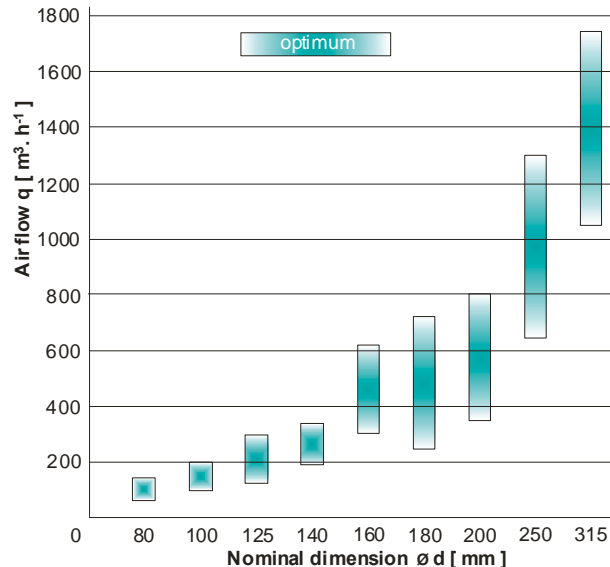


COMMERCIAL PART

RPK, RPK-I



Quick selection



Description

RPK is a constant air flow regulator which is used for exact mechanical setting of required air volume in ventilation systems without need of any other energy.

RPK is characterized by:

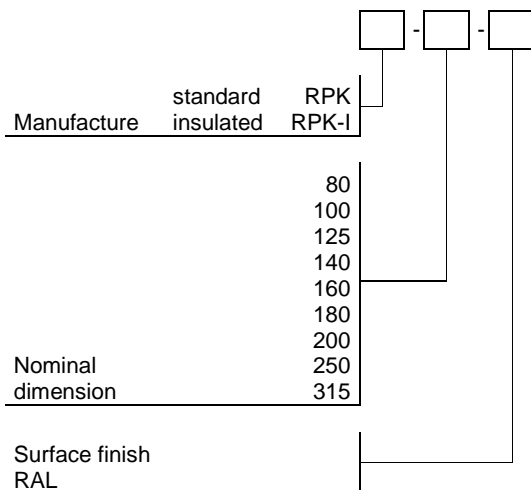
- regulation accuracy
- easy mounting
- maintenance-free
- tight connection with the duct

Design

In standard manufacture is the regulator RPK made of zinc-plated steel sheets. Also all the other metal parts of the mechanisms are protected with zinc-plating. Special spring which is used in the regulator is made of high quality spring steel and is zinc-plated. Special sliding bearings suitable for high temperature ranges do not require lubrication. Upon customers' wish can be regulator RPK casing furnished on the outside surface with powder color with any RAL color shade. Product delivery in „stainless steel“ version is not possible. Adjusting box is made of ABS plastic, functional parts inside the box are made of PA plastic.

Regulator casing RPK - I is filled in with heat and sound protection insulation with thickness of 50 mm. It is recommended to mount it into insulated duct distribution together with sound attenuators. From the design point of view every regulator sealing consists of its own regulator body that is furnished with sealing on every end.

Ordering



COMMERCIAL PART

**Function**

Constant air flow regulators RPK enable regulation of individually required amounts of air in separate ventilation system branches. Regulator is solved in a way that it could work in environment without direct influence of weather and temperatures from -20°C to 80°C and relative humidity up to 80%. Recommended air flow velocity is from 3 to 8 m . s<sup>-1</sup> at pressure difference to Δp 500 Pa. Accuracy of constant air flow volume is in average ± 5 % (± 10 % for outer settings) of set value. Adjusting of required constant amount is done by the user by turning of working screw on the right side of the cover and by moving the indicator cursor opposite to the sign on the scale. Regulators are delivered in two manufactures: with casing without insulation and with insulated casing. Rubber sealings at the ends of RPK are used for tight connection with the duct. Inside is the regulator setting of constant outgoing amount of air provided by changing the blade angle which is changed as a consequence of effect of supplied air to the blade linked through the arm with spring and vibration attenuator.

**Storage conditions**

It is recommended to store the products in closed and dry places in temperature range from - 20°C to + 60°C.

**Warranty**

The producer grants the product guarantee of 24 months from the shipment date.

