

KOOLAIR

series

SCDC

Smoke dampers

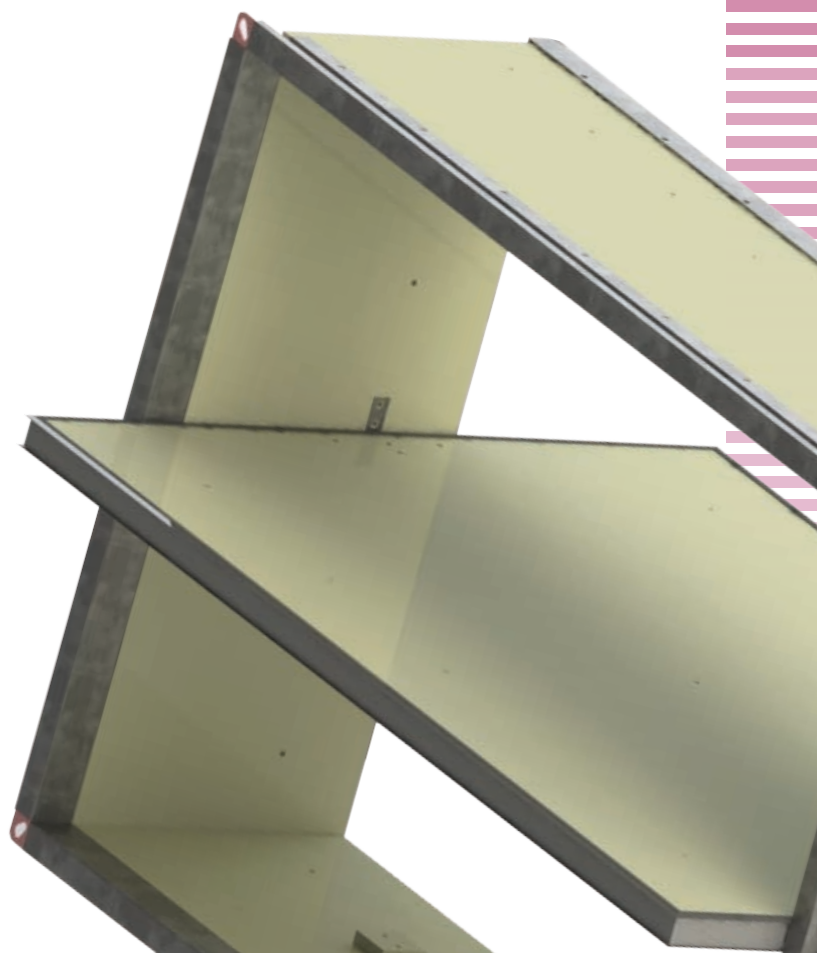
ISO 9001

BUREAU VERITAS
Certification

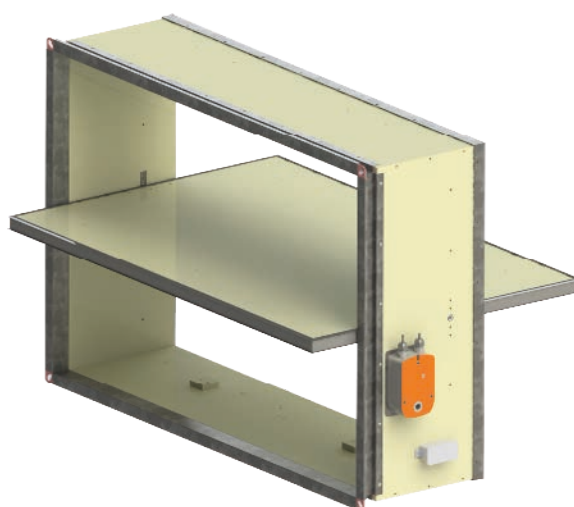
Sistema de Gestión



www.koolair.com



SCDC Smoke Evacuation Damper



CONTENTS

Description	2
Connections	3
Dimensions	5
Selection chart	6
Installation	7
Coding	8

SCDC Smoke Evacuation Damper



SCDC Damper

Description

KOOLAIR's SCDC rectangular smoke evacuation damper is composed of a single body of heat-resistant material, with steel flanges on either side (optional) to facilitate mounting in rectangular ducts, and a single heat resistant closing blade.

