

Declaration of performance

DoP/FK-EU/DE/003



TROX[®] TECHNIK
The art of handling air

1 Product	FK-EU
Unique identification code of the product type	
2 Intended use	Fire damper
3 Manufacturer	<p>TROX GmbH Heinrich-Trox-Platz 47504 Neukirchen-Vluyn, Germany</p> <p>TROX HESCO Schweiz AG Walderstrasse 125 8630 Rüti ZH Switzerland</p> <p>Phone +49 (0)2845 2020 Fax +49 (0)2845 202265 E-mail trox@trox.de Internet www.troxtechnik.com</p> <p>Phone +41 (0)55250 7111 Fax +41 (0)55250 7310 E-mail info@troxhesco.ch Internet www.troxhesco.com</p>
5 System of assessment and verification of constancy of performance	System 1
6 Harmonised standard	EN 15650:2010
Notified body/ies	<p>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:</p> <p>1322-CPR-74135/01 1322-CPR-61977/01</p>

7 Declared performances

Essential characteristic: fire resistance — size [mm]: 200 × 200 to 1500 × 800				
Supporting construction	Construction details	Installation location	Installation type	Performance class (EI TT) up to
 Solid wall	<ul style="list-style-type: none"> d ≥ 100 mm Distance to load-bearing structural elements ≥ 40 mm Distance between casings ≥ 70 mm 	in the wall	Mortar-based installation	EI 120 (v _e i→o) S
	<ul style="list-style-type: none"> d ≥ 100 mm Distance between casings ≥ 70 mm 	in the wall	Mortar-based installation (partially with mineral wool)	EI 90 (v _e i→o) S
	<ul style="list-style-type: none"> d ≥ 100 mm Installation kit E1/E2 	in the wall	Dry mortarless installation	EI 90 (v _e i→o) S
	<ul style="list-style-type: none"> d ≥ 100 mm Installation kit WA (L = 500 mm) 	on the face of the wall	Dry mortarless installation	EI 90 (v _e i→o) S
	<ul style="list-style-type: none"> d ≥ 100 mm Installation kit WA (L = 375 mm) 	on the face of the wall	Dry mortarless installation	EI 90 (v _e i→o) S
	<ul style="list-style-type: none"> d ≥ 100 mm Installation kit WV 	adjacent to the wall	Dry mortarless installation	EI 90 (v _e i→o) S



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Supporting construction	Construction details	Installation location	Installation type	Performance class (EI TT) up to
 Solid wall	<ul style="list-style-type: none"> d ≥ 100 mm Installation kit WE 	remote from the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
	<ul style="list-style-type: none"> d ≥ 100 mm Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Fire batt	EI 120 (v _e i↔o) S
	<ul style="list-style-type: none"> d ≥ 100 mm Distance to load-bearing structural elements ≥ 40 mm Distance between casings ≥ 70 mm 	in the wall	Fire batt	EI 90 (v _e i↔o) S
	<ul style="list-style-type: none"> d ≥ 100 mm Flexible ceiling joint Distance to load-bearing structural elements ≥ 40 mm Installation kit GM Distance between casings ≥ 100 mm 	in the wall	Mortar-based installation (and installation kit)	EI 90 (v _e i↔o) S
	<ul style="list-style-type: none"> d ≥ 100 mm Flexible ceiling joint Distance to load-bearing structural elements ≥ 40 mm Installation kit GM With reinforcing strips made of calcium silicate or mineral wool ≤ 20 mm Distance between casings ≥ 100 mm 	in the wall	Mortar-based installation (and installation kit)	EI 90 (v _e i↔o) S
 Lightweight partition wall	<ul style="list-style-type: none"> Metal stud wall Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum d ≥ 98 mm With or without mineral wool Distance to load-bearing structural elements ≥ 40 mm Distance between casings ≥ 70 mm 	in the wall	Mortar-based installation	EI 120 (v _e i↔o) S
	<ul style="list-style-type: none"> Metal stud wall Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum d ≥ 98 mm With or without mineral wool Distance to load-bearing structural elements ≥ 40 mm Distance between casings ≥ 70 mm 	in the wall	Fire batt	EI 90 (v _e i↔o) S
	<ul style="list-style-type: none"> Metal stud wall Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum d ≥ 98 mm With or without mineral wool Installation kit ES Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S
	<ul style="list-style-type: none"> Metal stud wall with sheet steel insert, used as a fire wall, safety partition wall or to provide radiation protection Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum d ≥ 100 mm Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Mortar-based installation	EI 90 (v _e i↔o) S
	<ul style="list-style-type: none"> Metal stud wall with sheet steel insert, used as a fire wall, safety partition wall or to provide radiation protection Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum d ≥ 100 mm Installation kit ES Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Dry mortarless installation	EI 90 (v _e i↔o) S


