MANDÍK

MAN 170/25
Version 2026-11-06

RPM-V -variable air flow regulator

in design variants intended for use in potentially explosive atmospheres

Instructions for use



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I. GENERAL

These Instructions for use apply to air flow regulators in design variants intended for use in potentially explosive atmospheres (hereinafter referred to as „regulators“) in accordance with the ATEX Directive 2014/34/EU, and supplement the Technical specifications TPM 085/12, respectively.

This means that the technical conditions TPM 085/12 are hereby valid for these regulators, with the proviso that in the event of a conflict between TPM 085/12 and this document, this document shall apply.

The mechanical part of the regulators, including the pressure sampling system (measuring profiles, hoses, etc.), is designed and manufactured in accordance with the standards EN IEC 60079-0:2018 and EN ISO 80079-36:2016 by the manufacturer MANDÍK.

The regulator contains an air pressure sensor, an electronic VAV control unit and an actuator manufactured by Schischek (Rotork) or Pi-safety, which are classified, certified, manufactured and marked according to the standards EN IEC 60079-0:2018, EN IEC 60079-1:2014, EN IEC 60079-11:2012, EN IEC 60079-11:2014. Schischek VAV control unit integrates the air pressure sensor, whereas Pi-safety pressure sensor is integrated into a separate enclosure. All electrical components have IP66 protection.

The resulting assembly of the mechanical part, VAV control unit, [pressure sensor] and the actuator is designed, classified in accordance with (EU) Directive 2014/34/EU (ATEX) by the manufacturer MANDÍK.

The assembly and the delivery do not include any separate junction box certified for the given Ex zone, although such junction box may be ordered as an accessory.

Conditions of use

The regulators may be used under the following conditions

a) the controllers are installed, commissioned, operated and maintained in accordance with these Instructions for use and also in accordance with the operating instructions of the actuator and VAV control unit [and the pressure sensor] manufacturer;

b) horizontal or vertical orientation of the regulator blade axis; and

c) average air flow velocity in the duct not exceeding 12 m/s and operating overpressure or underpressure in the duct not exceeding 1,500 Pa; and

d) pressure loss (e.i. static pressure difference in the duct sections upstream and downstream) of the controller according to TPM 085/12, and

e) weatherproof environment 3K5 according to EN 60721-3-3 amended. A2, without condensation, frost, ice formation and water from sources other than rain; and

f) an environment free from abrasive, adhesive, electrically charged, chemically active and radioactive particles or drops, free from chemically active or radioactive gases. In no case may exothermic reactions or precipitation of condensate or the deposition of solid coatings or particles occur during normal operation, and there must be no corrosion, especially of copper and brass components of the regulator. And further

g) operating temperature according to the given device category, see point i), when

h) The regulator must be attached to the flange on at least one side and

i) the regulators can be used in the relevant hazardous area under conditions in accordance with the equipment Ex category specified in this point, where the temperature condition Ta applies to both the outside of the regulator and the transported air.

Manufacturer of VAV control unit and actuator	Regulator´s Ex category	Temperature of use	For Ex zones
Schischek	II 2G Ex T6…T5 Gb	Ta = -20 °C … +40 °C (T6)	Zones 1 and 2
		Ta = -20 °C … +50 °C (T5)	
Pi-Safety	II 2G Ex T4 Gb	Ta = -20 °C … +58 °C	

j) The regulators may only be equipped with actuators and VAV control units specified in this document; while

k) the assignment of the actuator model/setup to the given regulator size must be respected; and

l) should the regulator be electrically connected directly in the zone with potentially explosive atmosphere, an Ex-certified junction box intended for the given zone must be used for the connection; and

m) Air flow regulators shall never be equipped with actuator with nominal opening or closing speed inferior to 3 s, which satisfies the condition of the ATEX certificate of 1 m/s maximum relative velocity of the moving parts surfaces.

n) The cover of Schischek and Pi-safety electrical devices (i.e. the cover of the connection terminal block) must not be opened when the device is under voltage. It is not permitted to open or even remove covers other than the terminal block cover.

o) It is not permitted to repair Schischek or Pi-safety devices, except for possible repairs by the manufacturer himself in compliance with the special conditions specified in the device certificate.

p) The user is obliged to check the tight connection of the hoses leading to the pressure sensor.

q) The covers of electrical devices must not be exposed to external forces and/or shocks.

r) ExReg- and AC.Ex devices are not protected against UV radiation; they must therefore not be exposed to direct sunlight or other sources of UV radiation.

s) Painted electrical devices may be exposed to the risk of static induction of voltage on the paint layer; follow the manufacturer's instructions for use, especially when cleaning them,

t) connection of intrinsically safe circuits according to EN 60079-25, and

u) all devices connected to the damper must comply the given Ex category.

