

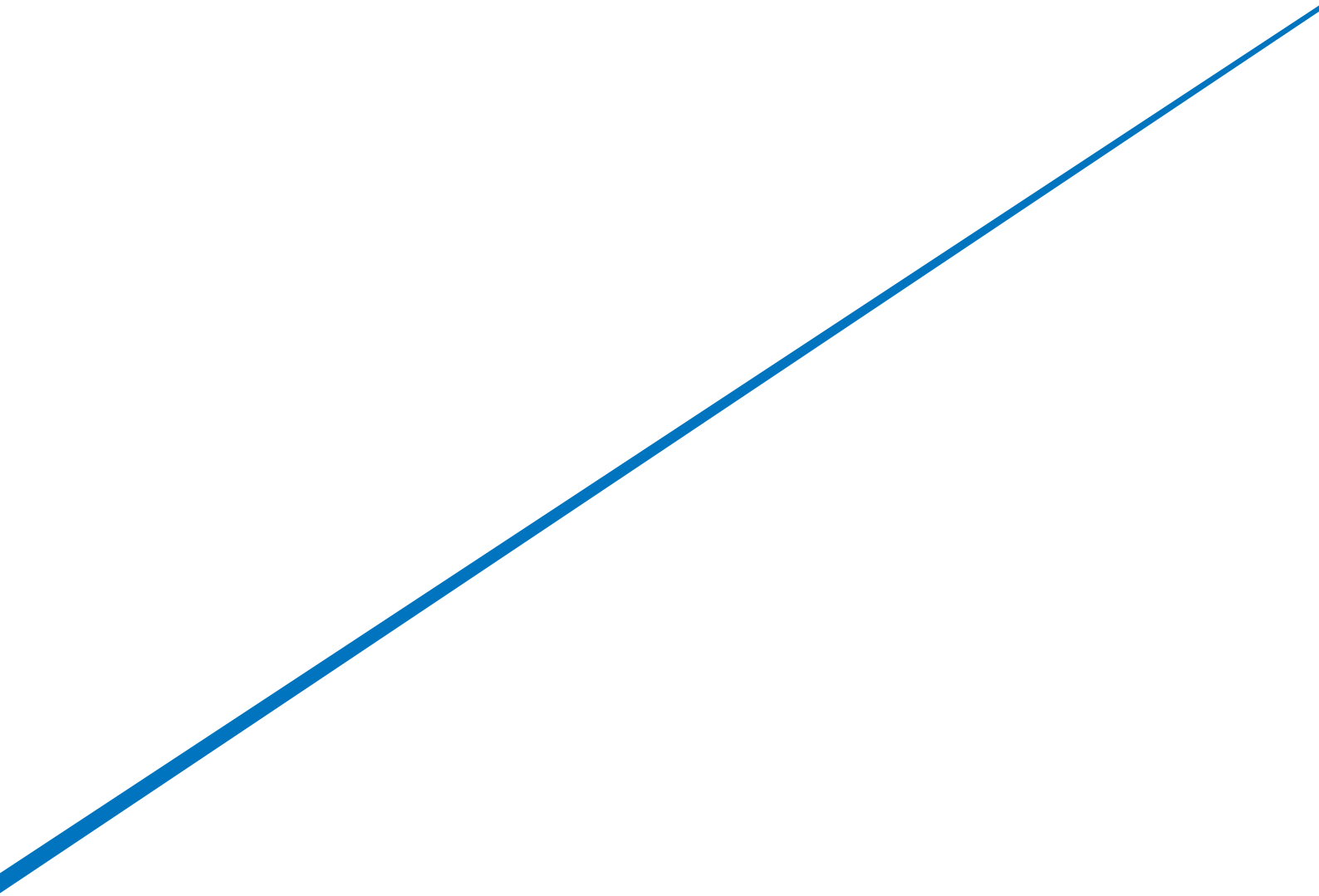


Expertise – Passion – Automation

**Find the solution that optimises
your performance, cost, energy
efficiency and reliability**

SMC solutions for vacuum

*“SMC is a total solutions provider to
optimise performance, cost, energy
efficiency and reliability.”*



Do you feel that you're not getting what you expected from your vacuum system? Maybe you don't have the solution you deserve.

SMC's expertise will help you to achieve the results you demand from your system. Our experts will offer the optimal solution that tailor-made to your demands. Years of knowledge with vacuum applications, together with the wide range of SMC products are the perfect match to meet all your vacuum requirements.

SMC will help you throughout the vacuum system, from the filtration and regulation to the end of tooling, trying to offer the most efficient and energy-saving solution possible, while giving a high performance.

There are many aspects to be aware of when designing a vacuum system, arguably, at the top of the list, are smart vacuum solutions thanks to the capabilities they bring. SMC offers smart manifolds that provide precise control and communication that allows you to implement a condition-monitoring and predictive maintenance strategy.



By IRINA HERMANN, PRODUCT MANAGER, SMC GERMANY

Give your vacuum handling system a lift

We all know that the centrepiece of any vacuum system is the application and system layout, typically involving the method of vacuum generation, and thus whether you use ejectors or pumps to generate the negative pressure and transfer the workpieces. However, there are many more important system components which, if overlooked, could mean that your vacuum handling unit fails to perform at its optimum level ...



By MARTINA HÖLLER, ELECTRICAL TECHNOLOGY PRODUCT MANAGER CEE, SMC AUSTRIA

Four ways to make your vacuum system more efficient

With energy prices surging across Europe, efficiency has become a high priority for all manufacturing and process plants using vacuum handling systems. Fortunately, based on decades of experience and know-how, SMC can outline four simple ways that you can reduce the energy consumption of your vacuum system. Using less energy per lift/transfer will provide a direct contribution to your bottom-line profitability while simultaneously supporting industry's drive to net-zero carbon emissions ...



Let us help you choose your vacuum products

Do you have to design a vacuum circuit?



Vacuum Components Selector

Design an optimal vacuum circuit, including vacuum pads, ejectors, piping control valves, supply, release and throttle valves and vacuum control units.

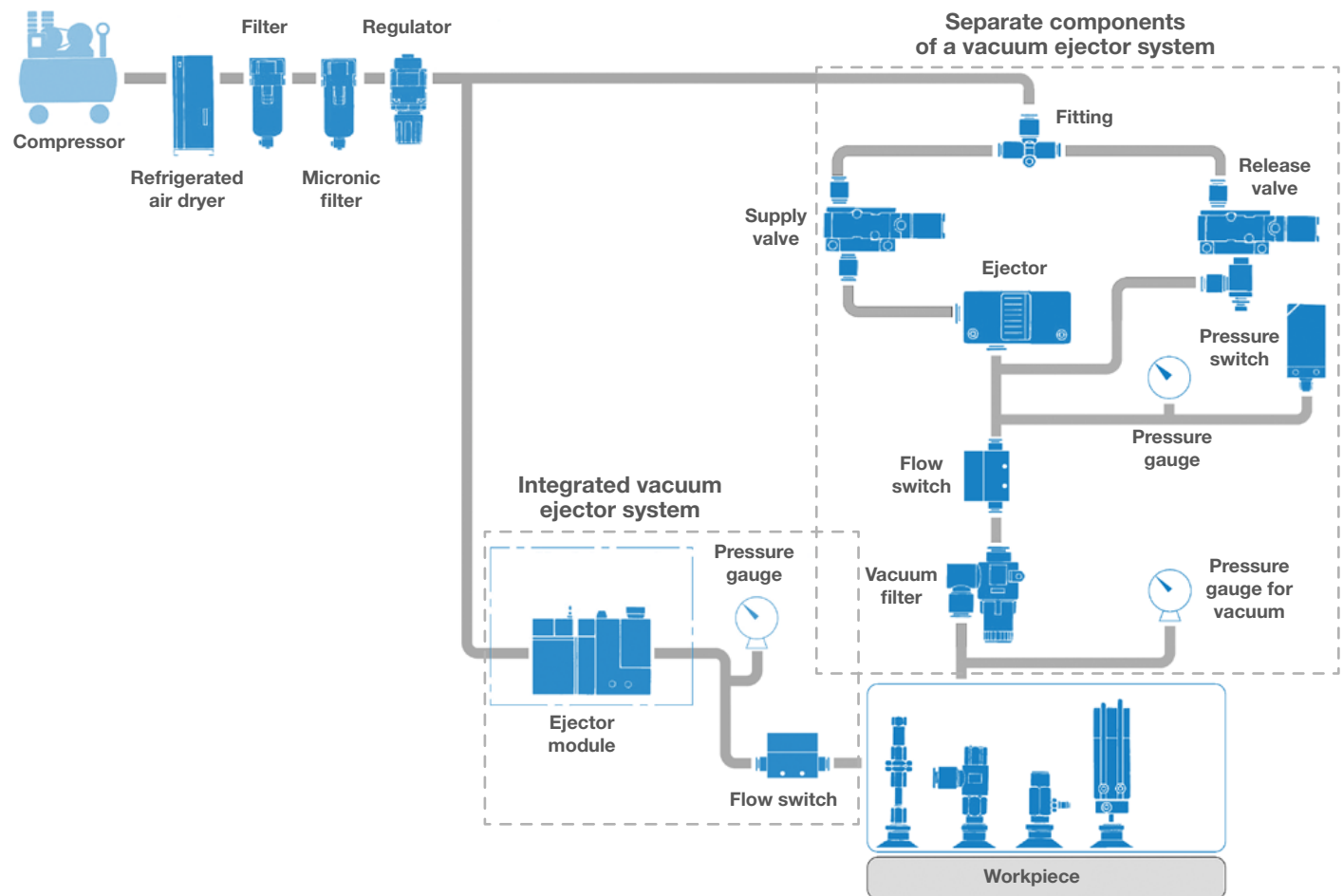
With this software you can choose from 4 different circuit designs, and with the introduction of a few operating conditions the program will help you select the SMC series of:

- Vacuum pads
- Vacuum ejectors
- Piping
- Control valves
- Supply, release & throttle valves
- Vacuum control units.

The Vacuum Components Selector will display your design characteristics in terms of: adsorption response time, safety factor, release time and air consumption, so you can adjust the selection until you get your optimal vacuum solution.

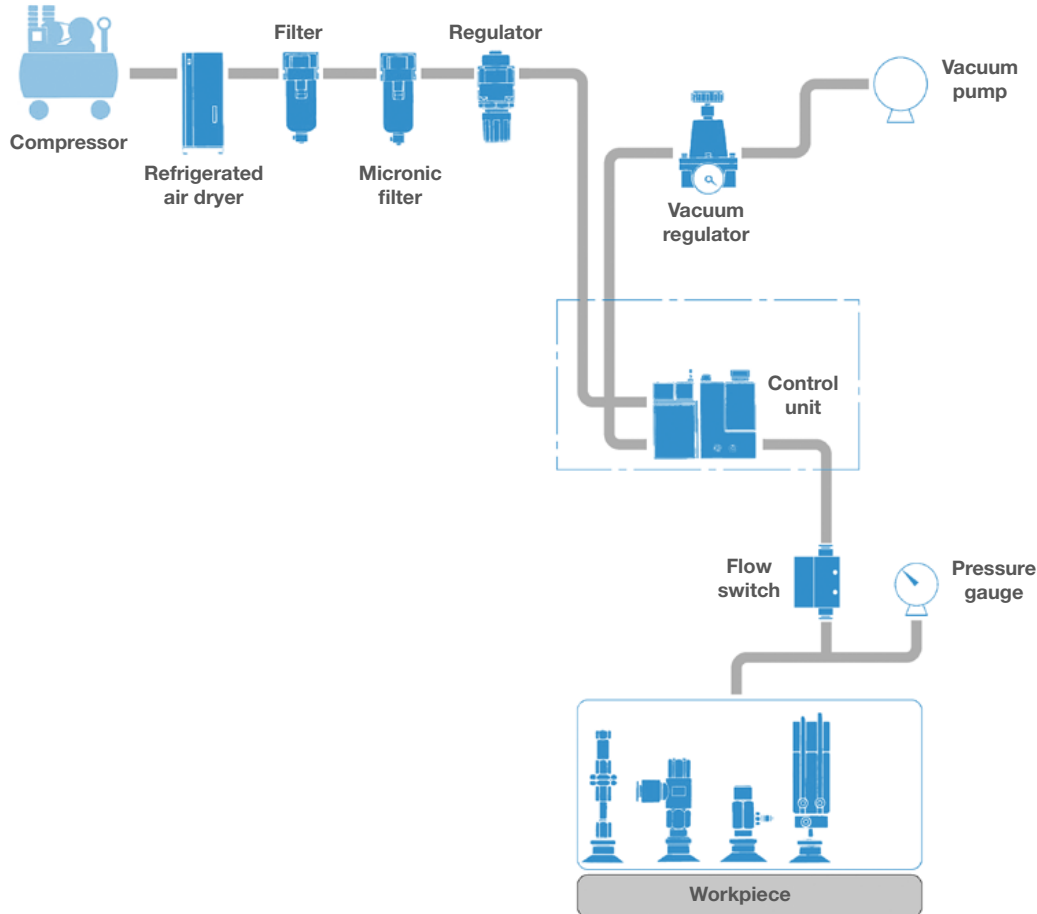
Choose the construction for your system

Adsorption transfer system by ejector

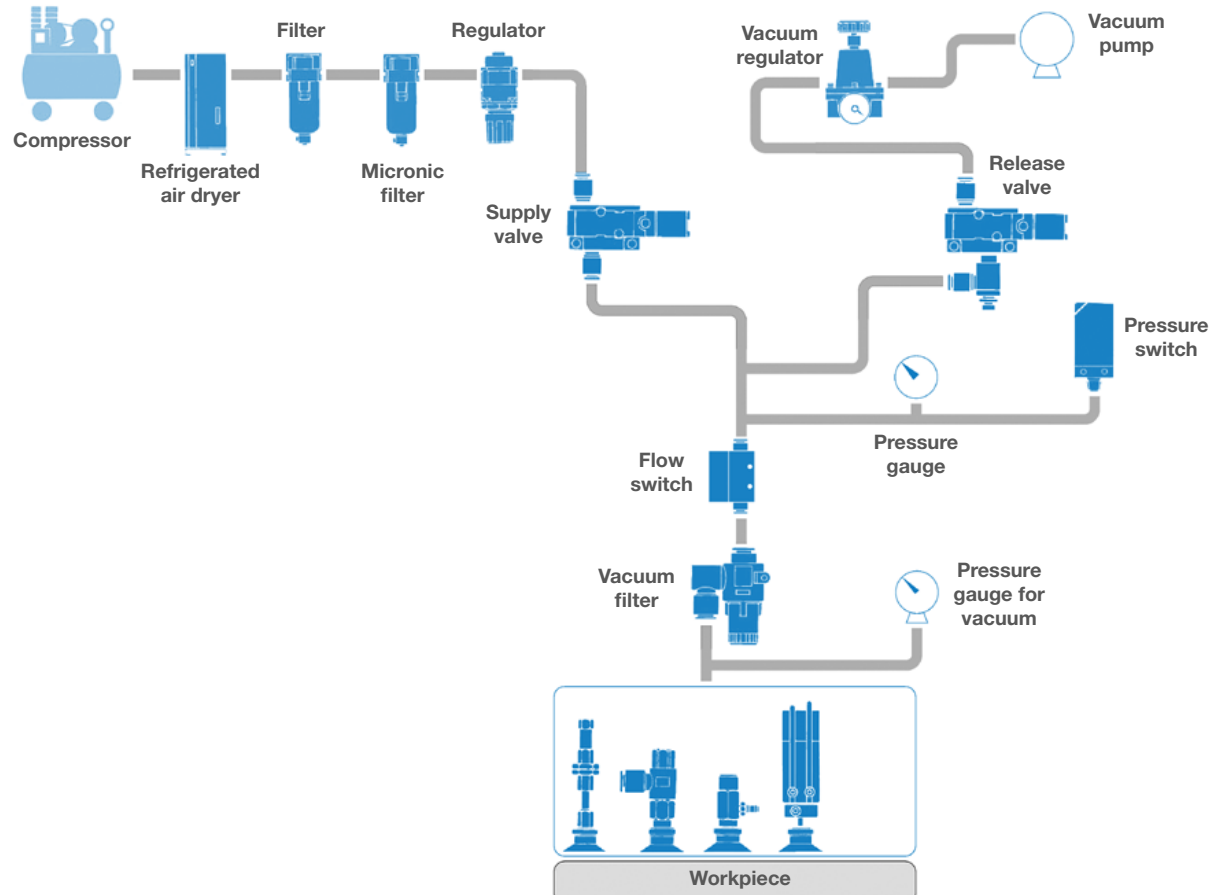


Adsorption transfer system for vacuum pump

Integrated vacuum pump system



Separate components of a vacuum pump system



Vacuum selection guide

1 Find the vacuum pad size



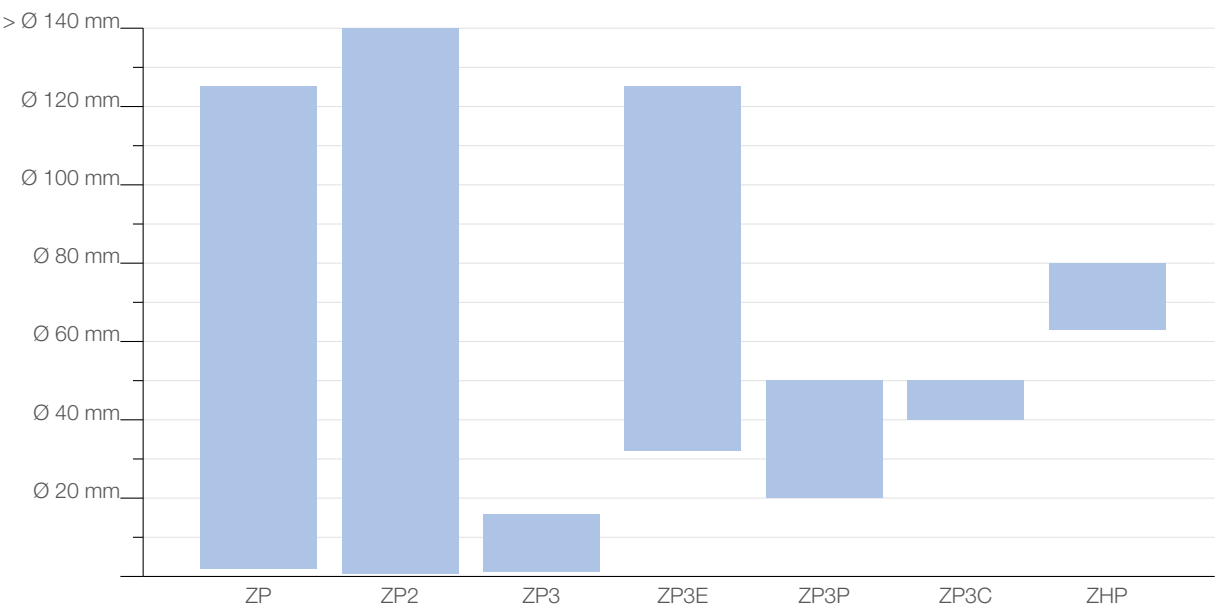
The total area of vacuum pads for a horizontal lift () can be easily calculated from this equation which includes a safety factor.

Where W = Lifting force [N]
P = Vacuum pressure [kPa]
S = Pad area [cm²]
n = number of pads

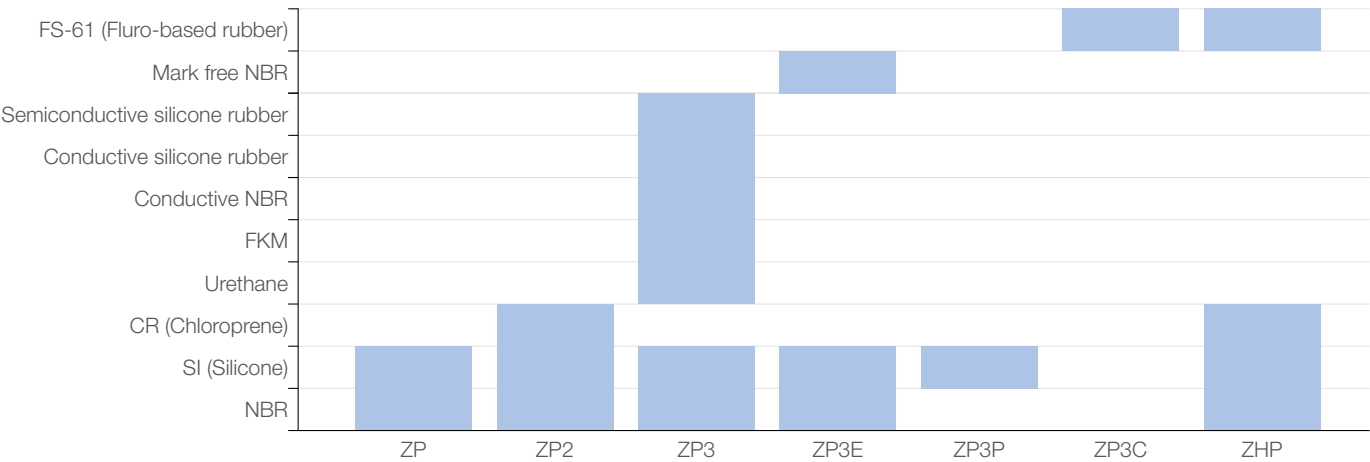
$$\frac{40 W}{P} = S$$
 For most vacuum applications, assume a vacuum pressure of (-) 80 kPa.

$$\varnothing D = \sqrt{\frac{4}{3.14} \times \frac{1}{P} \times \frac{W}{n} \times t \times 1000}$$

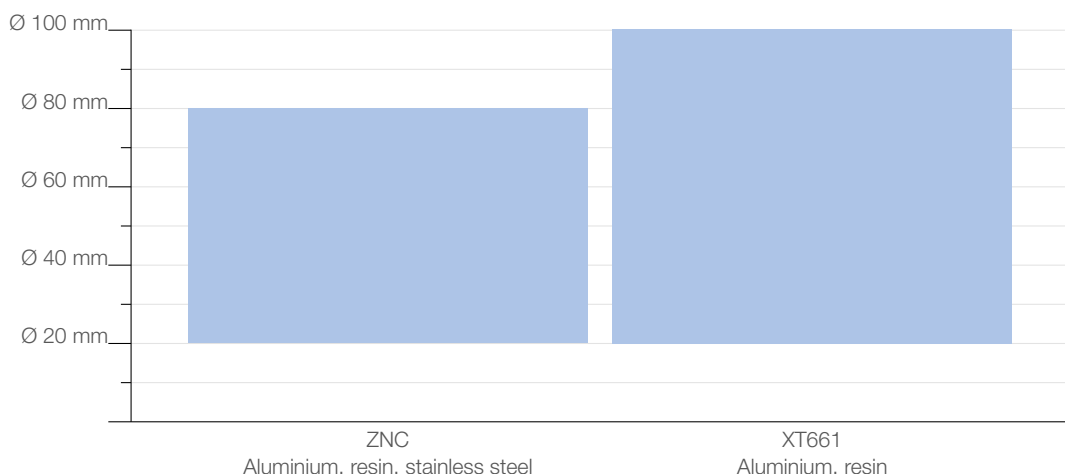
Vacuum pad diameter



Vacuum pad material



Non-contact vacuum pad range



The area (cm²) is the pad area required. This can be made up by one pad or several smaller pads - depending on the object to be lifted. The shape of the pad (flat, bellows, ribbed etc) is chosen, then the stem style (plain, buffer, etc). For single pads, the area is shown below in the table.

