

# ETES Smoke extraction damper



ETES is a smoke extraction damper intended to extract flue gases and to reduce pressure in the ventilation ducts or fire separating compartments. The objective is to considerably restrict the spread of smoke through fire compartments and to facilitate evacuation and/or fire fighting. The damper is inserted into ventilation duct or into a smoke extraction duct that is common to all fire compartments, or it can be used as an air terminal device that leads any existing smoke outside. The extraction of gases/reduction of pressure can be intensified by using fans.

- The fire damper is closed during normal ventilation.
- When the smoke detector detects smoke, the power supply to the actuator is interrupted and the damper opens automatically.
- The fire damper is equipped with electrical switches for indicating the end positions of the damper (open/closed).
- The air flow direction has no effect on the functioning of the fire damper.

The damper opens within 20 seconds after the smoke detector has been activated.

The standard delivery of the fire damper includes a built-in electrical actuator 24 V or 230 V, spring-return and switches for indicating the end positions of the damper. The damper spring is normally tensioned but in case of a power cut it opens the damper automatically.

## Product data

Sizes 200 x 200 ... 1200 x 1200 mm

The smoke extraction damper fulfils the requirements of tightness class 2 according to EN 1751.

The damper casing fulfils the requirements of tightness class C according to EN 1751.

Pressure drop across a closed damper may amount to 2500 Pa.

Heat transfer coefficient  
 $U = 3,7 \text{ W/m}^2\text{K}$

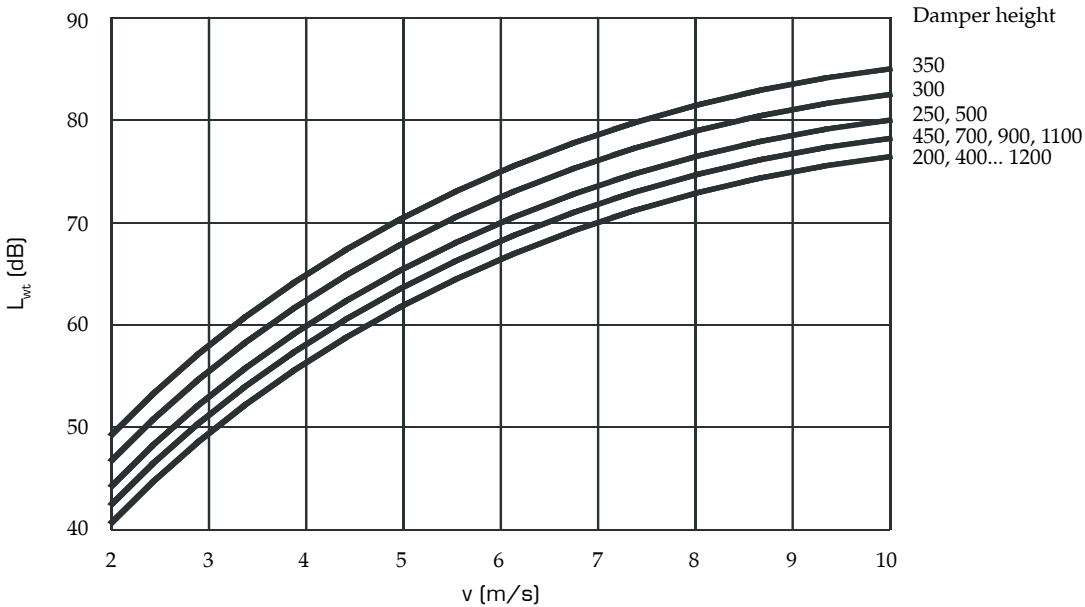
## Product code example:

Smoke extraction damper  
 ETES-0400-0300-1-1-4

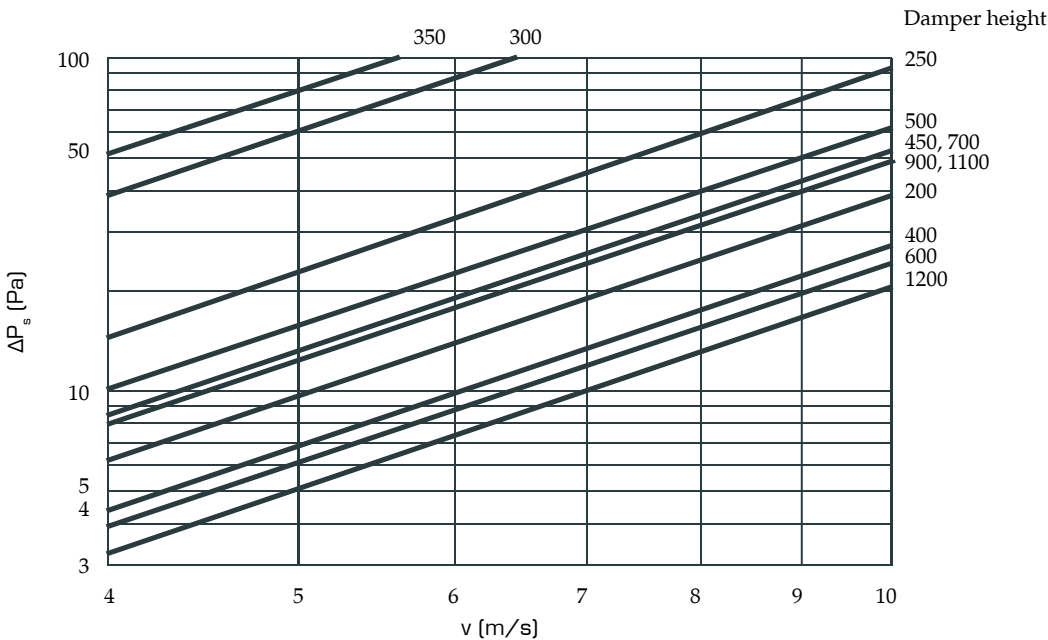
# Technical data - pressure drop, sound data

## Selection diagrams

Noise level in the duct



## Pressure drop



Correction of sound power level by octave bands =  $K_{oct}$

Frequency band	125	250	500	1000	2000	4000	8000
Correction $K_{oct}$	-3	-5	-11	-15	-18	-21	-33

$$L_{w_{oct}} = L_{wt} + K_{oct}$$

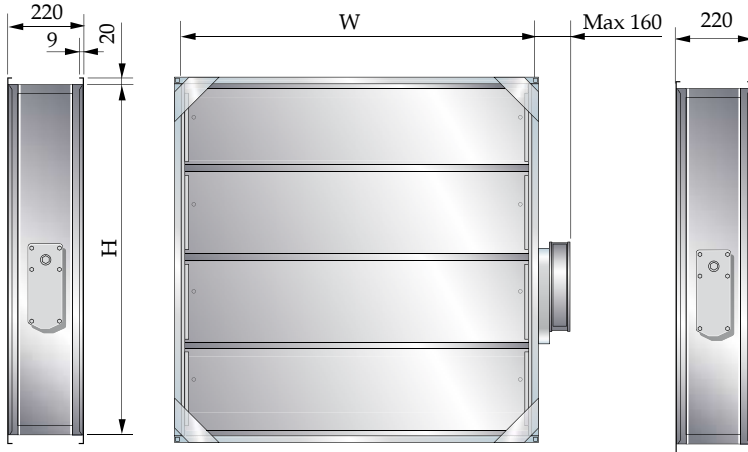
## Descriptions

- $v$  flow velocity (m/s)
- $L_{w_{oct}}$  sound power level in the duct (dB)
- $L_{wt}$  sound power level (dB)
- $K_{oct}$  correction (dB)
- $\Delta p_s$  static pressure drop (Pa)

