

AM-FD

Activation Mechanism

Data Sheet



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Good to know

Current information on all products is available on www.design.systemair.com



Description

The activation mechanism for FD fire dampers is a crucial part of the damper. Its purpose is to drive the fire damper's blade between the open and closed positions. In case of emergency, AM-FD will close the damper blade and remain closed to fulfill classification parameters of the fire damper. Activation mechanism types for FD dampers are interchangeable with some degree of compatibility. The AM-FD activation mechanism is suitable for FDR-3G, FDS-3G, FDS-EI90S and FDS-EI120S fire dampers.

Manually Operated Activation Mechanism

This mechanism can only be opened manually. In case of fire, the fire damper is closed automatically. Depending on the version, the mechanism closes either after melting of the thermal fuse or by means of remote activation through an electromagnet in the impulse connection. After the closing of the damper blade, it is mechanically locked in the closed position. The actuating mechanism is activated when the temperature of the air in the duct reaches 74°C and the damper closes within 10 seconds after melting of the fuse. Its compatibility code starts with a letter.

Actuator Operated Activation Mechanism

This mechanism is fitted with a spring return actuator and can be opened by supplying power or manually with a supplied crank. Actuator controlled mechanism is standardly equipped with an electro-thermal fuse. Upon request, it can be supplied with different communication and supply units. The mechanism closes the damper after the command from the building management system, or after breaching of the electro-thermal fuse. The fuse is breached after reaching or exceeding the ambient temperature of 72°C and its spring closes the damper blade within 20 seconds. Its compatibility code starts with a number.

Highlights

- Can be used as an inspection opening
- Manual mechanism provided with cable
- Manual mechanism with IP 44 rating
- Switching between different types of actuators and communication units

Product Types

Manually Operated Activation Mechanism

- H0
Activation mechanism with a cover, manual crank and with a spring return release mechanism activated by a fusible thermal link set to 74°C (100°C upon request).
- H2
Activation mechanism H0 + open and closed indication with AC 230 V or AC/DC 24 V contact switches.
- H5-2
Activation mechanism H0 + an AC/DC 24 V electromagnetic release mechanism in the impulse connection (release takes place when the electromagnet is activated) + open and closed indication with AC 230 V or AC/DC 24 V contact switches.
- H6-2
Activation mechanism H0 + an AC 230 V electromagnetic release mechanism in the impulse connection (release takes place when the electromagnet is activated) + open and closed indication with AC 230 V or AC/DC 24 V contact switches.

Actuator Operated Activation Mechanism

- B230T or G230T
Activation mechanism with a Belimo (B) or Gruner (G) spring return actuator (AC 230 V) with an electro-thermal fuse 72°C and auxiliary switches.
- B24T or G24T
Activation mechanism with a Belimo (B) or Gruner (G) spring return actuator (AC/DC 24 V) with an electro-thermal fuse 72°C and auxiliary switches.
- GST0
Activation mechanism with a Belimo (B) or Gruner (G) spring return actuator (AC/DC 24 V) with an electro-thermal fuse 72°C and auxiliary switches, with a Gruner fs-UFC24-2 supply and communication unit (other communication units upon request).
- B24T-W or G24T-W
Activation mechanism with a Belimo (B) or Gruner (G) spring return actuator (AC/DC 24 V) with an electro-thermal fuse 72°C and auxiliary switches, with provided cable connectors for the supply and communication unit (communication unit not part of the mechanism).

Tab. 1: Composition of the activation mechanisms according to the  Ordering Code

Part of Activation Mechanism	Part Type	Current Type	Voltage (V)	Type of Activation Mechanism (Code)												
				Manually Operated				Actuator Operated								
				H0	H2	H5-2	H6-2	B230T	B24T	B24T-W	G230T	G24T	GST0	G24T-W		
Indication Open/Closed	Microswitch	AC, AC/DC	230, 24		•	•	•									
Electromagnet	Impulse Connection	AC/DC	24			•										
		AC	230				•									
Belimo BFL or BFN or BF Actuator	230-T	AC	230					•								
	24-T	AC/DC	24						•							
	24-T-ST	AC/DC	24							•						
Gruner 340 or 360 Actuator	TA 230 ...	AC	230								•					
	TA 24 ...	AC/DC	24									•	•	•		