**Nominal dimensions**

Size [mm]	v [m/s]	q [m <sup>3</sup> . h <sup>-1</sup> ]	ød1 [mm]	ød2 [mm]	L [mm]	L1 [mm]	L2 [mm]	L3 [mm]	M [kg]	m(i) [kg]
80	4,3-8,4	75-140	78	170	350	260	76	123	0,8	1,7
100	3,7-7,5	100-200	97	190	350	260	86	136	1	2,1
125	3,2-7,1	125-300	122	215	360	270	100	148	1,2	2,4
140	3,6-6,4	190-340	137	230	370	280	107	156	1,4	2,8
160	4,3-8,9	300-620	157	250	380	290	117	166	1,6	3,2
180	2,8-8,1	250-720	177	270	390	300	128	176	1,9	3,6
200	3,2-7,3	350-800	197	290	400	310	138	186	2,1	4
250	3,8-7,5	650-1300	247	340	425	335	164	208	3,3	5,8
315	3,1-6,4	850-1750	312	405	500	410	196	243	5	8,3

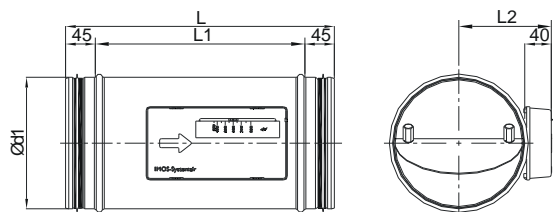


Fig. 1 RPK main dimensions

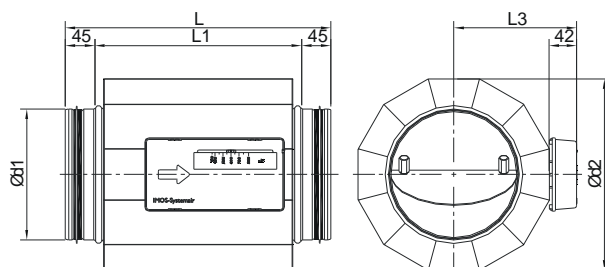


Fig. 2 RPK-I main dimensions

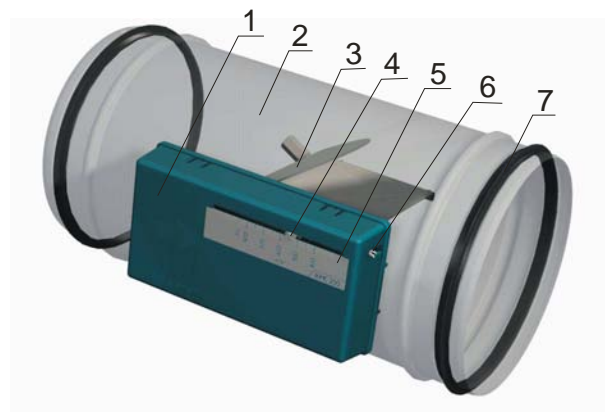


Fig. 3 RPK description

1. Adjusting box
2. Casing
3. Regulation blade
4. Indicator of adjusted air flow
5. Scale
6. Adjusting screw
7. Sealing

TECHNICAL PART

Mounting and maintenance

Mounting of the regulator into the duct is done with methods common for mounting of ventilation elements. Before mounting we check the end of the duct where we slip on the end of the regulator. During the mounting must not a deformation of regulator's casing happen because it could block the function of regulator blade and breaking its function. Regulator can be mounted to horizontal, diagonal or vertical duct in a way that the rotation axis of the blade was always horizontal (see fig.4). It is necessary to pay attention to correct direction of mounting so that the air was entering the regulator according to the arrow direction, which is located on regulator casing and states the direction of the air flow. Connecting the duct and the regulator is done according to its size with grub screws  $\varnothing 3,2 \times 13$  to  $\varnothing 3,9 \times 16$  or with rivets of the same diameters and the connection is sealed with sealing tape. After mounting is the required amount of air flow adjusted by turning the working screw (see fig. 4). Working screw has a cut for spanner and sticks out on the right side of the cover. Adjustment of the required constant amount is done by turning of working screw to the right is the adjusted value increasing and by turning it to the left decreasing. It is needed to mount the regulator in a way that the access to the adjusting working screw was enabled. It is also necessary to pay attention to the bearing which gets out of the regulator 's casing was not blocked by other constructions. For failure- free function of the regulator it is needed that the duct itself and the flexible ducts connected to it were suspended steadily. Supply part of the duct must be free of impurities. During the period of service of the regulator it is not necessary to do any maintenance. From that reason is the access to regulator's mechanisms indefinitely closed. Required length of direct duct before regulator is  $L \geq 3d$ . At  $L < 3d$  is the error of adjusted values in average  $\pm 10\%$  so such a mounting is not recommended.