Pad diameter (Ø 2 to Ø 50)

Pad diameter [mm]	Ø 2	Ø 4	Ø 6	Ø 8	Ø 10	Ø 13	Ø 16	Ø 20	Ø 25	Ø 32	Ø 40	Ø 50
Pad area [cm ²]	0.03	0.13	0.28	0.5	0.79	1.3	2	3.1	4.9	8	12.6	19.6

Pad diameter (Ø 63 to Ø 340)

Pad diameter [mm]	Ø 63	Ø 80	Ø 100	Ø 125	Ø 150	Ø 250	Ø 300	Ø 340
Pad area [cm ²]	31.2	50.2	78.5	122.7	176.7	490.6	706.5	907.5

Oval pad (2 x 4 to 8 x 30)

Pad diameter [mm]	2 x 4	3.5 x 7	4 x 10	5 x 10	6 x 10	4 x 20	5 x 20	6 x 20	8 x 20	4 x 30	5 x 30	6 x 30	8 x 30
Pad area [cm ²]	0.07	0.21	0.36	0.44	0.52	0.76	0.94	1.12	1.46	1.16	1.44	1.72	2.26

Pad type

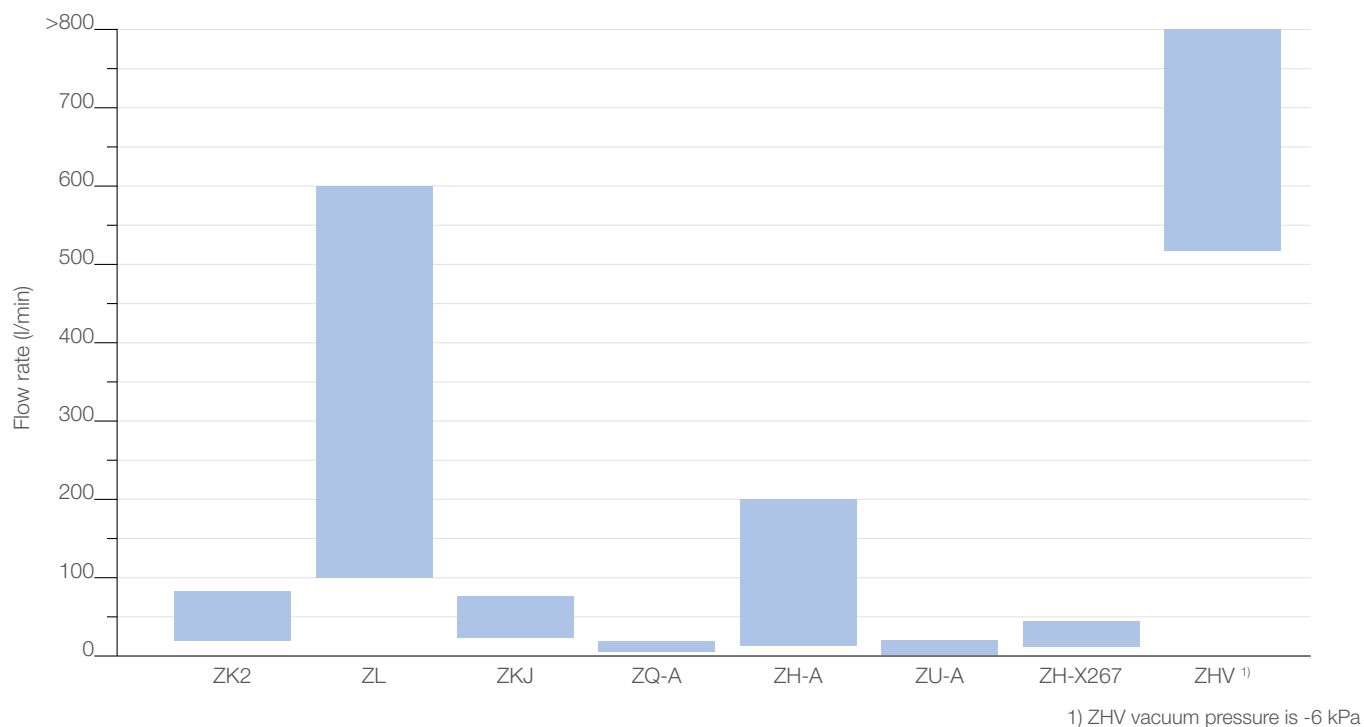
Pad form	Application
Flat 	To be used when absorption surface of work is flat and not deformed.
Flat with ribs 	To be used when work is likely to deform or in the case of releasing work certainly.
Deep 	To be used when work is curved shape.
Bellows 	To be used when there is not enough space to install buffer or absorption surface of work is slanted.
Oval 	To be used when work has limited absorption surface or long in length and work is required to locate precisely.

Pad form	Application
Ball joint type 	To be used when absorption surface of work is flat and not deformed.
Buffer 	To be used when work is likely to deform or in the case of releasing work certainly.
Large size 	To be used when work is curved shape.
Conductive pad 	To be used when there is not enough space to install buffer or absorption surface of work is slanted.

2 Choose the ejector

Two things influence the choice, is a simple ejector suitable (ZU or ZH type), which will be smaller and lighter or are integrated control valves and vacuum switches required? The other factor is suction flow, a higher suction flow will evacuate a system faster, but the ejector will be larger and will consume more air.

Ejectors

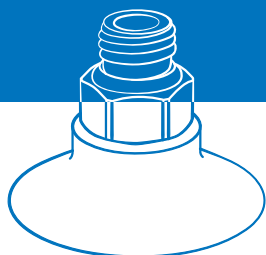


3 Specify the rest of the system

When pad(s) and ejector have been selected, the rest of the system can be specified. If dirt and liquid may be picked up by the pad, a ZF filter or AMJ separator should be put into the system to protect the ejector. The valves to control compressed air and vacuum, fittings and tubing can also be specified.

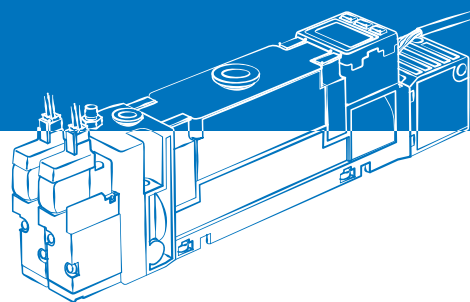
Vacuum pads

10



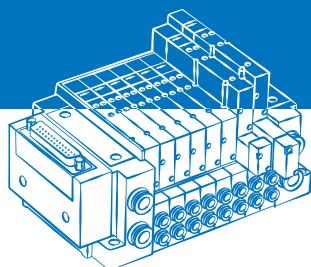
Ejectors

33



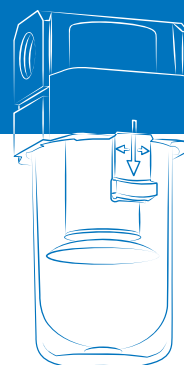
Valves

47



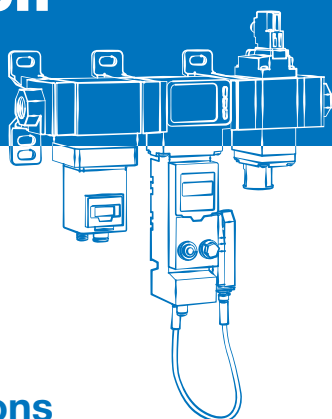
Filtration

53



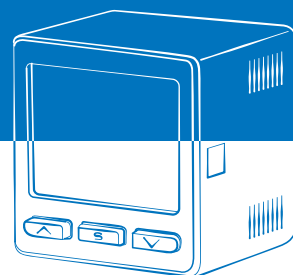
Regulation

57



Sensors

62



Product indications



New Products – Symbol for all the New Products launched to the market in the past 2 years



Energy efficiency – Symbols for those products that save energy and more importantly save money.



Enhanced products – These are improved versions of existing products. Products that our engineers have made more compact, lighter, with improved materials...

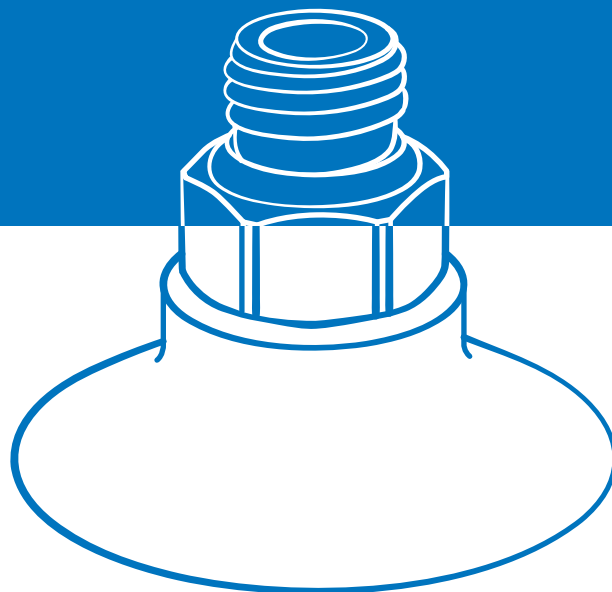


Range extensions – This includes products that incorporate added features: to cover more of your applications: New sizes, more mounting options, further communication protocols...



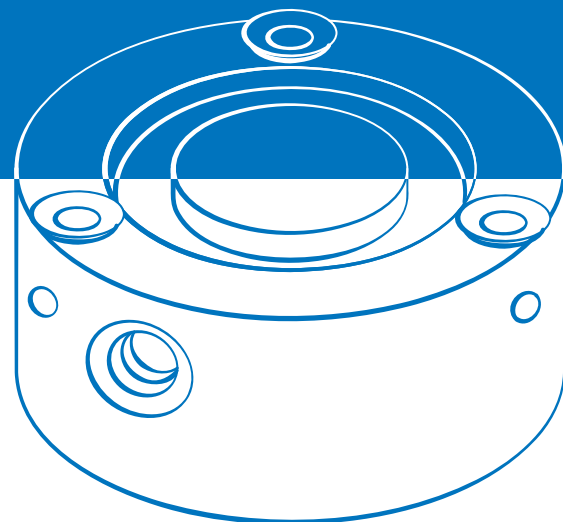
Robotics products – Symbol for products dedicated to robotic applications and embedded hardware. These are ultra-compact and very light products.

Vacuum pads



Standard vacuum pads

Flat vacuum pad	
ZP Series	12
Flat vacuum pad with ribs	
ZP Series type C	12
Bellows vacuum pad	
ZP Series type B.	13
Deep vacuum pad	
ZP Series type D.	13
Heavy duty vacuum pad	
ZP Series type H	14
Heavy duty, bellows vacuum pad	
ZP Series type HB	14
Nozzle vacuum pad	
ZP2-□□AN Series	15
Sponge vacuum pad	
ZP2-□□S Series	15
2.5/3.5 stage bellows vacuum pad	
ZP2-□J/ZJ Series	16
4.5 stage bellows vacuum pad	
ZP2-T□ZJ Series	16
Oval vacuum pad	
ZP2-□□W Series	17
Heavy-duty vacuum pad	
ZP2-□H/HT Series	17
Compact flat vacuum pad	
ZP3-□U/UM Series	18
Compact bellows vacuum pad	
ZP3-□B Series	19
Flat vacuum pad with groove	
ZP3E Series type UM	20
Bellows vacuum pad with groove	
ZP3E Series type BM	21
Flat vacuum pad, FDA compliant	
ZP3P Series type PT	22
2.5 and 5.5 bellows vacuum pad, FDA compliant	
ZP3P Series type JT	22
Flat abrasion resistant vacuum pad	
ZP3C Series	23
Bellows abrasion resistant vacuum pad	
ZP3C Series	23
Bowl shape with non-slip feature vacuum pad	
ZP3M Series	24



Other vacuum handling solutions

Non-contact gripping, Bernoulli model

ZNC Series 25

Non-contact gripper, cyclone type

XT661-A Series 26

Magnetic gripper

MHM-X6400 Series 26

High performance magnetic gripper

MHM Series 27

Magnetic gripper for collaborative robots

MHM-X7400A Series 27

Vacuum gripper for collaborative robots

ZXP-X1 Series 28

Vacuum pad with ejector

ZHP Series 31

Choose the optimal solution for your vacuum application. Select separately the vacuum pad, the adapter and the buffer. For the purchase of combinations together generate the part number on the digital catalogue.

Vacuum pad only ①



Vacuum pad

Adapter ②

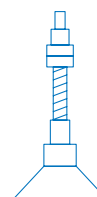


Vertical adapter with
male thread
② a



Vertical adapter with
female thread
② b

Buffer ③



Pad type
③

Standard vacuum pads

Flat vacuum pad

ZP Series



- Material:
 - NBR (Nitrile): High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, hardness: 50 Sh A, temperature range: 0 to 120 °C
 - Si (Silicone): Excellent suction capacity due to its greater flexibility. Wide temperature range. FDA and Food Sanitation Law certified. Colour: White, hardness: 40 Sh A, temperature range: -30 to 200 °C.
- Application: For use where the workpiece gripping surface is flat, even and not very deformable
- Other materials, connection adapters and buffers available upon request.

Pad diameter Ø [mm]	Only vacuum pad ❶		Adapter ❷				Buffer ❸			
	Material		Connection type				Buffer type: Non-rotating			
	NBR	Silicone	Male thread ❷ a	Connection size	Female thread ❷ b	Connection size	Female thread 1)	Buffer stroke [mm]	Connection size	Vacuum connection
2	ZP02UN ●	ZP02US ●	ZPT1-A5 ●	M5 x 0.8	ZPT1-B5 ●	M5 x 0.8	ZPB1K6-B5 ● ZPB1K10-B5 ZPB1K15-B5 ZPB1K25-B5	6 10 15 25	M8 x 1	M5 x 0.8
4	ZP04UN ●	ZP04US ●								
6	ZP06UN ●	ZP06US ●								
8	ZP08UN ●	ZP08US ●								
10	ZP10UN ●	ZP10US ●	ZPT2-A5 ●	M6 x 1	ZPT3-B5 ●	M8 x 1.25	ZPB2K10-B5 ● ZPB2K20-B5 ● ZPB2K30-B5 ● ZPB2K40-B5 ● ZPB2K50-B5 ●	10 20 30 40 50	M10 x 1	
13	ZP13UN ●	ZP13US ●								
16	ZP16UN ●	ZP16US ●								
20	ZP20UN ●	ZP20US ●								
25	ZP25UN ●	ZP25US ●	ZPT3-A6 ●	M8 x 1	ZPT4-B8 ●	M8 x 1.25	ZPB3K10-B01 ● ZPB3K20-B01 ● ZPB3K30-B01 ● ZPB3K50-B01 ●	10 20 30 50	M14 x 1	Rc1/8
32	ZP32UN ●	ZP32US ●								
40	ZP40UN ●	ZP40US ●								
50	ZP50UN ●	ZP50US ●								

1) Several buffers can be compatible with the same vacuum pad.

Flat vacuum pad with ribs

ZP Series type C



- Material:
 - NBR (Nitrile): High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, hardness: 50 Sh A, temperature range: 0 to 120 °C
 - Si (Silicone): Excellent suction capacity due to its greater flexibility. Wide temperature range. FDA and Food Sanitation Law certified. Colour: White, hardness: 40 Sh A, temperature range: -30 to 200 °C.
- Application: For use where parts are likely to deform when gripped or to facilitate removal of the part
- Other materials, connection adapters and buffers available upon request.

Pad diameter Ø [mm]	Only vacuum pad ❶		Adapter ❷				Buffer ❸			
	Material		Connection type				Buffer type: Non-rotating			
	NBR	Silicone	Male thread ❷ a	Connection size	Female thread ❷ b	Connection size	Female thread ❶)	Buffer stroke [mm]	Connection size	Vacuum connection
10	ZP10CN ●	ZP10CS ●	ZPT2-A5 ●	M5 x 0.8	ZPT2-B5 ●	M5 x 0.8	ZPB2K10-B5 ● ZPB2K20-B5 ● ZPB2K30-B5 ● ZPB2K40-B5 ● ZPB2K50-B5 ●	10 20 30 40 50	M10 x 1	M5 x 0.8
13	ZP13CN ●	ZP13CS ●								
16	ZP16CN ●	ZP16CS ●								
20	ZP20CN ●	ZP20CS ●								
25	ZP25CN ●	ZP25CS ●	ZPT3-A6 ●	M6 x 1	ZPT3-B5 ●	M8 x 1.25	ZPB3K10-B01 ● ZPB3K20-B01 ● ZPB3K30-B01 ● ZPB3K50-B01 ●	10 20 30 50	M14 x 1	Rc1/8
32	ZP32CN ●	ZP32CS ●								
40	ZP40CN ●	ZP40CS ●								
50	ZP50CN ●	ZP50CS ●	ZPT4-A8 ●	M8 x 1	ZPT4-B8 ●					

1) Several buffers can be compatible with the same vacuum pad.

Bellows vacuum pad

ZP Series type B



- Material:
 - NBR (Nitrile): High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, hardness: 50 Sh A, temperature range: 0 to 120 °C
 - Si (Silicone): Excellent suction capacity due to its greater flexibility. Wide temperature range. FDA and Food Sanitation Law certified. Colour: White, hardness: 40 Sh A, temperature range: -30 to 200 °C.
- Application: For use when space is too limited to install a buffer, when the gripping surface is inclined or to use the cushioning effect of the bellows
- Other materials, connection adapters and buffers available upon request.

Pad diameter Ø [mm]	Only vacuum pad ①		Adapter ②				Buffer ③			
	Material		Connection type				Buffer type: Non-rotating			
	NBR	Silicone	Male thread ② a	Connection size	Female thread ② b	Connection size	Female thread 1)	Buffer stroke [mm]	Connection size	Vacuum connection
2	ZP02BN ●	ZP02BS ●	ZPT1-A5 ●	M5 x 0.8	ZPT1-B5 ●	M5 x 0.8	ZPB1K6-B5 ● ZPB1K10-B5 ZPB1K15-B5 ZPB1K25-B5	6 10 15 25	M8 x 1	M5 x 0.8
4	ZP04BN ●	ZP04BS ●								
6	ZP06BN ●	ZP06BS ●								
8	ZP08BN ●	ZP08BS ●								
10	ZP10BN ●	ZP10BS ●	ZPT2-A5 ●	M6 x 1	ZPT2-B5 ●	M8 x 1.25	ZPB2K10-B5 ● ZPB2K20-B5 ● ZPB2K30-B5 ● ZPB2K40-B5 ● ZPB2K50-B5 ●	10 20 30 40 50	M10 x 1	M14 x 1
13	ZP13BN ●	ZP13BS ●								
16	ZP16BN ●	ZP16BS ●								
20	ZP20BN ●	ZP20BS ●	ZPT3-A6 ●	M8 x 1	ZPT3-B5 ●	M8 x 1.25	ZPB3K10-B01 ● ZPB3K20-B01 ● ZPB3K30-B01 ● ZPB3K50-B01 ●		M14 x 1	Rc1/8
25	ZP25BN ●	ZP25BS ●								
32	ZP32BN ●	ZP32BS ●								
40	ZP40BN ●	ZP40BS ●	ZPT4-A8 ●	M8 x 1	ZPT4-B8 ●	M8 x 1.25			M14 x 1	Rc1/8
50	ZP50BN ●	ZP50BS ●								

1) Several buffers can be compatible with the same vacuum pad.

Deep vacuum pad

ZP Series type D



- Material:
 - NBR (Nitrile): High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, hardness: 50 Sh A, temperature range: 0 to 120 °C
 - Si (Silicone): Excellent suction capability due to increased flexibility. Wide temperature range. FDA and Food Sanitation Law certified. Colour: White, hardness: 40 Sh A, temperature range: -30 to 200 °C.
- Application: When the workpiece has a rounded gripping surface
- Other materials, connection adapters and buffers available upon request.

Pad diameter Ø [mm]	Only vacuum pad ❶		Adapter ❷				Buffer ❸			
	Material		Connection type				Buffer type: Non-rotating			
	NBR	Silicone	Male thread ❷ a	Connection size	Female thread ❷ b	Connection size	Female thread 1)	Buffer stroke [mm]	Connection size	Vacuum connection
10	ZP10DN ●	ZP10DS ●	ZPT2-A5 ●	M5 x 0.8	ZPT2-B5 ●	M5 x 0.8	ZPB2K10-B5 ●	10 20 30 40 50	M10 x 1	M5 x 0.8
16	ZP16DN ●	ZP16DS ●	ZPT3-A5		ZPT2-B5 ●		ZPB2K20-B5 ●			
25	ZP25DN ●	ZP25DS ●	ZPT3-A6 ●	M6 x 1	ZPT3-B5 ●	ZPB2K40-B5 ●	ZPB2K50-B5 ●			
40	ZP40DN ●	ZP40DS ●	ZPT4-A8 ●	M8 x 1	ZPT4-B8 ●	M8 x 1.25	ZPB3K10-B01 ● ZPB3K20-B01 ● ZPB3K30-B01 ● ZPB3K50-B01 ●		M14 x 1	Rc1/8

1) Several buffers can be compatible with the same vacuum pad.

Heavy duty vacuum pad

ZP Series type H



- Material:
 - NBR (Nitrile): High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, hardness: 50 Sh A, temperature range: 0 to 120 °C
 - Si (Silicone): Excellent resistance to temperature extremes. FDA and Food Sanitation Act certified. Colour: White, hardness: 50 Sh A, (H-type only), temperature range: -30 to 200 °C.
- Application: Grooved vacuum pads to prevent deformation when gripping. Ideal for heavy and/or large workpieces.

Pad diameter Ø [mm]	Only vacuum pad ①		Adapter ②				Buffer ③			
	Material		Connection type				Buffer type: Rotating			
	NBR	Silicone	Male thread ② a	Connection size	Female thread ② b	Connection size	Female thread 1)	Buffer stroke [mm]	Connection size	Vacuum connection
40	ZP40HN ●	ZP40HS ●	ZPA-T1-B01	M14 x 1	ZPA-T1-B8	M8 x 1.25	ZPB-T1J25-B01 ZPB-T1J50-B01 ZPB-T1J75-B01	25 50 75	M18 x 1.5	Rc1/8
50	ZP50HN ●	ZP50HS					ZPB-T2J25-B01 ZPB-T2J50-B01 ZPB-T2J75-B01			
63	ZP63HN ●	ZP63HS ●	ZPA-T2-B01	M16 x 1.5	ZPA-T2-B10	M10 x 1.5	ZPB-T3J25-B01 ZPB-T3J50-B01 ZPB-T3J75-B01			
80	ZP80HN ●	ZP80HS					ZPA-T3-B01			
100	ZP100HN ●	ZP100HS	ZPA-T3-B01		ZPA-T3-B12	M12 x 1.75	ZPB-T3J25-B01 ZPB-T3J50-B01 ZPB-T3J75-B01	25 50 75	M22 x 1.5	
125	ZP125HN ●	ZP125HS					ZPB-T3J100-B01			

1) Several buffers can be compatible with the same vacuum pad.