Tunnel type damper for in-line installation in horizontal ducts for use with both supply and extract, certified according to EN 1366-10, classified according to EN 13501-4; EI 120 (ved i o) S 1500 AA multi.

The SCDC smoke damper has the 0370 - CPR - 2600 certificate of constancy of performance according to EU Regulation (CE marking) Designed according to EN 12101-8 specifications.




Dimensions: 200x200 to 1200x800 mm.

The design of the damper enclosure, which is composed of joining pieces of sheet metal with intumescent seals in the interior, guarantees the airtightness between the frame/blade and frame/ duct required by regulations. For use in smoke extract systems:

- High rise buildings –IGH
- Areas of public gathering - ERP
- Collective places
-

The SCDC smoke evacuation damper can be associated with KOOLAIR's KOOLCOM management and monitoring system for fire dampers and other available models of smoke evacuation dampers.

Declared smoke extraction performance

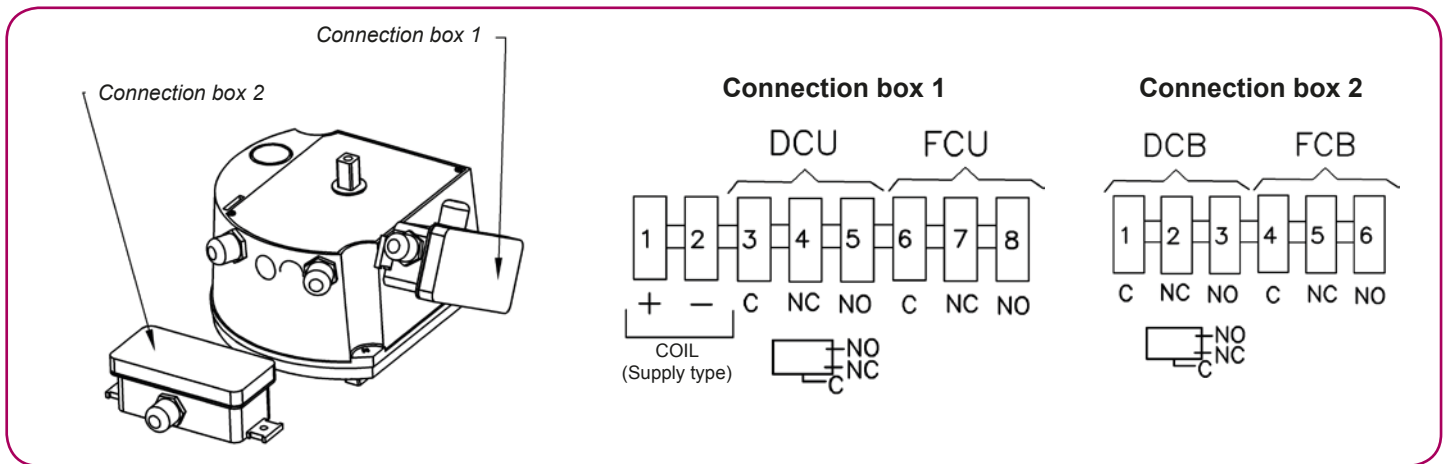
SCDC CPR-2600		Dimensions (mm)	Installation location	Installation	Classification
 		L: 200 → 1200 H: 200 → 800	Smoke extract duct	Horizontal + vertical duct certified 1366-8	EI-120 (ved i↔o) S 1500 AA multi (500 Pa)

SCDC Smoke Evacuation Damper Connections

Operating mechanism electrical connections

- FCU: safety position (end of run) one-pole contact.
- DCU: waiting position (start of run) one-pole contact.
- FCB: safety position (end of run) two-pole contact.
- DCB: waiting position (start of run) two-pole contact.

