

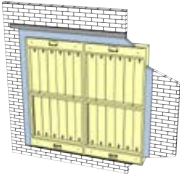
DoP/EK-JZ/DE/006



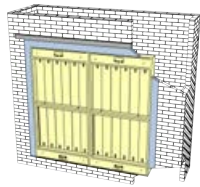
1.	Product Unique identification code of the product type	EK-JZ
2.	Intended use	Smoke control damper for multiple compartments or single compartments for the removal of smoke and heat, for the supply of outdoor air (supply air flow) for mechanical smoke extract systems. Can also be used in pressure ventilation systems and with ventilation function if the mechanical smoke extraction system is certified for combined systems by the building authorities.
3.	Manufacturers	TROX GmbH Heinrich-Trox-Platz • 47504 Neukirchen-Vluyn • Germany Phone +49 (0) 2845 2020 • Fax +49 (0) 2845 202265 E-mail trox-de@troxgroup.com • Internet www.troxtechnik.com
5.	System of assessment and verification of constancy of performance	System 1
6.	Harmonised standard	EN 12101-8:2011
	Notified body/ies	The notified body 1322 - IBS - carried out the initial inspection of the manufacturing plants and of the factory production control as well as the continuous surveillance, assessment and evaluation of factory production control according to System 1 of the Construction Products Regulation and issued the certificate of constancy of performance: 1322-CPR-74135/10

Declaration of performance

Table 1

Essential characteristics: fire resistance for nominal sizes [mm]: 200 × 230 to 1200 × 2030			
Supporting construction	Construction	Installation location	Class of performance for
 <p>Solid walls</p>	<ul style="list-style-type: none"> • Concrete, aerated concrete, brick walls • Wet with mortar of groups II, IIa, III and IIIa DIN 1053 or fire protection mortar of groups II or III or equivalent according to EN 998-2 (class M2.5 to 10) or gypsum mortar • $d \geq 100$ mm • $\rho \geq 500$ kg/m³ • Vertical and horizontal axis position • Damper can be rotated 180° in vertical direction • Distance to load-bearing structural elements ≥ 3-5 mm • Attachment to walls of several assembled dampers possible • Assembly of multiple dampers in walls is possible • Assembly of several 4-piece units with distances ≥ 90 mm in walls is possible • Ring gap wet ≤ 150 mm • In combination wet and dry with fibre paper ≤ 5 mm • Dry mortarless installation in combination of mineral wool and fibre paper ≤ 5 mm • Dry mortarless installation with mineral wool on two sides ≤ 20 mm • Installation in coated board system (soft bulkhead) of several dampers up to empty bulkhead size 3410 × 3300 • Connection to independent smoke extract ducts in accordance with EN 1366-8 as single duct or collective duct • Connection to thermally insulated smoke extraction ducts made of sheet steel in accordance with EN1366-8 as single duct or collective duct • Connection to smoke extract ducts according to EN 1366-9 as single duct or collective duct • Installation openings can be reduced in size with cement-bonded panel building materials 	<ul style="list-style-type: none"> • Mortar-based installation, mortar-based installation (partly with fibre paper), dry mortarless installation, dry mortarless installation (partly with fibre paper), on-wall installation, or installation in coated board system 	<p>EI 90/120 (vew, i↔o) S 1000 Cmod HOT400/30 MA multi</p> <p>Note ②</p>

Declaration of performance



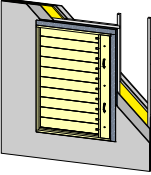
Solid shaft walls and outer walls

- Concrete, aerated concrete, brick walls
- Wet with mortar of groups II, IIa, III and IIIa DIN 1053 or fire protection mortar of groups II or III or equivalent according to EN 998-2 (class M2.5 to 10) or gypsum mortar
- $d \geq 100$ mm
- $\rho \geq 500$ kg/m³
- Vertical and horizontal axis position
- Damper can be rotated 180° in vertical direction
- Distance to load-bearing structural elements ≥ 3 -5 mm
- Attachment to walls of several assembled dampers possible
- Assembly of multiple dampers in walls is possible
- Assembly of several 4-piece units with distances ≥ 90 mm in walls is possible
- Ring gap wet ≤ 150 mm
- In combination wet and dry with fibre paper ≤ 5 mm
- Dry mortarless installation in combination of mineral wool and fibre paper ≤ 5 mm
- Dry mortarless installation with mineral wool on two sides ≤ 20 mm
- Connection to independent smoke extract ducts in accordance with EN 1366-8 as single duct or collective duct
- Connection to thermally insulated smoke extraction ducts made of sheet steel in accordance with EN1366-8 as single duct or collective duct
- Connection to smoke extract ducts according to EN 1366-9 as single duct or collective duct
- Installation openings can be reduced in size with cement-bonded panel building materials

