

Vacuum Generator Complex Type VK

16 mm wide complex type allows variety of unit combinations (Stand-alone and manifold types)

⚠ Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Model Designation (Example)

VK (1)	A (2)	H (3)	07 (4)	W (5)	-	06 (6)	06 (7)	08 (8)	E (9)	-	B (10)	(11)	-NW (12)
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(1) Vacuum Generator Complex Type VK

(2) Port position

Code	A	B	M
Port position	Stand-alone type with ports on 2 sides	Stand-alone type with ports on 1 side	Manifold type

(3) Vacuum characteristics

Code	H	L	E	No code
Charact.	High-vacuum type (Rated supply pressure: 0.5 MPa)	Large-flow type (Rated supply pressure: 0.5 MPa)	High-vacuum at Low air supply pressure type (Rated air supply pressure: 0.35 MPa)	Manifold-base alone

(4) Nozzle bore

Applicable unit combination code: For A, C, E, G, J, L, P, Q, R, S, T, W

Code	Nozzle bore (mm)	H type			Lt type			E type		
		Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])	Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])	Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])
05	0.5	-91	7 [7] <7>	11.5	-67	12 [12] <12>	11.5	—	—	—
07	0.7	-93	13 [13] <13>	23	-67	24 [26] <26>	23	-91	10.5 [10.5] <10.5>	17
10	1.0	-93	27 [27] <27>	46	-67	37 [40] <40>	46	-91	21 [21] <21>	34
12	1.2	-93	32 [38] <38>	70	-67	37 [50] <50>	70	-91	27 [27] <27>	47
No code		Manifold-base alone								

Applicable unit combination code: For B, D, F, H, K, M

Code	Nozzle bore (mm)	H type			L type			E type		
		Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])	Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])	Vacuum level (kPa)	Suction flow (ℓ/min [ANR])	Air consumption (ℓ/min [ANR])
05	0.5	-86.5	5.4 [5.4] <5.4>	11.5	-66.5	10 [10] <10>	11.5	—	—	—
07	0.7	-90.5	11 [11] <11>	23	-66.5	19 [19] <19>	23	-86.5	8.4 [8.4] <8.4>	17
10	1.0	-90.5	19 [19] <19>	46	-66.5	24 [24] <24>	46	-86.5	15.4 [15.4] <15.4>	34
12	1.2	-90.5	24 [24] <24>	70	-66.5	24 [27] <27>	70	-90.5	19 [19] <19>	47
No code		Manifold-base alone								

*1. Values are when rated pressure is applied. (H and L type: 0.5 MPa, E type: 0.35 MPa.)

*2. Suction flow values on the left represent those of vacuum port dia. 4 mm or ø5/32", those in [] are of vacuum port dia. of 6 mm or 1/4", and those in < > are of vacuum port dia. of 8 mm or 5/16".

*3. The values in the table are representative values. Suction flow can vary by vacuum port dia. and tube length.

(5) Combination of units (18 types) * ○ : Equipped

Code	A	B	C	D	E	F	G	H	J	K	L	M	P	Q	R	S	T	W	No code
Filter	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Suction solenoid valve	—	—	—	—	—	—	○	○	○	○	○	○	○	○	○	○	○	○	
Check valve (Vacuum retention func.)	—	○	—	○	—	○	—	○	—	○	—	○	—	—	—	—	—	—	
Mechanical pressure sensor	—	—	○	○	—	—	—	—	○	○	—	—	—	○	—	—	○	—	
Pressure sensor with LED display	—	—	—	—	○	○	—	—	—	—	○	○	—	—	○	—	—	○	
Air timer type blow-off valve	—	—	—	—	—	—	—	—	—	—	—	—	○	○	○	—	—	—	
Solenoid valve type blow-off valve	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○	○	○	

Manifold-base alone

(6) Vacuum port size (V)

■ Stand-alone type

Code	mm size (mm)			inch size (inch)		
	04	06	08	5/32	1/4	5/16
Tube O.D.	ø4	ø6	ø8	ø5/32	ø1/4	ø5/16

■ Manifold type (VKM)

Port position	Side (Straight)							Top (Straight)					
	mm size (mm)			inch size (inch)			PP	mm size (mm)			inch size (inch)		
Code	S4	S6	S8	S5/32	S1/4	S5/16			T4	T6	T8	T5/32	T1/4
Tube O.D.	ø4	ø6	ø8	ø5/32	ø1/4	ø5/16	Plug	ø4	ø6	ø8	ø5/32	ø1/4	ø5/16
Code	OO												
Applicable to a manifold installation top-mounting unit alone with the vacuum port on the side, or to manifold-base alone with any vacuum port in different size.													

* See "Manifold Type (reference)" on page 283 to confirm the port position.

(7) Air supply port size (PS)

■ Stand-alone type

	mm size (mm)			inch size (inch)		
Code	04	06	08	5/32	1/4	5/16
Tube O.D.	ø4	ø6	ø8	ø5/32	ø1/4	ø5/16

* Only 0.5 mm and 0.7 mm nozzle bore sizes are selectable when ø4 mm or ø5/32" air supply port is specified.

■ Manifold type (VKM)

		mm size (mm)						inch size (inch)							
Port type		Straight				Elbow		Straight				Elbow			
Code	R side only	16	18	10	12	48	40	42	11/4	15/16	13/8	11/2	45/16	43/8	41/2
	Both sides	26	28	20	22	58	50	52	21/4	25/16	23/8	21/2	55/16	53/8	51/2
	L side only	36	38	30	32	68	60	62	31/4	35/16	33/8	31/2	65/16	63/8	61/2
Tube O.D.		ø6	ø8	ø10	ø12	ø8	ø10	ø12	ø1/4	ø5/16	ø3/8	ø1/2	ø5/16	ø3/8	ø1/2
Code		00													
Applicable to a manifold installation top-mounting unit alone.															

(8) Exhaust port (EX)

■ Stand-alone type

Code	S	08	L8
Specifications	Silencer vent	ø 8 mm (ø 5/16") Straight tube fitting (Tube exhaust)	ø 8 mm (ø 5/16") Elbow tube fitting (Tube exhaust)

■ Manifold type (VKM)

		Tube exhaust									Silencer vent		
Port type		Push-in fitting, Straight				Push-in fitting, Elbow			Female taper thread				
Code	R side only	18	10	12	13	48	40	42	72	73	74	R side only	S1
	Both sides	28	20	22	23	58	50	52	82	83	84	Both sides	S2
	L side only	38	30	32	33	68	60	62	92	93	94	L side only	S3
Tube O.D. (mm)		ø8	ø10	ø12	ø16	ø8	ø10	ø12	Rc1/4	Rc3/8	Rc1/2		

		Tube exhaust											
Port type		Push-in fitting, Straight				Push-in fitting, Elbow			Female NPT thread				
Code	R side only	15/16	13/8	11/2	15/8	45/16	43/8	41/2	72N	73N	74N		
	Both sides	25/16	23/8	21/2	25/8	55/16	53/8	51/2	82N	83N	84N		
	L side only	35/16	33/8	31/2	35/8	65/16	63/8	61/2	92N	93N	94N		
Tube O.D. (in.)		ø5/16	ø3/8	ø1/2	ø5/8	ø5/16	ø3/8	ø1/2	1/4NPT	3/8NPT	1/2NPT		
Code		00											
Applicable to a manifold installation top-mounting unit alone.													

(9) Solenoid valve type (Fill in only when you specify "combination of units" with suction solenoid valve.)

Code	E	G	F	H	No code
Voltage	24 VDC		100 VAC		Manifold-base alone
type	Normally closed (N.C.)	Normally open (N.O.)	Normally closed (N.C.)	Normally open (N.O.)	

(10) Body color

Code	W	B
Color	Light gray	Black

(11) No. of stations (Code entry for Manifold type only)

Code	02	03	04	05	06	07	08	09	10
No. of St.	2	3	4	5	6	7	8	9	10

*1. Special-order item when no. of stations are or more 11.

*2. Allowable No. of stations for simultaneous operation varies depending on the combination of nozzle bore and port size. Contact your nearest sales office for details.

(12) Pressure sensor (Selectable only when unit combination is E, F, L, M, R or W.)

Code	Specifications
-NW	NPN open collector output with 2 switch outputs
-NA	NPN open collector output with 1 switch output and 1 analog output
-PW	PNP open collector output with 2 switch outputs
-PA	PNP open collector output with 1 switch output and 1 analog output

Vacuum Generator Complex Type VK

Model Designation of Block Plate (Example)

VKM - **MB** - **W**
(1) (2) (3)

(1) Vacuum Generator Complex type VK, Manifold

(2) Block plate

(3) Body color

Code	W	B
Color	Light gray	Black

Model Designation of nozzle set (Example)

VK **H** **N** **05**
(1) (2) (3)

(1) Vacuum Generator Complex type VK

(2) Vacuum characteristics

Code	H	L	E
Charact.	High-vacuum type (Rated supply pressure: 0.5 MPa)	Large-flow type (Rated supply pressure: 0.5 MPa)	High-vacuum at Low air supply pressure type (Rated supply pressure: 0.35 MPa)

(3) Nozzle bore

Code	05	07	10	12
Nozzle bore (mm)	ø0.5	ø0.7	ø1.0	ø1.2

Order Example

Manifold type (VKM)

Ex. [1]. When all stations have the same specifications.

