



# Vacuum Equipment Overview

# Vacuum-Technology

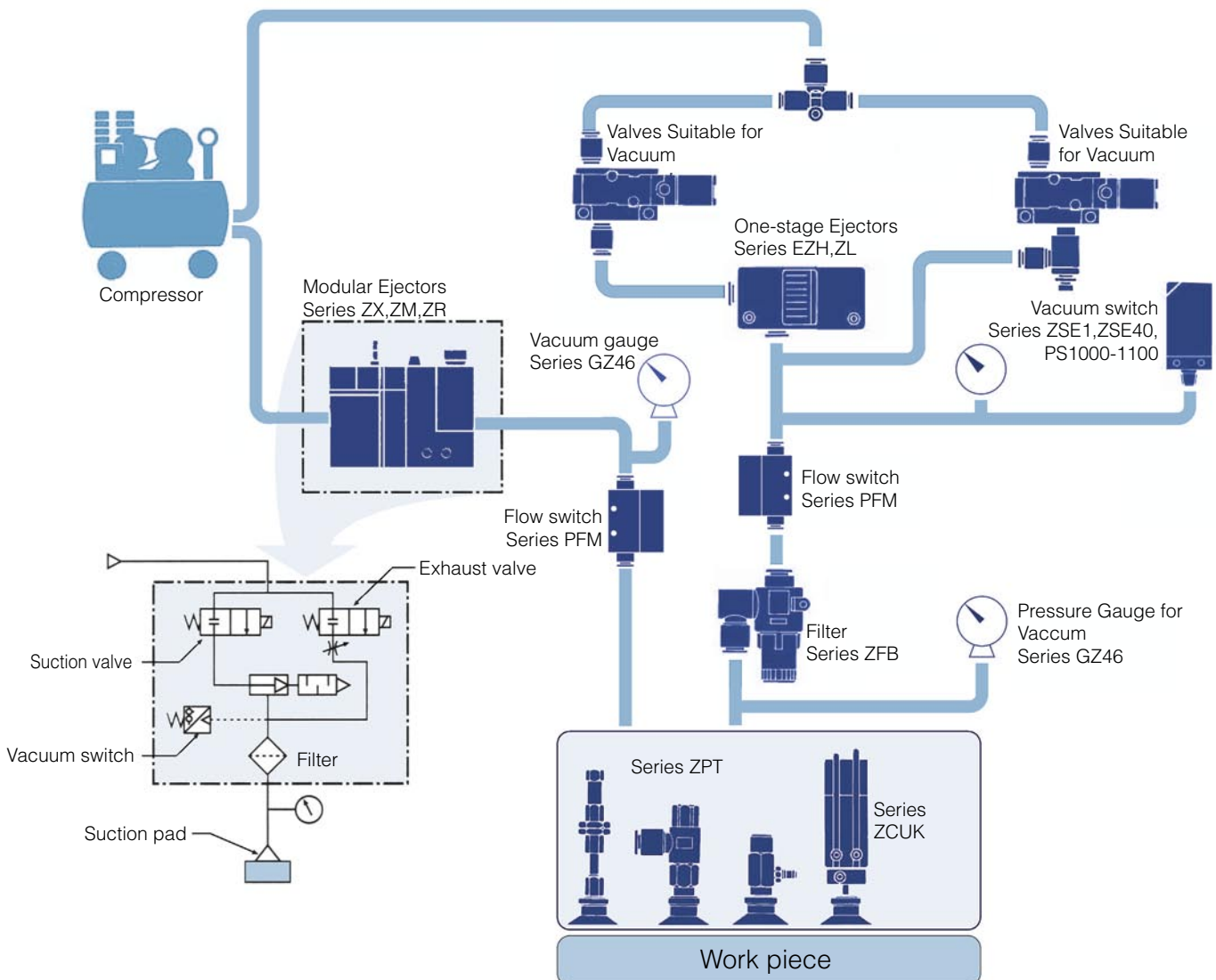
Vacuum technology is acquiring major importance in industrial automation and in most manipulation tasks. SMC can also claim a great deal of experience in this sometimes very complicated product area.

The solutions found together with our business partners have led to the development of a vacuum program that offers a unique service to the supplier of whole pneumatic solutions.

Our wide range of products, the quality of those products, and the comprehensive, professional consultancy service offered by the SMC staff ensure that vacuum circuits are optimally designed and thus mean that you will get optimal usage from your equipment.

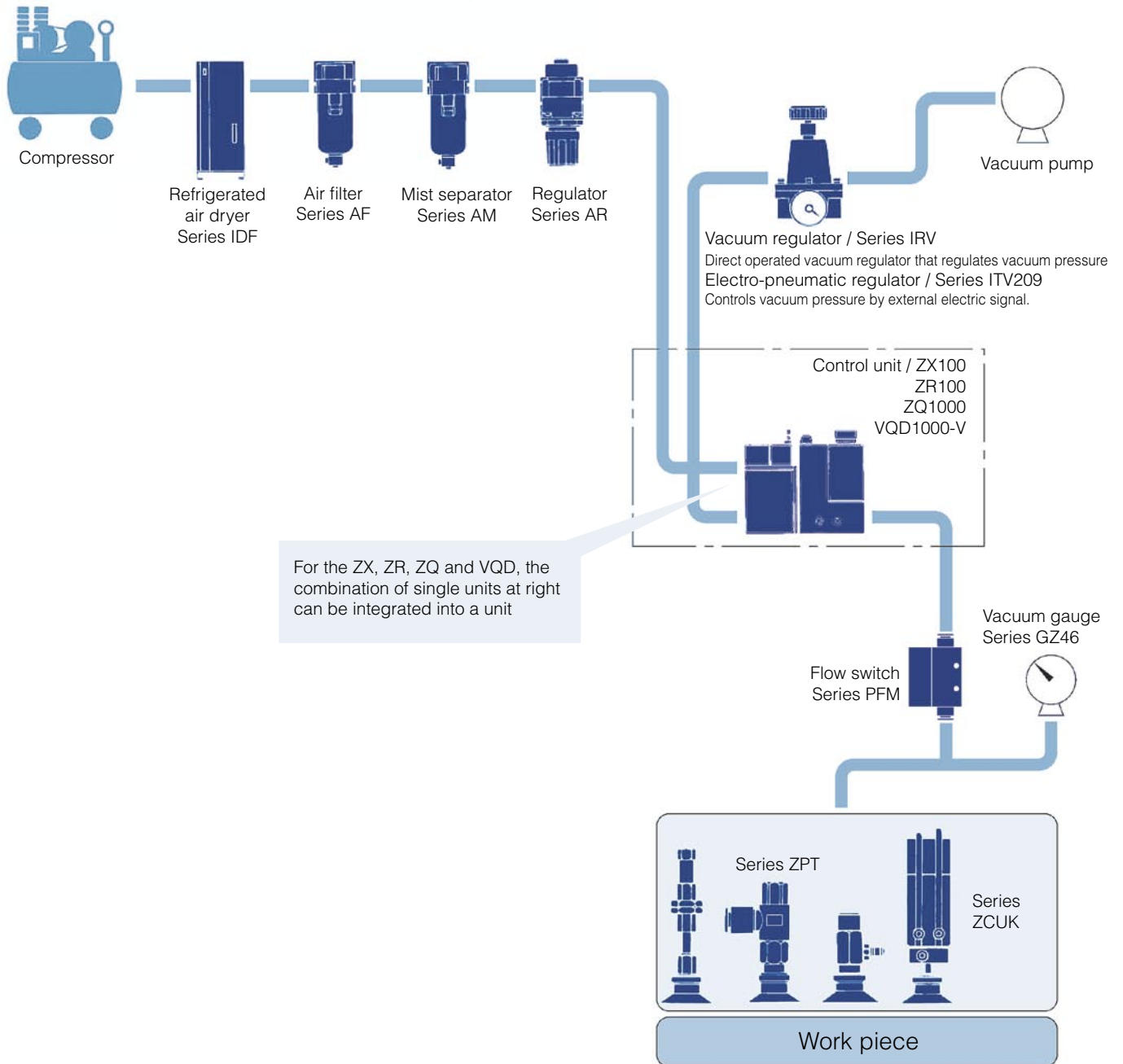
However, we are not resting on our laurels, and are continuously developing new and enhanced solutions. You can judge this for yourself in this section.