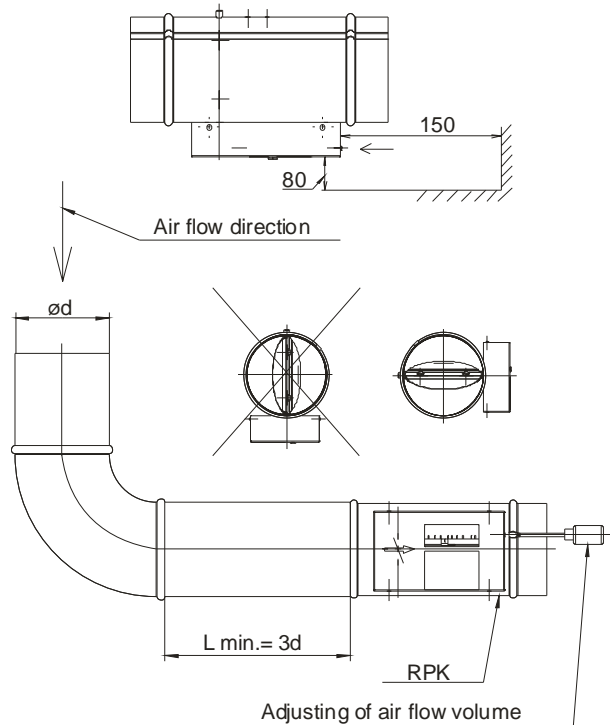
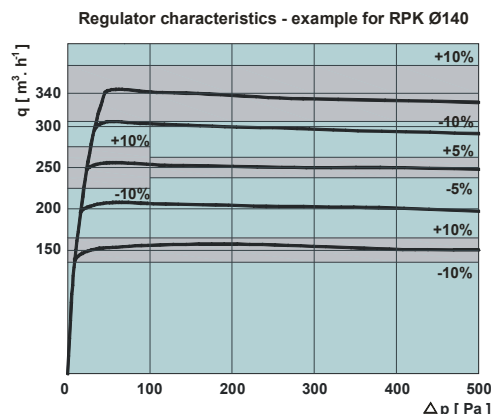
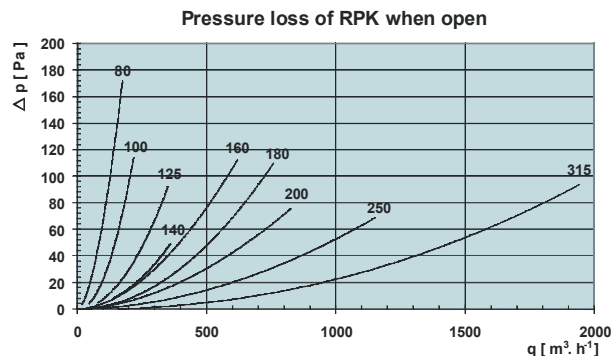


Fig. 4 Way of mounting RPK and RPK - I



Nominal dimension	q	q	±q	P <sub>min</sub> Pa
	m <sup>3</sup> ·h <sup>-1</sup>	l.s <sup>-1</sup>	%	
80	75	20,8	15	100
	100	27,8	15	100
	120	33,3	10	100
	140	38,9	10	100
100	100	27,8	11	50
	150	41,7	8	50
	175	48,6	5	80
	200	55,6	5	100
125	125	34,7	11	50
	200	55,6	8	50
	250	69,4	5	80
	300	83,3	5	100
140	190	52,8	10	50
	250	69,4	7	50
	300	83,3	6	80
	340	94,4	5	100
160	300	83,3	10	50
	400	111,1	6	50
	500	138,9	5	80
	620	172,2	5	100
180	250	69,4	10	50
	400	111,1	6	50
	600	166,7	5	80
	720	200,0	5	100
200	350	97,2	10	50
	500	138,9	5	50
	700	194,4	5	60
	800	222,2	5	90
250	650	180,6	6	50
	900	250,0	5	50
	1100	305,6	2	60
	1300	361,1	2	90
315	850	236,1	10	50
	1200	333,3	5	50
	1500	416,7	2	60
	1750	486,1	2	90

Tab. 1 Table of inaccuracy