Heavy duty, bellows vacuum pad

ZP Series type HB



- Material:
 - NBR (Nitrile): High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, hardness: 50 Sh A, temperature range: 0 to 120 °C
 - Si (Silicone): Excellent resistance to temperature extremes. FDA and Food Sanitation Act certified. Colour: White, hardness: 50 Sh A, (HB-type only), temperature range: -30 to 200 °C.
- Application: Ideal for heavy and/or large parts with curved surfaces
- Other materials, connection adapters and buffers available upon request.

Pad diameter Ø [mm]	Only vacuum pad ①		Adapter ②				Buffer ③			
	Material		Connection type				Buffer type: Rotating			
	NBR	Silicone	Male thread ② a	Connection size	Female thread ② b	Connection size	Female thread 1)	Buffer stroke [mm]	Connection size	Vacuum connection
40	ZP40HBN ●	ZP40HBS ●	ZPA-T1-B01	M14 x 1	ZPA-T1-B8	M8 x 1.25	ZPB-T1J25-B01 ZPB-T1J50-B01 ZPB-T1J75-B01	25 50 75	M18 x 1.5	Rc1/8
50	ZP50HBN ●	ZP50HBS					ZPB-T2J25-B01 ZPB-T2J50-B01 ZPB-T2J75-B01			
63	ZP63HBN ●	ZP63HBS ●	ZPA-T2-B01	M16 x 1.5	ZPA-T2-B10	M10 x 1.5	ZPB-T2J25-B01 ZPB-T2J50-B01 ZPB-T2J75-B01			
80	ZP80HBN ●	ZP80HBS					ZPA-T3-B01			
100	ZP100HBN ●	ZP100HBS	ZPA-T3-B01		ZPA-T3-B12	M12 x 1.75	ZPB-T3J25-B01 ZPB-T3J50-B01 ZPB-T3J75-B01	25 50 75	M22 x 1.5	
125	ZP125HBN ●	ZP125HBS					ZPB-T3J100-B01			

1) Several buffers can be compatible with the same vacuum pad.

Nozzle vacuum pad

ZP2-□□AN Series



- Material:
 - NBR (Nitrile): High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, hardness: 50 Sh A, temperature range: 0 to 120 °C
 - Si (Silicone): Excellent suction capability due to increased flexibility. Wide temperature range. FDA and Food Sanitation Act certified. Colour: White, hardness: 40 Sh A, temperature range: -30 to 200 °C.
- Application: For gripping small components such as electronics
- Other materials, connection adapters available upon request.

Pad diameter Ø [mm]	Only vacuum pad ①		Adapter ②			
	Material		Connection type			
	NBR	Silicone	Male thread ② a	Connection size	Female thread ② b	Connection size
0.8	ZP2-08ANN ●	ZP2-08ANS ●	ZP2A-Z21P ●	M5 x 0.8	—	—
1.1	ZP2-11ANN ●	ZP2-11ANS ●				

Sponge vacuum pad

ZP2-□□S Series



- Material:
 - CR (Chloroprene) conductive: High resistance to ozone. Colour: Black, temperature range: -20 to 120 °C.
- Application: For workpieces with irregular surfaces
- Other materials, connection adapters available upon request.

Pad diameter Ø [mm]	Only vacuum pad ①	Adapter ②			
	Material	Connection type			
	CR (Chloroprene) conductive	Male thread ② a	Connection size	Female thread ② b	Connection size
4	ZP2-04SGC	ZP2A-S01P	M3 x 0.5	ZP2A-S11	M3 x 0.5
6	ZP2-06SGC	ZP2A-S02P	M5 x 0.8	ZP2A-S12	M5 x 0.8
8	ZP2-08SGC	ZP2A-S03P		ZP2A-S13	
10	ZP2-10SGC	ZP2A-S04P		ZP2A-S14	
15	ZP2-15SGC	ZP2A-S05P		ZP2A-S15	

2.5/3.5 stage bellows vacuum pad

ZP2-□J/ZJ Series



- Material:
 - NBR: High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, Hardness: 50 Sh A, temperature range: 0 to 120 °C
 - Silicone: Excellent suction capability due to increased flexibility. Wide temperature range. FDA and Food Sanitation Act certified. Colour: White, hardness: 40 Sh A, temperature range: -30 to 200 °C.
- Application: For use when space is too limited to install a buffer, when the gripping surface is inclined or to use the cushioning effect of the bellows
- Other materials, connection adapters available upon request.

Pad diameter Ø [mm]	Only vacuum pad ①		Adapter ②			
	Material		Connection type			
	NBR	Silicone	Male thread ② a	Connection size	Female thread ② b	Connection size
6	ZP2-06JN ●	ZP2-06JS ●	ZPT1-A5 ●	M5 x 0.8	ZPT1-B5 ●	M5 x 0.8
9	ZP2-09JN-X19 ●	ZP2-09JS-X19 ●	ZPT2-A5 ●		ZPT2-B5 ●	
10	ZP2-B10JN ●	ZP2-B10JS ●	ZPT1-A5 ●		ZPT1-B5 ●	
14	ZP2-14JN-X19 ●	ZP2-14JS-X19 ●	ZPT2-A5 ●		ZPT2-B5 ●	
15	ZP2-B15JN ●	ZP2-B15JS ●	ZPT1-A5 ●		ZPT1-B5 ●	
16	ZP2-16JN-X19 ●	ZP2-16JS-X19 ●	ZPT2-A5 ●		ZPT2-B5 ●	
25	ZP2-B25JN-X19 ●	ZP2-B25JS-X19 ●	ZPT3-A6 ●	M6 x 1	ZPT3-B5 ●	
30	ZP2-B30JN-X19 ●	ZP2-B30JS-X1 ●				

Several buffers can be compatible with the same vacuum pad.

4.5 stage bellows vacuum pad

ZP2-T□ZJ Series



- Material:
 - Si (Silicone): Excellent suction capability due to increased flexibility. Wide temperature range. FDA and Food Sanitation Act certified. Colour: White, Hardness: 40 Sh A (Ø 15, Ø 20, Ø 30) and 50 Sh A (Ø 40, Ø 46), Temperature range: -30 to 200 °C.
- Application: For clamping workpieces with inclined surfaces or which can easily be deformed, such as bags or covers
- Other materials, hardnesses (only for silicone), connection adapters available upon request.

Pad diameter Ø [mm]	Adapter ②				
	Connection type				
	Male thread ② a	Connection size	Female thread ② b	Vacuum connection	Connection size
15	ZP2-TB15ZJS-A10 ●	M10 x 1	ZP2-TB15ZJS-AL12-06 ●	Ø 6 one-touch fitting	M12 x 1
20	ZP2-TB20ZJS-A10 ●		ZP2-TB20ZJS-AL12-06 ●		
30	ZP2-TB30ZJS-A16 ●	M16 x 1.5	ZP2-TB30ZJS-AL14-06 ●		M14 x 1
40	ZP2-T40ZJS-A20 ●	M20 x 1.5	ZP2-T40ZJS-AL14-06 ●		
46	ZP2-T46ZJS-A30 ●	M30 x 1.5	ZP2-T46ZJS-AL14-06 ●		

Oval vacuum pad

ZP2-□□W Series



- Material:
 - NBR: High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, hardness: 50 Sh A, temperature range: 0 to 120 °C
 - Silicone: Excellent suction capability due to increased flexibility. Wide temperature range. Colour: White, hardness: 40 Sh A, temperature range: -30 to 200 °C.
- Application: For rectangular, narrow, vertical or horizontal workpieces
- Other materials, connection adapters and buffers available upon request.

Pad diameter Ø [mm]	Only vacuum pad ❶		Adapter ❷		Buffer ❸								
	Material		Connection type		Buffer type: Non-rotating								
	NBR	Silicone	Female thread ❷ b	Connection size	Female thread ❶)	Buffer stroke [mm]	Connection size	Vacuum connection					
3.5 x 7	ZP2-3507WN ●	ZP2-3507WS ●	ZP2A-001 ●	M5 x 0.8	ZPB2K10-B5 ● ZPB2K20-B5 ● ZPB2K30-B5 ● ZPB2K40-B5 ● ZPB2K50-B5 ●	10 20 30 40 50	M10 x 1	M5 x 0.8					
4 x 10	ZP2-4010WN ●	ZP2-4010WS ●											
5 x 10	ZP2-5010WN ●	ZP2-5010WS ●											
6 x 10	ZP2-6010WN ●	ZP2-6010WS ●											
4 x 20	ZP2-4020WN ●	ZP2-4020WS ●	ZP2A-002 ●										
5 x 20	ZP2-5020WN ●	ZP2-5020WS ●											
6 x 20	ZP2-6020WN ●	ZP2-6020WS ●											
8 x 20	ZP2-8020WN ●	ZP2-8020WS ●											
4 x 30	ZP2-4030WN ●	ZP2-4030WS ●	ZP2A-003 ●										
5 x 30	ZP2-5030WN ●	ZP2-5030WS ●											
6 x 30	ZP2-6030WN ●	ZP2-6030WS ●											
8 x 30	ZP2-8030WN ●	ZP2-8030WS ●											

1) Several buffers can be compatible with the same vacuum pad.

Heavy-duty vacuum pad

ZP2-□H/HT Series



- Material:
 - NBR (Nitrile): High hydrocarbon and abrasion resistance. Can be used in a wide range of applications.
 - CR (Chloroprene): Good environmental, ozone and chemical resistance. Colour: Black, hardness: 50 Sh A, temperature range: -40 to 150 °C.
- Application: Large, flat, grooved suction cups. Grooves provide support for gripping large and heavy workpieces
- Other materials, hardnesses (for FKM only), connection adapters and buffers available upon request.

Pad diameter Ø [mm]	Only vacuum pad ①	
	Material	
	NBR	Chloroprene
150	ZP2-150HTN ●	ZP2-150HTC
250	ZP2-250HTN ●	ZP2-250HTC
300	ZP2-300HN ●	ZP2-300HC
340	ZP2-340HN ●	ZP2-340HC

Compact flat vacuum pad

ZP3-□U/UM Series



- Material:
 - NBR: High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, hardness: 60 Sh A, temperature range: 0 to 120 °C
 - Conductive NBR: High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, temperature range: 0 to 100 °C. Volume resistivity: 10^4 or less [Ωcm]
 - Urethane: Excellent mechanical strength and superior abrasion resistance. Superior ozone resistance. Temperature range: 0 to 60 °C
 - FKM: Can be used in a wide variety of applications. Superior abrasion resistance, heat resistance, ozone resistance, chemical resistance and oil resistance. Colour: Black, hardness: 60 Sh A, temperature range: 0 to 250 °C
 - Si (Silicone): Excellent suction capacity due to its greater flexibility. Wide temperature range. FDA and Food Sanitation Law certified. Colour: White, hardness: 60 Sh A, temperature range: -30 to 200 °C
 - Conductive silicone rubber: Excellent heat and cold resistance, superior ozone resistance. Colour: Black, temperature range: -10 to 200 °C. Volume resistivity: 10^4 or less [Ωcm]
 - Semi-conductive silicone rubber: Excellent heat and cold resistance, superior ozone resistance. Colour: Black, temperature range: -10 to 200 °C. Surface resistance: 10^6 to 10^9 [Ω].
- Application: Flat, grooved and ribbed suction cups. The ribs prevent deformation of the vacuum pad when gripping heavy and/or large parts. The grooves facilitate removal of the workpiece after transfer
- Other materials, connection adapters and buffers available upon request.

Pad diameter Ø [mm]	Only vacuum pad ①						
	Material						
	NBR	Silicone	Urethane	FKM	Conductive NBR	Conductive silicone rubber	Semiconductive silicone rubber
015	ZP3-015UN ●	ZP3-015US ●	ZP3-015UU ●	ZP3-015UF	ZP3-015UGN	ZP3-015UGS	—
02	ZP3-02UN ●	ZP3-02US ●	ZP3-02UU ●	ZP3-02UF	ZP3-02UGN	ZP3-02UGS	
035	ZP3-035UN ●	ZP3-035US ●	ZP3-035UU ●	ZP3-035UF	ZP3-035UGN	ZP3-035UGS	
04	ZP3-04UMN ●	ZP3-04UMS ●	ZP3-04UMU ●	ZP3-04UMF	ZP3-04UMGN	ZP3-04UMGS	ZP3-04UMHS
06	ZP3-06UMN ●	ZP3-06UMS ●	ZP3-06UMU ●	ZP3-06UMF	ZP3-06UMGN	ZP3-06UMGS	ZP3-06UMHS
08	ZP3-08UMN ●	ZP3-08UMS ●	ZP3-08UMU ●	ZP3-08UMF	ZP3-08UMGN	ZP3-08UMGS	ZP3-08UMHS
10	ZP3-10UMN ●	ZP3-10UMS ●	ZP3-10UMU ●	ZP3-10UMF	ZP3-10UMGN	ZP3-10UMGS	ZP3-10UMHS
13	ZP3-13UMN ●	ZP3-13UMS ●	ZP3-13UMU ●	ZP3-13UMF	ZP3-13UMGN	ZP3-13UMGS	ZP3-13UMHS
16	ZP3-16UMN ●	ZP3-16UMS ●	ZP3-16UMU ●	ZP3-16UMF	ZP3-16UMGN	ZP3-16UMGS	ZP3-16UMHS

Pad diameter Ø [mm]	Adapter ②				Buffer ③						
	Connection type				Buffer type: Non-rotating (K) Rotating (J)						
	Male thread ② a	Connection size	Female thread ② b	Connection size	Female thread 1)	Buffer stroke [mm]	Connection size	Vacuum connection			
015	ZP3A-T1-A3	M3 x 0.5	ZP3A-T1-B3	M3 x 0.5	ZP3B-T1(J/K)3-B3 ZP3B-T1(J/K)6-B3	3 6	M6 x 0.75	M3 x 0.5			
02											
035											
04	ZP3A-T2-A5	M5 x 0.8	ZP3A-T2-B5	M5 x 0.8	ZP3B-T2A(J/K)3-B5 ZP3B-T2A(J/K)6-B5 ZP3B-T2A(J/K)10-B5 ZP3B-T2A(JB/K)15-B5 ZP3B-T2A(JB/K)20-B5	3 6 10 15 20	M8 x 0.75	M5 x 0.8			
06											
08											
10	ZP3A-T3-A5		ZP3A-T3-B5		ZP3B-T2B(J/K)3-B5 ZP3B-T2B(J/K)6-B5 ZP3B-T2B(J/K)10-B5 ZP3B-T2B(JB/K)15-B5 ZP3B-T2B(JB/K)20-B5						
13											
16											

Compact bellows vacuum pad

ZP3-□B Series



- Material:
 - NBR: High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, hardness: 60 Sh A, temperature range: 0 to 120 °C
 - Conductive NBR: High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, temperature range: 0 to 100 °C. Volume resistivity: 10⁴ or less [Ωcm]
 - Urethane: Excellent mechanical strength and superior abrasion resistance. Superior ozone resistance. Temperature range: 0 to 60 °C
 - FKM: Can be used in a wide variety of applications. Superior abrasion resistance, heat resistance, ozone resistance, chemical resistance and oil resistance. Colour: Black, hardness: 60 Sh A, temperature range: 0 to 250 °C
 - Silicone: Excellent suction capacity due to its greater flexibility. Wide temperature range. FDA and Food Sanitation Law certified. Colour: White, hardness: 60 Sh A, temperature range: -30 to 200 °C
 - Conductive silicone rubber: Excellent heat and cold resistance, superior ozone resistance. Colour: Black, temperature range: -10 to 200 °C. Volume resistivity: 10⁴ or less [Ωcm].
- Application: Flat, grooved and ribbed suction cups. The ribs prevent deformation of the vacuum pad when gripping heavy and/or large parts. The grooves facilitate removal of the workpiece after transfer
- Other materials, connection adapters and buffers available upon request.

Fast delivery

Pad diameter Ø [mm]	Only vacuum pad ①					
	Material					
	NBR	Silicone	Urethane	FKM	Conductive NBR	Conductive silicone rubber
015	ZP3-015BN ●	ZP3-015BS ●	ZP3-015BU	ZP3-015BF	ZP3-015BGN	ZP3-015BGS
02	ZP3-02BN ●	ZP3-02BS ●	ZP3-02BU	ZP3-02BF	ZP3-02BGN	ZP3-02BGS
035	ZP3-035BN ●	ZP3-035BS ●	ZP3-035BU	ZP3-035BF	ZP3-035BGN	ZP3-035BGS
04	ZP3-04BN ●	ZP3-04BS ●	ZP3-04BU	ZP3-04BF	ZP3-04BGN	ZP3-04BGS
06	ZP3-06BN ●	ZP3-06BS ●	ZP3-06BU	ZP3-06BF	ZP3-06BGN	ZP3-06BGS
08	ZP3-08BN ●	ZP3-08BS ●	ZP3-08BU	ZP3-08BF	ZP3-08BGN	ZP3-08BS
10	ZP3-10BN ●	ZP3-10BS ●	ZP3-10BU	ZP3-10BF	ZP3-10BGN	ZP3-10BGS
13	ZP3-13BN ●	ZP3-13BS ●	ZP3-13BU	ZP3-13BF	ZP3-13BGN	ZP3-13BGS
16	ZP3-16BN ●	ZP3-16BS ●	ZP3-16BU	ZP3-16BF	ZP3-16BGN	ZP3-16BGS

Pad diameter Ø [mm]	Adapter ②				Buffer ③			
	Connection type				Buffer type: Non-rotating (K) Rotating (J)			
	Male thread ② a	Connection size	Female thread ② b	Connection size	Female thread 1)	Buffer stroke [mm]	Connection size	Vacuum connection
015	—	—	—	—	—	—	—	—
02								
035								
04	ZP3A-T2-A5	M5 x 0.8	ZP3A-T2-B5	M5 x 0.8	ZP3B-T2A(J/K)3-B5	3 6 10 15 20	M8 x 0.75	M5 x 0.8
06					ZP3B-T2A(J/K)6-B5			
08					ZP3B-T2A(J/K)10-B5			
10					ZP3B-T2A(JB/K)15-B5			
13	ZP3A-T3-A5	M5 x 0.8	ZP3A-T3-B5	M5 x 0.8	ZP3B-T2A(JB/K)20-B5	3 6 10 15 20	M8 x 0.75	M5 x 0.8
16					ZP3B-T2B(J/K)3-B5			
					ZP3B-T2B(J/K)6-B5			
					ZP3B-T2B(J/K)10-B5			
					ZP3B-T2B(JB/K)15-B5			
					ZP3B-T2B(JB/K)20-B5			

Flat vacuum pad with groove

ZP3E Series type UM



- Material:
 - NBR: High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, hardness: 50 Sh A, temperature range: 0 to 120 °C
 - Silicone: Excellent suction capacity due to its greater flexibility. Wide temperature range. Colour: White, hardness: 50 Sh A, temperature range: -30 to 200 °C
 - NBR Mark free : Similar properties to nitrile but leaves no trace on parts after adsorption. Superior hardness. Colour: Black, hardness: 60 Sh A, temperature range: 0 to 120 °C.
- Application: Flat, grooved and ribbed suction cups. The ribs prevent deformation of the vacuum pad when gripping heavy and/or large parts. The grooves facilitate removal of the workpiece after transfer
- Other materials, connection adapters and buffers available upon request.

Fast delivery

Pad diameter Ø [mm]	Only vacuum pad ①			Adapter ②			
	Material			Connection type			
	NBR	Silicone	NBR mark free	Male thread ② a	Connection size	Female thread ② b	Connection size
32	ZP3E-32UMN ●	ZP3E-32UMS ●	ZP3E-32UMCL ●	ZP3EA-A10 ●	M10 x 1	ZP3EA-PT1-B10 ●	M10 x 1.5
40	ZP3E-40UMN ●	ZP3E-40UMS ●	ZP3E-40UMCL ●			ZP3EA-PT2-B10 ●	
50	ZP3E-50UMN ●	ZP3E-50UMS ●	ZP3E-50UMCL ●				
63	ZP3E-63UMN ●	ZP3E-63UMS ●	ZP3E-63UMCL ●	ZP3EA-A16 ●	M16 x 1.5	ZP3EA-PT3-B12 ●	M12 x 1.75
80	ZP3E-80UMN ●	ZP3E-80UMS ●	ZP3E-80UMCL ●			ZP3EA-PT4-B12 ●	
100	ZP3E-100UMN ●	ZP3E-100UMS ●	ZP3E-100UMCL ●			ZP3EA-PT5-B12 ●	
125	ZP3E-125UMN ●	ZP3E-125UMS ●	ZP3E-125UMCL ●				

Pad diameter Ø [mm]	Buffer ③			
	Buffer type: Rotating			
	Female thread ¹)	Buffer stroke [mm]	Connection size	Vacuum connection
32	ZP3EB-T1JB10 ● ZP3EB-T1JB30 ● ZP3EB-T1JB50 ●	10 30 50	M18 x 1.5	Rc1/8
40				
50				
63	ZP3EB-T2JB10 ● ZP3EB-T2JB30 ● ZP3EB-T2JB50 ●			
80				
100				
125				

Accessories

Pad diameter Ø [mm]	Seal washer		Holder	Plate	Stopper
	M10 x 1	M16 x 1.5			
32	ZP3EA-SW10 ●	—	ZP3EA-H1A ●	ZP3EA-P1 ●	ZP3EA-S1 ●
40			ZP3EA-H2A ●	ZP3EA-P2 ●	
50					
63	—	ZP3EA-SW16 ●	ZP3EA-H3A ●	ZP3EA-P3 ●	ZP3EA-S2 ●
80			ZP3EA-H4A ●	ZP3EA-P4 ●	
100			ZP3EA-H5A ●	ZP3EA-P5 ●	
125					

Bellows vacuum pad with groove

ZP3E Series type BM



- Material:
 - NBR: High hydrocarbon and abrasion resistance. Can be used in a wide range of applications. Colour: Black, hardness: 50 Sh A, temperature range: 0 to 120 °C
 - Silicone: Excellent suction capacity due to its greater flexibility. Wide temperature range. FDA and Food Sanitation Law certified. Colour: White, Hardness: 50 Sh A, Temperature range: -30 to 200 °C
 - NBR mark free: Similar properties to nitrile but leaves no trace on parts after adsorption. Superior hardness. Colour: Black, hardness: 60 Sh A, temperature range: 0 to 120 °C.
- Application: Suction cups with 1.5 bellows, grooved and ribbed. The ribs prevent deformation of the vacuum pad when gripping heavy and/or large workpieces. The grooves facilitate removal of the workpiece after transfer. The bellows compensate for height differences and provide a cushioning effect when gripping
- Other materials, connection adapters and buffers available upon request.

