

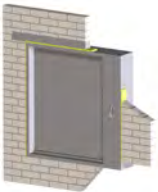
**DoP/EK-JZ/DE/003**




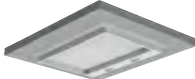

<b>1.</b>	<b>Product</b> Unique identification code of the product type	EK-JZ
<b>2.</b>	<b>Intended use</b>	Smoke control damper for multi compartments
<b>3.</b>	<b>Manufacturer</b>	TROX GmbH Heinrich-Trox-Platz • 47504 Neukirchen-Vluyn • Germany Phone +49 (0)2845 2020 • Fax +49 (0)2845 202265 E-mail trox@trox.de • Internet www.trox.de
<b>5.</b>	<b>System of assessment and verification of constancy of performance</b>	System 1
<b>6.</b>	<b>Harmonised standard</b>	EN 12101-8:2011
	<b>Notified body/ies</b>	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

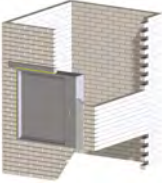
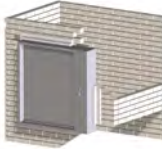

## 7 Declared performances

Essential characteristics: fire resistance for nominal sizes [mm]: 200 × 430 to 1200 × 2030			
Supporting construction	Construction	Installation type	Class of performance for
 <p>in a solid wall (example: brick wall)</p>	<ul style="list-style-type: none"> <li>• Concrete, aerated concrete, brick walls</li> <li>• <math>d \geq 100</math> mm</li> <li>• <math>\rho \geq 500</math> kg/m<sup>3</sup></li> <li>• Distance to load-bearing structural elements <math>\geq 40</math> mm</li> <li>• Assembly of two dampers up to distances <math>\leq 90</math> mm</li> <li>• Ring gap wet <math>\leq 150</math> mm</li> <li>• in combination wet and dry with fibre paper <math>\leq 5</math> mm</li> <li>• Connection to smoke extract ducts according to EN 1366-8</li> <li>• Connection to smoke extract ducts according to EN 1366-9</li> <li>• Installation openings can be reduced in size with cement-bonded panel building materials</li> </ul>	Mortar-based installation or mortar-based installation (partly with fibre paper)	EI 120 (v <sub>ew</sub> , i $\leftrightarrow$ o) S 1000 C <sub>mod</sub> HOT400/30 MA multi
	<ul style="list-style-type: none"> <li>• Concrete, aerated concrete, brick walls</li> <li>• <math>d \geq 100</math> mm</li> <li>• <math>\rho \geq 500</math> kg/m<sup>3</sup></li> <li>• Distance to load-bearing structural elements <math>\geq 40</math> mm</li> <li>• Assembly of two dampers up to distances <math>\leq 90</math> mm</li> <li>• Ring gap dry up to 40 mm with mineral wool or</li> <li>• Ring gap in combination capsule side wet up to 150 mm</li> <li>• Connection to smoke extract ducts according to EN 1366-8</li> <li>• Connection to smoke extract ducts according to EN 1366-9</li> <li>• Installation openings can be reduced in size with cement-bonded panel building materials</li> </ul>	Dry mortarless installation with mineral wool or dry mortarless installation with mineral wool (partly with fibre paper and wet mortar-based installation)	EI 120/90 (v <sub>ew</sub> , i $\leftrightarrow$ o) S 1000 C <sub>mod</sub> HOT400/30 MA multi




# Declaration of performance

 <p>in lightweight partition wall</p>	<ul style="list-style-type: none"> <li>• Metal support structure (steel support structure also)</li> <li>• Gypsum fibreboards</li> <li>• Wall thickness <math>d \geq 100</math> mm</li> <li>• with mineral wool</li> <li>• Distance to load-bearing structural elements <math>\geq 75</math> mm</li> <li>• Distance between dampers <math>\geq 200</math> mm</li> <li>• Ring gap wet <math>\leq 100</math> mm</li> <li>• Connection to smoke extract ducts according to EN 1366-8</li> <li>• Connection to smoke extract ducts according to EN 1366-9</li> <li>• Installation openings can be reduced in size with cement-bonded panel building materials</li> </ul>	<p>Mortar-based installation (partly with fibre paper)</p>	<p>EI 90 (v<sub>ew</sub>, i↔o) S 1000 C<sub>mod</sub> HOT400/30 MA multi</p>
 <p>in solid ceiling slabs</p>	<ul style="list-style-type: none"> <li>• <math>d \geq 150</math> mm</li> <li>• <math>\rho \geq 550</math> kg/m<sup>3</sup></li> <li>• Distance to load-bearing structural elements <math>\geq 10</math> mm</li> <li>• Distance between casings <math>\geq 200</math> mm</li> <li>• 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 988-2 (class M2.5 to 10) or gypsum mortar</li> <li>• Ring gap wet from 10 mm - 150 mm</li> <li>• Connection to smoke extract ducts according to EN 1366-8</li> <li>• Connection to smoke extract ducts according to EN 1366-9</li> </ul>	<p>Mortar-based installation</p>	<p>EI 120 (h<sub>ow</sub>, i↔o) S 1000 C<sub>mod</sub> MA multi HOT 400/30</p>
 <p>in a light shaft wall and in a light shaft wall, the part of a smoke extract duct is</p>	<ul style="list-style-type: none"> <li>• Metal support structure (steel support structure also)</li> <li>• cladding on one side</li> <li>• <math>d \geq 90</math> mm</li> <li>• 2 × 20 mm gypsum fibreboards</li> <li>• Ring gap wet <math>\leq 100</math> mm</li> <li>• Distance to load-bearing structural elements <math>\geq 75</math> mm</li> <li>• Distance between dampers <math>\geq 200</math> mm</li> <li>• Connection to smoke extract ducts according to EN 1366-8</li> <li>• Connection to smoke extract ducts according to EN 1366-9</li> <li>• Installation openings can be reduced in size with cement-bonded panel building materials</li> </ul>	<p>Mortar-based installation (partly with fibre paper)</p>	<p>EI 90 (v<sub>edw</sub>, i↔o) S 1000 C<sub>mod</sub> HOT400/30 MA multi</p>

