

RVP-P-EX

VAV RECTANGULAR VARIABLE FLOW REGULATOR IN THE EXPLOSION-PROOF VERSION



Specification:

VAV variable flow regulator with a rectangular section, operating from the flow rate of 2 m/s, equipped with an actuator and a measuring orifice. With flow control for EX explosion hazard zones.

Table 1. Key parameters

Key parameters	
Function	VAV
Operating range	2-10 m/s
Material	Zinc-plated steel or stainless steel 1.4301, aluminium
Operating pressure range	50(60)-1000Pa
Air leakage class	B2 / A2
Control accuracy	10%
Operating temperatures range	0-50°C
ATEX	II 2G Ex h IIC T6,T5 Gb II 2D Ex h IIC T80°C...T100°C Db



The flow parameters are set by the manufacturer and they must not be modified by unauthorised personnel.

Intended use

Air flow regulators are used for the automatic control of a stream flowing through the ventilation air ducts in the air supply and in the exhaust part of the installation. RVP-P-Ex devices ensure high safety level and they are intended for locations with likely explosive atmospheres caused by gases, vapours, mists or air-dust mixtures. RVP-P-Ex regulators are designed in accordance with ATEX 2014/34/EU as devices from group II category 2 intended for use in explosion hazard zones 1, 2, 21 and 22. The manufacturer's ATEX Certificate is available for electric components. This regulator, according to PN-EN1751 has the air leakage B2 (for $A \leq 250$ mm and $B \leq 200$ mm) or A2 (for $A > 250$ mm or $B > 200$ mm).

ATEX characteristic:  II 2G Ex h IIC T6,T5 Gb
 II 2D Ex h IIC T80°C...T100°C Db

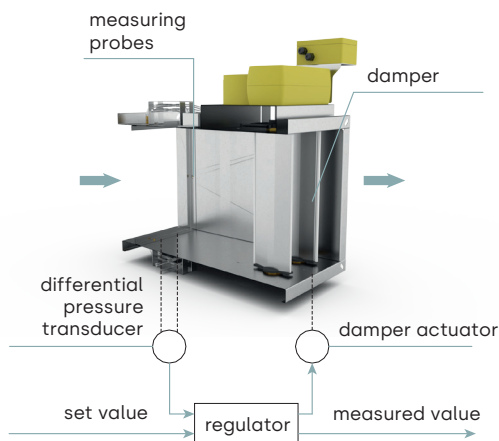


Figure 1. Diagram of the regulator operation

Dimensions

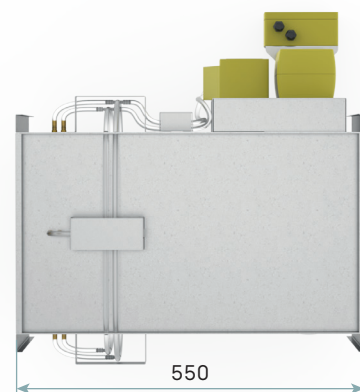
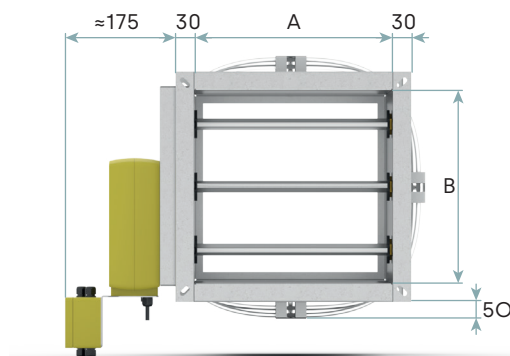


Figure 2. VAV flow regulator type: RVP-P-Ex

The minimum free space for dismounting the actuator is 100 mm, recommended distance is 300 mm, $O = 30$ mm.



Typical dimensions and application scope

Table 2. The characteristic data of RVP-P-Ex regulator

The application scope and dimensions of RVP-P-Ex regulator, V [m³/h]									
Lc [mm]	B [mm]	A [mm]							
		200	250	315	400	500	630	800	1000
550	100	144-720	180-900	227-1134	288-1440	360-1800	x	x	x
	200	288-1440	360-1800	454-2268	576-2880	720-3600	907-4536	x	x
	300	432-2160	540-2700	680-3402	864-4320	1080-5400	1361-6804	1728-8640	2160-10800
	400	576-2880	720-3600	907-4536	1152-5760	1440-7200	1814-9072	2304-11520	2880-14400
	500	720-3600	900-4500	1134-5670	1440-7200	1800-9000	2268-11340	2880-14400	3600-18000

Legend

5Nm

10Nm



It is possible to make a regulator on request which will have non-standard width (every 50mm).