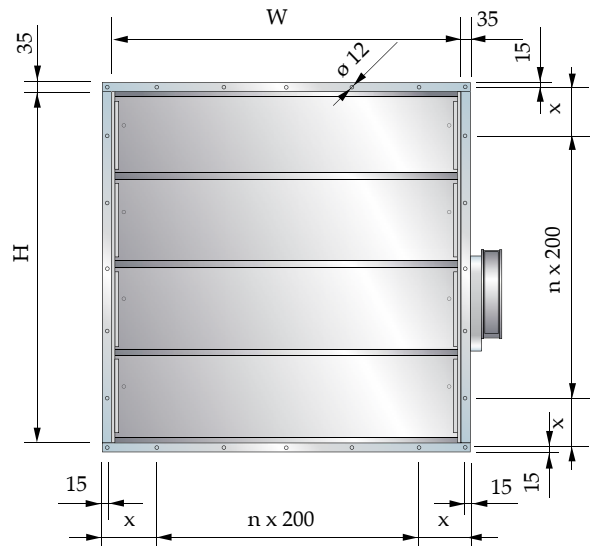
# Dimensions and weights

## Dimensions

### Slip joint



### Flange joint



W	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200
H	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200
x	120	145	170	195	120	145	170	120	170	120	170	120	170	120
n (spacing)	0	0	0	0	1	1	1	2	2	3	3	4	4	5

## Weights kg

H \ W	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200
200	7.3	7.8	8.3	8.8	9.3	9.8	10.3	11.3	12.3	13.3	14.4	15.4	16.3	17.4
250	7.9	8.6	9.2	9.9	10.6	11.2	11.9	13.2	14.5	15.9	17.2	18.5	17.8	21.2
300	8.1	8.8	9.6	10.3	11.0	11.7	12.4	13.9	15.3	16.8	18.2	19.7	19.2	22.5
350	8.4	9.1	9.9	10.7	11.5	12.2	13.0	14.6	16.1	17.7	19.2	20.8	20.5	23.9
400	10.3	11.0	11.6	12.3	12.9	13.6	14.3	15.6	16.9	18.2	19.5	20.8	22.1	23.9
450	10.9	11.8	12.6	13.4	14.2	15.0	15.8	17.5	19.1	20.7	22.4	24.0	23.5	27.7
500	11.2	12.0	12.9	13.8	14.7	15.5	16.4	18.1	19.9	21.6	23.4	25.1	25.5	29.0
600	13.4	14.2	15.0	15.8	16.6	17.4	18.2	19.8	21.5	23.1	24.7	26.7	28.2	30.0
700	14.2	15.2	16.3	17.6	18.3	19.4	20.4	22.4	24.5	26.5	28.6	31.0	31.2	35.1
800	16.4	17.4	18.3	19.3	20.3	21.2	22.2	24.1	26.0	28.4	30.3	32.2	34.0	36.1
900	17.3	18.4	19.6	20.8	22.1	23.2	24.3	26.7	29.1	31.8	34.2	36.5	37.0	41.2
1000	19.4	20.5	21.6	22.7	23.9	25.0	26.1	28.6	30.9	33.2	35.4	37.6	40.1	42.5
1100	20.2	21.6	22.9	24.2	25.6	26.9	28.2	31.3	34.0	36.6	39.3	41.9	42.9	47.7
1200	22.4	23.6	24.9	26.2	27.8	29.1	30.4	32.9	35.4	38.0	40.9	43.5	45.7	48.5

Weights include actuator.

# Product code

## Description

Fläkt Woods smoke extraction damper ETES.