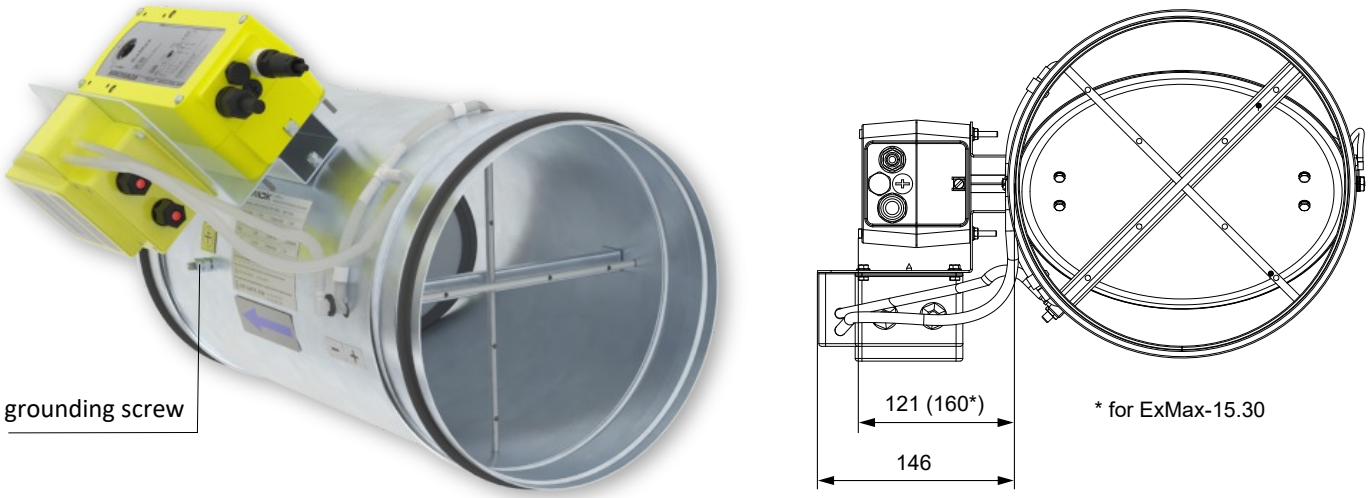
II. DESIGN

The following design variants intended for use in potentially explosive atmospheres are available

