

AZK Series

Integrated Vacuum Generator

AIRBEST

RoHS



Features

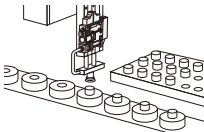
- ◊ Energy-efficient nozzle design
- ◊ With energy-saving control device
- ◊ With normally open vacuum supply valve
- ◊ Small size and light weight. The volume is 85cm³
- ◊ Transparent filter housing
- ◊ Single body with L bracket, DIN guide rail installation for integrated body, centralized air supply

Advantages

- ◊ Vacuum flow increased by 50% and air consumption decreased by 30%
- ◊ Air consumption reduced by 90%(compared with non-energy saving type)
- ◊ Power outage or power off does not affect vacuum producing and prevent the workpiece from falling
- ◊ The device is compact and can be installed directly in the handling system
- ◊ The cleanliness is visible and easy to replace
- ◊ Simple installation, can be installed directly on the distribution box

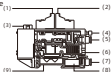
Applications

- ◊ Integrated vacuum generator for handling airtight and slightly porous workpieces
- ◊ Vacuum producing and monitoring in automation systems
- ◊ For robot handling applications and linear axes
- ◊ Pick and place applications with very short time
- ◊ Used for systems that require high dynamic handling of workpieces and with limited space
- ◊ Usually used for handling small parts in fully automated systems



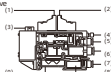
Structure - With vacuum source type (Vacuum generator type)

- ◊ (1) Vacuum supply valve
- ◊ (2) Vacuum release valve
- ◊ (3) Vacuum pressure switch
- ◊ (4) Vacuum release adjusting valve
- ◊ (5) Air supply port
- ◊ (6) Silencer
- ◊ (7) Vacuum port
- ◊ (8) Vacuum filter
- ◊ (9) DIN guide rail installation



Structure - Without vacuum source type (Vacuum pump type)

- ◊ (1) Vacuum supply valve
- ◊ (2) Vacuum release valve
- ◊ (3) Vacuum pressure switch
- ◊ (4) Vacuum release adjusting valve
- ◊ (5) Air supply port
- ◊ (6) Vacuum pump connector
- ◊ (7) Vacuum port
- ◊ (8) Vacuum filter
- ◊ (9) DIN guide rail installation



Vacuum Generator

AZK

AZQ

AZM

AZD

AGS

AGB

AGP

AGX

AGE

ABP/ABX

ABAB/ABAB/ABAB/Type

AMC

AM/AM

AB/AB/AB/AB/Type

AMD

AZW

AZR

ABT

ABP

ABQ

AEVC

AZL

ALH

AZH

AZU

ACV

AGBP

ALS

ACP

ACPF

ACPS

APB

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Integrated Vacuum Generator

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How to order

AZK - S × 8 - NO - N - D

① ② ③ ④ ⑤ ⑥

① Series	② Specification	③ Stack	④ Control valve specification
AZK	S - Low vacuum level type	Nil - Single body	Nil - Supply valve NC + release valve NC
	X - High vacuum level type	2	NO - Supply valve NO + release valve NC
	P - Low air supply pressure and high vacuum level type	3	(lead wire length 300mm, power supply DC24V)
	L - Large flow type		
	B - Vacuum pump type	8	
⑤ Vacuum switch	⑥ Bracket		
Nil - Without vacuum switch	Nil - Single air supply, without bracket		
N - NPN, without energy saving function	F - Single air supply, with bracket(single body)		
P - PNP, without energy saving function	D - Single air supply, guide rail installation(integrated)		
NE - NPN, with energy saving function	DP - Centralized air supply, guide rail installation(integrated)		
PE - PNP, with energy saving function			

- ◇ Note: 1. Only NE/PE are with check valve for energy saving, others are without check valve
 2. Energy saving function is not optional for L-large flow type and B-Vacuum pump type
 3. Centralized air supply is not optional for B-Vacuum pump type

Technical parameters

Model	Air supply pressure range bar	Rated air supply pressure bar	Max. vacuum level -kPa	Max. vacuum flow NL/min	Max. break flow rate NL/min	Air consumption NL/min	Noise level dB(A)	Without pressure switch	Weight g with pressure switch	Recommended hose dia.(mm)	Air supply port P	Vacuum pump connector	Vacuum port V
AZK-S	3.0~6.0	6.0	74	44	60	26	65~70	88.5	102.5	φ6	-	-	φ6
AZK-X	3.0~6.0	5.0	91	41	54	29	65~70	88.5	102.5	φ6	-	-	φ6
AZK-P	3.0~6.0	3.7	88	40	46	32	65~70	88.5	102.5	φ6	-	-	φ6
AZK-L	3.0~6.0	5.0	90	68	48	85	74~80	102	114	φ6	-	-	φ8
AZK-B	3.0~6.0	-	-	35	-	-	-	101.5	113.5	φ4	φ6	φ6	