## Product code

### Smoke extraction damper

ETES - aaaa - bbbb - c - d - e

Size \_\_\_\_\_  
Width × Height (W × H), mm

Joint \_\_\_\_\_  
1 = Slip  
2 = Flange

Material \_\_\_\_\_  
1 = Hot-galvanized steel

Actuator \_\_\_\_\_  
3 = 24 V AC/DC motor with heat detector  
4 = 24V AC/DC motor  
5 = 230V AC motor with heat detector  
6 = 230 V AC motor

## Accessories

### Connection piece FDR - aaaa - bbbb - cccc - d - e

Size (WxH, mm) \_\_\_\_\_  
Width 0200, 0250, 0350, 0400, 0500, 0700,  
0800, 0900, 1000, 1100, 1200  
Height 0200, 0250, 0350, 0400, 0500,  
0700, 0800, 1000, 1250

Connection diameter (mm) \_\_\_\_\_  
0200, 0250, 0315, 0400, 0500, 0630, 0800

Joint \_\_\_\_\_  
1 = Slip  
2 = Flange

Material \_\_\_\_\_  
1 = Hot-galvanized steel

## Grille

FNR - aaaa - bbbb - c - d

Size (WxH, mm) \_\_\_\_\_  
Width 0200, 0250, 0300, 0350, 0400,  
0450, 0500, 0600, 0700, 0800, 0900, 1000,  
1100, 1200  
Height 0200, 0250, 0300, 0350, 0400,  
0450, 0500, 0600, 0700, 0800, 0900,  
1000, 1100, 1200

Joint \_\_\_\_\_  
1 = Slip  
2 = Flange

Material \_\_\_\_\_  
1 = Hot-galvanized steel

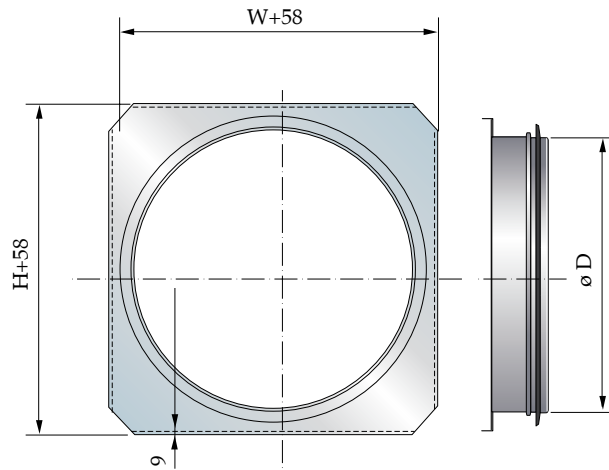
## Control system

FICO/ FCM

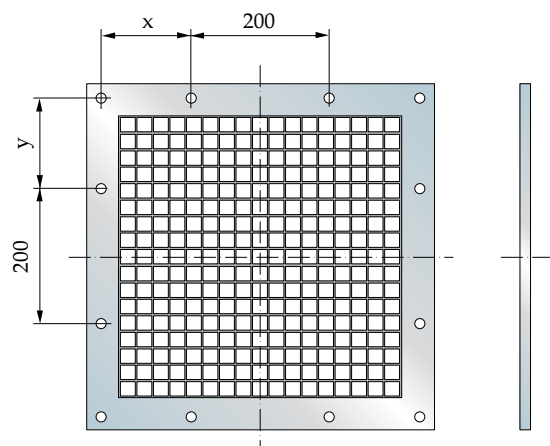
See separate brochure.

## Accessories

### Connection piece FDR



### Grille FNR



W	x	H	y
200	120	200	120
250	145	250	145
300	170	300	170
350	195	350	195
400	120	400	120
450	145	450	145
500	170	500	170
600	120	600	120
700	170	700	170
800	120	800	120
900	170	900	170
1000	120	1000	120
1100	170	1100	170
1200	120	1200	120

# Installation

## Installation

The duct outlet must be placed so that the smoke extraction damper is protected from water coming from outside as well as ice and snow that could hinder the opening of the damper. There may be no openings or air terminal devices in the duct between the smoke extraction damper and duct outlet.

When designing the insulation of the duct, take account of the paths of smoke flows during pressure reduction.

The ductwork section between the smoke extraction damper and duct outlet must be designed and insulated so that the fire resistance and tightness requirements are met. Also take account of possible condensation.