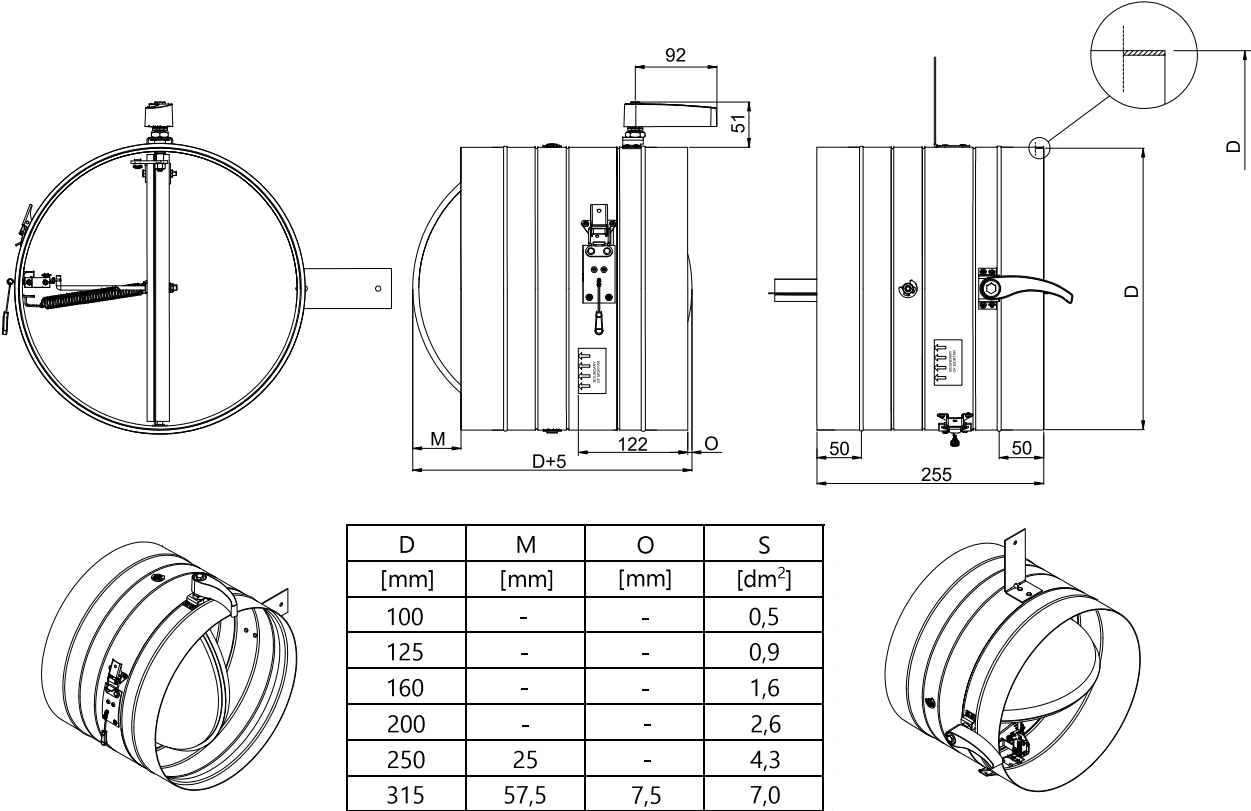


CX-4S FUSE-ONLY WITH NIPPLE CONNECTION
WITH OPTIONAL DZ HANDLE AND OR ACCESS DOOR

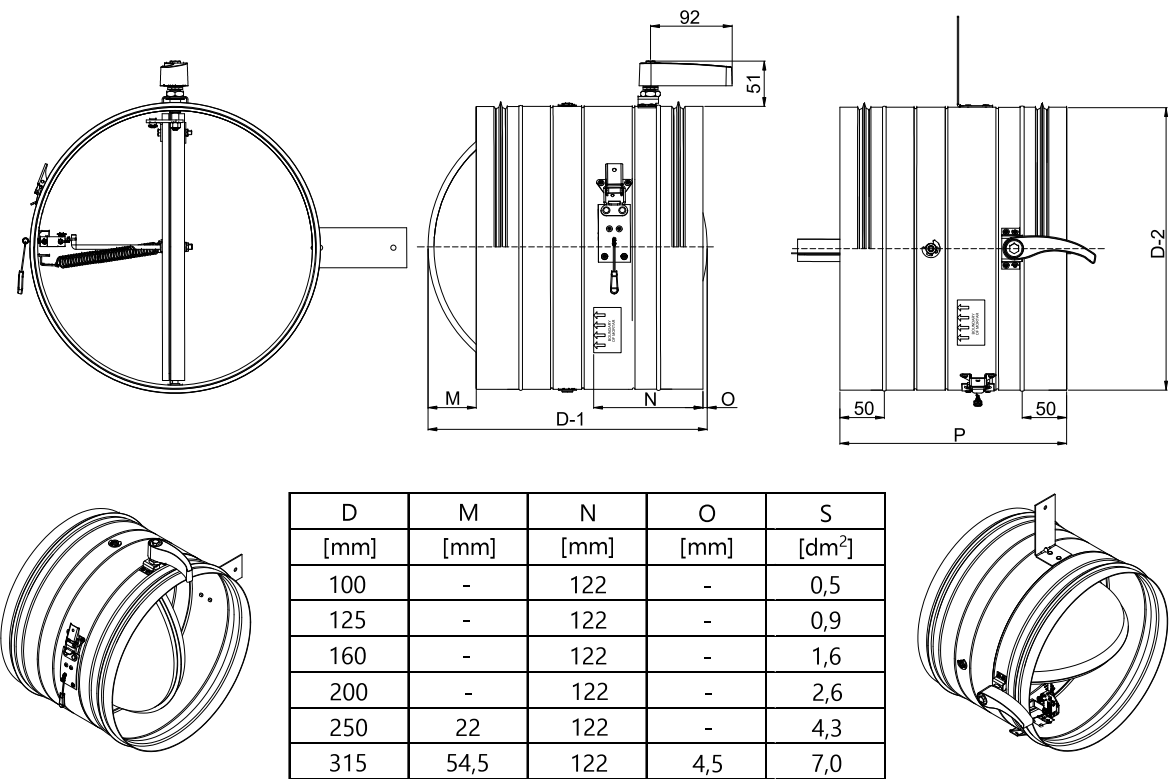


DIMENSIONS AND INSTALLATION METHOD

CX-4S FUSE ONLY WITH SLEEVE CONNECTION
WITH OPTIONAL ERGONOMIC eDZ HANDLE AND SC FUSIBLE LINK SOCKET



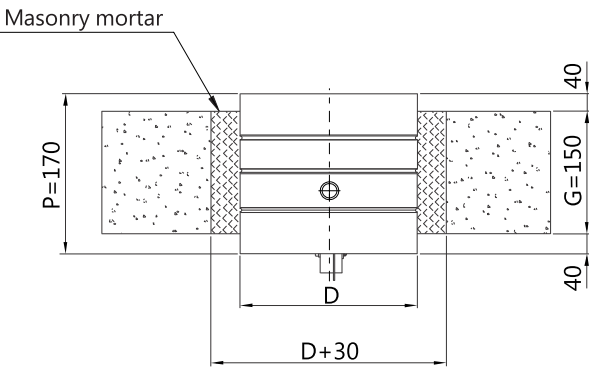
CX-4S FUSE ONLY WITH NIPPLE CONNECTION
WITH OPTIONAL ERGONOMIC HANDLE eDZ AND SC FUSIBLE LINK SOCKET