The sheer number of products that are labelled «New» speaks for itself, and there are of course numerous other products that cannot be shown in this catalogue summary.



## Adsorption Transfer System for Vacuum Pump

Equipment (vacuum switching valve, vacuum release valve, throttle valve, vacuum pressure switch, and filter) that is needed for controlling the vacuum pressure has been integrated to achieve efficient assembly work and a compact design.



# Vacuum

## Vacuum ejector Inline Series ZU



- Plug connection  $\varnothing$  6 mm.
- Superior suction capacity (L type).
- Can be mounted directly to the suction pad.
- Light, compact design.
- Built-in silencer.
- Nozzle diameter  $\varnothing$  0.5 or 0.7 mm.

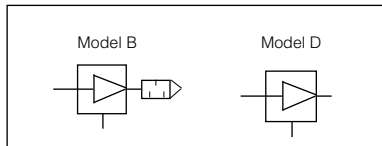
Nozzle $\varnothing$ (mm)	Type number	Suction cap. (l/min)	Port	Max. vacuum pressure	Circuit Symbol
0,5	ZU05S	7	$\varnothing$ 6	-85KPa	
0,7	ZU07S	12,5			
0,5	ZU05L	12,5	$\varnothing$ 6	-48KPa	
0,7	ZU07L	22			

## Vacuum ejector Series ZH



- 2 models: tube or case type.
- Light, compact design.
- Nozzle diameter  $\varnothing$  0.5, 1, 1.3 mm.
- With built-in one-touch fittings or female thread.
- Case type has built-in silencer.

Nozzle $\varnothing$ (mm)	Type number	Port		Suction cap. (l/min)	Max. Vacuum Pressure	Model
		Air	Vacuum			
0,5	EZH05DS-06-06-06	$\varnothing$ 6	$\varnothing$ 6	5	-88 kPa	Model D, tube type without silencer
1,0	EZH10DS-06-06-08	$\varnothing$ 6	$\varnothing$ 6	24		
1,3	EZH13DS-08-10-10	$\varnothing$ 8	$\varnothing$ 10	40		
0,5	EZH05BS-06-06	$\varnothing$ 6	$\varnothing$ 6	5	-88 kPa	Model B, case type with silencer
1,0	EZH10BS-06-06	$\varnothing$ 6	$\varnothing$ 6	24		
1,3	EZH13BS-08-10	$\varnothing$ 8	$\varnothing$ 10	40		
0,5	EZH05BS-06-F01	$\varnothing$ 6	G1/8"	5	-88 kPa	
1,0	EZH10BS-06-F01	$\varnothing$ 6	G1/8"	24		
1,0	EZH10BS-F01-F01	G1/8"	G1/8"	24		
1,3	EZH13BS-08-F02	$\varnothing$ 8	G1/4"	40		



## Vacuum ejector Series ZM



- 2 mini control valves.
- Integral vacuum switch.
- Integral vacuum filter.
- 40% more suction capacity (2-stage ejector nozzle).
- Can be stacked to a max. of 10 stations.
- Flat design (15.5mm) with metal body.

Ejector with control valves, filter and vacuum switch

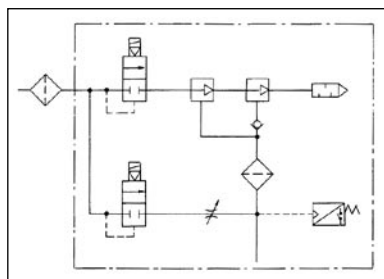
*Nozzle $\varnothing$ (mm)	Type number	Switch output	Suction cap. (l/min)	Max. vacuum pressure	Voltage
1,3	ZM131HF-K5LOZ-E55L-Q	PNP	40	-84 kPa	24 V DC: Solenoid Valves
1,3	ZM131HF-K5LOZ-E15L-Q	NPN	40	-84 kPa	12~24 V DC: Vacuum switches

\* Nozzle diameters 0.5/0.7/1.0 upon request

Connection cable for solenoid valves

Accessory Plug connection with cable

	Cable L= 0.6 m	Cable L= 1 m	Cable L= 2 m	Cable L= 3 m
Without casing	SY100-30-4A-6	SY100-30-4A-10	SY100-30-4A-20	SY100-30-4A-30
With casing	SY100-68-A-6	SY100-68-A-10	SY100-68-A-20	SY100-68-A-30



Vacuum Ejector, modular, stackable

Series ZX



- Compact and light.
- Allows both manifold mounting and mounting as an individual device.
- Modular design.

Ejector System

Ejector with control valves

*Nozzle Ø (mm)	Type number	Suction capacity (ℓ/min)	Max. Vacuum Pressure	Voltage
1,0	ZX1101-K15LOZ-Q	22	-84 kPa	24 V DC: Solenoid Valve

Ejector with vacuum switch and filter

*Nozzle Ø (mm)	Type number	Switch Output	Suction cap. (ℓ/min)	Max. Vacuum Pressure	Voltage
1,0	ZX1101-E55CN-Q	PNP	22	-84 kPa	12 - 24 V DC: Vacuum switch
1,0	ZX1101-E15CN-Q	NPN	22	-84 kPa	

Ejector with control valves, filter and vacuum switch

*Nozzle Ø (mm)	Type number	Switch Output	Suction cap. (ℓ/min)	Max. Vacuum Pressure	Voltage
1,0	ZX1101-K15LOZ-E55CN-Q	PNP	22	-84 kPa	12 - 24 V DC: Vacuum switch
1,0	ZX1101-K15LOZ-E15CN-Q	NPN	22	-84 kPa	