VK **M** **H** **10** **W** - **T6** **20** **S2** **E** - **B** **04** - **NW**
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12)

(2) Port position: **M**→Manifold type

(3) Vacuum characteristics: **H**→High-vacuum type

(4) Nozzle bore: **10**→ø1.0mm

(5) Combinations: **W**→Filter, Suction solenoid valve, Pressure sensor with LED, Blow-off solenoid valve.

(6) Vacuum port: **T6**→ø 6 mm Push-in fitting on top

(7) Air supply port: **20**→ø 10 mm Push-in fitting on both sides of manifold-base

(8) Exhaust port: **S2**→Silencers on both sides of manifold-base

(9) Solenoid valve type: **E**→Normally closed (N.C.) type 24 VDC (for both suction and blow-off)

(10) Color: **B**→Black

(11) No. of stations: **04**→4 stations

(12) Pressure sensor: **NW**→NPN open collector output with 2 switch outputs

Manifold installation top-mounting unit alone

Ex. [2]. When the vacuum port is on the side of the manifold-base

VK **M** **H** **07** **G** - **00** **00** **00** **E** - **W**
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

(2) Port position: **M**→Manifold type

(3) Vacuum characteristics: **H**→High-vacuum type

(4) Nozzle bore: **07**→ø0.7 mm

(5) Combinations: **G**→Filter, Suction solenoid valve

(6) Vacuum port: **00**→Manifold installation top-mounting unit alone with side vacuum port

(7) Air supply port: **00**→For manifold installation top-mounting unit alone

(8) Exhaust port: **00**→For manifold installation top-mounting unit alone

(9) Solenoid valve type: **E**→Normally closed (N.C.) type 24 VDC (for both suction and blow-off)

(10) Color: **W**→Light gray

Ex. [3]. When vacuum port is on the top of the station.

VK **M** **H** **12** **R** - **T6** **00** **00** **E** - **W** - **NA**
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (12)

(2) Port position: **M**→Manifold type

(3) Vacuum characteristics: **H**→High-vacuum type

(4) Nozzle bore: **12**→ø1.2mm

(5) Combinations: **R**→Filter, Suction solenoid valve, Pressure sensor with LED, Air timer-type blow-off valve.

(6) Vacuum port: **T6**→ø 6 mm Push-in fitting on top.

(7) Air supply port: **00**→For manifold installation top-mounting type alone.

(8) Exhaust port: **00**→For manifold installation top-mounting type alone.

(9) Solenoid valve type: **E**→Normally closed (N.C.) type 24 VDC (for both suction and blow-off)

(10) Color: **W**→Light gray

(12) Pressure sensor: **NA**→NPN open collector output with 1 switch output and 1 analog output

* For manifold installation top-mounting unit, vacuum ports are provided with a seal packing and two fixing screws.
Seals for exhaust port and supply port are not included. Instead, they come with manifold-base.

Manifold-base alone (Block plate is not included.)

Ex. [4]. When all vacuum ports have the same specifications for all stations.

VK **M** - **S6** **48** **62** - **W** **08**
(1) (2) (6) (7) (8) (10) (11)

(2) Port position: **M**→Manifold type

(6) Vacuum port: **S6**→ø6 mm Push-in fittings for all 8 stations.

(7) Air supply port: **48**→ø 8 mm Push-in fitting (Elbow) on R side only.

(8) Exhaust port: **62**→ø 12 mm Push-in fitting (Elbow) on L side only.

(10) : **W**→Light gray

(11) No. of stations : **08**→8 stations

Ex. [5]. When any of vacuum ports differs from the others. (Specification order form is required separately)

VK **M** - **00** **48** **62** - **W** **08**
(1) (2) (6) (7) (8) (10) (11)

(2) Port position: **M**→Manifold type

(6) Vacuum port: **00**→When a vacuum port at any station differs in the manifold.
(Specification order form is required separately.)

(7) Air supply port: **48**→ø 8 mm Push-in fitting (Elbow) on R side only.

(8) Exhaust port: **62**→ø 12 mm Push-in fitting (Elbow) on L side only.

(10) Color: **W**→Light gray

(11) No. of stations : **08**→8 stations

Entry example in a specification form when any of vacuum ports differs.

	Type (Port pos.)	Vacuum charact.	Nozzle bore	Combinations	Vacuum port	Air supply port	Exhaust port	Solenoid valve type	Color	No. of stations	Pressure sensor
	(1)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Manifold model code	VKM		—		00	48	62	—	W	08	
Mounting unit model ↑ (Vacuum port spec. for manifold-base alone) Station No. ↓ Rside	Lside St.1				S6						
	St.2				S6						
	St.3				S6						
	St.4				S6						
	St.5				S8						
	St.6				S8						
	St.7				S8						
	St.8				PP						
	St.9										
	St.10										

* Fill in "manifold model code" and (6) Vacuum port for each station only.
For (6) Vacuum port, S4, S6, S8 or PP are only selectable.

Order Example

- When any station of manifold type (VKM) has different spec. of top-mounting unit or a different vacuum port

(① and ② below are examples of model code. Also fill in ③ (Specification Order Form) which shows station arrangements for manifold installation top-mounting unit and vacuum port.)

① Model code and number of manifold-base units.

VK M - 00 48 62 - W 08 1pc.

*1. See the order form Example ⑤ for manifold-base.

*2. Even when all vacuum ports are the same size, model code of the vacuum ports should be "00".

② Model code and No. of stations of top-mounting units

1) ... **VK M H 07 G - S8 00 00 E - W** 3pcs

2) ... **VK M E 10 W - S6 00 00 G - NW** 1pc.

3) ... **VK M H 12 R - T6 00 00 E - NA** 3pcs

4) ... **VK M - MB - W** 1pc.

*1. For 1), 2), 3) above, see the Order Example of "Manifold installation top-mounting unit alone Ex. ② and Ex. ③".

*2. For ④ above, see "Model Designation of Block Plate (Example)" on the previous page.

③ Specification order form (Example)

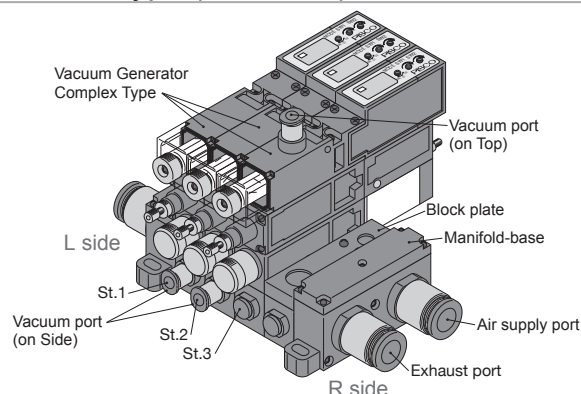
(Instruction about station arrangements for manifold installation top-mounting unit and vacuum port.)

(Vacuum port specification for manifold base alone)														
		Type (Port pos.) (1)	Vacuum character. (3)	Nozzle bore (4)	Combination (5)	Vacuum port (6)	Air supply port (7)	Exhaust port (8)	Solenoid valve type (9)	Color (10)	s (11)	Pressure sensor (12)		
Manifold model code		VKM		—		00	48	62	—	W	08			
Mounting unit model (Vacuum port spec. for manifold base alone)	Lside	St.1	VKM	H	07	G	S8	00	00	E	W	3		
	Station No. ↑ ↓	St.2	S† 1					ø 8 mm Push-in fitting on side port						
		St.3	S† 1						ø 6 mm Push-in fitting on side port					
		St.4	VKM	E	10	W	S6	00	00	G	W	1	-NW	
		St.5	VKM	H	12	R	T6	00	00	E	W	3	-NA	
		St.6	S† 5						ø 6 mm Push-in fitting on top port					
		St.7	S† 5											
		St.8	VKM				MB				W	1		
		St.9												
	Rside	St.10												

Instructions for Specification order form

- In the case of 1) and 2) of ② "Model code and No. of stations of top-mounting units", (6) Vacuum port code is "00" with side port specification, and the fitting size is unknown. Fitting size should be defined by ③ "Specification Order Form". Therefore, (6) Vacuum port spec. code in ② "Model code and No. of stations of top mounting units" and ③ "Specification order form" may sometimes differ.
- Station numbers are arranged in serial order as St. 1, St. 2, ... St. 10 from the L side toward the R side. To confirm their positions, see the Manifold Type reference below.
- If the manifold top-mounting units for St. 1, St. 2 and St. 3 are the same spec. as the left order form (example), fill in the top row of St. 1 only and enter "St. 1" for St. 2 and St. 3 on the type (port pos.) column. (e. g. If the manifold top-mounting unit for St. 6 is the same model as that for St. 1, enter "St. 1" in the type (port pos.) column of St. 6. Please put the number of manifold in "Manifold model code" row, but enter the number of common spec. units in the cells (cross sections of No. of stations column and St. 1 to 10 rows). Entering the number of common spec. units is necessary to check the number of the common spec. unit on a manifold type. Basically, the working voltage of solenoid valves are one spec. However, it is possible to specify different voltage such as 24 VDC, 100 VAC per mounting unit. In such case, specify the voltage in (9) "Solenoid valve type" column referring to the order form example.