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Supporting construction	Construction details	Installation location	Installation type	Performance class (EI TT) up to
 <p>Lightweight partition wall</p>	<ul style="list-style-type: none"> • Metal stud wall • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 98$ mm • With or without mineral wool • Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Fire batt	EI 120 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Lightweight partition wall with metal support structure • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 100$ mm • With or without mineral wool • Distance to load-bearing structural elements ≥ 40 mm • Distance between casings ≥ 70 mm 	in the wall	Mortar-based installation	EI 90 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Lightweight partition wall with metal support structure • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 100$ mm • With or without mineral wool • Installation kit ES • Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Dry mortarless installation	EI 90 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Metal stud wall • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 75$ mm • With or without mineral wool • Wall thickness increased to $d \geq 98$ mm • Distance to load-bearing structural elements ≥ 40 mm • Distance between casings ≥ 70 mm 	in the wall	Mortar-based installation	EI 30 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Metal stud wall • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 75$ mm • With or without mineral wool • Wall thickness increased to $d \geq 98$ mm • Installation kit ES • Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Dry mortarless installation	EI 30 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Metal stud wall or fire wall • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 100$ mm • With or without mineral wool • Flexible ceiling joint • Installation kit GL • Distance to load-bearing structural elements = 40 mm 	in the wall	Dry mortarless installation	EI 90 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Timber stud wall • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 130$ mm • Distance to load-bearing structural elements ≥ 40 mm • Distance between casings ≥ 70 mm 	in the wall	Mortar-based installation	EI 90 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Timber stud wall • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 130$ mm • Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Fire batt	EI 120 (v_e i \leftrightarrow o) S

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Supporting construction	Construction details	Installation location	Installation type	Performance class (EI TT) up to
 <p>Lightweight partition wall</p>	<ul style="list-style-type: none"> • Timber stud wall • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 130$ mm • Distance to load-bearing structural elements ≥ 40 mm • Distance between casings ≥ 70 mm 	in the wall	Fire batt	EI 90 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Timber stud wall • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 130$ mm • Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Dry mortarless installation	EI 120 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Timber stud wall (also timber panel construction) • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 130$ mm • Distance to load-bearing structural elements ≥ 40 mm • Distance between casings ≥ 70 mm 	in the wall	Mortar-based installation	EI 30 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Timber stud wall (also timber panel construction) • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 130$ mm • Distance to load-bearing structural elements ≥ 40 mm • Distance between casings ≥ 70 mm 	in the wall	Fire batt	EI 30 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Timber stud wall (also timber panel construction) • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 130$ mm • Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Dry mortarless installation	EI 30 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Half-timbered wall • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 140$ mm • Distance to load-bearing structural elements ≥ 40 mm • Distance between casings ≥ 70 mm 	in the wall	Mortar-based installation	EI 90 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Half-timbered wall • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 140$ mm • Distance to load-bearing structural elements ≥ 40 mm • Distance between casings ≥ 70 mm 	in the wall	Fire batt	EI 90 (v_e i \leftrightarrow o) S
	<ul style="list-style-type: none"> • Half-timbered wall • Gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • $d \geq 140$ mm • Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Dry mortarless installation	EI 90 (v_e i \leftrightarrow o) S
 <p>Shaft wall</p>	<ul style="list-style-type: none"> • Shaft wall with metal support structure or additional safety board. • Cladding on one side • $d \geq 90$ mm • 2 x 20 mm gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • Installation kit ES • Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Dry mortarless installation	EI 90 (v_e i \leftrightarrow o) S