Fast delivery

Pad diameter Ø [mm]	Only vacuum pad ①			Adapter ② ①)			
	Material			Connection type			
	NBR	Silicone	NBR mark free	Male thread ② a	Connection size	Female thread ② b	Connection size
32	ZP3E-32BMN ●	ZP3E-32BMS ●	ZP3E-32BMCL ●	ZP3EA-A10 ●	M10 x 1	ZP3EA-PT1-B10 ●	M10 x 1.5
40	ZP3E-40BMN ●	ZP3E-40BMS ●	ZP3E-40BMCL ●			ZP3EA-PT2-B10 ●	
50	ZP3E-50BMN ●	ZP3E-50BMS ●	ZP3E-50BMCL ●			ZP3EA-PT3-B12 ●	
63	ZP3E-63BMN ●	ZP3E-63BMS ●	ZP3E-63BMCL ●	ZP3EA-A16 ●	M16 x 1.5	ZP3EA-PT5-B12 ●	M12 x 1.75
80	ZP3E-80BMN ●	ZP3E-80BMS ●	ZP3E-80BMCL ●			ZP3EA-PT6-B12 ●	
100	ZP3E-100BMN ●	ZP3E-100BMS ●	ZP3E-100BMCL ●				
125	ZP3E-125BMN ●	ZP3E-125BMS ●	ZP3E-125BMCL ●				

1) For mounting the threaded adaptor, a plate, a bracket and a stopper are required, see table below.

Pad diameter Ø [mm]	Buffer ③			
	Buffer type: Rotating			
	Female thread 1, 2)	Buffer stroke [mm]	Connection size	Vacuum connection
32	ZP3EB-T1JB10 ●	10 30 50	M18 x 1.5	Rc1/8
40	ZP3EB-T1JB30 ●			
50	ZP3EB-T1JB50 ●			
63	ZP3EB-T2JB10 ● ZP3EB-T2JB30 ● ZP3EB-T2JB50 ●		M22 x 1.5	
80				
100				
125				

1) For mounting the threaded adapter and the buffer, a plate, a bracket and a sealing washer are required.

2) Several buffers can be compatible with the same vacuum pad.

Accessories

Pad diameter Ø [mm]	Seal washer		Holder	Plate	Stopper
	M10 x 1	M16 x 1.5			
32	ZP3EA-SW10 ●	—	ZP3EA-H1A ●	ZP3EA-P1 ●	ZP3EA-S1 ●
40			ZP3EA-H2A ●	ZP3EA-P2 ●	
50			ZP3EA-H4A ●	ZP3EA-P4 ●	
63	—	ZP3EA-SW16 ●	ZP3EA-H5A ●	ZP3EA-P5 ●	ZP3EA-S2 ●
80			ZP3EA-H6A ●	ZP3EA-P6 ●	
100					
125					

● Stocked items.

Flat vacuum pad, FDA compliant

ZP3P Series type PT



- Material:
 - FDA and Food Sanitation Law certified silicone. Colour: Blue for easy detection during contamination inspections. Hardness: 40 Sh A, temperature range: -30 to 200 °C.
- Application: For gripping films and bags in the food industry. The thin skirt of the suction cup allows it to fit perfectly on easily deformable surfaces, therefore providing excellent suction performance
- Further connection adapters available upon request.

Fast delivery

Pad diameter Ø [mm]	Only vacuum pad ①	Adapter ②				Buffer ③			
	Material	Connection type				Buffer type: Rotating			
	Silicone	Male thread ② a	Connection size	Female thread ② b	Connection size	Female thread ①)	Buffer stroke [mm]	Connection size	Vacuum connection
20	ZP3P-20PTSF ●	ZP3PA-T1-AG1 ●	G1/8	ZP3PA-T1-B5 ●	M5	ZPB2K10-B5 ●	10 20	M10 x 1	M5
25	ZP3P-25PTSF ●					ZPB2K20-B5 ●			
35	ZP3P-35PTSF ●	ZP3PA-T2-AG2 ●	G1/4	ZP3PA-T2-B8 ●	M8	ZPB3K10-B01 ●		M14 x 1	Rc1/8
50	ZP3P-50PTSF ●					ZPB3K20-B01 ●			

1) Several buffers can be compatible with the same vacuum pad.

2.5 and 5.5 bellows vacuum pad, FDA compliant

ZP3P Series type JT



- Material:
 - FDA and Food Sanitation Law certified silicone. Colour: Blue for easy detection during contamination inspections. Hardness: 40 Sh A, temperature range: -30 to 200 °C.
- Application: For gripping bags and pouches in the food industry. Thin skirt with chevrons that retract upon absorption, providing excellent suction performance
- Other connection adapters available upon request.

Fast delivery

Pad diameter Ø [mm]	Only vacuum pad ①	Adapter ②					
	Material	Connection type					
	Silicone	Male thread ② a	Connection size	Female thread ② b	Connection size	Instantaneous connection model ② c	Connection size
20	ZP3P-20JT2SF-WM ●	ZP3PA-T1JT-AG01 ●	G1/8	ZP3PA-T1JT-BG01 ●	G1/8	ZP3PA-T1JT-A16-08 ●	Ø 8 one-touch fitting
32	ZP3P-32JT2SF-WM ●	ZP3PA-T2JT-AG02 ●	G1/4	ZP3PA-T2JT-BG02 ●	G1/4	ZP3PA-T2JT-A20-10 ●	Ø 10 one-touch fitting
50	ZP3P-50JT2SF-WM ●						
20	ZP3P-20JT5SF-WG ●	ZP3PA-T1JT-AG01 ●	G1/8	ZP3PA-T1JT-BG01 ●	G1/8	ZP3PA-T1JT-A16-08 ●	Ø 8 one-touch fitting
25	ZP3P-25JT5SF-WG ●						
32	ZP3P-32JT5SF-WG ●	ZP3PA-T2JT-AG02 ●	G1/4	ZP3PA-T2JT-BG02 ●	G1/4	ZP3PA-T2JT-A20-10 ●	Ø 10 one-touch fitting
40	ZP3P-40JT5SF-WG ●						
50	ZP3P-50JT5SF-WG ●						

Flat abrasion resistant vacuum pad

ZP3C Series 



- Material:
 - FS-61, Fluoro-based rubber: Improved abrasion resistance.
 - Hardness: 60 Sh A.
- Application: Suitable for the adsorption transfer of corrugated cardboard, etc., requiring abrasion resistance
- Further connection adapters available upon request.

Pad diameter Ø [mm]	Only vacuum pad ①	Adapter ②			
	Material	Connection type			
	FS-61	Male thread ② a	Connection size	Female thread ② b	Connection size
40	ZP3C-40CFS	ZP3CA-T4-AG02 ●	G1/4	ZP3CA-T4-BG02 ●	G1/4
50	ZP3C-50CFS				

Pad diameter Ø [mm]	Buffer ③			
	Buffer type: Non-rotating			
	Female thread ①	Buffer stroke [mm]	Connection size	Vacuum connection
40	ZP3EB-T1JB10 ●	10	M18 x 1.5	Rc1/8
	ZP3EB-T1JB20	20		
	ZP3EB-T1JB30 ●	30		
50	ZP3EB-T1JB10 ●	10	M18 x 1.5	Rc1/8
	ZP3EB-T1JB30 ●	30		
	ZP3EB-T1JB50 ●	50		

1) Several buffers can be compatible with the same vacuum pad.

Accessories

Pad diameter Ø [mm]	Mesh filter ①
40	ZPMF-60-D18 ●
50	

1) Mesh filter only available when using an adapter.

Bellows abrasion resistant vacuum pad

ZP3C Series 



- Material:
 - FS-61, Fluoro-based rubber: Improved abrasion resistance.
 - Hardness: 60 Sh A.
- Application: Suitable for the adsorption transfer of corrugated cardboard, etc., requiring abrasion resistance
- Further connection adapters available upon request.

Pad diameter Ø [mm]	Only vacuum pad ①	Adapter ②			
	Material	Connection type			
	FS-61	Male thread ② a	Connection size	Female thread ② b	Connection size
32	ZP3C-32BFS	ZP3CA-T3-AG01 ●	G1/8	ZP3CA-T3-BG01 ●	G1/8
40	ZP3C-40BFS	ZP3BA-T4-AG02 ●	G1/4	ZP3BA-T4-BG02 ●	G1/4
50	ZP3C-50BFS				

Pad diameter Ø [mm]	Buffer ③			
	Buffer type: Non-rotating			
	Female thread ①	Buffer stroke [mm]	Connection size	Vacuum connection
32	ZP3EB-T1JB10 ●	10	M18 x 1.5	Rc1/8
	ZP3EB-T1JB20	20		
	ZP3EB-T1JB30 ●	30		
40	ZP3EB-T1JB10 ●	10	M18 x 1.5	Rc1/8
	ZP3EB-T1JB30 ●	30		
	ZP3EB-T1JB50 ●	50		

1) Several buffers can be compatible with the same vacuum pad.

Accessories

Pad diameter Ø [mm]	Mesh filter ①
32	ZPMF-60-D11 ●
40	ZPMF-60-D18 ●
50	

1) Mesh filter only available when using an adapter.

Bowl shape with non-slip feature vacuum pad

ZP3M Series **NEW**



- Material:
 - FS-61, Fluoro-based rubber: Improved abrasion resistance.
 - Hardness: 60 Sh A.
- Application:
 - Suitable for workpieces with oil film
 - Prevents workpiece slippage, high horizontal holding force
 - Bowl shape can handle curved workpieces.
- Further connection adapters available upon request.

Pad diameter Ø [mm]	Pad material	Pad + adapter ② 1)					
		Connection type					
		Male thread ② a	Connection size	Female thread ② b	Connection size	Square adapter	Connection size
32	FS-61	ZP3M-T32RFS-A10	M10 x 1.0	ZP3M-T32RFS-B14	M14 x 1.0	ZP3M-T32RFS-S32	31.8
40		ZP3M-T40RFS-A10		ZP3M-T40RFS-B14		ZP3M-T40RFS-S32	
50		ZP3M-T50RFS-A10		ZP3M-T50RFS-B14		ZP3M-T50RFS-S32	
63		ZP3M-T63RFS-A16	M16 x 1.5	ZP3M-T63RFS-B14		ZP3M-T63RFS-S32	
80		ZP3M-T80RFS-A16		ZP3M-T80RFS-B14		ZP3M-T80RFS-S32	
100		ZP3M-T100RFS-A16		ZP3M-T100RFS-B14		ZP3M-T100RFS-S32	

1) The adapter and pad are adhered to each other and cannot be disassembled.

Pad diameter Ø [mm]	Buffer ③			
	Buffer type: Non-rotating			
	Female thread 1)	Buffer stroke [mm]	Connection size	Vacuum connection
32	ZP3EB-T1JB10 ● ZP3EB-T1JB30 ● ZP3EB-T1JB50 ●	10 30 50	M18 x 1.5	Rc1/8
40				
50				
63	ZP3EB-T2JB10 ● ZP3EB-T2JB30 ● ZP3EB-T2JB50 ●	10 30 50	M22 x 1.5	
80				
100				

1) Several buffers can be compatible with the same vacuum pad.

Accessories

Pad diameter Ø [mm]	Mesh filter 1)
32	ZPMF-60-D13
40	
50	
63	ZPMF-60-D18 ●
80	
100	

1) Mesh filter only available when using an adapter.

Other vacuum handling solutions

Non-contact gripping, Bernoulli model

ZNC Series **NEW**



- Material:
 - Aluminium
 - Resin: Lightweight type
 - Stainless steel: For food industry and anti-corrosive treatment.
- Application: For the adsorption transfer of thin cloths, films, printed circuit boards, etc.
- Further accessories available upon request.

Body material	Part number	External diameter of the body [mm]	Lifting force at 0.5 MPa [N]	Connection port size	Mass [g]	Operating pressure
Aluminium	ZNC20	20	5.2	M5 x 0.8	12	0.1 to 0.5 MPa
	ZNC30	30	10.7		27	
	ZNC40	40	13.8		48	
	ZNC60	60	28.3		110	
	ZNC80	80	65	Rc1/8	193	
Resin	ZNC20P	20	5.2	M5 x 0.8	7	
	ZNC30P	30	10.7		17	
	ZNC40P	40	13.8		30	
	ZNC60P	60	28.3		67	
	ZNC80P	80	65	Rc1/8	119	
Stainless-steel	ZNC20S	20	5.2	M5 x 0.8	34	
	ZNC30S	30	10.7		77	
	ZNC40S	40	13.8		139	
	ZNC60S	60	28.3		323	
	ZNC80S	80	65	Rc1/8	568	

Accessories	Description
PSE541-M5-X2	Pressure sensor
ZNCM-PN1	NBR stopper (20, 30)
ZNCM-PN2	NBR stopper (40, 60, 80)
ZNCM-PS1	Silicon stopper (20, 30)
ZNCM-PS2	Silicon stopper (40, 60, 80)
ZNCM-30VP	Resin, vibration suppression cover
ZNCM-40VP	
ZNCM-60VP	
ZNCM-80VP	
ZNCM-20VS	Stainless-steel, vibration suppression cover
ZNCM-30VS	
ZNCM-40VS	
ZNCM-60VS	
ZNCM-80VS	

Non-contact gripper, cyclone type

XT661-A Series



- Gripping force of up to 44 N with low air consumption
- Wide size range. From Ø 20 to Ø 100
- Maximum suction distance from the workpiece: 10 mm
- Grease-free
- Can be dismantled to allow cleaning of internal components.

Type	Part number	External diameter of the body [mm]	Lifting force at 0.5 MPa [N]	Connection port size	Mass [g]	Operating pressure
Cyclone-type	XT661-2A-R	Ø 20	4.3	M5 x 0.8	12.5	0.01 to 0.5 MPa
	XT661-2A-L					
	XT661-4A-R	Ø 40	14		49	
	XT661-4A-L					
	XT661-6A-R	Ø 60	21		114	
	XT661-6A-L					
	XT661-8A-R	Ø 80	26	Rc1/8	Rc1/8	
	XT661-8A-L					
	XT661-10A-R	Ø 100	44		310	
	XT661-10A-L					
Low profile cyclone-type	XT661-2A-R-X260	Ø 20	1.4	Ø 1.6	1.33	
	XT661-2A-L-X260					
	XT661-3A-R-X260	Ø 25	2		2.13	
	XT661-3A-L-X260					

Magnetic gripper

MHM-X6400 Series



- Holding force of up to 120 N (part thickness 1.4 mm)
- Holds workpieces even when the air supply is switched off
- Residual holding force of max. 0.3 N
- Holding force can be adjusted by changing the elastic ring
- The elastic ring is made of fluorinated rubber
- Mounting on 3 sides
- Detectors can be mounted.

Part number	Thread	Gripping force [N]
MHM-32D1-X6400 ●	R1/8	80 N
MHM-32D2-X6400		50 N
MHM-32D3-X6400		30 N

High performance magnetic gripper

MHM Series



- No air consumption during transfer
- Holding force: max. 1000 N (Ø 50, workpiece thickness 6 mm)
- Compatible with perforated parts or parts with irregular surfaces
- Holding force can be adjusted using an adjusting screw (optional)
- Drop prevention: Holds workpieces even when the air supply is switched off
- Direct mounting of sensors.

Part number	Thread	Holding force adjustment screw	Gripping force [N]
MHM-16D	M5 x 0.8	No	50 N
MHM-16D1		Yes	
MHM-25D		No	200 N
MHM-25D1		Yes	
MHM-32D	Rc1/8	No	500 N
MHM-32D1		Yes	
MHM-50D		No	1000 N
MHM-50D1		Yes	

1) Part thickness: 6 mm.

Accessories	Description
D-M9BV	Solid state auto-switch, 2-wire
D-M9NV	Solid state auto-switch, 3-wire NPN
D-M9PV	Solid state auto-switch, 3-wire PNP
D-M9BWV	Solid state auto-switch, 2-wire (two colour indication)
D-M9NWV	Solid state auto-switch, 3-wire NPN (two colour indication)
D-M9PWV	Solid state auto-switch, 3-wire PNP (two colour indication)
MHM-A1613	Pad size 16
MHM-A2513	Pad size 25
MHM-A3213	Pad size 32
MHM-A5013	Pad size 50

Magnetic gripper for collaborative robots

MHM-X7400A Series



- Integration of dispensers, magnetic gripper, position sensors and mounting flange for collaborative robot
- Electrical connections already prepared
- Universal Robot, Omron Techman™, Fanuc CRX, Mitsubishi MELFA ASSISTA, Yaskawa MOTOMAN compatible variants
- Holding force of 200 N (workpiece thickness 6 mm)
- Drop prevention: Holds parts even when the air supply is switched off.

Part number	Cobot manufacturer	Gripping force [N]		Pressure range [MPa]	Mass [g]	Connector
		Part thickness 2 mm	Part thickness 6 mm			
MHM-25D-X7400A	Universal Robot	160 N	200 N	0.2 to 0.6	590	M8 8-pin connector (Socket)
MHM-25D-X7400A-TM	Omron Techman TM					M8 8-pin connector (Plug)
MHM-25D-X7400A-CRX	Fanuc CRX					M8 8-pin connector (Socket)
MHM 25D X74 00A ¹⁾	MELFA ASSISTA				M8 8-pin connector (Plug)	
MHM 25D X7400A ¹⁾	MOTOMAN HC10			780 800	Molex 51227-0800	
MHM 25D X7400A ¹⁾	MOTOMAN HC10DT					
MHM 25D X7400A-DTP	MOTOMAN HC10DTP/20DTP/20SDTP					

1) Part thickness: 6 mm.

Vacuum gripper for collaborative robots

ZXP-X1 Series



- Integration of vacuum ejector, air supply/release valve, pressure switch, suction cups and mounting flange for collaborative robot
- Electrical connections already prepared
- Universal Robot, Omron Techman™, Fanuc, CRX, Mitsubishi MELFA ASSISTA, Yaskawa MOTOMAN, KAWASAKI duAro compatible variants
- Large choice of diameters and materials
- Integration of vacuum saving valves and vacuum switch with integrated display possible.

ZXP7 A - 01 ZP 20 U N - X1 - ASSISTA¹⁾

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

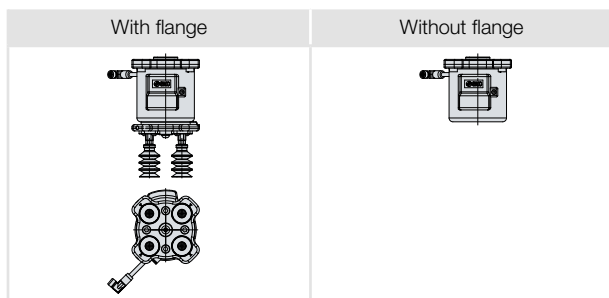
1) For selection of MELFA ASSISTA only.

① Unit size

Symbol	Size
7	75 mm

② Shape of the vacuum pad plate

Symbol	Shape
A	42 mm x 42 mm
N	Without plate ²⁾



2) Customers who choose the product without a mounting plate for the vacuum pads will need to produce a plate that corresponds to the mounting dimensions themselves.

⑤ Unit size

Symbol	Pad diameter	Symbol	Pad diameter
8	Ø 8	25	Ø 25
10	Ø 10	B25	
13	Ø 13	B30	Ø 30
16	Ø 16	32	Ø 32
20	Ø 20	—	Without pad

⑥ Pad shape

Symbol	Type
U	Flat
C	Flat with nerves
B	Bellows
UT	Thin flat
J	Multibellows
JT2	2.5 bellows
JT5	5.5 bellows
—	Without pad

③ Cobot manufacturer

Symbol	Compatible manufacturer
—	Mitsubishi MELTA ASSISTA, KAWASAKI Heavy Industries, Ltd.:Dual-Arm SCARA Robot [duAro1,2]
01	Universal robot 3(e), 5(e), 10(e), 16e
11	YASKAWA Electric Corporation: MOTOMAN-HC10DT- MOTOMAN-HC10DTP
12	MOTOMAN-HC10DTP MOTOMAN-HC20DTP MOTOMAN- HC20SDTP
21	Fanuc: CRX S series
41	Omron Techman: TM5, TM12, TM14

⑦ Pad material

Symbol	Pad diameter
N	NBR
S	Silicone (white)
U	Urethane
F	FKM
SF	Silicone (blue)
—	Without pad


④ Pad series

Symbol	Series
ZP	Standard
ZP3P	Bellows model for film packaging parts
—	Without pad

⑧ Accessories

Symbol	Type
—	Finger attachment
M	Mith mesh filter

ZXP7(A,N)01 –      – X1
① ② ③ ④ ⑤

① Pad series	② Pad diameter [mm]	③ Pad shape	④ Pad material	⑤ Attachment										
ZP	8	U		—										
	8	B												
	10	UT												
	13													
	16													
	10	U												
	13													
	16													
	20													
	25													
	32													
	10	C												
	13													
	16													
	20													
	25													
	32													
	10	B												
	13													
	16													
	20													
	25													
	32													
	20	UT												
	16	J												
	B25													
	B30													
ZP3P	20	JT2	SF	M										
	32			—										
	20			M										
	25	JT5		—										
	32													

1) Select the pad material from the options on table number 7.

Vacuum pad with adapter

Part number	Mass per material of the vacuum pad (g/vacuum pad)				Adapter (Vacuum connection) M6 x 1 thread	Pad
	N (NBR)	S/SF (Silicone)	U (Urethane)	F (FKM)		
ZPT08U□-A6	4	4	4	4	ZPT1-A6	ZP08U□
ZPT08B□-A6						ZP08B□
ZPT10UT□-A6						ZP10UT□
ZPT13UT□-A6						ZP13UT□
ZPT16UT□-A6						ZP16UT□
ZPG10U□-7A-X2	7	7	7	7	ZPT2-7A-X2	ZP10U□
ZPG13U□-7A-X2				8		ZP13U□
ZPG16U□-7A-X2						ZP16U□
ZPG20U□-7A-X2	9	10	10	10	ZPT3-7A-X2	ZP20U□
ZPG25U□-7A-X2	10			11		ZP25U□
ZPG32U□-7A-X2		11	12	ZP32U□		
ZPG10C□-7A-X2	7	7	7	7	ZPT2-7A-X2	ZP10C□
ZPG13C□-7A-X2						ZP13C□
ZPG16C□-7A-X2				8		ZP16C□
ZPG20C□-7A-X2	9	10	10	11	ZPT3-7A-X2	ZP20C□
ZPG25C□-7A-X2	10					
ZPG32C□-7A-X2		11	12	ZP32C□		
ZPG10B□-7A-X2	7	7	7	8	ZPT2-7A-X2	ZP10B□
ZPG13B□-7A-X2		8	8			
ZPG16B□-7A-X2	8			9		ZP16B□
ZPG20B□-7A-X2	11	11	11	13	ZPT3-7A-X2	ZP20B□
ZPG25B□-7A-X2		12	12	14		ZP25B□
ZPG32B□-7A-X2	14	15	15	18		ZP32B□
ZPG20UT□-7A-X2	4	4	4	4	ZPT1-A6	ZP2-20UT□
ZPG16J□-7A-X2	8	8	8	9	ZPT2-7A-X2	ZP2-16J□
ZPGB25J□-7A-X2	14	15	15	18	ZPT3-7A-X2	ZP2-B25J□
ZPGB30J□-7A-X2	18	19	19	25		ZP2-B30J□
ZP3PG20JT2SF- 7A-X2	—	21	—	—	—	ZP3P- 20JT2SF-W
					ZP3PA-T1JT- 7A-X2	—
ZP3PG20JT2SF- M-7A-X2					ZP3PA-T2JT- 7A-X2	ZP3P-20JT2SF- WM
		—				
ZP3PG32JT2SF- 7A-X2		ZP3P- 32JT2SF-W				
		—				
ZP3PG32JT2SF- M-7A-X2		ZP3PA-T1JT- 7A-X2			ZP3P-32JT2SF- WM	
					—	
ZP3PG20JT5SF- 7A-X2					ZP3P- 20JT5SF-WG	
	—					
ZP3PG25JT5SF- 7A-X2	ZP3PA-T2JT- 7A-X2	ZP3P-25JT5SF- WG				
		—				
ZP3PG32JT5SF- 7A-X2		ZP3P-32JT5SF- WG				
					—	

□: Select the pad material from the options on table number 7.