Manifold Type (reference)



Cut here

Vacuum Generator VK Specification Order Form

To: NIHON PISCO CO., Ltd.

Name

Distributor
address

TEL

Delivery
address

TEL

Customer name
and address

TEL

Requested
EX-W PISCO Date

Order quantity: pcs.

	Type (Port pos.)	Vacuum charact.	Nozzle bore	Combinations	Vacuum port	Air supply port	Exhaust port	Solenoid valve type	Color	No. of stations	Pressure sensor	PISCO Regist. (For PISCO's use)
Manifold model code	VKM											
Mounting unit model (Vacuum port spec. for manifold- base alone)	L side	St.1										
		St.2										
		St.3										
		St.4										
		St.5										
		St.6										
		St.7										
		St.8										
		St.9										
	R side	St.10										

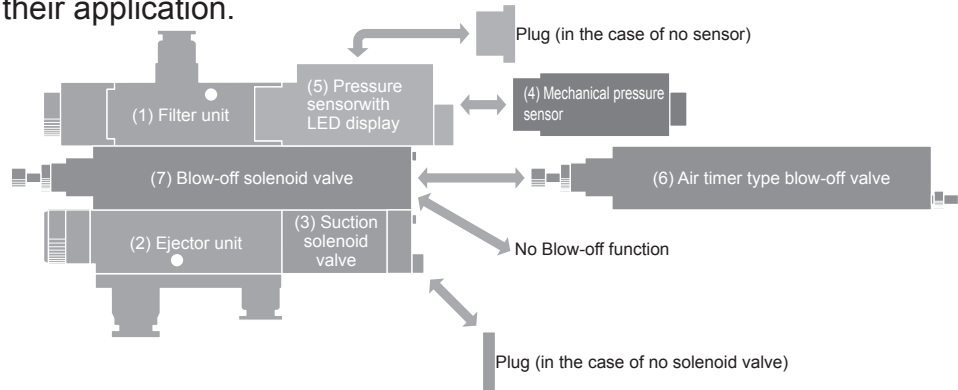
*1. Make photocopies of this page. Cut off the form from the dotted line for use. Fill out the form referring to the examples. Use a new form when specifications of manifold types to be ordered are different.

*2. Enter the no. of common units in .

Vacuum Generator Complex Type VK

Characteristics

- Rich combination of modularized units makes it possible for users to select the most suitable one to meet their application.

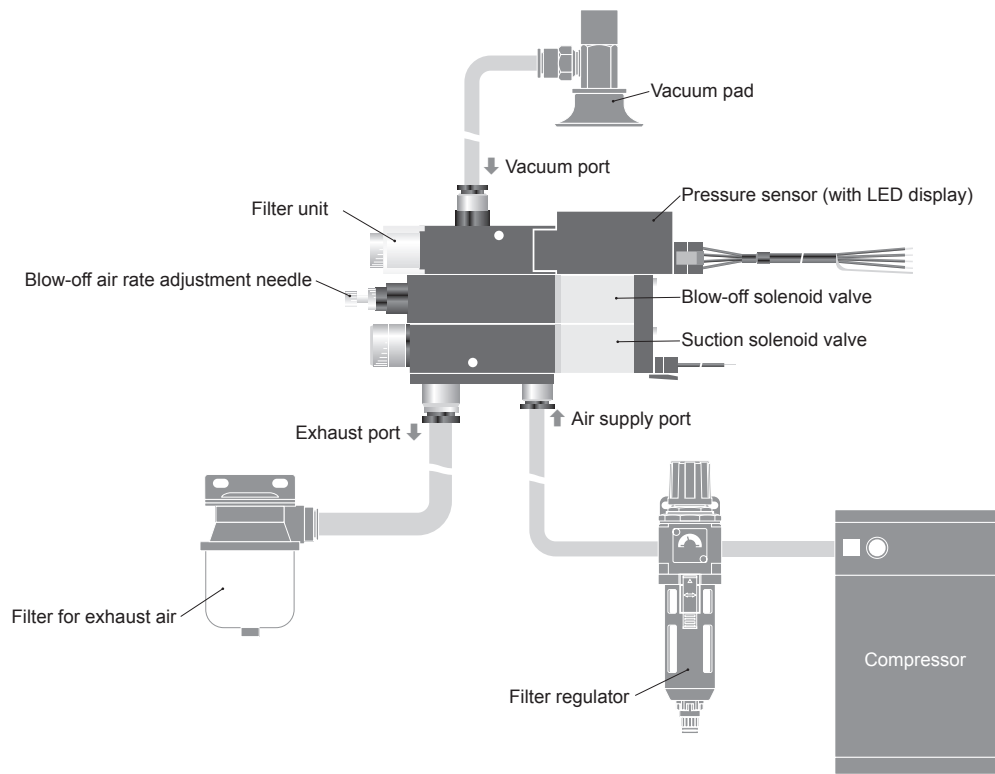


Combination of units code	A	B	C	D	E	F	G	H	J	K	L	M	P	Q	R	S	T	W
(1) Filter unit + (2) Ejector unit	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
(3) Suction solenoid valve	—	—	—	—	—	—	○	○	○	○	○	○	○	○	○	○	○	○
Check valve (Vacuum retention function)	—	○	—	○	—	○	—	—	○	○	—	—	—	—	—	—	—	—
(4) Mechanical pressure sensor	—	—	○	○	—	—	—	—	○	○	—	—	—	○	—	—	○	—
(5) Pressure sensor with LED display	—	—	—	—	○	○	—	—	—	—	○	○	—	—	○	—	—	○
(6) Air timer blow-off valve	—	—	—	—	—	—	—	—	—	—	—	○	○	○	○	—	—	—
(7) Blow-off solenoid valve	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	○	○	○

2 pressure sensor selections.

- LED display type (2 switch outputs or 1 switch output + 1 analog output) and low cost, easy-to-use mechanical type are available.

Piping Example



Specifications

Fluid medium	Air (JIS B 8392-1 : Compliant with [Class 1.2.1 to 2.4.3])	
Operating press. range	0.25 to 0.7 MPa	
Operating temp. range	5 to 50°C (No freezing)	
Operating humid. range	35 to 85%RH (No dew condensation)	
Vibration resist. / Shock resist.	50 m/s ² max / 150 m/s ² max	
Protective structure	IEC standard IP 40 equiv.	
Lubrication	Not required	
Proof pressure	Air supply circuit	1.05 MPa
	Vac. circuit	0.2 MPa

* Proof pressure is the level of pressure at which the product would not be damaged. It does not mean the pressure where the product works normally.

Solenoid valve specifications

Rated voltage	24 VDC ± 10%	100 AC V ± 10%
Power consumption	0.8 W (with LED)	1.0 VA (with LED)
Surge protection	Varistor	Bridge diode
Operation indicator	Current application: Red LED ON	
Manual override	Push-turn locking	

Suction main valve specifications

Operation type	Indirect operation by pilot valve	
Valve type	Normally closed	Normally open
Response time	OFF→ON	24 VDC: 20 msec
		100 VAC: 23 msec
		24 VDC: 30 msec
		100 VAC: 33 msec

* The response time at supply air: 0.5 MPa with rated voltage (100%).

Blow-off solenoid main valve specifications

Operation type	Indirect operation by pilot valve	
Valve type	Normally closed	
Response time	OFF→ON	24 VDC: 30 msec
		100 VAC: 33 msec

* The response time at supply air: 0.5 MPa with rated voltage (100%).

Air timer-type blow-off main valve specifications

Operation type	Indirect operation by air timer cylinder	
Valve type	Normally closed	
Proof pressure	1.05 MPa	
Blow-off air discharge time	Approx. 0.3 to 3 sec. right after suction solenoid valve is closed.	

Vacuum filter specifications

Element material	PVFM (Polyvinyl formal)
Filtering accuracy (*)	5 μm
Filter area	1,130 mm ²

* Based on PISCO measuring condition.

Blow-off function

Blow-off air rate	0 to 40 l/min [ANR] (Supply pressure: 0.5 MPa)
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* Blow-off air rate varies according to the vacuum port dia. and tube length (piping resistance and others) on vacuum side.