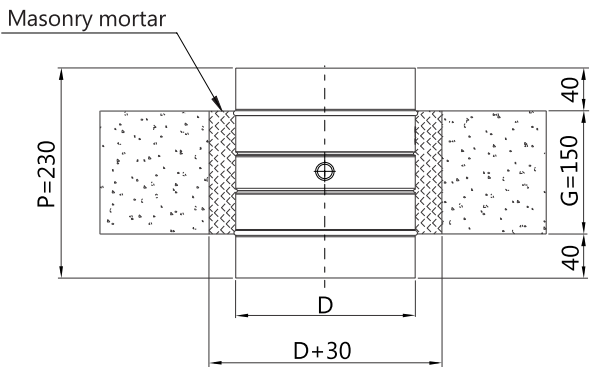


DIMENSIONS AND INSTALLATION METHOD

INSTALLATION IN THE CEILING

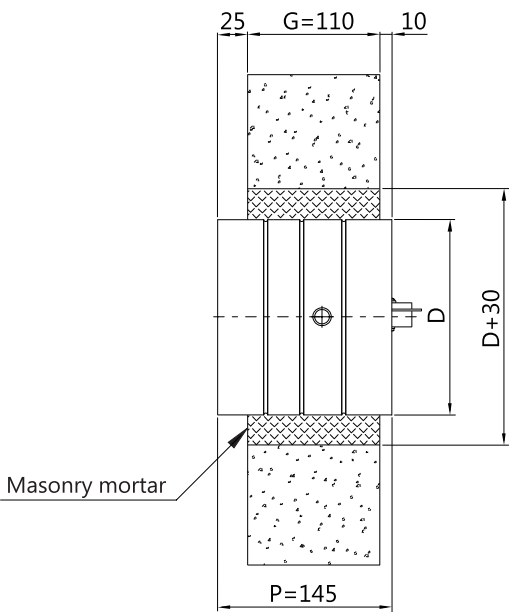


GRYFIT CX-4S with sleeve connection

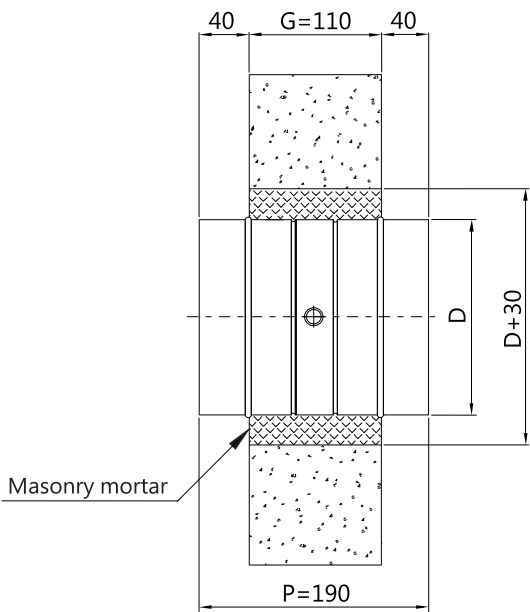


GRYFIT CX-4S with nipple connection

INSTALLATION OF CX-4S FIRE DAMPER IN A CONCRETE OR BRICK PARTITION



GRYFIT CX-4S with sleeve connection



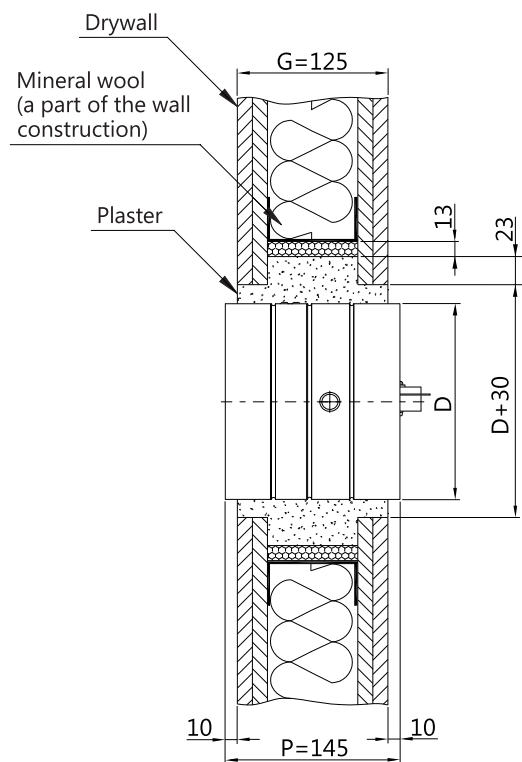
GRYFIT CX-4S with nipple connection

GRYFIT CX-4S damper can be installed both with its blade axis positioned horizontally and vertically.