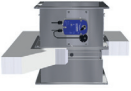
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Supporting construction	Construction details	Installation location	Installation type	Performance class (EI TT) up to
 Shaft wall	<ul style="list-style-type: none"> • Shaft wall with metal support structure made of steel • Cladding on one side • $d \geq 90$ mm • 2 x 20 mm gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • Installation kit ES • Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Dry mortarless installation	EI 90 ($v_e i \leftrightarrow o$) S
	<ul style="list-style-type: none"> • Shaft wall with metal support structure • Cladding on one side • $d \geq 90$ mm • 2 x 20 mm PROMAXON • Installation kit ES • Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Dry mortarless installation	EI 90 ($v_e i \leftrightarrow o$) S
	<ul style="list-style-type: none"> • Shaft wall without metal support structure • $d \geq 40$ mm • 2 x 20 mm gypsum bonded or cement bonded panel materials or fibre-reinforced gypsum • Installation kit ES • Distance to load-bearing structural elements ≥ 40 mm 	in the wall	Dry mortarless installation	EI 90 ($v_e i \leftrightarrow o$) S
 Solid ceiling slab	<ul style="list-style-type: none"> • $d \geq 100$ mm • Distance to load-bearing structural elements ≥ 40 mm • Distance between casings ≥ 70 mm 	in the ceiling	Mortar-based installation	EI 90 ($h_o i \leftrightarrow o$) S
	<ul style="list-style-type: none"> • $d \geq 100$ mm • Distance to load-bearing structural elements ≥ 40 mm • Distance between casings ≥ 70 mm 	in the ceiling	Fire batt	EI 90 ($h_o i \leftrightarrow o$) S
	<ul style="list-style-type: none"> • $d \geq 100$ mm • Distance to load-bearing structural elements ≥ 40 mm 	in the ceiling	Fire batt	EI 120 ($h_o i \leftrightarrow o$) S
	<ul style="list-style-type: none"> • $d \geq 150$ mm • Hensomastik fire batt system • Distance to load-bearing structural elements ≥ 40 mm 	in the ceiling	Fire batt	EI 180 ($h_o i \leftrightarrow o$) S
	<ul style="list-style-type: none"> • $d \geq 125$ mm • Below the ceiling, with horizontal duct • With or without reinforcing section • Perimeter gap filled with mortar or mineral wool • Installation kit WE 	remote from the ceiling	Dry mortarless installation	EI 90 ($h_o i \leftrightarrow o$) S
	<ul style="list-style-type: none"> • $d \geq 100$ mm • Combined with timber beam ceilings • Distance to load-bearing structural elements ≥ 40 mm • Distance between casings ≥ 70 mm 	in the ceiling	Mortar-based installation	EI 90 ($h_o i \leftrightarrow o$) S
	<ul style="list-style-type: none"> • $d \geq 100$ mm • Combined with suspended ceiling systems (Cadolto system) • Distance to load-bearing structural elements ≥ 40 mm • Distance between casings ≥ 70 mm 	in the ceiling	Mortar-based installation	EI 90 ($h_o i \leftrightarrow o$) S

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Essential characteristics	Technical specification	Performance
Nominal activation conditions/sensitivity <ul style="list-style-type: none"> Sensing element load-bearing capacity Sensing element response temperature 72 °C, 95 °C 	ISO 10294-4:2001	Pass
Response delay/response time <ul style="list-style-type: none"> Closure time 	EN 1366-2:1999	Pass
Operational reliability <ul style="list-style-type: none"> Open and closing cycle, 50 cycles 	EN 15650:2010 EN 1366-2:1999	Pass
Durability of response delay <ul style="list-style-type: none"> Sensing element response to temperature and load-bearing capacity 	ISO 10294-4:2001	Pass
Durability of operational reliability <ul style="list-style-type: none"> Testing of the open and closing cycle, 10,000 cycles <ul style="list-style-type: none"> – BLF 230-T TR – BLF 24-T-ST TR – BF230-T TR – BF24-T-ST TR – BF24TL-T-ST(-2) TR – BFN 230-T TR – BFN 24-T-ST TR – BFL 230-T TR – BFL 24-T-ST TR – ExMax-15-BF TR – RedMax-15-BF TR – SFR 1.90-T – SFR 2.90-T – SFR 1.90-T/SLC 	EN 15650:2010	Pass
Protection against corrosion	EN 15650:2010	Pass
Damper blade leakage	EN 1751:1999	At least class 2
Damper casing leakage	EN 1751:1999	At least class B

The classification of the fire damper must not be higher than the classification of the wall or ceiling slab it is installed in. In this case the class of performance of the wall or ceiling slab applies also to the fire damper.

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 TROX GmbH:

Neukirchen-Vluyn, 10 October 2017

i.v. Heymann
Jan Heymann • Authorised Representative • CE-marked products