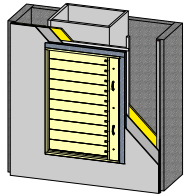
- Mortar-based installation, mortar-based installation (partly with fibre paper), dry mortarless installation, dry mortarless installation (partly with fibre paper), on-wall installation, or installation in coated board system

EI 90/120 (vedw, i↔o) S 1000 Cmod HOT400/30 MA multi
Note ②

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 <p>Lightweight walls or light shaft walls</p>	<ul style="list-style-type: none"> • Metal support structure (also with steel support structure) • Planked on two sides with 2 × 12.5 mm gypsum fibre boards • Wall thickness $d \geq 100$ mm • With or without mineral wool • $\rho \geq 500$ kg/m³ • Ring gap wet ≤ 150 mm • Wet with mortar of groups II, IIa, III and IIIa DIN 1053 or fire protection mortar of groups II or III or equivalent according to EN 998-2 (class M2.5 to 10) or gypsum mortar • Distance to load-bearing structural elements ≥ 3-5 mm • Dry mortarless installation in combination of mineral wool and fibre paper ≤ 5 mm • In combination wet and dry with fibre paper ≤ 5 mm • Dry mortarless installation with mineral wool on two sides ≤ 20 mm • Installation in coated board system (soft bulkhead) of several dampers up to empty bulkhead size 3410 × 3300 • Assembly of several 4-piece units with distances ≥ 90 mm in walls is possible • Attachment to walls of single damper possible • Assembly of multiple dampers in walls is possible • Vertical and horizontal axis position • Damper can be rotated 180° in vertical direction • Installation openings can be reduced in size with cement-bonded panel building materials • Connection to independent smoke extract ducts in accordance with EN 1366-8 as single duct or collective duct • Connection to thermally insulated smoke extraction ducts made of sheet steel in accordance with EN1366-8 as single duct or collective duct • Connection to smoke extract ducts according to EN 1366-9 as single duct or collective duct 	<ul style="list-style-type: none"> • Mortar-based installation, mortar-based installation (partly with fibre paper), dry mortarless installation, dry mortarless installation (partly with fibre paper), or installation in coated board system possible 	<p>EI 90/120 (vedw, i↔o) S 1000 Cmod HOT400/30 MA multi</p> <p>Note ②</p>
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Declaration of performance



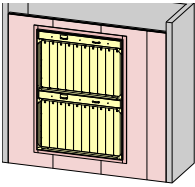
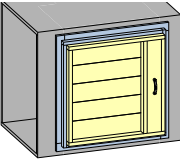
Light shaft walls

- Metal support structure (also with steel support structure)
- Planked on one side with $2 \times \geq 20$ mm gypsum fibre boards
- $d \geq 90$ mm
- $\rho \geq 500$ kg/m³
- Vertical and horizontal axis position
- Damper can be rotated 180° in vertical direction
- Distance to load-bearing structural elements ≥ 75 mm
- Distance between dampers ≥ 200 mm
- Ring gap wet ≤ 100 mm
- Installation openings can be reduced in size with cement-bonded panel building materials
- Connection to independent smoke extract ducts in accordance with EN 1366-8 as single duct or collective duct
- Connection to thermally insulated smoke extraction ducts made of sheet steel in accordance with EN1366-8 as single duct or collective duct
- Connection to smoke extract ducts according to EN 1366-9 as single duct or collective duct

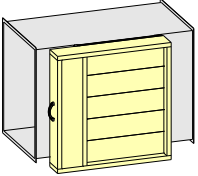
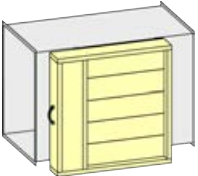
- Mortar-based installation (partly with fibre paper)