- ◇ Note: 35NL/min is the max. allowed passing flow of AZK-B, AZK-L external silencer

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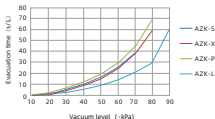
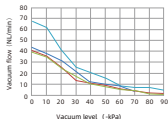
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Vacuum flow(NL/min) at different vacuum levels(-kPa)

Model	Air supply pressure bar	Air consumption NL/min	0	10	20	30	40	50	60	70	80	90	Max. vacuum level -kPa
AZK-S	6.0	26	44.0	38.0	32.0	22.0	12.0	10.0	8.5	4.0	-	-	74
AZK-X	5.0	29	41.0	36.0	26.0	13.7	11.0	9.3	6.6	4.6	2.7	2.0	91
AZK-P	3.7	32	40.0	35.0	25.2	17.7	10.9	8.0	5.6	4.2	1.5	1.0	88
AZK-L	5.0	85	68.0	62.0	42.0	26.0	20.6	16.2	9.0	7.2	7.2	5.0	90

Evacuation time(s/L) to reach different vacuum levels(-kPa)

Model	Air supply pressure bar	Air consumption NL/min	10	20	30	40	50	60	70	80	90	Max. vacuum level -kPa
AZK-S	6.0	26	0.01	0.19	0.50	1.02	1.72	2.60	3.88	-	-	74
AZK-X	5.0	29	0.02	0.14	0.47	0.96	1.56	2.50	3.87	6.00	-	91
AZK-P	3.7	32	0.05	0.30	0.71	1.26	1.95	2.97	4.49	6.95	-	88
AZK-L	5.0	85	0.06	0.16	0.33	0.60	0.95	1.43	2.14	3.03	6.16	90



Vacuum Generator

AZK

AZQ

AZK

AZD

AZS

AGB

AGP

AGK

AGE

ABP/ABX

ABP/ABX

ABP/ABX

ABP/ABX

ABP/ABX

ABP/ABX

ABP/ABX

ABP/ABX

ABP/ABX

ABP/ABX

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ABP/ABX

AZK Series

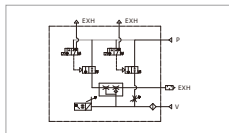
Integrated Vacuum Generator

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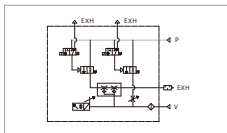
Technical parameters - Pressure switch

Model	ZPDC-□	ZPDC-□-E
Pressure range	-100~100kPa	-100~100kPa
Setting pressure range	-105~105kPa	-105~105kPa
Proof pressure	500kPa	500kPa
General gas	Air, Non-corrosive, non flammable gas	Air, Non-corrosive, non flammable gas
Power supply voltage	24V Dc±10%, RIPPLe (P-P) 10% or less	24V Dc±10%, RIPPLe (P-P) 10% or less
Current consumption	≤40mA (Without load)	≤40mA (Without load)
Switch output	2NPN or 2PNP open collector output+1~5V linear analog output	1NPN or 1PNP open collector output
Output mode		
Max. load current	125mA	125mA
Max. supply voltage	30V DC (NPN) 24V DC (PNP)	24V DC
Residual voltage	≤1.5V	≤1.5V
Response time	≤2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms, 1500ms selectable)	≤2.5ms (chattering-proof function: 2.5ms, 20ms, 100ms, 500ms, 1000ms, 1999ms selectable)
Output short circuit protection	Yes	OUT switch: Yes; V-Sol/D-Sol: No
Repeatability	±0.2% F.S. ±1 digit	
Display	3 1/2 LED 7 segment display (Red) display (Sampling rate: 5 times/sec)	
Indicator accuracy	±2% F.S. ±1 digit	
Switch ON indicator	OUT1: Green/OUT2: Red	
Environmental resistance	IP Grade	
	IP40	
Ambient temp. range	Operation: 0~50°C	
Withstand voltage	1000VAC in 1 minute (between case and lead wire)	
Insulation resistance	50MΩ min. (at 500V DC, between case and lead wire)	
Temperature characteristic	±2% F.S. (at temperature range of 0~50°C)	
Lead wire	Oil proof PVC cable (0.15mm ²)	