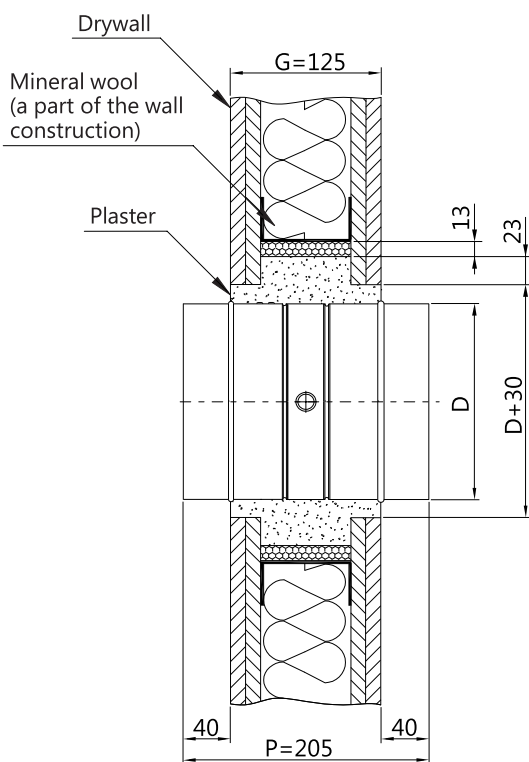


DIMENSIONS AND INSTALLATION METHOD

INSTALLATION OF CX-4S FIRE DAMPER IN A PLASTER-CARDBOARD PARTITION



CX-4S with sleeve connection

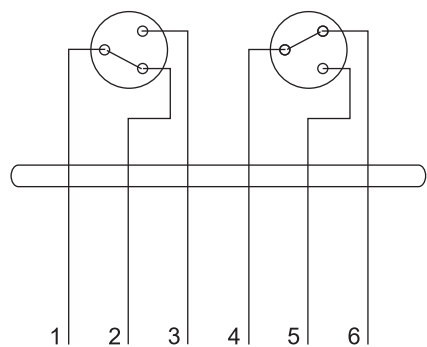


GRYFIT CX-4S with nipple connection

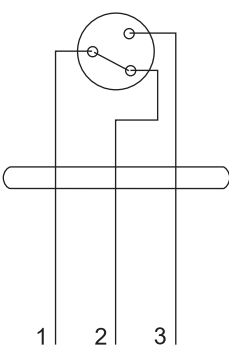
GRYFIT CX-4S damper can be installed both with its blade axis positioned horizontally and vertically.

A diagram of a light-weight wall shown in the picture is only an example.

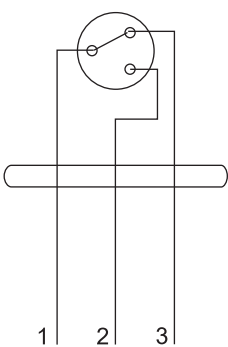
ELECTRICAL WIRING DIAGRAM



Damper fitted with microswitches indicating "open" and "closed" positions



Damper fitted with microswitch indicating "open" positions



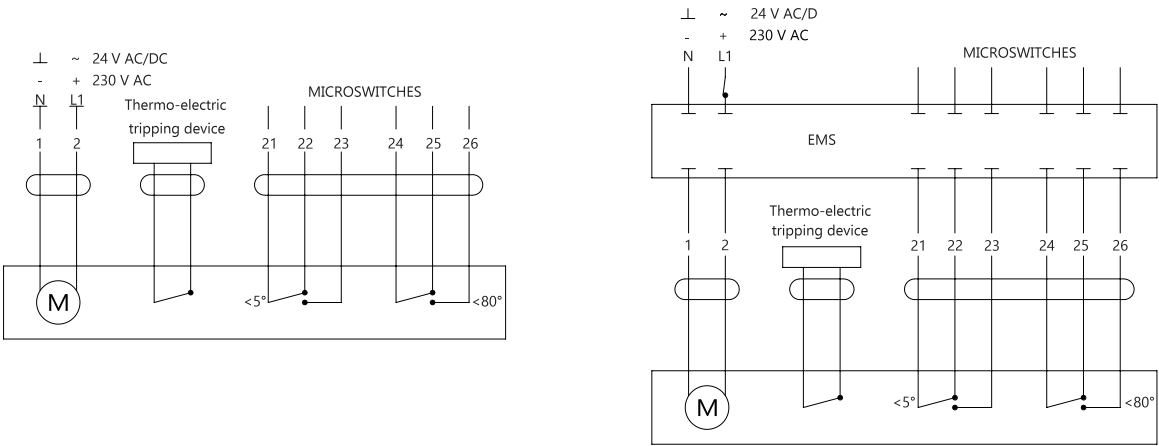
Damper fitted with microswitch indicating "closed" positions



ELECTRICAL WIRING DIAGRAM

Damper with FDG-WT-8 actuator or FDG-WT-5* Damper with FDG-WT-8 actuator and EMS or FDG-WT-5* and EMS

Optional actuators: FDG-WT-8-24, FDG-WT-8-230,FDG-WT-5-24* and FDG-WT-5-230*.