An actuator with proper torque is selected in the manufacturing plant based on the required RVP-P-Ex regulator size.

Mounting recommendations

In order to ensure the correct device operation, it is recommended to abide by the following rules when mounting the regulators:

- 1) The regulator should not be mounted directly behind the elbows, behind the T-connectors branches, behind diffusers or Venturi tubes with the peak angle exceeding 15°.
- 2) The minimum distances should be as follows: 2X longer side than arches, elbows and T-connectors in front of the regulator, 1x longer side behind the regulator.
- 3) If a static sensor of differential pressure is used, the only installation is allowed in which the plain to which the sensor is fastened is located vertically.

Pressure drop

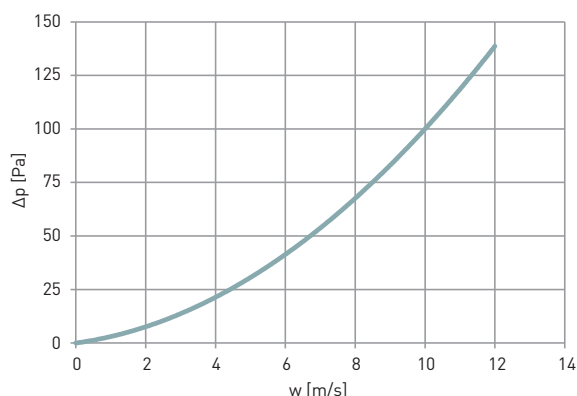


Chart 1. Pressure drop in RVP-P-Ex regulator (full damper opening).

Sound power level

Table 3. Sound power level L_w [dB] and sound pressure level L_{pa} [dB(A)] emitted by RVP-P-EX regulator