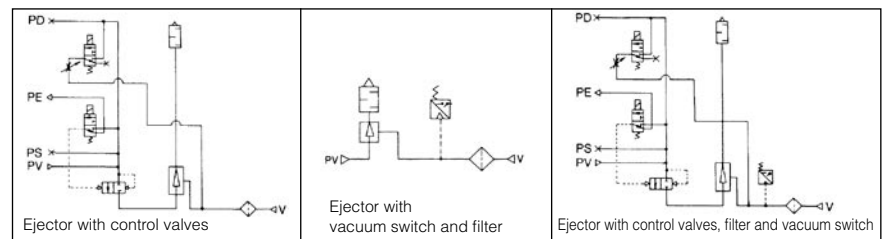
\* Nozzle diameters 0.5 and 0.7 upon request

Connection cable for solenoid valves

1 m	2 m	3 m
AXT661-14AN-10	AXT661-14AN-20	AXT661-14AN-30

Connection cable for vacuum switch

3 m
ZX-10-5A-30



Vacuum Pump System

Valve unit with vacuum switch

Type number	Switch output	Voltage
ZX100-K15LOZ-E55CN-Q	PNP	12-24 V DC: Vacuum switch
ZX100-K15LOZ-E15CN-Q	NPN	12-24 V DC: Vacuum switch

Valve unit with filter

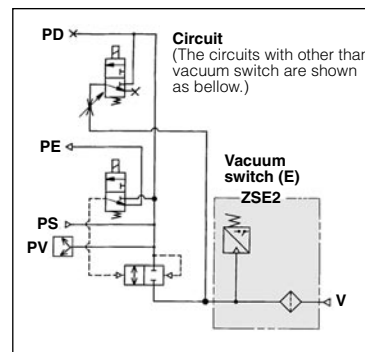
Type number	Voltage
ZX100-K15LOZ-F-Q	12-24 V DC: Valve

Connection cable for solenoid valves

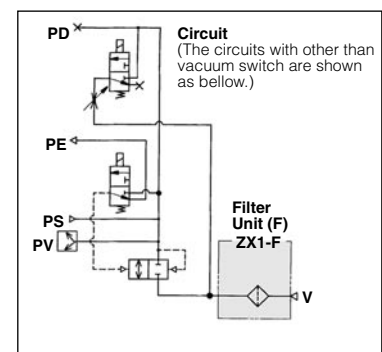
1m	2m	3m
AXT661-14AN-10	AXT661-14AN-20	AXT661-14AN-30

Connection cable for vacuum switch

3m
ZX10-5A-30



Valve unit with vacuum switch



Valve unit with filter



Ejector System  
Stackable Vacuum Ejector  
Series ZR



- Vacuum unit specially for heavy work pieces of up to 5kg.
- Allows both manifold mounting and mounting as an individual device.
- Modular design.
- Compact and light (plastic body).

Ejector System

Ejector unit, standard

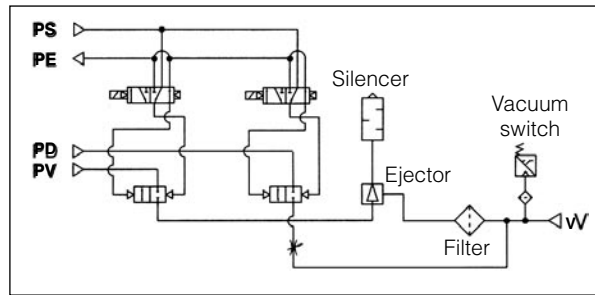
Nozzle Ø (mm)	Type number	Switch output	Suction cap. (ℓ/min)	Max. Vacuum Pressure	Voltage/Solenoid Valve	
1,5	ZR115S1-K15LOZ-E55CN-Q	PNP	54	-84 kPa	24V DC	Double
	ZR115S1-K25LOZ-E55CN-Q					Single
2,0	ZR120S1-K15LOZ-E55CN-Q	PNP	84	-84 kPa		Double
	ZR120S1-K25LOZ-E55CN-Q					Single

Ejector unit, superior suction capacity

Nozzle Ø (mm)	Type number	Switch output	Suction cap. (ℓ/min)	Max. vacuum pressure	Voltage/Solenoid Valve	
2,0	ZR120L1-K15LOZ-E55CN-Q	PNP	105	-53 kPa	24V DC	Double
	ZR120L1-K25LOZ-E55CN-Q					Single

Accessory Plug connection with cable

	Cable L= 0.6 m	Cable L= 1 m	Cable L= 2 m	Cable L= 3 m
Without casing	SY100-30-4A-6	SY100-30-4A-10	SY100-30-4A-20	SY100-30-4A-30
With casing	SY100-68-A-6	SY100-68-A-10	SY100-68-A-20	SY100-68-A-30



Connection cable for vacuum switch  
3m  
ZS-10-5A-30

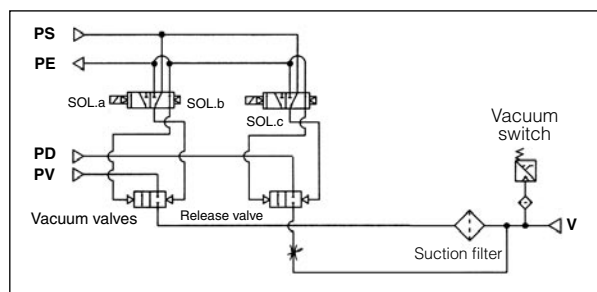
Vacuum Pump System

Valve unit with vacuum switch

Type number	Switch output	Voltage/Solenoid valve	
ZR100-K15LOZ-E55CN-Q	PNP	24 V DC	Double
ZR100-K25LOZ-E55CN-Q	PNP		Single

Accessory Plug connection with cable

	Cable L= 0.6 m	Cable L= 1 m	Cable L= 2 m	Cable L= 3 m
Without casing	SY100-30-4A-6	SY100-30-4A-10	SY100-30-4A-20	SY100-30-4A-30
With casing	SY100-68-A-6	SY100-68-A-10	SY100-68-A-20	SY100-68-A-30



Connection cable for vacuum switch  
3m  
ZS-10-5A-30

## Vacuum Ejector Series ZL

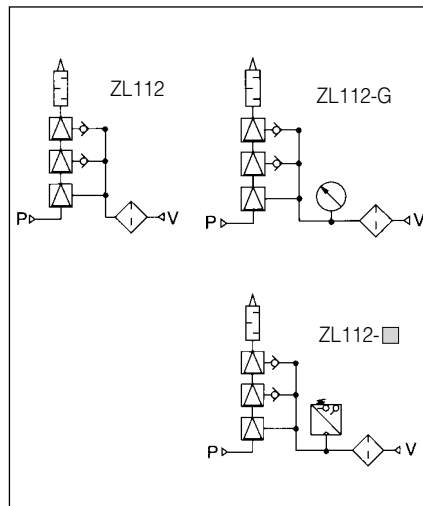


- Compact design.
- 3 different types:  
Ejector + vacuum switch.  
Ejector + vacuum gauge.  
Only ejector
- Vacuum built by 3 stage ejector therefore less air consumption, by the nozzle.
- Nozzle diameter 1.2 mm.
- Suction capacity 100 l/min or 200 l/min with ZL212.
- Different ways of fixing to body.

