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21.3 Accessories for pneumatic actuators

baelz 376-1 PEZA	with 1 end switch in position open
baelz 376-1 PEZZ	with 1 end switch in position closed
baelz 376-2 PEZAZ	with 2 end switches in position open and closed
baelz 376-Ex-1 PEZA	with 1 explosion proof end switch in position open
baelz 376-Ex-1 PEZZ	with 1 explosion proof end switch in position closed
baelz 376-Ex-2 PEZAZ	with 2 explosion proof end switches in position open and closed
baelz 376-INI	inductive limit switch
baelz 376-GFg ... Ohm	with 1 position feedback potentiometer
baelz 376-GFg 5 kOhm - 1017	with position feedback signal 4 - 20 mA
baelz 376-D21	with water pocket
baelz 376-D31	with water pocket
baelz 86	with i / p positioner 4 - 20 mA baelz 86
baelz 88-SP400	digital positioner 4 – 20 mA
baelz 93	with p / p positioner baelz 93
baelz 268/2, baelz 268/2-Ex	with 3-way solenoid valve baelz 268/2,...V,...Hz; explosion proof 268/2-Ex,...V ,...Hz
baelz 270, baelz 270-Ex	with 3-way solenoid valve baelz 270/2,...V,...Hz; explosion proof 270/2-Ex,...V ,...Hz
baelz 279, baelz 279-Ex	with 2 solenoid valves baelz 268 and 2 restrictors baelz 520; explosion proof 268-Ex
baelz 280, baelz 280-Ex	with 2 solenoid valves baelz 268, 2 restrices and 1 three way solenoid valve baelz 268/2; explosion proof 268-Ex
H21 for P21	top mounted hand wheel for P21 (not P21-06)
H31 for P31 + P41	top mounted hand wheel for P31 + P41
HS21 for P21	side mounted hand wheel for P21
HS31 for P31 + P41	side mounted hand wheel for P31 + P41
baelz 373-0-Hb	mechanical stroke limiting

21.4 Additional equipment for pneumatic actuators

	baelz 376-...PEZ.. PEZ limit switch	**baelz 376-Ex-...PEZ.. Ex PEZ limit switch**	**baelz 376-INI...-PF INI inductive limit switch**	**baelz 376-GFg potentiometer**
power supply			5…25 V DC two wire connection DIN 19234 (Namur)	range: 0…200 Ω 0…1 kΩ 0…5 kΩ stroke P21: 12 / 16 / 22 mm stroke P31: 44 mm stroke P41: 44 / 66 mm
dimension (BxDxL)	about 45 x 45 x 200 mm	about 50 x 50 x 200 mm	Φ18 mm, L=40 mm	
switching capacity	0,5 A 230 V (AC15)	6 A 380 V AC, 0,4 A 220 V DC	(4 A 250 V AC with contact protection relay baelz 465)	
type of protection	IP 66	Exd3n G5 PTB Nr.: B/E 10989	IP 67	

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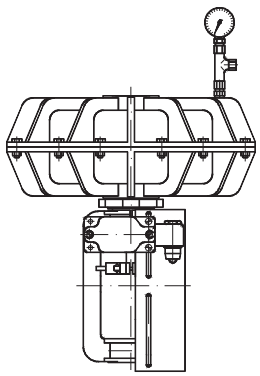
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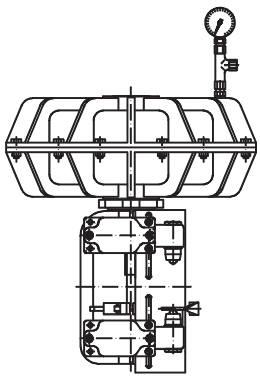
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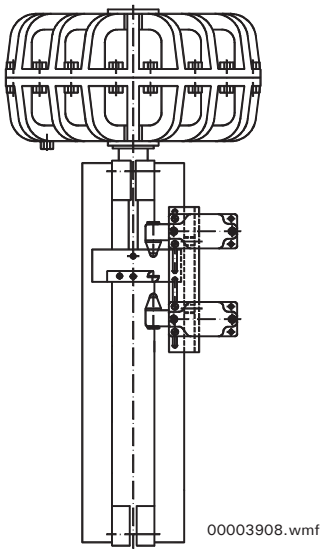
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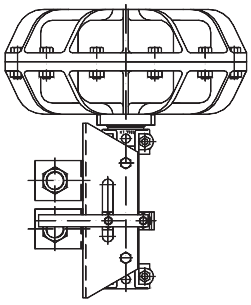
Fig. 210