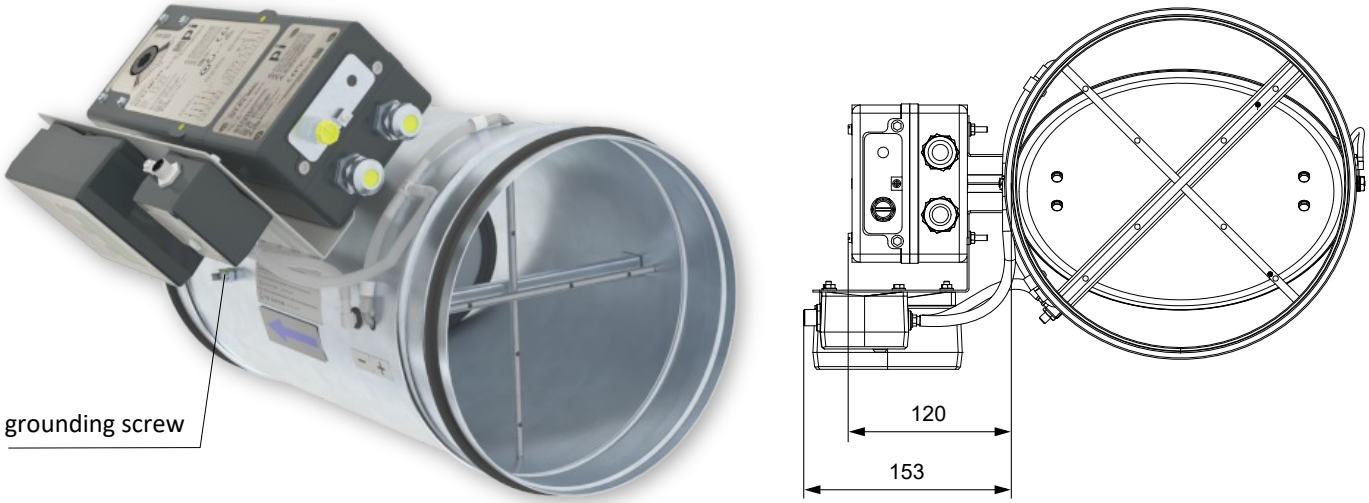
Direct control of	Sensor range [Pa]	w_min [m/s]	w_max [m/s]	p_min [Pa]	p_max [Pa]	Return spring	Safety position	Electronic control devices				Design variant
								Manufact.	VAV unit	Sensor	Actuator	
Volume air flow rate	100	2 (1,5 for DN 80)	5,7 … 10 *	–	–	No	–	Schischek	ExReg-V-100-A	–	ExMax-…-CY	.E02
	100	2 (1,5 for DN 80)	5,7 … 10 *	–	–	Yes	Closed		ExReg-V-100-A	–	ExMax-…-CYF	.E02F
	100	2 (1,5 for DN 80)	5,7 … 10 *	–	–	Yes	Open		ExReg-V-100-A	–	ExMax-…-CYF	.E03F
	300	3 (2,5 for DN 80)	12 (9,9 for DN 80)	–	–	No	–		ExReg-V-300-A	–	ExMax-…-CY	.E04
	300	3 (2,5 for DN 80)	12 (9,9 for DN 80)	–	–	Yes	Closed		ExReg-V-300-A	–	ExMax-…-CYF	.E04F
	300	3 (2,5 for DN 80)	12 (9,9 for DN 80)	–	–	Yes	Open		ExReg-V-300-A	–	ExMax-…-CYF	.E05F
Duct or room pressure	100	–	–	20	100	No	–	Schischek	ExReg-V-100-A	–	ExMax-…-CY	.E52
	100	–	–	20	100	Yes	Closed		ExReg-V-100-A	–	ExMax-…-CYF	.E52F
	100	–	–	20	100	Yes	Open		ExReg-V-100-A	–	ExMax-…-CYF	.E53F
	300	–	–	50	300	No	–		ExReg-V-300-A	–	ExMax-…-CY	.E54
	300	–	–	50	300	Yes	Closed		ExReg-V-300-A	–	ExMax-…-CYF	.E54F
	300	–	–	50	300	Yes	Open		ExReg-V-300-A	–	ExMax-…-CYF	.E55F
	1000	–	–	150	1000	No	–		ExReg-V-1000-A	–	ExMax-…-CY	.E56
	1000	–	–	150	1000	Yes	Closed		ExReg-V-1000-A	–	ExMax-…-CYF	.E56F
	1000	–	–	150	1000	Yes	Open		ExReg-V-1000-A	–	ExMax-…-CYF	.E57F
Volume air flow rate	100	2 (1,5 for DN 80)	5,7 … 10 *	–	–	No	–	Pi-Safety	AC.Ex	IY.Ex-P0100	QT.Ex-MY	.P02
