F-B90

Multiblade Fire damper

systemair

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Multiblade Fire Damper

Description

Fire dampers are part of passive fire protection, with a compartmentalized design to prevent the spread of toxic gases, smoke and fire.

All standard Systemair fire dampers are designed and certified in accordance with the EIS criteria according to EN 1366–2.

The fire dampers together with their installation form an integral part of the fire resistivity rating.

F-B90 fire dampers are designed for the installations listed in their Data Sheet. Their installation is described in the User Manual of the fire dampers.

All fire dampers are supplied with a mechanism with, optionally with micro-switches, actuator and/or power and communication unit. A fire damper that is equipped with a spring return actuator can close the damper following the command from the building management system, or after the thermoelectric fuse is melted. Actuator-operated fire dampers are standard equipment with a thermoelectric fuse, that activates the closing of the damper after the reaching or exceeding of the ambient temperature of 72°C. The actuator power circuit is interrupted and its spring closes the damper blades within 20 seconds.

Highlights

- Short body without blade overhangs
- Can be used as Air-transfer grille with cold smoke tightness
- Duct connection from both sides always available
- Symmetric structure and mechanism accessible from both sides
- Fit installation, filling not visible
- Available with smoke detection
- One sided duct connection ended with Grille

Design

Fire dampers have casings made from galvanized sheet metal. Blades from non-asbestos insulators and an intumescent seal, that expands in a fire situation.

Product Grille Types

- 00

Fire damper without grille. Duct to be installed on each side.

- 01 or 02

Fire damper with sheet metal grille on one side, Zinc coated (01) or RAL9003 Powder coated (02). Grille is re-mountable on either side of the damper.

• 11 or 22

Fire damper with two sides with sheet metal grille, Zinc coated (11) or RAL9003 Powder coated (22). Type suitable to be used as Air Transfer Grille.

Activation Types

• H0

Fire damper with a manual crank activation mechanism and with a spring return release mechanism activated by a fusible thermal link set to 74°C.

• H2

Fire damper with an activation mechanism H0 + open and closed indication with AC 230 V or AC/DC 24 V contact switches.

• B230T or G230T

Fire damper with an activation mechanism with a Belimo (B230T) or Gruner (G230T) spring return actuator (230V AC) with an electro-thermal fuse 72°C and auxiliary switches.

• B24T or G24T

Fire damper with an activation mechanism with a Belimo (B24T) or Gruner (G24T) spring return actuator (24V AC/DC) with electro-thermal fuse 72°C and auxiliary switches.

• BST0 or GST0

Fire damper with an activation mechanism with spring return actuator Belimo (BST0, AC/DC 24 V, supply through com. unit: AC 230 V) or Gruner (GST0, AC/DC 24 V, supply through com. unit: AC 24 V) with an electro-thermal fuse 72°C and auxiliary switches, with a Belimo supply and communication unit BKN230-24 or Gruner supply and communication unit fs-UFC24-2 (other communication units on demand).

• B24T-SR or G24T-SR

Fire damper with an activation mechanism with a Belimo (B24T-SR) or Gruner (G24T-SR) spring return actuator (24V AC/DC) with electro-thermal fuse 72°C and auxiliary switches for Modulated dampers (possibility to open the blade at the desired angle).

• BSD230T or GSD230T (Only for Grille types 11 and 22)

Overflow fire damper with Smoke Detector fitted activation mechanism (230V AC) with a Belimo or Gruner spring return actuator with an electro-thermal fuse 72°C and auxiliary switches, with a Belimo supply and communication unit or Gruner power supply unit (Actuator powered through transformer and than 24V AC/DC Smoke detector).

• BSD24T or GSD24T (Only for Grille types 11 and 22)

Overflow fire damper with Smoke Detector fitted activation mechanism (24V AC/DC) with a Belimo or Gruner spring return actuator with an electro-thermal fuse 72°C and auxiliary switches, with a Belimo supply and communication unit or Gruner power supply unit (Actuator powered through 24V AC/DC Smoke detector).

Material Composition

The product contains galvanized sheet metal, calcium silicate board, graphite fire-proof laminate, polyurethane foam. These are processed in accordance with local regulations. The product contains no hazardous substances.

Technical Parameters

Durability test

50 cycles/manually operated activation mechanism – with no change of the required properties

10000 + 100 + 100 cycles/actuator operated activation mechanism – with no change of the required properties

10000 cycles, actuator controlled for "SR" actuator (45 ... 60 degrees rotation) - with no change of the required properties

Fire testing pressure

Underpressure up to 300 Pa

Safety position

Closed. (In fire scenario the damper closes via spring in actuator or spring in manual mechanism)

Airflow direction

Both directions

Allowed air velocity

Damper can still operate at max. 12 m/s. Air without any mechanical or chemical contamination

Side with fire protection

Depending on installation classification: From both sides (i <-> o)

Repeated opening

Suitable for daily check procedure. It is not possible to operate the device after reaching activation temperature.

Activation Temperature

Manually operated: 74 °C as standard by means of a spring after the melting of the thermofuse and/or after smoke sensor detection.

Actuator operated: 72 °C as standard by means of the spring after current interruption in the electro-thermal fuse and/or after smoke sensor detection.

Operational temperature

Minimum: 0 °C

Maximum: 60 °C for 74 °C and 72 °C thermofuse

Environment suitability

Protected against weather disruptions, with temperature above 0 °C, up to 95% Rha, (3K5 according to EN 60721-3-3)

Open/Closed indication

Manually operated microswitches - Activation types H2

Actuator operated built-in microswitches - Activation types B230T/G230T up to BSD24T/GSD24T

Closing/Opening time

Manually operated < 10 s, actuator operated < 20 s

Inspection possibility

Types fitted with grille: through Grille. Inspection door for connection and actuator access. Types without grille connected from both sides to duct: necessary to create inspection opening in the connected duct or attach removable or flexible part.

Maintenance

Not required. Dry cleaning if demanded by law in the country in which the dampers are installed.

Revisions

Determined by law in the country in which the fire dampers are installed but at least every 12 months.

Allowed pressure

1000 Pa

Blade tightness (STN EN 1751)

Class 3 as standard

Tightness of the housing (STN EN 1751)

Class C as standard

Conformity with EC directives

2006/42/EC Machinery Directive

2014/35/EU Low Voltage Directive

2014/30/EU Electromagnetic Compatibility Directive

Modulated Actuator

Can be set to any position when opening the blade - see types of activation mechanisms B24T-SR/G24T-SR

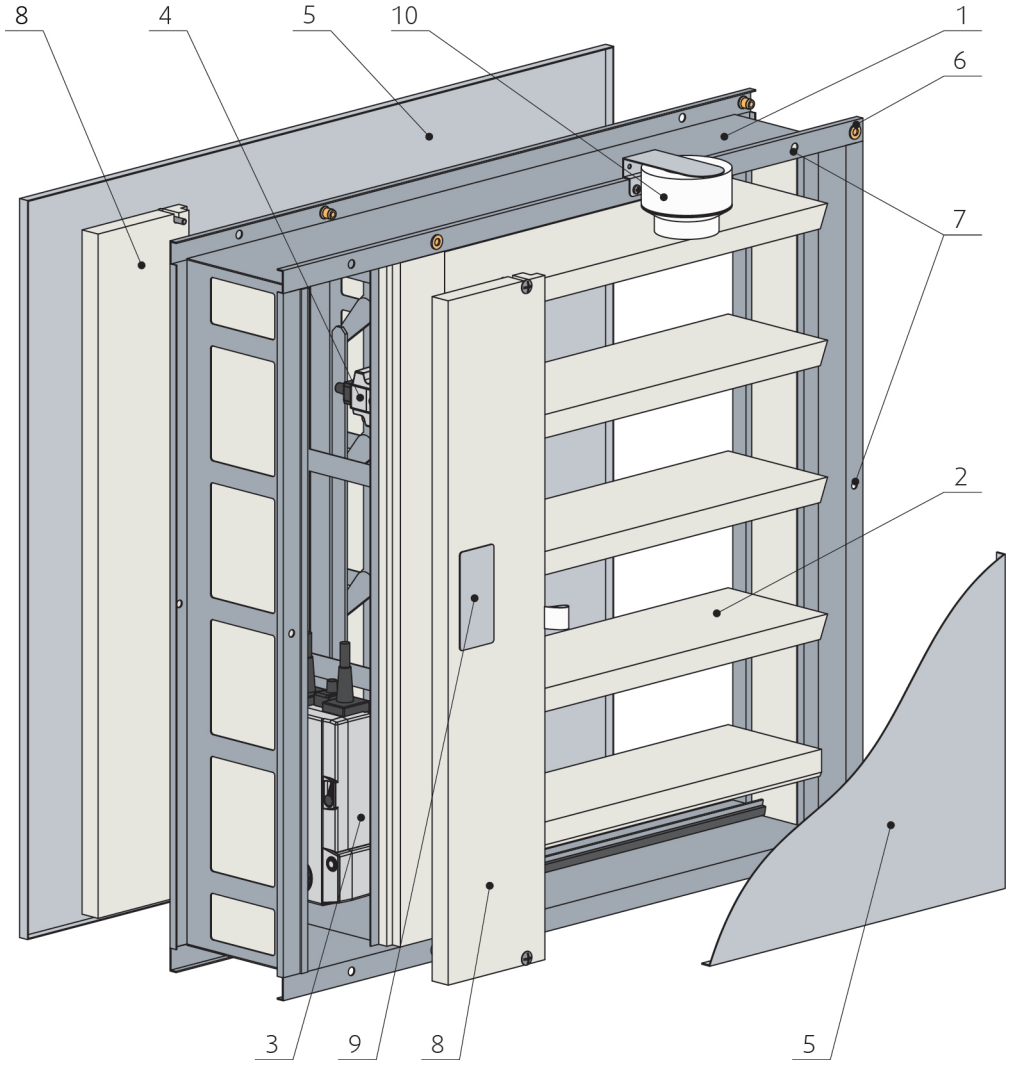
Driving actuator types

Belimo: BF230-T, BF24-T, BF24-SR-T, BFN230-T, BFN24-T, BFN24-T, BFL230-T, BFL24-T, BFL24-SR-T (also with connection possibilities with acronyms ST)

Gruner: 360TA-230-12-S2, 360CTA-024-12-S2, 360TA-024-12-S2, 340TA-230D-03-S2, 340TA-024D-03-S2, 340CTA-024D-03-S2, 340TA-230-05-S2, 340TA-024-05-S2, 340CTA-024-05-S2 (also with connection possibilities with acronyms ST)

Transport and Storage

Dry indoor conditions with a temperature range of -20 °C to +50 °C



Legend

1 Damper casing
2 Damper blade
3 Actuator
4 Thermoelectric tripping device (with test button)
5 Sheet metal grille
6 Threaded inserts for duct connection
7 Threaded inserts for the grille
8 Mechanism cover
9 Product label
10 Smoke sensor ORS 144 K (Hekatron)

Assessed Performance - F-B90

19 **CE** 1396

Systemair Production a.s.
Hlavná 371, 900 43 Kalinkovo, Slovakia
1396-CPR-0177, F-B90

EN 15650 : 2010

Rectangular fire dampers

Nominal activation conditions/sensitivity - **Pass**

sensing element load bearing capacity
sensing element response temperature

Response delay (response time) - **Pass**

closure time

Operational reliability - **Pass**

motorized cycle = 10.200 cycles
manual cycle = 50 cycles
modulated = 20.200 cycles

Fire resistance:

Resistivity depending on installation method and situation
integrity **E**
maintenance of the cross section (under E)
mechanical stability (under E)
cross section (under E)
insulation **I**
smoke leakage **S**

Durability of response delay - **Pass**

sensing element response temperature and load bearing capacity

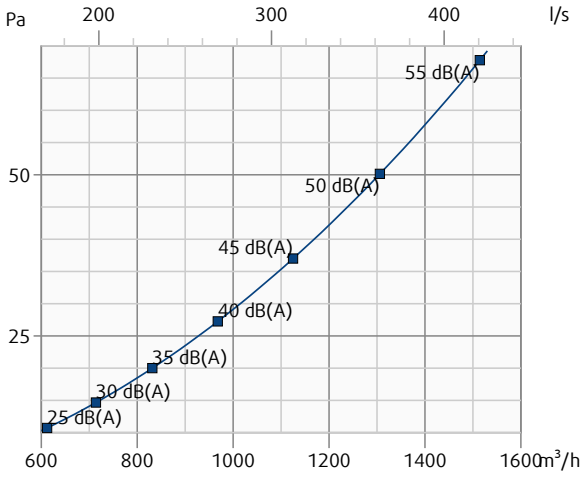
Durability of operational reliability - **Pass**

open and closing cycle

Diagrams

F-B90-200x375-00

Pressure drop & sound power level (A-weighted)



F-B90-200x625-00

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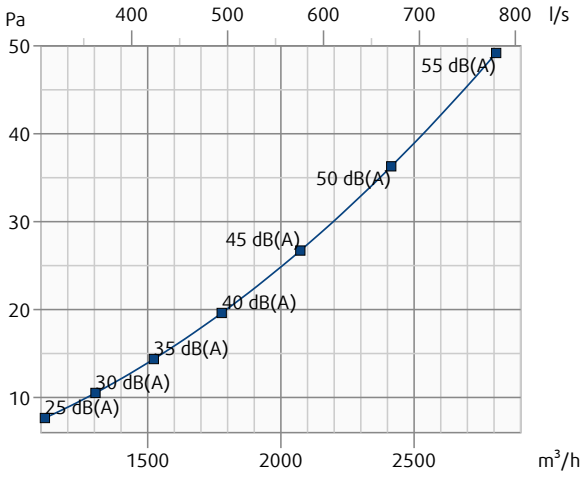

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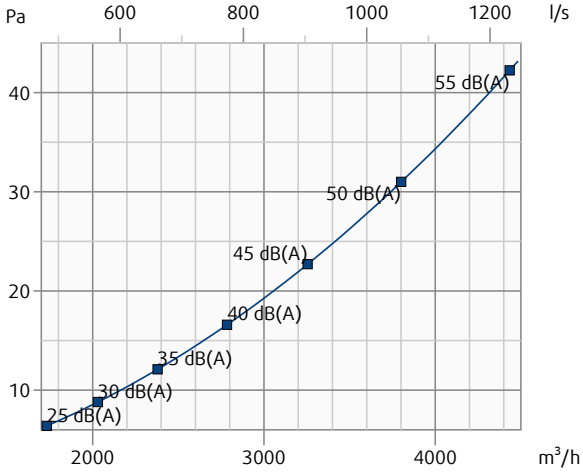

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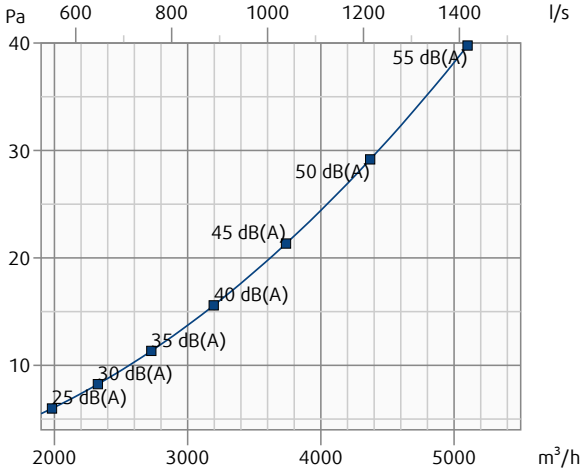

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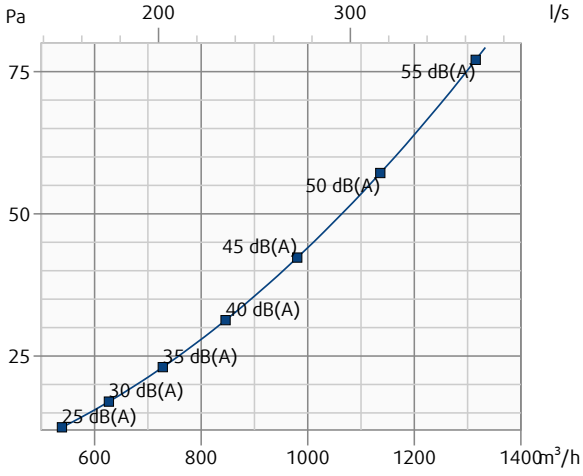
Pressure drop & sound power level (A-weighted)



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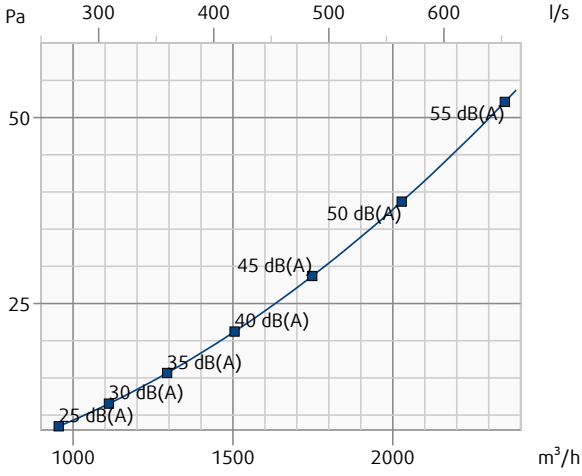

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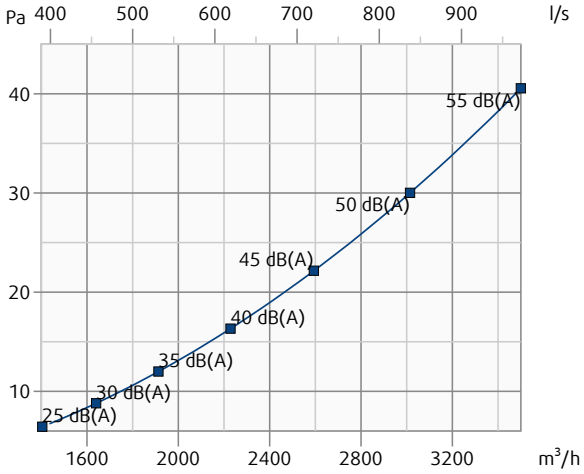

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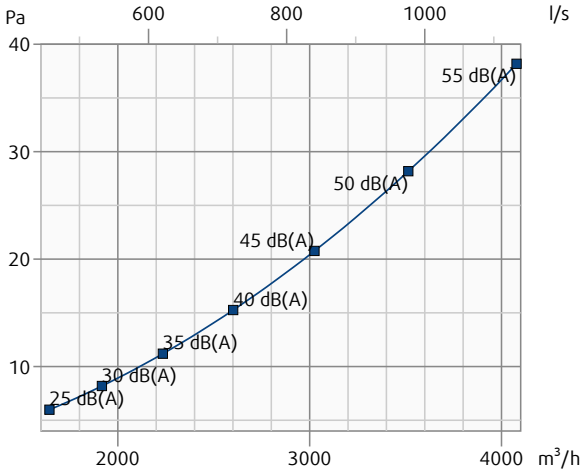
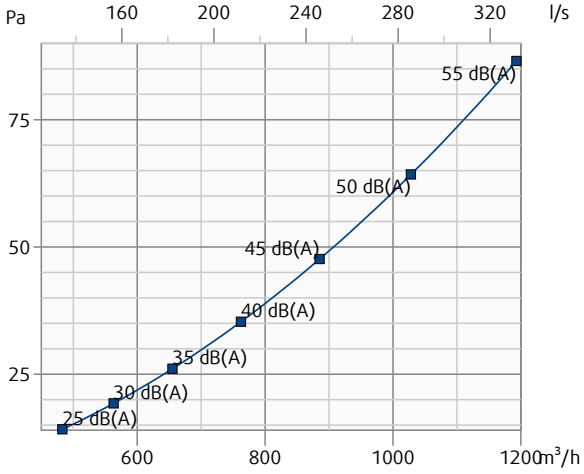


F-B90-200x375-11

Pressure drop & sound power level (A-weighted)



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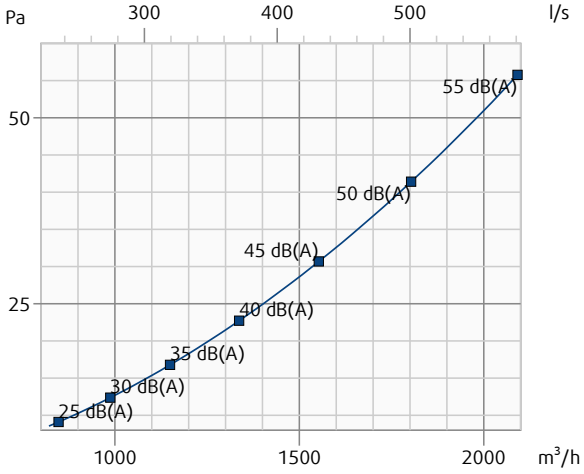

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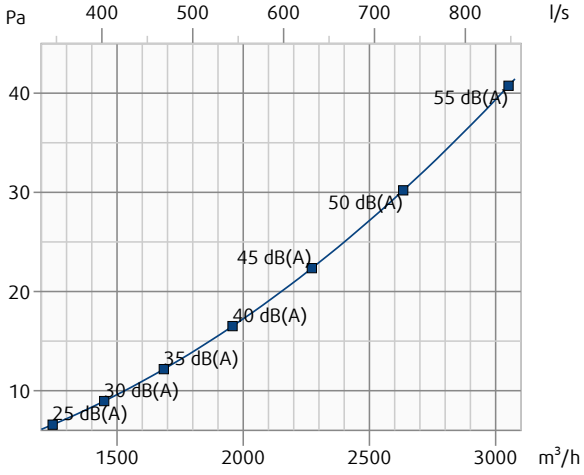

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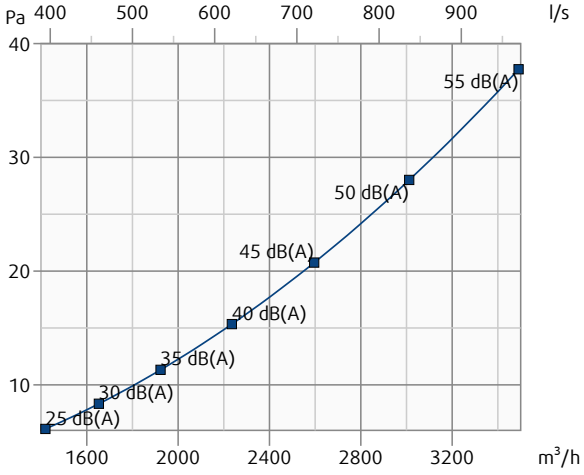

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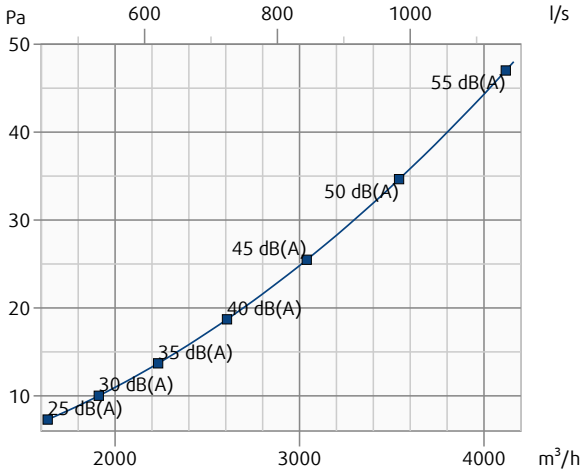

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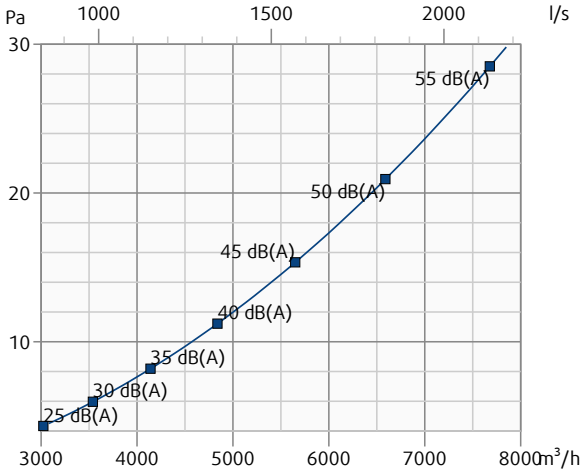

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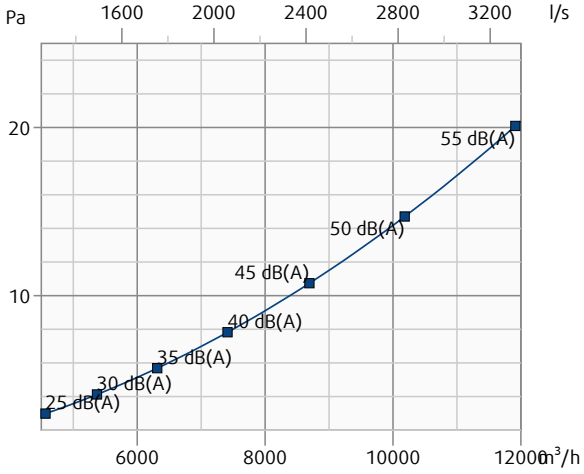