RVP-P-EX				dP=100Pa										dP=300Pa										dP=500Pa									
				Noise of the air flowing to the duct										through the housing	Noise of the air flowing to the duct								through the housing	Noise of the air flowing to the duct								through the housing	
Ax8 [mm]	Flow v [m/s]	Rate V [m³/h] V [l/s]		in frequency bands, L _w [dB]								TOATL L _{pa} [dB(A)]	without insulation L _{pa} [dB(A)]		in frequency bands, L _w [dB]									TOATL L _{pa} [dB(A)]	without insulation L _{pa} [dB(A)]	in frequency bands, L _w [dB]							
				63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz			63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	63Hz	125Hz			250Hz	500Hz	1kHz	2kHz	4kHz	8kHz		
200 x 100	4	302	84	54	53	52	49	49	46	43	37	45	36	60	60	62	60	59	59	57	54	57	47	63	64	67	65	64	64	61	63	53	
	6	454	126	59	57	55	52	52	49	46	40	48	37	66	68	68	64	62	60	59	56	60	49	69	72	74	69	67	66	65	63	66	55
	8	605	168	62	61	58	54	54	51	48	41	51	38	70	73	71	66	64	62	60	57	62	51	73	79	77	70	68	67	66	65	67	56
	10	756	210	65	63	60	56	55	52	49	43	52	39	73	77	72	67	65	63	61	58	63	52	77	83	78	70	67	67	66	66	68	58
250 x 100	4	378	105	54	53	52	50	49	47	43	38	46	36	60	61	62	60	60	59	57	54	58	48	63	65	67	65	65	64	64	62	63	53
	6	567	158	59	58	56	52	52	49	46	40	49	38	66	68	68	64	62	61	59	56	60	50	70	73	74	69	67	66	65	63	66	55
	8	756	210	63	61	58	54	54	51	48	42	51	39	70	73	72	67	64	62	60	58	62	51	74	79	77	70	68	67	66	65	67	57
	10	945	263	65	64	60	56	56	53	50	43	53	40	74	77	73	67	65	63	61	59	64	52	78	84	78	70	67	67	67	66	68	59
315 x 100	4	476	132	54	54	53	50	50	47	44	38	46	37	61	62	63	61	60	59	58	54	58	48	64	65	68	65	65	65	64	62	63	54
	6	714	198	59	58	56	53	53	50	47	41	49	38	67	69	68	64	63	61	59	56	61	50	70	74	74	69	67	66	65	64	66	56
	8	953	265	63	61	58	55	55	52	49	43	51	39	71	74	72	67	65	62	61	58	63	52	75	79	77	70	68	67	66	65	67	58
	10	1191	331	66	64	60	56	57	53	50	44	53	40	74	77	73	67	65	63	62	59	64	53	78	84	78	71	67	68	67	66	68	60
400 x 100	4	605	168	55	54	53	51	50	48	44	39	47	37	62	62	63	61	60	60	58	55	58	49	65	66	68	66	65	65	64	62	64	54
	6	907	252	60	59	56	53	53	50	47	41	50	39	68	69	69	65	63	61	60	57	61	51	71	74	74	69	67	66	66	64	66	56
	8	1210	336	63	62	58	55	55	52	49	43	52	40	72	74	72	67	65	62	61	58	63	52	76	80	77	70	67	67	67	65	67	58
	10	1512	420	66	64	60	57	57	54	51	45	54	40	75	78	73	67	66	63	62	59	64	54	79	84	78	71	67	68	67	66	68	61
500 x 100	4	756	210	55	55	54	51	51	48	45	39	47	38	62	63	64	61	61	60	58	55	59	49	66	67	69	66	66	65	65	63	64	55
	6	1134	315	60	59	57	54	54	51	48	42	50	39	68	70	69	65	63	62	60	57	61	51	72	75	74	69	67	67	66	64	66	57
