

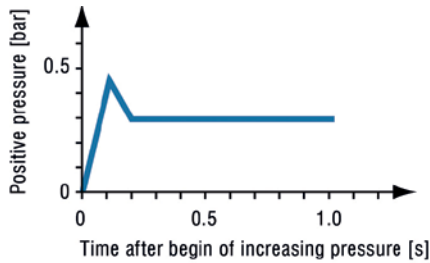
Pressure Surge Damper, Type RK-F10



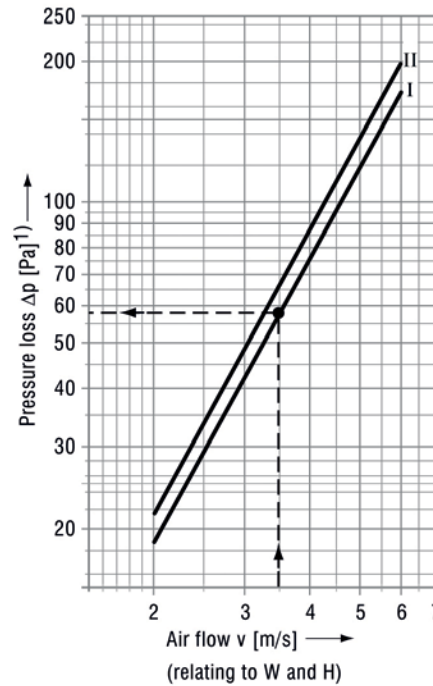
Pressure Surge Damper, Type RK-F10

Preliminary notes

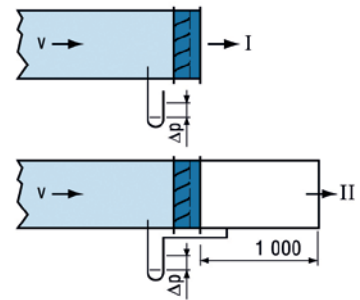
Pressure surge dampers shall protect rooms, facilities and ductwork against pressure blasts. Such pressure waves could be produced by chemical reactions, gas-explosions or mechanical damages at pressure vessels. They can reach in about 100 milliseconds a positive pressure of approx. 0.45 bar and their duration will take about 1 s. (see graphic).



Air flow and pressure loss



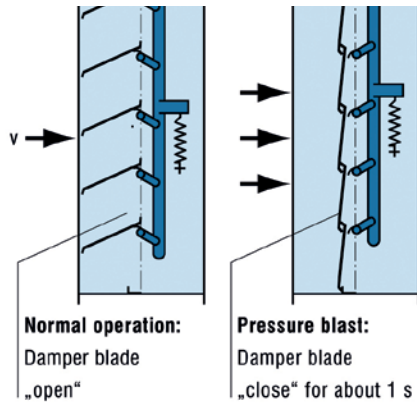
Installation situation



Example:

- Damper W x H = 800 x 1 000 mm
- Air flow v = 3.5 m/s related to W and H
- Built in situation = I (free blow out)
- Pressure loss Δp = 58 Pa

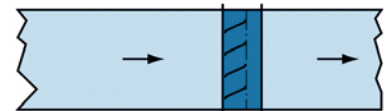
1) The values shown in the diagram do not cover the dynamics shock loss (escape loss) at the end of the system.



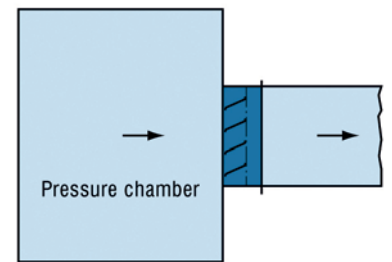
Application

In case of a requirement that single duct legs or wall openings has to be open in normal operation and to be closed in a pressure wave resp. a pressure increasing situation, Krantz recommend to use of their pressure surge damper, type RK-F10.

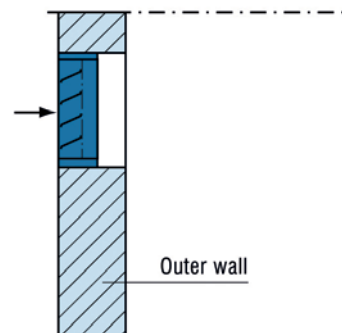
According to the closing pressure an initial tension will be adjusted at an installed spring system. This initial tension ensures an open position of the damper regarding wind blasts and variation of pressure inside the duct system. In open position and case of installation outside of outer walls the damper also fulfils the functions of a rain protection grille.