Air circuit schematic diagram



AZK-□-N AZK-□-P



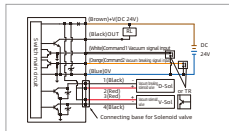
AZK-□-NE AZK-□-PE

AZK Series

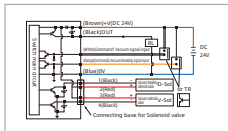
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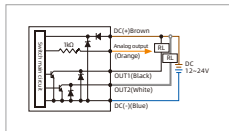
Output circuit wiring diagrams



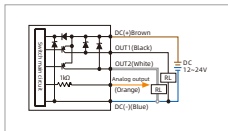
ZPDC-N-E NPN output



ZPDC-P-E PNP output

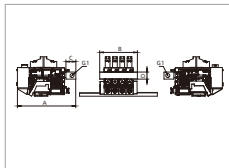


ZPDC-N 2NPN+1 Analog voltage output (1~5V)



ZPDC-P 2PNP+1 Analog voltage output (1~5V)

Centralized air supply dimensions(mm)



Stack	A	B	C	D	G1
2	124	49	21	15	G1/8
3	124	64.5	21	15	G1/8
4	124	80	21	15	G1/8
5	124	95.5	21	15	G1/8
6	124	111	21	15	G1/8
7	124	126.5	21	15	G1/8
8	124	142	21	15	G1/8

Max. number of manifold stations that can operate simultaneously	AZK-X	AZK-P	AZK-S	AZK-L
Air supply from one side	6	6	6	4
Air supply from both sides	8	8	8	8

Vacuum Generator

AZK

AZQ

AZR

AZD

AGS

AGB

AGP

AGX

AGE

ABP/ABQ

ABAR/ABAR/Combined Type

AMC

ABU/ABU

ABUL/ABUL/Combined Type

AND

AZW

AZR

ABT

ABP

ABQ

AEVC

AZL

ALH

AZH

AZU

ACV

ASBP

ALS

ACP

ACPF

ACPS

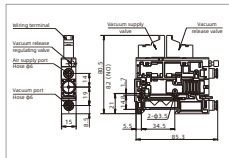
APB

AZK Series

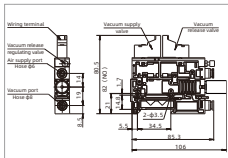
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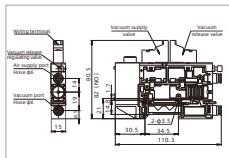
Dimensions(mm)



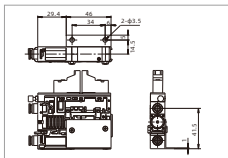
AZK-□ Single body



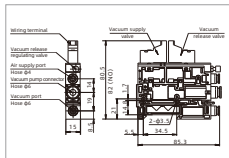
AZK-L Single body



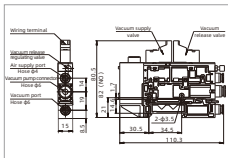
AZK-□-□ Single body with pressure switch



AZK-□-F Single body with mounting bracket



AZK-B Single body



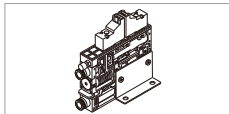
AZK-B-□ Single body with pressure switch

AZK Series

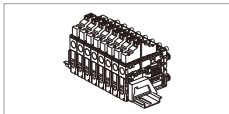
Integrated Vacuum Generator

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Installation diagram

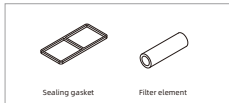


Mounting with bracket for single body



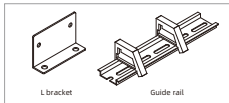
Mounting with DIN guide rail for combined type

Repair kits



Sealing gasket

Filter element



L bracket

Guide rail

Item	Model	Remark
Filter parts		
Solenoid valve leadwire	AZK-FE	Filter element + sealing gasket
Energy-saving leadwire	AZK-N	Plug lead wire length 300mm
Energy-saving leadwire	AZK-NE	Ends lead wire
Bracket mounting parts	AZK-F	L bracket+M3.5x20screw/nut(2 pcs each)
Guide rail mounting parts(2-3 layers)	AZK-2-D	Length 130mm
Guide rail mounting parts(4-5 layers)	AZK-4-D	Length 165mm
Guide rail mounting parts(6-7 layers)	AZK-6-D	Length 200mm
Guide rail mounting parts(8 layers)	AZK-8-D	Length 235mm

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AGS

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AGP

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AGE

ABP/ABX

ABWAB

Combined Type

AMC

AWLAW

AWL

Combined Type

AMD

AZW

AZR

ABT

ABP

ABQ

AEVC

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