

# AM-PKI

Activation Mechanism

Data Sheet



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## Good to know

Current information on all  
fire safety products are available  
at [www.systemair.com/FSPoverview](http://www.systemair.com/FSPoverview)



## Description

An activation mechanism for fire damper PKIR and PKIS 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-PKI will close the damper blade and remain closed to fulfill classification parameters of the fire damper. Activation mechanism types for PKIR and PKIS dampers are interchangeable with some degree of compatibility.

The AM-PKI activation mechanism is suitable for PKIR and PKIS 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 72 °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

- ZV  
Activation mechanism with a cover, manual crank and with a spring return release mechanism activated by a fusible thermal link set to 72 °C (100 °C upon request).
- DV1-2  
Activation mechanism ZV + open and closed indication with AC 230 V or AC/DC 24 V contact switches.
- DV5-2  
Activation mechanism ZV + 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.
- DV6-2  
Activation mechanism ZV + 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

- DV7-T or G7-T  
Activation mechanism with a Belimo (DV) or Gruner (G) spring return actuator (AC 230 V) with an electro-thermal fuse 72 °C and auxiliary switches.
- DV9-T or G9-T  
Activation mechanism with a Belimo (DV) or Gruner (G) spring return actuator (AC/DC 24 V) with an electro-thermal fuse 72 °C and auxiliary switches.
- DV9-T-ST or G9-T-ST  
Activation mechanism with a Belimo (DV) or Gruner (G) spring return actuator (AC/DC 24 V) with an electro-thermal fuse 72 °C and auxiliary switches, with a Belimo BKN230-24 supply and communication unit or Gruner fs-UFC24-2 supply and communication unit (other communication units upon request).
- DV9-T-W or G9-T-W  
Activation mechanism with a Belimo (DV) 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 codes

Part of Activation Mechanism	Part Type	Current Type	Voltage (V)	Type of Activation Mechanism (Code)											
				Manually Operated				Actuator Operated							
				ZV	DV1-2	DV5-2	DV6-2	DV7-T	DV9-T	DV9-T-ST	DV9-T-W	G7-T	G9-T	G9-T-ST	G9-T-W
Indication Open/Closed	Microswitch	AC, AC/DC	230, 24		•	•	•								
Electromagnet	Impulse Connexion	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 Actuator	x=230	AC	230									•			
340TA-xD-03-S2/8F12	x=24	AC/DC	24										•	•	•
or 340TA-x-05-S2/8F12															
or 360TA-x-12-S2/8F12															

### Legend

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

T	Electro-thermal fuse
ST	Supply and communication unit
W	Cables for the supply and communication unit



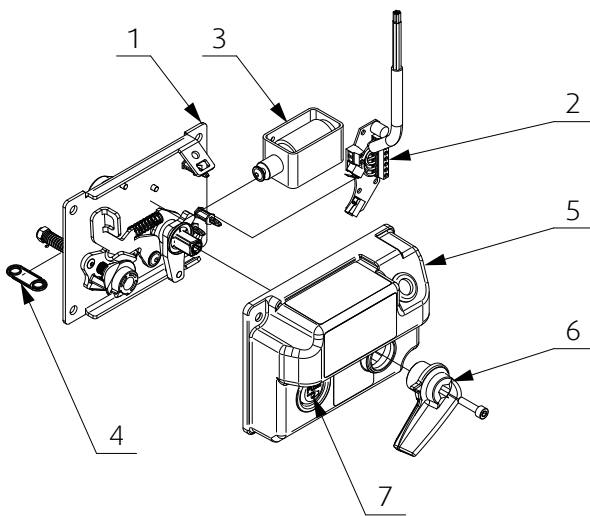
# Design

## 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 DV1-2; DV5-2; DV6-2)
3	Electromagnet in impulse connection (included only in DV5-2; DV6-2)
4	Thermal link (standard 72 °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  
– ZV; DV1-2; DV5-2; DV6-2