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 <p>in a solid shaft wall which is part of a smoke extract duct (example: brick wall)</p>	<ul style="list-style-type: none"> <li>• Concrete, aerated concrete, brick walls</li> <li>• <math>d \geq 100 \text{ mm}</math></li> <li>• <math>\rho \geq 500 \text{ kg/m}^3</math></li> <li>• Distance to load-bearing structural elements <math>\geq 40 \text{ mm}</math></li> <li>• Assembly of two dampers up to distances <math>\leq 90 \text{ mm}</math></li> <li>• Ring gap laterally and below dry with fibre paper <math>\leq 5 \text{ mm}</math>, laterally and above with mineral wool up to <math>40 \text{ mm}</math></li> <li>• with mineral wool up to <math>40 \text{ mm}</math></li> <li>• Ring gap wet up to <math>150 \text{ mm}</math> circumferential</li> <li>• Ring gap in combination</li> <li>• Connection to smoke extract ducts according to EN 1366-8</li> <li>• Connection to smoke extract ducts according to EN 1366-9</li> <li>• Installation openings can be reduced in size with cement-bonded panel building materials</li> </ul>	<p>Dry mortarless installation, mortar-based installation or in combination</p>	<p>EI 120 (ved, i<math>\leftrightarrow</math>o) S 1000 C<sub>mod</sub> HOT400/30 MA multi</p>
 <p>on a solid shaft wall which is part of a smoke extract duct (example: brick wall)</p>	<ul style="list-style-type: none"> <li>• Concrete, aerated concrete, brick walls</li> <li>• <math>d \geq 100 \text{ mm}</math></li> <li>• <math>\rho \geq 500 \text{ kg/m}^3</math></li> <li>• Assembly of two dampers is possible</li> <li>• Perimeter strips (i.e. on four sides)</li> <li>• Connection to smoke extract ducts according to EN 1366-8</li> <li>• Connection to smoke extract ducts according to EN 1366-9</li> </ul>	<p>Dry mortarless installation see note 1</p>	<p>EI 120 (ved, i<math>\leftrightarrow</math>o) S 1000 C<sub>mod</sub> HOT400/30 MA multi</p>
 <p>on vertical fire-resistant smoke extract ducts</p>	<ul style="list-style-type: none"> <li>• Firestop board (calcium silicate)</li> <li>• <math>d \geq 35 \text{ mm}</math></li> <li>• <math>\rho \approx 500 \text{ kg/m}^3</math></li> <li>• Perimeter strips (i.e. on four sides)</li> <li>• Assembly of two dampers is possible</li> <li>• EN 1366-8 (Smoke extract ducts for multi compartments)</li> <li>• EN 1366-9 (Smoke extraction ducts for individual compartments)</li> </ul>	<p>Installation in cable-own design, see note 1</p>	<p>EI 120 (ved, i<math>\leftrightarrow</math>o) S 1000 C<sub>mod</sub> HOT400/30 MA multi</p>