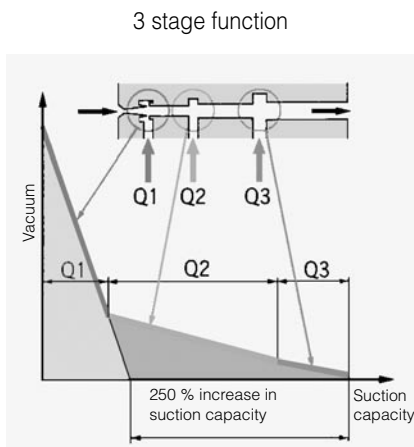
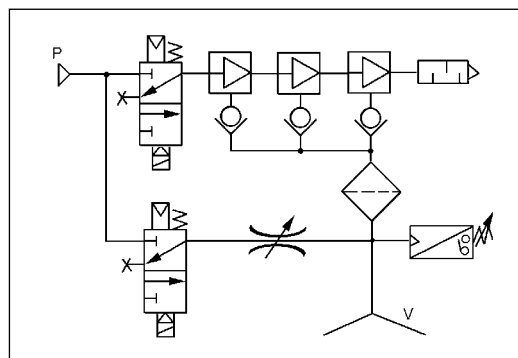
Nozzle Ø (mm)	Type number	Type	Switch output	Suction cap. (l/min)	Max. Vacuum Pressure
1,2	ZL112	Standard	—	100	-84 kPa
	ZL112-G	Standard with vacuum meter	—		
	ZL112-E65L-Q	Standard with vacuum switch	PNP		
	ZL112-E25L-Q		NPN		
	ZL112-E26L-Q		Analogue		
	ZL112-K15LOU-E65L-Q	Standard with vacuum switch and control valves	PNP		
ZL112-K15LOU-E25L-Q	NPN				
ZL112-K15LOU-E26L-Q	Analogue				
2 x 1,2	ZL212	Standard	—	200	-84kPa
	ZL212-G	Standard with vacuum meter	—		
	ZL212-E65L-Q	Standard with vacuum switch	PNP		
	ZL212-E25L-Q		NPN		
ZL212-E26L-Q	Analogue	—			

### Accessory Plug connection with cable

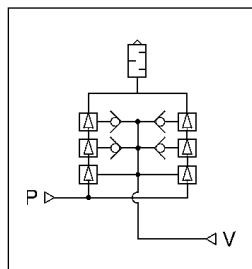
	Cable L= 0.6 m	Cable L= 1 m	Cable L= 2 m	Cable L= 3 m
Without casing	SY100-30-4A-6	SY100-30-4A-10	SY100-30-4A-20	SY100-30-4A-30
With casing	SY100-68-A-6	SY100-68-A-10	SY100-68-A-20	SY100-68-A-30



### ZL112-K15LOZ-E\*



### ZL212



# Vacuum

## Vacuum Filter Series ZFA



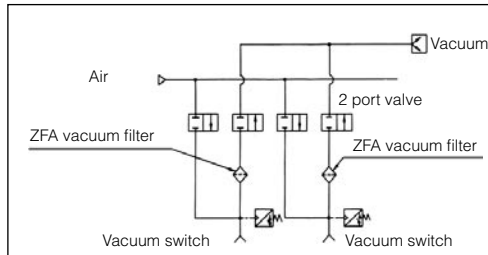
- Filters intake air before the vacuum ejector.
- Large filter element increases service life.
- Light, compact design.
- Stackable.
- Filter element replaced quickly and easily.

Type number	Port	Flow (ℓ/min)	Proof pressure	Filtration degree	Circuit Symbol
EZFA100-F01	G1/8"	50	0,5MPa	30 μm	
EZFA200-F02	G1/4"	200			

### Accessories

Type number	ZFA100	ZFA200
Replacement filter	EJ001H-030N	EJ101H-030N
Mounting bracket	BP-1H-1A	BP-1H-2A

### Application with vakuumpump



## Vacuum Filter Series ZFB



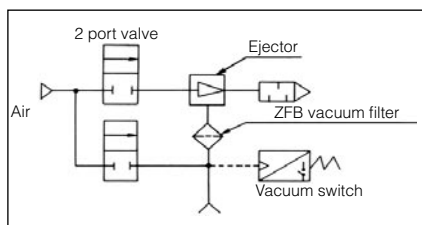
- 360° rotation.
- Prevents soiling in the vacuum ejector.
- Integrated one-touch fittings for simple mounting.
- Filter element quickly replaced.
- Transparent polycarbonate permits visual checking of soiling level.

Type number	Port ø(mm)	Flow (ℓ/min)	Proof pressure	Filtration degree	Circuit Symbol
ZFB100-04	4	10	0.5MPa	30 μm	
ZFB100-06	6	20			
ZFB200-06	6	30			
ZFB200-08	8	50			
ZFB300-08	8	75			
ZFB300-10	10	75			

### Replacement filter element

Model	ZFB100	ZFB200	ZFB300
Type number	I-34S-A	I-35S-A	I-36S-A

### Application with vacuum ejector





## Vacuum Filter Series ZFC



- Compact, lightweight, resin design.
- Filter element simply replaced using bayonet socket.
- Easily mounted with one-touch fittings.
- Transparent polycarbonate permits visual checking of soiling level.

Port number	Port ø(mm)	Flow (ℓ/min)	Filtration degree	Circuit Symbol
ZFC050-02B	2	2	10 μm	
ZFC050-23B	3.2	7		
ZFC050-04B	4	10		
ZFC100-04B	4	10		
ZFC100-06B	6	20		
ZFC200-06B	6	30		
ZFC200-08B	8	50		

### Accessory-Filter element

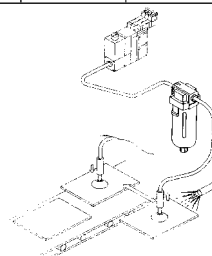
Model	ZFC050	ZFC100	ZFC200
Part number	I-68S-A	I-62S-A	I-63S-A

## Water Separator for Vacuum Series AMJ



- At least 90% of the water that is sucked in is removed.
- Manual discharge mechanism.
- Bayonet socket simplifies filter element replacement.
- Bowl protection standard.

Part number	Port	Flow (ℓ/min)	Operating pressure min	max.	Circuit Symbol
AMJ3000-F02	G 1/4"	200	-0.1MPa	1.0MPa	
AMJ3000-F03	G 3/8"				
AMJ4000-F03	G 3/8"	300			
AMJ4000-F04	G 1/2"				
AMJ5000-F06	G 3/4"	500			
AMJ5000-F10	G 1"				



## Vacuum Pads, Ball Joint Type

### Series ZPT/ZPR\*F



Suction pads with ball joint - ideal for use on slanted or round surfaces

- Ball joint makes it ideal for slanted surfaces or round components.
- Ø 10 mm to Ø 50 mm.
- Interchangeable with standard pad types.
- Large range of adapter parts with or without buffer.
- Vacuum entry either radial or axial.
- Choose from 6 different pad materials.