Mechanical pressure sensor specifications

Pressure detection	Diaphragm to microswitch
Pressure setting range	-20 to -80 kPa
Setting mode	Nut rotation (stepless adjustment)
Switch terminal	common, N.O., N.C.
Accuracy	±4 kPa
Hysteresis	16 kPa max
Micro switch	QJ (AM 8100) Matsushita Electric or J- 7 OMRON
Micro switch rating	7 A 250 V AC
Factory default pressure	Approx. -50 kPa

Specifications of Pressure sensor with LED display

■ NPN open collector

Specifications	-NW (2 switch outputs with LED display)	-NA (1 switch output & 1 analog output with LED display)
Current consumption	40 mA	
Pressure detection	Diffused metaloxide semiconductive pressure switch	
Operating press. range	-100 to 0 kPa	
Pressure setting range	-99 to 0 kPa	
Proof pressure	0.2 MPa	
Power requirement	12 to 24 VDC ± 10% Ripple (P-P) 10% max.	
No. of pressure setting	2	1
Operating accuracy	±3% F.S. max. (Standard temp. at 25°C)	
Hysteresis	Fixed (2%F.S. max.)	Variable (about 0 to 15%F.S. max.)
Switch output	NPN open collector output: 30 V 80 mA max., Residual voltage 0.8 V max.	
Analog output	Output voltage	1 to 5 V
	Zero-point voltage	1 ± 0.1 V
	Span voltage	4 ± 0.1 V
	Output current	1 mA max. (load resistance min. 5 kΩ)
	LIN / HYS	±0.5% F.S. max. (Standard temp. at 25°C)
Response	About 2 msec or less	
Indication	0 to - 99 kPa (2 -digit red LED display)	
Display frequency	About 4 times/sec	
Indication accuracy	±3%F.S. ±2 digit max	
Sensor resolution	1 digit	
Operation indicator	SW 1: Red LED turns on when pressure is above setting	Red LED turns on when pressure is above setting
	SW 2: Green LED turns on when pressure is above setting	

* Allowable range of the variation of "Zero point voltage", "Span voltage" and "Pressure setting value" caused by repeated voltage application is ±3% F.S.

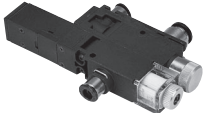
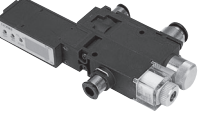
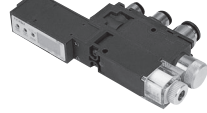
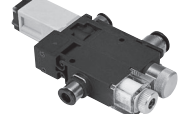
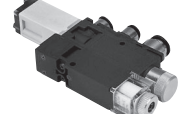
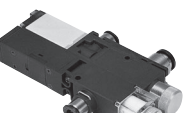
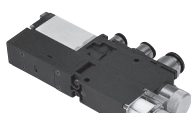
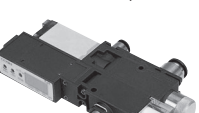
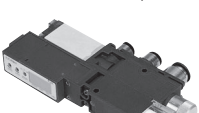
■ PNP open collector

Specifications	-PW (2 switch outputs with LED display)	-PA (1 switch output & 1 analog output with LED display)
Current consumption	40 mA	
Pressure detection	Diffused metaloxide semiconductive pressure switch	
Operating press. range	-100 to 0 kPa	
Pressure setting range	-99 to 0 kPa	
Proof pressure	0.2 MPa	
Power requirement	12 to 24 VDC ± 10% Ripple (P-P) 10% max.	
No. of pressure setting	2	1
Operating accuracy	±3% F.S. max. (Standard temp. at 25°C)	
Hysteresis	Fixed (2%F.S. max.)	Variable (about 0 to 15%F.S. max.)
Switch output	PNP open collector output: 30 V 80 mA max., Residual voltage 0.8 V max.	
Analog output	Output voltage	1 to 5 V
	Zero-point voltage	1 ± 0.1 V
	Span voltage	4 ± 0.1 V
	Output current	1 mA max. (load resistance min. 5 kΩ)
	LIN / HYS	±0.5% F.S. max. (Standard temp. at 25°C)
Response	About 2 msec or less	
Indication	0 to - 99 kPa (2 -digit red LED display)	
Display frequency	About 4 times/sec	
Indication accuracy	±3%F.S. ±2 digit max	
Sensor resolution	1 digit	
Operation indicator	SW 1: Red LED turns on when pressure is above setting	Red LED turns on when pressure is above setting
	SW 2: Green LED turns on when pressure is above setting	

* Allowable range of the variation of "Zero point voltage", "Span voltage" and "Pressure setting value" caused by repeated voltage application is ±3% F.S.

Vacuum Generator Complex Type VK

RoHS2 (2011/65/EU+EU2015/863) compliant

Type	Model code	Type	Model code
Filter VK Atype 	VKA34A-67S-10 VKA34A-678-10 VKB34A-67S-10 VKB34A-678-10 VKM34A-678-1011 VKM34A-T...78-1011	Check valve, Filter VK Btype 	VKA34B-67S-10 VKA34B-678-10 VKB34B-67S-10 VKB34B-678-10 VKM34B-678-1011 VKM34B-T...78-1011
Type	Model code	Type	Model code
Pressure sensor (Mechanical), Filter VK Ctype 	VKA34C-67S-10 VKA34C-678-10 VKB34C-67S-10 VKB34C-678-10 VKM34C-678-1011 VKM34C-T...78-1011	Pressure sensor (Mechanical), Check valve, Filter VK Dtype 	VKA34D-67S-10 VKA34D-678-10 VKB34D-67S-10 VKB34D-678-10 VKM34D-678-1011 VKM34D-T...78-1011
Type	Model code	Type	Model code
Pressure sensor (LED display), Filter VK Etype 	VKA34E-67S-1012 VKA34E-678-1012 VKB34E-67S-1012 VKB34E-678-1012 VKM34E-678-101112 VKM34E-T...78-101112	Pressure sensor (LED display), Check valve, Filter VK Ftype 	VKA34F-67S-1012 VKA34F-678-1012 VKB34F-67S-1012 VKB34F-678-1012 VKM34F-678-101112 VKM34F-T...78-101112
Type	Model code	Type	Model code
Suction solenoid valve, Filter VK Gtype 	VKA34G-67S9-10 VKA34G-6789-10 VKB34G-67S9-10 VKB34G-6789-10 VKM34G-6789-1011 VKM34G-T...789-1011	Suction solenoid valve, Check valve, Filter VK Htype 	VKA34H-67S9-10 VKA34H-6789-10 VKB34H-67S9-10 VKB34H-6789-10 VKM34H-6789-1011 VKM34H-T...789-1011
Type	Model code	Type	Model code
Pressure sensor (Mechanical), Suction solenoid valve, Filter VK Jtype 	VKA34J-67S9-10 VKA34J-6789-10 VKB34J-67S9-10 VKB34J-6789-10 VKM34J-6789-1011 VKM34J-T...789-1011	Pressure sensor (Mechanical), Check valve, Suction solenoid valve, Filter VK Ktype 	VKA34K-67S9-10 VKA34K-6789-10 VKB34K-67S9-10 VKB34K-6789-10 VKM34K-6789-1011 VKM34K-T...789-1011
Type	Model code	Type	Model code
Pressure sensor (LED display), Suction solenoid valve, Filter VK Ltype 	VKA34L-67S9-1012 VKA34L-6789-1012 VKB34L-67S9-1012 VKB34L-6789-1012 VKM34L-6789-101112 VKM34L-T...789-101112	Pressure sensor (LED display), Check valve, Suction solenoid valve, Filter VK Mtype 	VKA34M-67S9-1012 VKA34M-6789-1012 VKB34M-67S9-1012 VKB34M-6789-1012 VKM34M-6789-101112 VKM34M-T...789-101112
Type	Model code	Type	Model code
Blow-off valve (Air-timer), Suction solenoid valve, Filter VK Ptype 	VKA34P-67S9-10 VKA34P-6789-10 VKB34P-67S9-10 VKB34P-6789-10 VKM34P-6789-1011 VKM34P-T...789-1011	Blow-off valve (Air-timer), Press. sensor (Mechanical), Suction solenoid valve, Filter VK Qtype 	VKA34Q-67S9-10 VKA34Q-6789-10 VKB34Q-67S9-10 VKB34Q-6789-10 VKM34Q-6789-1011 VKM34Q-T...789-1011



Notes

* Please select each code referring to the example of model designation. [3]: Code of vacuum characteristic, [4]: Nozzle dia. code, [6]: Vacuum port size code, [7]: Air supply port size, [8]: Exhaust port code, [9]: Solenoid valve type code, [10]: Body color code, [11]: No. of station code, and [12]: Pressure sensor code.

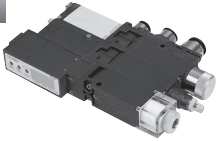
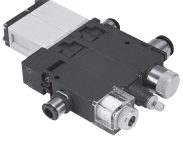
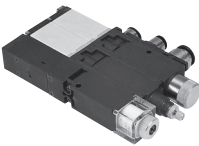
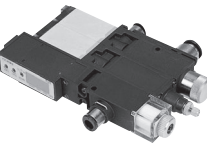
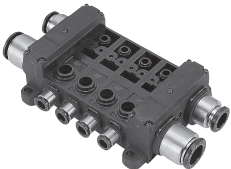


CAD data is available
at PISCO website.