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 <p>to horizontal fire-resistant smoke extract ducts</p>	<ul style="list-style-type: none"> <li>• Firestop board (calcium silicate)</li> <li>• <math>d \geq 35 \text{ mm}</math></li> <li>• <math>\rho \approx 500 \text{ kg/m}^3</math></li> <li>• Perimeter strips (i.e. on four sides)</li> <li>• Assembly of two dampers is possible</li> <li>• EN 1366-8 (Smoke extract ducts for multi compartments)</li> <li>• EN 1366-9 (Smoke extraction ducts for individual compartments)</li> </ul>	<p>Installation in cable-own design, see note 1</p>	<p>EI 120 (<math>v_{ed}, i \leftrightarrow o</math>) S 1000 C<sub>mod</sub> HOT400/30 MA multi</p>
 <p>in horizontal fire-resistant smoke extract ducts</p>	<ul style="list-style-type: none"> <li>• Firestop board (calcium silicate)</li> <li>• <math>d \geq 35 \text{ mm}</math></li> <li>• <math>\rho \approx 500 \text{ kg/m}^3</math></li> <li>• Perimeter strips (i.e. on four sides)</li> <li>• Assembly of two dampers is possible</li> <li>• EN 1366-8 (Smoke extract ducts for multi compartments)</li> <li>• EN 1366-9 (Smoke extraction ducts for individual compartments)</li> </ul>	<p>Installation in cable-own design, see note 1</p>	<p>EI 120 (<math>v_{ed}, i \leftrightarrow o</math>) S 1000 C<sub>mod</sub> HOT400/30 MA multi</p>
 <p>at the end of horizontal fire-resistant smoke extract ducts</p>	<ul style="list-style-type: none"> <li>• Firestop board (calcium silicate)</li> <li>• <math>d \geq 35 \text{ mm}</math></li> <li>• <math>\rho \approx 500 \text{ kg/m}^3</math></li> <li>• Perimeter strips (i.e. on four sides)</li> <li>• Assembly of two dampers is possible</li> <li>• EN 1366-8 (Smoke extract ducts for multi compartments)</li> <li>• EN 1366-9 (Smoke extraction ducts for individual compartments)</li> </ul>	<p>Installation in cable-own design, see note 1</p>	<p>EI 120 (<math>v_{ed}, i \leftrightarrow o</math>) S 1000 C<sub>mod</sub> HOT400/30 MA multi</p>

Note ① Construction of the duct: Smoke control dampers for multi compartments may be used with ducts that have been tested to EN 1366-9 (Single compartment smoke extraction ducts) and to EN 1366-8 (Smoke extraction ducts) and that are constructed either from materials of the same density ( $\rho \approx 520 \text{ kg/m}^3$ ) as the tested material or from the same material with a greater density or thickness. Smoke extract ducts made from Promatect AD 40 or Promatect L 500 boards ( $\rho \approx 500 \text{ kg/m}^3$ ) may also be used.

# Declaration of performance

Tabelle 2

Essential characteristics	Technical specification, section of EN 12101-8	Performance level	(*) Requirements met/ηNote
Nominal activation conditions/sensitivity	4.2.1.3		• / Suitability for manual intervention: pass
Response delay	4.2.1.4	MA	• / Opening/closure within 25 minutes at fire temperature has been proven. Duration < 60 s.
Operational reliability	4.4.2.2	C <sub>mod</sub>	• / 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)	EIS 1000	• / Pressure level 2: -1.000 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
<b>Durability (multi compartments)</b> Durability of response delay In connection with actuators and interface control units [BE24/BE230] BE24 (BLE24) / BE230 (BLE230) [B24A] BE24 (BLE24) + AS-EM/EK [B24AM] BE24 (BLE24) + AS-EM/M [B24AS] BE24 (BLE24) + AS-EM/SIL2 [B24BKNE] BE24 (BLE24) + BKNE230-24 [B24C] BE24 (BLE24) + BC24 [B24D] BE24 (BLE24) + BRM-10-F-ST [B230D] BE230 (BLE230) + BRM-10-F	4.4.2.1	MA	• / Opening/closure within 25 minutes at fire temperature has been proven. Duration < 60 s.

<p><b>Durability (multi compartments)</b>  Durability of operational reliability  In connection with actuators and interface control units  [BE24/BE230] BE24 (BLE24) / BE230 (BLE230)  [B24A] BE24 (BLE24) + AS-EM/EK  [B24AM] BE24 (BLE24) + AS-EM/M  [B24AS] BE24 (BLE24) + AS-EM/SIL2  [B24BKNE] BE24 (BLE24) + BKNE230-24  [B24C] BE24 (BLE24) + BC24  [B24D] BE24 (BLE24) + BRM-10-F-ST  [B230D] BE230 (BLE230) + BRM-10-F</p>	<p>4.4.2.2</p>	<p>C<sub>mod</sub></p>	<p>• / 20.000 cycles, duration per cycle &lt; 120 s.</p>
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# Declaration of performance

Tabelle 3

Essential characteristics	Technical specifications	Performance level	(•) Complies with requirements/ remark new element
<b>Damper or duct with cover grille</b>	EN 1366-10, 5.2.3		• / Required; can also be used to terminate openings and ducts
<b>Damper blade leakage</b>	EN 1751	Class 3	•
<b>Damper casing leakage</b>	EN 1751	Class C	•
<p>If a product or part of a product has been coated with a substance (impregnating agent) or with commercially available emulsion paint, the substance or the material has to meet the requirements of Regulation (EU) 2016/364 of the European Parliament and of</p> <p>Mass per unit area <math>\leq 1.0 \text{ kg/m}^2</math>            Thickness <math>\leq 1.0 \text{ mm}</math>            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

Signed for and on behalf of TROX GmbH:

Neukirchen-Vluyn, 1 June 2020



Jan Heymann • CE-Beauftragter Authorised Representative • CE-marked products