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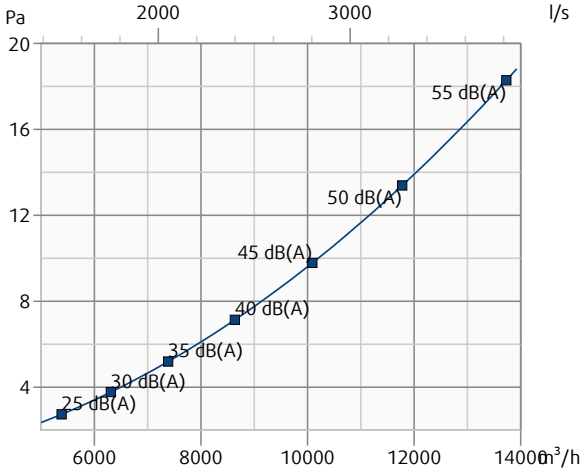
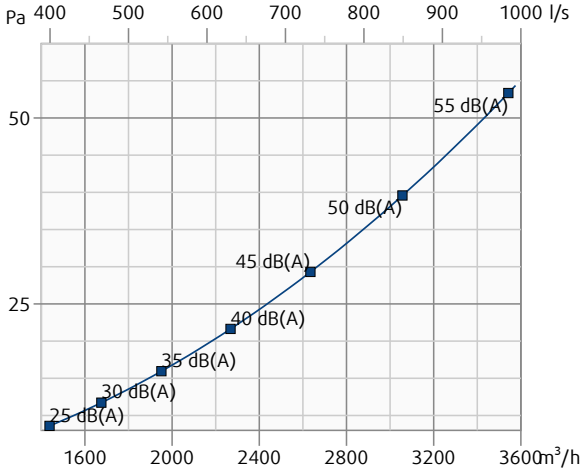


F-B90-500x375-01

Pressure drop & sound power level (A-weighted)



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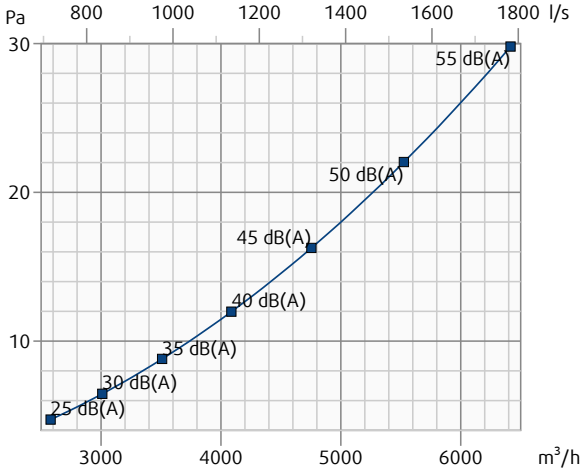

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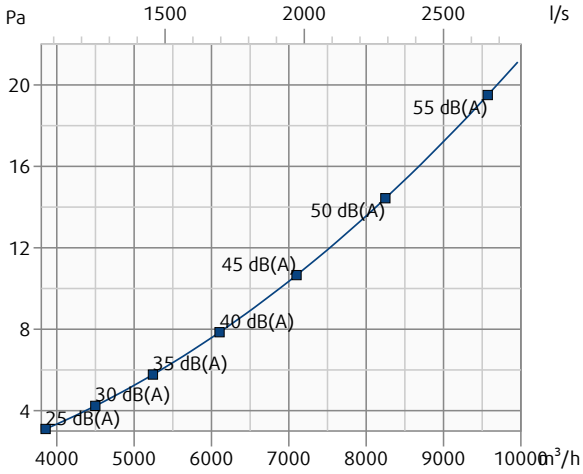

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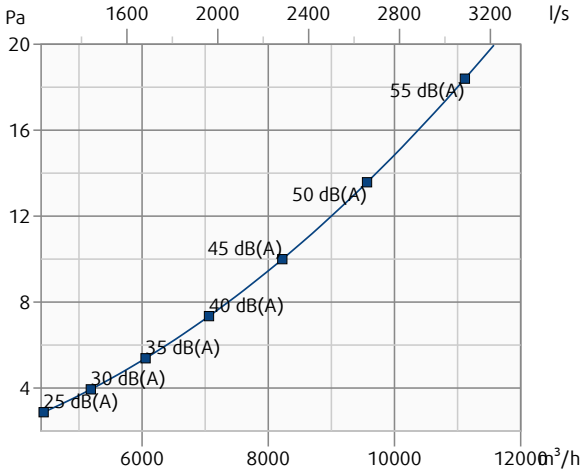

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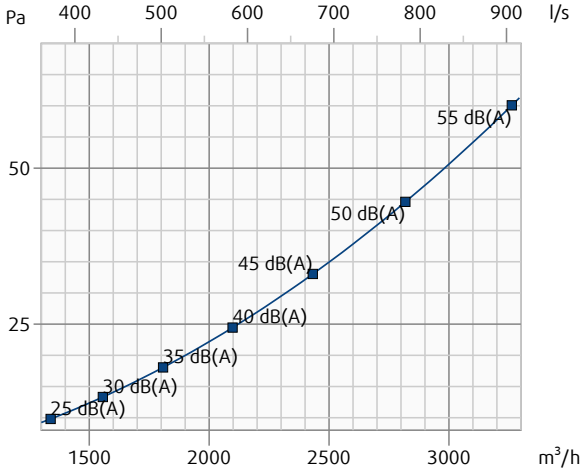

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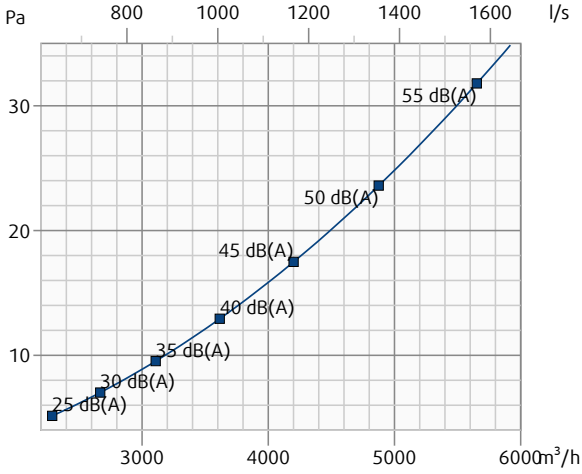

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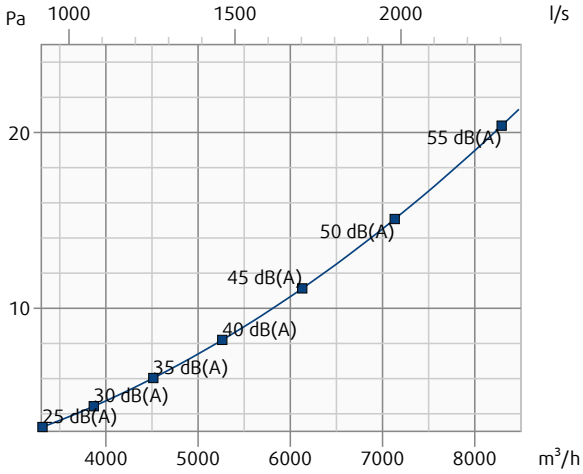

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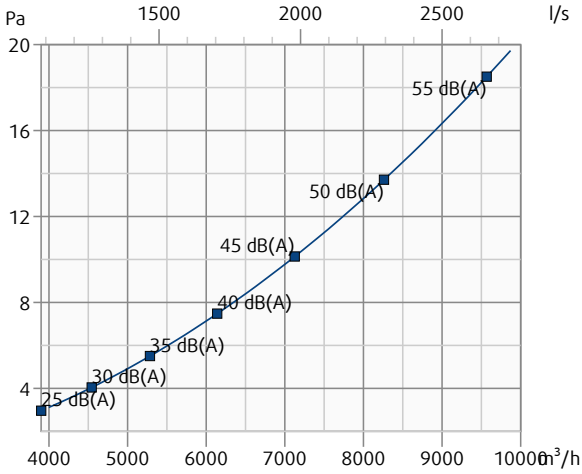

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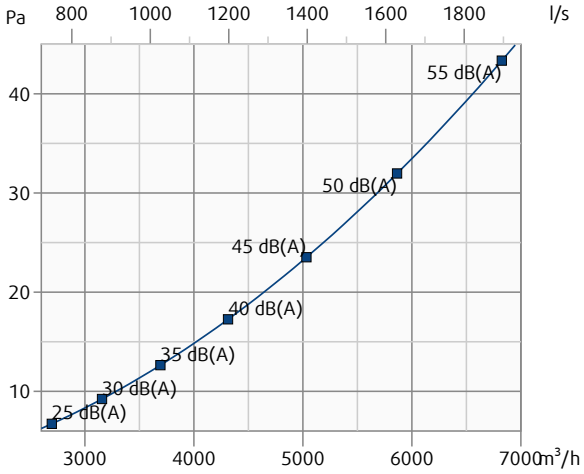

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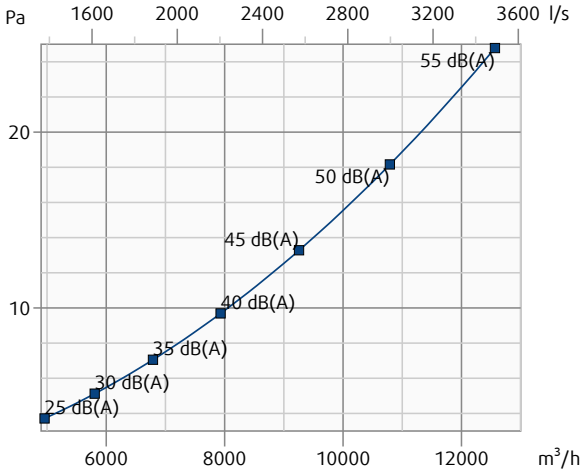

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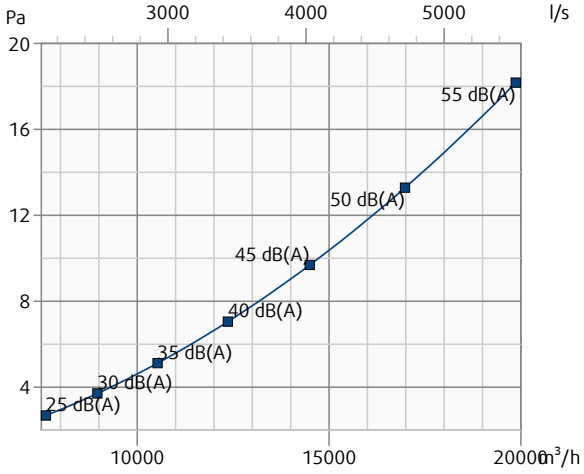

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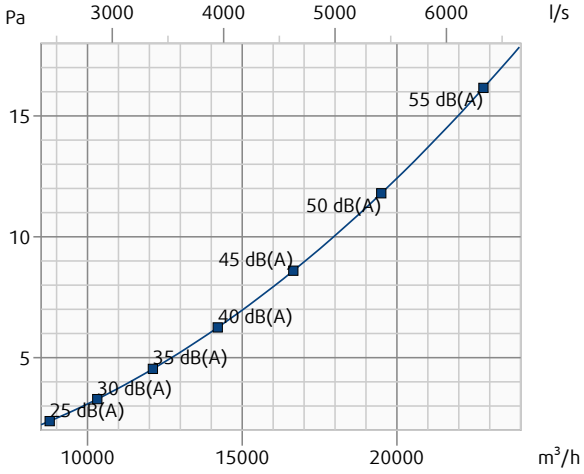

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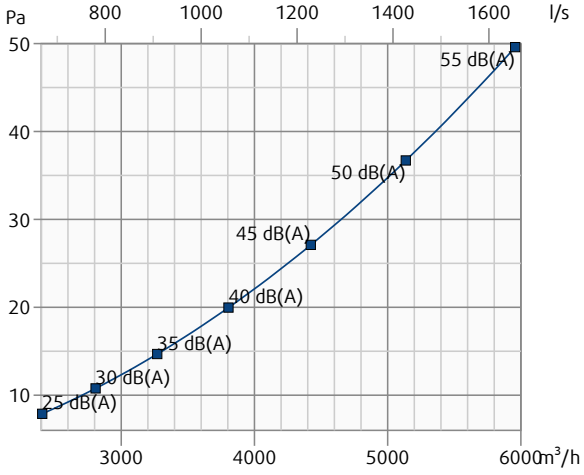

F-B90-800x625-01

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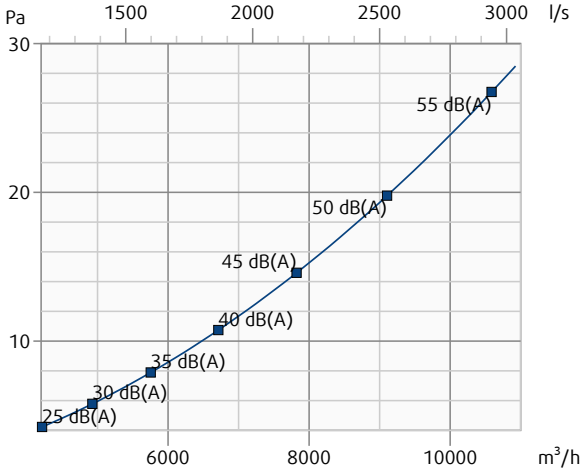

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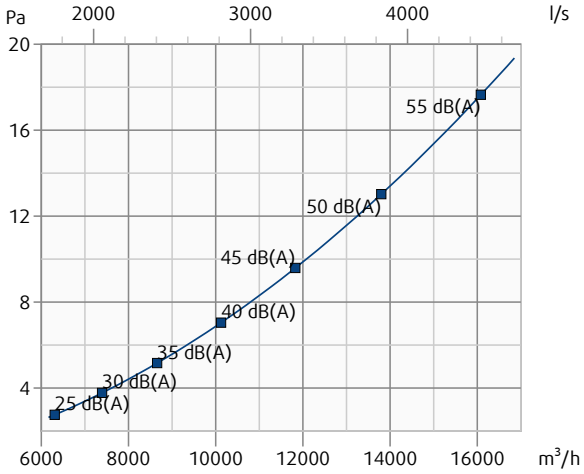

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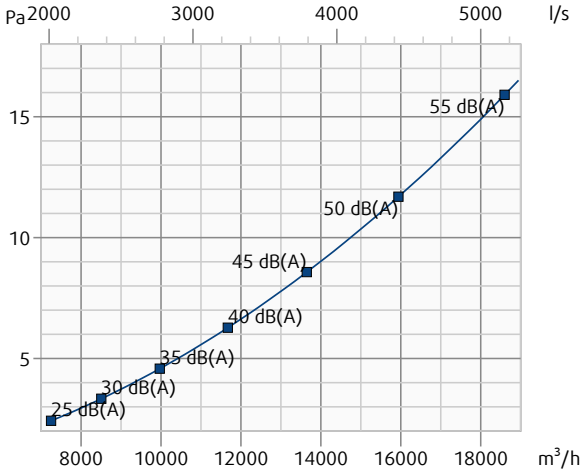

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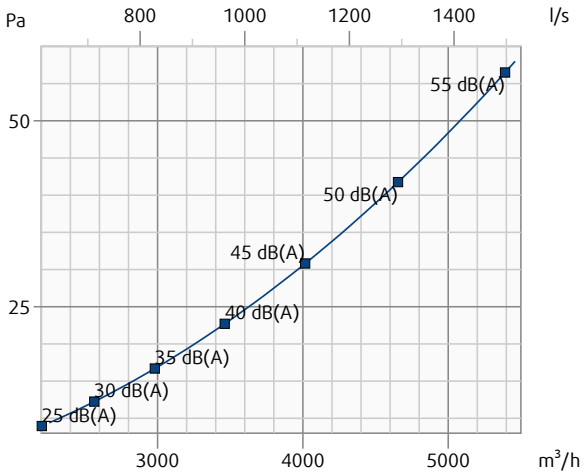

F-B90-800x625-11

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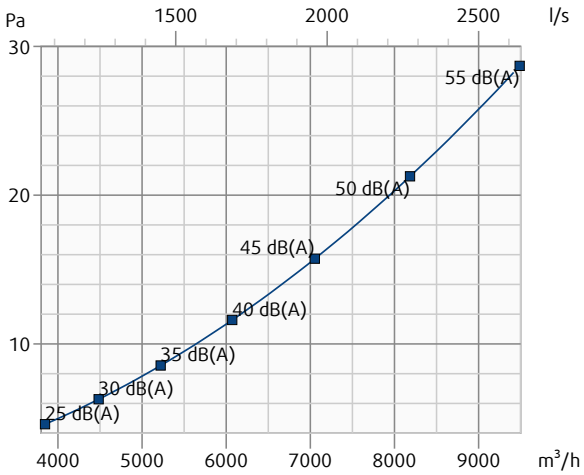

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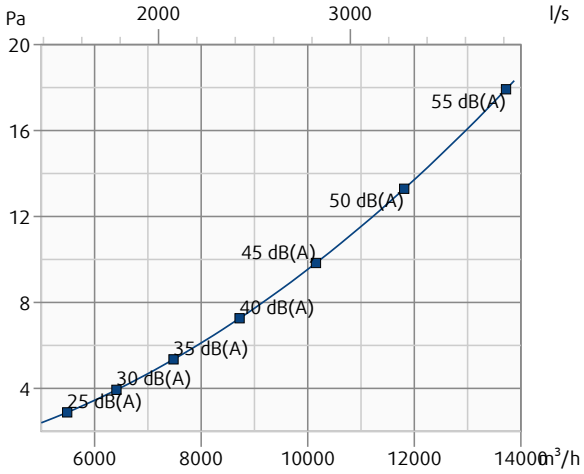

F-B90-800x1000-11

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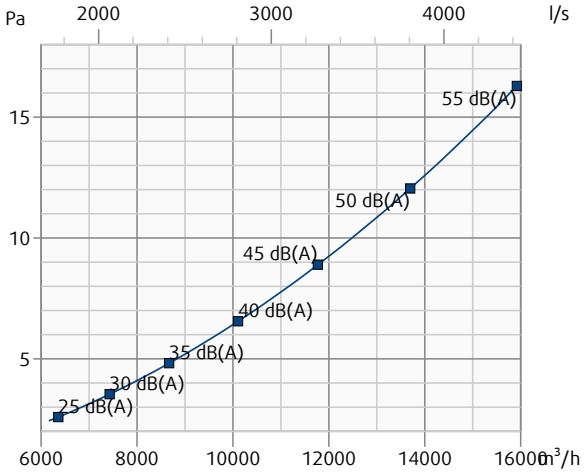


Dimensions

Free area

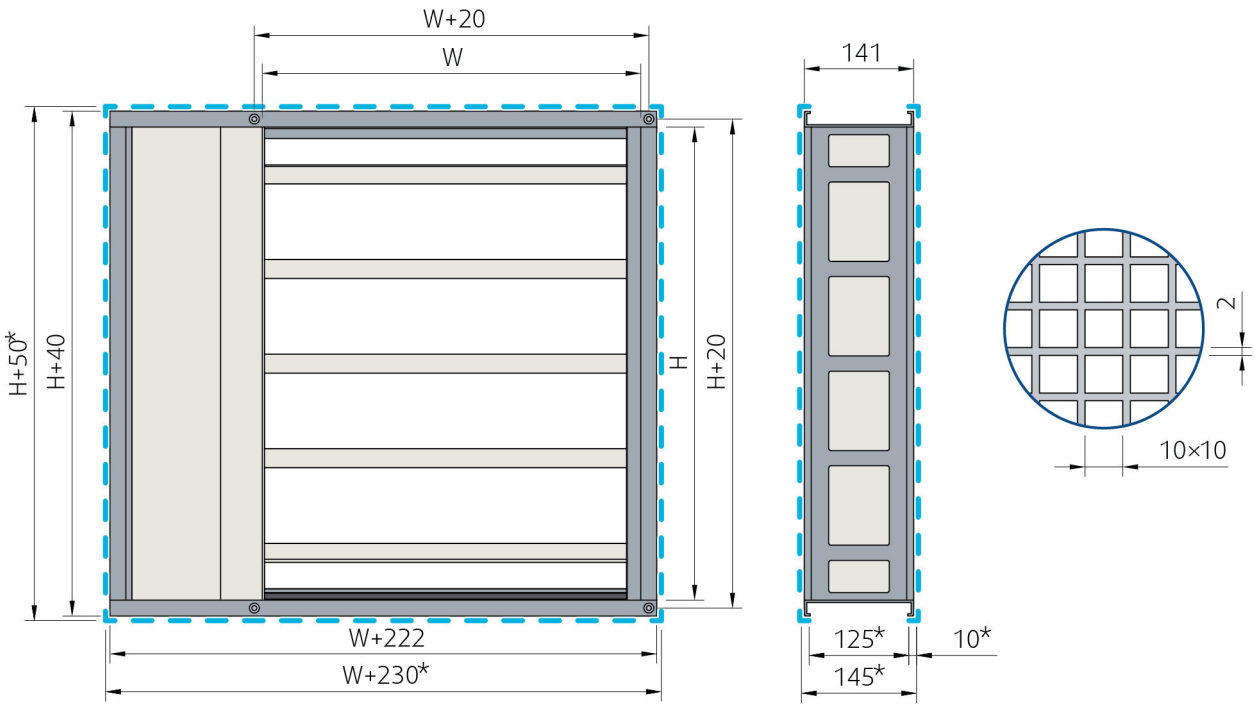
1/2	A_V (m^2)		W (mm)									
			200	225	250	280	300	315	350	355	400	450
F-B90 (00)	H (mm)	375	0.048	0.055	0.062	0.070	0.075	0.079	0.089	0.090	0.102	0.116
		500	0.066	0.075	0.084	0.095	0.103	0.108	0.121	0.123	0.140	0.158
		625	0.084	0.095	0.107	0.121	0.131	0.138	0.154	0.157	0.178	0.201
		750	0.101	0.116	0.130	0.147	0.158	0.167	0.187	0.190	0.215	0.244
		875	0.119	0.136	0.153	0.173	0.186	0.196	0.220	0.223	0.253	0.287
		1000	0.137	0.156	0.176	0.199	0.214	0.226	0.253	0.256	0.291	0.330

2/2	A_V (m^2)		W (mm)									
			500	550	560	600	630	650	700	710	750	800
F-B90 (00)	H (mm)	375	0.129	0.143	0.145	0.156	0.164	0.170	0.183	0.186	0.197	0.210
		500	0.177	0.195	0.199	0.214	0.225	0.232	0.251	0.255	0.269	0.288
		625	0.225	0.248	0.253	0.272	0.286	0.295	0.319	0.323	0.342	0.366
		750	0.272	0.301	0.307	0.329	0.347	0.358	0.386	0.392	0.415	0.443
		875	0.320	0.354	0.360	0.387	0.407	0.421	0.454	0.461	0.488	0.521
		1000	0.368	0.407	0.414	0.445	0.468	0.484	0.522	0.530	0.561	0.599

1/2	A_V (m^2)		W (mm)									
			200	225	250	280	300	315	350	355	400	450
F-B90 (01, 02, 11, 22)	H (mm)	375	0.035	0.039	0.044	0.050	0.054	0.057	0.064	0.065	0.073	0.083
		500	0.047	0.054	0.061	0.069	0.074	0.078	0.087	0.089	0.101	0.114
		625	0.060	0.069	0.077	0.087	0.094	0.099	0.111	0.113	0.128	0.145
		750	0.073	0.083	0.094	0.106	0.114	0.120	0.135	0.137	0.155	0.176
		875	0.086	0.098	0.110	0.124	0.134	0.141	0.158	0.161	0.182	0.206
		1000	0.099	0.113	0.126	0.143	0.154	0.162	0.182	0.185	0.210	0.237

2/2	A_V (m^2)		W (mm)									
			500	550	560	600	630	650	700	710	750	800
F-B90 (01, 02, 11, 22)	H (mm)	375	0.093	0.103	0.105	0.112	0.118	0.122	0.132	0.134	0.142	0.151
		500	0.127	0.141	0.143	0.154	0.162	0.167	0.181	0.183	0.194	0.207
		625	0.162	0.179	0.182	0.196	0.206	0.213	0.229	0.233	0.246	0.263
		750	0.196	0.217	0.221	0.237	0.250	0.258	0.278	0.282	0.299	0.319
		875	0.231	0.255	0.260	0.279	0.293	0.303	0.327	0.332	0.351	0.375
		1000	0.265	0.293	0.298	0.320	0.337	0.348	0.376	0.381	0.404	0.431

Dimensions



Weights

1/2	m (kg)		W (mm)									
			200	225	250	280	300	315	350	355	400	450
F-B90 (00)*	H (mm)	375	9.9	10.1	10.4	10.7	11.0	11.0	11.5	11.6	12.0	12.6
			10.0	10.2	10.5	10.8	11.1	11.1	11.6	11.7	12.1	12.7
		500	12.2	12.5	12.8	13.2	13.5	13.6	14.2	14.3	14.8	15.5
			12.3	12.6	12.9	13.3	13.6	13.7	14.3	14.4	14.9	15.6
		625	14.5	14.9	15.3	15.7	16.1	16.2	16.8	16.9	17.6	18.4
			14.6	15.0	15.4	15.8	16.2	16.3	16.9	17.0	17.7	18.5
		750	16.8	17.3	17.7	18.2	18.6	18.8	19.5	19.6	20.7	21.6
			16.9	17.4	17.8	18.3	18.7	18.9	19.6	19.7	20.5	22.0
		875	19.2	19.7	20.2	20.7	21.5	21.6	22.5	22.6	23.5	24.5
			19.3	19.8	20.3	20.8	21.3	22.0	22.9	23.0	23.9	24.9
		1000	21.5	22.0	22.6	23.5	24.0	24.2	25.2	25.3	26.3	27.4
			21.6	22.1	22.7	23.3	24.4	24.6	25.6	25.7	26.7	27.8

2/2	m (kg)		W (mm)									
			500	550	560	600	630	650	700	710	750	800
F-B90 (00)*	H (mm)	375	13.1	13.7	14.8	14.2	14.6	14.7	15.6	15.7	16.1	16.7
			13.2	13.8	14.9	14.3	14.7	14.8	15.4	15.5	16.5	17.1
		500	16.1	16.8	17.9	17.7	18.2	18.4	19.0	19.1	19.7	20.3
			16.2	16.9	18.0	17.5	18.6	18.8	19.4	19.5	20.1	20.7
		625	19.1	20.2	21.3	21.0	21.5	21.7	22.5	22.6	23.3	24.0
			19.2	20.0	21.7	21.4	21.9	22.1	22.9	23.0	23.7	24.4
		750	22.5	23.3	24.4	24.2	24.8	25.1	26.0	26.1	26.9	27.7
			22.9	23.7	24.8	24.6	25.2	25.5	26.4	26.5	27.3	28.1
		875	25.5	26.5	27.6	27.4	28.1	28.4	29.5	29.6	30.5	32.9
			25.9	26.9	28.0	27.8	28.5	28.8	29.9	30.0	30.9	31.9
		1000	28.5	29.6	30.7	30.7	31.5	31.8	32.9	33.0	35.5	36.6
			28.9	30.0	31.1	31.1	31.9	32.2	33.3	33.4	34.5	35.6