	100	2 (1,5 for DN 80)	5,7 … 10 *	–	–	Yes	Closed			IY.Ex-P0100	QT.Ex-MYF	.P02F
	100	2 (1,5 for DN 80)	5,7 … 10 *	–	–	Yes	Open			IY.Ex-P0100	QT.Ex-MYF	.P03F
	250	3 (2,5 for DN 80)	12 (9,1 for DN 80) (11,3 for DN 100)	–	–	No	–			IY.Ex-P0250	QT.Ex-MY	.P04
	250	3 (2,5 for DN 80)	12 (9,1 for DN 80) (11,3 for DN 100)	–	–	Yes	Closed			IY.Ex-P0250	QT.Ex-MYF	.P04F
	250	3 (2,5 for DN 80)	12 (9,1 for DN 80) (11,3 for DN 100)	–	–	Yes	Open			IY.Ex-P0250	QT.Ex-MYF	.P05F
Duct or room pressure	100	–	–	20	100	No	–	Pi-Safety	AC.Ex	IY.Ex-P0100	QT.Ex-MY	.P52
	100	–	–	20	100	Yes	Closed			IY.Ex-P0100	QT.Ex-MYF	.P52F
	100	–	–	20	100	Yes	Open			IY.Ex-P0100	QT.Ex-MYF	.P53F
	250	–	–	40	250	No	–			IY.Ex-P0250	QT.Ex-MY	.P54
	250	–	–	40	250	Yes	Closed			IY.Ex-P0250	QT.Ex-MYF	.P54F
	250	–	–	40	250	Yes	Open			IY.Ex-P0250	QT.Ex-MYF	.P55F
	600	–	–	100	600	No	–			IY.Ex-P0600	QT.Ex-MY	.P56
	600	–	–	100	600	Yes	Closed			IY.Ex-P0600	QT.Ex-MYF	.P56F
	600	–	–	100	600	Yes	Open			IY.Ex-P0600	QT.Ex-MYF	.P57F

* *as per regulator size*

Regulator design



*RPM-V with **Schischek** electrical equipment*



*RPM-V with **pi safety** electrical equipment*

- The regulator consists of a casing, blade, measuring elements (profiles and tubing system), a VAV control unit, [a sensor] and an actuator.
- The regulator blade is connected by a copper wire to the regulator casing.
- The minimum space for the access to the actuator is 250 mm (in the direction of the blade axis).
- Regulators shall always be without insulation and without paint.