### Standard versions

Part no.	Pad ø(mm)	Vacuum connection port	Mounting threads	
			Male	Female
ZPT <input type="checkbox"/> F <input type="checkbox"/> ** -B5-A8	10, 13,16	M5	M8 x 1	
ZPT <input type="checkbox"/> F <input type="checkbox"/> ** -B5-A10	20,25, 32		M10 x 1	
ZPT <input type="checkbox"/> F <input type="checkbox"/> ** -B5-A14	40, 50		M14 x 1	
ZPT <input type="checkbox"/> F <input type="checkbox"/> ** -B5	10, 13, 16	M5		M5
ZPT <input type="checkbox"/> F <input type="checkbox"/> ** -B5	20, 25, 32	M5		M5
ZPT <input type="checkbox"/> F <input type="checkbox"/> ** -B8		M8		M8
ZPT <input type="checkbox"/> F <input type="checkbox"/> ** -B8	40, 50	M8		M8
ZPT <input type="checkbox"/> F <input type="checkbox"/> ** -B01		Rc 1/8"		Rc 1/8"

- Pad Ø
- Pad materials:  
"N"...NBR, "S"...silicon, "U"...urethane, "F"...fluoro rubber, "GN"...conductive NBR, "GS"...conductive silicon  
Buffer versions, lateral vacuum entry (ZPR) upon request.



# Vacuum

## Vacuum Pads, Series ZPT...H Flat style with ribs



- Heavy duty.
- Large diameter.
- Ø 40•50•63•80•100•125 mm.

Part no.	Pad Ø	Suction pad/ Port Size	Mounting thread	Material	Detail drawing
ZPT40HN-A14	40	Rc1/8"	M14x1	NBR	
ZPT50HN-A14	50				
ZPT63HN-A16	63		M16x1.5		
ZPT80HN-A16	80				
ZPT100HN-A16	100		M16x1.5		
ZPT125HN-A16	125				

Other models, materials, diameters, etc. upon request.



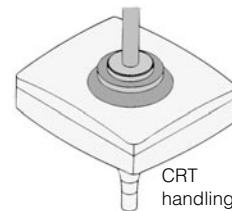
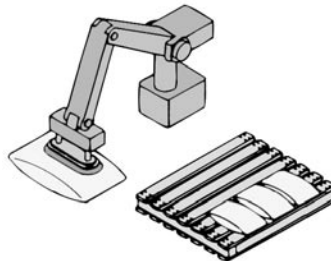
## Vacuum Pads, Series ZPT...HB With rod boot



- Heavy duty.
- Large diameter.
- Ø 40•50•63•80•100•125 mm.

Part number	Pad Ø	Port size/ Suction pad	Mounting thread	Material	Detail drawing
ZPT40HBN-A14	40	Rc1/8"	M14x1	NBR	
ZPT50HBN-A14	50				
ZPT63HBN-A16	63		M16x1.5		
ZPT80HBN-A16	80				
ZPT100HBN-A16	100		M16x1.5		
ZPT125HBN-A16	125				

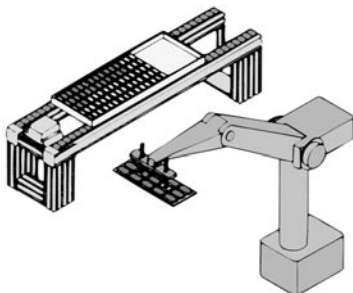
Other models, materials, diameters, etc. upon request.



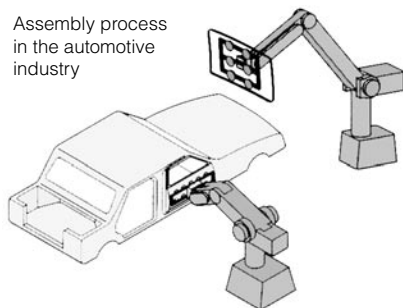
## Vacuum Pads, Series ZP



- Broad range of different materials: NBR, silicon, fluoro rubber, urethane,...
- 4 round pad designs with flat, flat with ribs, deep and bellows shaped suction pad.
- Pad Ø from 2 to 125 mm.
- Large selection of adapter parts pad with or without buffer (with or without positioning key).
- Radial or axial vacuum connection.



Assembly process in the automotive industry



Vacuum pads, flatstyle, with retaining ring from Ø 10 mm

(mm)	NBR	Silicon	Urethane rubber	Viton	Retaining Ring	Detail drawing
2	ZP02UN	ZP02US	ZP02UU	ZP02UF	None	
4	ZP04UN	ZP04US	ZP04UU	ZP04UF		
6	ZP06UN	ZP06US	ZP06UU	ZP06UF		
8	ZP08UN	ZP08US	ZP08UU	ZP08UF		
10	ZP10UN	ZP10US	ZP10UU	ZP10UF	ZPL1	
13	ZP13UN	ZP13US	ZP13UU	ZP13UF		
16	ZP16UN	ZP16US	ZP16UU	ZP16UF		
20	ZP20UN	ZP20US	ZP20UU	ZP20UF	ZPL2	
25	ZP25UN	ZP25US	ZP25UU	ZP25UF		
32	ZP32UN	ZP32US	ZP32UU	ZP32UF		
40	ZP40UN	ZP40US	ZP40UU	ZP40UF	ZPL3	
50	ZP50UN	ZP50US	ZP50UU	ZP50UF		

Vacuum pads, model with ribs, with retaining ring from Ø 10 mm

(mm)	NBR	Silicon	Urethane rubber	Viton	Retaining Ring	Detail drawing
10	ZP10CN	ZP10CS	ZP10CU	ZP10CF	ZPL1	
13	ZP13CN	ZP13CS	ZP13CU	ZP13CF		
16	ZP16CN	ZP16CS	ZP16CU	ZP16CF		
20	ZP20CN	ZP20CS	ZP20CU	ZP20CF	ZPL2	
25	ZP25CN	ZP25CS	ZP25CU	ZP25CF		
32	ZP32CN	ZP32CS	ZP32CU	ZP32CF		
40	ZP40CN	ZP40CS	ZP40CU	ZP40CF	ZPL3	
50	ZP50CN	ZP50CS	ZP50CU	ZP50CF		

Vacuum pads, deep model, with retaining ring from Ø 10 mm

(mm)	NBR	Silicon	Urethane rubber	Viton	Retaining Ring	Detail drawing
10	ZP10DN	ZP10DS	ZP10DU	ZP10DF	ZPL1	
16	ZP16DN	ZP16DS	ZP16DU	ZP16DF		
25	ZP25DN	ZP25DS	ZP25DU	ZP25DF	ZPL2	
40	ZP40DN	ZP40DS	ZP40DU	ZP40DF	ZPL3	