Packaging specifications
1 pc. /bag

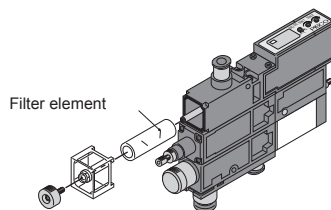
RoHS2 (2011/65/EU+EU2015/863) compliant

Type	Model code	Type	Model code
Blow-off valve (Air-timer), Press. sensor (LED display), Suction solenoid valve, Filter VK R type 	VKA34R-67S9-1012 VKA34R-6789-1012 VKB34R-67S9-1012 VKB34R-6789-1012 VKM34R-6789-101112 VKM34R-T...789-101112	Blow-off valve (Solenoid valve), Suction solenoid valve, Filter VK S type 	VKA34S-67S9-10 VKA34S-6789-10 VKB34S-67S9-10 VKB34S-6789-10 VKM34S-6789-1011 VKM34S-T...789-1011
Type	Model code	Type	Model code
Blow-off valve (Solenoid valve), Press. sensor (Mechanical), Suction solenoid valve, Filter VK T type 	VKA34T-67S9-10 VKA34T-6789-10 VKB34T-67S9-10 VKB34T-6789-10 VKM34T-6789-1011 VKM34T-T...789-1011	Blow-off valve (Solenoid valve), Press. sensor (LED display), Suction solenoid valve, Filter VK W type 	VKA34W-67S9-1012 VKA34W-6789-1012 VKB34W-67S9-1012 VKB34W-6789-1012 VKM34W-6789-101112 VKM34W-T...789-101112
Type	No. of stations	Type	Model code
Manifold-base alone 	2 stations 3 stations 4 stations 5 stations 6 stations 7 stations 8 stations 9 stations 10 stations	Block plate for manifold-base VKM-MB 	VKM-MB-3

*1 Above picture is an example.
*2 Block plate should be purchased separately.

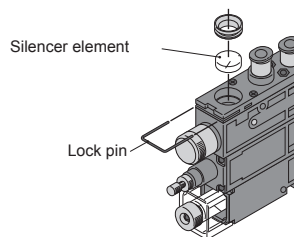
Replacement element

VK Filter element



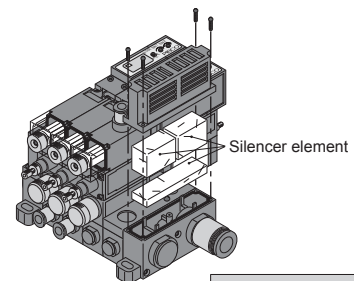
Filter element
Model code
VGFE10

VK Silencer element



Silencer element
Model code
VK-SE1

VKM Silencer element



Silencer element set
Model code
VKM-SET

* Silencer element for VKM is available only in set of elements.
A set includes: VKM-SE1·2pcs + VKM-SE2·1pc.

i Notes

- *1. Please select each code referring to the example of model designation. [3]: Code of vacuum characteristic, [4]: Nozzle dia. code, [6]: Vacuum port size code, [7]: Air supply port size, [8]: Exhaust port code, [9]: Solenoid valve type code, [10]: Body color code, [11]: No. of station code, and [12]: Pressure sensor code.
*2. Please select a body color code for [3] for Block plate referring to the example of model designation.

CAD CAD data is available at PISCO website.

Package Packaging specifications
1 pc./bag
10 pcs./bag: Replacement element for VK
1 set/bag: Replacement element for VKM

Weight List

Combination Code	Stand-alone type (g)		Manifold type (g)	
	VKA...	VKB...	VKM...-S...	VKM...-T...
A	60	60	76	78
B	60	60	76	78
C	79	79	94	96
D	79	79	94	96
E	85	85	100	102
F	85	85	100	102
G	81	81	97	99
H	81	81	97	99
J	100	100	115	117
K	100	100	115	117
L	106	106	121	123
M	106	106	121	123
P	134	134	150	152
Q	153	153	168	170
R	159	159	174	176
S	129	129	144	146
T	147	147	163	165
W	153	153	169	171

Manifold block		Weight (g)
Side block	VKM...-S1...	73
	VKM...-S2...	84
	VKM...-S3...	73
	VKM...-S...	61
Intermediate block	VKM-M...-(without plug)	21
	VKM-MP...-(with plug)	22

Block Plate	Weight (g)
VKM...-MB...	6

Silencer	Weight (g)
Stand-alone, silencer vent	2

Cartridge for stand-alone type	Weight (g)
CJC09-04	3.5
CJC09-06	3.5
CJC09-08	10
CJC14-08	10
CJP09	1.5

Cartridge for manifold type	Weight (g)
CJC18-06	21
CJC18-08	20
CJC18-10	19
CJC18-12	26
CJC18-16	37
CJL18-08	25
CJL18-10	32
CJL18-12	38
CJF18-02	44
CJF18-03	35
CJF18-04	38
CJP18	6

■ Use the following formula to calculate the weight of Vacuum Generator VK.

(Stand-alone or manifold type), combination x quantity) + (vacuum cartridge x quantity) + (supply cartridge x quantity) + (exhaust cartridge x quantity) + Side block

Ex. 1: VKA H 10 W - 06 08 S E - W - NA
(1) (2) (3) (4)

$$153 + 3.5 + 10 + 2 = 168.5 \text{ g}$$

- (1) Stand-alone type: VKA, combination code: W: 153 g
- (2) Cartridge for Vacuum port: CJC 09-06: 3.5 g
- (3) Cartridge for Air supply port: CJC 09-08: 10 g
- (4) Cartridge for Exhaust port: Stand-alone, silencer vent: 2 g

Ex. 2: VKM H 07 P - S6 28 72 E - W 02
(2) (3) (4) (5)
(1)

$$300 + 7 + 40 + 50 + 61 = 458 \text{ g}$$

- (1) Manifold type: VKM...-S..., combination code: P, No. of stations: 2: 150 g x 2 pcs.
- (2) Cartridge for Vacuum port: CJC 09-06: 3.5 g x 2 pcs.
- (3) Cartridge for Air supply port: CJC 18-08: 20 g x 2 pcs.
- (4) Cartridge for Exhaust port: CJF 18-02 + CJP 18: 44 g + 6 g
- (5) Side block: VKM...-S...: 61 g

Ex. 3: Complex combinations

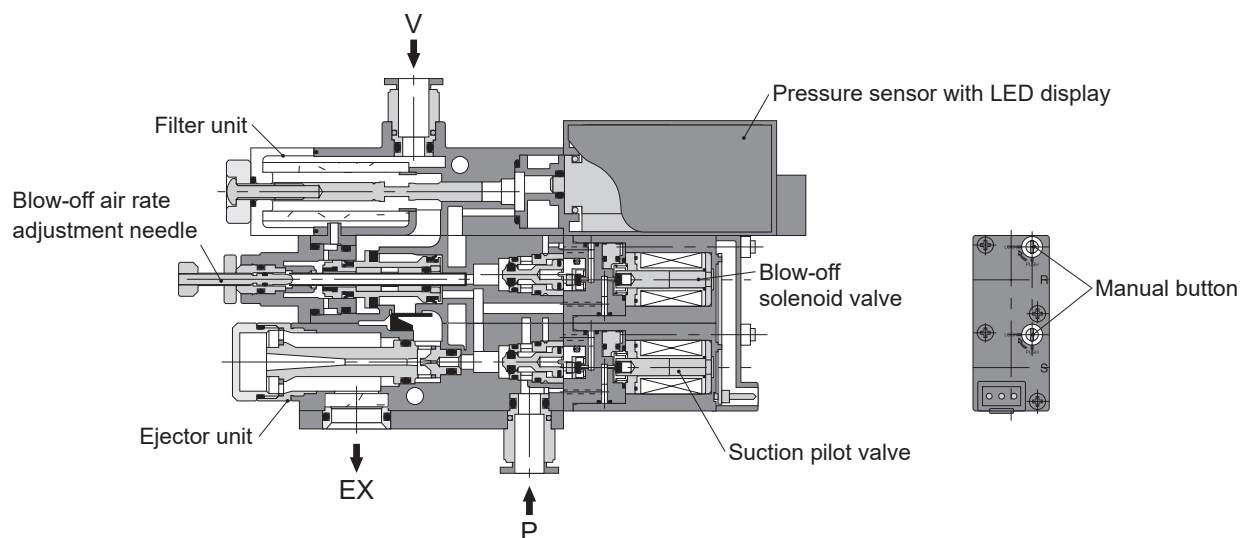
VKM - 00 10 S2 - B 03 (Manifold) ... (1)
VKM H 12 M - T6 00 00 E - B - NW (St.1) ... (2)
VKM L 07 Q - S8 00 00 G - B (St.2) ... (3)
VKM - MB PP - B (St.3) ... (4)

$$109 + 127 + 178 + 28 = 442 \text{ g}$$

- (1) Side block: VKM...-S2... + cartridge for air supply port: CJC 18-10 + plug for air supply port: CJP 18: 84 g + 19 g + 6 g
- (2) Side block: VKM...-T..., combination code: M + cartridge for vacuum port: CJC 09-06: 123 g + 3.5 g
- (3) Side block: VKM...-S..., combination code: Q + cartridge for vacuum port: CJC 09-08: 168 g + 10 g
- (4) Intermediate block (with plug): VKM-MP... + Block plate: VKM-MB: 22 g + 6 g