	8	1512	420	64	62	59	56	56	53	50	44	52	40	73	74	72	67	65	63	61	58	63	53	77	80	77	70	68	67	67	65	68	59
	10	1890	525	67	64	60	57	58	54	51	45	54	41	76	78	73	67	66	64	62	59	64	55	80	84	79	71	68	68	68	66	69	61
200 x 200	4	590	164	55	54	53	51	50	48	44	39	47	37	62	62	63	61	60	60	58	55	58	49	65	66	68	66	65	65	64	62	64	54
	6	886	246	60	59	56	53	53	50	47	41	50	39	68	69	69	65	63	61	60	57	61	51	71	74	74	69	67	66	66	64	66	56
	8	1181	328	63	62	58	55	55	52	49	43	52	40	72	74	72	67	65	62	61	58	63	52	76	80	77	70	68	67	67	65	67	58
	10	1476	410	66	64	60	57	57	54	51	45	53	40	75	78	73	67	66	63	62	59	64	54	79	84	78	71	67	68	67	66	68	60
250 x 200	4	738	205	55	55	54	51	51	48	45	39	47	38	62	63	64	61	61	60	58	55	59	49	66	67	69	66	66	65	65	63	64	55
	6	1107	308	60	59	56	54	54	51	48	42	50	39	68	70	69	65	63	62	60	57	61	51	72	75	74	69	67	67	66	64	66	57
	8	1476	410	64	62	59	56	56	53	50	44	52	40	72	74	72	67	65	63	61	58	63	53	76	80	77	70	68	67	67	65	68	59
	10	1845	513	67	64	60	57	58	54	51	45	54	41	76	78	73	67	66	64	62	59	64	54	80	84	78	71	67	68	67	66	69	61
315 x 200	4	930	258	56	55	54	52	51	49	45	40	48	38	63	64	64	62	61	60	59	56	59	50	66	68	69	66	66	66	65	63	64	55
	6	1395	387	61	59	57	54	54	51	48	43	51	39	69	70	69	65	63	62	60	57	61	52	73	75	75	69	68	67	66	64	66	58
	8	1860	517	64	62	59	56	57	53	50	44	53	41	73	75	72	67	65	63	62	59	63	54	77	80	77	70	68	68	67	65	68	60
	10	2325	646	67	64	60	57	58	55	52	46	54	41	76	78	73	68	66	64	63	60	64	55	81	84	79	71	68	68	68	66	69	62
400 x 200	4	1181	328	56	56	55	52	52	49	46	40	48	39	64	64	65	62	62	61	59	56	59	50	67	68	70	66	66	66	65	63	65	56
	6	1771	492	61	60	57	55	55	52	49	43	51	40	70	71	69	65	64	62	61	58	62	52	74	76	75	69	68	67	66	64	67	58
	8	2362	656	65	62	59	56	57	54	51	45	53	41	74	75	72	67	65	63	62	59	63	54	78	81	77	71	68	68	67	65	68	61
	10	2952	820	67	65	60	58	59	55	52	47	55	42	77	78	73	68	66	64	63	60	65	56	82	85	79	72	68	68	68	66	69	63
500 x 200	4	1476	410	57	56	55	53	52	50	46	41	49	39	64	65	65	62	62	61	59	56	60	51	68	69	70	67	67	66	65	64	65	56
	6	2214	615	62	60	57	55	55	52	49	44	52	40	70	71	69	65	64	63	61	58	62	53	74	76	75	70	68	67	67	65	67	59
	8	2952	820	65	63	59	57	58	54	51	46	54	41	74	75	72	67	65	64	62	59	63	55	79	81	78	71	68	68	68	66	68	62
	10	3690	1025	68	65	60	58	59	56	53	47	55	42	78	79	73	68	66	64	63	60	65	57	82	85	79	72	68	68	68	66	69	64
630 x 200	4	1860	517	57	57	55	53	53	50	47	41	49	40	65	66	66	63	62	62	59	57	60	51	69	70	71	67	67	67	65	64	65	57
	6	2790	775	62	61	58	55	56	53	50	44	52	41	71	72	69	65	64	63	61	58	62	54	75	77	75	70	68	68	67	65	67	60
	8	3720	1033	65	63	59	57</																										