Actuator Operated Activation Mechanism

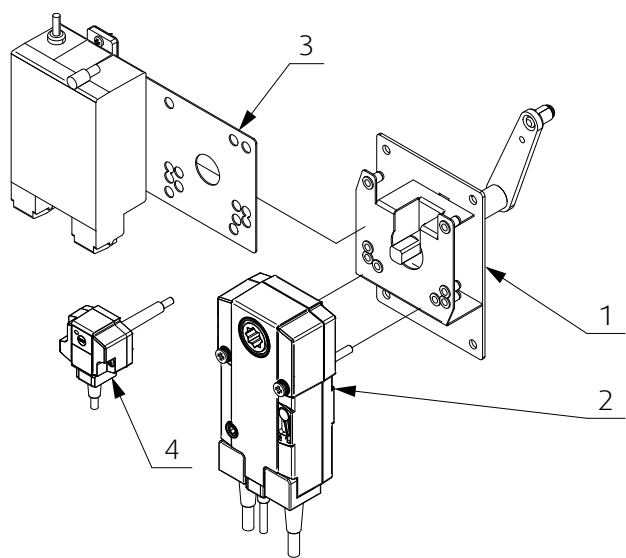


Fig. 2: Components of the Belimo actuator operated activation mechanism  
- DV7-T; DV9-T; DV9-T-W; DV9-T-ST

Legend

1	Mechanism base
2	Belimo actuator (different type according to compatibility code)
3	Base with communication unit (standardly BKN230-24) (included only in DV9-T-ST)
4	Electro-thermal fuse fuse (standard BAE, 72 °C)

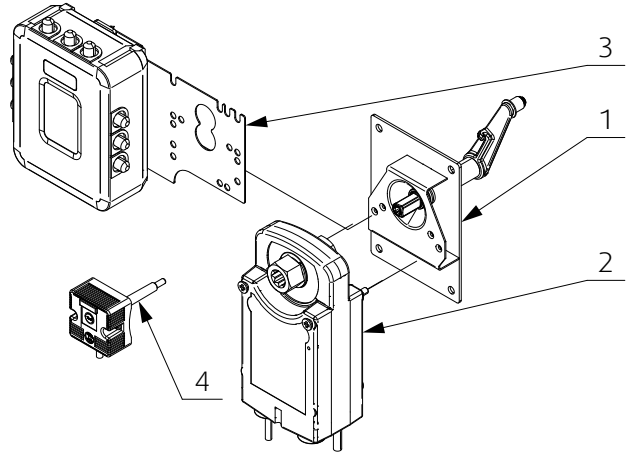


Fig. 3: Components of the Gruner actuator operated activation mechanism  
- G7-T; G9-T; G9-T-W; G9-T-ST

Legend

1	Mechanism base
2	Gruner actuator (different type according compatibility code)
3	Base with communication unit (standardly fs-UFC24-2) (included only in G9-T-ST)
4	Electro-thermal fuse (standard TAE, 72 °C)