- Manual reset, activated by electric coil (CE and NF marking).
 - 24 V DC. electric shunt release coil.
 - 48V DC electric shunt release coil
 - 24V AC electric shunt release coil
 - 48V AC electric shunt release coil

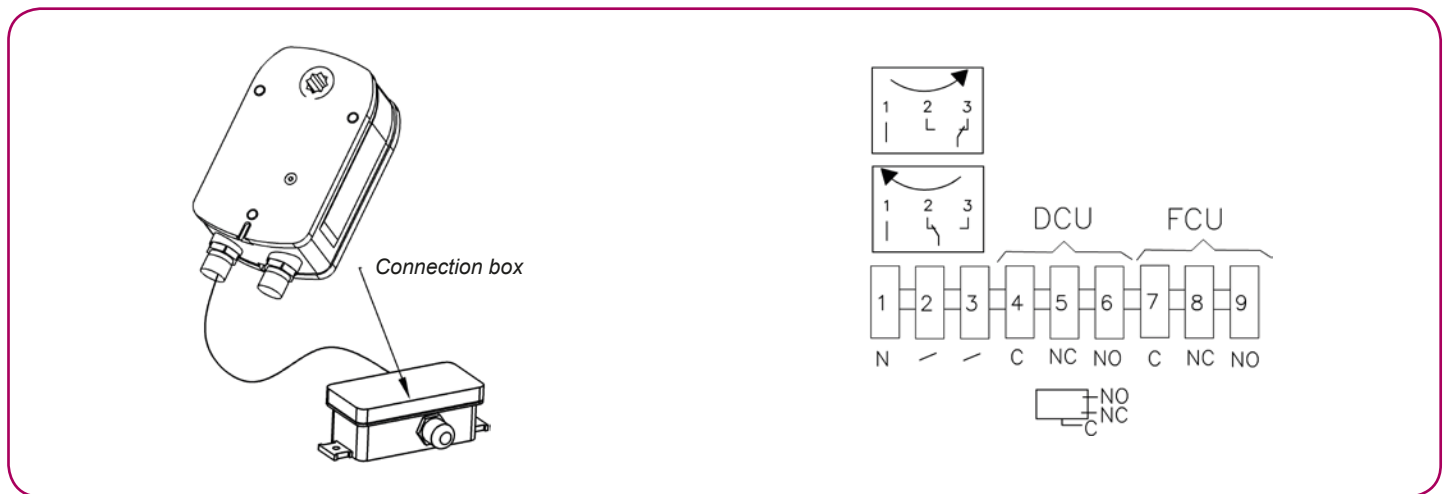


Option to incorporate two start of run limit switches (DCU, DCB) and two end of run limit switches (FCU, FCB). The NF Marking requires at least one start of run limit switch (DCU) and one end of run limit switch (FCU).

SCDC Smoke Evacuation Damper Connections

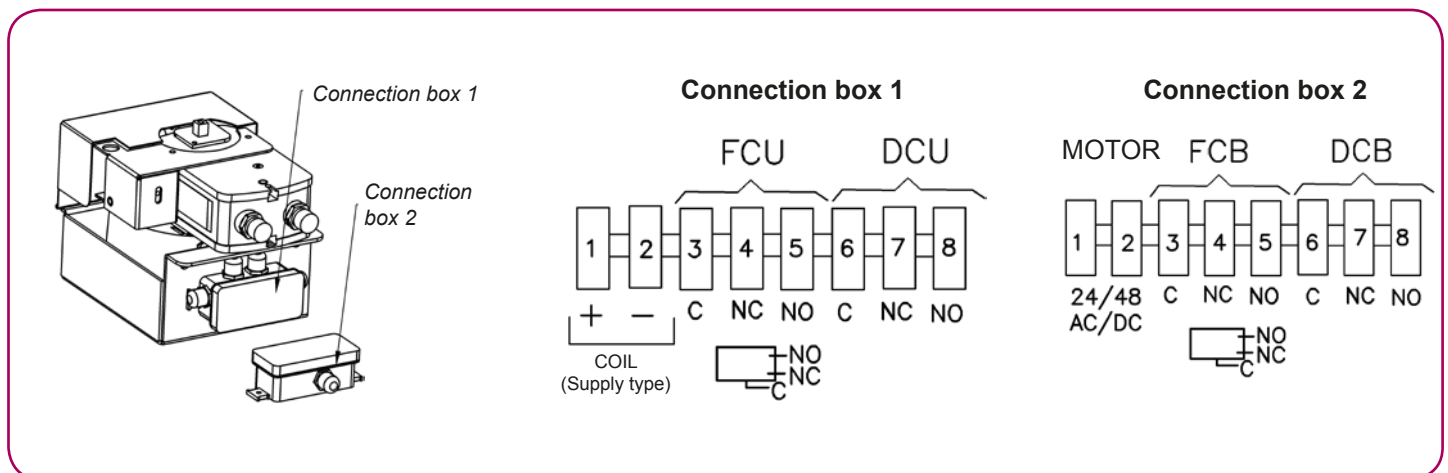
- Automatic activation and reset by servomotor (CE Marking):