	B230T, B24T, B24T-SR, (+ 0,6 kg = B24T-ST), (+ 0,4 kg = BSD24T, BSD230T)
	G230T, G24T, G24T-SR, (+ 0,6 kg = G24T-ST), (+ 0,4 kg = GSD24T, GSD230T)

1/2	m (kg)		W (mm)									
			200	225	250	280	300	315	350	355	400	450
F-B90 (01, 02)*	H (mm)	375	10.6	10.9	11.2	11.5	11.8	11.9	12.4	12.5	13.0	13.6
			10.7	11.0	11.3	11.6	11.9	12.0	12.5	12.6	13.1	13.7
		500	13.1	13.4	13.8	14.2	14.5	14.7	15.3	15.4	16.0	16.7
			13.2	13.5	13.9	14.3	14.6	14.8	15.4	15.5	16.1	16.8
		625	15.6	16.0	16.4	16.9	17.3	17.4	18.1	18.2	19.0	19.9
			15.7	16.1	16.5	17.0	17.4	17.5	18.2	18.3	19.1	20.0
		750	18.0	18.5	19.0	19.5	20.0	20.2	21.0	21.1	22.3	23.3
			18.1	18.6	19.1	19.6	20.1	20.3	21.1	21.2	22.1	23.7
		875	20.5	21.1	21.7	22.2	23.1	23.3	24.2	24.3	25.3	26.4
			20.6	21.2	21.8	22.3	22.9	23.7	24.6	24.7	25.7	26.8
		1000	23.0	23.6	24.3	25.2	25.8	26.1	27.1	27.2	28.3	29.6
			23.1	23.7	24.4	25.0	26.2	26.5	27.5	27.6	28.7	30.0

2/2	m (kg)		W (mm)									
			500	550	560	600	630	650	700	710	750	800
F-B90 (01, 02)*	H (mm)	375	14.2	14.8	15.9	15.4	15.8	16.0	16.9	17.1	17.5	18.1
			14.3	14.9	16.0	15.5	15.9	16.1	16.7	16.9	17.9	18.5
		500	17.5	18.2	19.3	19.2	19.7	20.0	20.7	20.8	21.4	22.2
			17.6	18.3	19.4	19.0	20.1	20.4	21.1	21.2	21.8	22.6
		625	20.7	21.9	23.0	22.7	23.3	23.6	24.5	24.6	25.3	26.2
			20.8	21.7	23.4	23.1	23.7	24.0	24.9	25.0	25.7	26.6
		750	24.3	25.3	26.4	26.2	26.9	27.2	28.2	28.4	29.2	30.2
			24.7	25.7	26.8	26.6	27.3	27.6	28.6	28.8	29.6	30.6
		875	27.6	28.7	29.8	29.8	30.5	30.9	32.0	32.1	33.1	35.7
			28.0	29.1	30.2	30.2	30.9	31.3	32.4	32.5	33.5	34.7
		1000	30.9	32.1	33.2	33.3	34.2	34.5	35.8	35.9	38.4	39.7
			31.3	32.5	33.6	33.7	34.6	34.9	36.2	36.3	37.4	38.7

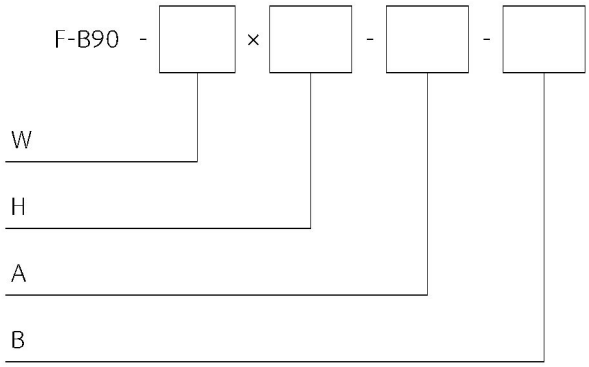
	B230T, B24T, B24T-SR, (+ 0,6 kg = B24T-ST), (+ 0,4 kg = BSD24T, BSD230T)
	G230T, G24T, G24T-SR, (+ 0,6 kg = G24T-ST), (+ 0,4 kg = GSD24T, GSD230T)

1/2	m (kg)		W (mm)									
			200	225	250	280	300	315	350	355	400	450
F-B90 (11, 22)*	H (mm)	375	11.3	11.6	12.0	12.3	12.6	12.8	13.3	13.4	14.0	14.6
			11.4	11.7	12.1	12.4	12.7	12.9	13.4	13.5	14.1	14.7
		500	13.9	14.3	14.7	15.2	15.6	15.7	16.4	16.5	17.2	18.0
			14.0	14.4	14.8	15.3	15.7	15.8	16.5	16.6	17.3	18.1
		625	16.6	17.1	17.5	18.0	18.5	18.7	19.4	19.6	20.4	21.4
			16.7	17.2	17.6	18.1	18.6	18.8	19.5	19.7	20.5	21.5
		750	19.2	19.8	20.3	20.9	21.4	21.6	22.5	22.6	23.9	25.0
			19.3	19.9	20.4	21.0	21.5	21.7	22.6	22.7	23.7	25.4
		875	21.9	22.5	23.1	23.8	24.7	24.9	25.9	26.0	27.1	28.4
			22.0	22.6	23.2	23.9	24.5	25.3	26.3	26.4	27.5	28.8
		1000	24.5	25.2	25.9	27.0	27.6	27.9	29.0	29.1	30.4	31.8
			24.6	25.3	26.0	26.8	28.0	28.3	29.4	29.5	30.8	32.2

2/2	m (kg)		W (mm)									
			500	550	560	600	630	650	700	710	750	800
F-B90 (11, 22)*	H (mm)	375	15.3	16.0	17.1	16.6	17.1	17.3	18.3	18.4	19.0	19.6
			15.4	16.1	17.2	16.7	17.2	17.4	18.1	18.2	19.4	20.0
		500	18.8	19.6	20.7	20.7	21.3	21.5	22.3	22.5	23.2	24.0
			18.9	19.7	20.8	20.5	21.7	21.9	22.7	22.9	23.6	24.4
		625	22.3	23.6	24.7	24.5	25.2	25.5	26.4	26.6	27.4	28.3
			22.4	23.4	25.1	24.9	25.6	25.9	26.8	27.0	27.8	28.7
		750	26.1	27.2	28.4	28.3	29.0	29.4	30.5	30.6	31.6	32.7
			26.5	27.6	28.8	28.7	29.4	29.8	30.9	31.0	32.0	33.1
		875	29.7	30.9	32.0	32.1	32.9	33.3	34.6	34.7	35.8	38.5
			30.1	31.3	32.4	32.5	33.3	33.7	35.0	35.1	36.2	37.5
		1000	33.2	34.5	35.7	35.9	36.8	37.3	38.7	38.8	41.4	42.8
			33.6	34.9	36.1	36.3	37.2	37.7	39.1	39.2	40.4	41.8

	B230T, B24T, B24T-SR, (+ 0,6 kg = B24T-ST), (+ 0,4 kg = BSD24T, BSD230T)
	G230T, G24T, G24T-SR, (+ 0,6 kg = G24T-ST), (+ 0,4 kg = GSD24T, GSD230T)

Ordering Code



W - Width Dimension

200 mm to 800 mm

H - Height Dimension

375 mm to 1000 mm

A - Product type

00 No Grille, duct connectable on both sides**
01 Grille on one side /Zinc/ + connection for duct available on either side**
02 Grille on one side /RAL 9003/ + connection for duct available on either side
11 Grille on both sides /Zinc/**
22 Grille on both sides /RAL 9003/

B - Type of Activation

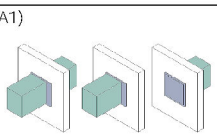
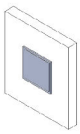
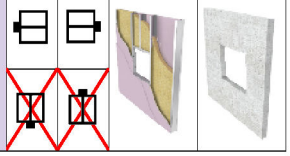
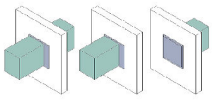
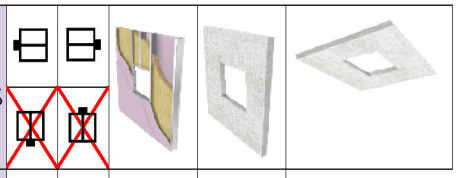
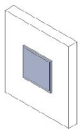
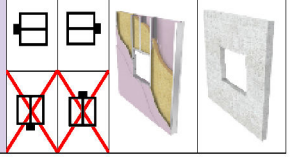
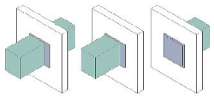
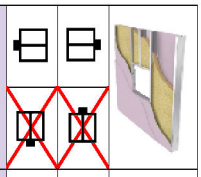
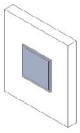
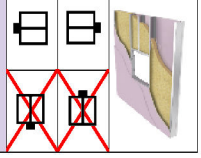
H0 (Manual crank, no switches)
H2 (Manual crank, 2 switches 230V AC or 24V AC/DC)
B230T (230V AC Belimo Actuator)
B24T (24V AC/DC Belimo Actuator)
BST0 (230V AC Supply comm. unit & 24V AC/DC Belimo Actuator)
B24T-SR (24V AC/DC Belimo Actuator, modulated 0...10 V)
G230T (230V AC Gruner Actuator)
G24T (24V AC/DC Gruner Actuator)
GST0 (24V AC/DC Supply comm. unit & 24V AC/DC Gruner Actuator)
G24T-SR (24V AC/DC Gruner Actuator, modulated 0...10 V)
BSD230T (230V AC Supply unit & 24V AC/DC Smoke detector & 24V AC/DC Belimo Actuator), Available only with type 11 and 22.
GSD230T
(AC/DC 230 V Transformer & 24V AC/DC Smoke detector & 24V AC/DC Gruner Actuator), Available only with type 11 and 22.
BSD24T (24V AC/DC Smoke detector & 24V AC/DC Belimo Actuator), Available only with type 11 and 22.
GSD24T (24V AC/DC Smoke detector & 24V AC/DC Gruner Actuator), Available only with type 11 and 22.

Example of the F-B90 fire damper order code

F-B90-315×375-00-B230T

Multiblade fire damper with width of 315 mm and height of 375 mm, without a grille. Activated by a 230 V Belimo actuator.

Installation Methods

① Wet	F-B90 (-00, -01, -02) *	A1) 	EI60(ve, ho i<->o)S EI90(ve, ho i<->o)S	
	F-B90 (-11, -22) *	A2) 	EI60(ve i<->o)S EI90(ve i<->o)S EI120(ve i<->o)	
③ Soft	F-B90 (-00, -01, -02) *	A1) 	EI60(ve, ho i<->o)S EI90(ve, ho i<->o)S	
	F-B90 (-11, -22) *	A2) 	EI60(ve i<->o)S EI90(ve i<->o)S EI120(ve i<->o)	
3F Fit	F-B90 (-00, -01, -02) *	A1) 	EI60(ve i<->o)S EI90(ve i<->o)S	
	F-B90 (-11, -22) *	A2) 	EI60(ve i<->o)S EI90(ve i<->o)S EI120(ve i<->o)	

Notes:

ve - Vertical (wall)

'* - Product type

A1) - Installation with Ducts or Duct with Grille

A2) - Installation without Duct, only with Grille

Installation, Maintenance & Operation

Some damper parts may have sharp edges – therefore to protect yourself from harm, please use gloves during damper installation and manipulation. In order to prevent electric shock, fire or any other damage which could result from incorrect damper usage and operation, it is important to:

ensure that installation is performed by a trained person.

follow the written and depicted instructions provided within User Manual closely.

perform damper inspection in accordance with User Manual.

check the damper's functionality as per the chapter "Fire Damper Functionality Check" before you install the fire damper. This procedure prevents the installation of a damper that has been damaged during transportation or handling.

Information about installation, maintenance and operation is available in the "UserManual_FDR-3G" document or more can be found at SystemairDESIGN.

Installation rules

• The duct connected to the fire damper must be supported or hung in such a way that the damper does not carry its weight.
The damper must not support any part of the surrounding construction or wall which could cause damage and consequent damper failure.

• Easy access to mechanism and internal parts during inspection must be considered during damper placement.

• According to the standard EN 1366-2, the distance between the fire damper bodies must be at least 200 mm.

• The distance between fire damper and the adjacent wall/ceiling and the fire damper must be at least 75 mm.

• When the F-B90 fire damper is installed into a smoke and fire partition structure, it must be placed so that the damper blades in its closed position are located inside this structure.

• The gap in the installation opening between the fire damper and the wall/ceiling can be increased by up to 50% of the gap area or decreased to the smallest amount possible that still provides sufficient space for the installation of the seal.

• When using non-original grilles, the gap between the damper blade in open position and the self-standing grill, mesh, louvre must be at least 200 mm according to EN 1366-10.

• The fire damper must be earthed after being installed into or onto the duct.

• Lists of all permitted installation methods are provided in User Manual.

IN ACCORDANCE WITH EN 15650, EACH FIRE DAMPER MUST BE INSTALLED ACCORDING TO THE INSTALLATION INSTRUCTIONS PROVIDED BY THE MANUFACTURER!

Installation 1 – Wet

Using Plaster/Mortar/Concrete Filling

1. Opening surfaces must be even and cleaned off. The flexible wall opening must be reinforced as per the standards for plasterboard walls. The opening dimensions are based on the nominal dimensions of the damper with added clearance. The opening will have the dimensions of W1 and H1.

2. Insert the damper as per the “Handling of F-B90” section into the middle of the opening so that the damper blade is in the wall. For damper widths greater than 600 mm, it is recommended to use a duct support inside the damper during installation to avoid any damage caused to the damper housing by the weight of the filling.

3. Fill in the area between the wall and the damper with gypsum plaster or mortar or concrete filling (3) while being careful not to foul the damper’s functional parts, which might keep it from working properly. The best way is to cover the functional parts during installation. To prevent seepage of the filling material, use of boards is recommended.

First, let the plaster or mortar or concrete filling harden and then perform the next steps.

4. After the filling hardens, remove the duct support from inside the damper.

5. If needed, uncover and clean the damper after installation.

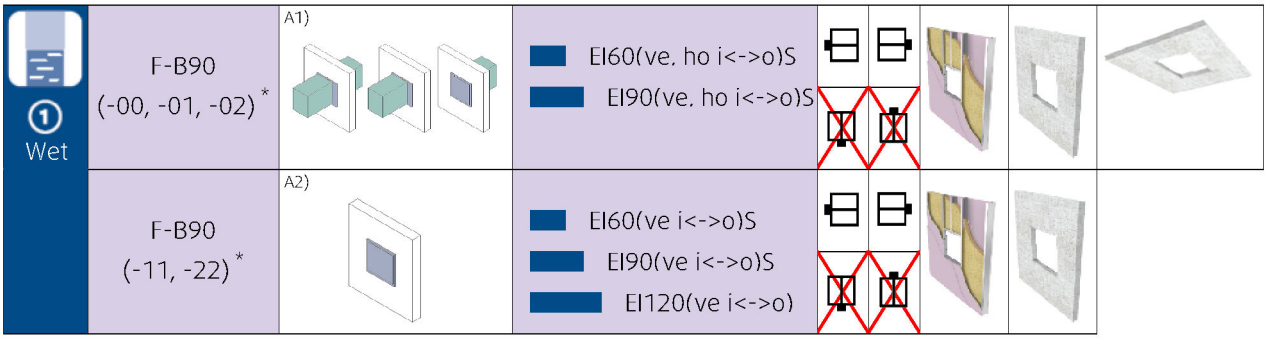
6. Make sure the damper works properly.

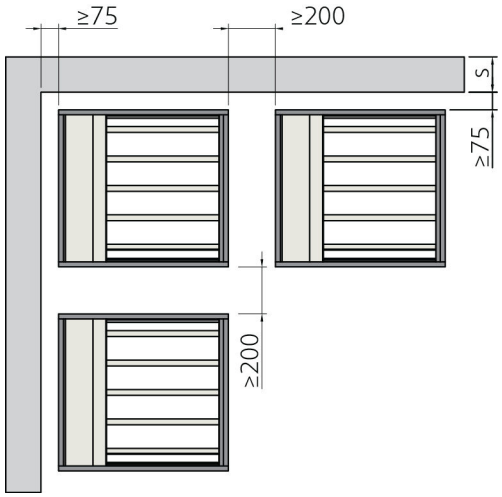
Installation Distances

According to the EN 1366-2 standard, the minimum distance from the wall or ceiling to the damper body is 75 mm. For multiple crossings through a fire-resistant wall, the minimum distance between two damper bodies is 200 mm. This applies for distances between the damper body and any nearby foreign object crossing the fire-resistant wall. Damper clearances vary according to the type of mechanism and rotation.

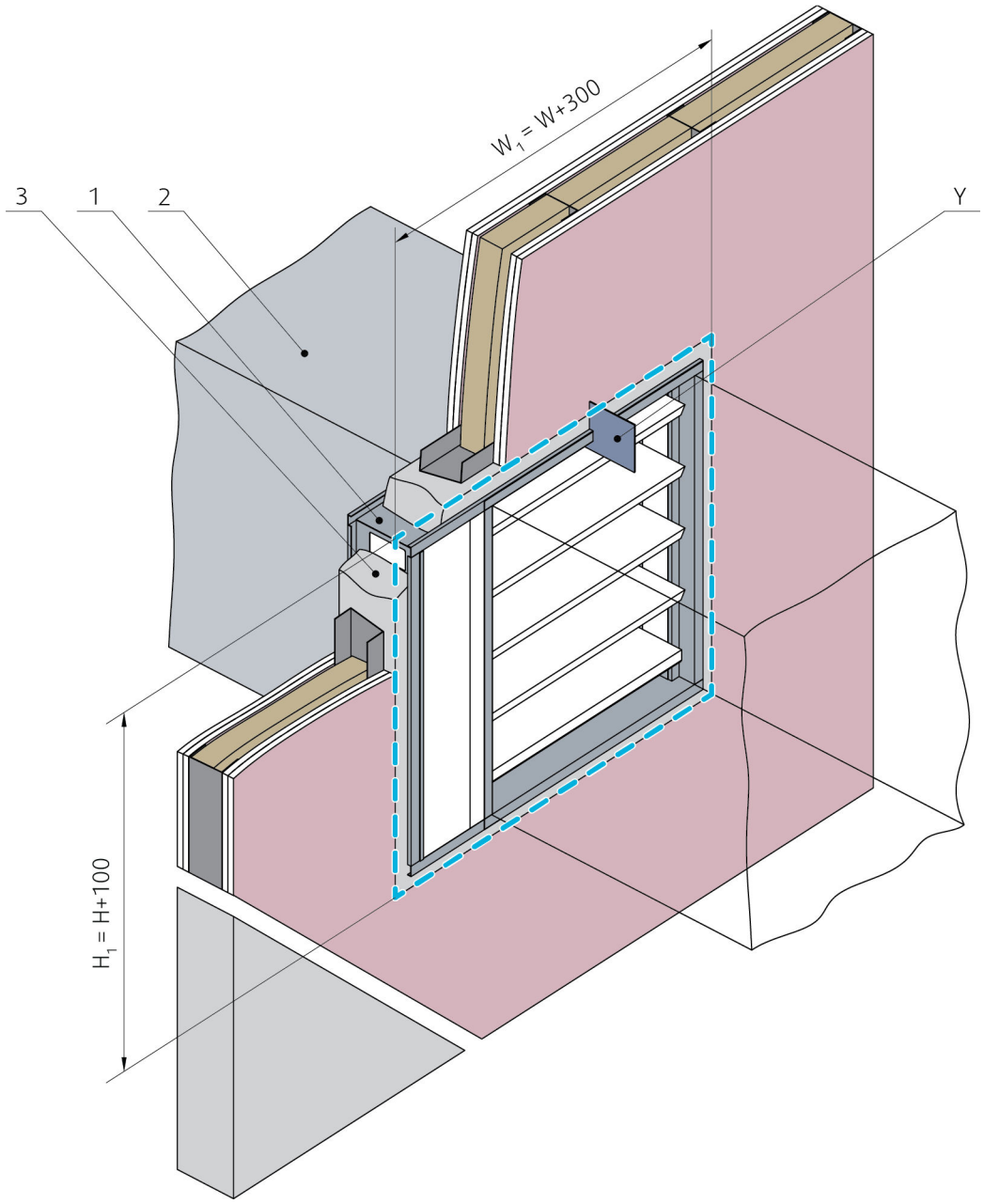
Notes:ve - Vertical (wall)

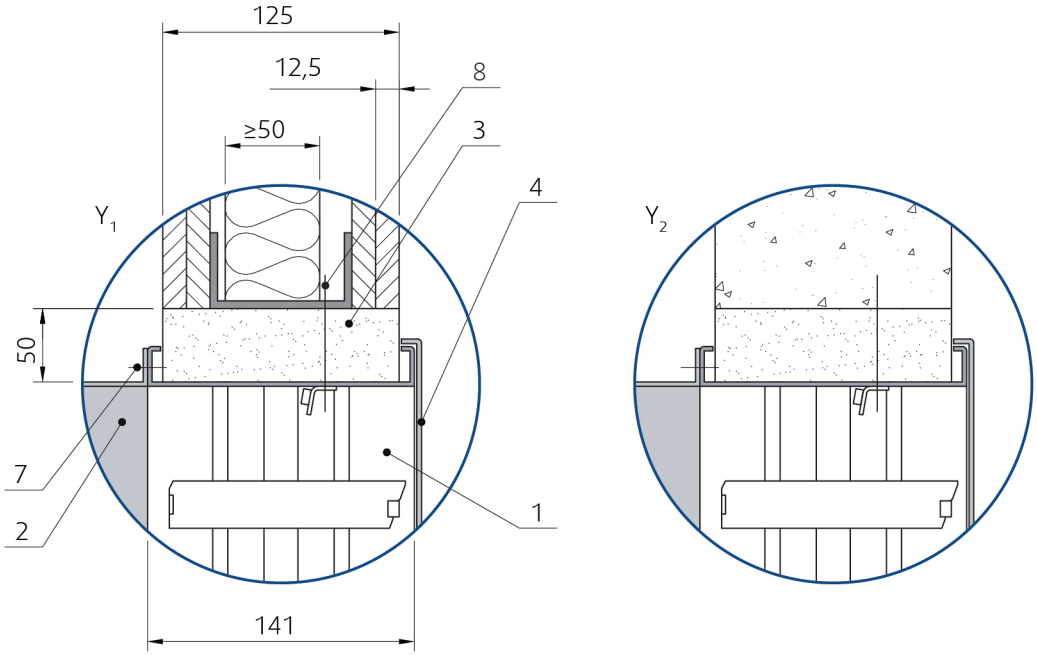
Product typeA1) - Installation with Ducts or Duct with GrilleA2) - Installation without Duct, only with Grille





Types 00, 01, 02 installed in the wall (Max EI90S)