# Dimensions

## Manually Operated Activation Mechanism

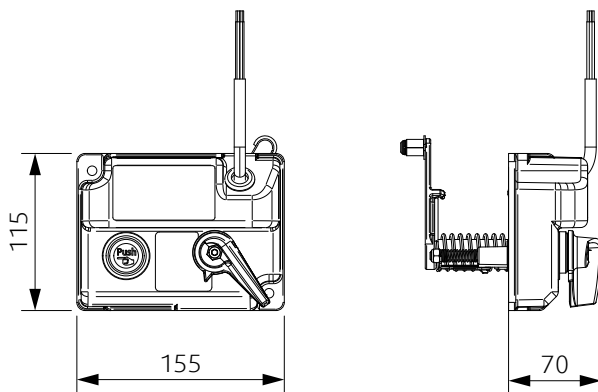


Fig. 4: Dimensions of the manually operated activation mechanism

## Actuator Operated Activation Mechanism

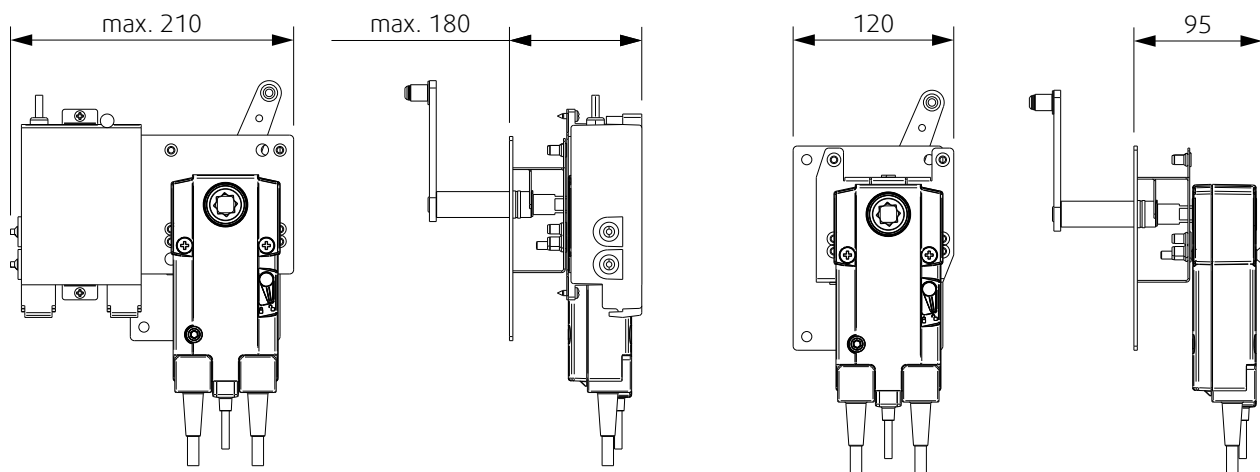


Fig. 5: Dimensions of the Belimo actuator mechanism with (left) and without (right) communication unit

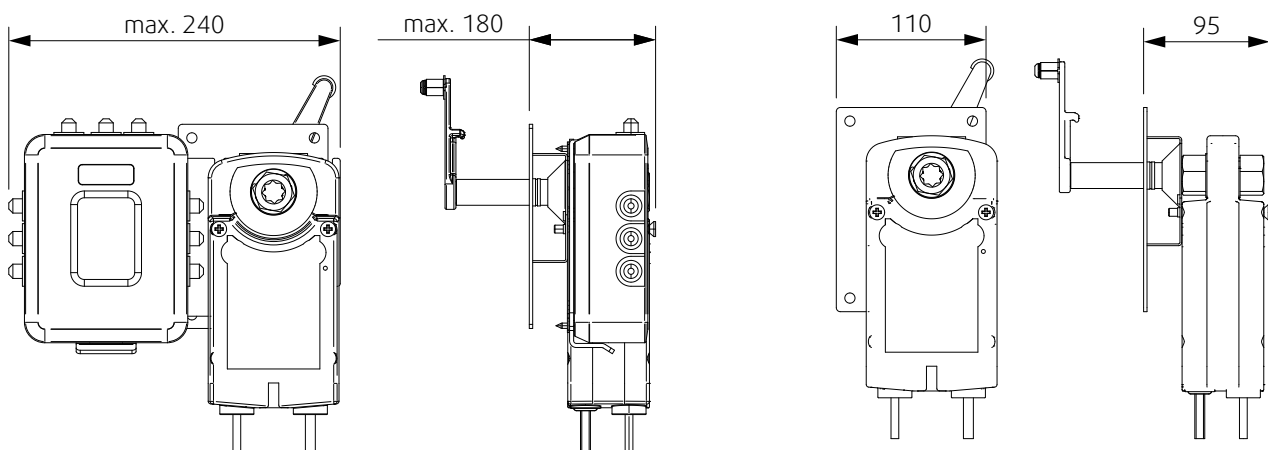


Fig. 6: Dimensions of the Gruner actuator mechanism with (left) and without (right) communication unit

# Ordering Code

Type of activation	ZV, DV1-2 up to DV9-T-ST	AM-PKI-	<input type="checkbox"/>	<input type="checkbox"/>
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-PKI-DV5-2-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 PKIS3G sizes from 100 × 100 up to 800 × 180 mm and PKIR3G sizes from 100 up to 225 mm.



## Check your code

Use AM-PKI Selector in 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.

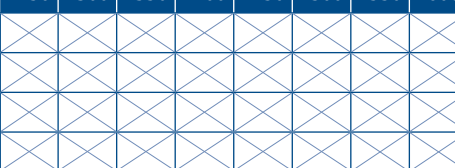
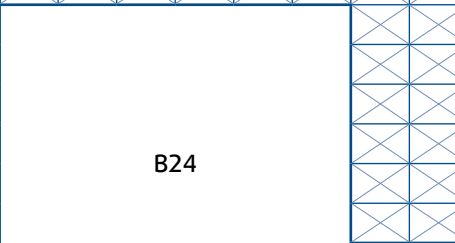


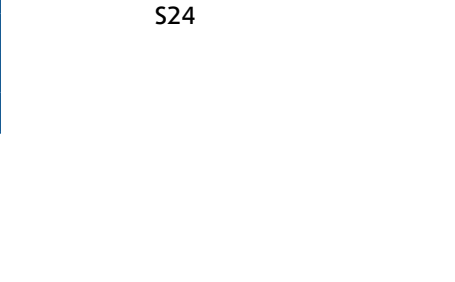
Tab. 2: Compatibility code for the PKIR3G circular fire damper with all activation types