Legend

DC	Direct current
AC	Alternating current
230	Actuator 230 V
24	Actuator 24 V

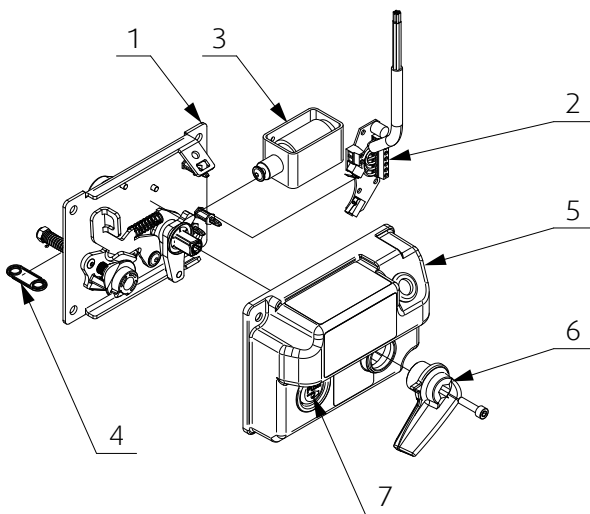
Design

Material Composition

The product contains galvanized sheet metal, fireproof carbon fiberglass and ethylene - propylene rubber. These are processed in accordance with local regulations. The product contains no hazardous substances, except for the solder in the thermofuse, which contains a milligram of lead.

Product Parts

Manually Operated Activation Mechanism



Legend

1	Mechanism base with internals
2	Circuit board with end position switches (included only in H2; H5-2; H6-2)
3	Electromagnet in impulse connection (included only in H5-2; H6-2)
4	Thermal link (standard 74°C)
5	Manual mechanism plastic cover
6	Red lever for opening damper blade
7	Red release knob for proper damper function check

Fig. 1: Components of a manually operated activation mechanism
– H0; H2; H5-2; H6-2

Actuator Operated Activation Mechanism

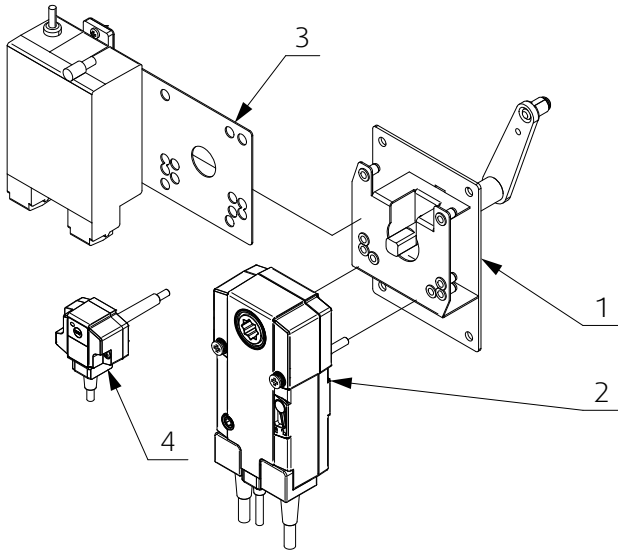


Fig. 2: Components of the Belimo actuator operated activation mechanism - B230T; B24T; B24T-W

Legend

1	Mechanism base
2	Belimo actuator (different type according to compatibility code)
3	Base with communication unit
4	Electro-thermal fuse fuse (standard BAE, 72°C)

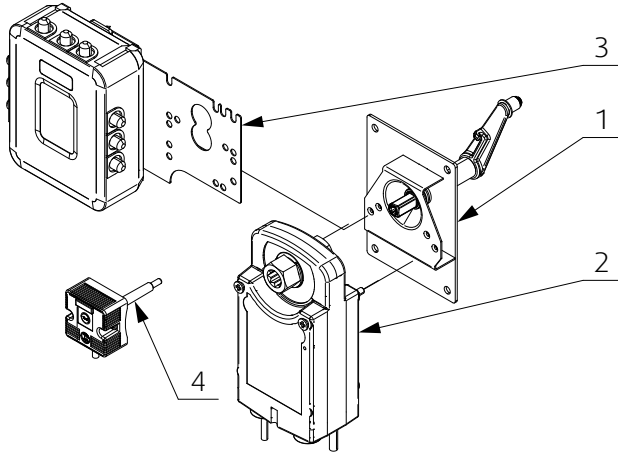


Fig. 3: Components of the Gruner actuator operated activation mechanism - G230T; G24T; G24T-W; GST0