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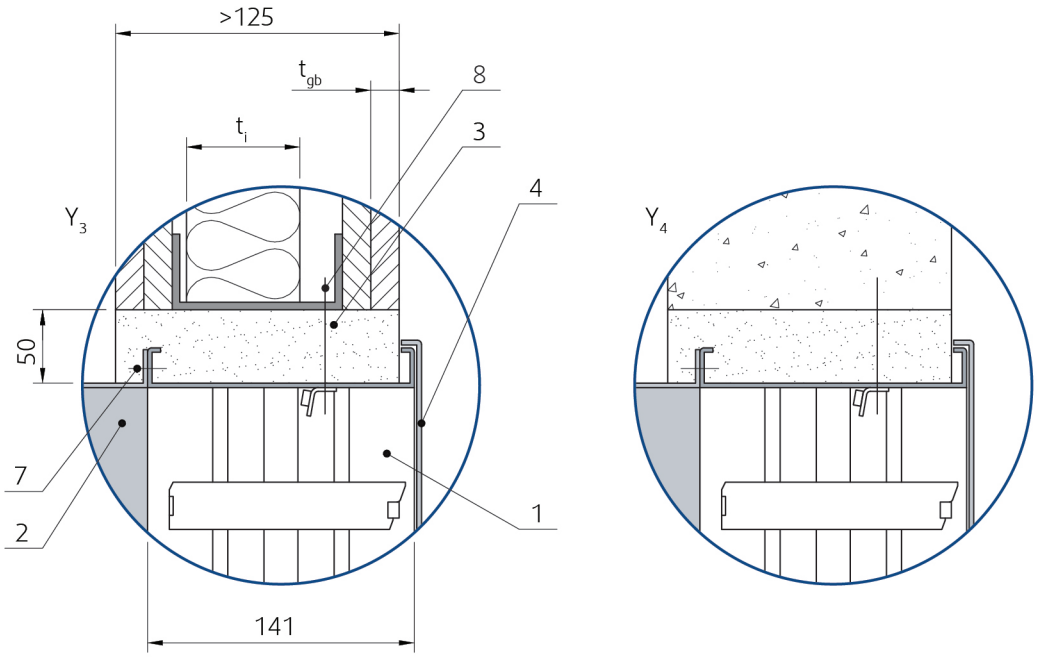
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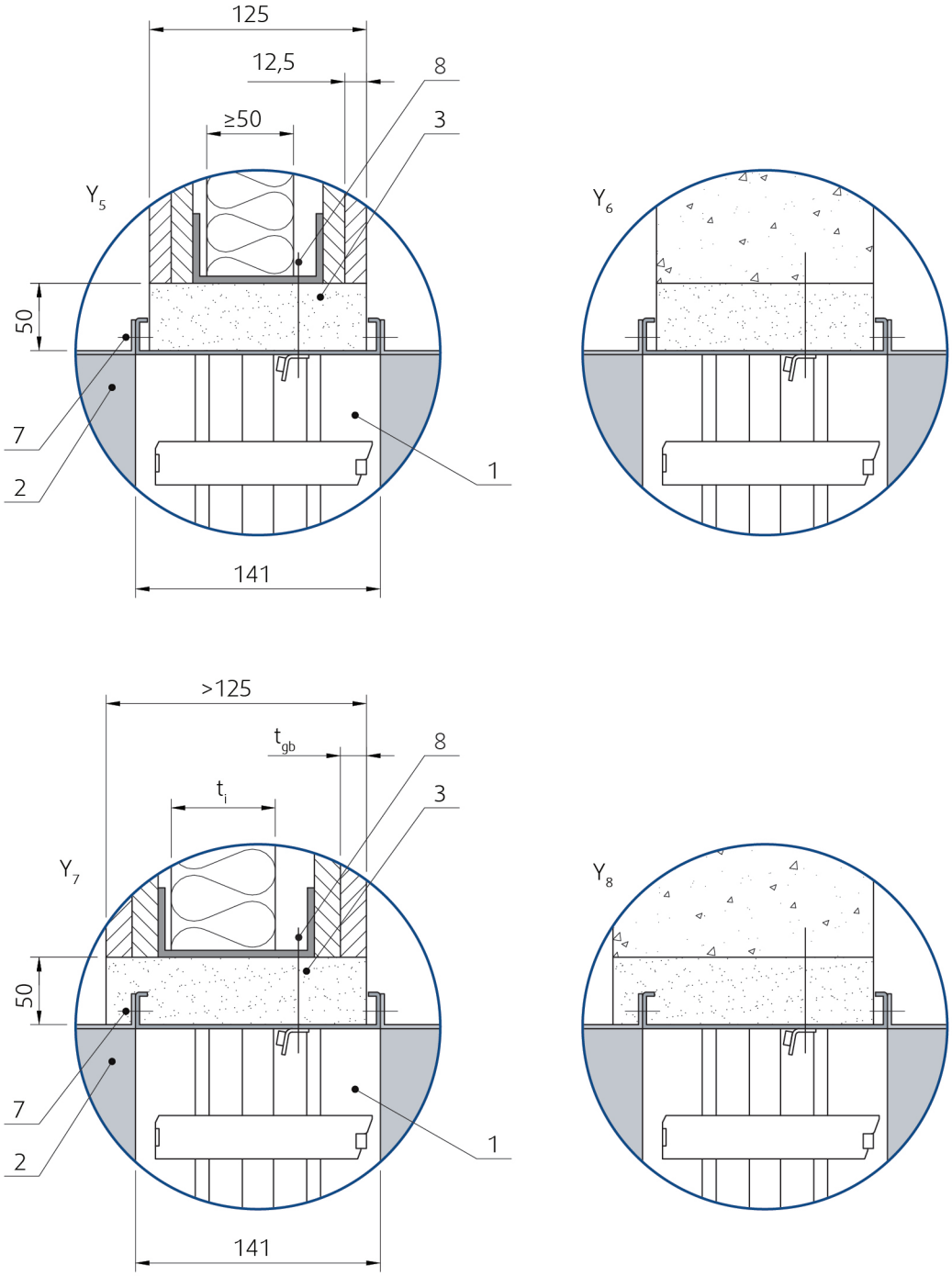


Legend - Installation 1. Wet, Types 00, 01, 02

1 Fire damper F-B90

2 Connected sheet metal ductwork

3 Plaster/Mortar/Concrete filling

4 Grille

6 Connected extension piece

7 Screw M6×20-25 mm, maximum fixing torque is 4,5 Nm

8 Self-tapping screw size 4,2 ... 4,8; length 80 mm (e.g. DIN 7981C/DIN 7982C)

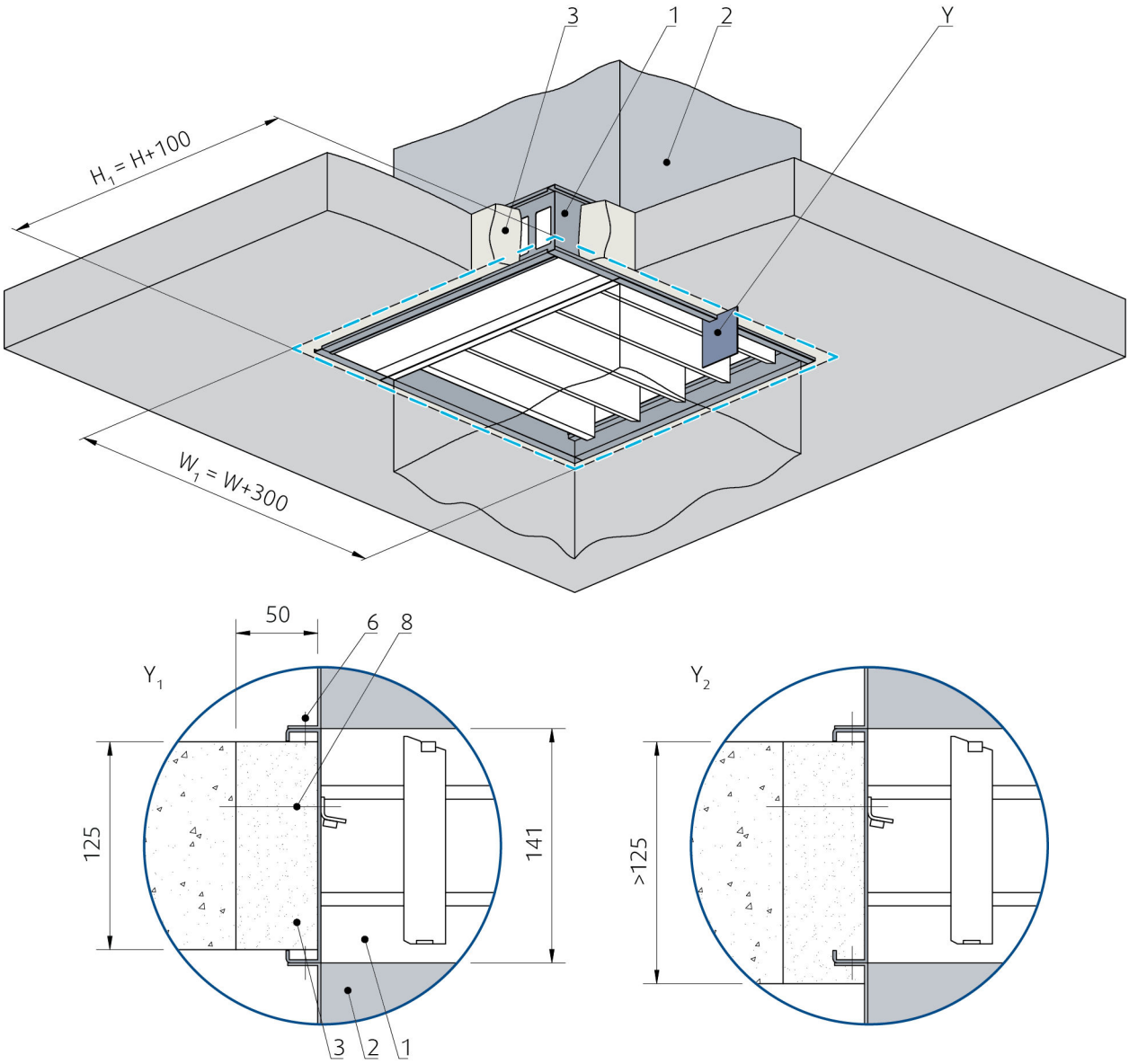
Y Cutting plane

Y1 Cross-section of Wet installation in flexible wall (wall width is equal to 125 mm) ended with grille

Y2 Cross-section of Wet installation in rigid wall (wall width is equal to 125 mm) ended with grille

Y3 Cross-section of Wet installation in flexible wall (wall width is greater than 125 mm) ended with grille
Y4 Cross-section of Wet installation in rigid wall (wall width is greater than 125 mm) ended with grille
Y5 Cross-section of Wet installation in flexible wall (wall width is equal to 125 mm)
Y6 Cross-section of Wet installation in rigid wall (wall width is equal to 125 mm)
Y7 Cross-section of Wet installation in flexible wall (wall width is greater than 125 mm)
Y8 Cross-section of Wet installation in rigid wall (wall width is greater than 125 mm)

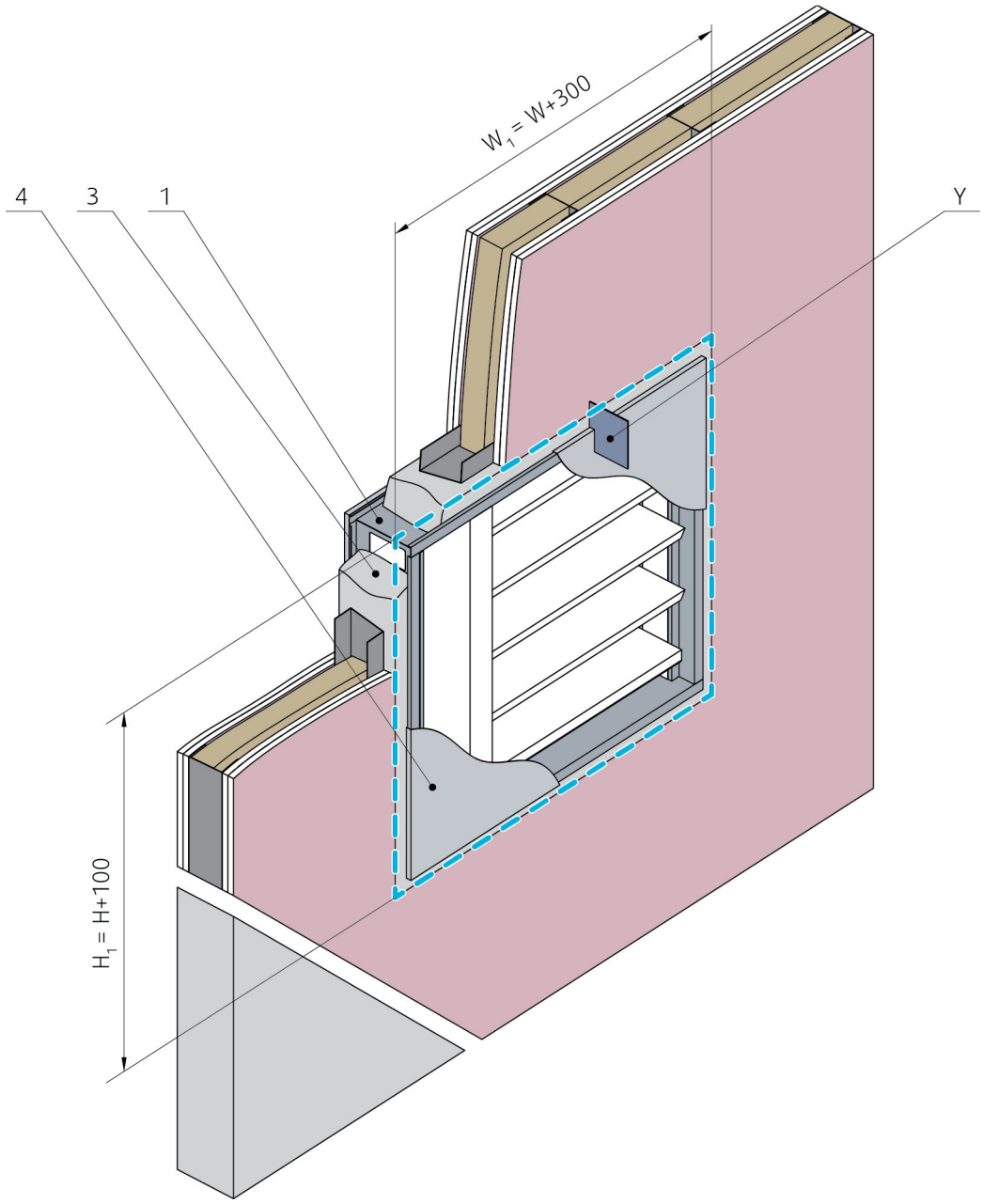
Types 00, 01, 02 installed in the ceiling, floor (Max EI90S)

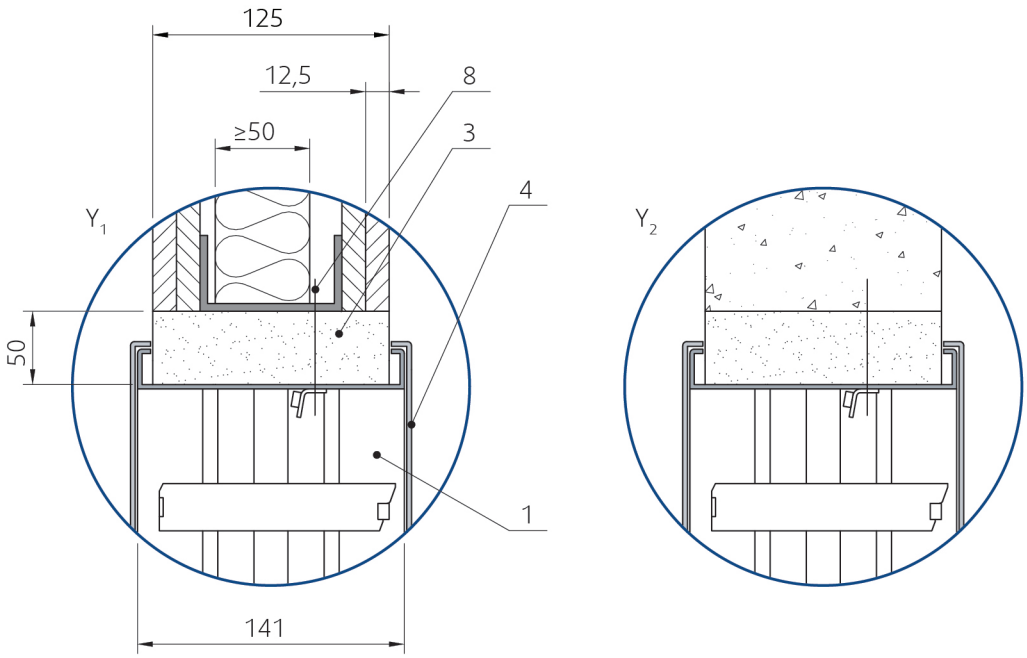


Legend - Installation 1. Wet, Types 00, 01, 02

1 Fire damper F-B90
2 Connected sheet metal ductwork
3 Plaster/Mortar/Concrete filling
4 Grille
6 Connected extension piece
7 Screw M6×20-25 mm, maximum fixing torque is 4,5 Nm
8 Self-tapping screw size 4,2 ... 4,8; length 80 mm (e.g. DIN 7981C/DIN 7982C)
Y Cutting plane
Y1 Cross-section of Wet installation in flexible wall (wall width is equal to 125 mm) ended with grille
Y2 Cross-section of Wet installation in rigid wall (wall width is equal to 125 mm) ended with grille
Y3 Cross-section of Wet installation in flexible wall (wall width is greater than 125 mm) ended with grille
Y4 Cross-section of Wet installation in rigid wall (wall width is greater than 125 mm) ended with grille
Y5 Cross-section of Wet installation in flexible wall (wall width is equal to 125 mm)
Y6 Cross-section of Wet installation in rigid wall (wall width is equal to 125 mm)
Y7 Cross-section of Wet installation in flexible wall (wall width is greater than 125 mm)
Y8 Cross-section of Wet installation in rigid wall (wall width is greater than 125 mm)

Types 11, 22 installed in the wall (Max EI90S, EI120)

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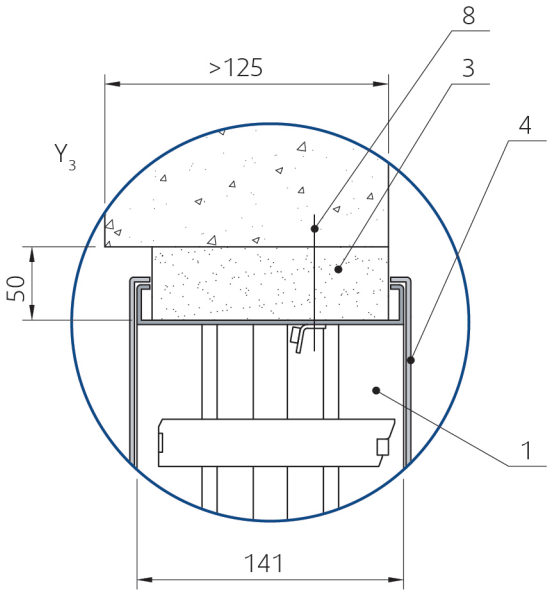
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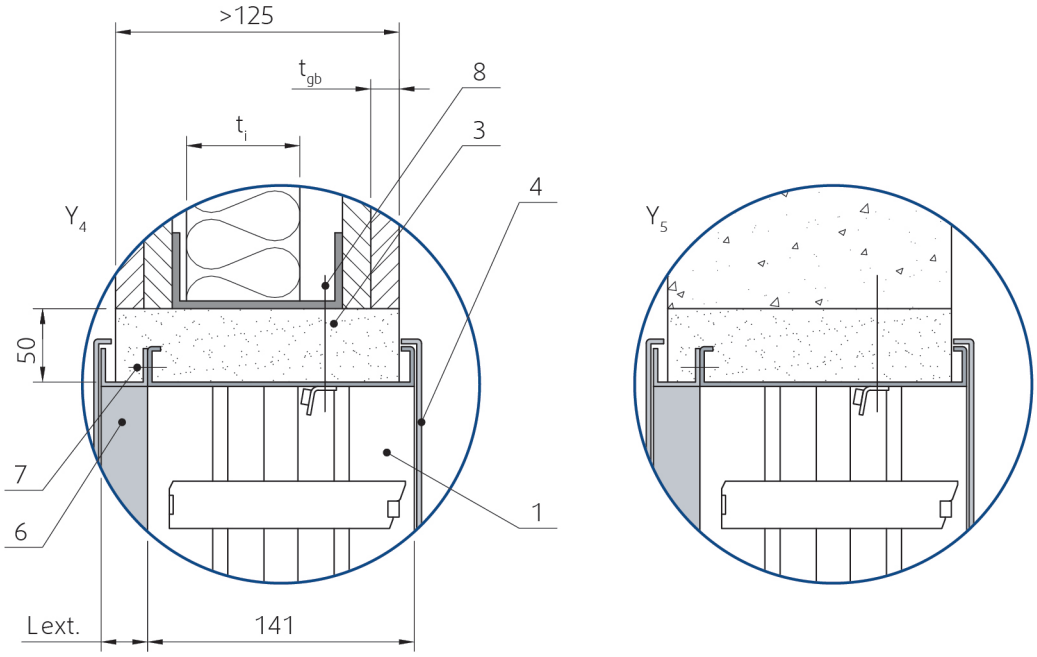


Legend - Installation 1. Wet, Types 11, 22

1 Fire damper F-B90

2 Connected sheet metal ductwork

3 Plaster/Mortar/Concrete filling

4 Grille

6 Connected extension piece

7 Screw M6×20-25 mm, maximum fixing torque is 4,5 Nm

8 Self-tapping screw size 4,2 ... 4,8; length 80 mm (e.g. DIN 7981C/DIN 7982C)

Y Cutting plane

Y1 Cross-section of Wet installation in flexible wall (wall width is equal to 125 mm) ended with grille on both sides

Y2 Cross-section of Wet installation in rigid wall (wall width is equal to 125 mm) ended with grille on both sides

Y3 Cross-section of Wet installation in rigid wall (wall width is greater than 125 mm) ended with grille on both sides

Y4

Cross-section of Wet installation in flexible wall (wall width is greater than 125 mm) with connected extension piece and ended with grille on both sides

Y5

Cross-section of Wet installationin rigid wall (wall width is greater than 125 mm) with connected extension piece and ended with grille on both sides

Installation 3 – Soft

Wall Installation Using Mineral Wool

1. Opening surfaces must be even and cleaned off. The flexible wall opening must be reinforced as per the standards for plasterboard walls. The opening dimensions are driven by the nominal dimensions of the damper with added clearance. The opening will have the dimensions of W1 and H1.

2. Prepare mineral wool installation segments (3; thickness as opening gap). First apply a suitable fire-resistant coating (5) onto the damper at the place of its future placement, assemble and glue the filling of the future installation with the same fire-resistant coating. After the fire-resistant coating has dried, the damper along with the filling are ready for installation.

3. Apply the same fire-resistant coating (5) onto the internal surface of the wall opening. Also apply the fire-resistant coating to the external surface of the filling glued to the damper surface. Immediately after applying the fire-resistant coating, place the damper as per the “Handling of F-B90” section into the middle of the opening so that the damper blade is in the wall. For damper widths greater than 600 mm, it is recommended to use a duct support inside the damper during installation to avoid any damage caused to the damper housing by the weight of the filling.

4. After inserting the damper into the opening, fasten the damper using the suitable screws (8) as per the “Handling of F-B90” section. Apply the same fire-resistant coating (5), at least 2 mm thick and 10 mm wide, to the opening filling and wall edges evenly from both sides. Do not apply this layer in the place where the mechanism is located, inspection openings and manufacturer labels.

5. Before the fire-resistant coating dries, remove the unwanted remnants of the coating.

6. If needed, uncover and clean the damper after installation.

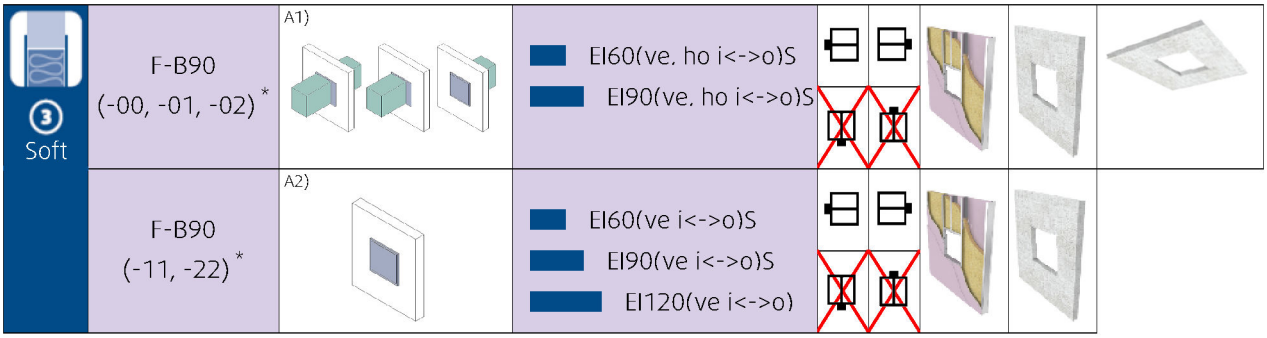
7. Make sure the damper works properly.

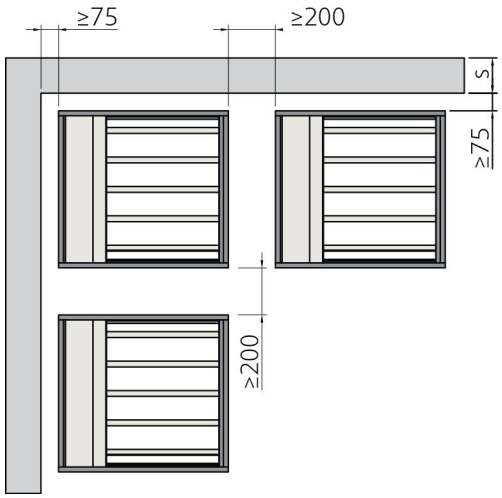
Installation Distances

According to the EN 1366-2 standard, the minimum distance from the wall or ceiling to the damper body is 75 mm. For multiple crossings through a fire-resistant wall, the minimum distance between two damper bodies is 200 mm. This applies for distances between the damper body and a nearby foreign object crossing the fire-resistant wall. Damper clearances vary according to the type of mechanism and rotation.