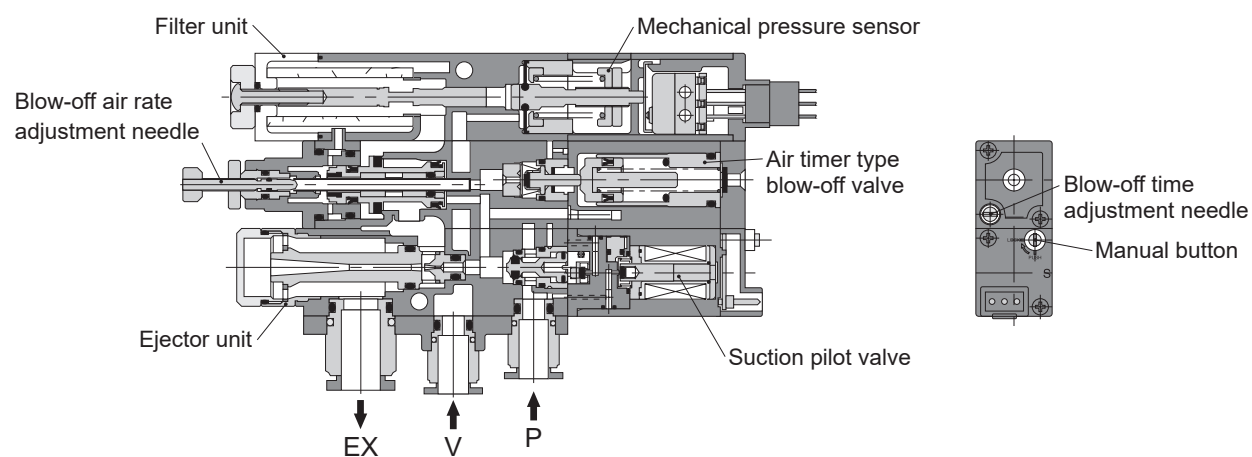
■ Sectional Drawing (Stand-alone type with ports on 2 sides: VKA)

VKA□□□W... With blow-off solenoid valve (Solenoid valve type: normally closed)



■ Sectional Drawing (Stand-alone type with ports on 1 side: VKB)

VKB□□□Q... With air timer type blow-off valve (Solenoid valve type: normally closed)

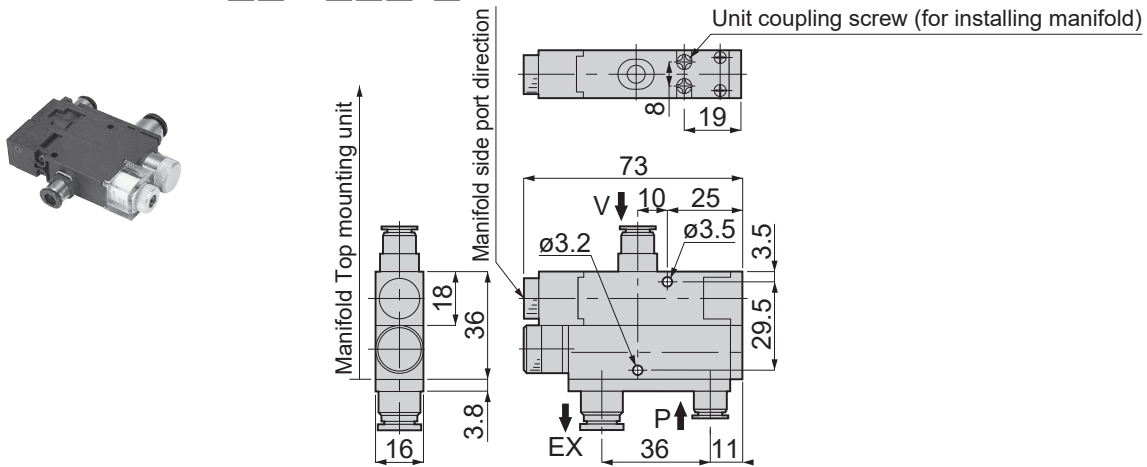


Dimensional Drawings

VKA With Filter

A-B Type

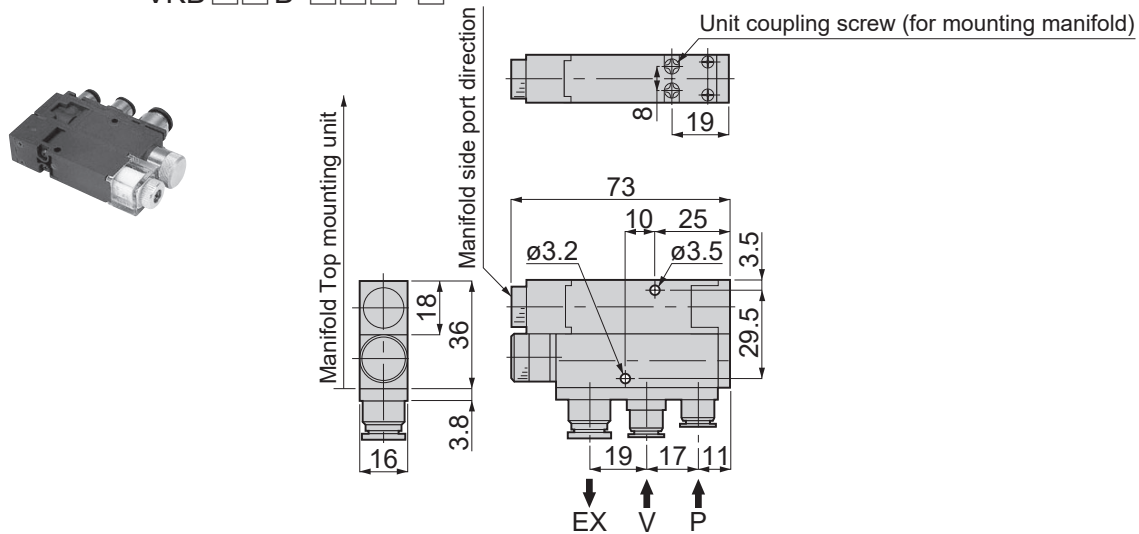
Model code: VKA A- -
 VKA B- -



VKB With Filter

A-B Type

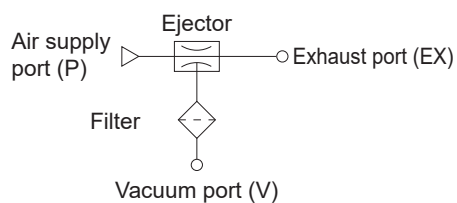
Model code: VKB A- -
 VKB B- -



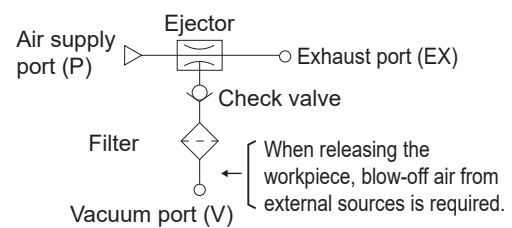
*Refer to the latter pages for the dimensions of air supply port (P), vacuum port (V), and exhaust port (EX).