Legend

1	Mechanism base
2	Gruner actuator (different type according compatibility code)
3	Base with communication unit (standardly fs-UFC24-2) (included only in GST0)
4	Electro-thermal fuse (standard TAE, 72°C)

Dimensions

Manually Operated Activation Mechanism

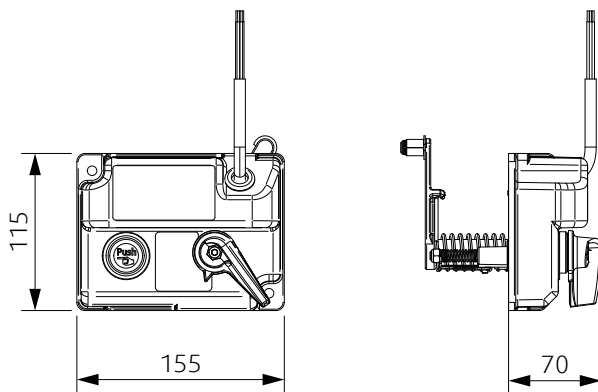


Fig. 4: Dimensions of the manually operated activation mechanism

Actuator Operated Activation Mechanism

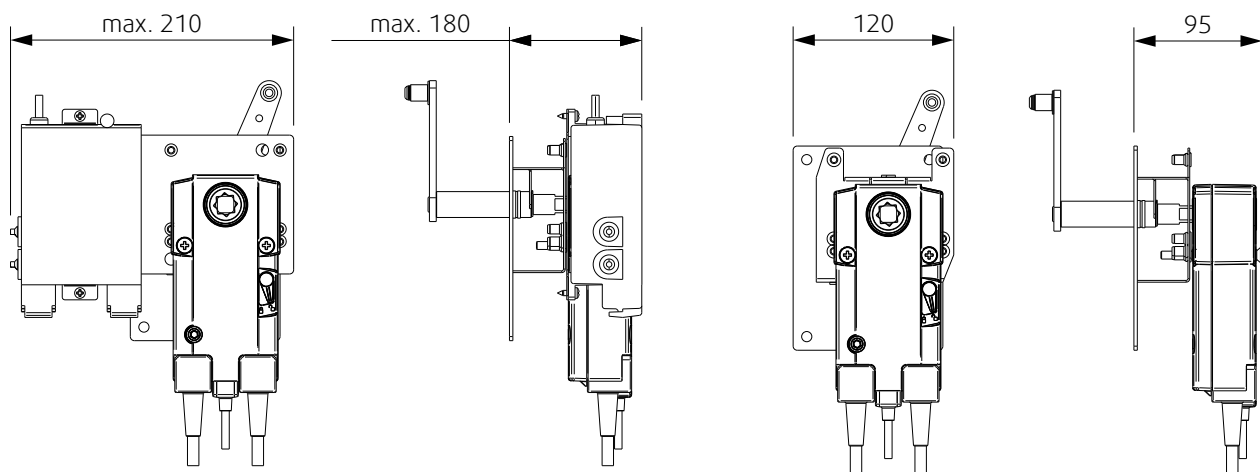


Fig. 5: Dimensions of the Belimo actuator mechanism with (left) and without (right) communication unit