RVP-P-EX				dP=100Pa										dP=300Pa										dP=500Pa									
				Noise of the air flowing to the duct								through the housing	Noise of the air flowing to the duct								through the housing	Noise of the air flowing to the duct								through the housing			
Ax8 [mm]	Flow	Rate		in frequency bands, L _w [dB]								TOATL	without insulation	in frequency bands, L _w [dB]								TOATL	without insulation	in frequency bands, L _w [dB]								TOATL	without insulation
	v [m/s]	V [m³/h]	V [l/s]	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	L _{pA} [dB(A)]	L _{pA} [dB(A)]	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	L _{pA} [dB(A)]	L _{pA} [dB(A)]	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	L _{pA} [dB(A)]	L _{pA} [dB(A)]
250 x 300	4	1098	305	56	56	54	52	52	49	45	40	48	38	64	64	65	62	61	61	59	56	59	50	67	68	69	66	66	66	65	63	65	56
	6	1647	458	61	60	57	54	55	52	48	43	51	40	69	70	69	65	63	62	61	58	62	52	73	75	75	69	68	67	66	64	67	58
	8	2196	610	64	62	59	56	57	54	51	45	53	41	74	75	72	67	65	63	62	59	63	54	78	81	77	71	68	68	67	65	68	61
	10	2745	763	67	65	60	58	59	55	52	46	55	42	77	78	73	68	66	64	63	60	64	56	81	85	79	72	68	68	68	66	69	63
315 x 300	4	1383	384	57	56	55	52	52	50	46	41	49	39	64	65	65	62	62	61	59	56	60	51	68	69	70	67	66	66	65	63	65	56
	6	2075	576	62	60	57	55	55	52	49	44	52	40	70	71	69	65	64	63	61	58	62	53	74	76	75	70	68	67	67	65	67	59
	8	2767	769	65	63	59	57	58	54	51	45	54	41	74	75	72	67	65	64	62	59	63	55	79	81	78	71	68	68	67	65	68	61
	10	3459	961	68	65	60	58	59	56	53	47	55	42	77	78	74	68	66	64	63	60	65	56	82	85	80	72	68	68	68	66	69	64
400 x 300	4	1757	488	57	57	55	53	53	50	46	41	49	39	65	66	66	62	62	61	59	57	60	51	69	70	70	67	67	67	65	64	65	57
	6	2635	732	62	60	58	55	56	53	49	44	52	41	71	71	69	65	64	63	61	58	62	53	75	77	75	70	68	68	67	65	67	60
	8	3514	976	65	63	59	57	58	55	52	46	54	42	75	76	72	67	65	64	63	59	64	55	79	81	78	71	68	68	68	66	68	62
	10	4392	1220	68	65	60	58	60	56	53	48	56	43	78	79	74	68	66	65	64	60	65	57	83	85	80	72	68	69	69	66	70	65
500 x 300	4	2196	610	58	57	56	53	53	51	47	42	50	40	66	66	66	63	63	62	60	57	60	52	69	71	71	67	67	67	66	64	65	57
	6	3294	915	62	61	58	56	56	53	50	45	53	41	71	72	69	65	64	63	62	59	62	54	76	77	75	70	68	68	67	65	67	60
	8	4392	1220	66	63	59	57	59	55	52	47	55	42	76	76	72	67	65	64	63	60	64	56	80	82	78	71	68	68	68	66	69	63
	10	5490	1525	68	65	60	59	60	57	54	48	56	43	79	79	74	68	66	65	64	61	65	58	84	85	80	73	69	69	69	66	70	66
630 x 300	4	2657	738	58	58	56	54	54	51	47	42	50	40	66	67	67	63	63	62	60	57	61	52	70	71	71	67	67	67	66	64	66	58
	6	3985	1107	63	61	58	56	57	54	50	45	53	42	72	72	70	65	64	64	62	59	63	55	76	78	75	70	68	68	67	65	67	61
	8	5314	1476	66	64	59	58	59	56	53	47	55	43	76	76	72	67	65	64	63	60	64	57	81	82	78	72	69	69	68	66	69	64
	10	6642	1845	69	65	61	59	61	57	54	49	57	44	79	79	74	68	66	65	64	61	65	59	84	86	81	73	69	69	69	66	70	67
800 x 300	4	3514	976	59	59	57	54	54	52	48	43	51	41	67	68	67	64	63	63	60	58	61	53	71	72	72	68	68	68	66	65	66	59
	6	5270	1464	63	62	58	57	58	54	51	46	54	42	73	73	70	65	65	64	62	59	63	55	77	78	75	70	68	68	67	65	67	62
	8	7027	1952	67	64	60	58	60	56	53	48	56	43	77	77	72	67	65	65	64	60	64	58	82	82	78	72	69	69	68	66	69	65
	10	8784	2440	69	66	61	59	62	58	55	50	57	44	80	79	75	69	66	65	65	61	66	60	85	86	81	74	69	69	69	66	71	68
1000 x 300	4	4392	1220	59	59	57	55	55	52	48	43	51	41	68	69	68	64	64	63	60	58	62	54	72	73	72	68	68	68	66	65	66	59
	6	6588	1830	64	62	59	57	58	55	51	46	54	43	73	73	70	65	65	64	63	60	63	56	78	79	75	70	68	69	68	66	68	62
	8	8784	2440	67	64	60	58	60	57	54	49	56	44	78	77	72	67	65	65	64	61	64	58	83	83	78	72	68	69	69	66	69	66
	10	10980	3050	69	66	61	60	62	58	55	50	58	45	81	80	75	69	66	66	65	61	66	60	86	86	81	74	70	69	70	66	71	69
200 x 400	4	1166	324	56	56	55	52	52	49	46	40	48	39	64	64	65	62	62	61	59	56	59	50	67	68	70	66	66	66	65	63	65	56
	6	1750	486	61	60	57	55	55	52	49	43	51	40	70	71	69	65	64	62	61	58	62	52	74	76	75	69	68	67	66	64	67	58
	8	2333	648	65	62	59	56	57	54	51	45	53	41	74	75	72	67	65	63	62	59	63	54	78	81	77	71	68	68	67	65	68	61
	10	2916	810	67	65	60	58	59	55	52	47	55	42	77	78	73	68	66	64	63	60	65	56	81	85	79	71	68	68	68	66	69	63
250 x 400	4	1458	405	57	56	55	52	38	32	28	27	44	39	64	65	65	62	50	46	43	37	54	51	68	69	70	67	56	52	50	41	59	56
	6	2187	608	62	60	57	55	40	33	30	28	46	40	70	71	69	65	51	46	44	37	57	53	74	76	75	70	56	52	51	41	62	59
	8	2916	810	65	63	59	57	41	33	30	28	48	41	74	75	72	67	51	46	44	37	59	55	79	81	78	71	56	51	51	41	65	62
	10	3645	1013	68	65	60	58	41	34	30	28	49	42	78	79	74	68	51	46	45	37	61	57	82	85	80	72	56	51	52	41	67	64
315 x 400	4	1837	510	57	57	55	53	53	50	47	41	49	39	65	66	66	63	62	62	59	57	60	51	69	70	71	67	67	67	65	64	65	57
	6	2756	765	62	61	58	55	56	53	50	44	52	41	71	72	69	65	64	63	61	58	62	54	75	77	75	70	68	68	67	65	67	60
	8	3674	1021	65	63	59	57	58	55	52	46	54	42	75	76	72	67	65	64	63	59	64	56	80	81	78	71	68	68	68	66	68	62
	10	4593	1276	68	65	60	58	60	56	53	48	56	43	78	79	74	68	66	65	64	60	65	57	83	85	80	72	68	69	69	66	70	65
400 x 400	4	2333	648	58	58	56	53	53	51	47	42	50	40	66																			