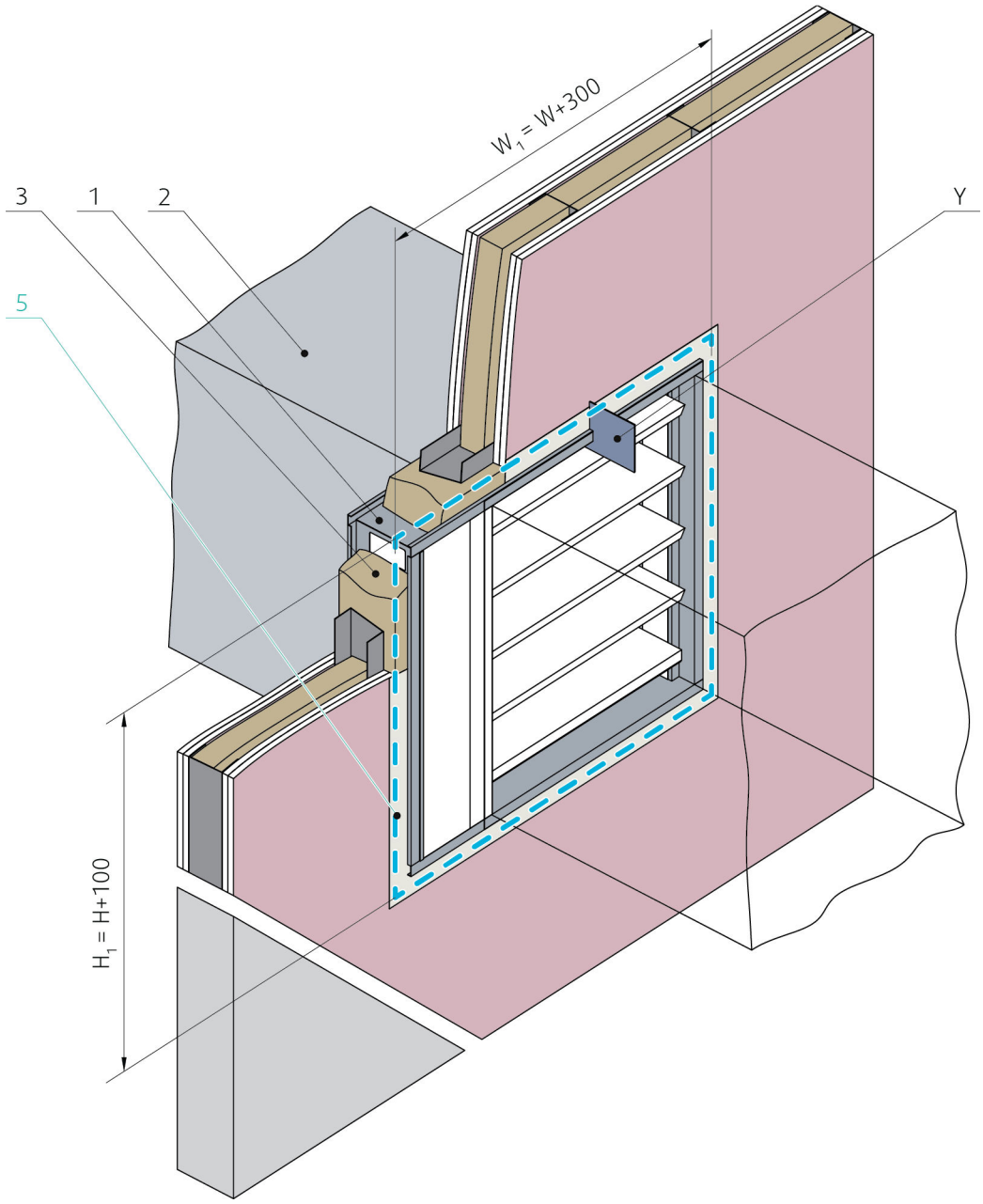
Notes:ve - Vertical (wall)

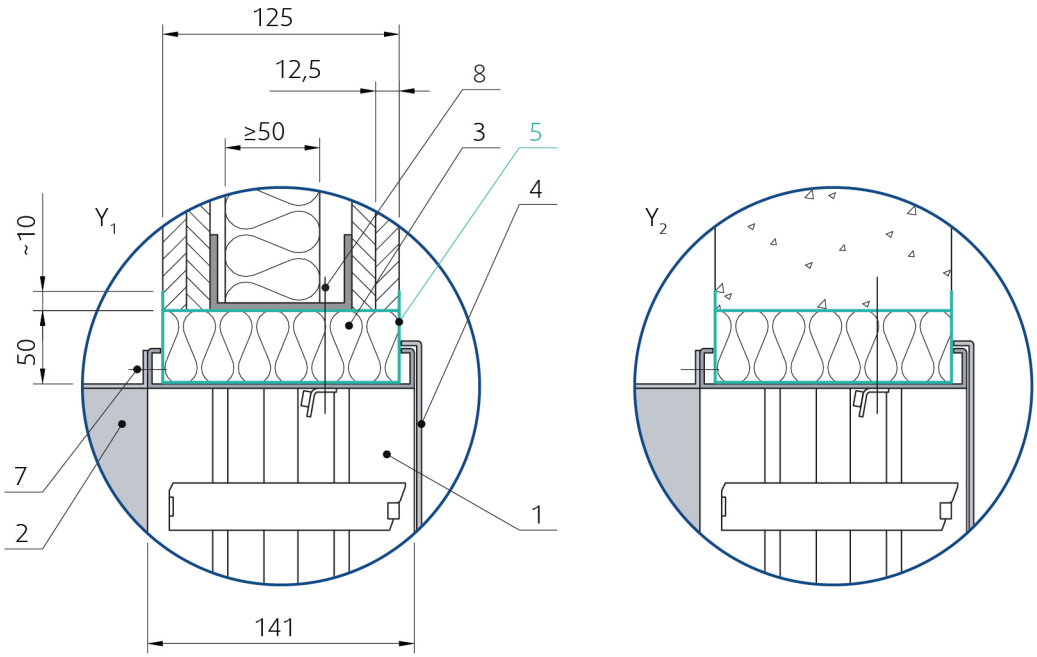
Product typeA1) - Installation with Ducts or Duct with GrilleA2) - Installation without Duct, only with Grille





Types 00, 01, 02 installed in the wall (Max EI90S)

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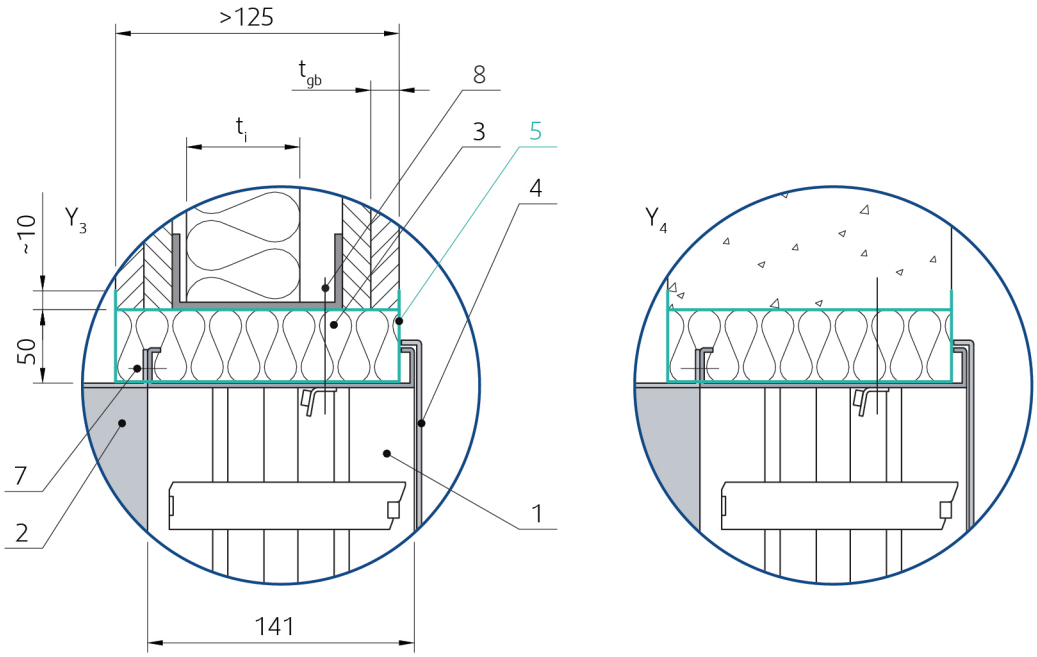
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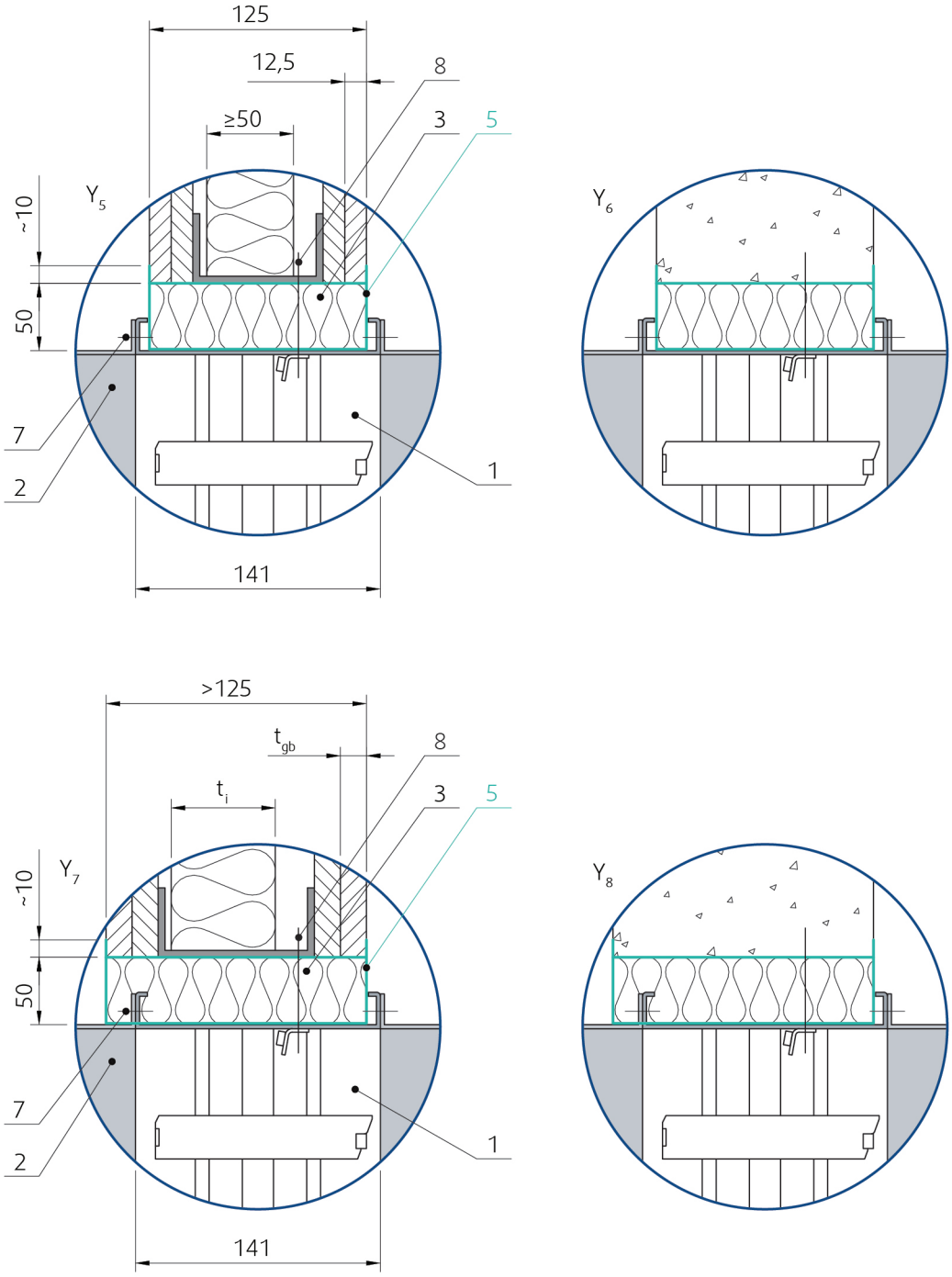


Legend - Installation 3. Soft, Types 00, 01, 02

1 Fire damper F-B90

2 Connected sheet metal ductwork

3 Mineral wool filling (min. 140 kg/m^3)

4 Grille

5 Fire resistive coating Isover BSF (ISOVER)

6 Connected extension piece

7 Screw M6×20-25 mm, maximum fixing torque is 4,5 Nm

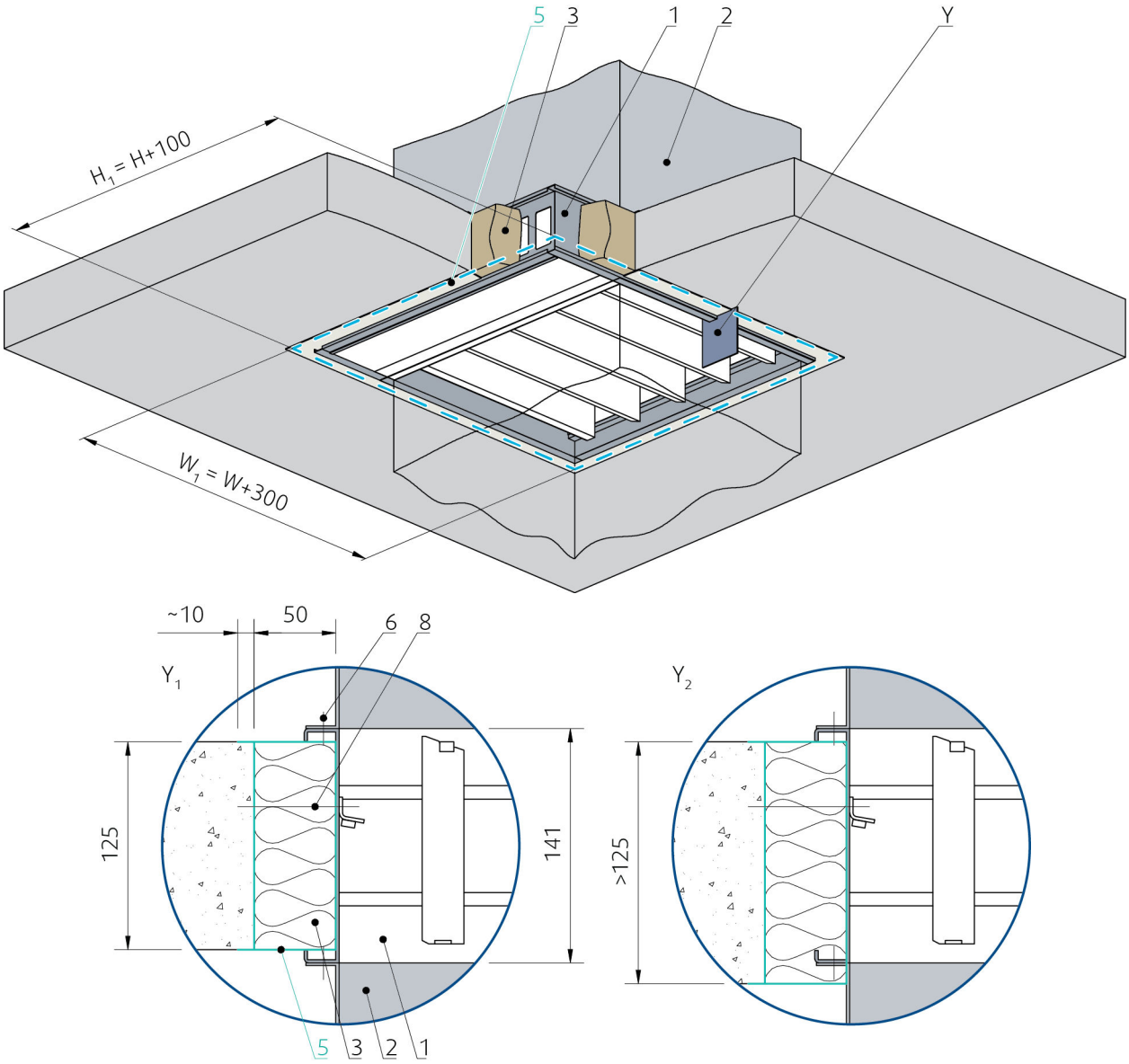
8 Self-tapping screw size 4,2 ... 4,8; length 80 mm (e.g. DIN 7981C/DIN 7982C)

Y Cutting plane

Y1 Cross-section of Soft installation EI90S in flexible wall (wall width is equal to 125 mm) ended with grille

Y2 Cross-section of Soft installation EI90S in rigid wall (wall width is equal to 125 mm) ended with grille
Y3 Cross-section of Soft installation EI90S in flexible wall (wall width is greater than 125 mm) ended with grille
Y4 Cross-section of Soft installation EI90S in rigid wall (wall width is greater than 125 mm) ended with grille
Y5 Cross-section of Soft installation EI90S in flexible wall (wall width is equal to 125 mm)
Y6 Cross-section of Soft installation EI90S in rigid wall (wall width is equal to 125 mm)
Y7 Cross-section of Soft installation EI90S in flexible wall (wall width is greater than 125 mm)
Y8 Cross-section of Soft installation EI90S in rigid wall (wall width is greater than 125 mm)

Types 00, 01, 02 installed in the ceiling, floor (Max EI90S)



Legend - Installation 3. Soft, Types 00, 01, 02

1 Fire damper F-B90

2 Connected sheet metal ductwork

3 Mineral wool filling (min. 140 kg/m^3)

4 Grille

5 Fire resistive coating Isover BSF (ISOVER)

6 Connected extension piece

7 Screw M6×20-25 mm, maximum fixing torque is 4,5 Nm

8 Self-tapping screw size 4,2 ... 4,8; length 80 mm (e.g. DIN 7981C/DIN 7982C)

Y Cutting plane

Y1 Cross-section of Soft installation EI90S in flexible wall (wall width is equal to 125 mm) ended with grille

Y2 Cross-section of Soft installation EI90S in rigid wall (wall width is equal to 125 mm) ended with grille

Y3 Cross-section of Soft installation EI90S in flexible wall (wall width is greater than 125 mm) ended with grille

Y4 Cross-section of Soft installation EI90S in rigid wall (wall width is greater than 125 mm) ended with grille

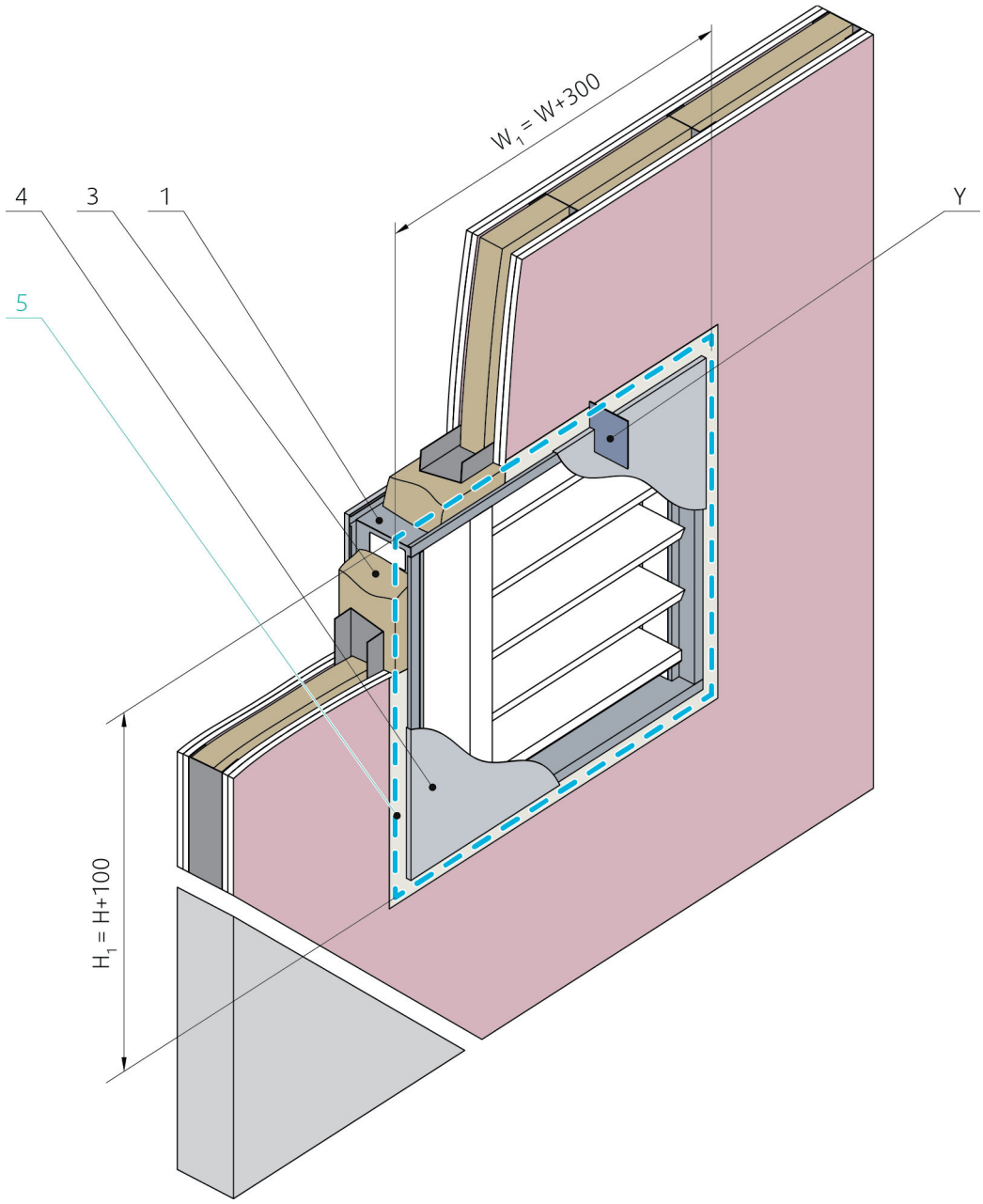
Y5 Cross-section of Soft installation EI90S in flexible wall (wall width is equal to 125 mm)

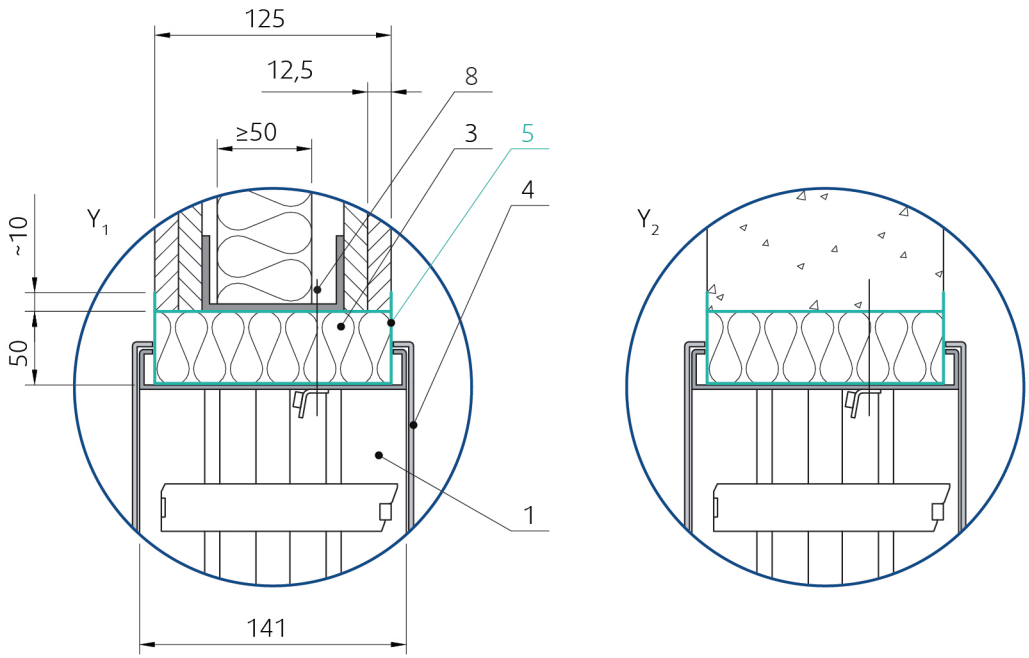
Y6 Cross-section of Soft installation EI90S in rigid wall (wall width is equal to 125 mm)

Y7 Cross-section of Soft installation EI90S in flexible wall (wall width is greater than 125 mm)

Y8 Cross-section of Soft installation EI90S in rigid wall (wall width is greater than 125 mm)

Types 11, 22 installed in the wall (Max EI90S, EI120)

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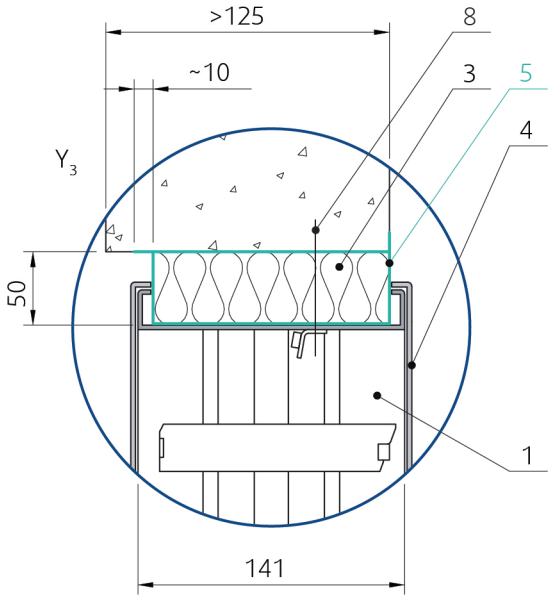
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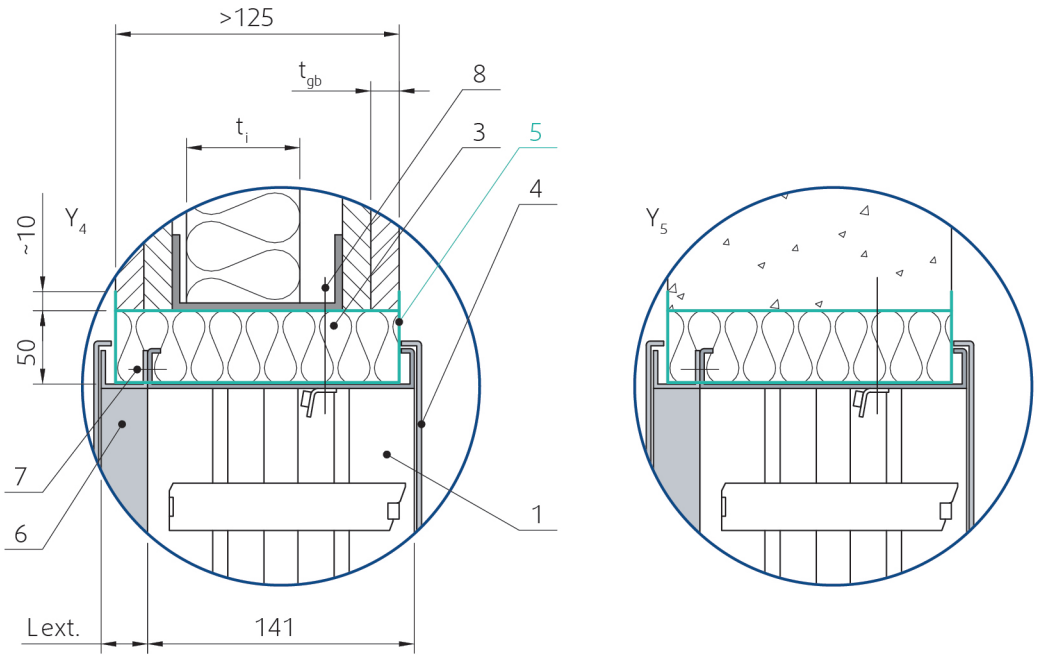


Legend - Installation 3. Soft, Types 11, 22

1 Fire damper F-B90

2 Connected sheet metal ductwork

3 Mineral wool filling (min. 140 kg/m^3)

4 Grille

5 Fire resistive coating Isover BSF (ISOVER)

6 Connected extension piece

7 Screw M6×20-25 mm, maximum fixing torque is 4,5 Nm

8 Self-tapping screw size 4,2 ... 4,8; length 80 mm (e.g. DIN 7981C/DIN 7982C)

Y Cutting plane

Y1 Cross-section of Soft installation in flexible wall (wall width is equal to 125 mm) ended with grille on both sides

Y2 Cross-section of Soft installation in rigid wall (wall width is equal to 125 mm) ended with grille on both sides

Y3 Cross-section of Soft installation in rigid wall (wall width is greater than 125 mm) ended with grille on both sides

Y4

Cross-section of Soft installation in flexible wall (wall width is greater than 125 mm) with connected extension piece and ended with grille on both sides

Y5

Cross-section of Soft installation in rigid wall (wall width is greater than 125 mm) with connected extension piece and ended with grille on both sides

Installation 3F – Fitted

Wall Installation Using Mineral Wool, without Gap

1. Opening surfaces must be even and cleaned off. The flexible wall opening must be reinforced as per the standards for plasterboard walls. The opening dimensions are based on the nominal dimensions of the damper with added clearance. The opening will have the dimensions of W1 and H1.