*FDG-WT-5-24 and FDG-WT-5-230 actuators are applicable for all sizes of CX-4S fire dampers.

Characteristics of FDG-WT-5 actuators

CHARACTERISTICS OF ACTUATOR	FDG-WT-5-230	FDG-WT-5-24
Supply voltage [V]	230V AC	24V AC/DC
Power input during tensioning the spring [W]	4 W	4 W
Power input during stand-by [W]	1 W	1 W
Time of movement – engine [s]	<40 s	<40 s
Time of movement – spring [s]	<20 s	<20 s
Torque motor [Nm]	>3 Nm	>3 Nm
Protection class IP	IP54	IP54
Sound power level – actuator dB(A)	<45 dB(A)	<45 dB(A)
Sound power level – spring dB(A)	<65 dB(A)	<65 dB(A)

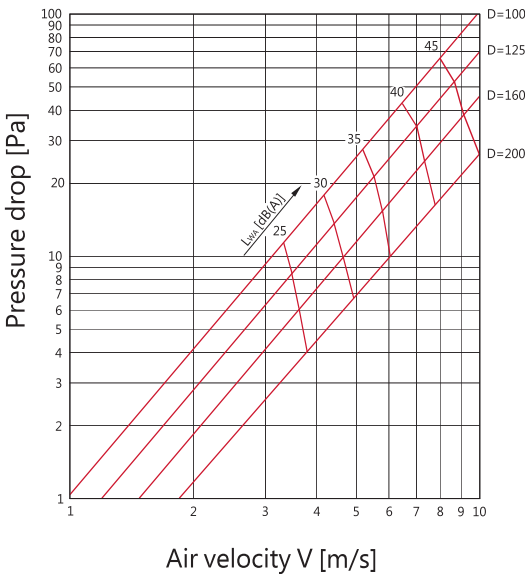
Characteristics of FDG-WT-8 actuators

CHARACTERISTICS OF ACTUATOR	FDG-WT-8-230	FDG-WT-8-24
Supply voltage [V]	230V AC	24V AC/DC
Power input during tensioning the spring [W]	9,2 VA	3,5 W
Power input during stand-by [W]	6,9 VA	0,5 W
Time of movement – engine [s]	55-71 s	55-71 s
Time of movement – spring [s]	21 s	21 s
Torque motor [Nm]	8 Nm	8 Nm
Protection class IP	IP54	IP54
Sound power level – actuator dB(A)	47 dB(A)	47 dB(A)
Sound power level – spring dB(A)	52 dB(A)	52 dB(A)



SELECTION & DIMENSION

Pressure drop ΔP [Pa] and sound power level values L_{WA} [dB(A)]



- L_{WA} [dB(A)] – sound power level after frequency-depnt correction of A-type
- L_{WNC} [dB] – sound power level as per the graph NC L_{WNC}=L_{WA}-5
- L_{WOKT} [dB] – sound power level in octave bands L_{WOKT}=L_{WA}+correction taken from Table 1 and 2
- f [Hz] – octave frequency

Table 1. Correction for octave in [dB] for CX-4S D=100

Correction for octave in [dB]							
V [m/s]	63	125	250	500	1000	2000	4000
4	20	8	2	-2	-6	-10	12
5	18	6	0	-4	-8	-12	-14
6	18	8	0	-4	-8	-12	-14
7	16	6	0	-4	-8	-12	-14
8	17	7	-1	-3	-7	-9	-13
9	17	9	1	-3	-7	-9	-13
10	20	10	2	-2	-6	-6	-12

Table 2. Correction for octave in [dB] for CX-4S D=200

Correction for octave in [dB]							
V [m/s]	63	125	250	500	1000	2000	4000
4	13	6	0	-3	-12	-16	-15
5	14	7	-1	-3	-11	-15	-15
6	16	6	-2	-2	-9	-13	-16
7	16	8	-2	-3	-9	-13	-16
8	15	9	-3	-3	-9	-13	-16
9	17	10	-3	-2	-7	-12	-15
10	17	11	-4	-2	-7	-11	-15

Note: For D=125 and D=160 and for the intermediate for figures must be interpolated. Characteristics established based on ISO 5135:2000, EN-ISO 3741:2011 and EN 1751:2002.