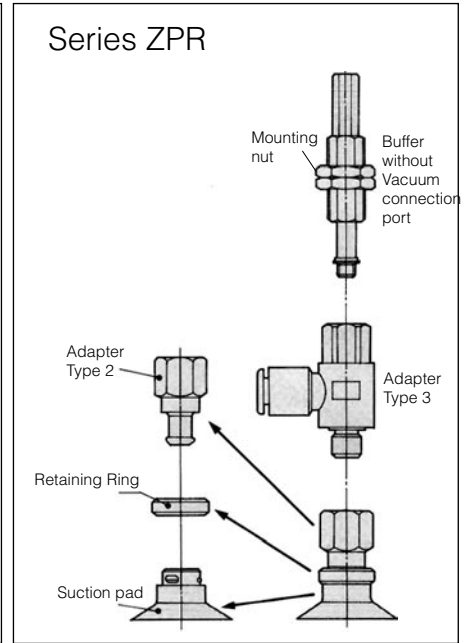
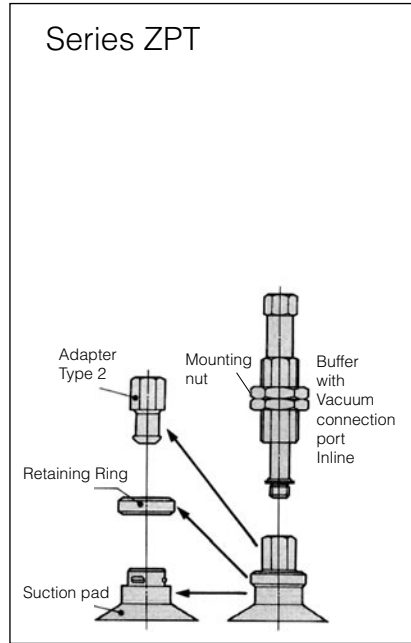
Vacuum suction pads, bellows model, with retaining ring from Ø 10 mm

(mm)	NBR	Silicon	Urethane rubber	Viton	Retaining Ring	Detail drawing
6	ZP06BN	ZP06BS	ZP06BU	ZP06BF	without	
8	ZP08BN	ZP08BS	ZP08BU	ZP08BF		
10	ZP10BN	ZP10BS	ZP10BU	ZP10BF		
13	ZP13BN	ZP13BS	ZP13BU	ZP13BF	ZPL1	
16	ZP16BN	ZP16BS	ZP16BU	ZP16BF		
20	ZP20BN	ZP20BS	ZP20BU	ZP20BF	ZPL2	
25	ZP25BN	ZP25BS	ZP25BU	ZP25BF		
32	ZP32BN	ZP32BS	ZP32BU	ZP32BF		
40	ZP40BN	ZP40BS	ZP40BU	ZP40BF	ZPL3	
50	ZP50BN	ZP50BS	ZP50BU	ZP50BF		

Suction Pad Adapter, Buffers  
Series ZP



- The pad's modular design permits the required style to be simply combined.



Adapter	Without vacuum port		With vacuum port		
	Type 1	Type 2	Type 3		
For pad (mm)	Male thread	Female thread	Radial with 4 mm one-touch fitting	Radial with 6 mm one-touch fitting	Radial with 8 mm one-touch fitting
2			ZPRS-04-A5	ZPRS-06-A5	
4	ZPT1-A5	ZPT1-B4	ZPRS-04-A6	ZPRS-06-A6	
6	ZPT1-A6	ZPT1-B5	ZPRS-04-B4	ZPRS-06-B4	
8			ZPRS-04-B5	ZPRS-06-B5	
10	ZPT2-A5	ZPT2-B5	ZPRS-04-A5	ZPRS-06-A5	
13	ZPT2-A6	ZPT2-B6	ZPRS-04-A6	ZPRS-06-A6	
16		ZPT2-B01	ZPRS-04-B5	ZPRS-06-B5	
			ZPRS-04-B6	ZPRS-06-B6	
20	ZPT3-A6	ZPT3-B5	ZPRL-04-A6	ZPRL-06-A6	ZPRL-08-A6
25	ZPT3-A8	ZPT3-B6	ZPRL-04-A8	ZPRL-06-A8	ZPRL-08-A8
32		ZPT3-B08	ZPRL-04-B5	ZPRL-06-B5	ZPRL-08-B5
		ZPT3-B01	ZPRL-04-B6	ZPRL-06-B6	ZPRL-08-B6
			ZPRL-04-B8	ZPRL-06-B8	ZPRL-08-B8
40	ZPT4-A6	ZPT4-B6		ZPRL-06-A6	ZPRL-08-A6
50	ZPT4-A8	ZPT4-B08		ZPRL-06-A8	ZPRL-08-A8
		ZPT4-B01		ZPRL-06-B6	ZPRL-08-B6
				ZPRL-06-B8	ZPRL-08-B8

Threaded key: A5...M5 x 0.8      B4...M4 x 0.7      B8...M8 x 1  
 A...Male thread: A6...M6 x 1      B5...M5 x 0.8      B01...1/8"  
 B...Female thread: A8...M8 x 1      B6...M6 x 1

Buffers	Without vacuum port		With in-line vacuum port	
	Non-rotating for ZPR		Non-rotating for ZPT	
Stroke (mm)	No	Yes	No	Yes
6	ZPB1J6	ZPB1K6	ZPB1J6-B3 ZPB1J6-B5	ZPB1K6-B3 ZPB1K6-B5
10	ZPB2J10 ZPB3J10	ZPB2K10 ZPB3K10	ZPB1J10-B5 ZPB2J10-B5 ZPB3J10-B5	ZPB1K10-B5 ZPB2K10-B5 ZPB3K10-B5
20	ZPB3J20	ZPB3K20	ZPB3J10-B01 ZPB3J20-B01	ZPB3K10-B01 ZPB3K20-B01

Mounting nuts

For pad (mm)	Part no.
2 - 8	SNJ-010A
10 - 32	SNJ-015A
40, 50	SN-010A

## 2- Color Display Digital Flow Switch Series PFM



- MEMS type switch: uses microchip technology to measure the flow.
- Development to replace float type flow switches.
- 4 different flow rate ranges available: 10, 25, 50 and 100 l/min.
- Compact and lightweight.
- Piping space reduced.
- Integrated flow adjustment valve possible.
- Suitable for air, N<sub>2</sub>, Ar and CO<sub>2</sub>

Part number	Rated flow range [l/min]	Port Size (One touch fitting)	Output
PFM710-C4-F	0,2 to 10	ø4	1 x PNP+ 1 x Analogue (4-20mA)
PFM725-C6-F	0,5 to 25	ø6	
PFM750-C6-F	1 to 50	ø6	
PFM711-C8-F	2 to 100	ø8	

## Electric Vacuum Switch Series ZSE1



- Minimal switching times, 10 ms.
- LED switch point display.
- Option of grommet style or plug connection.
- Adjustable hysteresis.
- Repeatability ± 3% F.S.