SCDC smoke extract dampers are activated and reset by means of a servomotor with a supply voltage of 24 V AC/DC (model BLE24) or 230 V AC (model BLE230). These motors include start and end of run limit switches to monitor the opening/closing status of the damper.



• Activated by shunt release coil and reset with electric servomotor (CE and NF marking):

- 24 V DC electric shunt release coil
- 48V DC electric shunt release coil
- 24V AC electric shunt release coil
- 48V AC electric shunt release coil
- Servomotor to reset (close) damper, BL24-48, with 24 ... 48 V AC/DC supply voltage



Option to incorporate two start of run limit switches (DCU, DCB) and two end of run limit switches (FCU, FCB). The NF Marking requires at least one start of run limit switch (DCU) and one end of run limit switch (FCU).

SCDC Smoke Evacuation Damper Dimensions

NOMINAL H	H	S1	S2
200	200	0	0
250	250	25	0
300	300	50	0
350	350	75	0
400	400	100	0
450	450	125	0
500	500	150	0
550	550	175	7
600	600	200	32
650	650	225	57
700	700	250	82
750	750	275	107
800	800	300	132

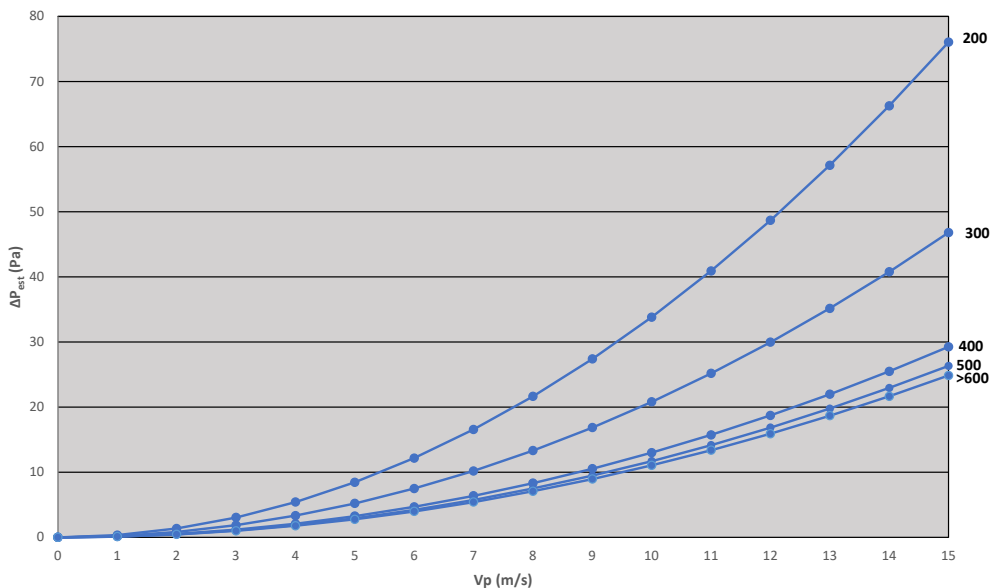
SCDC SMOKE DAMPER FREE AREA TABLE dm ²																						
		Length Ln (mm)																				
		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
Height Hn (mm)	200	2,9	3,7	4,5	5,3	6,0	6,8	7,6	8,4	9,1	9,9	10,7	11,5	12,2	13,0	13,8	14,6	15,3	16,1	16,9	17,7	18,4
	250	3,9	4,9	5,9	7,0	8,0	9,0	10,0	11,1	12,1	13,1	14,1	15,2	16,2	17,2	18,2	19,3	20,3	21,3	22,3	23,4	24,4