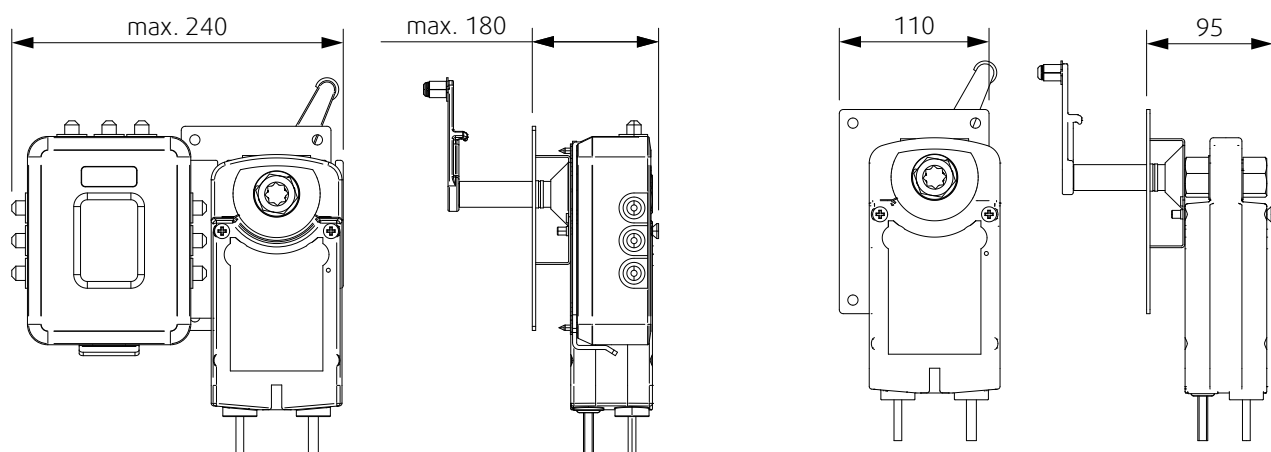


Fig. 6: Dimensions of the Gruner actuator mechanism with (left) and without (right) communication unit

Ordering Code

Type of activation	H0; H2 up to G24T-W	AM-FD-	<input type="text"/>	-	<input type="text"/>
Compatibility code *	S44 up to J94; 3R1 up to 3SF				

NOTE: * Choose the compatibility code for your activation type and fire damper size (Tab. 2 ... Tab. 7)

Example of the Ordering Code

AM-FD-H5-2-S44

Activation mechanism, manually operated with a 24 V AC electromagnetic release in impulse connection (release takes place when the electromagnet is activated) plus end switches, indicating the damper's closed and open position. Suitable for FDS-3G sizes from 100 × 100 up to 800 × 180 mm and FDR-3G sizes from 100 up to 225 mm.



Check your code

Use AM-FD Selector on [Systemair DESIGN](#) for ordering.

Compatibility Codes

The compatibility code describes the strength as well as the differences between mechanism construction. To complete the ordering code, choose the compatibility code for your activation type and fire damper size in the following tables.

IMPORTANT:

Make sure you look for the compatibility code in the desired mechanism type table.

Tab. 2: Compatibility code for the FDR-3G circular fire damper with all activation types

FDR-3G		DN (mm)																				
		100	125	140	150	160	180	200	225	250	280	315	355	400	450	500	560	630	710	800	850	900
Activation Types	H0 H2 H5-2 H6-2	S44						S94				B94				J94						
	B230T B24T	3L1						3L2		3N2				3F4								
	DV7-T-W B24T-W DV7-T-ST	3S1		3S2				3S3		3SN				3SF								
	G230T G24T	3L1						3L2		3N5		3NX		3F4								
	G7-T-W G24T-W G7-T-ST GST0	3S1		3S2				3S3		3S5		3SX		3SF								

Tab. 3: (part 1/2) Compatibility code for the FDS-3G rectangular fire damper, manually operated activation mechanisms

FDS-3G		Activation Types H0; H2; H5-2; H6-2																																				
		W (mm)																																				
		100	150	200	250	300	315	350	355	400	450	500	550	560	600	630	650	700	710	750	800																	
H (mm)	100	S44																																				
	150																																					
	175																																					
	180																																					
	200	S94																																				
	250																																					
	300	Y94																																				
	315																																					
	350																																					
	355																																					
	400																																					
	450																																					
	500																																					
	550																																					
	560																																					
	600																				B94																	
	630																																					
	650																																					
	700																																					
	710																																					
750																																						
800																																						
850	S24																																					
900																																						
950																																						
1000																																						

Tab. 3: (part 2/2) Compatibility code for the FDS-3G rectangular fire damper, manually operated activation mechanisms

FDS-3G		Activation Types H0; H2; H5-2; H6-2															
		W (mm)															
		850	900	950	1000	1050	1100	1120	1150	1200	1250	1300	1350	1400	1450	1500	1550
H (mm)	100	Y44								X							
	150	Y44								X							
	175	Y44								X							
	180	Y44								X							
	200	Y94								S24						X	
	250	Y94								S24						X	
	300	Y94								S24						X	
	315	B94								B24						X	
	350	B94								B24						X	
	355	B94								B24						X	
	400	B94								S24						X	
	450	B94								S24						X	
	500	B94								S24						X	
	550	B94								S24						X	
	560	B94								S24						X	
	600	B94								S24						X	
	630	B94								S24						X	
	650	B94								S24						X	
	700	B94								S24						X	
	710	B94								S24						X	
750	B94								S24						X		
800	B94								S24						X		
850	B94								S24						X		
900	B94								S24						X		
950	B94								S24						X		
1000	B94								S24						X		