RVP-P-EX				dP=100Pa										dP=300Pa										dP=500Pa									
				Noise of the air flowing to the duct										Noise of the air flowing to the duct										Noise of the air flowing to the duct									
AxB [mm]	Flow	Rate		in frequency bands, L _w [dB]								TOATL without insulation	TOATL without insulation	in frequency bands, L _w [dB]								TOATL without insulation	TOATL without insulation	in frequency bands, L _w [dB]								TOATL without insulation	TOATL without insulation
	v [m/s]	V [m³/h]	V [l/s]	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	L _{pa} [dB(A)]	L _{pa} [dB(A)]	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	L _{pa} [dB(A)]	L _{pa} [dB(A)]	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	L _{pa} [dB(A)]	L _{pa} [dB(A)]
800 x 400	4	4666	1296	59	59	57	55	55	53	48	44	52	42	68	69	68	64	64	63	61	58	62	54	72	73	72	68	68	68	66	65	67	59
	6	6998	1944	64	62	59	57	58	55	52	47	54	43	74	74	70	66	65	64	63	60	63	56	78	79	75	70	68	69	68	66	68	63
	8	9331	2592	67	64	60	59	61	57	54	49	56	44	78	77	72	67	65	65	64	61	65	59	83	83	79	73	69	69	69	66	69	66
	10	11664	3240	70	66	61	60	62	58	56	51	58	45	81	80	75	69	66	66	65	61	66	61	86	86	82	75	70	69	70	66	71	69
1000 x 400	4	5832	1620	60	60	58	55	55	53	49	44	52	42	69	69	68	64	64	63	61	59	62	54	73	74	73	68	68	68	66	65	67	60
	6	8748	2430	64	63	59	57	59	56	52	47	55	43	74	74	70	66	65	65	63	60	63	57	79	79	75	70	68	69	68	66	68	63
	8	11664	3240	67	65	60	59	61	57	54	49	57	45	78	77	72	67	66	65	64	61	65	59	84	83	79	73	69	69	69	66	70	67
	10	14580	4050	70	66	61	60	63	59	56	51	58	45	82	80	75	69	66	66	66	62	66	62	87	86	83	75	70	69	70	67	72	70
200 x 500	4	1454	404	57	56	55	52	52	50	46	41	49	39	64	65	65	62	62	61	59	56	60	51	68	69	70	67	66	66	65	63	65	56
	6	2182	606	62	60	57	55	55	52	49	44	52	40	70	71	69	65	64	63	61	58	62	53	74	76	75	70	68	67	67	65	67	59
	8	2909	808	65	63	59	57	58	54	51	46	54	41	74	75	72	67	65	64	62	59	63	55	79	81	78	71	68	68	68	66	68	62
	10	3636	1010	68	65	60	58	59	56	53	47	55	42	78	79	74	68	66	64	63	60	65	57	82	85	80	72	68	68	68	66	69	64
250 x 500	4	1818	505	57	57	55	53	53	50	46	41	49	39	65	66	66	63	62	62	59	57	60	51	69	70	70	67	67	67	65	64	65	57
	6	2727	758	62	61	58	55	56	53	50	44	52	41	71	72	69	65	64	63	61	58	62	54	75	77	75	70	68	68	67	65	67	60
	8	3636	1010	65	63	59	57	58	55	52	46	54	42	75	76	72	67	65	64	63	59	64	56	80	81	78	71	68	68	68	66	68	62
	10	4545	1263	68	65	60	58	60	56	53	48	56	43	78	79	74	68	66	65	64	60	65	57	83	85	80	72	68	69	69	66	70	65
315 x 500	4	2291	636	58	58	56	53	53	51	47	42	50	40	66	67	66	63	63	62	60	57	60	52	69	71	71	67	67	67	66	64	66	58
	6	3436	954	62	61	58	56	56	53	50	45	53	41	72	72	70	65	64	63	62	59	62	54	76	77	75	70	68	68	67	65	67	60
	8	4581	1273	66	63	59	57	59	55	52	47	55	42	76	76	72	67	65	64	63	60	64	56	80	82	78	71	68	68	68	66	69	63
	10	5727	1591	68	65	60	59	61	57	54	48	56	43	79	79	74	68	66	65	64	61	65	58	84	85	80	73	69	69	69	66	70	66
400 x 500	4	2657	738	58	58	56	54	54	51	47	42	50	40	66	67	67	63	63	62	60	57	61	53	70	72	71	68	67	67	66	64	66	58
	6	3985	1107	63	61	58	56	57	54	51	45	53	42	72	73	70	65	64	64	62	59	63	55	77	78	75	70	68	68	67	65	67	61
	8	5314	1476	66	64	60	58	59	56	53	48	55	43	76	76	72	67	65	65	63	60	64	57	81	82	78	72	69	69	68	66	69	64
	10	6642	1845	69	65	61	59	61	57	54	49	57	44	80	79	74	68	66	65	64	61	65	59	85	86	81	73	69	69	69	66	70	67
500 x 500	4	3636	1010	59	59	57	54	54	52	48	43	51	41	67	68	67	64	63	63	60	58	61	53	71	72	72	68	68	68	66	65	66	59
	6	5454	1515	63	62	58	57	58	55	51	46	54	42	73	73	70	65	65	64	62	59	63	55	77	78	75	70	68	68	67	66	67	62
	8	7272	2020	67	64	60	58	60	56	53	48	56	43	77	77	72	67	65	65	64	60	64	58	82	83	78	72	69	69	69	66	69	65
	10	9090	2525	69	66	61	59	62	58	55	50	57	44	80	79	75	69	66	66	65	61	66	60	85	86	81	74	69	69	69	66	71	68
630 x 500	4	4581	1273	59	59	57	55	55	52	48	43	51	42	68	69	68	64	64	63	61	58	62	54	72	73	72	68	68	68	66	65	66	59
	6	6872	1909	64	62	59	57	58	55	52	47	54	43	74	74	70	65	65	64	63	60	63	56	78	79	75	70	68	69	68	66	68	62
	8	9163	2545	67	64	60	59	61	57	54	49	56	44	78	77	72	67	65	65	64	61	65	58	83	83	79	72	68	69	69	66	69	66
	10	11453	3182	70	66	61	60	62	58	55	50	58	45	81	80	75	69	66	66	65	61	66	61	86	86	81	74	70	69	70	66	71	69
800 x 500	4	5818	1616	60	60	58	55	55	53	49	44	52	42	69	69	68	64	64	63	61	59	62	54	73	74	73	68	68	68	66	65	67	60
	6	8726	2424	64	63	59	57	59	56	52	47	55	43	74	74	70	66	65	65	63	60	63	57	79	79	75	70	68	69	68	66	68	63
	8	11635	3232	67	65	60	59	61	57	54	49	57	45	78	77	72	67	66	65	64	61	65	59	84	83	79	73	69	69	69	66	70	67
	10	14544	4040	70	66	61	60	63	59	56	51	58	45	82	80	75	69	66	66	66	62	66	62	87	86	82	75	70	69	70	67	71	70
1000 x 500	4	7272	2020	60	60	58	56	56	54	49	45	52	43	69	70	69	65	65	64	61	59	62	55	73	75	73	69	69	69	66	66	67	61
	6	10908	3030	65	63	59	58	59	56	53	48	55	44	75	75	70	66	65	65	63	60	64	57	80	80	75	70	68	69	68	66	68	64
	8	14544	4040	68	65	60	59	62	58	55	50	57	45	79	78	73	67	66	66	65	61	65	60	84	84	79	74	69	69	69	66	70	68
	10	18180	5050	70	66	61	60	64	59	57	52	59	46	82	80	76	70	67	66	66	62	67	62	88	87	83	76	71	70	70	67	72	71