	300	4,8	6,1	7,4	8,7	9,9	11,2	12,5	13,8	15,0	16,3	17,6	18,9	20,1	21,4	22,7	24,0	25,2	26,5	27,8	29,1	30,3
	350	5,8	7,3	8,8	10,4	11,9	13,4	14,9	16,5	18,0	19,5	21,0	22,6	24,1	25,6	27,1	28,7	30,2	31,7	33,2	34,8	36,3
	400	6,7	8,5	10,3	12,1	13,8	15,6	17,4	19,2	20,9	22,7	24,5	26,3	28,0	29,8	31,6	33,4	35,1	36,9	38,7	40,5	42,2
	450	7,7	9,7	11,7	13,8	15,8	17,8	19,8	21,9	23,9	25,9	27,9	30,0	32,0	34,0	36,0	38,1	40,1	42,1	44,1	46,2	48,2
	500	8,6	10,9	13,2	15,5	17,7	20,0	22,3	24,6	26,8	29,1	31,4	33,7	35,9	38,2	40,5	42,8	45,0	47,3	49,6	51,9	54,1
	550	9,6	12,1	14,6	17,2	19,7	22,2	24,7	27,3	29,8	32,3	34,8	37,4	39,9	42,4	44,9	47,5	50,0	52,5	55,0	57,6	60,1
	600	10,5	13,3	16,1	18,9	21,6	24,4	27,2	30,0	32,7	35,5	38,3	41,1	43,8	46,6	49,4	52,2	54,9	57,7	60,5	63,3	66,0
650	11,5	14,5	17,5	20,6	23,6	26,6	29,6	32,7	35,7	38,7	41,7	44,8	47,8	50,8	53,8	56,9	59,9	62,9	65,9	69,0	72,0	
700	12,4	15,7	19,0	22,3	25,5	28,8	32,1	35,4	38,6	41,9	45,2	48,5	51,7	55,0	58,3	61,6	64,8	68,1	71,4	74,7	77,9	
750	13,4	16,9	20,4	24,0	27,5	31,0	34,5	38,1	41,6	45,1	48,6	52,2	55,7	59,2	62,7	66,3	69,8	73,3	76,8	80,4	83,9	
800	14,3	18,1	21,9	25,7	29,4	33,2	37,0	40,8	44,5	48,3	52,1	55,9	59,6	63,4	67,2	71,0	74,7	78,5	82,3	86,1	89,8	

Key

- L: Interior damper length.
- H: Interior damper height.

SCDC Smoke Evacuation Damper Selection Chart

SCDC $V_p - \Delta P_{est}$
 H=200 300 400 500 >600 mm



Key

V_p = damper air velocity in m/s.

ΔP_{est} = static pressure loss across the damper in Pa.

Selection example:

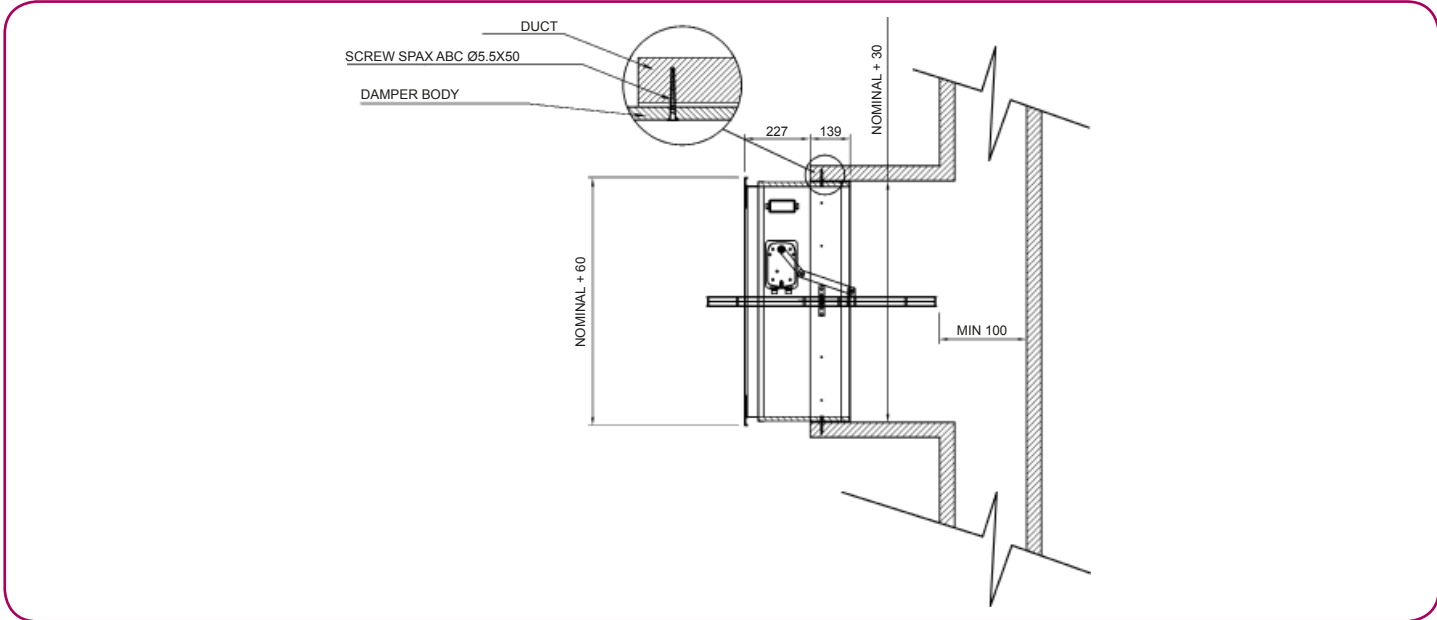
To calculate the static pressure loss across a damper for a given flow rate Q (m³/h) the air velocity V_p (m/s) is calculated in relation to the free area A_f (dm²) of the damper as set out in the above table "Free area table in dm²" using the formula $V_p = (Q/A_f)/36$.

By entering this velocity in the previous table, and following the curve according to its height H , the static pressure loss is obtained ΔP_{est} .