EI 90 (v_{ew}, i→o) S 1000 C_{mod} HOT400/30 MA multi


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 <p>Light shaft walls which are part of a smoke extract duct</p>	<ul style="list-style-type: none"> • Metal stud walls according to British Gypsum • Vertical and horizontal axis position possible • Wall thickness $d \geq 107$ mm • Planked on two sides with $1 \times \geq 19$ mm and $3 \times \geq 15$ mm gypsum fibre boards • $\rho \geq 500$ kg/m³ • Vertical and horizontal axis position • Damper can be rotated 180° in vertical direction • Distance to load-bearing components ceiling and floor ≥ 3-5 mm • Assembly of several 4-piece units with distances ≥ 200 mm is possible • Dry mortarless installation with mineral wool ≤ 20 mm on two or three sides and screwed to the wall reveal • Assembly of multiple dampers is possible • Connection to independent smoke extract ducts in accordance with EN 1366-8 as single duct or collective duct • Connection to thermally insulated smoke extraction ducts made of sheet steel in accordance with EN1366-8 as single duct or collective duct • Connection to smoke extract ducts according to EN 1366-9 as single duct or collective duct • Installation opening can be reduced with cement-bonded panel building materials 	<ul style="list-style-type: none"> • Pure dry installation in shaft wall system 	<p>EI 120 (ved_w i↔o) S 1000 Cmod HOT400/30 MA multi</p>
 <p>Independent horizontal and vertical ducts</p>	<ul style="list-style-type: none"> • Firestop board (calcium silicate) • $d \geq 35$ mm • $\rho \geq 500$ kg/m³ • Vertical and horizontal axis position on, on top of, and in ducts is possible • Inspection accessibility in air direction and sideways • Damper can be rotated 180° in vertical direction • Perimeter strips (i.e. on four sides) • Assembly of two dampers is possible • Connection to independent smoke extract ducts in accordance with EN 1366-8 as single duct or collective duct • Connection to thermally insulated smoke extraction ducts made of sheet steel in accordance with EN1366-8 as single duct or collective duct • Connection to smoke extract ducts according to EN 1366-9 as single duct or collective duct 	<ul style="list-style-type: none"> • Installation as specified for the duct Note ① 	<p>EI 120 (ved, hod, i↔o) S 1000 Cmod HOT400/30 MA multi</p>

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 <p>Connection to thermally insulated sheet steel ducts</p>	<ul style="list-style-type: none"> Vertical and horizontal axis position Inspection accessibility in air direction and sideways Damper can be rotated 180° in vertical direction Connection to thermally insulated single or collective smoke extract ducts made of sheet steel tested according to EN1366-1 or EN1366-8 	<ul style="list-style-type: none"> Installation as specified for the duct Note ① 	<p>EI 120 (ved, hod, i→o) S 1000 Cmod HOT400/30 MA multi</p>
 <p>Connection to sheet steel ducts</p>	<ul style="list-style-type: none"> Vertical and horizontal axis position Inspection accessibility in air direction and sideways Damper can be rotated 180° in vertical direction Connection to single or collective smoke extract ducts tested according to EN 1366-1 or EN1366-9 	<ul style="list-style-type: none"> Installation as specified for the duct Note ① 	<p>E600 120 (ved, hod, i→o) S 1000 Cmod HOT400/30 MA single</p>

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 <p>Solid ceiling slabs</p>	<ul style="list-style-type: none"> • Wet with mortar of groups II, IIa, III and IIIa DIN 1053 or fire protection mortar of groups II or III or equivalent according to EN 998-2 (class M2.5 to 10) or gypsum mortar • $d \geq 150$ mm • $\rho \geq 550$ kg/m³ • Distance to load-bearing structural elements ≥ 10 mm • Distance between casings ≥ 200 mm • Ring gap wet from 10 mm - 150 mm • Connection to independent smoke extract ducts in accordance with EN 1366-8 as single duct or collective duct • Connection to thermally insulated smoke extraction ducts made of sheet steel in accordance with EN1366-8 as single duct or collective duct • Connection to smoke extract ducts according to EN 1366-9 as single duct or collective duct 	<ul style="list-style-type: none"> • Mortar-based installation 	<p>EI 120 (h_{ow}, i→o) S 1000 C_{mod} HOT400/30 MA multi</p>
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Note ①

Construction of the duct: Smoke control dampers for multiple compartments may be used with ducts that have been tested acc. to EN 1366-9 (single compartment smoke extract ducts) and acc. to EN 1366-8 (multiple compartment smoke extract ducts), and that are made of materials with the same density ($\rho \approx 520$ kg/m³) as the tested material or of the same material with a greater density or thickness. Furthermore, smoke extract ducts can be used that consist of sheet material from Etex Building Performance GmbH Type AD 40 and L 500 ($\rho \approx 500$ kg/m³).

Note ② The installation details for suitable classification times of 90 or 120 minutes can be found in IOM A000061302, issue 01/2024.