Sound pressure level provides the attenuation of the room and ceiling for a model room accepted at the level of 8 dB. The actual parameters may differ depending on the conditions.

Acoustic data for other pressure and air flow values, including sound power level in respective frequency bands, are available in the design department of SMAY.

Control-drive system

The devices have the possibility of infinitely variable and stroke controlling - forced.

Infinitely variable controlling - 2-10V (default) or 0-10V (K=K1). Changing the set flow value takes places in the infinitely variable and proportional manner between V_{min} (2V or 0V) and V_{max} (10V).

Stroke controlling:

- "Close"** – the damper shutter is in the completely closed position (only for communication 2-10V).
- "Open"** – the damper shutter is in the completely opened position (Belimo – required 1N4007 diode).
- V_{min} – minimum volumetric flow (default value).
- V_{mid} – medium value of volumetric flow between V_{min} and V_{max} (applies only to Belimo devices).
- V_{max} – maximum volumetric flow.
- V_{nom} – flow stream in the calibration process (most frequently $1.3 V_{max}$).

Table 4. Technical data.

Technical data	Actuator	Pressure transducers	
	ExMax-5.10-Y (CY)	ExCos-P-250	ExReg-V300-A
Nominal voltage	24VAC/DC, 50/60 Hz	24VAC/DC, 50/60 Hz $\pm 20\%$	24VAC/DC, 50/60 Hz $\pm 20\%$
Maximum current consumption Maximum current consumption	4,7 [A]	150 mA, - 4 W,	150 mA, - 4 W,
Torque	5 [Nm] (10 [Nm])	n/d	n/d
Sensor	n/d	Piezoelectric pressure transducer	Piezoelectric pressure transducer
Range		$\pm 250\text{Pa}$	$\pm 300\text{Pa}$
max. pressure		2500Pa	2500Pa
Validations			
Tested EPS 17 ATEX 1 132 X	PTB 04 ATEX 1028X	EPS 14 ATEX 1 655 X	EPS 11 ATEX 1 380
Conforms to ATEX	2014/34/EU (ATEX)	2014/34/EU (ATEX)	2014/34/EU (ATEX)
Approved for gases	II 2(2)G Ex db [ib Gb] IIC T6, T5, T4 Gb for zones 1, 2	II 2(1)G Ex e ma [ia Ga] IIC T6...T4 Gb for zones 1, 2	II 2(1)G Ex e mb [ia Ga] IIC T6 Gb for zones 1, 2
Approved for dusts	II 2(2)D Ex tb [ib Db] IIIC T80°C, T95°C for zones 21, 22	II 2(1)D Ex tb [ia Da] IIIC T80°C...T130°C Db IP66 for zones 21,22	II 2(1)D Ex tb ib [ia Da] IIIC T80°C Db IP66 for zones 21, 22
Connection diagram	Diagram 3 lub 4	Diagram 1	Diagram 2