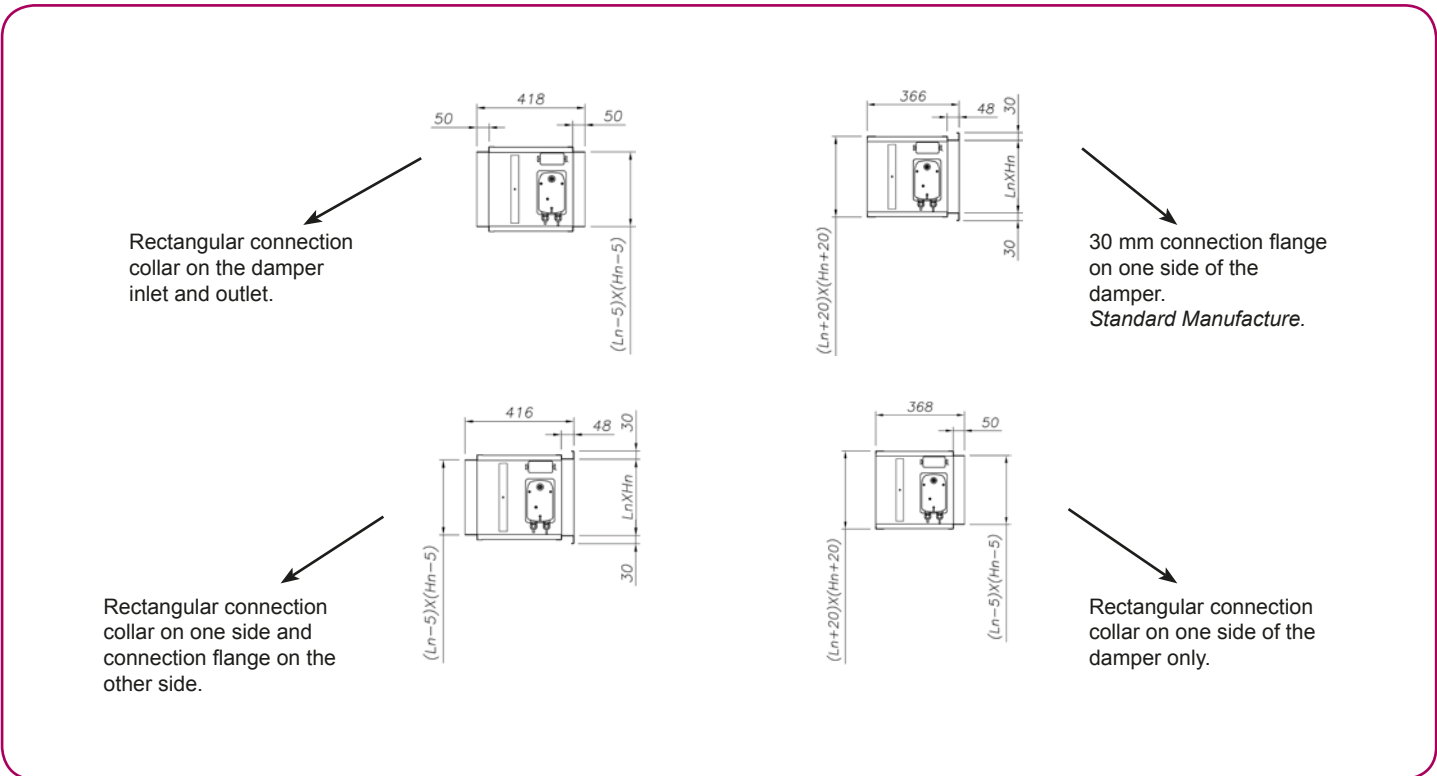
Example: for a flow rate of 2500 m³/h in a 500x300 SCDC damper with $A_f = 12,5$ dm², a velocity $V_p = 5,5$ m/s is obtained. If this data is entered in the table the static pressure loss is obtained $\Delta P_{est} = 6$ Pa.

SCDC Smoke Evacuation Damper Installation

The approval and the certification requirements for the installation of the damper are shown below.



SCDC damper application in installations which employ ductwork different from that which has been submitted for certification testing: SCDC smoke control dampers, for use in multi-compartment systems (multi), are applicable in ducts that are tested in accordance with EN1366-8 as appropriate for each particular case or manufactured from materials with the same density or greater thickness than those used in the certification test. Ductwork must be installed in accordance with the manufacturer's latest drawings.



SCDC Smoke Evacuation Damper Coding

Damper model (see table p. 5 Declared Performance)

SCDC – L x H (mm)

Activation. Components

- + MOTOR-BLE24
- + MOTOR-BLE230
- + SHUNT RELEASE 24 V DC + ER/SR LS
- + SHUNT RELEASE 48 V DC + ER/SR LS
- + SHUNT RELEASE 24 V AC + FC/PC
- + SHUNT RELEASE 48 V AC + FC/PC
- + SHUNT RELEASE 24 V DC + FC/PC + MOTOR RESET-BL24/48
- + SHUNT RELEASE 48 V DC + FC/PC + MOTOR RESET-BL24/48
- + SHUNT RELEASE 24 V AC + FC/PC + MOTOR RESET-BL24/48
- + SHUNT RELEASE 48 V AC + FC/PC + MOTOR RESET-BL24/48

Accessories

- C1+C2 (rectangular collars on both sides of damper)
- C1 (rectangular collar on one side of damper)
- B1 (connection flange on one side of damper)
- C1 + B1 (rectangular collars on one side of damper and connection flange on the other side of damper)

THIS CATALOG IS INTELLECTUAL PROPERTY.

The partial or total reproduction of its contents is forbidden without the express and authoritative authorisation of KOOLAIR, S.L.



KOOLAIR

KOOLAIR, S.L.

Calle Urano, 26

Poligono industrial nº 2 – La Fuensanta

28936 Móstoles - Madrid - (España)

Tel: +34 91 645 00 33

Fax: +34 91 645 69 62

e-mail: info@koolair.com

www.koolair.com