Vacuum pad with ejector

ZHP Series



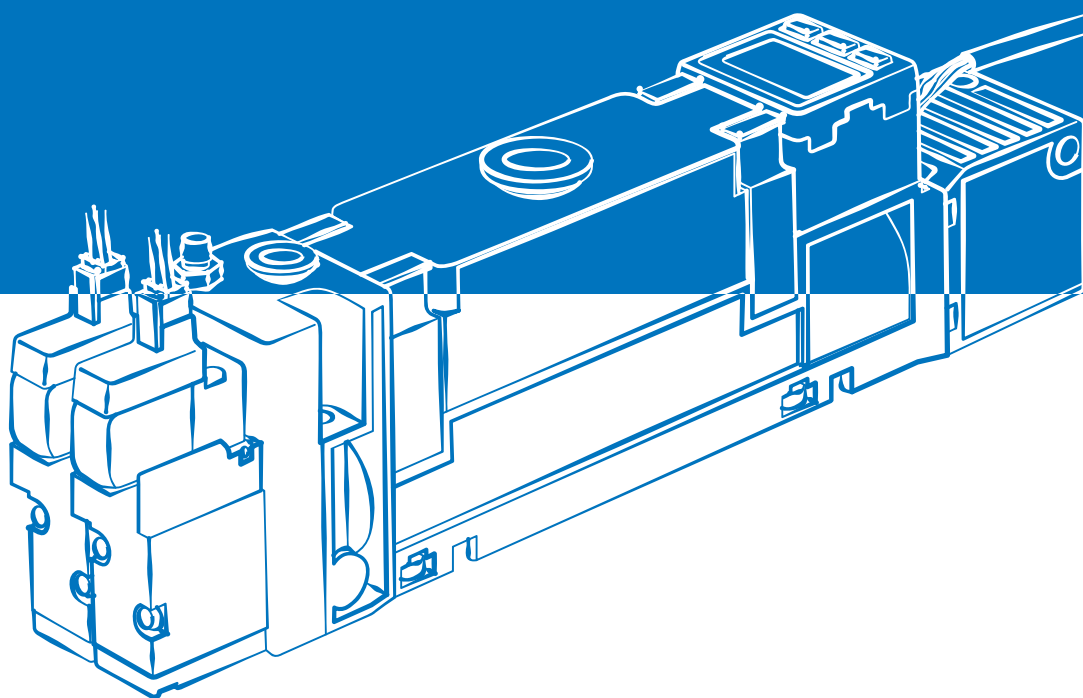
- The two-stage vacuum generator and the suction cup form a single product
- The volume of the vacuum circuit is reduced to a minimum
- Model with or without vacuum generator
- 3 connection ports for connecting:
 - A pressure switch
 - A vacuum breaker distributor
 - Series connection of several ZHPs without vacuum generator.
- Latch structure for quick and easy suction cup replacement- Suction rate is improved by 50 % and consumption reduced by 30 %. (Compared to a single-stage SMC vacuum generator).

Diameter of the pad Ø [mm]	Pad shape	Part number	Pad material	Assembly		Nominal nozzle size/ vacuum generator [mm]	Supply port [P]	Exhaust					
				Connection	Size								
63	Bellows type with groove	ZHP63BMNB-07C6S ●	NBR (black) ¹⁾	Male	M10	Ø 0.7	Ø 6	Exhaust with silencer					
	Flat type with groove	ZHP63UMNB-07C6S				Ø 1.0							
	Bellows type with groove	ZHP63BMNB-10C6S ●				Ø 1.2							
	Flat type with groove	ZHP63UMNB-10C6S				Ø 1.5							
80	Bellows type with groove	ZHP80BMNB-12C6S ●				Silicone (white) ¹⁾			Male	M10	Ø 0.7	Ø 6	Exhaust with silencer
	Flat type with groove	ZHP80UMNB-12C6S									Ø 1.0		
	Bellows type with groove	ZHP80BMNB-15C6S ●									Ø 1.2		
	Flat type with groove	ZHP80UMNB-15C6S									Ø 1.5		
63	Bellows type with groove	ZHP63BMSB-07C6S	Urethane (brown) ¹⁾	Male	M10		Ø 0.7	Ø 6			Exhaust with silencer		
	Flat type with groove	ZHP63UMSB-07C6S					Ø 1.0						
	Bellows type with groove	ZHP63BMSB-10C6S					Ø 1.2						
	Flat type with groove	ZHP63UMSB-10C6S					Ø 1.5						
80	Bellows type with groove	ZHP80BMSB-12C6S				Urethane (brown) ¹⁾	Male		M10	Ø 0.7		Ø 6	Exhaust with silencer
	Flat type with groove	ZHP80UMSB-12C6S								Ø 1.0			
	Bellows type with groove	ZHP80BMSB-15C6S								Ø 1.2			
	Flat type with groove	ZHP80UMSB-15C6S								Ø 1.5			
63	Bellows type with groove	ZHP63BMUB-07C6S	Urethane (brown) ¹⁾	Male	M10			Ø 0.7		Ø 6	Exhaust with silencer		
	Flat type with groove	ZHP63UMUB-07C6S						Ø 1.0					
	Bellows type with groove	ZHP63BMUB-10C6S						Ø 1.2					
	Flat type with groove	ZHP63UMUB-10C6S						Ø 1.5					
80	Bellows type with groove	ZHP80BMUB-12C6S				Urethane (brown) ¹⁾	Male	M10	Ø 0.7			Ø 6	Exhaust with silencer
	Flat type with groove	ZHP80UMUB-12C6S							Ø 1.0				
	Bellows type with groove	ZHP80BMUB-15C6S							Ø 1.2				
	Flat type with groove	ZHP80UMUB-15C6S							Ø 1.5				

1) Replace the end of the reference after the “-” with “-00” to obtain the reference without vacuum generator (e.g. ZHP63BMNB-07C6S becomes ZHP63BMNB-00).

Part number	Pad shape	Supply port [P]	Exhaust
ZP3E-63BMN	ZHP63	Vacuum pad form only: Bellows type with groove	Pad material: NBR
ZP3E-80BMN	ZHP80		
ZP3E-63BMS	ZHP63		Pad material: Silicone
ZP3E-80BMS	ZHP80		
ZP3E-63BMU	ZHP63		Pad material: Urethane
ZP3E-80BMU	ZHP80		
ZP3E-63UMN	ZHP63		Pad material: NBR
ZP3E-80UMN	ZHP80		
ZP3E-63UMS	ZHP63	Vacuum pad shape only: Flat type with groove	Pad material: Silicone
ZP3E-80UMS	ZHP80		
ZP3E-63UMU	ZHP63		Pad material: Urethane
ZP3E-80UMU	ZHP80		

Ejectors



Vacuum unit. Ejector system/Vacuum pump system

ZK2□A Series 34

Vacuum unit. Multi-stage ejector

ZL Series 36

Vacuum manifold for fieldbus system

ZKJ Series 38

Compact vacuum unit

ZQ-A Series 40

Vacuum ejector, box type/body ported type

ZH□A Series 42

Vacuum ejector, in-line type

ZU□A Series 45

Vacuum ejector, all stainless steel

ZH□□-X267 Series 45

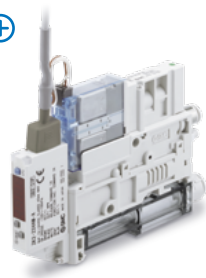
Vacuum flow

ZHV Series 46



Vacuum unit. Ejector system/ Vacuum pump system

ZK2□A Series



Air consumption reduced by up to 93 % with the energy saving function.

- The output of the vacuum switch opens and deactivates the supply valve when the vacuum level is reached, thus reducing air consumption. The vacuum level is then maintained by the non-return valve. The supply valve is reactivated when the vacuum level decreases and reaches the pre-set pressure threshold on the vacuum switch
- The two-stage vacuum generator reduces air consumption and increases suction flow
- Supply valve with self-holding function possible.
 - Dual 2-port valve (release valve/supply valve): Can hold vacuum even when the power goes out or is turned off. Prevents the sudden dropping of workpieces.
- Optional high noise reduction muffler:
 - Noise: only 46 dB
 - Suction rate: improved by up to 20.

Fast delivery

Vacuum unit. Single unit (N.C. supply valve, N.C. release valve, 24 VDC) with vacuum switch, max. vacuum -91 kPa, 2 PNP switching output

Part number	Exhaust type	Nozzle Ø [mm]	Vacuum port size (V)	Vacuum switch pressure range [kPa]	Max. suction flow rate [l/min (ANR)]
ZK2A07K5CLA-□	Exhaust with integrated silencer, noise reduced to 59 dB(A) ¹⁾	0.7	06, 08	0 to 101	29
ZK2A10K5CLA-□		1.0			44
ZK2A12K5CLA-□ ●		1.2			61
ZK2A15K5CLA-□		1.5			67
ZK2A07K5HLA-□		0.7		-100 to 100	29
ZK2A10K5HLA-□		1.0			44
ZK2A12K5HLA-□ ●		1.2			61
ZK2A15K5HLA-□		1.5			67
ZK2G07K5CLA-□	Exhaust with high performance silencer, noise reduced to 46 dB(A) ¹⁾	0.7		0 to 101	34
ZK2G10K5CLA-□		1.0			56
ZK2G12K5CLA-□ ●		1.2			72
ZK2G15K5CLA-□		1.5			83
ZK2G07K5HLA-□		0.7		-100 to 100	34
ZK2G10K5HLA-□		1.0			56
ZK2G12K5HLA-□		1.2			72
ZK2G15K5HLA-□		1.5			83

Valve cable (300 mm) and vacuum switch cable (2 m) supplied.

□: One-touch fitting: 06: Ø 6 mm, 08: Ø 8 mm.

¹⁾ For nozzle size 0.7 – under SMC measuring conditions.

Vacuum unit. Single unit (N.C. supply valve, N.C. release valve, 24 VDC) with vacuum switch & energy saving function, max. vacuum -91 kPa, 1 PNP switching output

Part number	Exhaust type	Nozzle Ø [mm]	Vacuum port size (V)	Vacuum switch pressure range [kPa]	Max. suction flow rate [l/min (ANR)]
ZK2A07K5RWA-□	Silencer exhaust, noise reduced to 59 dB(A) ¹⁾	0.7	06, 08	-100 to 100	29
ZK2A10K5RWA-□		1.0			44
ZK2A12K5RWA-□ ●		1.2			61
ZK2A15K5RWA-□ ●		1.5			67
ZK2B15K5RWA-□ ●	Port exhaust	1.5			89
ZK2G07K5RWA-□	High-noise reduction silencer exhaust, noise reduced to 46 dB(A) ¹⁾	0.7			34
ZK2G10K5RWA-□		1.0			56
ZK2G12K5RWA-□ ●		1.2			72
ZK2G15K5RWA-□ ●		1.5			83

Energy saving valve/vacuum switch cable (2 m) supplied.

□: One-touch fitting: 06: Ø 6 mm, 08: Ø 8 mm.

¹⁾ For nozzle size 0.7 – under SMC measuring conditions.

Vacuum unit. Manifold (N.C. supply valve, N.C. release valve, 24 VDC) with vacuum switch, max. vacuum -91 kPa, 2 PNP switching output

Part number	Exhaust type	Nozzle Ø [mm]	Vacuum port size (V) ¹⁾	Vacuum switch pressure range [kPa]	Max. suction flow rate [l/min (ANR)]
ZK2C07K5CLA-08	Complex exhaust, Combination of direct exhaust and end plate exhaust from each station, noise reduced to 59 dB(A)	0.7	Ø 8	-101 to 0	29
ZK2C10K5CLA-08		1.0			44
ZK2C12K5CLA-08		1.2			61
ZK2C15K5CLA-08		1.5			67
ZK2C07K5HLA-08		0.7		-100 to 100	29
ZK2C10K5HLA-08		1.0			44
ZK2C12K5HLA-08		1.2			61
ZK2C15K5HLA-08		1.5			67


1) Valve cable (300 mm) and vacuum switch cable (2 m) supplied.

Vacuum unit. Manifold (N.C. supply valve, N.C. vacuum valve, 24 VDC) with vacuum switch & energy saving function, max. vacuum -91 kPa, 1 PNP switching output

Part number	Exhaust type	Nozzle Ø [mm]	Vacuum port size (V) ¹⁾	Vacuum switch pressure range [kPa]	Max. suction flow rate [l/min (ANR)]
ZK2C07K5RWA-08	Complex exhaust. Combination of direct exhaust and end plate exhaust from each station, noise reduced to 59 dB(A)	0.7	Ø 8	-100 to 100	29
ZK2C10K5RWA-08		1.0			44
ZK2C12K5RWA-08		1.2			61
ZK2C15K5RWA-08		1.5			67

1) Energy saving valve/vacuum switch cable (2 m) supplied.

Manifold assembly with DIN rail mounting bracket

Part number	Number of stations	Compatible vacuum unit type ZK2	Vacuum port size (V)	Exhaust type	Wiring
ZZK208A-A2F-A 	8	Vacuum generator	One-touch fitting Ø 8	Individual exhaust	Individual wiring
ZZK202A-A1L-B-A	2			Complex exhaust, Combination of direct exhaust and end plate exhaust from each station	
ZZK204A-A1L-B-A	4				
ZZK206A-A1L-B-A	6				
ZZK208A-A1L-B-A	8				
ZZK210A-A1L-B-A	10				

1) Units delivered as individual parts, without vacuum generator ZK2A. Assembly to be carried out by client.

Spare parts

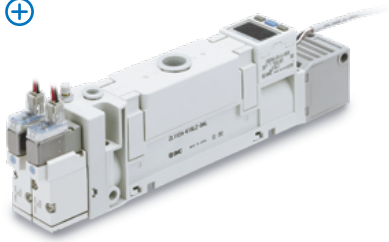
Part number	Description	
ZK2-VAAK5LA-A	N.C./N.C. supply valve/release valve with connector and 300 mm cable	
ZK2-BK1-A ●	Mounting bracket for single unit	
ZK2-SE1-1-A ●	Sound absorbing material (10 pcs)	
ZK2-FE1-3-A ●	Filter element (10 pcs)	
ZK2-ZSEB-A ●	Vacuum switch	-101 to 0 kPa, 2 PNP
ZK2-ZSVB-A ●		- 100 to 100 kPa, 1 PNP, energy saving function

Connectors

Part number	Description
ZK2-LVW10-A ●	Valve connector with lead wire 1000 mm (ZK2□A)
ZK2-LVW20-A ●	Valve connector with lead wire 2000 mm (ZK2□A)
ZK2-LVW30-A ●	Valve connector with lead wire 3000 mm (ZK2□A)
ZK2-LVW30-A-QKZ0066	Valve connector with lead wire 3000 mm and M12 (ZK2□A)
ZK2-LWB20-A ●	Connector for energy saving function with cable length 2000 mm (ZK2□A)
ZK2-LWB20-A-QIZ0145	Connector for energy saving function with cable length 2000 mm and M12 (ZK2□A)
ZS-39-5G ●	Connector for vacuum switch 2 outputs with cable length 2000 mm (ZSE10)
ZS-39-5G-QKZ0066	Connector for vacuum switch 2 outputs with cable length 3000 mm and M12 (ZSE10)

Vacuum unit. Multi-stage ejector

ZL Series 








- Multi-stage, high suction rate (100 to 600 l/min)
- Integrated energy saving functions for ZL3/6
- Compact and lightweight design
- Vacuum provided by a 3-stage diffuser, resulting in reduced air consumption and increased suction flow
- Nozzle diameter : 1.2 mm (ZL1), 1.5 mm and 1.9 mm (ZL3) and 2 x 1.5 mm and 2 x 1.9 mm (ZL6)
- Fieldbus control is available in a similar way to the ZK2A.

Multi-stage ejector

Part number	Nozzle Ø [mm]	Type	Output signal	Max. suction flow rate [l/min (ANR)]	Max. vacuum [kPa]
ZL112A ●	1.2	Standard, ejector only	—	100	-84
ZL112A-G ●		Standard with vacuum gauge			
ZL112A-DPL ●		Standard with vacuum switch	PNP		
ZL112A-DEL			PNP + 1 to 5 VCC		
ZL112A-K15LNZ ●		Standard with vacuum switch and supply valve and release valves	—		
ZL112A-K15LOU-DPL ● ¹⁾			PNP		
ZL112A-K15MZ-DPL ●			PNP + 1 to 5 VCC		
ZL112A-K15LOU-DEL ¹⁾					

¹⁾ Vacuum switch cable (2 m) supplied but distributor cables not supplied, order separately.

Multi-stage ejector. Ejector only (without supply valve or release valve)





Part number	Nozzle Ø [mm]	Exhaust	Type	Output signal	Max. suction flow rate [l/min (ANR)]	Max. vacuum [kPa]
ZL3HF04 	1.5	Silencer exhaust	Standard, ejector only supply 0.5 MPa	—	280	-93
ZL3HF06 			Standard, ejector only supply 0.5 MPa			-91
ZL3MF04 	1.9	Port exhaust (Rc1, G1, NPT1) ¹⁾				
ZL3MF06 						
ZL3MF06P 			300			

Multi-stage ejector. With valve (N.C. supply valve, N.C. release valve 24 VDC) with vacuum switch & energy saving function

Part number	Nozzle Ø [mm]	Type	Output signal	Max. suction flow rate [l/min (ANR)]	Max. vacuum [kPa]
ZL3HF04-K15LOZ-VBW ●	1.5	Standard with vacuum switch and supply valves and release valves, with energy-saving function	1 PNP	280	-93
ZL3HF06-K15LOZ-VBW ●					

¹⁾ Energy saving valve/vacuum switch cable (2 m) supplied.

Multi-stage ejector. Ejector only (without valve or vacuum release)

Part number	Nozzle Ø [mm]	Type	Output signal	Max. suction flow rate [l/min (ANR)]	Max. vacuum [kPa]			
ZL6HF04 	2 x 1.5	Standard, ejector only supply 0.5 MPa	—	580	-93			
ZL6HF06 					-91			
ZL6MF04 	2 x 1.9	Standard, ejector only supply 0.35 MPa						
ZL6MF06 								


Spare parts

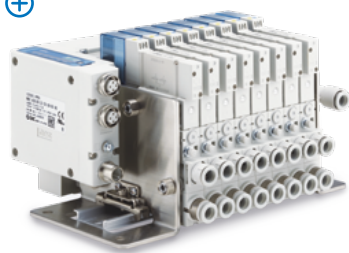
Part number	Description
ZL112A-SE1-A	Sound absorbing material assembly (ZL1)
ZL112A-SC1-A	Silencer case assembly (ZL1)
ZL112A-FE1-A	Filter element (ZL1)
ZL3-SE1-A	Sound absorbing material assembly (For ZL3)
ZL3-SC1-A	Silencer assembly (With sound absorbing material) (For ZL3)
ZL6-SC1-A	Silencer assembly (With sound absorbing material) (For ZL6)
ZL3-AD3-A	Adapter assembly for bottom mounting (For ZL3)

Connectors

Part number	Description
SY100-30-4A-6 ●	Valve connector with cable length 600 mm (ZL1/3/6)
SY100-30-4A-10 ●	Valve connector with cable length 1000 mm (ZL1/3/6)
SY100-30-4A-20 ●	Valve connector with cable length 2000 mm (ZL1/3/6)
SY100-30-4A-30 ●	Valve connector with cable length 3000 mm (ZL1/3/6)
ZS-38-3L ●	Vacuum switch connector 1 outlet with cable length 2000 mm (ZL1)
ZS-38-4L ●	Connector for vacuum switch 2 outputs with cable length 2000 mm (ZL1)
ZS-39-5G ●	Connector for vacuum switch 2 outputs with cable length 2000 mm (ZL1/3/6)
ZS-39-5G-QKZ0066	Vacuum switch connector 2 outputs with cable length 3000 mm and M12 (ZL3/6)
ZL3-LW1-P-A	Connector for energy saving function with cable length 2000 mm (ZL3/6)
ZL3-LW1-P-A-QIZ0168	Connector for energy saving function with cable length 2000 mm and M12 (ZL3/6)

Vacuum manifold for fieldbus system

ZKJ Series 



- Fieldbus compatible vacuum generator manifold with simplified wiring
- Compatible protocol: PROFINET, IO-Link
- Suction flow rate of up to 74 l/min
- Max. vacuum pressure of -89 kPa
- Integrated standard functions: vacuum sensor and energy saving function
- IP65 protection as standard
- Easy replacement of the suction filter
- Vacuum maintenance version in case of emergency stop.

Vacuum ejector. Manifold mounted (N.C. supply valve, N.C. release valve, 24 VDC) with sensor & energy saving function

Part number	Exhaust type	Air supply	Nozzle Ø [mm]	Vacuum port size (V)	Vacuum switch pressure range [kPa]	Max. suction flow rate [l/min (ANR)]	Max. vacuum [kPa]
ZKJ07C6H-A5U-T1	Exhaust system with integrated high silencer, noise reduced to 52 dB(A) ¹⁾	Centralised	—	One-touch fitting Ø 6	-100 to 100	31	-89
ZKJ10C6H-A5U-T1			1.0			53	
ZKJ12C6H-A5U-T1			1.2			63	
ZKJ15C6H-A5U-T1			1.5			74	
ZKJ07C6UH-A5U-T1		Individual	0.7			31	
ZKJ10C6UH-A5U-T1			1.0			53	
ZKJ12C6UH-A5U-T1			1.2			63	
ZKJ15C6UH-A5U-T1			1.5			74	
ZKJ07C8H-A5U-T1		Centralised	0.7	One-touch fitting Ø 8		31	
ZKJ10C8H-A5U-T1			1.0			53	
ZKJ12C8H-A5U-T1			1.2			63	
ZKJ15C8H-A5U-T1			1.5			74	
ZKJ07C8UH-A5U-T1		Individual	0.7			31	
ZKJ10C8UH-A5U-T1			1.0			53	
ZKJ12C8UH-A5U-T1			1.2			63	
ZKJ15C8UH-A5U-T1			1.5			74	

1) For nozzle size 0.7 - under conditions of measurement conditions of SMC.