Grounding wire assembly

- The regulator is equipped with one grounding screw M6 x 35 mm on the control side.



III. TECHNICAL DATA

Actuators, control range and accuracy of control

<table>
<tr><th rowspan="2">Size [DN]</th><th colspan="2">Actuator Schischek</th><th colspan="2">Actuator Pi-Safety</th></tr>
<tr><th>w/o spring</th><th>with spring</th><th>w/o spring</th><th>with spring</th></tr>
<tr><td>80</td><td rowspan="12">ExMax-5.10-CY</td><td rowspan="12">ExMax-5.10-CYF</td><td rowspan="12">QT.Ex-MY-SL *</td><td rowspan="12">QT.Ex-MF10Y-SL</td></tr>
<tr><td>100</td></tr>
<tr><td>125</td></tr>
<tr><td>140</td></tr>
<tr><td>160</td></tr>
<tr><td>180</td></tr>
<tr><td>200</td></tr>
<tr><td>225</td></tr>
<tr><td>250</td></tr>
<tr><td>280</td></tr>
<tr><td>315</td></tr>
<tr><td>355</td></tr>
<tr><td>400</td></tr>
<tr><td>500</td><td rowspan="2">ExMax-15.30-CY</td><td rowspan="2">ExMax-15-CYF</td><td rowspan="2"></td><td rowspan="2"></td></tr>
<tr><td>630</td></tr>
</table>

** For selected sizes, actuators QT.Ex-MYQ-SL and QT.Ex-MYQ-SL may be used as an alternative.*

Design variant	Size [DN]	Sensor [Pa]	w_min [m/s]	Vmin		w_max [m/s]	Vmax		w_nom [m/s]	Vnom		Accuracy of control at		k	
				[m³/h]	[l/s]		[m³/h]	[l/s]		[m³/h]	[l/s]	Vmin	Vmax	[m³/h, Pa]	[l/s, Pa]
E02/E02F/E03F	80	100	1,5	27	7,5	5,73	104	29	5,73	104	29	± 20 %	± 9 %	10,37	2,88
E02/E02F/E03F	100	100	2	57	15,7	7,15	202	56	7,15	202	56	± 20 %	± 9 %	20,21	5,61
E02/E02F/E03F	125	100	2	88	24,5	7,95	351	98	7,95	351	98	± 20 %	± 9 %	35,14	9,76
E02/E02F/E03F	140	100	2	111	30,8	8,33	462	128	8,33	462	128	± 20 %	± 9 %	46,16	12,82
E02/E02F/E03F	160	100	2	145	40,2	8,79	636	177	8,79	636	177	± 20 %	± 9 %	63,64	17,68
E02/E02F/E03F	180	100	2	183	50,9	8,93	818	227	8,93	818	227	± 20 %	± 9 %	81,84	22,73
E02/E02F/E03F	200	100	2	226	62,8	8,86	1003	278	8,86	1003	278	± 20 %	± 9 %	100,26	27,85
E02/E02F/E03F	225	100	2	286	79,5	9,12	1306	363	9,12	1306	363	± 20 %	± 9 %	130,59	36,27
E02/E02F/E03F	250	100	2	353	98,2	9,03	1596	443	9,03	1596	443	± 20 %	± 9 %	159,60	44,33
E02/E02F/E03F	280	100	2	443	123,2	9,29	2059	572	9,29	2059	572	± 20 %	± 9 %	205,86	57,18
E02/E02F/E03F	315	100	2	561	155,9	9,17	2573	715	9,17	2573	715	± 20 %	± 9 %	257,33	71,48
E02/E02F/E03F	355	100	2	713	198	9,41	3354	932	9,41	3354	932	± 20 %	± 9 %	335,41	93,17
E02/E02F/E03F	400	100	2	905	251,3	9,56	4323	1201	9,56	4323	1201	± 20 %	± 9 %	432,31	120,09
E02/E02F/E03F	500	100	2	1414	392,7	9,51	6720	1867	9,51	6720	1867	± 20 %	± 9 %	671,98	186,66
E02/E02F/E03F	630	100	2	2244	623,4	9,66	10843	3012	9,66	10843	3012	± 20 %	± 9 %	1084,35	301,21
E04/E04F/E05F	80	300	2,5	45	12,6	9,93	180	50	9,93	180	49,9	± 20 %	± 9 %	10,37	2,88
E04/E04F/E05F	100	300	3	85	23,6	12	339	94	12,38	350	97,2	± 20 %	± 9 %	20,21	5,61
E04/E04F/E05F	125	300	3	133	36,8	12	530	147	13,78	609	169,1	± 20 %	± 9 %	35,14	9,76
E04/E04F/E05F	140	300	3	166	46,2	12	665	185	14,43	799	222,1	± 20 %	± 9 %	46,16	12,82
E04/E04F/E05F	160	300	3	217	60,3	12	869	241	15,23	1102	306,2	± 20 %	± 9 %	63,64	17,68
E04/E04F/E05F	180	300	3	275	76,3	12	1099	305	15,47	1417	393,7	± 20 %	± 9 %	81,84	22,73
E04/E04F/E05F	200	300	3	339	94,2	12	1357	377	15,35	1736	482,4	± 20 %	± 9 %	100,26	27,85
E04/E04F/E05F	225	300	3	429	119,3	12	1718	477	15,80	2262	628,3	± 20 %	± 9 %	130,59	36,27
E04/E04F/E05F	250	300	3	530	147,3	12	2121	589	15,64	2764	767,9	± 20 %	± 9 %	159,60	44,33
E04/E04F/E05F	280	300	3	665	184,7	12	2660	739	16,09	3566	990,4	± 20 %	± 9 %	205,86	57,18
E04/E04F/E05F	315	300	3	842	233,8	12	3367	935	15,89	4457	1238,1	± 20 %	± 9 %	257,33	71,48
E04/E04F/E05F	355	300	3	1069	296,9	12	4276	1188	16,30	5809	1613,7	± 20 %	± 9 %	335,41	93,17
E04/E04F/E05F	400	300	3	1357	377	12	5429	1508	16,55	7488	2079,9	± 20 %	± 9 %	432,31	120,09
E04/E04F/E05F	500	300	3	2121	589	12	8482	2356	16,47	11639	3233,1	± 20 %	± 9 %	671,98	186,66
E04/E04F/E05F	630	300	3	3367	935,2	12	13466	3741	16,74	18781	5217,1	± 20 %	± 9 %	1084,35	301,21