Model number	Thread connection	Switch point KPa	Switch output	Hysteresis	Voltage
ZSE1-01-15L-Q	R1/8"	-101 - 0	NPN, 3 m cable	~1 - 10% adjustable	12~24 V DC
ZSE1-01-55L-Q	R1/8"	-101 - 0	PNP, 3 m cable		
ZSE1-01-55LN-Q	R1/8"	-101 - 0	PNP, with plug*		

### Plug with cable

ZS-10-5A-30



Adjustable Pressure and Vacuum Switch with Display

Series ZSE40•ISE40  
(Vacuum) (Pressure)



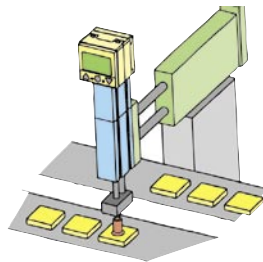
- 3 styles:  
ZSE40: Vacuum  
ISE40: Pressure  
ZSE40F: Vacuum & pressure combination.
- Wide range of programs and accessories.
- Large, easy-to-read display.
- Enclosure IP65.
- Simple, menu-driven adjustments.
- Output terminals: analogue & 2x NPN or PNP.
- Repeatability ± 2% F.S.
- Response time 2.5 ms or less.

Part number*	Switch point	Port	Switch output	Voltage
ISE40-01-22	Pressure: 0.1~1.0MPa	R1/8" (ø4, ø6 on request)	1 - 5 V analogue + 2 x NPN	12~24 V DC
ISE40-01-22L				
ISE40-01-62			1 - 5 V analogue + 2 x PNP	
ISE40-01-62L				
ZSE40F-01-22	Vacuum & pressure: -101.3 ~ +100.0 KPa		1 - 5 V analogue + 2 x NPN	
ZSE40F-01-22L				
ZSE40F-01-62		1 - 5 V analogue + 2 x PNP		
ZSE40F-01-62L				

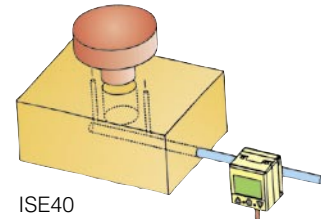
\* ZSE40\* for vacuum on request

Mounting accessories

High foot	Short foot	Panel adapter	Panel adapter with cover
ZS-24-A	ZS-24-B	ZS-22-B	ZS-22-C



ZSE40F  
Vacuum application



ISE40  
Work piece location monitoring

Adjustable Vacuum and Pressure Switch with Display

Series ZSE30•ISE30



- 2 styles  
ZSE30: Vacuum and pressure  
ISE30: Pressure
- Enclosure IP40.
- Large, easy-to-read display.
- 2 colour (green/red) display.
- Analogue output: 4 - 20 mA or 1 - 5 V.
- With straight and elbow one-touch fittings.

Display Unit

Part number	Switch point	Port thread	Switch output	Voltage	
ISE30-01-25-L	Pressure: 0~1.0MPa	Male: R 1/8" Female: M5 (also available with one-touch fitting Ø 4 or 6 mm)	NPN	12~24 V DC	
ISE30-01-65-L			PNP		
ISE30-01-26-L			1 - 5 V		
ISE30-01-28-L			4 -20 mA		
ZSE30-01-25-L	Vacuum + pressure -100 ~ +100 KPa		Male: R 1/8" Female: M5 (also available with one-touch fitting Ø 4 or 6 mm)		NPN
ZSE30-01-65-L					PNP
ZSE30-01-26-L					1 - 5 V
ZSE30-01-28-L					4 -20 mA

Accessories

Connection cable with plug	ZS-27-A
Mounting bracket	ZS-27-B
Bracket for panel mounting	ZS-27-C



## Vacuum and Pressure Sensor with Controller Unit

### Series PSE530/200



- Sensor and controller separate.
- PSE530:
  - Either IP65 or IP40.
  - Simple electr. connection using plug.
  - Minimal response times.
- PSE200:
  - Controller for 4 sensor inputs.
  - Autom. sensor recognition.
  - Auto shift function.

Measuring sensor for compressed air

Part number	Connection thread	Pressure range	Output signal
PSE530-M5	M5	0~1MPa	Analogue 1~ 5 V
PSE531-M5		0 ~ -101 KPa	
PSE532-M5		0 ~ 101 KPa	
PSE533-M5		-101 ~ 101 KPa	

Controller Unit

Part number	Switch output	Mounting	Response time	Note
PSE201-4C	PNP 80 mA	Panel mounting	50 ms	With 4 sensor connectors

Accessories

Sensor cable with plug	ZS-26-G
Protective cover for PSE201	ZS-26-01
Panel mounting adapter for PSE201	ZS-26-B
Plug set (4 pieces)	ZS-26-E

## Micro Vacuum and Pressure Sensor with Controller Unit

### Series PSE540/300



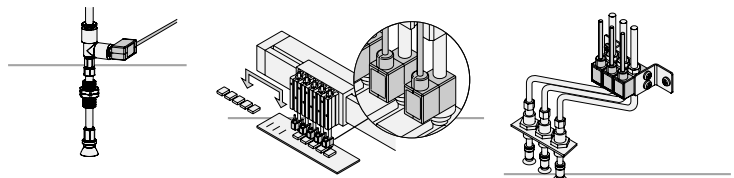
- PSE540
- Micro design, e.g. 9.6 x 20.8 x 18 mm.
  - Minimal weight, e.g. 3.2 g.
  - 7 different connection types PSE300.
  - 1 ms response time.
  - 2 colour display determined by switching status.
  - 2 switch outputs and analogue output.

Compressed Air Micro Sensor

Part number	Connection type	Pressure range	Output signal
PSE543-M3	M3 male	Pressure and Vacuum: -100 ~ +100 KPa	Analogue 1 ~ 5 V
PSE543-M5	M5 male		
PSE543-01	male R1/8", female M5		
PSE543-R04	Ø 4 mm one-touch fitting		
PSE543-R06	Ø 6 mm one-touch fitting		
PSE543-IM5	M5 female thread		
PSE543-IM5H	M5 female, with mounting holes		

Controller Unit

Part number.	Switch output	Response time	Note
PSE303-LAC	2 x PNP + analogue	1ms	incl. supply cable, bracket, sensor plug



# Vacuum

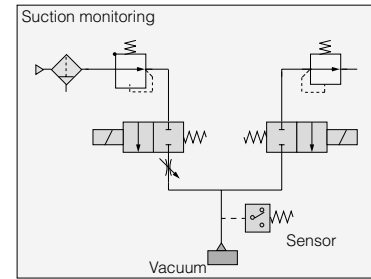
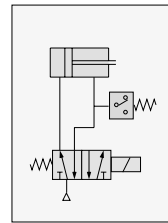
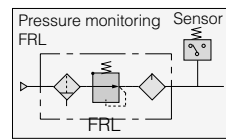
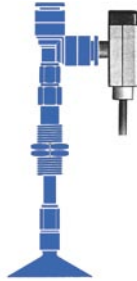
## Pressure or Vacuum Switch Series PS1000•1100



- LED switch point display.
- Miniature design.
- Mounted directly to one-touch fittings.
- Piezo sensor gives long service life.
- Pluggable directly into plug connections of  $\varnothing 6$  mm.