Common Circuit Diagrams for This Page

Combination code: A type



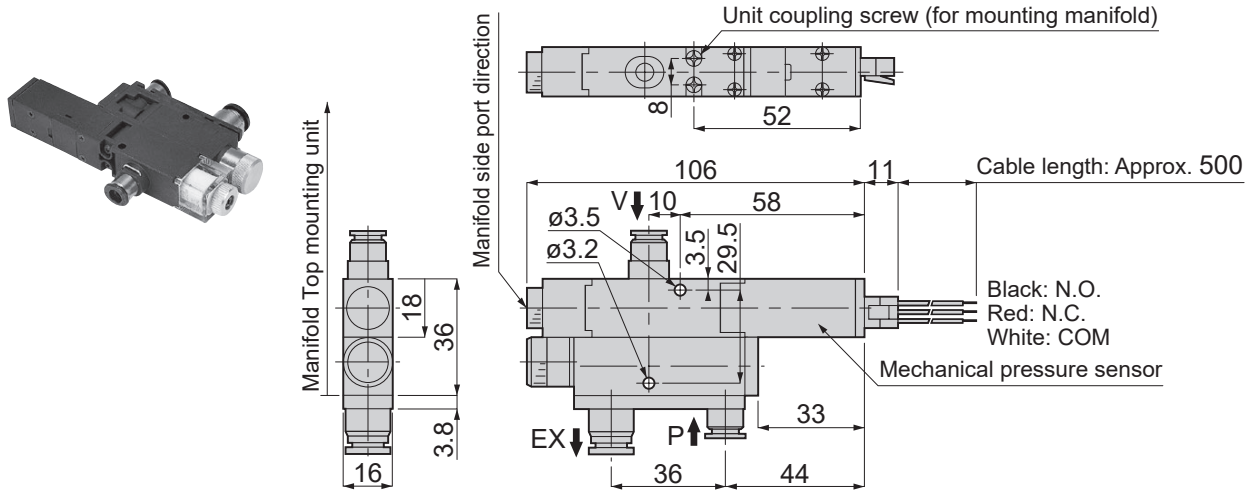
Combination code: B type



VKA**With Mechanical pressure sensor, Filter**

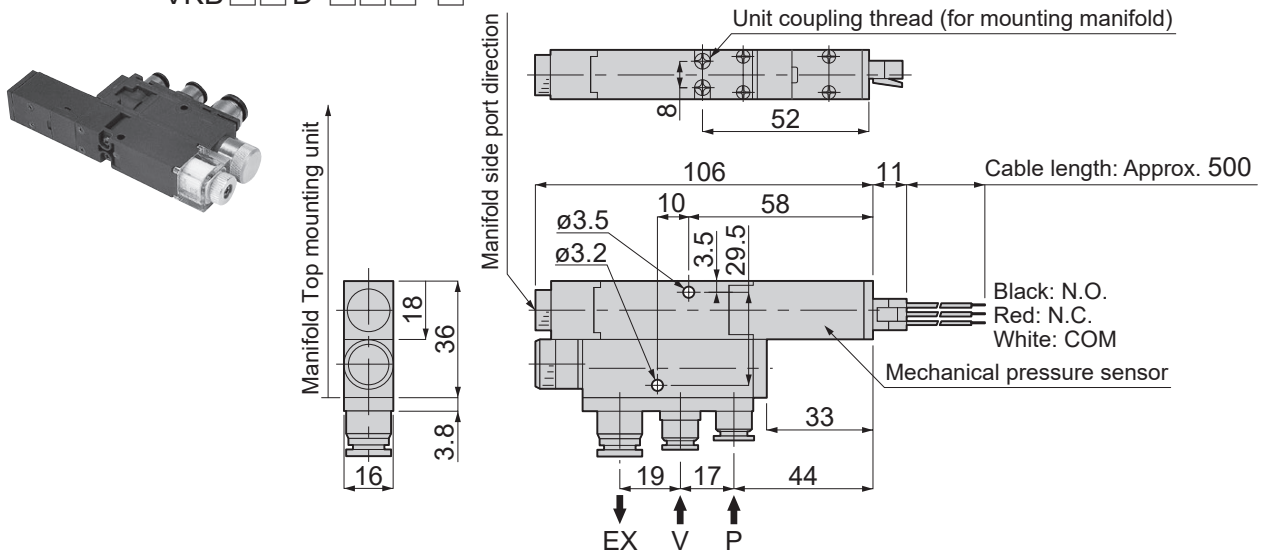
C-D Type

Model code: VKA C- -
 VKA D- -

**VKB****With Mechanical pressure sensor, Filter**

C-D Type

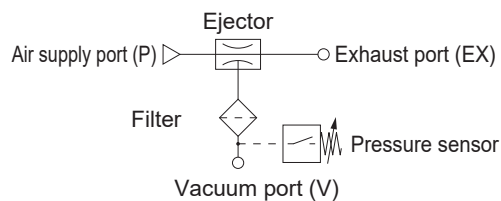
Model code: VKB C- -
 VKB D- -



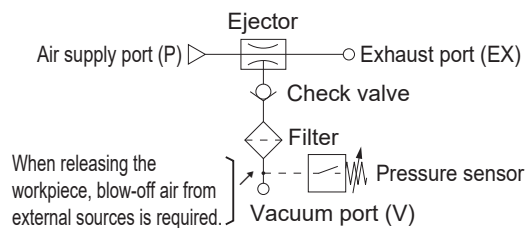
*Refer to the latter pages for the dimensions of air supply port (P), vacuum port (V), and exhaust port (EX).

Common Circuit Diagrams for This Page

Combination code: C type



Combination code: D type

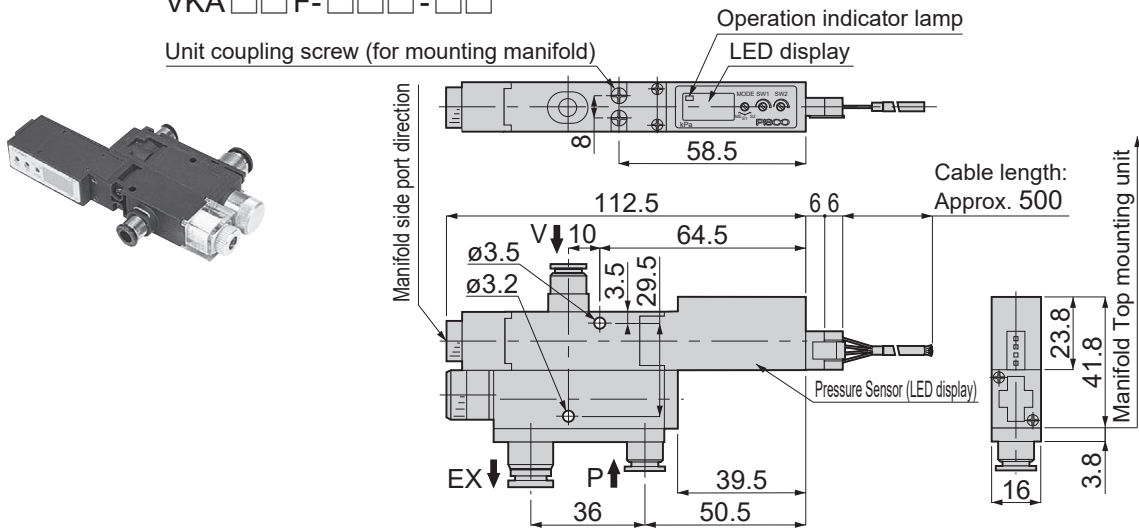


VKA**With Pressure Sensor (LED display), Filter**

E-F Type



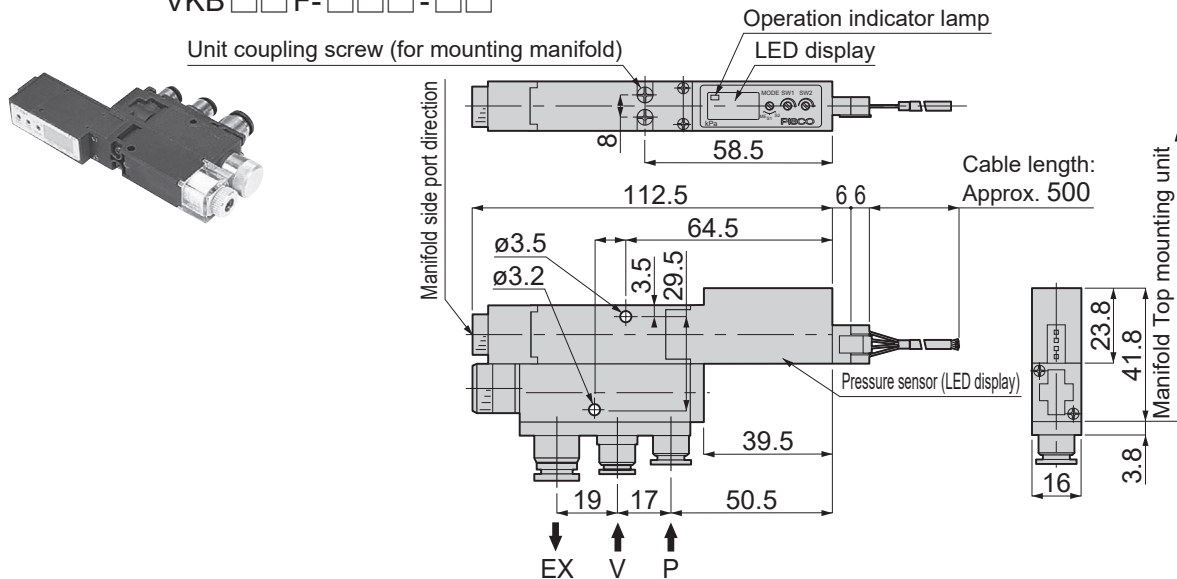
Model code: VKA E- -
 VKA F- -

**VKB****With Pressure sensor (LED display), Filter**

E-F Type



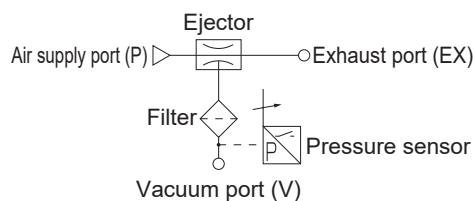
Model code: VKB E- -
 VKB F- -



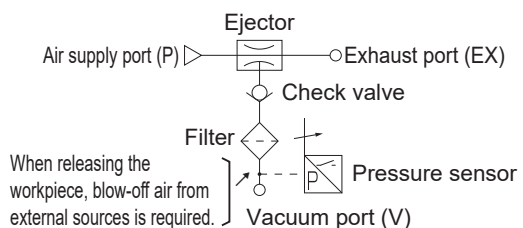
*Refer to the latter pages for the dimensions of air supply port (P), vacuum port (V), and exhaust port (EX).