- $V = k \times \Delta p^{1/2}$.
- For room or duct pressure control, accuracy of ± 20 % for p_min, and ± 9 % for p_max.
- Mean air velocity shall not exceed 12 m/s in order to guarantee the function and to prevent damage to the regulator or destruction of the regulator.

Design variant	Size [DN]	Sensor [Pa]	w_min [m/s]	Vmin		w_max [m/s]	Vmax		w_nom [m/s]	Vnom		Accuracy of control at		k	
				[m³/h]	[l/s]		[m³/h]	[l/s]		[m³/h]	[l/s]	Vmin	Vmax	[m³/h, Pa]	[l/s, Pa]
P02/P02F/P03F	80	100	1,5	27	7,5	5,73	104	29	5,73	104	29	± 15 %	± 8 %	10,37	2,88
P02/P02F/P03F	100	100	2	57	15,7	7,15	202	56	7,15	202	56	± 15 %	± 8 %	20,21	5,61
P02/P02F/P03F	125	100	2	88	24,5	7,95	351	98	7,95	351	98	± 15 %	± 8 %	35,14	9,76
P02/P02F/P03F	140	100	2	111	30,8	8,33	462	128	8,33	462	128	± 15 %	± 8 %	46,16	12,82
P02/P02F/P03F	160	100	2	145	40,2	8,79	636	177	8,79	636	177	± 15 %	± 8 %	63,64	17,68
P02/P02F/P03F	180	100	2	183	50,9	8,93	818	227	8,93	818	227	± 15 %	± 8 %	81,84	22,73
P02/P02F/P03F	200	100	2	226	62,8	8,86	1003	278	8,86	1003	278	± 15 %	± 8 %	100,26	27,85
P02/P02F/P03F	225	100	2	286	79,5	9,12	1306	363	9,12	1306	363	± 15 %	± 8 %	130,59	36,27
P02/P02F/P03F	250	100	2	353	98,2	9,03	1596	443	9,03	1596	443	± 15 %	± 8 %	159,60	44,33
P02/P02F/P03F	280	100	2	443	123,2	9,29	2059	572	9,29	2059	572	± 15 %	± 8 %	205,86	57,18
P02/P02F/P03F	315	100	2	561	155,9	9,17	2573	715	9,17	2573	715	± 15 %	± 8 %	257,33	71,48
P02/P02F/P03F	355	100	2	713	198	9,41	3354	932	9,41	3354	932	± 15 %	± 8 %	335,41	93,17
P02/P02F/P03F	400	100	2	905	251,3	9,56	4323	1201	9,56	4323	1201	± 15 %	± 8 %	432,31	120,09
P02/P02F/P03F	500	100	2	1414	392,7	9,51	6720	1867	9,51	6720	1867	± 15 %	± 8 %	671,98	186,66
P02/P02F/P03F	630	100	2	2244	623,4	9,66	10843	3012	9,66	10843	3012	± 15 %	± 8 %	1084,35	301,21
P04/P04F/P05F	80	250	2,5	45	12,6	9,06	164	46	9,06	164	45,5	± 15 %	± 8 %	10,37	2,88
P04/P04F/P05F	100	250	3	85	23,6	11	320	89	11,30	320	88,8	± 15 %	± 8 %	20,21	5,61
P04/P04F/P05F	125	250	3	133	36,8	12	530	147	12,58	556	154,3	± 15 %	± 8 %	35,14	9,76
P04/P04F/P05F	140	250	3	166	46,2	12	665	185	13,17	730	202,7	± 15 %	± 8 %	46,16	12,82
P04/P04F/P05F	160	250	3	217	60,3	12	869	241	13,90	1006	279,5	± 15 %	± 8 %	63,64	17,68
P04/P04F/P05F	180	250	3	275	76,3	12	1099	305	14,13	1294	359,4	± 15 %	± 8 %	81,84	22,73
P04/P04F/P05F	200	250	3	339	94,2	12	1357	377	14,02	1585	440,3	± 15 %	± 8 %	100,26	27,85
P04/P04F/P05F	225	250	3	429	119,3	12	1718	477	14,42	2065	573,5	± 15 %	± 8 %	130,59	36,27
P04/P04F/P05F	250	250	3	530	147,3	12	2121	589	14,28	2524	701	± 15 %	± 8 %	159,60	44,33
P04/P04F/P05F	280	250	3	665	184,7	12	2660	739	14,68	3255	904,1	± 15 %	± 8 %	205,86	57,18
P04/P04F/P05F	315	250	3	842	233,8	12	3367	935	14,50	4069	1130,2	± 15 %	± 8 %	257,33	71,48
P04/P04F/P05F	355	250	3	1069	296,9	12	4276	1188	14,88	5303	1473,1	± 15 %	± 8 %	335,41	93,17
P04/P04F/P05F	400	250	3	1357	377	12	5429	1508	15,11	6835	1898,7	± 15 %	± 8 %	432,31	120,09
P04/P04F/P05F	500	250	3	2121	589	12	8482	2356	15,03	10625	2951,4	± 15 %	± 8 %	671,98	186,66
P04/P04F/P05F	630	250	3	3367	935,2	12	13466	3741	15,28	17145	4762,5	± 15 %	± 8 %	1084,35	301,21

- $V = k \times \Delta p^{1/2}$.
- For room or duct pressure control, accuracy of ± 15 % for p_min, and ± 8 % for p_max.
- Mean air velocity shall not exceed 12 m/s in order to guarantee the function and to prevent damage to the regulator or destruction of the regulator.

IV. MATERIALS, SURFACE TREATMENT

- The materials of the casing, of the blade and of the mechanism used are identical with materials for ordinary design variants.

  Al three material variants are available:
  - galvanised steel (DX51+Z275)
  - A2 (AISI 304)
  - A4 (AISI 316L)
- Interconnecting wires are made of copper, with connection rings made either from mild steel with zinc coating, of from corresponding stainless steel (A2/A4).
- It is not possible to deliver regulators with insulation or regulators protected by a paint.
- The actuator and the VAV control unit [and the sensor] are inside their envelope as follows:

Envelope component	**Schischek**			**Pi-Safety**
	standard	**-CT***	**-VA****	**standard**
Body material	Al alloy	Al alloy	AISI 316 - stainless steel	Antistatic plastics / stainless steel
Body coating	paint	marine grade paint	–	–
Cable gland material	UV stabilised plastics	brass	brass	brass
Cable gland coating	–	nickel	nickel	nickel
Bolts / screws	mild steel zinc coated	stainless steel	stainless steel	stainless steel

* *on special request*
** *on special request, the actuator only, option not available for the VAV control unit.*

Schischek Ex certified components





Pi-safety Ex certified components







V. QUALITY INSPECTION, TESTING BY THE MANUFACTU.

- The dimensions are checked with common measuring devices according to the standard of non-tolerated dimensions used in HVAC.
- Interoperation checks of parts and main dimensions are carried out according to the manufacturing documentation.