Part number	Operating pressure range MPa	Operating position MPa	Contact point	Voltage
PS1000-R06L-Q	-0,1 - 1,0	-0,1 - 0,45	Pressure $\geq$ switch point: ON	12~24 V DC
PS1100-R06L-Q		-0,1 - 0,40	Pressure $\leq$ switch point: ON	

With 3m cable



## Pressure Gauge for Vacuum Series GZ46



- 1/8" or 1/4" port on rear side.
- Also available for panel mounting.

Part no.	Mounting	Display	Port Size	Diameter
GZ46-K-01	Direct	-100 KPa ~ 0 KPa	R1/8"	42 mm
GZ46-K-01-C	Panel mounting			
GZ46-K-02	Direct		R1/4"	
GZ46-K-02-C	Panel mounting			

## High-precision Vacuum Regulator Series IRV



- For Installation behind a vacuum pump, regulates the desired vacuum pressure.
- Can be integrated into a modular air preparation unit.
- Can be panel mounted.

Part number	Vacuum regulation range	Port Size	Flow NI/min	Operation temperature range	Setting accuracy
IRV1000-F01	-100 ~ -1.3 KPa	G 1/8"	60	+5° ~ +60°C	$\leq 0.13$ KPa
IRV2000-F02		G 1/4"	100		
IRV3000-F03		G 3/8"	150		
IRV3000-F04		G 1/2"			

Accessory:	IRV1000	IRV2000	IRV3000
Mounting bracket	P53801018	P53802016	P53803013
Pressure Gauge	GZ33-K-01	GZ43-K-01	

Electro-pneumatic  
Proportional Converter  
for Vacuum

Series ITV2090



- Easily operated using key pad and LCD display.
- Vacuum can be steplessly regulated.
- Zero point and range setting possible.
- Repeatability:  $\pm 5\%$  F.S.
- Linearity:  $\pm 1\%$  F.S.
- Enclosure IP65.

Compact Cylinder for  
Vacuum Applications

Series ZCDUKC



- Sizes  $\varnothing$  10 - 32 mm.
- Suction pads mounted directly to the hollow double piston rod.
- Non rotating piston rod is standard.
- Vacuum pads from  $\varnothing$  2 to 50 mm.
- Auto switch for end position detection with LED in 2 wire type, can be mounted on 2 sides.

Check Valve/Check Valve with  
one-touch fittings

Series AK



Part number	Control signal	Output signal	Operation voltage	Port thread	Pressure range KPa	Flow $\ell$ /min
ITV2090-01F2N5-Q	4 ~ 20 mA/DC	Analogue 1-5 V DC	24V DC	G1/4"	-1.3~80	Max.130
ITV2090-03F2N5-Q		PNP, 30 mA				
ITV2090-31F2N5-Q	0 ~ 10 V DC	Analogue 1-5 V DC				
ITV2090-33F2N5-Q		PNP, 30 mA				

Accessory Connection cable with plug

	Straight	Elbow
port number	P398010-12	P398010-13

Conversion table

0 Torr = -760 mmHg
760 Torr = 0 mmHg
1 mmHg = 1.33322 mbar
1 KPa = 1000 Pa = 10 mbar

Mini E/P Converter  
Series ITV0090



Part number	Piston $\varnothing$ (mm)	Standard stroke lengths (mm)	Piston rod thread	Port Size
ZCDUKC10- <input type="checkbox"/> D	10	5, 10, 15, 20, 25, 30	M4	M5
ZCDUKC16- <input type="checkbox"/> D	16		M5	
ZCDUKC20- <input type="checkbox"/> D	20	5, 10, 15, 20, 25, 30, 40, 50	M6	
ZCDUKC25- <input type="checkbox"/> D	25		M8	
ZCDUKC32- <input type="checkbox"/> D	32		M10	G1/8"

Stroke length

Auto switch

Reed:	D-A93L, D-90L, D-97L
3 wire solid state:	NPN: D-M9NL, PNP: D-M9PL
2 wire solid state:	D-M9BL

Type	Series	Port size	Applicable tubing O.D.	
			Metric Size	Inch Size
Check valve	In-line type	AK2000/4000/6000	1/8" to 1"	-
	Straight type	AKH	-	$\varnothing 4$ to $\varnothing 12$ $\varnothing 5/32$ to $\varnothing 12$
	Male connector type		-	$\varnothing 4$ to $\varnothing 12$ $\varnothing 5/32$ to $\varnothing 12$
	Bushing type	AKB	1/8" to 1/2"	-

**AK**

- Superior flow capacity.
- Low cracking pressure : 0.02MPa.
- Port size from 1/8" to 1".

**AKH/AKB**

- Select from 3 designs.
- One-touch fitting both sides.
- Male thread/female thread.
- Male thread/one-touch fitting.
- Low cracking pressure.

# Vacuum

## Related Products

### Vacuum Release Unit VQD1000-V



Model	Suction flow rate (ℓ/min)	Vacuum use
VQD1000-V	16	-101,2 KPa

### 3 Port V100



Model	Nℓ/min	Power (W)	Vacuum use
Standard	8.4	0.1	-100kPa
Large flow	17		

### 3 Port/Direct Operated Poppet VKF300



Model	Nℓ/min	Power (W)	Vacuum use
VKF300	245	4.3	-101,2 KPa

### 3 Port/Direct Operated/Poppet VT307/317/325



Model	Nℓ/min	Power (W)	Vacuum use
VT307	206	4.8	-101,2 KPa
VT317	687	6.0	
VT325	1374	12	

### 3 Port/Pilot Poppet VP300/500/700



Model	Nℓ/min	Power (W)	Vacuum use
VP300	982	1.8	-101,2 KPa
VP500	2258		
VP700	3926		

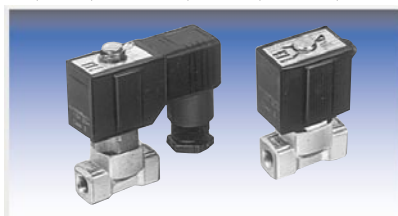
### 3 Port/Pilot Poppet VG342



Model	Nℓ/min	Power (W)	Vacuum use
VG342	12858	4.8	-101,2 KPa

### Direct Operated 2 Port Valve VX21/22/23

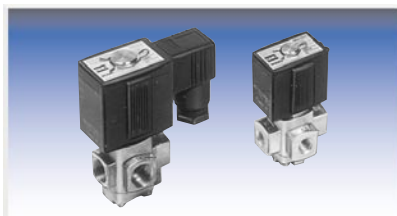
Air, Gas, Vacuum, Water, Steam, Oil



Actuation	Port size	Orifice dia. (mmø)	Vacuum use
N.C./N.O.	1/8" to 1/2" 32A to 50A	2 to 10	Up to 0.1 Pa abs

### Direct Operated 3 Port Valve VX31/32/33

Air, Gas, Vacuum, Water, Steam, Oil



Actuation	Port size	Orifice dia. (mmø)	Vacuum use
N.C./N.O./C.O.	1/8" to 3/8"	1.5 to 4	Up to 0.1 Pa abs




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