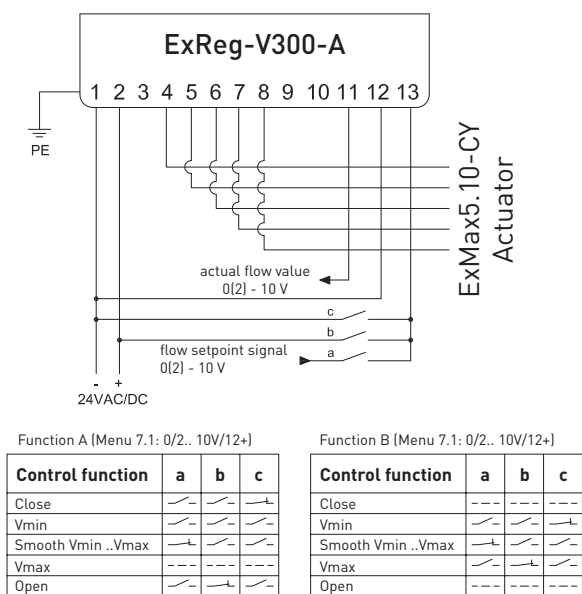


Diagram 1. The diagram of changing the regulator mode to forced controlling in the event of communication 0/2...10V

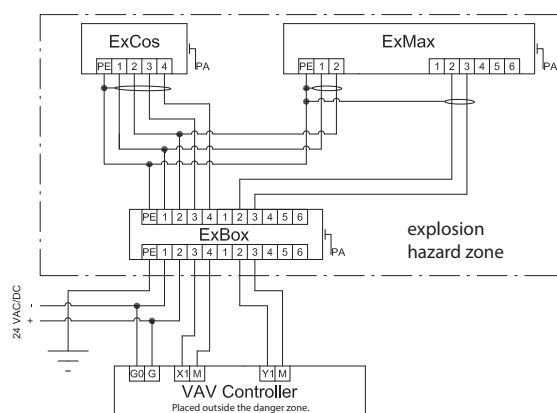


Diagram 2. The general diagram of connecting VAV Ex automatics with SmayLab driver

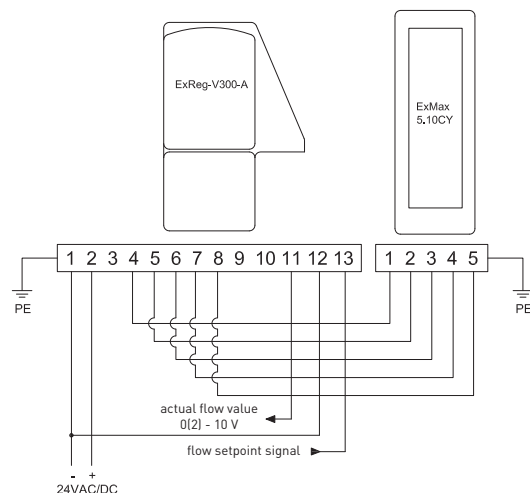


Diagram 3. The general diagram of connecting VAV Ex automatics with communication 0/2...10V



The drive-control system is connected through wires by the manufacturer; the purchaser is obliged to supply power and the control signals from the controller to the regulator and to the drive.



The electric connection of the units should be carried out in accordance with the automatics diagram attached to the documentation of the designed system by a properly qualified person.

RVP-P-EX - VAV rectangular variable air flow regulator in the explosion-proof version

When placing an order, provide information according to the below pattern:

RVP-P-Ex - <A> x - <V_{MAX}> / <V_{MIN}> - <K> - <P>

Where:

A	Clearance width [mm]
B	Clearance height [mm]
V_{MAX}	maximum flow stream [m³/h]
V_{MIN}	minimum flow stream [m³/h]
K	communication*
	none 2...10[V]
	1 0...10[V]
	SL SmayLab
P	material*
	none zinc plated steel
	SN stainless steel**

*Optional values - if they are missing, default values are applied

**Damper blades are of aluminium

Exemplary marking of the product: **RVP-P-Ex-500x300-1100/700**