  The final control includes:
  - control of damper (blade) opening and closing, and
  - checking the electrical connection of regulator blade with the regulator body using an electrical detection device.
- Electronic elements and actuators are adjusted and connected to voltage, and the operation of the regulator is tested.

VI. INSTALLATION, COMMISSIONING, OPERATION, MAINTENANCE, OPERATIONAL CHECKS

Installation consists of:

- installation of the regulator into the air duct
- grounding and conductive connection to the neighbourhood duct sections
- electrical connection.

- The regulators must be installed in compliance with all applicable safety standards and regulations.
- **The regulators must be grounded with an M6 grounding screw using a nut and a spring washer** (these parts are included in the equipment delivery).
- According to EN 332000-4-41,-4-47 and -5-54, flange and screw connections must be conductively connected during installation to protect against dangerous contact. For conductive connection, 2 pieces of galvanized spring washers are used, which are placed under the head of one screw and under the screwed nut.
- Before putting the regulator into operation, it is necessary to visually check the correct installation of the regulator and check the interconnection of all metal parts.

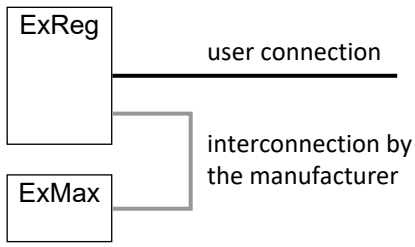
During the serviceability checks, it is necessary to check the mutual conductive connection of all metal parts, including blade with the body (frame) of the regulator.

The grounding of regulator blade must be checked using an electrical measuring or detection device:

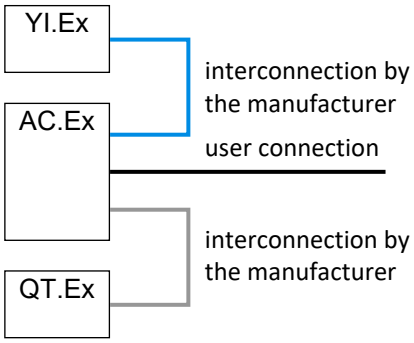
- during commissioning
- as part of each inspection, maintenance, and any possible repair or other intervention on the regulator
- at the latest after 1 year from commissioning
- if no defect in the blade grounding is found after 1 year from commissioning, then periodically at least every 5 years, otherwise annually.

It is necessary to electrically connect the VAV control unit and test the operation of the regulator. **If the electrical connection of the regulator is located within the zone with potentially explosive atmosphere, it is necessary to use an Ex certified terminal block classified for the given zone.**

Electric interconnection and user connection for **Schischek** devices



Electric interconnection and user connection for **pi safety** devices



Electric interconnection and user connection for **Schischek** devices

ExReg

13	←	Input 0…10 / (2…10) V – airflow request, pressure request (not required for CAV mode)
12	GND1	Airlow or pressure input / output signal GND
11	→	Output 0…10 / (2…10) V – measured airflow or pressure (optional)
10	GND2	Actuator position output signal GND
9	→	Actuator position output signal (optional)
8	occupied	(to the actuator)
7	occupied	(to the actuator)
6	occupied	(to the actuator)
5	occupied	(to the actuator)
4	occupied	(to the actuator)
3	→	Alarm output 24 V AC / DC (optional)
2	L / +	Power input 24 V AC / DC
1	N / –	

<u>Do not connect to GND1 or GND2!</u>

It is possible that, depending on the actual conditions in the HVAC system, it will be necessary to fine-tune the parameters of the built-in PID controller.

Electric interconnection and user connection for **pi safety** devices

AC.Ex

11	→	Output 0…10 / (2…10) V – measured airflow or pressure (optional)
10	GND	Input / output signal GND
9	←	Input 0…10 / (2…10) V – airflow request or pressure request (not required for CAV mode)
8	occupied	(to the actuator)
7	occupied	(to the actuator)
6	occupied	(to the actuator)
5	occupied	(to the actuator)
4	occupied	(to the actuator)
3	→	Alarm output 24 V AC / DC (optional)
2	L / +	Power input 24 V AC / DC
1	N / –	

A torx TX 10 key is required to open and close the AC.Ex connection box.

A 3 mm wide flat screwdriver is suitable for operating the terminal block.

It is possible that, depending on the actual conditions in the HVAC system, it will be necessary to fine-tune the parameters of the built-in PID controller.