baelz 376-1PEZA
for 373-P21

baelz 376-2PEZAZ
for 373-P21

baelz 376-2PEZAZ
for 373-P31/P41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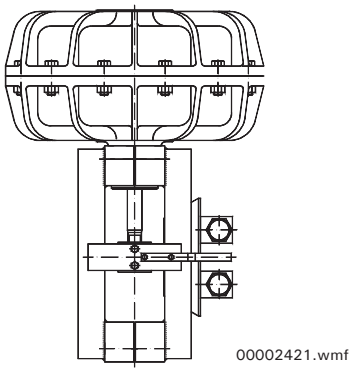
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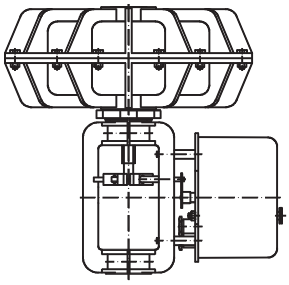
Fig. 211

baelz 376-INIAZ-PF
for 373-P21

baelz 376-INIAZ-PF
for 373-P31/P41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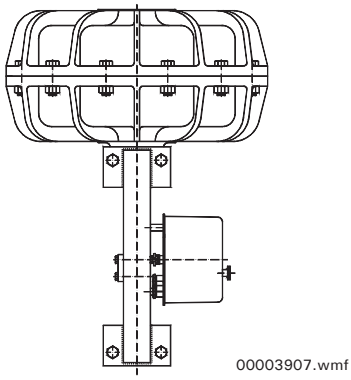
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Fig. 212

baelz 376-GFg
for 373-P21

baelz 376-GFg
for 373-P31/P41

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21.5 Analog i/p positioner baelz 86 for pneumatic actuators

Outline.
In the IP8000 series of electro-pneumatic positioners, the pneumatic valve is positionned via the current signal of a controller.

Specifications:

item	**baelz 86 IP 8000**		**baelz 86 IP 8100**	
	levery type lever		rotary type with cam	
	single action	double action	single action	double action
input current	4…20 mA DC (standard) *1			
input resistance	235 +/- 15 Ω (4…20 mA)			
supply air pressure	0.14…0.7 MPa (1.4…7 kgf/cm²)			
standard stroke	10…85 mm (external lever allowable runout angle 10°…30°)		60°…100° *2	
sensitivity	within 0.1% F.S.	within 0.5% F.S.		
linearity	within +/- 1% F.S.	within +/- 2% F.S.		
hysteresis	within 0.75% F.S.	within 1% F.S.		
repeatability	within +/- 0.5% F.S.			
thermal coefficient	within 0.1% F.S /°C.			
output flow rate	80 l/min (ANR) or more (SUP=0.14 MPa) *3			
air consumption	within 5 l/min (ANR) or less (SUP=0.14 MPa)			
ambient and using fluid temperature	-20…+80°C (T5) -20…+60°C (T6)			
explosion-protected construction	intrinsic safety type of explosion-protection (CE 0344 Ex II 2G EExib II CT5/ T6)			
	apploval No. KEMA No. 03 ATEX1119			
air connection port	¼ NPT female screw			
electric wiring connection port	M20x1.5			
material	aluminium diecast for the body			
weight	applox 2.4 kg			
classification of degree of protection	JISF8007 IP65 (conform to IEC Pub. 529)			
parameters (current circuit)	Ui ≤ 28 V, Ii ≤ 125 mA, Pi ≤ 1.2 W, Ci ≤ 0 nF, Li ≤ 0 mH			

*1 ½ split range is possible with the standard type (by adjusting the span)
*2 The stroke is adjustable in 0°…60° and 0°…100°
*3 Standard air temperature 20°C, absolute pressure 760 mmHg, relative humidity 65%

Air consumption:

	P21	**P21-V6**	**P22**	**P31**	**P32**	**P41**	**P41-V6**
	Nm³/h						
blow-off at 4 mA and 1,2 bar	0.27	0.27	0.27	0.27	0.27	0.27	0.27
blow-off at 4 mA and 1,4 bar	0.3	0.3	0.3	0.3	0.3	0.3	0.3
blow-off at 4 mA and 2 bar	0.36	0.36	0.36	0.36	0.36	0.36	0.36
blow-off at 4 mA and 3 bar	0.49	0.49	0.49	0.49	0.49	0.49	0.49
blow-off at 4 mA and 4 bar	0.61	0.61	0.61	0.61	0.61	0.61	0.61
blow-off at 4 mA and 5 bar	0.73	0.73	0.73	0.73	0.73	0.73	0.73
blow-off at 4 mA and 6 bar	0.86	0.86	0.86	0.86	0.86	0.86	0.86
air consumption for 1 x filling at 1.2 bar	0.0011	0.0031	0.0039	0.006	0.008	0.011	0.018
air consumption for 1 x filling at 1.4 bar	0.0012	0.0032	0.004	0.0062	0.009	0.012	0.019
air consumption for 1 x filling at 2 bar	0.0015	0.0042	0.005	0.008	0.011	0.015	0.023
air consumption for 1 x filling at 3 bar	0.002	0.0058	0.0068	0.011	0.015	0.02	0.031
air consumption for 1 x filling at 4 bar	0.0025	0.007	0.0085	0.014	0.018	0.025	0.038
air consumption for 1 x filling at 5 bar	0.003	0.0086	0.01	0.017	0.022	0.03	0.045
air consumption for 1 x filling at 6 bar	0.0035	0.01	0.012	0.019	0.026	0.035	0.054
examples for total air consumption: we have per hour 30 total ups and downs (consumption = blow-off + 30*) *** air consumption for 1 x filling**							
	Nm³/h						
total air consumption at 1.2 bar	0,31	0.37	0.39	0.45	0.51	0.6	0.81
total air consumption at 1.4 bar	0.34	0.4	0.42	0.49	0.57	0.66	0.87
total air consumption at 2 bar	0.41	0.49	0.51	0.6	0.69	0.81	1.05
total air consumption at 3 bar	0.55	0.67	0.7	0.82	0.94	1.09	1.42
total air consumption at 4 bar	0.69	0.82	0.87	1.03	1.15	1.36	1.75
total air consumption at 5 bar	0.82	0.99	1.03	1.24	1.39	1.63	2.08
total air consumption at 6 bar	0.97	1.16	1.22	1.43	1.64	1.91	2.48

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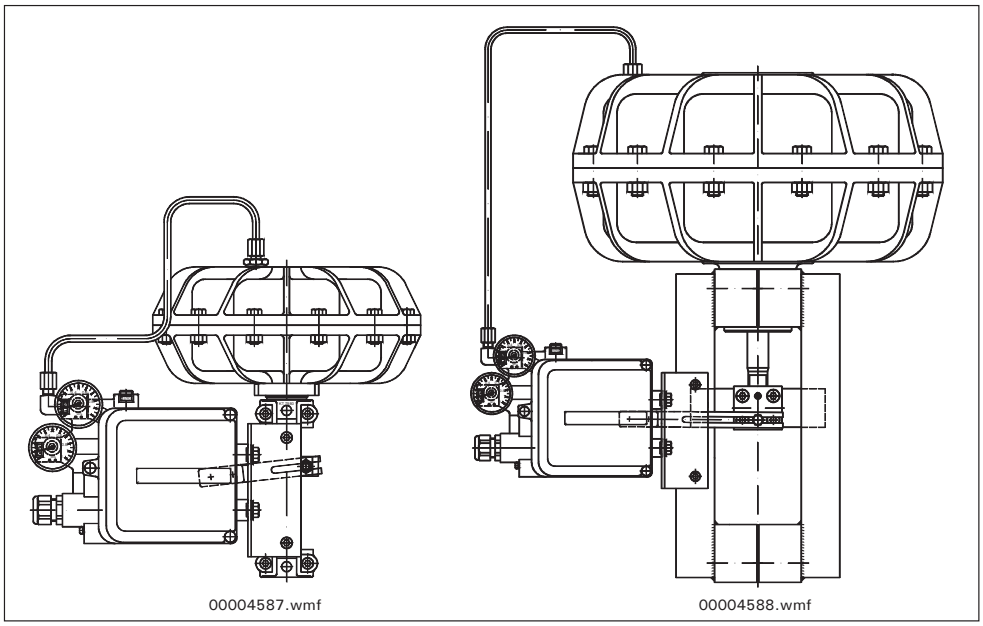

Fig. 213
baelz 373-P21-86 baelz 373-P31-86

Fig. 214
baelz 86 IP8000

Fig. 215
baelz 86 IP8100 for rotary actuators

Fig. 216 baelz 373-P21-86

Fig. 217 baelz 373-P41-V6-86