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Table 2

Essential characteristics	Technical specification, section of EN 12101-8	Performance level	(●) Requirements met/Note
Nominal activation conditions/sensitivity	4.2.1.3		● / Suitability for manual release: verified
Response delay	4.2.1.4	AA / MA	● / Opening/closure within 25 minutes at fire temperature has been proven. Period of time < 60 s
Operational reliability	4.4.2.2	C _{mod} Note ③	● / 20,000 cycles, duration per cycle < 120 s
Fire resistance classification to EN 13501-4			
Integrity (E)	4.1.1 a)	E120/E90	● / Details: Table 1
Insulation (I)	4.1.1 b)	EI120/90	● / Details: Table 1
Leakage (S)	4.1.1 c)	EIS1000	● / Pressure level 2: -1000 Pa to 500 Pa
Mechanical stability (part of E)	4.1.1 d)	E120/E90	● / Details: Table 1
Maintenance of cross section (part of E)	4.1.1 e)	E120/E90	● / Details: Table 1
Durability (multi compartments) Durability of response delay In connection with actuators and interface control units [B24] (BE24-ST TR, BEE24-ST TR, BEN24-ST TR) [B230] (BE230 TR, BEE230 TR, BEN230 TR) [B24A] ([B24] + TROXNETCOM control module AS-EM/EK) [B24AM] ([B24] + TROXNETCOM control module AS-EM/M) [B24AS] ([B24] + TROXNETCOM control module AS-EM/SIL2) [B24SR] (BEE24-SR-ST TR, BEN24-SR-ST TR) [B24BKNE] ([B24] + BKNE230-24) [B24C] ([B24] + BC24) [B24D] ([B24] + BRM-10-F-ST) [B230D] (B230 + BRM-10-F)	4.4.2.1	AA / MA	● / Opening/closure within 25 minutes at fire temperature has been proven. Period of time < 60 s



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<p>Durability (multi compartments) Durability of operational reliability In connection with actuators and interface control units [B24] (BE24-ST TR, BEE24-ST TR, BEN24-ST TR) [B230] (BE230 TR, BEE230 TR, BEN230 TR) [B24A] ([B24] + TROXNETCOM control module AS-EM/EK) [B24AM] ([B24] + TROXNETCOM control module AS-EM/M) [B24AS] ([B24] + TROXNETCOM control module AS-EM/SIL2) [B24SR] (BEE24SR-ST TR, BEN24SR-ST TR) [B24BKNE] ([B24] + BKNE230-24) [B24C] ([B24] + BC24) [B24D] ([B24] + BRM-10-F-ST) [B230D] (B230 + BRM-10-F)</p>	4.4.2.2	C _{10,000} Note ③	• / 10,000 cycles, duration per cycle < 120 s
<p>Durability (multi compartments) Durability of operational reliability In connection with actuators and interface control units [B24AM] ([B24] + TROXNETCOM control module AS-EM/M) [B24SR] (BEE24SR-ST TR, BEN24SR-ST TR)</p>	4.4.2.2	C _{mod} Note ③	• / 20,000 work cycles of cycle duration < 120 s of which 10,000 work cycles with 45° to 60° swivel range

Note ③

The performance level was achieved weight-loaded. This makes it possible to operate the damper e.g. for functional checks during running systems.

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Table 3

Essential characteristics	Technical specifications	Performance level	(●) Requirements met/Note
Damper with cover grille	EN 1366-10, 5.2.3		● / Required; can also be used to terminate openings and ducts
Damper blade leakage	EN 1751	Class 3	●
Damper casing leakage	EN 1751	Class C	●
<p>When impregnating or colour matching with commercially available emulsion paint, please note: The applied substance or material, the thickness limitation and the mass per unit area shall comply with Regulation (EU) 2016/364 of the European Parliament and Council.</p> <p>Mass per unit area $\leq 1.0 \text{ kg/m}^2$ Thickness $\leq 1.0 \text{ mm}$ Impregnation (only on calcium silicate surfaces) Promat GmbH – Impregnation 2000 Promat GmbH – SR Impregnation Promat GmbH – Tunnel Impregnation Commercially available emulsion paint (only on calcium silicate surfaces)</p>	Regulation (EU) 2016/364 of 1 July 2015 on the classification of the reaction to fire performance of construction products pursuant to Regulation (EU) No 305/2011 of the European Parliament and of the Council		●

The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued, in accordance with regulation (EU) no. 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by

Neukirchen-Vluyn, 15.01.2024



Jan Heymann • Authorised Representative • CE-marked products