Electrical equipment parameters of regulators manufactured by Schischek
ExReg-… + ExMax-5.10-CY(F), ExReg-… + ExMax-15.30-CY, ExReg-… + ExMax-15-CYF

Schischek actuator	**ExReg-… + ExMax-5.10-CY ExReg-… + ExMax-5.10-CYF ExReg-… + ExMax-15.30-CY ExReg-… + ExMax-15-CYF**
Power voltage	24 V AC/DC (20,4 to 27,6 V; 50 to 60 Hz)
Power consumption - motor stopped	9 W / 12 VA
Motor running time	60 s
Spring running time	10 s
Power consumption - the motor is running (running time 60 s)	19 W / 30 VA
Starting current	2,2 A
Voltage input	0(2) to 10 V, overvoltage up to 30 V
Voltage output	0(2) to 10 V, load greater than 10 kOhm
Protection class	IP66
Terminals - conductor dimensions	0,14 to 2,5 mm^2
Clamps - tightening torque	0,4 to 0,5 Nm
Storage temperature	-40 °C to +70 °C
Permitted humidity	0 to 95 % non-condensing

Electrical equipment parameters of regulators manufactured by Pi safety A.Ex-… + QT.Ex-MY-SL nebo QT.Ex-MF10Y-SL

Pi safety actuator	**A.Ex-… + QT.Ex-MY-SL nebo QT.Ex-MF10Y-SL**
Power voltage	24 V AC/DC (20 to 28,8 V; 50 to 60 Hz)
Power consumption - motor stopped	8 W /12 VA
Motor running time	15 s
Spring running time	15 s
Power consumption - the motor is running	23 W / 35 VA
Starting current	2,2 A
Starting current	3 Ohm
Voltage input	0(2) to 10 V
Current input	0(4) to 20 mA
Protection class	IP66
Terminals - conductor dimensions - without ferrules	0,08 to 2,5 mm^2
Terminals - conductor dimensions - with ferrules	0,25 to 1,5 mm^2
Clamps - tightening torque	N/A (spring-loaded)
Storage temperature	-40 °C to +70 °C
Permitted humidity	0 to 90 % non-condensing

VII. EQUIPMENT IDENTIFICATION

The regulators are equipped with a durable identification label. This label contains the following information:

- manufacturer's logo
- manufacturer's name and registered office
- device type
- design variant number
- size (nominal dimensions)
- weight
- serial number and year of manufacture
- Instructions for use identification
- Ex category and temperature of use of the regulator without equipment
- Ex category and temperature of use of the device (regulator with equipment)
- Ex symbol.

RPM-V type regulator label with **Schischek** equipment

MANDÍK®
MANDÍK, a.s.
Dobřišská 550, 267 24 Hostomice, Czech republic

VARIABLE AIRFLOW REGULATOR RPM-V MAN 170/25			
Vnom (m3/h)	1736	Vmax (m3/h)	1357
Vmin (m3/h)	339	Design	.E04
Size	200	Serial. No.:	25/9999999
Control	0-10V	Weight (kg):	16,1
k (m3/h, Pa)	100,26	Communications	-
SCHISCHEK ExReg-V-300-A, ExMax-5.10-CY			

Device category and permitted operating temperature - regulator without electrical equipment:

Ex II 2G Ex h IIC T6 Gb Ta = -20...+60 °C

Device category and permitted operating temperature - regulator with electrical equipment (assembly):

Ex **II 2G Ex IIC T6...T5 Gb** Ta = -20...+40 °C (T6)
Ta = -20...+50 °C (T5)

RPM-V type regulator label with **pi safety** equipment

MANDÍK®
MANDÍK, a.s.
Dobřišská 550, 267 24 Hostomice, Czech republic

VARIABLE AIRFLOW REGULATOR RPM-V MAN 170/25			
Vnom (m3/h)	1736	Vmax (m3/h)	1357
Vmin (m3/h)	339	Design	.P04
Size	200	Serial. No.:	25/9999999
Control	0-10V	Weight (kg):	16,1
K (l/s, Pa)	23,28	Communications	-
pi safety QT.Ex-MY, QT.Ex-MSL, AC.Ex, IY.Ex-P0100			

Device category and permitted operating temperature - regulator without electrical equipment:

Ex II 2G Ex h IIC T6 Gb Ta = -20...+60 °C

Device category and permitted operating temperature - regulator with electrical equipment (assembly):

Ex **II 2G Ex IIC T4 Gb** Ta = -20...+58 °C

The producer reserves the right for innovations of the product.
For actual product information see www.mandik.com

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