Vacuum ejector. Manifold mounted (N.O. supply valve, N.C. release valve, 24 VDC) with vacuum switch & energy saving function

Part number	Exhaust type	Air supply	Nozzle Ø [mm]	Vacuum port size (V)	Vacuum switch pressure range [kPa]	Max. suction flow rate [l/min (ANR)]	Max. vacuum [kPa]
ZKJ07C8H-E5U-T1	Exhaust system with integrated high silencer, noise reduced to 52 dB(A) ¹⁾	Centralised	0.7	One-touch fitting Ø 6	-100 to 100	31	-91
ZKJ10C8H-E5U-T1			1.0			53	
ZKJ12C8H-E5U-T1			1.2			63	
ZKJ15C8H-E5U-T1			1.5			74	
ZKJ07C8UH-E5U-T1		Individual	0.7	One-touch fitting Ø 8		31	
ZKJ10C8UH-E5U-T1			1.0			53	
ZKJ12C8UH-E5U-T1			1.2			63	
ZKJ15C8UH-E5U-T1			1.5			74	

1) For nozzle size 0.7 - under conditions of measurement conditions of SMC.

Sub-base assembly with DIN rail mounting

Part number	Number of stations	Compatible vacuum unit type ZK2	Vacuum port size (V)	Exhaust type	Wiring
ZZKJ04-FAN-L8	2	Vacuum generator	One-touch fitting Ø 8	Complex, integrated into the end plates	Individual wiring
ZZKJ08-FAN-L8	6				
ZZKJ10-FAN-L8	8				
ZZKJ16-FAN-L8	10				

Spare parts

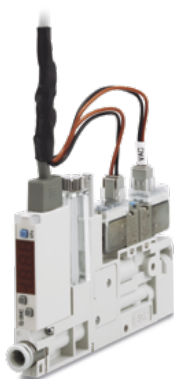
Part number	Description
ZKJ-BP1-A	Blanking plate
ZKJ-JSY3A00-5U	N.C. supply valves/N.C. release valves
ZKJ-JSY3E00-5U	N.O. supply valves/N.C. release valve
ZK2-VA1S6F-A	Vacuum port adapter assembly Ø 6
ZK2-VA1S8F-A	Vacuum port adapter assembly Ø 8
ZK2-FE1-3-A	Filter element 30 µm (10 pcs)
ZL3-AD3-A	Adapter assembly for bottom mounting (For ZL3)

Connectors

Part number	Description	Commentary
EX9-AC050EN-PSPS ●	Communication cable with connector for PROFINET	M12-4p straight male connector (Code D) SPEEDCON at both ends, length 5 m
EX9-AC050EN-PSRJ ●		M12-4p straight male connector (Code D) - RJ-45, length 5 m
PCA-1446566 ●	Communication cable with connector for PROFINET (applies to BUS IN and BUS OUT)	M12-4p male connector, straight (D code) SPEEDCON, length 5 m, bare wire
EX500-AP050-S ●	Power cable for PROFINET / Communication cable for IO-Link	Female connector M12-5p straight (Code A), length 5 m, bare wire
EX9-AC050-SSPS	Communication cable with connector for IO-Link	M12-5p straight female/male connector (Code A), length 5 m
EX9-ACY02-S	Y branch connector for IO-Link	This connector is used when a port class A IO-Link master is used

Compact vacuum unit

ZQ-A Series 



- Single unit, with vacuum switch and suction filter
- 10.2 mm wide
- Easy-to-use vacuum switch :switch:
 - Digital vacuum switch, LED display
 - Push button type for easy operation
 - Copy function.
- 2 NPN/PNP outputs.

Vacuum ejector. Single mounting (N.C. supply valve, N.C. release valve, 24 VDC), with energy saving function

Part number	Nozzle Ø [mm]	Switch output	Vacuum switch pressure range [kPa]	Max. suction flow rate [l/min (ANR)]	Max. vacuum [kPa]
ZQ051UA-K15LO-VA-00	0.5	NPN 1 output	-100 to 100	5	-80
ZQ051UA-K15LO-VB-00		PNP 1 output			
ZQ071UA-K15LO-VA-00	0.7	NPN 1 output		10	
ZQ071UA-K15LO-VB-00		PNP 1 output			
ZQ101UA-K15LO-VA-00	1	NPN 1 output		22	
ZQ101UA-K15LO-VB-00		PNP 1 output			

Vacuum ejector. Single mounting (N.C. supply valve, N.C. release valve, 24 VDC), without energy saving function

Part number	Nozzle Ø [mm]	Switch output	Vacuum switch pressure range [kPa]	Max. suction flow rate [l/min (ANR)]	Max. vacuum [kPa]
ZQ051UA-K15LO-F-00-N	0.5	—	—	5	-80
ZQ051UA-K15LO-EB-00-N		2 PNP	-101 to 0		
ZQ051UA-K15LO-EE-00-N		1 PNP + (1 to 5 V)			
ZQ051UA-K15LO-FB-00-N		2 PNP	100 to -100		
ZQ051UA-K15LO-FE-00-N		1 PNP + (1 to 5 V)			
ZQ071UA-K15LO-F-00-N	0.7	—	—	10	
ZQ071UA-K15LO-EB-00-N		2 PNP	-101 to 0		
ZQ071UA-K15LO-EE-00-N		1 PNP + (1 to 5 V)			
ZQ071UA-K15LO-FB-00-N		2 PNP	100 to -100		
ZQ071UA-K15LO-FE-00-N		1 PNP + (1 to 5 V)			
ZQ101UA-K15LO-F-00-N	1	—	—	22	
ZQ101UA-K15LO-EB-00-N		2 PNP	-101 to 0		
ZQ101UA-K15LO-EE-00-N		1 PNP + (1 to 5 V)			
ZQ101UA-K15LO-FB-00-N		2 PNP	100 to -100		
ZQ101UA-K15LO-FE-00-N		1 PNP + (1 to 5 V)			

Vacuum generator. Manifold mounting (N.C. supply valve, N.C. release valve, 24 VDC), with energy saving function

Part number	Nozzle Ø [mm]	Switch output	Vacuum switch pressure range [kPa]	Max. suction flow rate [l/min (ANR)]	Max. vacuum [kPa]
ZQ053MA-K15LO-VA-00	0.5	NPN 1 output	-100 to 100	5	-80
ZQ053MA-K15LO-VB-00		PNP 1 output			
ZQ073MA-K15LO-VA-00	0.7	NPN 1 output		10	
ZQ073MA-K15LO-VB-00		PNP 1 output			
ZQ103MA-K15LO-VA-00	1	NPN 1 output		22	
ZQ103MA-K15LO-VB-00		PNP 1 output			

Vacuum ejector. Manifold mounting (N.C. supply valve, N.C. release valve, 24 VDC), without energy saving function

Part number	Nozzle Ø [mm]	Switch output	Vacuum switch pressure range [kPa]	Max. suction flow rate [l/min (ANR)]	Max. vacuum [kPa]
ZQ053MA-K15LO-F-00-N	0.5	—	—	5	-80
ZQ053MA-K15LO-EB-00-N		2 PNP	-101 to 0		
ZQ053MA-K15LO-EE-00-N		1 PNP + (1 to 5 V)			
ZQ053MA-K15LO-FB-00-N		2 PNP	100 to -100		
ZQ053MA-K15LO-FE-00-N		1 PNP + (1 to 5 V)			
ZQ073MA-K15LO-F-00-N	0.7	—	—	10	
ZQ073MA-K15LO-EB-00-N		2 PNP	-101 to 0		
ZQ073MA-K15LO-EE-00-N		1 PNP + (1 to 5 V)			
ZQ073MA-K15LO-FB-00-N		2 PNP	100 to -100		
ZQ073MA-K15LO-FE-00-N		1 PNP + (1 to 5 V)			
ZQ103MA-K15LO-F-00-N	1	—	—	22	
ZQ103MA-K15LO-EB-00-N		2 PNP	-101 to 0		
ZQ103MA-K15LO-EE-00-N		1 PNP + (1 to 5 V)			
ZQ103MA-K15LO-FB-00-N		2 PNP	100 to -100		
ZQ103MA-K15LO-FE-00-N		1 PNP + (1 to 5 V)			

Spare parts

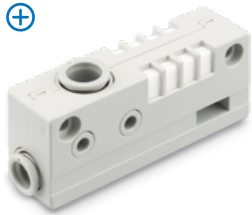
Part number	Description	
VQ110-5LO-Q	Supply valve/Release valve	
ZQ1-ZSEB-0-A	Vacuum switch	-101 to 0 kPa, 2 PNP
ZQ1-ZSEE-0-A		-101 to 0 kPa, 1 PNP + (1 to 5 V)
ZQ1-ZSFB-0-A		-100 to 100 kPa, 2 PNP
ZQ1-ZSFE-0-A		-100 to 100 kPa, 1 PNP + (1 to 5 V)

Connectors

Part number	Commentary
EX9-AC050EN-PSPS ●	Connector assembly for solenoid valve, lead wire length 300
EX9-AC050EN-PSRJ ●	Connector assembly for solenoid valve, lead wire length 600
PCA-1446566 ●	Connector assembly for solenoid valve, lead wire length 1000
EX500-AP050-S ●	Connector assembly for solenoid valve, lead wire length 2000
EX9-AC050-SSPS	Connector assembly for solenoid valve, lead wire length 3000
EX9-ACY02-S	Lead wire with connector assembly for vacuum pressure switch



















Vacuum ejector, box type/body ported type

ZH□A Series **NEW**






- Single-stage vacuum ejector, compact and light
- Nozzle size [mm]: Ø 0.5, Ø 0.7, Ø 1.0, Ø 1.3, Ø 1.5, Ø 1.8, Ø 2.0
- Many connection variations, instantaneous and/or threaded as desired
- Direct mounting options or mounting compatible with the old ZH model
- Direct mounting, bracket or DIN rail mounting.

Vacuum ejector. In-line mounting

Part number	Nozzle size Ø [mm]	Port size, one- touch fitting			Maximum suction flow rate [l/min (ANR)]	Max. vacuum [kPa]			
		SUP	VAC	EXH					
ZH05DSA-06-06-06 	0.5	Ø 6	Ø 6	Ø 6	6	-90			
ZH05DLA-06-06-06					13	-48			
ZH07DSA-06-06-06 	0.7				Ø 6	Ø 6	12	-90	
ZH07DLA-06-06-06 							28	-48	
ZH10DSA-06-06-08 	1.0				Ø 6	Ø 6	26	-90	
ZH10DLA-06-06-08 							52	-48	
ZH13DSA-08-10-10 	1.3	Ø 8	Ø 10	Ø 10	40	-90			
ZH13DLA-08-10-10 					78	-48			
ZH15DSA-08-10-10 	1.5				Ø 8	Ø 10	Ø 10	58	-90
ZH15DLA-08-10-10								78	-66
ZH18DSA-10-12-12 	1.8	Ø 10	Ø 12	Ø 12	76	-90			
ZH18DLA-10-12-12					128	-66			
ZH20DSA-10-12-12 	2.0				Ø 10	Ø 12	Ø 12	90	-90
ZH20DLA-10-12-12								155	-66
ZH05DSA-01-01-01	0.5	Rc1/8	Rc1/8	Rc1/8	6	-89			
ZH05DLA-01-01-01					13	-48			
ZH07DSA-01-01-01	0.7				Rc1/8	Rc1/8	12	-89	
ZH07DLA-01-01-01							28	-48	
ZH10DSA-01-01-01 	1.0				Rc1/8	Rc1/8	26	-89	
ZH10DLA-01-01-01							52	-48	
ZH13DSA-01-02-02 	1.3		Rc1/4	Rc1/4	40	-89			
ZH13DLA-01-02-02 					78	-48			
ZH15DSA-02-03-03 	1.5	Rc1/4	Rc3/8	Rc3/8	58	-90			
ZH15DLA-02-03-03					78	-66			
ZH18DSA-03-03-03 	1.8	Rc3/8			Rc3/8	76	-90		
ZH18DLA-03-03-03 						128	-66		
ZH20DSA-03-04-04 	2.0	Rc3/8	Rc1/2	Rc1/2	90	-90			
ZH20DLA-03-04-04 					155	-62			

Vacuum ejector. Compact, in-line installation with integrated silencer

Part number	Nozzle size Ø [mm]	Port size, one- touch fitting		Maximum suction flow rate [l/min (ANR)]	Max. vacuum [kPa]
		SUP	VAC		
ZH05BSA-06-06 	0.5	Ø 6	Ø 6	6	-89
ZH05BLA-06-06				13	-48
ZH07BSA-06-06 	0.7			12	-89
ZH07BLA-06-06				28	-48
ZH10BSA-06-06 	1.0			26	-89
ZH10BLA-06-06				52	-48
ZH13BSA-08-10	1.3	Ø 8	Ø 10	40	-89
ZH13BLA-08-10				78	-48
ZH15BSA-08-10	1.5			58	-90
ZH15BLA-08-10				78	-66
ZH18BSA-10-12	1.8	Ø 10	Ø 12	76	-90
ZH18BLA-10-12				128	-66
ZH20BSA-10-12	2.0			90	-90
ZH20BLA-10-12				155	-62
ZH05BSA-01-01	0.5	Rc1/8	Rc1/8	6	-89
ZH05BLA-01-01				13	-48
ZH07BSA-01-01	0.7			12	-89
ZH07BLA-01-01				28	-48
ZH10BSA-01-01	1.0			26	-89
ZH10BLA-01-01				52	-48
ZH13BSA-01-02	1.3		Rc1/4	40	-89
ZH13BLA-01-02				78	-48
ZH15BSA-02-03	1.5	Rc1/4	Rc3/8	58	-90
ZH15BLA-02-03				78	-66
ZH18BSA-03-03	1.8	Rc3/8		76	-90
ZH18BLA-03-03				128	-66
ZH20BSA-03-04	2.0		Rc1/2	90	-90
ZH20BLA-03-04				155	-62

Spare parts

Part number	Description	Compatible model	Number of stations
AS-10L ●	Mounting bracket	ZH05/07/10	—
AS-25L ●		ZH13/15	
AS-30L ●		ZH18/20	
AS-10D ●	DIN rail mounting ¹⁾	ZH05/07/10	
AS-25D ●		ZH13/15	
AS-30D ●		ZH18/20	
ZH2-TB101-A	M3 x 20 screws, nuts and washers (2 pcs)	ZH05/07/10	1
ZH2-TB102-A	M3 x 35 screws, nuts and washers (2 pcs)		2
ZH2-TB103-A	M3 x 50 screws, nuts and washers (2 pcs)		3
ZH2-TB104-A	M3 x 65 screws, nuts and washers (2 pcs)		4
ZH2-TB106-A	M3 x 95 screws, nuts and washers (2 pcs)		6
ZH2-TB108-A	M3 x 125 screws, nuts and washers (2 pcs)		8
ZH2-TB201-A	M4 x 30 screws, nuts and washers (2 pcs)	ZH13/15	1
ZH2-TB202-A	M4 x 50 screws, nuts and washers (2 pcs)		2
ZH2-TB203-A	M4 x 70 screws, nuts and washers (2 pcs)		3
ZH2-TB204-A	M4 x 90 screws, nuts and washers (2 pcs)		4
ZH2-TB206-A	M4 x 130 screws, nuts and washers (2 pcs)		6
ZH2-TB208-A	M4 x 170 screws, nuts and washers (2 pcs)		8
ZH2-TB201-A ²⁾	M4 x 30 screws, nuts and washers (2 pcs)	ZH18/20	1
ZH2-TB302-A	M4 x 55 screws, nuts and washers (2 pcs)		2
ZH2-TB303-A	M4 x 80 screws, nuts and washers (2 pcs)		3
ZH2-TB304-A	M4 x 100 screws, nuts and washers (2 pcs)		4
ZH2-TB306-A	M4 x 145 screws, nuts and washers (2 pcs)		6
ZH2-TB308-A	M4 x 185 screws, nuts and washers (2 pcs)		8

¹⁾ DIN rail sold separately. Refer to specific catalogue for technical specifications and ordering information (VZ1000-11-1--).

²⁾ The same screw set is used for 1 ZH13/15 and ZH18/20 station.

Vacuum ejector, in-line type

ZU□A Series



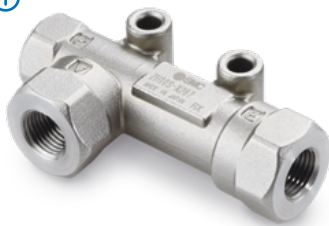
- Single-stage vacuum ejector, very compact cylindrical shape
- Compact and lightweight design:
 - ZU03 and ZU04: O.D. Ø 8.2 mm, length 47 mm, weight 2.4 g
 - ZU05: O.D. Ø 10.4 mm, length 52 mm, weight 3.9 g
 - ZU07 :O.D. Ø 10.4 mm, length 59 mm, weight 4.3 g.

Vacuum ejector. In-line mounting

Part number	Nozzle size Ø [mm]	Port size, one- touch fitting		Maximum suction flow rate [l/min (ANR)]	Max. vacuum [kPa]
		SUP	VAC		
ZU03SA	0.3	Ø 4	Ø 4	1.8	-85
ZU04SA	0.4			3.2	-87
ZU05SA ●	0.5	Ø 6	Ø 6	7	-90
ZU05SA01		Rc1/8	Rc1/8		
ZU05LA ●		Ø 6	Ø 6	13	-48
ZU05LA01		Rc1/8	Rc1/8		
ZU07SA ●	0.7	Ø 6	Ø 6	11	-90
ZU07SA01		Rc1/8	Rc1/8		
ZU07LA ●		Ø 6	Ø 6	16	-48
ZU07LA01		Rc1/8	Rc1/8		



Vacuum ejector, all stainless steel

ZH□□-X267 Series



- Single-stage vacuum ejector (SCS13: Equivalent to stainless steel 304)
- For environments exposed to water, gripping wet workpieces
- Max. operating temperature 260 °C
- Grease-free product, inert gases can be sucked in
- Integrated mounting holes (Ø 4.2 mm): for 2 M4 screws, not included
- Laser engraved labelling.

Vacuum ejector. In stainless-steel

Part number	Nozzle size Ø [mm]	Port size, one- touch fitting			Maximum suction flow rate [l/min (ANR)]	Max. vacuum [kPa]
		SUP	VAC	EXH		
ZH05S-X267	0.5	Rc1/8	Rc1/8	Rc1/8	5	-88
ZH05L-X267					8	-48
ZH07S-X267	0.7				12	-88
ZH07L-X267					20	-48
ZH10S-X267 	1.0				24	-88
ZH10L-X267 					34	-48

Vacuum flow

ZHV Series



- A vacuum flow rate of 3 times the supply air, or a blow flow rate of 4 times the supply air, can be generated
- Savings of up to 70 % in air consumption
- Maintenance free, easy to use and quiet
- It is possible to adjust the blow and vacuum flow rate by adjusting the nozzle position
- Four large passage diameters make it suitable for use in many applications
- Accessories: Mounting brackets and dust bag
- Large passage diameter available for suction of machining chips, plastics, etc.

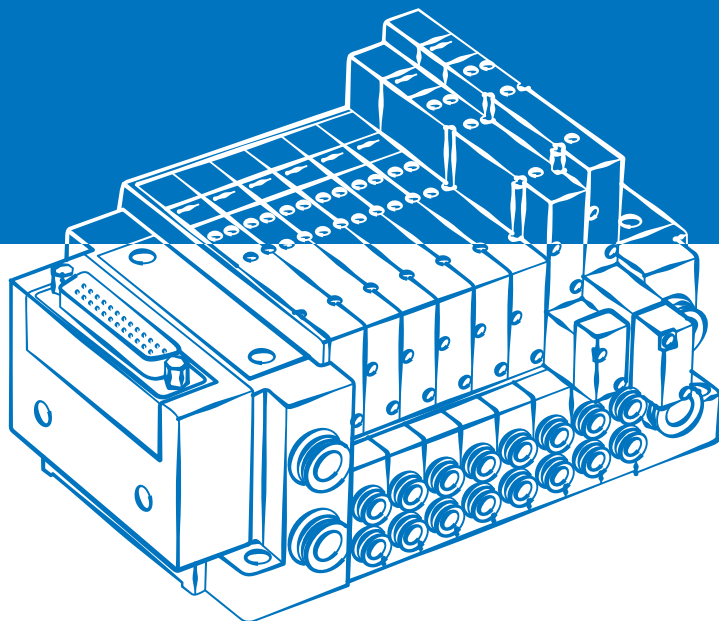
Part number	Nozzle Ø [mm]	Port size	Suction flow rate ¹⁾ [l/min (ANR)]	Discharge flow rate ¹⁾ [l/min (ANR)]	Accessories	Max. vacuum [kPa]
ZHV10-F	13	G1/8	520	670	—	-6
ZHV10-FB					Bracket	
ZHV20-F	21.6	G1/4	1975	2360	—	
ZHV20-FB					Bracket	
ZHV30-F	30		4590	5310	—	
ZHV30-FB					Bracket	
ZHV40-F	42	G3/8	5270	6820	—	
ZHV40-FB					Bracket	

1) Supply pressure 0.5 MPa.

Spare parts

Part number	Description	Compatible model
ZH-BK1-10-A	Mounting bracket (1 bracket + 4 screws included)	ZHV10
ZH-BK1-20-A		ZHV20
ZH-BK1-30-A		ZHV30
ZH-BK1-40-A		ZHV40
ZH-DB1-10-A	Dust bag assembly (including hose band)	ZHV10
ZH-DB1-20-A		ZHV20
ZH-DB1-30-A		ZHV30
ZH-DB1-40-A		ZHV40

Valves



Valve and ejector combination manifold

JSY & ZK2□A Series 48

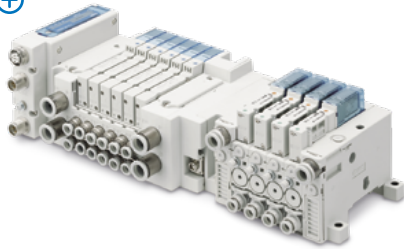
Vacuum saving valve

ZP2V Series 52



Valve and ejector combination manifold

JSY & ZK2□A Series 



- Comprehensive control solution for valves and vacuum ejectors integrated into a single manifold
- Single electrical connection of valves and ejectors reduces wiring and labour time
- Control and monitor up to 32 outputs via a wide variety of serial interface communication protocols
- Up to 28 stations in total, combined between up to 24 valve stations and 8 ejectors
- High flow rate in a compact body: Up to 567 l/min
- Suction flow rate up to 67 l/min
- Vacuum pressure of -91 kPa.

Valve manifolds. Side ported, D-Sub connection (without valves)

Part number	Valve series	Connector type	IP level	Connector entry direction	Valve stations	P, E port location	Built in silencer	SUP/EXH block	Port size	
									A, B	P, E
JJ5SY3-10F1-□B-C6-M	JSY3000	D-Sub connector (25 pins)	IP40	Upward	02 to 22	Both sides (2 to 24 stations)	No	Internal pilot	Ø 6	Ø 10
JJ5SY3-10F1-□B-C8-M							Ø 8			
JJ5SY3-10F1-□BS-C6-M							Ø 6			
JJ5SY3-10F1-□BS-C8-M							Ø 8			
JJ5SY3-10F2-□B-C6-M				Lateral			No		Ø 6	
JJ5SY3-10F2-□B-C8-M							Ø 8			
JJ5SY3-10F2-□BS-C6-M							Ø 6			
JJ5SY3-10F2-□BS-C8-M							Ø 8			

□: Valve stations.