PKIR3G		DN (mm)																							
		100	125	140	150	160	180	200	225	250	280	315	355	400	450	500	560	630	710	800	850	900	950	1000	
Activation Types	ZV DV1-2 DV5-2 DV6-2	S44								S94						B94				J94					
	DV7-T DV9-T	3L1								3L2			3N2						3F4						
	DV7-T-W DV9-T-W DV7-T-ST DV9-T-ST	3S1				3S2				3S3			3SN						3SF						
	G7-T G9-T	3L1								3L2			3N5				3NX		3F4						
	G7-T-W G9-T-W G7-T-ST G9-T-ST	3S1				3S2				3S3			3S5				3SX		3SF						

Tab. 3: (part 1/2) Compatibility code for the PKIS3G rectangular fire damper, manually operated activation mechanisms

PKIS3G		Activation Types ZV; DV1-2; DV5-2; DV6-2																			
		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																				
	315																				
	350																				
	355																				
	400																				
	450																				
	500																				
	550																				
	560																				
	600																				
	630																				
	650																				
	700																				
	710																				
	750																				
	800																				
	850																				
	900																				
	950																				
	1000																				
	Y94		B94																		
S24																					

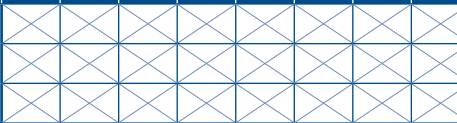


Tab. 3: (part 2/2) Compatibility code for the PKIS3G rectangular fire damper, manually operated activation mechanisms

PKIS3G		Activation Types ZV; DV1-2; DV5-2; DV6-2																																										
		W (mm)																																										
		850	900	950	1000	1050	1100	1120	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600																										
H (mm)	100	Y44																																										
	150																																											
	175																																											
	180																																											
	200																																											
	250																																											
	300																																											
	315										B24																																	
	350																																											
	355																																											
	400																																											
	450																																											
	500																																											
	550																																											
	560																											B94																
	600																																											
	630																																											
	650																																											
	700																																											
	710																																											
	750																																											
	800																																											
	850										S24																																	
	900																																											
	950																																											
	1000																																											

Tab. 4: (part 1/2) Compatibility code for the PKIS3G rectangular fire damper with Belimo actuator operated activation mechanisms

PKIS3G		Activation Types DV7-T; DV9-T																			
		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	3L2																			
	200																				
	250																				
	300																				
	315																				
	350																				
	355																				
	400																				
	450																				
	500																				
	550																				
	560																				
	600																				
	630	3N2																			
	650																				
	700																				
	710																				
	750																				
	800	2N2																			
850																					
900																					
950																					
1000																					
2F4																					

Tab. 4: (part 2/2) Compatibility code for the PKIS3G rectangular fire damper with Belimo actuator operated activation mechanisms

PKIS3G		Activation Types DV7-T; DV9-T																		
		W (mm)																		
		850	900	950	1000	1050	1100	1120	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600		
H (mm)	100	3L1																		
	150																			
	175																			
	180	3L2																		
	200																			
	250																			
	300																			
	315																			
	350																			
	355																			
	400										2N1									
	450																			
	500	3N2									2N2									
	550																			
	560																			
	600																			
	630																			
	650																			
	700																			
	710																			
	750																			
	800																			
	850										2F4									
	900																			
	950																			
	1000																			

Tab. 5: (part 1/2) Compatibility code for the PKIS3G rectangular fire damper with Belimo actuator operated activation mechanisms plus preparation for communication unit or plus the communication unit itself

PKIS3G		Activation Types DV7-T-W; DV9-T-W; DV7-T-ST; DV9-T-ST																		
		W (mm)																		
		100	150	200	250	300	315	350	355	400	450	500	550	560	600	630	650	700	710	750
H (mm)	100	3S1																		
	150																			
	175																			
	180																			
	200	3S2																		
	250																			
	300																			
	315																			
	350																			
	355																			
	400																			
	450		3S3																	
	500																			
	550																			
	560																			
	600																			
	630																			
	650																			
	700		3SN																	
	710																			
750																				
800																				
850																				
900		2S3																		
950		2SF																		
1000																				