Example:

Data: CX-4S, D=125, V=4 [m/s].

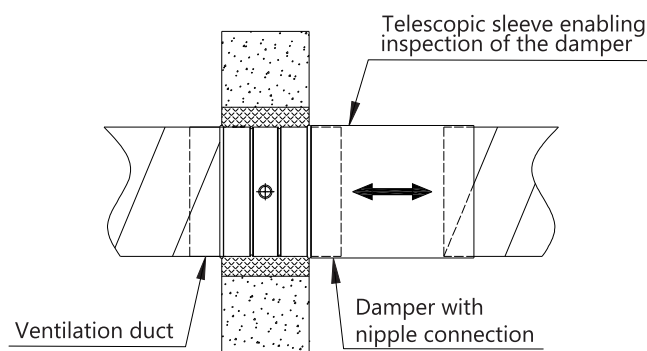
Result: P=12 Pa, L_{WA} = 26 dB(A), L_{WNC} = 26-5=21 dB, L_{WOKT} = 26+17=43 dB for 63 Hz.



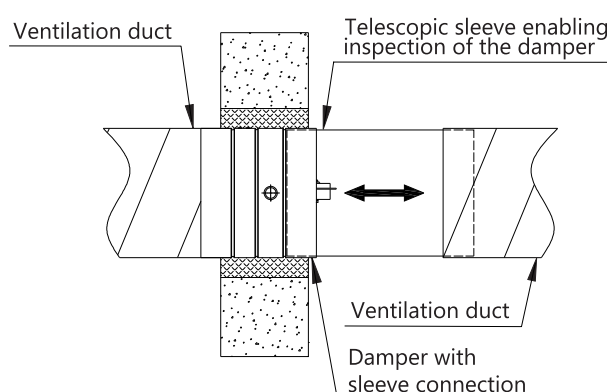
DIMENSIONS AND INSTALLATION METHOD

CONNECTION OF CX-4S FIRE DAMPER WITH SLEEVE TO VENTILATION DUCT

An example of installation of CX-4S damper in ventilation ducts with the use of optional telescopic sleeve which enables the user to control technical condition of the damper.



GRYFIT CX-4S with nipple connection



GRYFIT CX-4S with sleeve connection

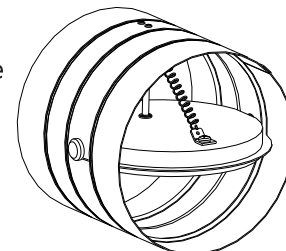
EXAMPLE OF SPECIFICATION AND PURCHASE ORDER

Enquiry:

Fire damper EIS120 with sleeve connectors GRYFIT CX-4S, D=160, sleeve + Fusible link WT72C + Single micro-switch to indicate position closed 1WKK

GRYFIT quotation:

GRYFIT CX-4S, D = 160, sleeve+WT72C+1WKK

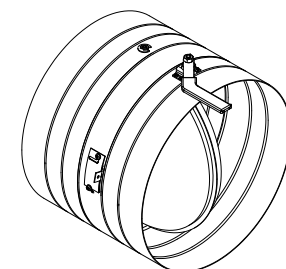


Enquiry:

Fire damper EI120S with sleeve connectors GRYFIT CX-4S, D=125, with sleeve connectors + Fusible link WT72C + Single micro-switch to indicate position closed 1WKK + DZ handle to reopen the damper and OR access door for fuse replacement + installation bracket UM

GRYFIT quotation:

GRYFIT CX-4S, D = 125, sleeve+WT72C+1WKK + DZ + OR + UM



Enquiry:

Fire damper EI120S with nipple connectors GRYFIT CX-4S, D=200 + actuator FDG-WT-8-230 + EPDM gaskets

GRYFIT quotation:

GRYFIT CX-4S, D = 200 + FDG-WT-8-230 + T