Valve manifolds. Lead wire type (without valves)

Part number	Valve series	Connector type	Number of cores	Lead wire length	Valve stations	P, E port location	Built in silencer	SUP/EXH block	Port size
									A, B
JJ5SY3-10L13-□B-C6-M	JSY3000	Lead wire type	34 cores	3 m	02 to 24	Both sides (2 to 24 stations)	No	Internal pilot	Ø 6
JJ5SY3-10L13-□B-C8-M									Ø 8
JJ5SY3-10L13-□BS-C6-M							Yes		Ø 6
JJ5SY3-10L13-□BS-C8-M									Ø 8

□: Valve stations.

Valve manifolds. Side ported, D-Sub connection (without valves)

Part number	Valve series	Connector type	IP level	Connector entry direction	Valve stations	P, E port location	Built in silencer	SUP/EXH block	Port size	
									A, B	P, E
JJ5SY3-10P1-□B-C6-M	JSY3000	Flat ribbon cable, 26 pins	IP40	Upwards	02 to 22	Both sides (2 to 24 stations)	No	Internal pilot	Ø 6	Ø 10
JJ5SY3-10P1-□B-C8-M							Ø 8			
JJ5SY3-10P1-□BS-C6-M							Ø 6			
JJ5SY3-10P1-□BS-C8-M							Ø 8			
JJ5SY3-10P2-□B-C6-M				Lateral			No	Internal pilot	Ø 6	
JJ5SY3-10P2-□B-C8-M							Ø 8			
JJ5SY3-10P2-□BS-C6-M							Ø 6			
JJ5SY3-10P2-□BS-C8-M							Ø 8			

□: Valve stations.

Valve manifolds. Serial transmission system EX600

Part number	Valve series	SI unit	SI unit common, end plate
JJ5SY3-10S6F4□-■B-△-M	JSY3000	PROFINET	Negative common, M12 connector, B-coded
JJ5SY3-10S6F5□-■B-△-M			Negative common, 7/8" connector
JJ5SY3-10S6F7□-■B-△-M			Negative common, M12 connector: IN/OUT A-coded Pin arrangement 1)
JJ5SY3-10S6F9□-■B-△-M			Negative common, M12 connector: IN/OUT A-coded Pin arrangement 2)
JJ5SY3-10S6F4□-■F-△-M			Negative common, M12 connector, B-coded
JJ5SY3-10S6F5□-■F-△-M			Negative common, 7/8" connector
JJ5SY3-10S6F7□-■F-△-M			Negative common, M12 connector: IN/OUT A-coded Pin arrangement 1)
JJ5SY3-10S6F9□-■F-△-M			Negative common, M12 connector: IN/OUT A-coded Pin arrangement 2)
JJ5SY3-10S6EA4□-■B-△-M		EtherNet/IP, 2 ports	Negative common, M12 connector, B-coded
JJ5SY3-10S6EA5□-■B-△-M			Negative common, 7/8" connector
JJ5SY3-10S6EA7□-■B-△-M			Negative common, M12 connector: IN/OUT A-coded Pin arrangement 1)
JJ5SY3-10S6EA9□-■B-△-M			Negative common, M12 connector: IN/OUT A-coded Pin arrangement 2)
JJ5SY3-10S6EA4□-■F-△-M			Negative common, M12 connector, B-coded
JJ5SY3-10S6EA5□-■F-△-M			Negative common, 7/8" connector
JJ5SY3-10S6EA7□-■F-△-M			Negative common, M12 connector: IN/OUT A-coded Pin arrangement 1)
JJ5SY3-10S6EA9□-■F-△-M			Negative common, M12 connector: IN/OUT A-coded Pin arrangement 2)
JJ5SY3-10S6WE4□-■B-△-M		EtherNet/IP Compatible wireless base	Negative common, M12 connector, B-coded
JJ5SY3-10S6WE5□-■B-△-M			Negative common, 7/8" connector
JJ5SY3-10S6WE7□-■B-△-M			Negative common, M12 connector: IN/OUT A-coded Pin arrangement 1)
JJ5SY3-10S6WE9□-■B-△-M			Negative common, M12 connector: IN/OUT A-coded Pin arrangement 2)
JJ5SY3-10S6WE4□-■F-△-M			Negative common, M12 connector, B-coded
JJ5SY3-10S6WE5□-■F-△-M			Negative common, 7/8" connector
JJ5SY3-10S6WE7□-■F-△-M			Negative common, M12 connector: IN/OUT A-coded Pin arrangement 1)
JJ5SY3-10S6WE9□-■F-△-M			Negative common, M12 connector: IN/OUT A-coded Pin arrangement 2)

Part number	I/O unit stations	Valve stations	P, E port location	Built in silencer	SUP/EXH block	Port size
						A, B
JJ5SY3-10S6F4□-■B-△-M	None (-) to 9	02 to 24	Both sides (02 to 24 stations)	No	Internal pilot	Ø 6 (C6) Ø 8 (C8)
JJ5SY3-10S6F5□-■B-△-M						
JJ5SY3-10S6F7□-■B-△-M						
JJ5SY3-10S6F9□-■B-△-M						
JJ5SY3-10S6F4□-■F-△-M				Yes		
JJ5SY3-10S6F5□-■F-△-M						
JJ5SY3-10S6F7□-■F-△-M						
JJ5SY3-10S6F9□-■F-△-M						
JJ5SY3-10S6EA4□-■B-△-M				No		
JJ5SY3-10S6EA5□-■B-△-M						
JJ5SY3-10S6EA7□-■B-△-M						
JJ5SY3-10S6EA9□-■B-△-M						
JJ5SY3-10S6EA4□-■F-△-M				Yes		
JJ5SY3-10S6EA5□-■F-△-M						
JJ5SY3-10S6EA7□-■F-△-M						
JJ5SY3-10S6EA9□-■F-△-M						
JJ5SY3-10S6WE4□-■B-△-M				No		
JJ5SY3-10S6WE5□-■B-△-M						
JJ5SY3-10S6WE7□-■B-△-M						
JJ5SY3-10S6WE9□-■B-△-M						
JJ5SY3-10S6WE4□-■F-△-M				Yes		
JJ5SY3-10S6WE5□-■F-△-M						
JJ5SY3-10S6WE7□-■F-△-M						
JJ5SY3-10S6WE9□-■F-△-M						

□: I/O unit stations
■ Valve stations
△ Port size

Valve manifolds. Serial transmission system EX260

Part number	Valve series	SI unit	Number of stations/ communication connector	SI unit output polarity	Valve stations	P, E port location	Built in silencer	SUP/EXH block	Port size
									A, B
JJ5SY3-10SFAN-□B-C□-M	JSY3000	PROFINET	32 outputs, connector M12	PNP	02 to 24	Both sides (2 to 24 stations)	No	Internal pilot	Ø 6 (C6) Ø 8 (C8)
JJ5SY3-10SFBN-□B-C□-M			16 outputs, connector M12		02 to 16		Yes		
JJ5SY3-10SFAN-□BS-C□-M			32 outputs, connector M12		02 to 24				
JJ5SY3-10SFBN-□BS-C□-M			16 outputs, connector M12		02 to 16				
JJ5SY3-10SEAN-□B-C□-M		EtherNet/IP	32 outputs, connector M12		02 to 24		No		
JJ5SY3-10SEBN-□B-C□-M			16 outputs, connector M12		02 to 16		Yes		
JJ5SY3-10SEAN-□BS-C□-M			32 outputs, connector M12		02 to 24				
JJ5SY3-10SEBN-□BS-C□-M			16 outputs, connector M12		02 to 16				
JJ5SY3-10SKAN-□B-C□-M		IO-Link	32 outputs, connector M12		02 to 24		No		
JJ5SY3-10SKAN-□BS-C□-M			32 outputs, connector M12				Yes		

Valves (For manifold)

Part number	Valve series	Actuation	Pilot type	Power saving circuit	Light/Surge Suppressor/Common specification	Manual override
JSY3100-5U	JSY3000	2 position single	Internal	None	w/Light & surge voltage suppressor, non-polar type	Non-locking push type
JSY3100T-5Z				Yes	w/Light & surge voltage suppressor, positive common	
JSY3100T-5NZ			External		w/Light & surge voltage suppressor, negative common	
JSY3100R-5U			None	w/Light & surge voltage suppressor, non-polar type		
JSY3100TR-5Z			Yes	w/Light & surge voltage suppressor, positive common		
JSY3100TR-5NZ				w/Light & surge voltage suppressor, negative common		
JSY3200-5U		2 position double	Internal	None	w/Light & surge voltage suppressor, non-polar type	Non-locking push type
JSY3200T-5Z				Yes	w/Light & surge voltage suppressor, positive common	
JSY3200T-5NZ			External		w/Light & surge voltage suppressor, negative common	
JSY3200R-5U			None	w/Light & surge voltage suppressor, non-polar type		
JSY3200TR-5Z			Yes	w/Light & surge voltage suppressor, positive common		
JSY3200TR-5NZ				w/Light & surge voltage suppressor, negative common		

Vacuum ejector manifold (Without ejectors)

Part number	Number of stations	Exhaust	Option	Release pressure supply
ZZK2□A-A1S0	01 to 08	Complex exhaust	Without option	None
ZZK2□A-A1S0-D				Yes
ZZK2□A-A2S0-L		Individual exhaust		None
ZZK206A-A2S0-DL				Yes
ZZK2□A-A1S0-B		Complex exhaust	With DIN rail mounting bracket ¹⁾	None
ZZK2□A-A1S0-BD				Yes
ZZK2□A-A2S0-BL		Individual exhaust		None
ZZK206A-A2S0-BDL				Yes

¹⁾ Be sure to select DIN rail mounting for the mounting method of the valve manifold.

Vacuum unit. Single unit (N.C. supply valve, N.C. vacuum release valve, 24 VDC) with vacuum switch, max. vacuum -91 kPa, 2 PNP switching outputs

Part number	Exhaust type	Nozzle Ø [mm]	Vacuum port size (V) ¹⁾	Vacuum switch pressure range [kPa]	Max. suction flow rate [l/min (ANR)]
ZK2A07K5CLA-□	Exhaust with integrated silencer, noise reduced to 59 dB(A) ²⁾	0.7	06, 08	0 -101	29
ZK2A10K5CLA-□		1.0			44
ZK2A12K5CLA-□ ●		1.2			61
ZK2A15K5CLA-□		1.5			67
ZK2A07K5HLA-□		0.7		-100 to 100	29
ZK2A10K5HLA-□		1.0			44
ZK2A12K5HLA-□ ●		1.2			61
ZK2A15K5HLA-□		1.5			67
ZK2G07K5CLA-□	Exhaust with high performance silencer, noise reduced to 46 dB(A) ²⁾	0.7		0 -101	34
ZK2G10K5CLA-□		1.0			56
ZK2G12K5CLA-□ ●		1.2			72
ZK2G15K5CLA-□		1.5			83
ZK2G07K5HLA-□		0.7		-100 to 100	34
ZK2G10K5HLA-□		1.0			56
ZK2G12K5HLA-□		1.2			72
ZK2G15K5HLA-□		1.5			83

Valve cable (300 mm) and vacuum switch cable (2 m) supplied.

1) To finalise the part number replace the "□" with the code of the one-touch fitting: 06: Ø 6 mm, 08: Ø 8 mm.

2) For nozzle size 0.7 - under SMC measuring conditions.

Vacuum unit. Single unit (N.C. supply valve, N.C. vacuum release valve, 24 VDC) with vacuum switch & energy saving function and high performance silencer, max. vacuum -91 kPa, 1 PNP switching output

Part number	Exhaust type	Nozzle Ø [mm]	Vacuum port size (V) ¹⁾	Vacuum switch pressure range [kPa]	Max. suction flow rate [l/min (ANR)]
ZK2A07K5RWA-□	Exhaust system with integrated silencer, noise reduced to 59 dB(A)	0.7	06, 08	-100 to 100	29
ZK2A10K5RWA-□		1.0			44
ZK2A12K5RWA-□ ●		1.2			61
ZK2A15K5RWA-□ ●		1.5			67
ZK2B15K5RWA-□ ●	Port exhaust				
ZK2G07K5RWA-□	Exhaust system with high performance silencer, noise reduced to 46 dB(A)	0.7			34
ZK2G10K5RWA-□		1.0			56
ZK2G12K5RWA-□ ●		1.2			72
ZK2G15K5RWA-□ ●		1.5			83

Valve cable (300 mm) and vacuum switch cable (2 m) supplied.

1) To finalise the part number replace the "□" with the code of the one-touch fitting: 06: Ø 6 mm, 08: Ø 8 mm.

Vacuum saving valve

ZP2V Series 



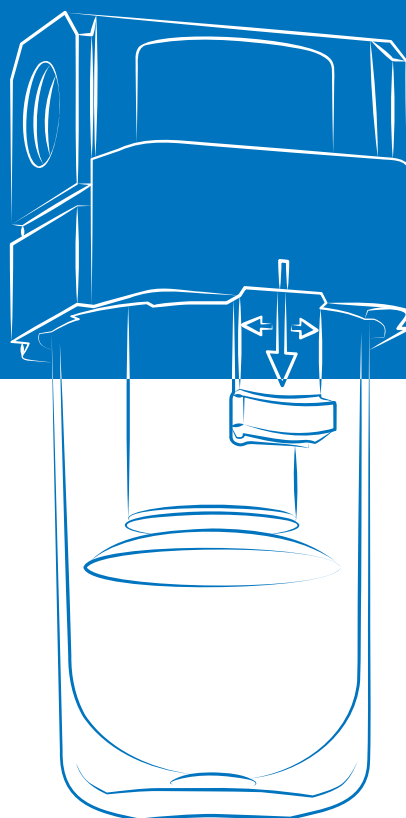
- Can prevent loss of pressure even when there is no workpiece
- No need to switch operations when changing workpieces
- When the workpieces are different shapes, the control circuit can be simplified
- With one-touch fitting, male thread and female thread-types available
- Connection thread size for the pad: M5, M6, M8, R1/8, G1/8, NPT1/8
- Fixed orifice size [mm]: 0.3, 0.5, 0.7, 1.0
- Maximum operating pressure range [MPa]: 0 to 0.7
- Ambient and fluid temperature [°C]: 5 to 60 (No freezing)
- Element nominal filtration rating [µm] : 40.

Valve manifolds. Side ported, D-sub connection (without valves)

Part number	Connection type (Pad side/Vacuum generator side)		Connection size (Pad side/Vacuum generator side)		Fixed orifice size [mm]
	Pad side	Vacuum generator side	Pad side	Vacuum generator side	
ZP2V-A5-□ ●	Male thread	Female Thread	M5 x 0.8	M5 x 0.8	0.3 (03), 0.5 (05), 0.7 (07)
ZP2V-A8-□ ●			M8 x 1.25	M8 x 1.25	0.5 (05), 0.7 (07), 1.0 (10)
ZP2V-A01-□			R1/8	Rc1/8	
ZP2V-AG1-□			G1/8	G1/8	
ZP2V-AN1-□			NPT1/8	NPT1/8	
ZP2V-B5-□ ●	Female Thread	Male thread	M5 x 0.8	M5 x 0.8	0.3 (03), 0.5 (05), 0.7 (07)
ZP2V-B6-□ ●			M6 x 1	M6 x 1	0.5 (05), 0.7 (07), 1.0 (10)
ZP2V-B01-□			Rc1/8	R1/8	
ZP2V-BG1-□ ●			G1/8	G1/8	
ZP2V-BN1-□			NPT1/8	NPT1/8	
ZP2V-W4-□	One touch	One touch	Ø 4	Ø 4	0.3 (03), 0.5 (05), 0.7 (07)
ZP2V-W6-□			Ø 6	Ø 6	0.5 (05), 0.7 (07), 1.0 (10)

□: Choose the fixed orifice size.

Filtration



In-line air filter with one-touch fitting
ZFC Series **54**

Large flow vacuum filter
AFJ Series **55**

Drain separator for vacuum
AMJ Series **56**

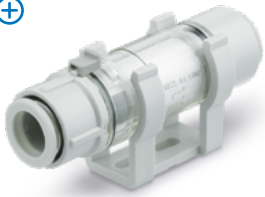


In-line air filter with one-touch fitting

ZFC Series 



- Compact and lightweight plastic construction
- Bayonet socket makes it easy to change the filter cartridge
- Simple installation thanks to push-in fittings
- Transparent filter bowl
- Variety of colours for an easy visualisation.



In-line air filter

Part number	Connection Ø [mm]	Flow rate [l/min]		Filtration rate [µm]	Max. operating pressure
		Vacuum	Pressure		
ZFC11	2	2	15	5	-100 kPa to 1.0 MPa
ZFC12	3.2	5	45		
ZFC32		7	50		
ZFC33 ●	4	10	80		
ZFC53 ●			100		
ZFC54 ●	6	20	200		
ZFC74 ●		30	250		
ZFC75 ●	8	70	450		
ZFC76 ●	10	80	550		
ZFC77 ●	12	100	650		

Accessories






Part number	White filter cartridge: 5 µm (spare cartridge 10 pcs.)	Blue filter cartridge: 5 µm (1 pc.)	White filter cartridge: 10 µm (1 pc.)	Attachment
ZFC1	ZFC-EL-1	—	—	ZFC-BR001
ZFC1-X03	—	ZFC-EL019	—	
ZFC1-X04	—	—	ZFC-EL021	
ZFC3	ZFC-EL-2	—	—	ZFC-BR002
ZFC3-X03	—	ZFC-EL020	—	
ZFC3-X04	—	—	ZFC-EL022	
ZFC5	ZFC-EL-3 ●	—	—	ZFC-BR003
ZFC5-X03	—	ZFC-EL015	—	
ZFC5-X04	—	—	ZFC-EL017	
ZFC7	ZFC-EL-4 ●	—	—	ZFC-BR004
ZFC7-X03	—	ZFC-EL016	—	
ZFC7-X04	—	—	ZFC-EL018	

Large flow vacuum filter

AFJ Series



- Fluid: Air
- 2 models: high flow model or water droplet removal model
- Selectable filtration rating: 5 µm, 40 µm (reusable and washable) and 80 µm (reusable and washable)
- High flow capacity: 660 l/min (ANR) max.
- Double Layer construction of the transparent bowl and bowl guard
- Better resistance to aggressive environments as the internal pressure bowl is not exposed to corrosive chemicals and oil splashes
- 360° visibility –full visibility from any angle
- Selectable bowl material, polycarbonate or polyamide.

Part number	Type	Body size	Port size	Bowl material	Nominal filtration rating [μm]	Recommended flow rate [l/min (ANR)]	Operating pressure range [kPa]
AFJ20-F02-5-T 	High flow model AFJ-T	20	G1/4	Polycarbonate	5	140	-100 to 0
AFJ20-F02-40-T 					40	180	
AFJ20-F02-80-T					80		
AFJ30-F03-5-T		30	G3/8		5	250	
AFJ30-F03-40-T					40	380	
AFJ30-F03-80-T					80		
AFJ40-F04-5-T		40	G1/2		5	440	
AFJ40-F04-40-T 					40	660	
AFJ40-F04-80-T					80		
AFJ20-F02-5-S	Water droplet removal model AFJ-S	20	G1/4		5	100	
AFJ20-F02-40-S 					40	130	
AFJ20-F02-80-S					80		
AFJ30-F03-5-S 		30	G3/8		5	230	
AFJ30-F03-40-S					40	340	
AFJ30-F03-80-S					80		
AFJ40-F04-5-S		40	G1/2		5	370	
AFJ40-F04-40-S					40	500	
AFJ40-F04-80-S					80		

Accessories

Part number	Model	Description		Material
AF20P-060S ●	AFJ20	Filter cartridge	5 µm	Non woven fabric
AF30P-060S ●	AFJ30			
AF40P-060S ●	AFJ40			
AF22P-820S	AFJ20		40 µm	PA
AF32P-820S	AFJ30			
AF42P-820S	AFJ40			
AF22P-830S	AFJ20		80 µm	—
AF32P-830S	AFJ30			
AF42P-830S	AFJ40			
AF22P-050AS ●	AFJ20	Mounting bracket ¹⁾		—
AF32P-050AS ●	AFJ30			
AF42P-050AS ●	AFJ40			
C2SJ	AFJ20	Bowl assembly ²⁾ (maintenance)		Polycarbonate
C3SJ	AFJ30			
C4SJ	AFJ40			

1) Mounting set with 2 mounting screws.

2) Bowl assembly has a bowl O-ring.

Please consult SMC separately for display specifications in psi and °F.







Drain separator for vacuum

AMJ Series

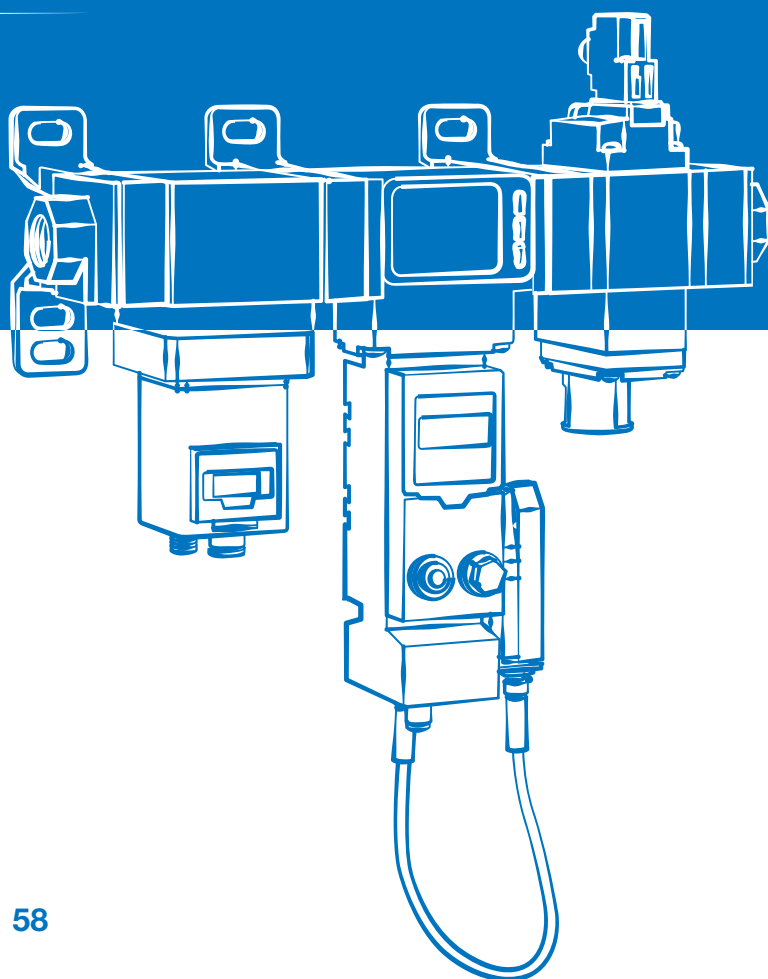


- Fluid: Air
- At least 90 % of the sucked water is removed
- Manual discharge mechanism
- Bayonet socket simplifies filter cartridge replacement
- Standard tank protection
- Even when saturated, there is almost no drop in pressure.