Tab. 5: (part 2/2) Compatibility code for the PKIS3G rectangular fire damper with Belimo actuator operated activation mechanisms plus preparation for communication unit or plus the communication unit itself

PKIS3G		Activation Types DV7-T-W; DV9-T-W; DV7-T-ST; DV9-T-ST																									
		W (mm)																									
		850	900	950	1000	1050	1100	1120	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600									
H (mm)	100	3S1																									
	150																										
	175	3S2																									
	180																										
	200										2SL																
	250																										
	300																										
	315																										
	350	3S3									2S2																
	355																										
	400																										
	450	3SN									2S3																
	500																										
	550																										
	560										2SF																
	600																										
	630																										
	650																										
	700																										
	710																										
	750																										
	800																										
	850																										
	900																										
	950																										
	1000																										

Tab. 6: (part 1/2) Compatibility code for the PKIS3G rectangular fire damper with Gruner actuator operated activation mechanisms

PKIS3G		Activation Types G7-T; G9-T																			
		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	3L2																			
	200																				
	250																				
	300																				
	315																				
	350																				
	355																				
	400																				
	450																				
	500																				
	550																				
	560																				
	600																				
	630																				
	650																				
	700																				
	710																				
750																					
800	3NX																				
850																					
900	2N5																				
950																					
1000	2FX																				
	3N5																				
	3L2																				
	3L1																				

Tab. 6: (part 2/2) Compatibility code for the PKIS3G rectangular fire damper with Gruner actuator operated activation mechanisms

PKIS3G		Activation Types G7-T; G9-T																																					
		W (mm)																																					
		850	900	950	1000	1050	1100	1120	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600																					
H (mm)	100	3L1																																					
	150																																						
	175																																						
	180	3L2																																					
	200										2L1																												
	250																																						
	300																																						
	315																																						
	350																																						
	355										2N1																												
	400 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>																																						
	450	3N5									2N5																												
	500																																						
	550																																						
	560										3NX							2FX																					
	600																																						
	630																																						
	650																																						
	700																																						
	710																																						
	750																																						
	800																																						
	850																																						
	900																																						
	950																																						
	1000																																						

Tab. 7: (part 1/2) Compatibility code for the PKIS3G rectangular fire damper with Gruner actuator operated activation mechanisms plus preparation for communication unit or plus the communication unit itself

PKIS3G		Activation Types G7-T-W; G9-T-W; G7-T-ST; G9-T-ST																			
		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	3S1																			
	150																				
	175	3S2																			
	180																				
	200																				
	250																				
	300																				
	315	3S3																			
	350																				
	355																				
	400																				
	450																				
	500	3S5																			
	550																				
	560																				
	600																				
	630																				
	650	3SX																			
	700																				
	710																				
	750																				
	800																				
	850	2S5										2SX									
	900																				
	950																				
	1000																				

Tab. 7: (part 2/2) Compatibility code for the PKIS3G rectangular fire damper with Gruner actuator operated activation mechanisms plus preparation for communication unit or plus the communication unit itself

PKIS3G		Activation Types G7-T-W; G9-T-W; G7-T-ST; G9-T-ST																											
		W (mm)																											
		850	900	950	1000	1050	1100	1120	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600											
H (mm)	100	3S1																											
	150																												
	175	3S2																											
	180																												
	200										2SL																		
	250																												
	300																												
	315																												
	350	3S3																											
	355																												
	400										2S2																		
	450	3S5									2S5																		
	500																												
	550																												
	560																												
	600										2SX																		
	630																												
	650																												
	700																												
	710																												
	750	3SX																											
	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: 72 °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 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 DV1-2 up to DV6-2
	Actuator operated built-in microswitches - version DV7-T/G7-T up to DV9-T-ST/G9-T-ST
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



# Installation, Maintenance & Operation

Information about installation, maintenance and operation is available in the “UserManual\_AM-PKI” document or follow the instruction for PKI fire dampers on Systemair DESIGN.



UserManual\_AM-PKI



Systemair DESIGN

## Transport & Storage

Dry indoor conditions with a temperature range of -40 °C to +40 °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 fire safety products is available at [www.systemair.com/FSPoverview](http://www.systemair.com/FSPoverview)

Current information on all products is available at [www.systemair.com](http://www.systemair.com)

## Related Products

**PKIR3G, PKIS3G, PKIS3GA, PKIS-EI90S and PKIS-EI120S**

Fire Dampers

Product information is available within the "DataSheet\_PKIR\_PKIS" technical documentation and at Systemair DESIGN.