Tab. 4: (part 1/2) Compatibility code for the FDS-3G rectangular fire damper with Belimo actuator operated activation mechanisms

FDS-3G		Activation Types B230T; B24T																																		
		W (mm)																																		
		100	150	200	250	300	315	350	355	400	450	500	550	560	600	630	650	700	710	750	800															
H (mm)	100	3L1																																		
	150																																			
	175																																			
	180																																			
	200	3L2																																		
	250																																			
	300																																			
	315																																			
	350																																			
	355																																			
	400																																			
	450																																			
	500																																			
	550																																			
	560	3N2																																		
	600																																			
	630																																			
	650																																			
	700																																			
	710																																			
750	2N2																																			
800																																				
850																																				
900																			2F4																	
950																																				
1000																																				

Tab. 4: (part 2/2) Compatibility code for the FDS-3G rectangular fire damper with Belimo actuator operated activation mechanisms

FDS-3G		Activation Types B230T; B24T																	
		W (mm)																	
		850	900	950	1000	1050	1100	1120	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	
H (mm)	100	3L1								X									
	150	3L1								X									
	175	3L1								X									
	180	3L1								X									
	200	3L2								2L1						X			
	250									2L1						X			
	300									2L1						X			
	315									2L1						X			
	350									2L1						X			
	355	3L2								2N1						X			
	400									2N1						X			
	450	3N2								2N2									
	500									2N2									
	550									2N2									
	560									2N2									
	600									2N2									
	630									2N2									
	650									2N2									
	700									2N2									
	710									2N2									
750	2N2																		
800	3N2								2F4										
850	3N2								2F4										
900	3N2								2F4										
950	3N2								2F4										
1000	3N2								2F4										

Tab. 5: (part 1/2) Compatibility code for the FDS-3G rectangular fire damper with Belimo actuator operated activation mechanisms plus preparation for communication unit or plus the communication unit itself

FDS-3G		Activation Types DV7-T-W; B24T-W; DV7-T-ST																	
		W (mm)																	
		100	150	200	250	300	315	350	355	400	450	500	550	560	600	630	650	700	710
H (mm)	100	3S1																	
	150																		
	175																		
	180																		
	200	3S2																	
	250																		
	300																		
	315																		
	350	3S3																	
	355																		
	400																		
	450																		
	500	3SN																	
	550																		
	560																		
	600																		
	630	2S3																	
	650																		
	700																		
	710																		
750	2SF																		
800																			
850																			
900																			
950																			
1000																			

Tab. 5: (part 2/2) Compatibility code for the FDS-3G rectangular fire damper with Belimo actuator operated activation mechanisms plus preparation for communication unit or plus the communication unit itself

FDS-3G		Activation Types DV7-T-W; B24T-W; DV7-T-ST															
		W (mm)															
		850	900	950	1000	1050	1100	1120	1150	1200	1250	1300	1350	1400	1450	1500	1550
H (mm)	100	3S1								[Cross-hatched]							
	150																
	175																
	180																
	200	3S2								2SL						[Cross-hatched]	
	250																
	300																
	315																
	350	3S3								2S2		[Cross-hatched]					
	355																
	400																
	450	3SN								2S3							
	500																
	550									2SF							
	560																
	600																
	630																
	650																
	700																
	710																
750																	
800																	
850																	
900																	
950																	
1000																	

Tab. 6: (part 1/2) Compatibility code for the FDS-3G rectangular fire damper with Gruner actuator operated activation mechanisms

FDS-3G		Activation Types G230T; G24T																																		
		W (mm)																																		
		100	150	200	250	300	315	350	355	400	450	500	550	560	600	630	650	700	710	750	800															
H (mm)	100	3L1																																		
	150																																			
	175																																			
	180																																			
	200	3L2																																		
	250																																			
	300																																			
	315																																			
	350																																			
	355																																			
	400																																			
	450																																			
	500																																			
	550																																			
	560	3N5																																		
	600																																			
	630																																			
	650																																			
	700																																			
	710																																			
750	3NX																																			
800																																				
850	2FX																																			
900																																				
950																																				
1000																																				

Tab. 6: (part 2/2) Compatibility code for the FDS-3G rectangular fire damper with Gruner actuator operated activation mechanisms