2. Prepare mineral wool installation segments (3; thickness as opening gap). First apply a suitable fire-resistant coating (5) onto the damper at the place of its future placement, assemble and glue the filling of the future installation with the same fire-resistant coating. After the fire-resistant coating has dried, the damper along with the filling are ready for installation.

3. Apply the same fire-resistant coating (5) onto the internal surface of the wall opening. Also apply the fire-resistant coating to the external surface of the filling glued to the damper surface. Immediately after applying the fire-resistant coating, place the damper as per the “Handling of F-B90” section into the middle of the opening so that the damper blade is in the wall. For damper widths greater than 600 mm, it is recommended to use a duct support inside the damper during installation to avoid any damage caused to the damper housing by the weight of the filling.

4. After inserting the damper into the opening, fasten the damper using the suitable screws (8) as per the “Handling of F-B90” section. Apply the same fire-resistant coating (5), at least 2 mm thick and 10 mm wide, to the opening filling and wall edges evenly from both sides. Do not apply this layer in the place where the mechanism is located, inspection openings and manufacturer labels.

5. Before the fire-resistant coating dries, remove the unwanted remnants of the coating.

6. If needed, uncover and clean the damper after installation.

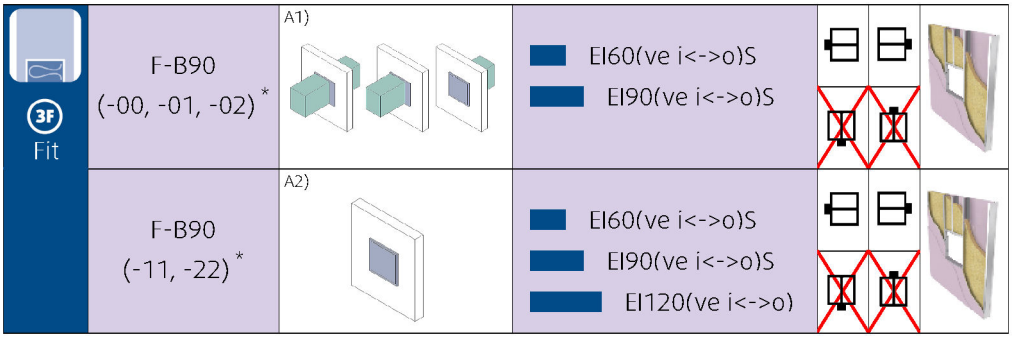
7. Make sure the damper works properly.

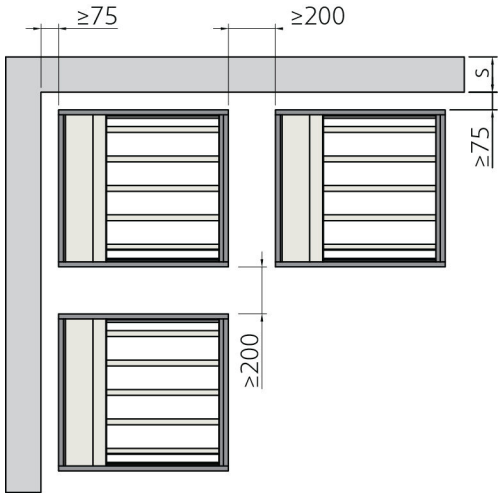
Installation Distances

According to the EN 1366-2 standard, the minimum distance from the wall or ceiling to the damper body is 75 mm. For multiple crossings through a fire-resistant wall, the minimum distance between two damper bodies is 200 mm. This applies for distances between the damper body and a nearby foreign object crossing the fire-resistant wall. Damper clearances vary according to the type of mechanism and rotation.

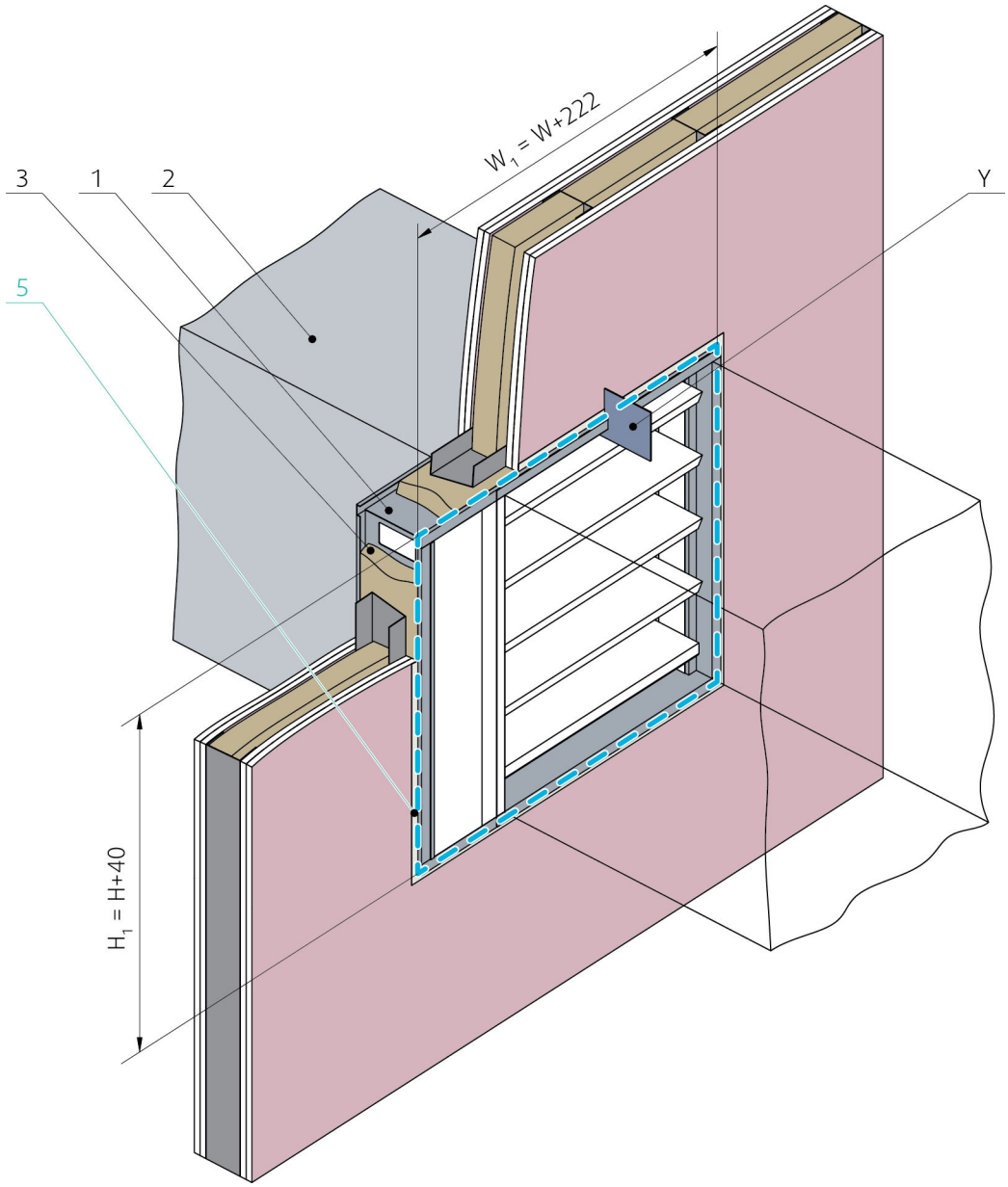
Notes:ve - Vertical (wall)

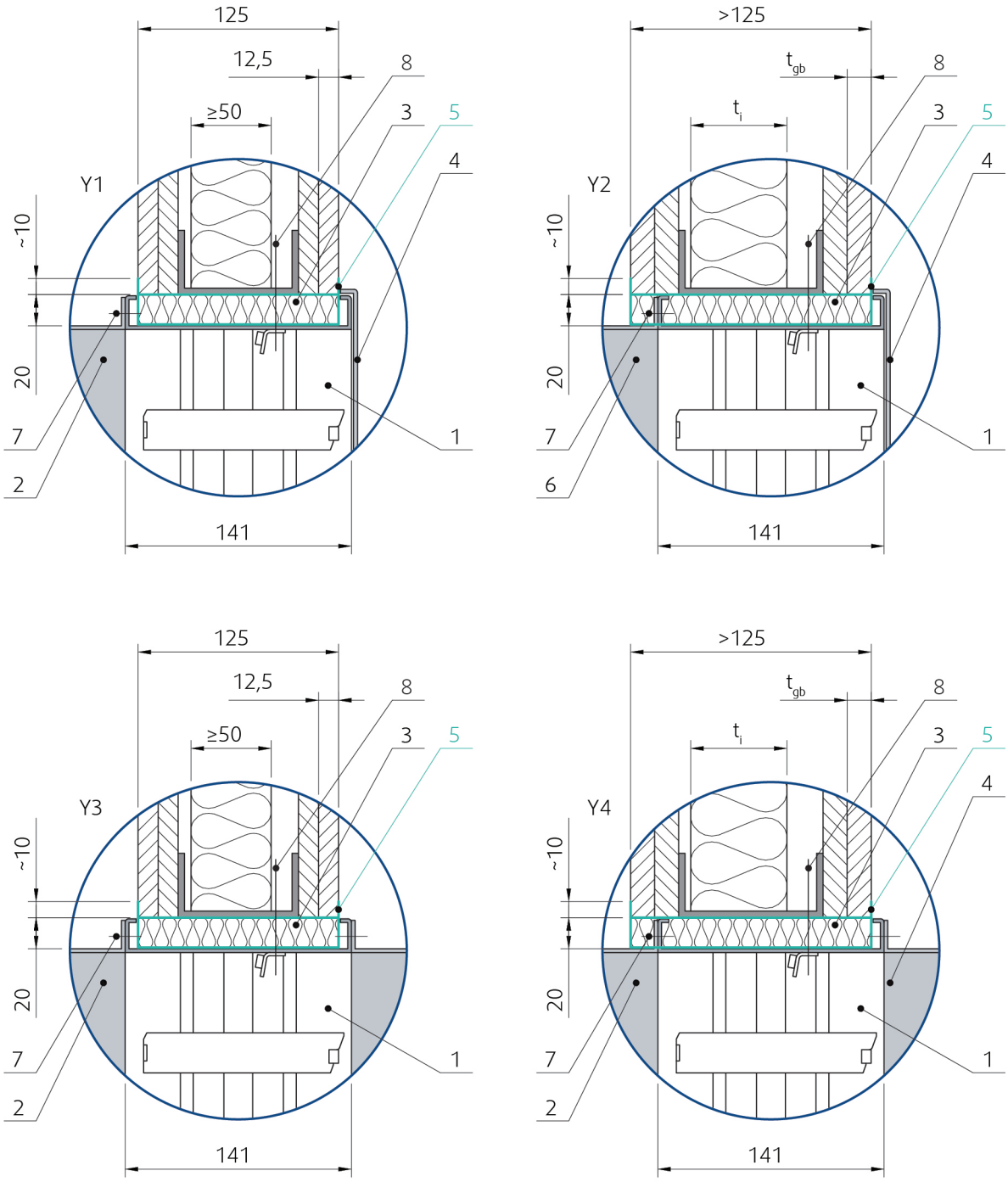
Product typeA1) - Installation with Ducts or Duct with GrilleA2) - Installation without Duct, only with Grille





Types 00, 01, 02 installed in the wall (Max EI90S)





Legend - Installation 3F. Fit, Types 00, 01, 02

1 Fire damper F-B90

2 Connected sheet metal ductwork

3 Mineral wool filling (min. 140 kg/m^3)

4 Grille

5 Fire resistive coating Isover BSF (ISOVER)

6 Connected extension piece

7 Screw M6×20-25 mm, maximum fixing torque is 4,5 Nm

8 Self-tapping screw size 4,2 ... 4,8; length 80 mm (e.g. DIN 7981C/DIN 7982C)

Y Cutting plane

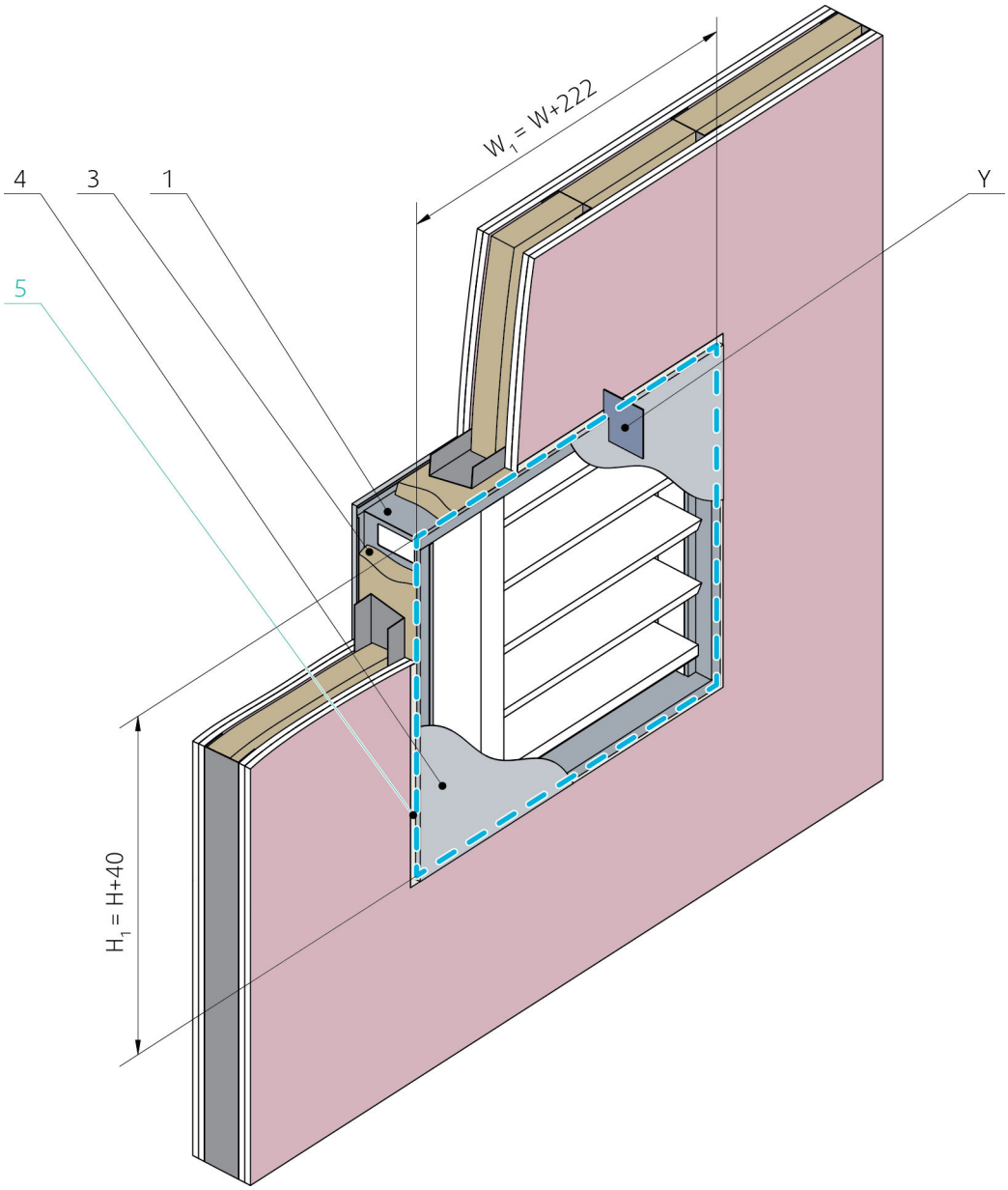
Y1 Cross-section of Fit installation in flexible wall (wall width is equal to 125 mm) ended with grille

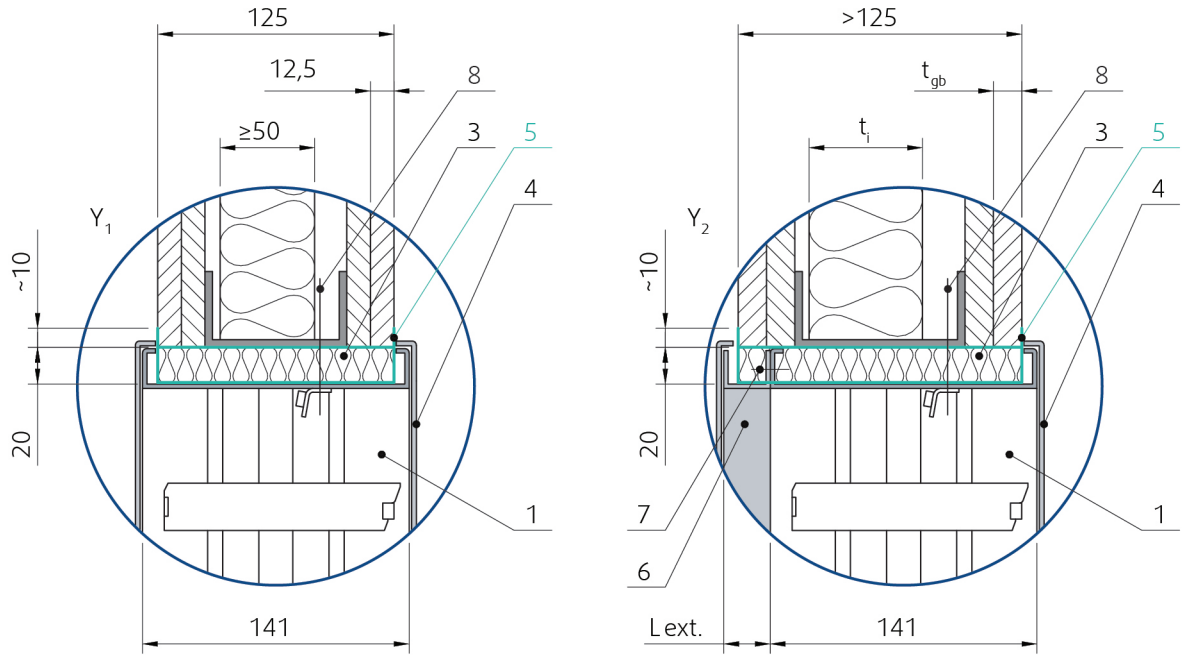
Y2 Cross-section of Fit installation in flexible wall (wall width is greater than 125 mm) ended with grille

Y3 Cross-section of Fit installation in flexible wall (wall width is equal to 125 mm)

Y4 Cross-section of Fit installation in flexible wall (wall width is greater than 125 mm)

Types 11, 22 installed in the wall (Max EI90S, EI120)





Legend - Installation 3F. Fit, Types 11, 22

1 Fire damper F-B90

2 Connected sheet metal ductwork

3 Mineral wool filling (min. 140 kg/m^3)

4 Grille

5 Fire resistive coating Isover BSF (ISOVER)

6 Connected extension piece

7 Screw M6×20-25 mm, maximum fixing torque is 4,5 Nm

8 Self-tapping screw size 4,2 ... 4,8; length 80 mm (e.g. DIN 7981C/DIN 7982C)

Y Cutting plane

Y1 Cross-section of Fit installation in flexible wall (wall width is equal to 125 mm) ended with grille on both sides

Y2
Cross-section of Fit installation in flexible wall (wall width is greater than 125 mm) with connected extension piece and ended with grille on both sides

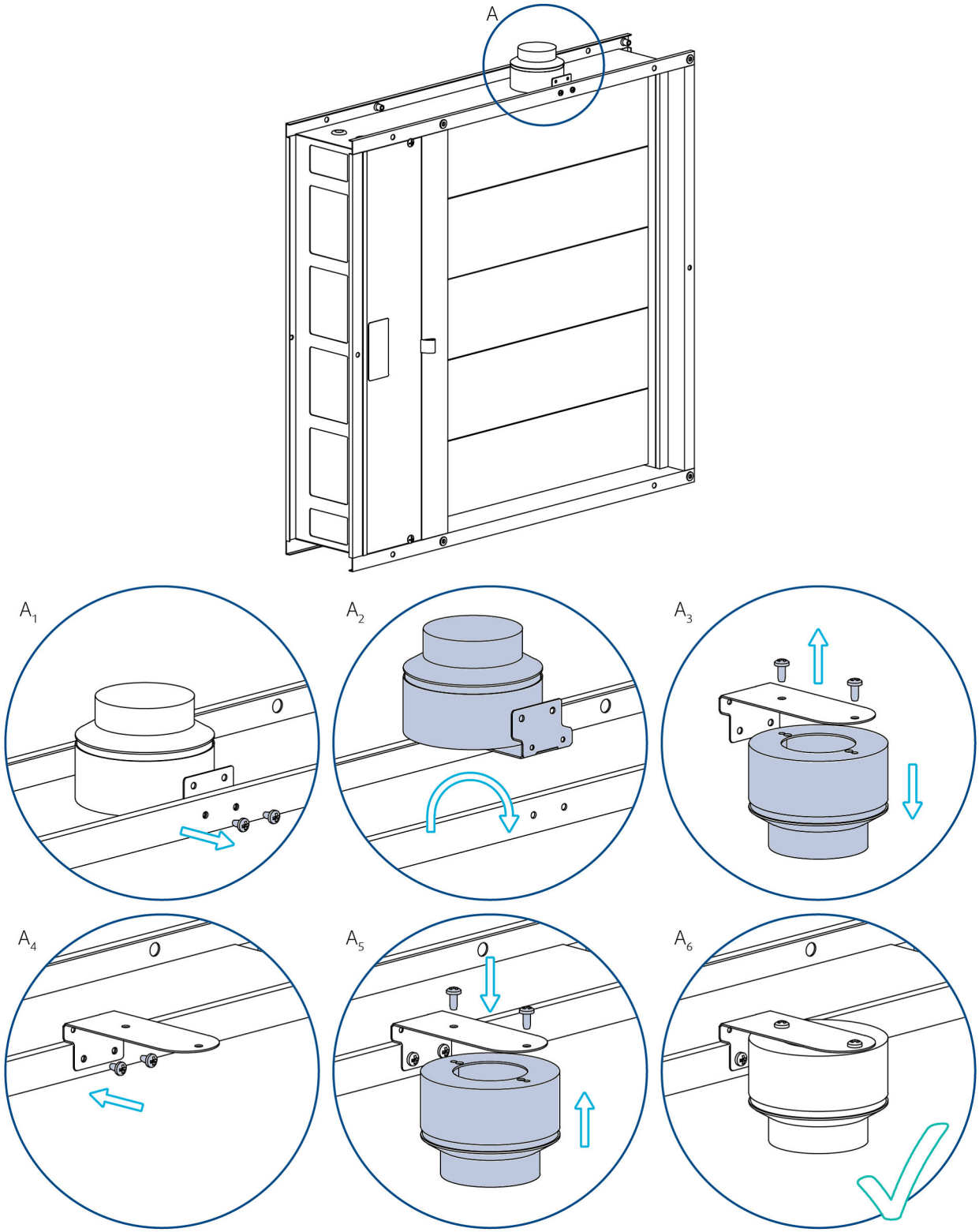
Electrical connections

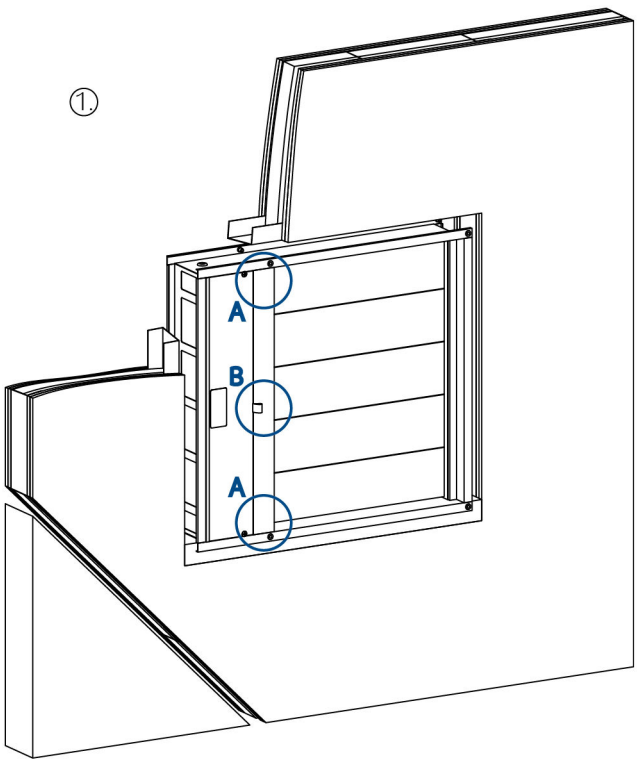
1/2	T_S_P_A	W (mm)																			
		200	225	250	280	300	315	350	355	400	450	500	550	560	600	630	650	700	710
F-B90 (B230T ... BST0)	H (mm) 375	**B230T** _ AC 230 V, 50/60 Hz _ 6,5 VA _ BFL230-T																	
	H (mm) 500	**B24T** _ AC (50/60 Hz)/DC 24 V _ 4 VA _ BFL24-T																	
	H (mm) 625	**B24T-SR** _ AC (50/60 Hz)/DC 24 V _ 6,5 VA _ BFL24-SR-T																	
	H (mm) 750	**BST0** _ AC 230 V, 50/60 Hz _ 11 VA _ BFL24T-ST-T (+comm.)																	
	H (mm) 875	**B230T** _ AC 230 V, 50/60 Hz _ 10 VA _ BFN230-T																	
	H (mm) 1000	**B24T** _ AC (50/60 Hz)/DC 24 V _ 6 VA _ BFN24-T																	
		B24T-SR _ AC (50/60 Hz)/DC 24 V _ 8,5 VA _ BFN24-SR-T																	
		BST0 _ AC 230 V, 50/60 Hz _ 11 VA _ BFN24-ST-T (+comm.)																	