In the duct



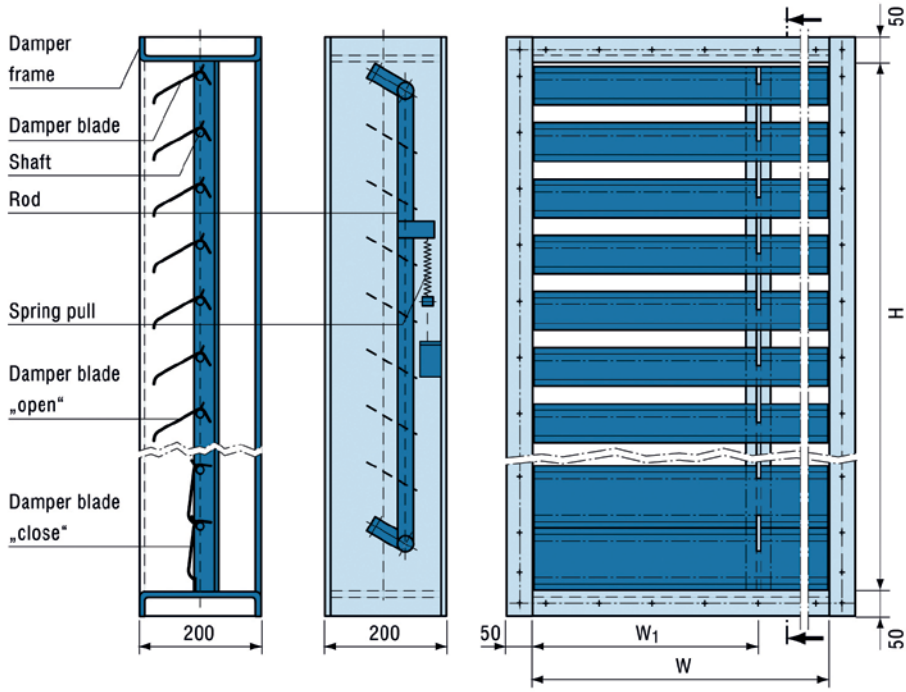
At beginning of duct (between pressure chamber and duct)



In outer wall as a rain protection grille



Dimensions and weights



		Dimensions																	
Nominal width	W	200	224	250	280	315	355	400	450	500	560	630	710	800	900	1 000	1 120	1 250	
Nominal height	H	-	-	-	-	-	-	-	-	500	560	630	710	800	900	1 000	1 120	1 250	
	W ₁	-	-	-	-	-	-	-	-	-	-	315	355	400	450	500	560	625	
	No. of damper blades										5	6	7	8	9	9	11	13	13

All combinations of W and H dimensions are possible. All dimensions in mm. The companion flanges are not drilled on delivery

Text for tender**Pressure Surge Damper,
Type RK-F10**

For protection of rooms, equipments and air ducts against shock waves.

The pressure wave can reach in about 100 milliseconds a positive pressure of approx. 0.45 bar and their duration will take about 1 s.

Pressure surge damper of sturdy design, dimensioned for shock waves up to 0.5 bar. The function remains unreduced after a shock wave.

Function

The requested closing pressure can be set at a spring pull. The initial tension of the spring pull is to be selected thus that the blades are always open during normal operation as well as in case of high wind pressures or duct pressure fluctuations.

During normal operation the pressure surge damper is open. In open condition the pressure surge damper corresponds with regard to appearance and functioning to a weather and rain protection equipment.

In the event of a shock wave the pressure surge damper closes suddenly. At pressure drop the blades automatically jump back into the position „open“.

The pressure surge damper requires no accessory energy.

Design:

- Damper housing with connection frame on both sides
- Built-in inclined blades with axis and bearings
- Damper rods on both sides with spring tensioning appliance
- Housing, blades and damper rods made of special steel 1.4571

Technical data

Fabrikate:	Krantz
Type:	RK-F10
Pressure blast:	0.45 bar
Admissible working temperature:	100 °C
Dimensions W/H:	see table

Contacts

Caverion Deutschland GmbH
Riesstraße 25
80992 München, Germany
Phone: +49 89 374288-500
Fax: +49 89 374288-520

Krantz Filter Systems and Dampers
Uersfeld 24
52072 Aachen, Germany
Phone: +49 241 434-1
Fax: +49 241 434-500

Production workshop
Mallersdorf
Schillerstraße 16
84066 Mallersdorf-Pfaffenberg, Germany

Claus Schweinheim
Division Manager
Krantz Filter Systems and Dampers
Phone: +49 241 434-501
Fax: +49 241 434-500
Mobile: +49 173 3888718
email: claus.schweinheim@krantz.de

Reinhold Goettgens
Sales Manager
Phone: +49 241 434-269
Fax: +49 241 434-500
Mobile: +49 174 1658185
email: reinhold.goettgens@krantz.de