FDS-3G		Activation Types G230T; G24T																																																														
		W (mm)																																																														
		850	900	950	1000	1050	1100	1120	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600																																														
H (mm)	100	3L1								X																																																						
	150	3L1								X																																																						
	175	3L1								X																																																						
	180	3L1								X																																																						
	200	3L2								2L1						X																																																
	250									2L1						X																																																
	300									2L1						X																																																
	315									2L1						X																																																
	350									2L1						X																																																
	355	3L2								2N1				X																																																		
	400									2N1				X																																																		
	450	3N5								2N5																																																						
	500									2N5																																																						
	550									2N5																																																						
	560									2N5																																																						
	600									2N5																																																						
	630	3NX								2FX																																																						
	650																	3NX								2FX																																						
	700																																	3NX								2FX																						
	710																																																	3NX								2FX						
750	3NX																																																															
800									3NX								2FX																																															
850																									3NX								2FX																															
900																																									3NX								2FX															
950																																																									3NX							
1000	3NX																																																															

Tab. 7: (part 1/2) Compatibility code for the FDS-3G rectangular fire damper with Gruner actuator operated activation mechanisms plus preparation for communication unit or plus the communication unit itself

FDS-3G		Activation Types G7-T-W; G24T-W; G7-T-ST; GST0																	
		W (mm)																	
		100	150	200	250	300	315	350	355	400	450	500	550	560	600	630	650	700	710
H (mm)	100	3S1																	
	150																		
	175																		
	180																		
	200	3S2																	
	250																		
	300																		
	315	3S3																	
	350																		
	355																		
	400																		
	450																		
	500																		
	550	3S5																	
	560																		
	600																		
	630																		
	650																		
	700	3SX																	
	710																		
750	2SX																		
800																			
850	2S5																		
900																			
950																			
1000																			

Tab. 7: (part 2/2) Compatibility code for the FDS-3G rectangular fire damper with Gruner actuator operated activation mechanisms plus preparation for communication unit or plus the communication unit itself

FDS-3G		Activation Types G7-T-W; G24T-W; G7-T-ST; GSTO																														
		W (mm)																														
		850	900	950	1000	1050	1100	1120	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600														
H (mm)	100	3S1									X																					
	150																															
	175																															
	180																															
	200	3S2									2SL						X															
	250																															
	300																															
	315	3S3									2S2						X															
	355																															
	400	3S5									2S5																					
	450																															
	500																															
	550																															
	560																															
	600																															
	630																															
	650																															
	700																3SX									2SX						
	710																															
	750																															
800																																
850																																
900																																
950																																
1000																																

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
Activation Temperature	Manually operated: 74°C as standard (100°C upon request) by means of a spring after the melting of the thermofuse
	Actuator operated: 72°C as standard (95°C or 120°C upon request) by means of a spring after current interruption in the electro-thermal fuse
Ambient Temperature	Maximum of 60°C for 72°C/74°C thermofuse, maximum 85°C for 100°C thermofuse, maximum 105°C for 120°C thermofuse
Repeated Opening	It is possible to open the device in cold conditions
Closing Time	Manually operated < 10 s, actuator operated < 20 s
Indicator Closed/Open	Manually operated 230 V microswitches - versions H2 up to H6-2
	Actuator operated built-in microswitches - version B230T/G230T up to B24T-W/G24T-W
Environment Suitability	Only indoor environment (3K5 according to EN 60721-3-3)
Inspection Possibility	After removing the activation mechanism, or by opening the inspection lid
Maintenance	Not required/cleaning with a dry cloth if demanded by law in the country in which the fire dampers are installed
Conformity with EC Directives	2006/42/ES Machinery Directive
	2006/95/ES Low Voltage Directive
	2004/108/ES Electromagnetic Compatibility Directive



[Systemair DESIGN](#)

Installation, Maintenance and Operation

Information about installation, maintenance and operation is available in the document "UserManual_AM-FD" on [Systemair DESIGN](#).

Transport & Storage

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

Supplement

Any deviations from the technical specifications contained herein 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 these changes do not affect the quality of the product and the required parameters.

Current information on all products is available on [Systemair DESIGN](#).

Related Products

FDR-3G, FDS-3G, FDS-EI90S and FDS-EI120S

Fire Dampers

Product information is available within the "DataSheet_FDR_FDS" technical documentation on [Systemair DESIGN](#).