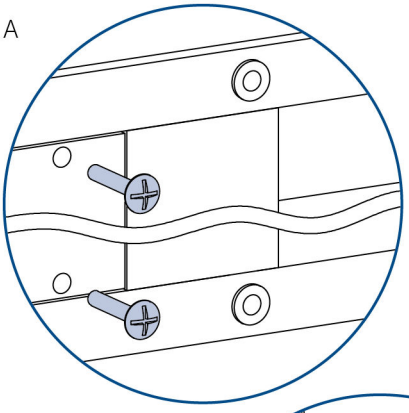
2/2	T_S_P_A	W (mm)	
		750	800
F-B90 (B230T ... BST0)	H (mm) 375	**B230T** _ AC 230 V, 50/60 Hz _ 10 VA _ BFN230-T	
	H (mm) 500	**B24T** _ AC (50/60 Hz)/DC 24 V _ 6 VA _ BFN24-T	
	H (mm) 625	**B24T-SR** _ AC (50/60 Hz)/DC 24 V _ 8,5 VA _ BFN24-SR-T	
	H (mm) 750	**BST0** _ AC 230 V, 50/60 Hz _ 11 VA _ BFN24-ST-T (+comm.)	
	H (mm) 875		
	H (mm) 1000	**B230T** _ AC 230 V, 50/60 Hz _ 11 VA _ BF230-T	
		B24T _ AC (50/60 Hz)/DC 24 V _ 10 VA_ BF24-T	
		B24T-SR _ AC (50/60 Hz)/DC 24 V _ 9,5 VA_ BF24-SR-T	
		BST0 _ AC 230 V, 50/60 Hz _ 11 VA _ BF24-ST-T (+comm.)	

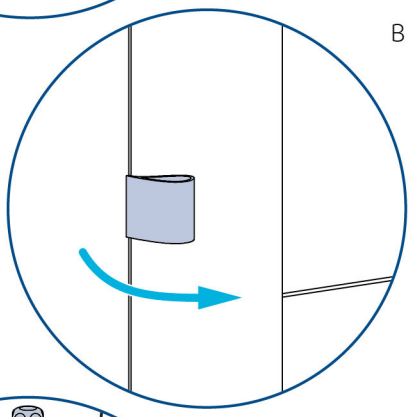
	T_S_P_A	W (mm)																					
		200	225	250	280	300	315	350	355	400	450	500	550	560	600	630	650	700	710	750	800
F-B90 (G230T ... GST0)	H (mm) 375	**G230T** _ AC 230 V, 50/60 Hz _ 9 VA _ 340TA-230-05-S2																			
	H (mm) 500	**G24T** _ AC (50/60 Hz)/DC 24 V _ 6 VA _ 340TA-024D-05-S2																			
	H (mm) 625	**G24T-SR** _ AC (50/60 Hz)/DC 24 V _ 9 VA _ 340CTA-024D-05-S2																			
	H (mm) 750	**GST0** _ AC (50/60 Hz)/DC 24 V _ 11 VA _ 340TA-24-05-S2/ST01 (+comm.)																			
	H (mm) 875	**G230T** _ AC 230 V, 50/60 Hz _ 9,5 VA _ 360TA-230-12-S2																			
	H (mm) 1000	**G24T** _ AC (50/60 Hz)/DC 24 V _ 9 VA _ 360TA-024-12-S2																			
		G24T-SR _ AC (50/60 Hz)/DC 24 V _ 7,5 VA _ 360CTA-024-12-S2																			
		GST0 _ AC (50/60 Hz)/DC 24 V _ 9 VA _ 360CTA-230-12-S2/ST01 (+comm.)																			

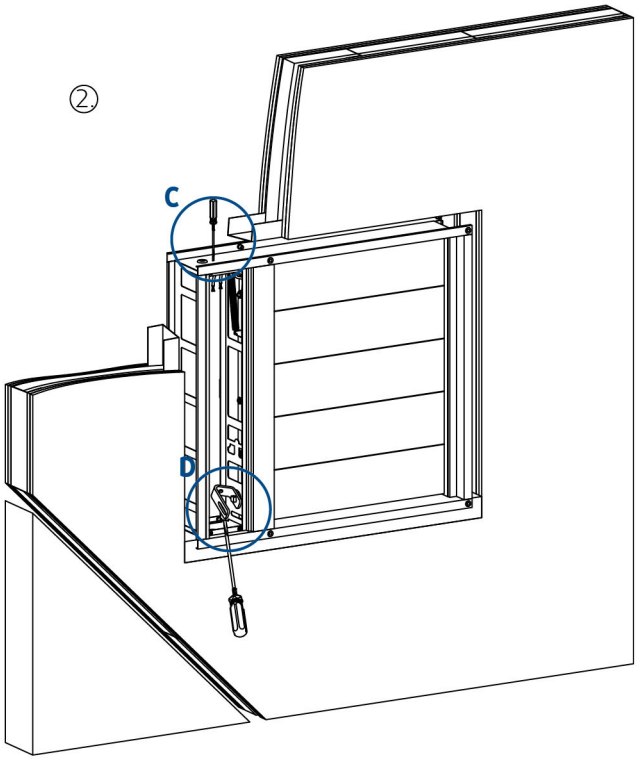
NOTE:• T*S_P_A* = *Type of activation* Power Supply *Power consumption* Actuator type

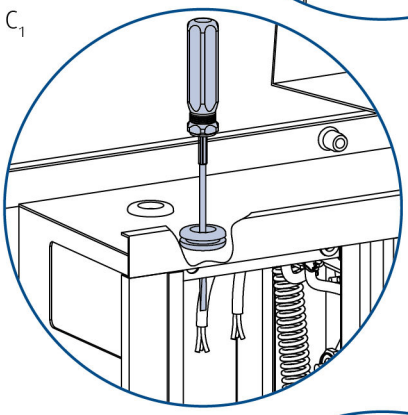

A
A1
A2
A3
A4
A5
A6

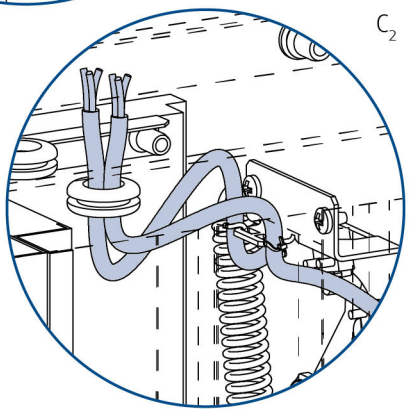

①.
A
B
A

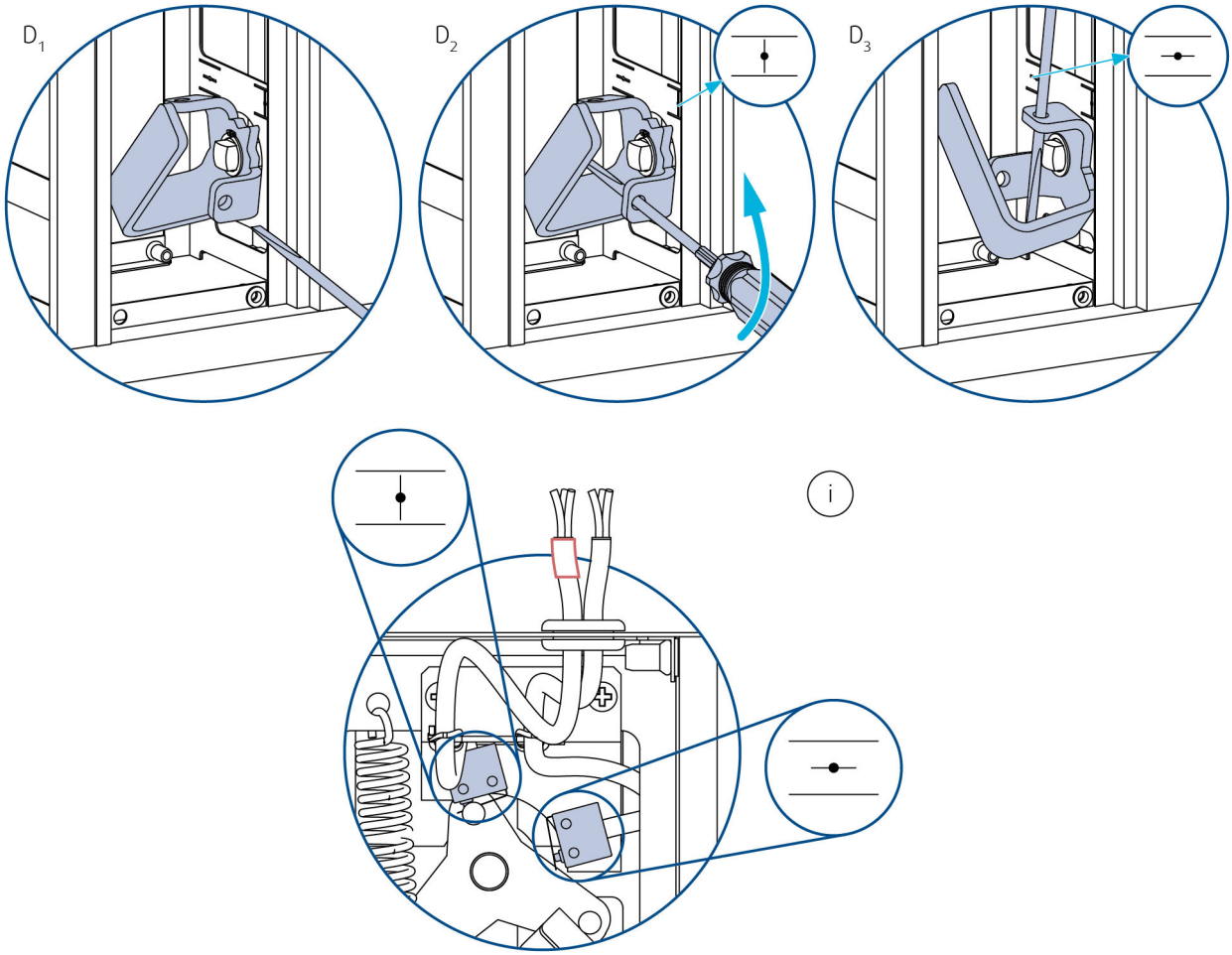

A


B


②.
C
D


C1


C2

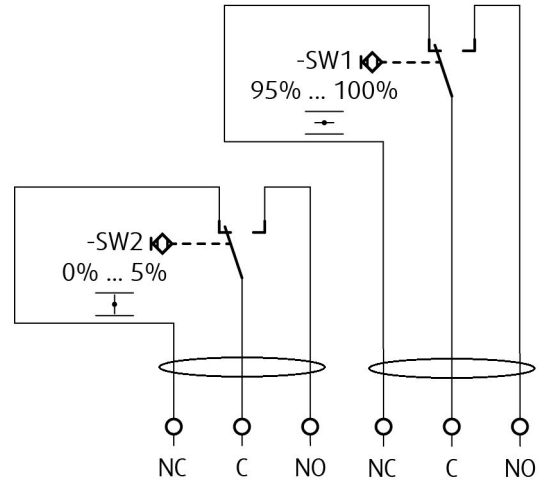

D1
D2
D3
i

Type of activation H0

This type of activation mechanism does not have any electrical equipment.

Type of activation H2

IMPORTANT: Danger of electric shock!
Switch off the power supply before working on any electrical equipment.
Allow only qualified electricians to work on the electrical system.
Microswitch:Power Supply: AC 125/250 V or DC 12/24 V
Electric Parameters: 3A
NOTES:• Supply via safety isolation transformer!



Legend

OPEN
NO Blue cable colour
NC Grey cable colour
C Black cable colour
CLOSED
NO Blue cable colour
NC Grey cable colour
C Black cable colour

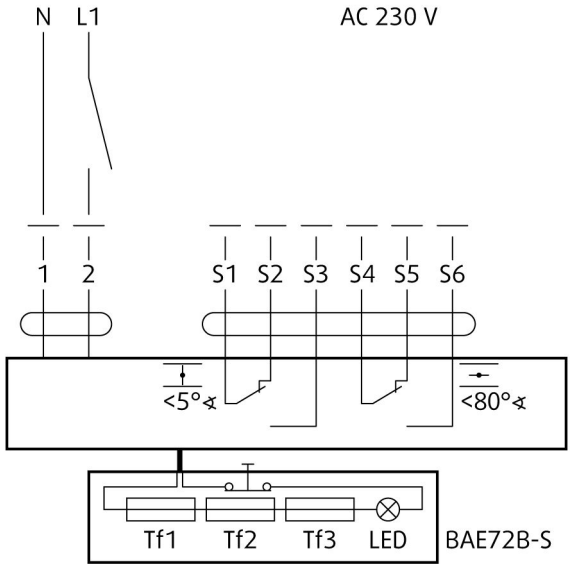
Type of Activation B230T

Switch off the power supply before working on any electrical equipment.
Only qualified electricians are allowed to work on the electrical system.

Power consumption must be observed.

NOTES:

- Caution! Main power supply voltage!
- A device that disconnects the pole conductors (minimum contact gap 3 mm) is required for isolation from the power supply.
- Paralell connection of several actuators possible.
- Power consumption must be observed!



Legend

1 Blue cable colour
2 Brown cable colour
S1 Violet cable colour
S2 Red cable colour
S3 White cable colour
S4 Orange cable colour
S5 Pink cable colour
S6 Grey cable colour
Tf Thermal fuse

Type of Activation B24T

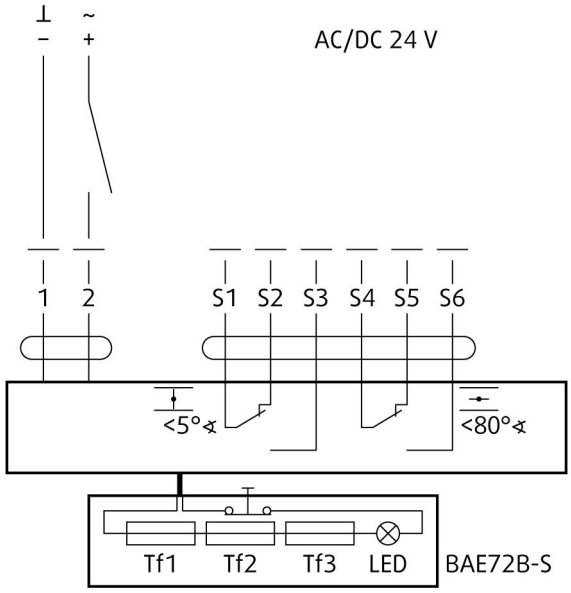
IMPORTANT: Danger of electric shock!

Switch off the power supply before working on any electrical equipment.
Only qualified electricians are allowed to work on the electrical system.

Power consumption must be observed.

NOTES:

- Supply via safety isolation transformer.
- Paralell connection of several actuators possible.
- Power consumption must be observed!



Legend

1 Blue cable colour (black for BF24-T)
2 Red cable colour (white for BF24-T)
S1 Violet cable colour (white for BF24-T)
S2 Red cable colour (white for BF24-T)
S3 White cable colour (white for BF24-T)
S4 Orange cable colour (white for BF24-T)
S5 Pink cable colour (white for BF24-T)
S6 Grey cable colour (white for BF24-T)
Tf Thermal fuse

Type of Activation BST0

IMPORTANT: Danger of electric shock!

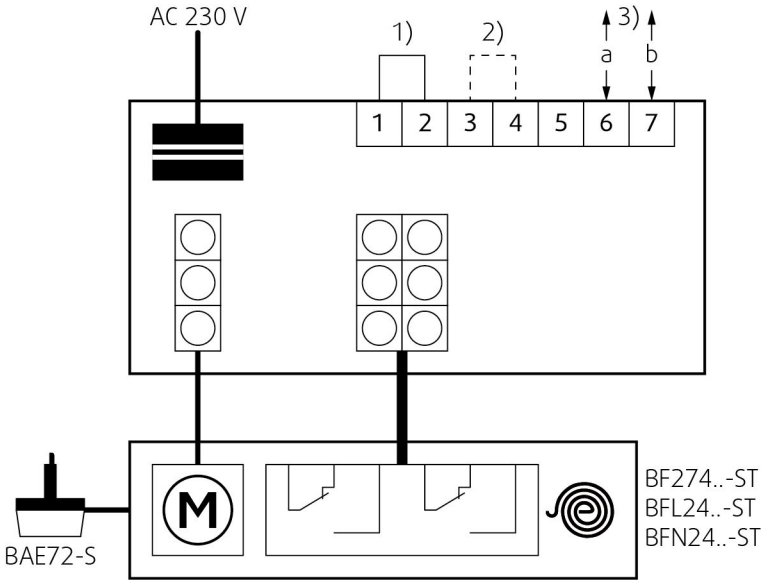
Switch off the power supply before working on any electrical equipment.

Only qualified electricians are allowed to work on the electrical system.

Power consumption must be observed.

NOTES:

Connection scheme for standardly fitted BKN230-24.



Legend

1)
Jumper factory-fitted. Can be removed if necessary to be replaced by a thermoalectric trip (the safety function will be triggered if terminals 1 and 2 are not linked).

2) Jumper only used for commissioning purposes and without BKS24-.. !

3) 2-wire conductor to BKS24-..

Type of Activation B24T-SR

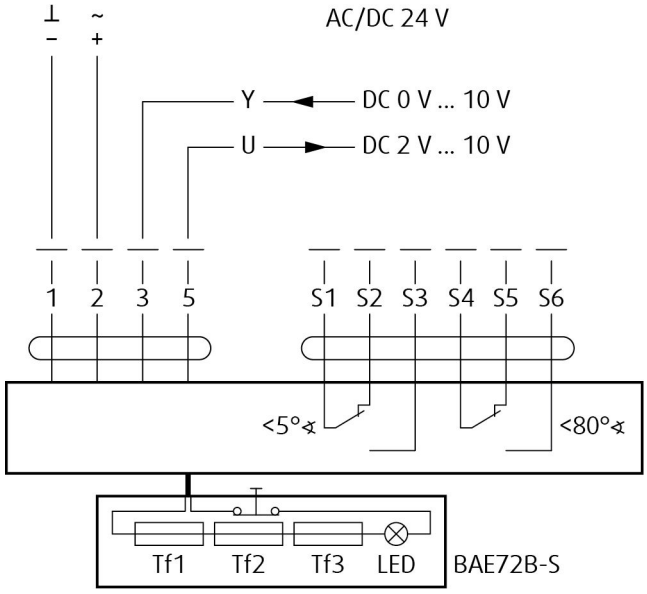
IMPORTANT: Danger of electric shock!

Switch off the power supply before working on any electrical equipment.
Only qualified electricians are allowed to work on the electrical system.

Power consumption must be observed.

NOTES:

- Supply via safety isolation transformer.
- Power consumption must be observed!



Legend

1 Blue cable colour
2 Brown cable colour
3 White cable colour
5 Orange cable colour
S1 Violet cable colour
S2 Red cable colour
S3 White cable colour
S4 Orange cable colour
S5 Pink cable colour
S6 Grey cable colour
Tf Thermal fuse

Type of Activation G230T

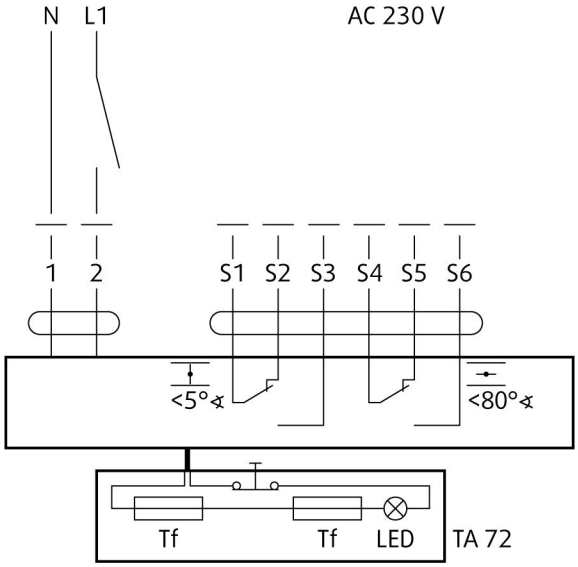
IMPORTANT: Danger of electric shock!

Switch off the power supply before working on any electrical equipment.
Only qualified electricians are allowed to work on the electrical system.

Power consumption must be observed.

NOTES:

- Caution! Main power supply voltage!
- A device that disconnects the pole conductors (minimum contact gap 3 mm) is required for isolation from the power supply.
- Paralell connection of several actuators possible.
- Power consumption must be observed!



Legend

1 Blue cable colour
2 Brown cable colour
S1 Violet cable colour
S2 Red cable colour
S3 White cable colour
S4 Orange cable colour
S5 Pink cable colour
S6 Grey cable colour
Tf Thermal fuse

Type of Activation G24T

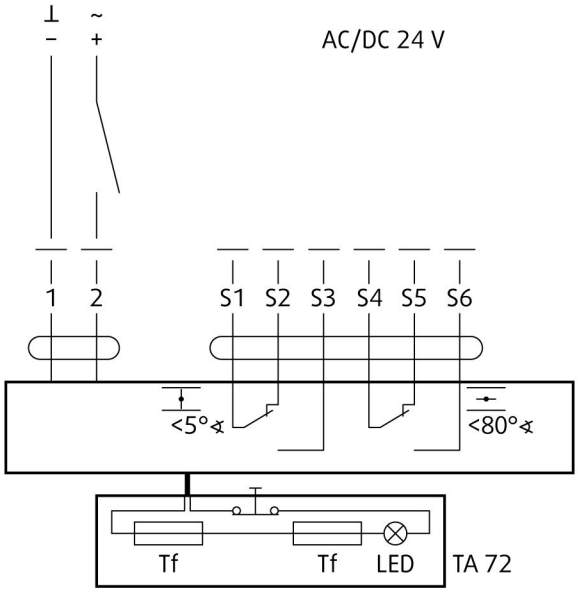
IMPORTANT: Danger of electric shock!

Switch off the power supply before working on any electrical equipment.
Only qualified electricians are allowed to work on the electrical system.

Power consumption must be observed.

NOTES:

- Supply via safety isolation transformer.
- Paralell connection of several actuators possible.
- Power consumption must be observed!



Legend

1 Blue cable colour
2 Brown cable colour
S1 Violet cable colour
S2 Red cable colour
S3 White cable colour
S4 Orange cable colour
S5 Pink cable colour
S6 Grey cable colour
Tf Thermal fuse

Type of Activation GST0

IMPORTANT: Danger of electric shock!

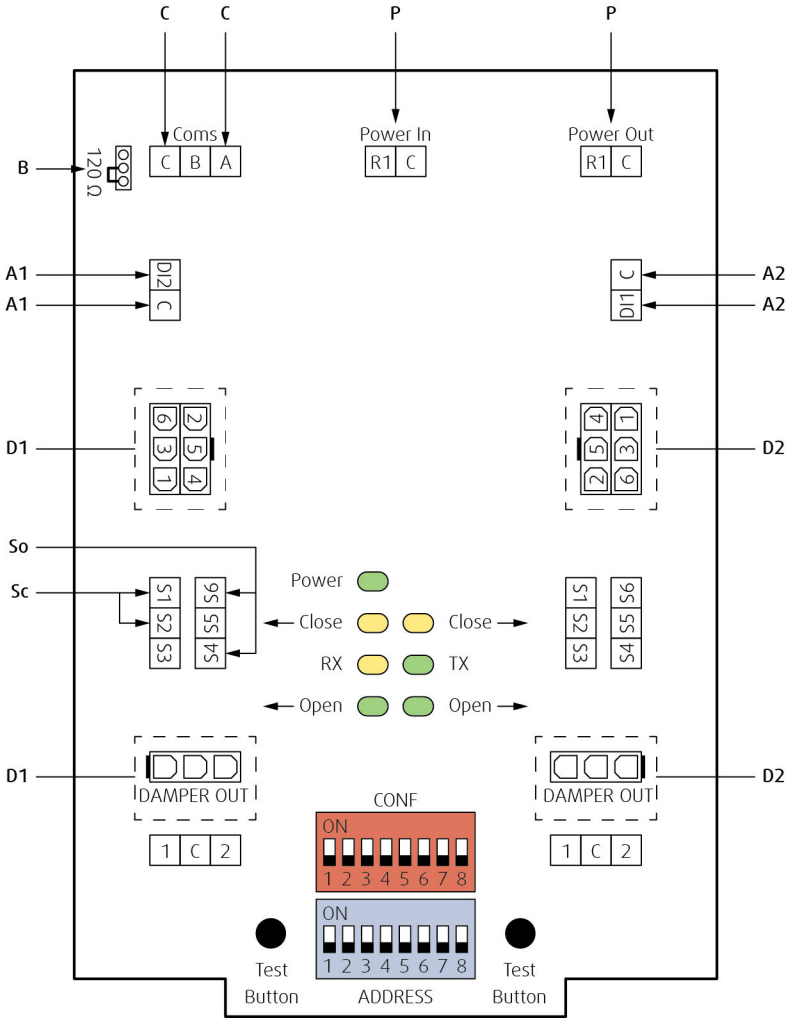
Switch off the power supply before working on any electrical equipment.
Only qualified electricians are allowed to work on the electrical system.