In-line air filter

Part number	Port size	Flow rate [l/min]	Operating pressure [MPa]	
			min.	max.
AMJ3000-F02 	G1/4	200	-0.1	1.0
AMJ3000-F03 	G3/8			
AMJ4000-F03 		300		
AMJ4000-F04 	G1/2			
AMJ5000-F06 	G3/4	500		
AMJ5000-F10 	G1			

Regulation



Electro-pneumatic regulator/Electronic vacuum regulator

ITV2090 Series **58**

Vacuum regulator

IRV10/20 Series **59**

Air management system

AMS20/30/40/60 Series **60**





Electro-pneumatic regulator/ Electronic vacuum regulator

ITV2090 Series



- 2 types:
 - ITV2090: Standard
 - ITV0090: Compact.
- Dynamic control of air pressure through electrical signals
- Compact and lightweight
- Enclosure: IP65
- Integrated LED display
- Power consumption: 4 W or less
- Communication models: IO-Link, analogue (current and voltage), digital signals, pre-set input, CC-Link, DeviceNet™, PROFIBUS DP, RS-232C.

ITV00□, compact type individual mounting vacuum regulator

Part number	Input signal	Output signal	Set pressure range [kPa]	One-touch fitting Ø 8	Flow rate [l/min (ANR)]	Type of mounting	Included accessories
ITV0090-0N	4 - 20 mA	Analogue 1 5 VDC	-1 to -100	Raccord instantané pour tube Ø 4	2.0	Individual	—
ITV0090-3N 	0 - 10 VCC						Flat bracket for standard base type, right angle style 3 m cable
ITV0090-3BL 							
ITV0090-0MN						4 - 2 mA	
ITV0090-3MN	0 - 10 VCC						





ITV00□, manifold for regulator

Part number	Number of stations	Supply/exhaust connection
IITV00-02 ●	2	Ø 6 (Grey collar)
IITV00-03 ●	3	
IITV00-04 ●	4	

Accessories

Part number	Description
ZS-40-A ●	Cable M8 (4p) droit, 3 m
M8-4DSX3MG4	Cable connector M8 (4p) straight type, 3 m
P398000-501-2	Cable connector M8 (4p) angle type, 2 m
P39800022	Flat bracket assembly
P39800023	L-bracket assembly

ITV209□, standard type individual mounting vacuum regulator

Part number	Input signal	Output signal	Set pressure range [kPa]	Fitting VAC (1), OUT (2), ATM (3)	Max flow rate [l/min (ANR)]	Included accessories
ITV2090-01F2BN5 	4 - 20 mA	Analogue 1 - 5 VDC	-1.3 to -80	G1/4	132.0	Mounting plate, no cable
ITV2090-01F2N5						No mounting plate, no cable
ITV2090-31F2BN5 	0 - 10 VCC	Switching output digital / PNP				Mounting plate, no cable
ITV2090-31F2N5 						No mounting plate, no cable
ITV2090-33F2BN5						Mounting plate, no cable
ITV2090-33F2N5 						No mounting plate, no cable
ITV2090-ILF2BN5	IO-Link (A type)	—				Mounting plate, no cable
ITV2090-ILF2N5						No mounting plate, no cable

Connectors

Part number	Utilization	Description	Model
P398020-500-3 ●	Power supply, I/O signals or IO-Link power supply for ITVs only fieldbus, RS 232C link	M12 straight cable, 3 m	ITV2090-0, ITV2090-3, ITV2090-IL, ITV2090(-CC,-DE,-PR,-RC)
P398020-501-3 ●		M12 angle cable, 3 m	
PCA-1557633 ●	Communication	M12 cable (A-coded) straight female, 5 m	ITV2090-DE
PCA-1557646 ●		M12 cable (A-coded) straight male, 5 m	
PCA-1557688 ●		M12 cable (A-coded) straight female, 5 m	ITV2090-PR
PCA-1557691 ●		M12 cable (A-coded) straight male, 5 m	
P398020-502-3		M12 cable straight, 3 m	ITV2090-RC
P398020-503-3		M12 cable, angled, 3 m	

Accessories

Part number	Description
EX500-AP050-S ●	Cable with connector, straight
EX500-AP050-A ●	Cable with connector, angled

Brackets

Part number	Description	Model
P398020-600 ●	Flat bracket assembly (including mounting screws)	ITV20, 30
P398020-601 ●	L-bracket assembly (including mounting screws)	

Vacuum regulator

IRV10/20 Series



- Standardised single-sided connections
- Maximum flow is over twice that of current models:
 - IRV10 series 140 l/min (ANR)
 - IRV20 series 240 l/min (ANR).
- Weight reduced by 20 %
- Built-in, one-touch fitting is now standard
- Easy to attach/detach the pressure gauge or digital pressure switch due to clip fastening
- 2 possible mounting directions for the pressure gauge or digital pressure switch
- Multiple mounting angles
- Expanding mounting variations.

Vacuum regulators

Part number	Pressure range [kPa]	Tubes external diameter	Ambient and fluid temperature [°C]	Connections
IRV10-C06 ●	-1.3 to -100	Ø 6	5 to 60	Standard connections
IRV10-C08 ●		Ø 8		
IRV20-C06 ●		Ø 6		
IRV20-C08 ●		Ø 8		
IRV20-C10 ●		Ø 10		
IRV10A-C06 ●		Ø 6		Single sided connections
IRV10A-C08 ●		Ø 8		
IRV20A-C06 ●		Ø 6		
IRV20A-C08 ●		Ø 8		
IRV20A-C10 ●		Ø 10		

Options

Part number		Connections
IRV10(A)	IRV20(A)	
P601010-17 ●	P601020-17 ●	Bracket assembly
P601010-14 ●	P601020-14 ●	Bottom bracket assembly
P601010-12 ●	P601020-12 ●	Pressure gauge assembly

Air management system

AMS20/30/40/60 Series **NEW**



Level up your compressed air management

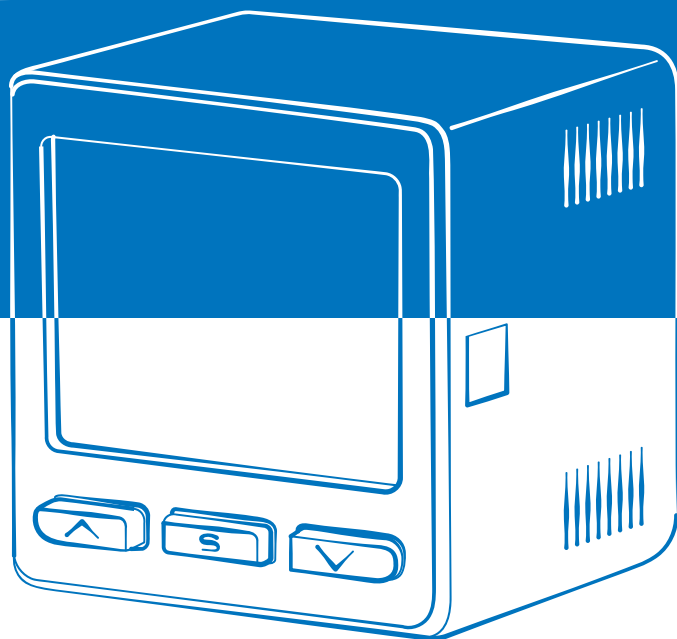
- Programmable automatic pressure reduction and shut-off times
- Measurement and follow-up of flow, pressure and temperature
- Virtual control of parameters with fieldbus or OPC UA data collection
- Wireless connection up to 100-metre range and 10 remote units
- Compatible with EtherNet/IP®, PROFINET and EtherCAT®
- IO-link compatible
- High security using encryption
- Flow rate up to 4000 l/min at 0.7 MPa
- Port size: 1/8, 1/4, 3/8, 1/2, 3/4, 1
- Modular connection.

Part number	Type	Port size	Regulator option	Protocol	Flow rate [l/min]	Set pressure	
						min.	max.
AMS20A-F02C-PN-MLG	Electro-pneumatic regulator	G1/4	N.C (Normally closed)	PROFINET, OPC UA (When wireless adapter is connected: Wireless base)	5 to 500	0.2	0.7
AMS30A-F03C-PN-MLG		G3/8			10 to 1000		
AMS40A-F04C-PN-MLG		G1/2			20 to 2000		
AMS60A-F06C-PN-MLG		G3/4			40 to 4000		
AMS20A-F02C-SA-MLG		G1/4		Standalone (When wireless adapter is connected: Wireless remote)	5 to 500		
AMS30A-F03C-SA-MLG		G3/8			10 to 1000		
AMS40A-F04C-SA-MLG		G1/2			20 to 2000		
AMS60A-F06C-SA-MLG		G3/4			40 to 4000		
AMS20B-F02C-PN-MLG	Regulator	G1/4		PROFINET, OPC UA (When wireless adapter is connected: Wireless base)	5 to 500		
AMS30B-F03C-PN-MLG		G3/8			10 to 1000		
AMS40B-F04C-PN-MLG		G1/2			20 to 2000		
AMS60B-F06C-PN-MLG		G3/4			40 to 4000		
AMS20B-F02C-SA-MLG		G1/4		Standalone (When wireless adapter is connected: Wireless remote)	5 to 500		
AMS30B-F03C-SA-MLG		G3/8			10 to 1000		
AMS40B-F04C-SA-MLG		G1/2			20 to 2000		
AMS60B-F06C-SA-MLG		G3/4			40 to 4000		

Accessories

Part number	Size	Description
Y200T-2-D	20	Spacer with bracket
Y300T-2-D	30	
Y400T-1-D	40	
Y600T-2-D	60	
E200-F01-D	20	Piping adapter
E200-F02-D	20, 30	
E300-F02-D		
E300-F03-D	30,40	
E400-F03-D		
E400-F04-D	40	
E600-F06-D	60	
E600-F10-D	60	
EXW1-A11N-X1	20, 30, 40, 60	Wireless adapter
EX9-AWES		Seal caps
EX9-AWTS		
EXW1-AC1-X1		Power supply cable (M8 connector, for EXW1-A11N-X1, with connectors on both sides (socket/plug))
EX500-AP010-S		Power supply cable (M12 connector, For EXA1), straight connector
EX500-AP050-S		
EX500-AP010-A		
EX500-AP050-A		
ZS-37-A		Lead wire with M12 connector
EXA1-AC1		Connection cable for standby regulator/Residual pressure relief valve
EXA1-AC2		
AN20-02	20	Resin silencer
AN30-03	30,40	
AN30-03	30	
AN40-04	40	
AN500-06	60	Metal body silencer
AN600-10		
AN202-02	20	High noise reduction silencer
AN302-03	30	
AN402-04	40	
ANA1-06	60	
ANA1-10		

Sensors



Digital pressure switch, vacuum/compound pressure

ZSE/ISE10 Series **63**

High-precision digital pressure switch

ZSE/ISE20 Series **64**

Electronic pressure switch

PS1100/1200 Series **64**

Digital flow switch, 2-colour display

PF2M7 Series **65**

Digital pressure switch

Sensor for multi channel controller

PSE530 Series **66**

Small pneumatic pressure sensor

PSE540 Series **66**

Pressure sensor for general fluids

PSE550 Series **67**

General fluids pressure sensor




PSE570 Series **67**

Digital pressure switch, vacuum/ compound pressure

ZSE/ISE10 Series



- Narrow profile: 9.8 mm wide
- 3 types:
 - ZSE10: Vacuum
 - ZSE10F: Compound pressure.
- Monochrome digital display with one display area: 3.5 digits
- Simultaneous copy function possible of the settings on 10 pressure switches
- Improved visualisation of output statuses (LEDs on the corners of the case)
- Mounting: direct, on panel, or on DIN rail
- Simple 3-step settings
- IP40 enclosure with connectors (5 pins).

Part number	Pressure range	Connection	Switching output ¹⁾	Voltage
ISE10-M5-B-G 	-0.1 to 1.0 MPa	M5 thread, lateral	2 PNP	12 to 24 VDC
ISE10-M5-E-G			PNP + (1 to 5 V)	
ZSE10-M5-B-G 	-101 to 0 kPa		2 PNP	
ZSE10-M5-E-G			PNP + (1 to 5 V)	
ZSE10F-M5-B-G 	-100 to 100 kPa		2 PNP	
ZSE10F-M5-E-G			PNP + (1 to 5 V)	

1) NPN options available on request.

Mounting accessories

Part number	Description
ZS-39-B ●	Panel mounting adapter
ZS-39-R ●	Adapter for DIN rail mounting

Cables

Part number	Function	Description	Length
ZS-39-5G ●	Cable for power supply and outputs	Lead wire with connector (with connector cover) (5 cores)	2 m

High-precision digital pressure switch

ZSE/ISE20 Series 



- 3-zone display, 3-colour display
- Compatible media: air, non-corrosive gas, non-flammable gas or conventional media
- Pressure ranges: -0.1 to 2 MPa
- Repeatability: ± 0.2 % F.S.
- Output: NPN/PNP, analogue (voltage/current), IO-Link
- Select response time: from less than 1.5 ms to 5 s
- IP40 or IP65 enclosure with connector (5-pin)
- Power consumption: 35 mA max
- Power supply: 12 to 24 VDC.

Part number	Operating pressure range	Connection	Electric connection	Applicable fluid	Type of outputs	Protection		
ISE20-P-01-L ●	-0.1 to 1 MPa	R1/8 (adapter included)	Cable with connector, 3 bare wires, length 2m	Air, non-corrosive gas, non-flammable gas	1 PNP	IP40		
ZSE20F-P-01-L	-100 to 100 kPa							
ZSE20-P-01-L ●	-101 to 0 kPa		Cable with connector, 5 bare wires, length 2m		T, V, Y			
ISE20A-□-01-J ●	-0.1 to 1 MPa							
ZSE20AF-□-01-J	-100 to 100 kPa		Cable with connector, 5 bare wires, length 2 m		1 output IO-Link	IP65		
ZSE20A-□-01-J	-101 to 0 kPa							
ISE20B-□-01-W ●	-0.1 to 1 MPa							
ZSE20BF-□-01-W	-100 to 100 kPa							
ZSE20B-□-01-W	-101 to 0 kPa		R1/4 (+ M5 thread)		Cable with waterproof connector, 5 bare wires, length 2 m			
ISE20B-L-01-W ●	-0.1 to 1 MPa							
ZSE20BF-L-01-W ●	-100 to 100 kPa							
ZSE20B-L-01-W ●	-101 to 0 kPa							
ISE20C-□-02-W	-0.1 to 1 MPa							
ISE20CH-□-02-W	-0.1 to 2 MPa							
ZSE20CF-□-02-W	-100 to 100 kPa				T, V, Y			
ZSE20C-□-02-W	-101 to 0 kPa							

Model ZSE-ISE20, 20A, 20B available without adaptor, M5 thread (replace "-01" with "-M5" for stocked Part numbers). Output type for ZSE-ISE20A/20B/20C:

(except ZSE-ISE20 and ZSE-ISE20B-L), replace the "-" with:

[T], 2 PNP open collector outputs + 1 analogue voltage output (1 to 5 V)

[V], 2 PNP open collector outputs + 1 analogue current output (4 to 20 mA)

[Y], 2 PNP open collector outputs + copy function.

Electronic pressure switch

PS1100/1200 Series



- LED display of switching point
- Miniature design
- For direct mounting on push-in fittings
- Piezoelectric sensor for long service life
- Can be connected directly to a \varnothing 6 mm push-in connector
- IP40 housing with embedded cable (2 wires), length 3 m.

Part number	Operating pressure range	Connection	Set pressure range	Switch output	Voltage
PS1100-R06L-Q ●	-0.1 to 1.0 MPa	Plug \varnothing 6 mm	-0.1 to 0.40 MPa	Pressure \geq at switching point: ON	12 to 24 VDC
PS1200-R06L-Q ●	-100 to 500 kPa		-100 to 0 kPa		

Digital flow switch, 2-colour display

PF2M7 Series  



- Dry air, N₂, Ar, CO₂
- A wide flow range measurement is possible with one product
- Flow ratio: 100:1. Smallest adjustable increment: 0.01 l/min
- Improved resistance to moisture and foreign matter
- Bypass construction
- Compact, lightweight
- Weight: 27.3 % lighter than previous model (55 g → 40 g)
- Low current consumption: 35 mA or less
- Grease-free
- Compatible with IO-Link communication.

Part number	Flow rate [l/min]	Output type	Connection	Supply voltage	Protection
PF2M701-C4-L4	0.01 to 1	OUT1 : IO-Link/NPN/PNP OUT 2 : 4 to 20 mA	Ø 4	18 to 30 VDC	IP40
PF2M701-C4-L3		OUT1 : IO-Link/NPN/PNP OUT2 : 1 to 5 V / 0-10V			
PF2M702-C4-L4	0.02 to 2	OUT1 : IO-Link/NPN/PNP OUT 2 : 4 to 20 mA			
PF2M702-C4-L3		OUT1 : IO-Link/NPN/PNP OUT2 : 1 to 5 V / 0-10V			
PF2M705-C4-L4	0.05 to 5	OUT1 : IO-Link/NPN/PNP OUT 2 : 4 to 20 mA			
PF2M705-C4-L3		OUT1 : IO-Link/NPN/PNP OUT2 : 1 to 5 V / 0-10V			
PF2M710-C6-L4	0.1 to 10	OUT1 : IO-Link/NPN/PNP OUT 2 : 4 to 20 mA	Ø 6		
PF2M710-C6-L3		OUT1 : IO-Link/NPN/PNP OUT2 : 1 to 5 V / 0-10V			
PF2M725-C6-L4	0.2 to 25	OUT1 : IO-Link/NPN/PNP OUT 2 : 4 to 20 mA			
PF2M725-C6-L3		OUT1 : IO-Link/NPN/PNP OUT2 : 1 to 5 V / 0-10V			
PF2M750-C6-L4	0.5 to 50	OUT1 : IO-Link/NPN/PNP OUT 2 : 4 to 20 mA			
PF2M750-C6-L3		OUT1 : IO-Link/NPN/PNP OUT2 : 1 to 5 V / 0-10V			
PF2M711-C8-L4	1 to 100	OUT1 : IO-Link/NPN/PNP OUT 2 : 4 to 20 mA	Ø 8		
PF2M711-C8-L3		OUT1 : IO-Link/NPN/PNP OUT2 : 1 to 5 V / 0-10V			
PF2M721-C8-L4	2 to 200	OUT1 : IO-Link/NPN/PNP OUT 2 : 4 to 20 mA			
PF2M721-C8-L3		OUT1 : IO-Link/NPN/PNP OUT2 : 1 to 5 V / 0-10V			

Digital pressure switch

Sensor for multi channel controller

PSE530 Series



- Pressure sensor for multi-channel controller
- Fluid: air, non-corrosive gas
- Current consumption: 15 mA or less
- High pressure, vacuum, low and compound.

Part number	Pressure range	Output type	Connection
PSE530-M5 ●	0 to 1 MPa	Analogue 1 to 5 V	M5
PSE531-M5 ●	-101 to 0 kPa		
PSE532-M5 ●	0 to 101 kPa		
PSE533-M5 ●	-101 to 101 kPa		

Accessories













Part number	Description	Length
ZS-26-F	Sensor cable	3 m

Small pneumatic pressure sensor

PSE540 Series



- 2 types:
 - PSE541: Vacuum pressure (-101 to 0 kPa)
 - PSE543: Compound pressure (-100 to 101 kPa)
- Micro construction, e.g. 9.6 x 20.8 x 18 mm
- Minimum weight, e.g. 1.9 g
- Proof pressure: 500 kPa
- Accuracy (ambient temp. of 25 °C): 2 % F.S. or less
- Repeatability: 0.2 % F.S. or less
- Enclosure: IP40
- 1 ms response time
- Compatible displays: PSE200/PSE300 (7 different PSE300 connection types)
- Sensor with embedded cable (3 wires).




Part number	Pressure range [kPa]	Output type	Connection
PSE541-M3 	-101 to 0	Analogue 1 to 5 V	M3 male
PSE541-M5 			M5 male
PSE541-01 			R1/8 thread, M5 thread
PSE541-R04 			Plug Ø 4 mm
PSE541-R06 			Plug Ø 6 mm
PSE541-IM5 			M5 thread
PSE541-IM5H			M5 thread, with mounting holes
PSE543-M3 	-100 to 100		M3 male
PSE543-M5 			M5 male
PSE543-01 			R1/8 thread, M5 thread
PSE543-R04 			Plug Ø 4 mm
PSE543-R06 			Plug Ø 6 mm
PSE543-IM5 			M5 thread
PSE543-IM5H			M5 thread, with mounting holes

Pressure sensor for general fluids

PSE560 Series



- Pressure sensor for general purpose fluids
- Fluid: fluid, including gas, that will not corrode SUS316L
- 2 types:
 - PSE561: Vacuum pressure (-101 to 0 kPa)
 - PSE563: Compound pressure (-100 to 101 kPa)
- Accuracy (ambient temp. of 25 °C): 1 % F.S. or less
- Repeatability: 0.2 % F.S. or less
- Enclosure: IP65.

Part number	Pressure range	Output type	Connection
PSE561-01 	-101 to 0	Analogue 1 to 5 V	R1/8 w/ M5 female thread
PSE561-02			R1/4 w/ M5 female thread
PSE561-A2			URJ 1/4
PSE561-B2			TSJ 1/4
PSE561-C01			Rc 1/8
PSE561-N01			NPT 1/8 w/M5 female thread
PSE561-N02			NPT 1/4 w/M5 female thread
PSE563-01 	-100 to 100		R1/8 w/ M5 female thread
PSE563-02 			R1/4 w/ M5 female thread
PSE563-A2			URJ 1/4
PSE563-B2			TSJ 1/4
PSE563-C01			Rc 1/8
PSE563-N01			NPT 1/8 w/M5 female thread
PSE563-N02			NPT 1/4 w/M5 female thread

General fluids pressure sensor

PSE570 Series



- Applicable fluids: gas or liquid that will not attack or corrode materials of parts in contact with fluid
- 6 rated pressure ranges: -100 to 100 kPa, 0 to 500 kPa, 0 to 1 MPa, 0 to 2 MPa, 0 to 5 MPa, 0 to 10 MPa
- Proof pressure: 3 times higher than rated pressure
- Withstand voltage: 500 VAC
- M12 connector for wiring
- Enclosure: IP65.

Part number	Pressure range [kPa]	Output type	Connection
PSE573-01	-100 to 100	Analogue 1 to 5 V	R1/8 w/ M5 female thread
PSE573-02			R1/4 w/ M5 female thread
PSE573-01 -28 ●		Current output (4 to 20 mA)	R1/8 w/ M5 female thread
PSE573-02-28			R1/4 w/ M5 female thread



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