Power consumption must be observed.

NOTES:

• Supply via safety isolation transformer.

• Power consumption must be observed!



Legend

A1, A2
Analog Application; Digital input for manual override can be selected via bus as „Normally Open" (= standard open) or „Normally Closed" (= standard closed) Default: „Normally Open"

B Position of line termination 120 ohm if FS-UFC24-2 is last Modbus or BACnet device in line

C RS-485 Coms; Modbus RTU or BACnet MS/TP dip switch selectable

D1, D2 Damper 1, Damper 2; Fire or smoke extraction application

P Main power 24 V AC/DC; Daisy chain from and to other FS-UFC24-2

So Contact open

Sc Contact closed

Type of Activation G24T-SR

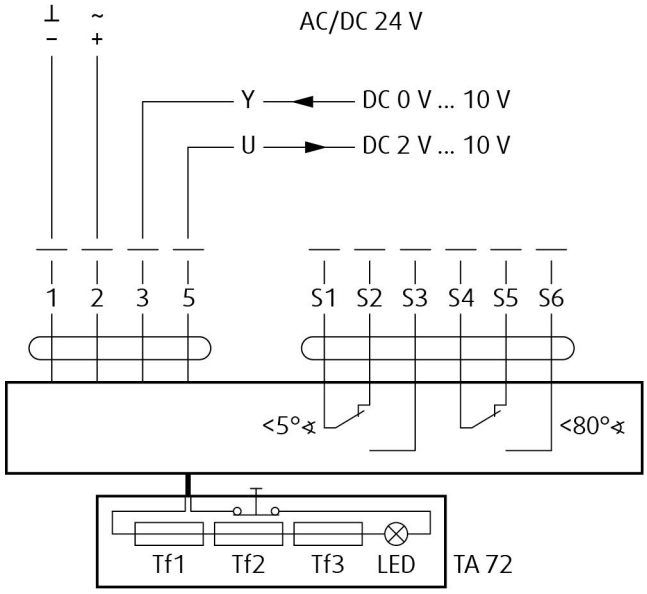
IMPORTANT: Danger of electric shock!

Switch off the power supply before working on any electrical equipment.
Only qualified electricians are allowed to work on the electrical system.

Power consumption must be observed.

NOTES:

- Supply via safety isolation transformer.
- Power consumption must be observed!



Legend

1 Blue cable colour
2 Brown cable colour
3 Black cable colour
4 Grey cable colour
S1 Violet cable colour
S2 Red cable colour
S3 White cable colour
S4 Orange cable colour
S5 Pink cable colour
S6 Grey cable colour
Tf Thermal fuse

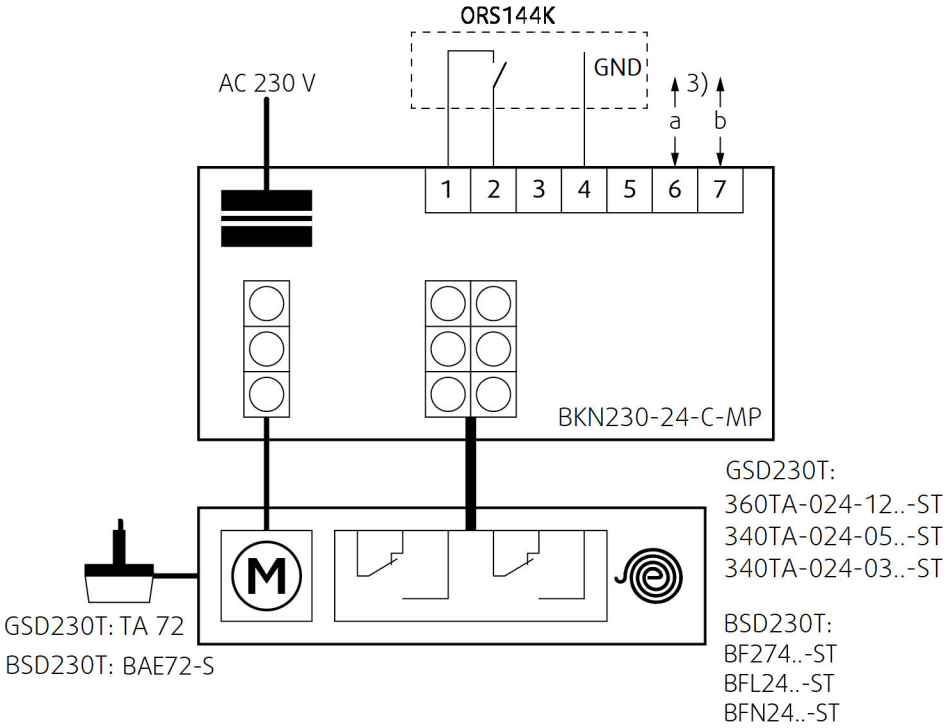
Type of Activation BSD230T and GSD230T

IMPORTANT: Danger of electric shock!Switch off the power supply before working on any electrical equipment.
Only qualified electricians are allowed to work on the electrical system.

Power consumption must be observed.

NOTES:• Caution! Main power supply voltage!

• A device that disconnects the pole conductors (minimum contact gap 3 mm) is required for isolation from the power supply.



Legend

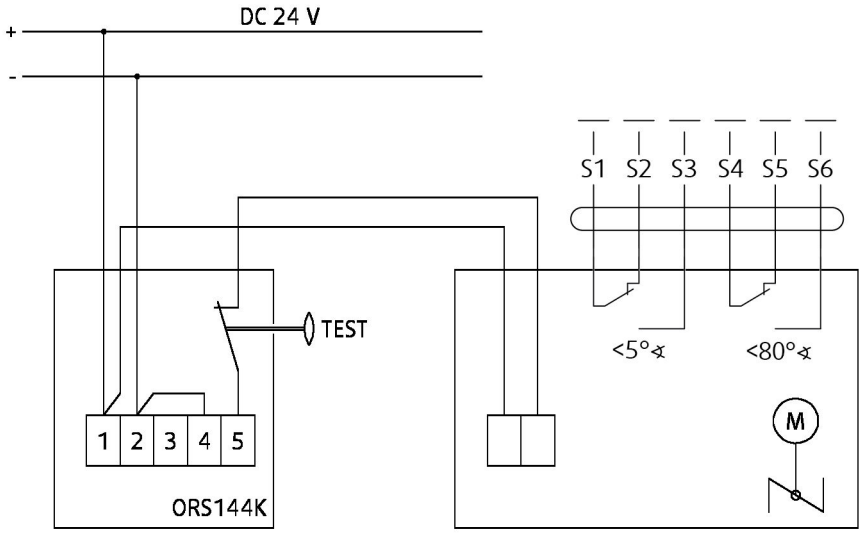
3) 2-wire conductor to BKS24-..

Type of Activation BSD24T and GSD24T

IMPORTANT: Danger of electric shock!Switch off the power supply before working on any electrical equipment.
Only qualified electricians are allowed to work on the electrical system.

Power consumption must be observed.

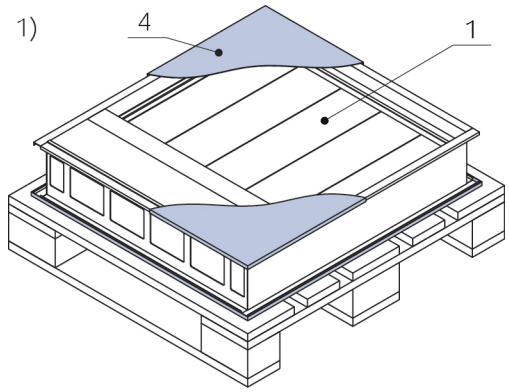
NOTES:• Supply via safety isolation transformer.

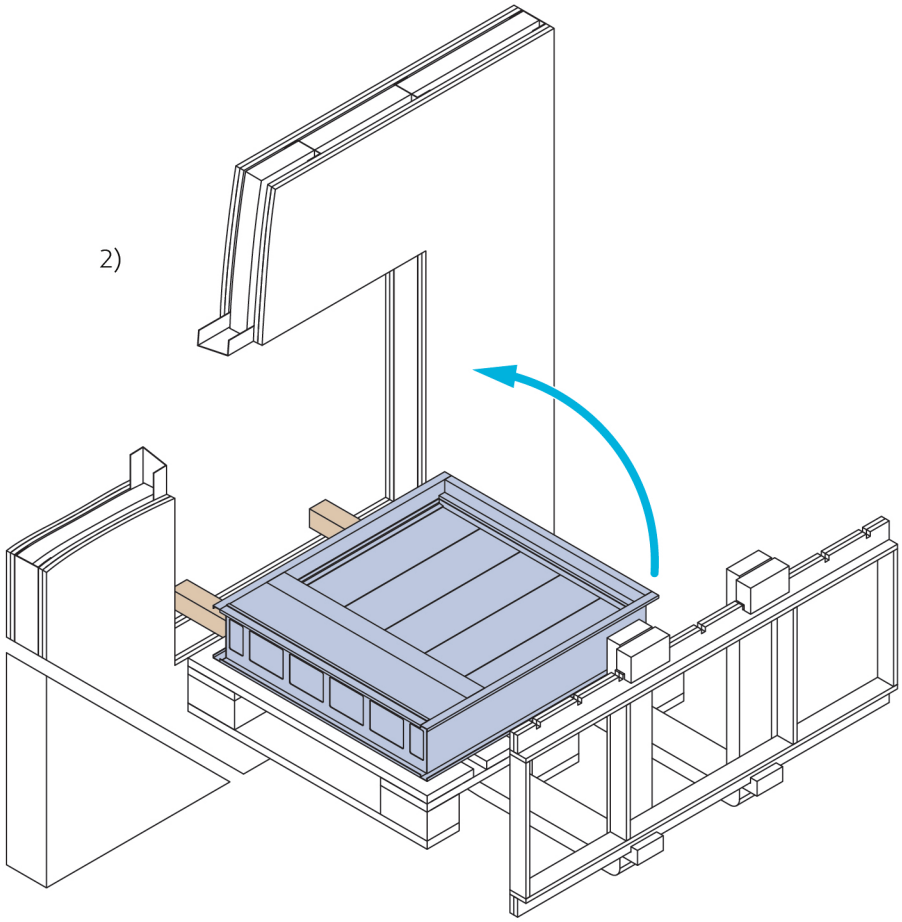


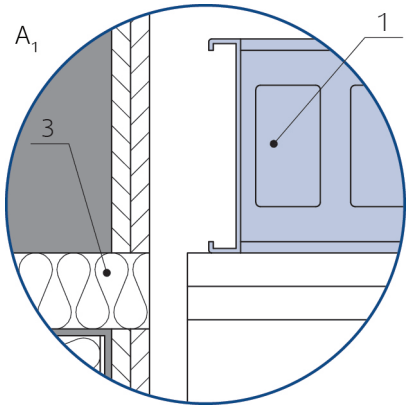
Legend

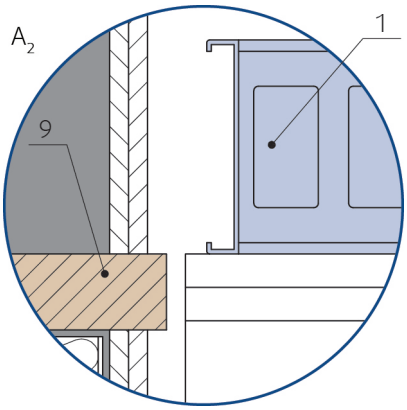
1 Blue cable colour
2 Brown cable colour
S1 Violet cable colour (white for BF24-T)
S2 Red cable colour (white for BF24-T)
S3 White cable colour (white for BF24-T)
S4 Orange cable colour (white for BF24-T)
S5 Pink cable colour (white for BF24-T)
S6 Grey cable colour (white for BF24-T)
Tf Thermal fuse

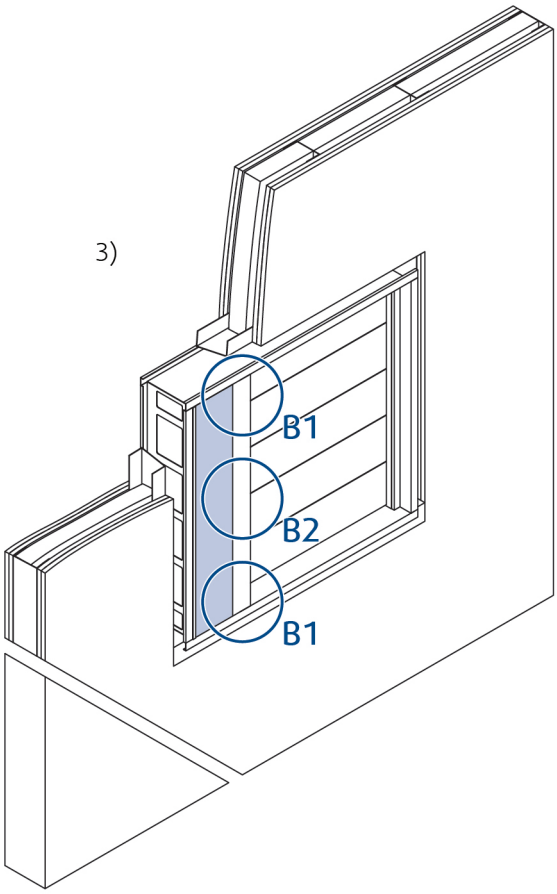
Operation manual

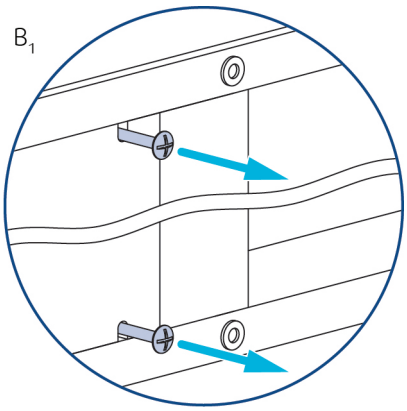


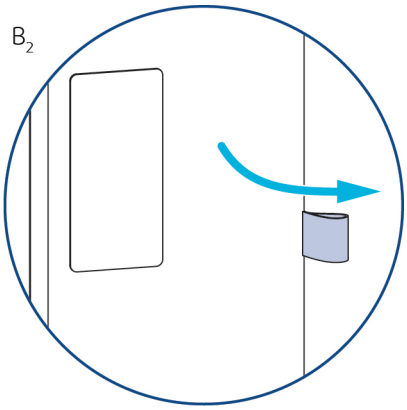





A2
1
9


3)
B1
B2
B1


B1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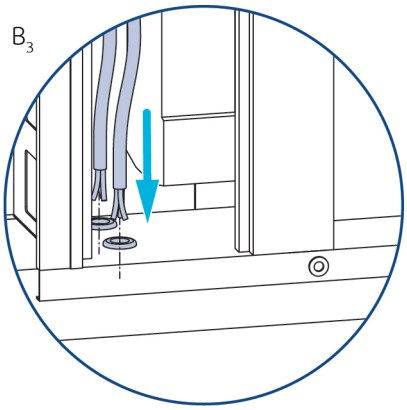
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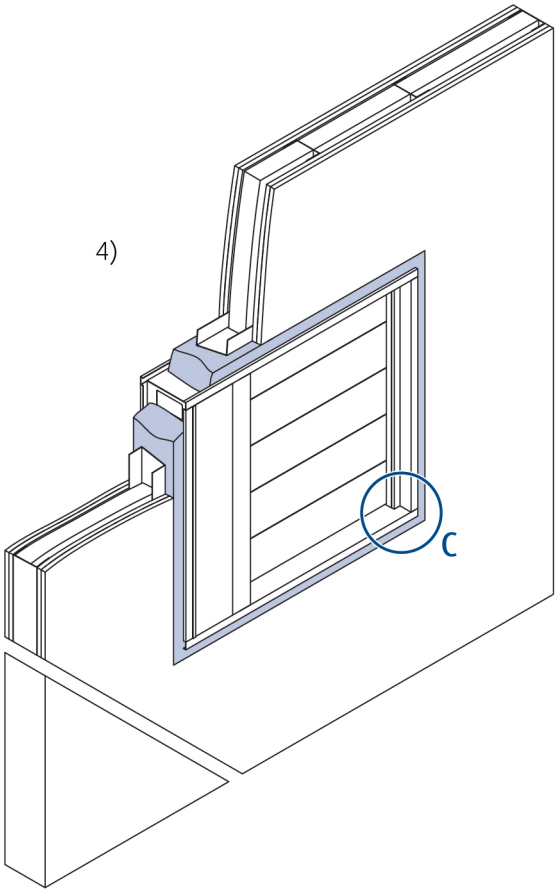
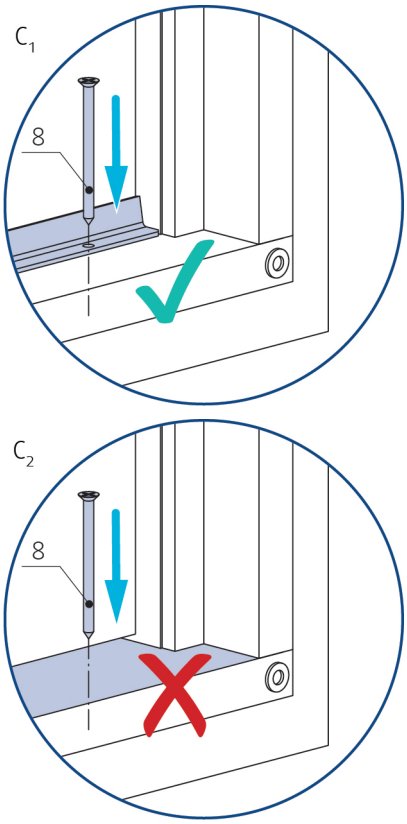
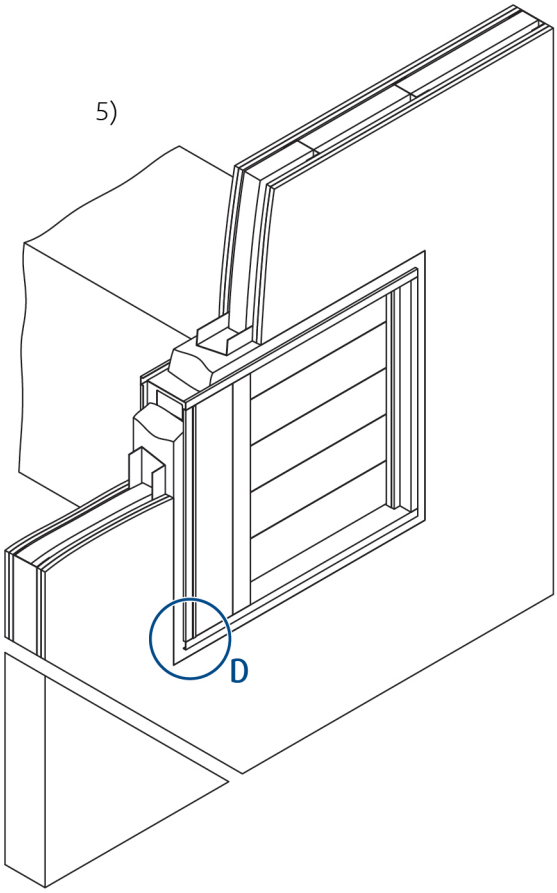
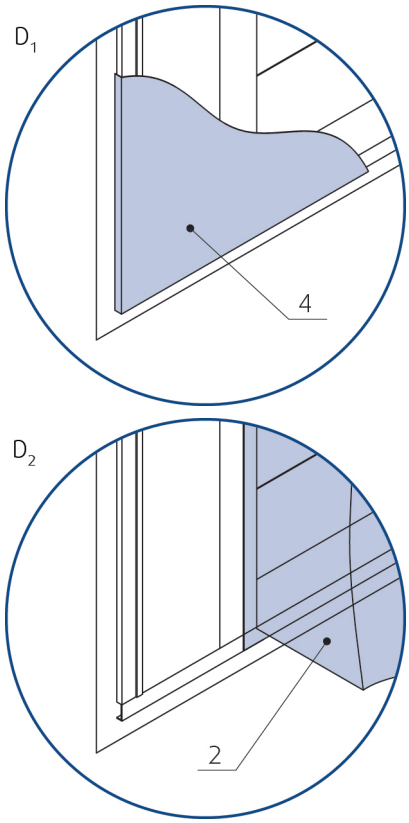

4)
C



5)





Legend - Operation manual

1 Fire damper F-B90
2 Connected sheet metal ductwork tested according to EN 1366-8 or EN 1366-9
3 Filling
4 Grille
8 Self-tapping screw size 4,2 ... 4,8; length 80 mm (e.g. DIN 7981C/DIN 7982C)
9 Support - brick, metal delivery or wood stud (not part of damper)

Warning

To avoid injury, make sure to wear gloves and keep away from the area of the moving blades while handling the damper.

Fire Damper Functionality Check

1. Remove the Grille (if fitted) and remove the mechanism housing doors by unscrewing bottom and top door screws.

2. The fire damper must open automatically after the actuator circuit closes – the arrow on the actuator axis must show the position 90°.

3. Press the control switch (1) on the thermal fuse and hold it until the fire damper is fully closed – the arrow on the actuator axis must show the position 0°.

4. Release the control switch on the thermal fuse. The fire damper must become fully open – the arrow on the actuator axis must show the position 90° - which is the operating position.

Close the mechanism housing doors and fasten them with screws through bottom and top holes. Mount the Grille, if fitted.

Handling and manipulation

Handling and manipulation of the F-B90 must be done with care.
All dimensions of fire damper should be manipulated and placed in the installation opening by two persons.
For added safety and easier handling, we recommend using suitable lifting equipment (forklift, crane) for larger-sized fire dampers.
Please follow both textual and graphic instructions:

1a Unpack the fire damper (1)

1b Remove grilles (4)

2a Prepare the opening, connection surfaces and/or filling as per the desired installation type

2b Carefully lift the fire damper with forklift, crane

2c Place the fire damper in vertical position

2d Place the fire damper in the opening as a desired installation type (A1, A2)

A1 For Soft or FitFitted installation place the fire damper on filling (3)

A2 For Wet installation place the fire damper on support (9)

3a Loosen the screws on the mechanism cover and remove them (B1)

3b Pull the strap/tap and remove the mechanism cover (B2)

3c Use top or bottom transitions and pull the actuator cables through them (B3)

3d Safely connect the actuator cables to wiring

3e Fix the mechanism cover with screws

4a Carefully remove the fork

4b Keep the damper in a stable position during installation

4c Insert the filling (3) as per desired installation

4d

Fix the damper to wall with screws (8, If connection width is W>=750 then use 6 screws / If connection width is W<750 then use 4 screws), (C1, C2)

5 Connect duct with flanges or install the grille (D1, D2)

Operating Manual

After installation, it is necessary to plance the damper in its operating position – open the fire damper.

Connect the electric driving mechanism to the relevant electric power supply as per the corresponding section of the electrical connections document.
The electric motor is activated and places the damper in its operating position.

Damper Inspection

The spring mechanism keeps the dampers in stand-by mode throughout their entire operating life.
Any changes or modifications to the dampers' structure manufacturer's permission

The operator performs regular inspections of the dampers as per established regulations and standards at least once every 12 months. The inspection needs to be performed by an employee who has been specifically trained for this purpose by the manufacturer. The current fire damper condition determined during the inspection needs to be entered into the “Operating Log” along with the date of the inspection, the legible name, surname and signature of the employee who performed the inspection. The Operating Log includes a copy of the employee’s authorization.

Any discrepancies discovered must be entered in the Operating Log along with a proposal for their correction. The Operating Log can be found in

https://design.systemair.com

Before the first installation, inspection must be performed under the same conditions as those applicable to the above-mentioned 12-month inspections.

It is necessary to inspect the damper’s internal casing, the thermal fuse link, the sealing, the foaming substance, the damper blade’s condition and its closure when it rests on a backstop in the closed position. There must be no other objects or dirt from the ventilation duct inside the damper.

NEVER INSPECT THE DAMPERS WHEN THERE IS AIR FLOWING IN THE DUCT SYSTEM!

Recommended Inspection Steps According to the EN 15 650:

1. Damper identification
2. Date of inspection
3. Check the electrical connection of the activation mechanism (where applicable)
4. Check the damper for cleanliness and clean if necessary
5. Check the blade and sealing condition, corrections enter in log (if necessary)
6. Check for proper closure of the fire damper – for details, see the above sections
7. Check the operating functions of the damper: opening and closing using the control system, physical examination of the damper’s behavior, correct if necessary and enter in log.
8. Check the operating functions of the end switches in the open and closed positions, correct if necessary and enter in log
9. Check whether the damper is fulfilling its role as part of the regulation system (where needed)
10. Check whether the damper remains in its standard operating position.
11. The damper is usually part of a system. In that case the whole system needs to be checked as described with respect to its operation and requirements published by the builder of the system.

Supplement

Any deviations from the technical specifications contained in SystemairDESIGN and the terms should be discussed with the manufacturer. We reserve the right to make any changes to the product without prior notice, provided that such changes do not affect the quality of the product and the required parameters.

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