Common Circuit Diagrams for This Page

Combination code: E type



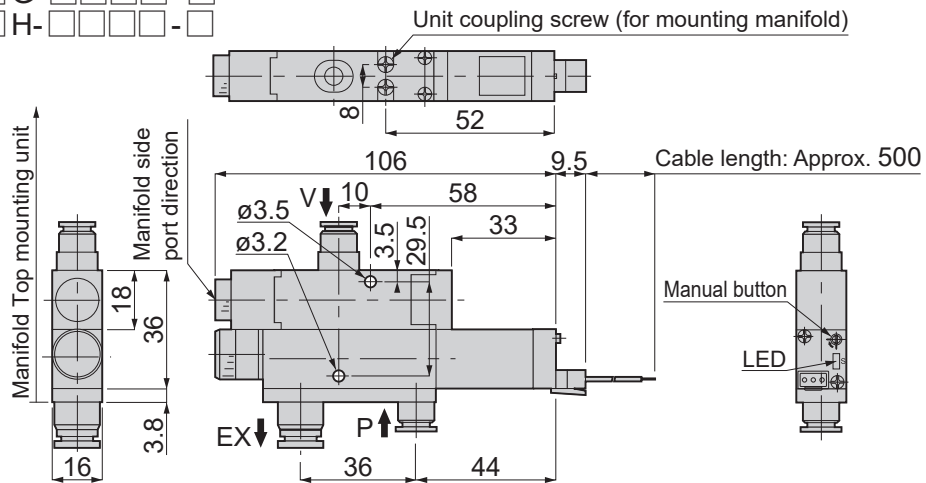
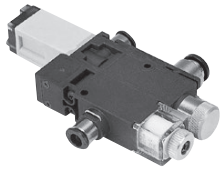
Combination code: F type



VKA**With Suction solenoid valve, Filter**

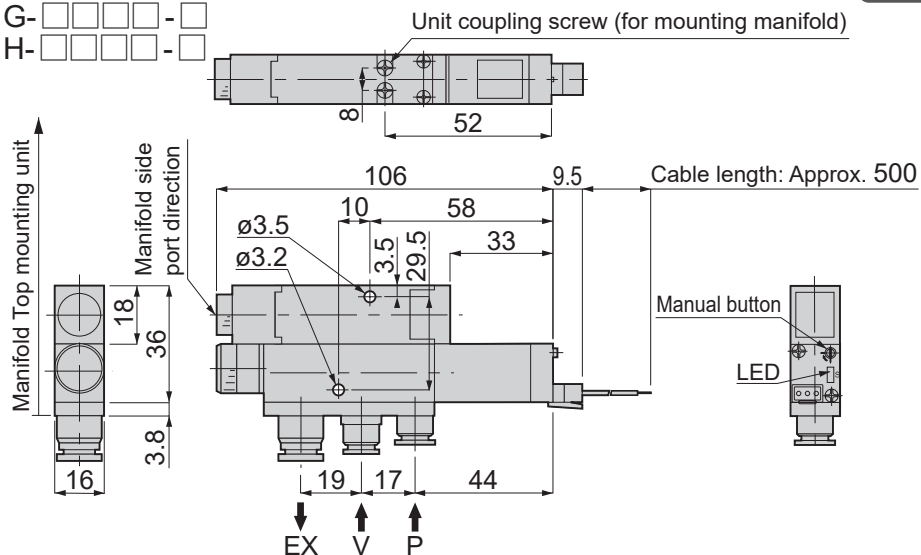
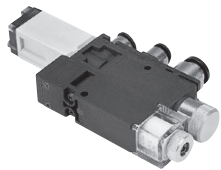
G-H Type

Model code: VKA G- -
 VKA H- -

**VKB****With Suction solenoid valve, Filter**

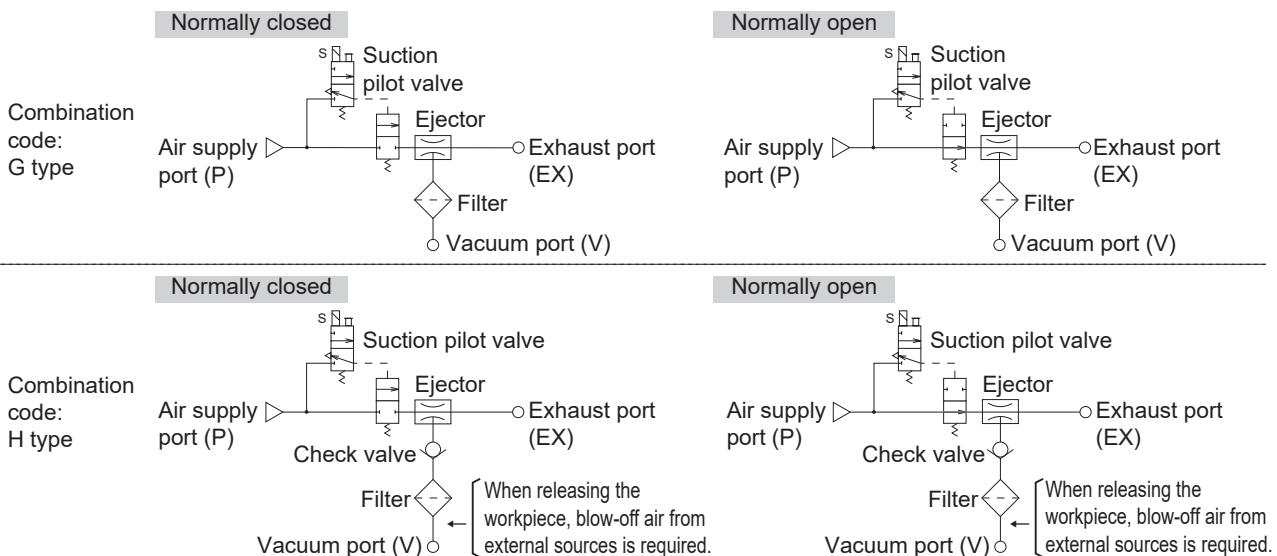
G-H Type

Model code: VKB G- -
 VKB H- -



*Refer to the latter pages for the dimensions of air supply port (P), vacuum port (V), and exhaust port (EX).

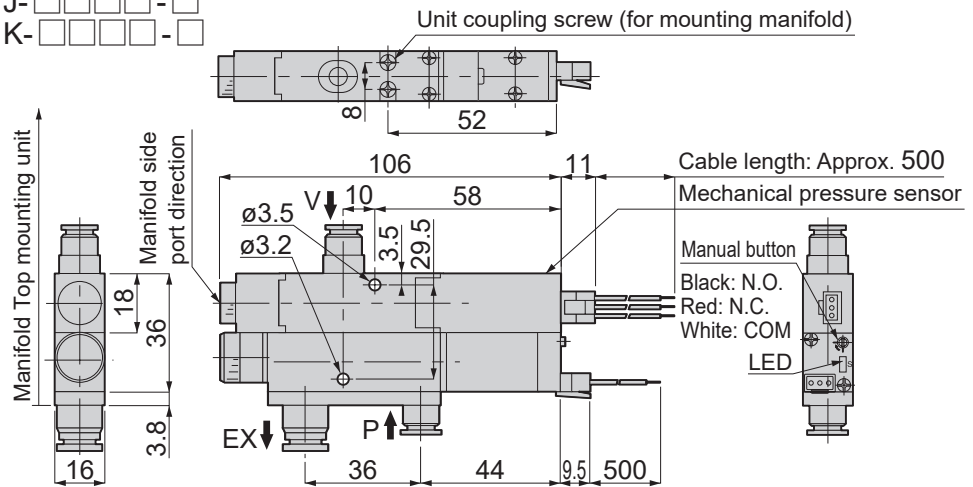
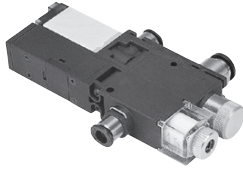
Common Circuit Diagrams for This Page



VKA**With Mechanical pressure sensor, Suction solenoid valve, Filter**

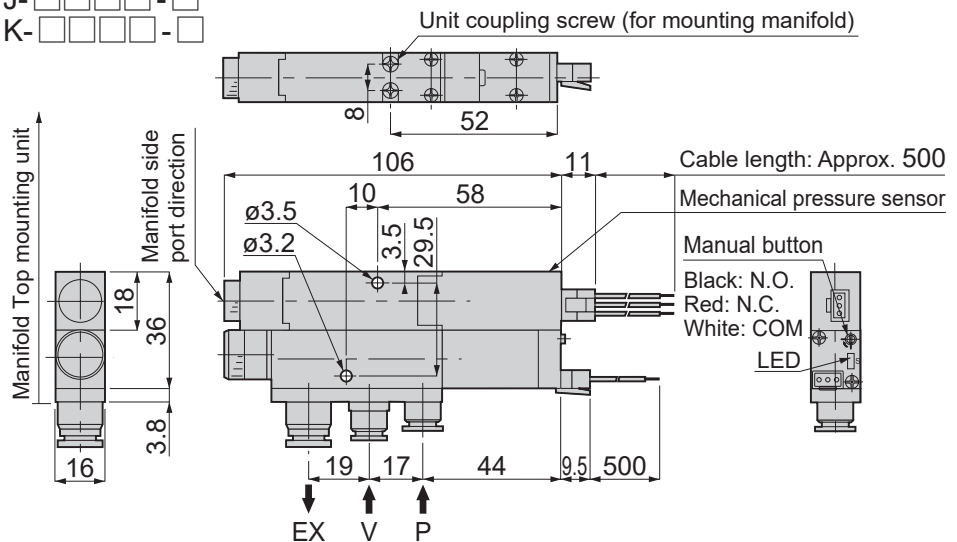
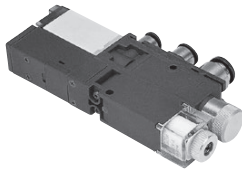
J-K Type

Model code: VKA J- -
 VKA K- -

**VKB****With Pressure sensor (Mechanical), Suction solenoid valve, Filter**

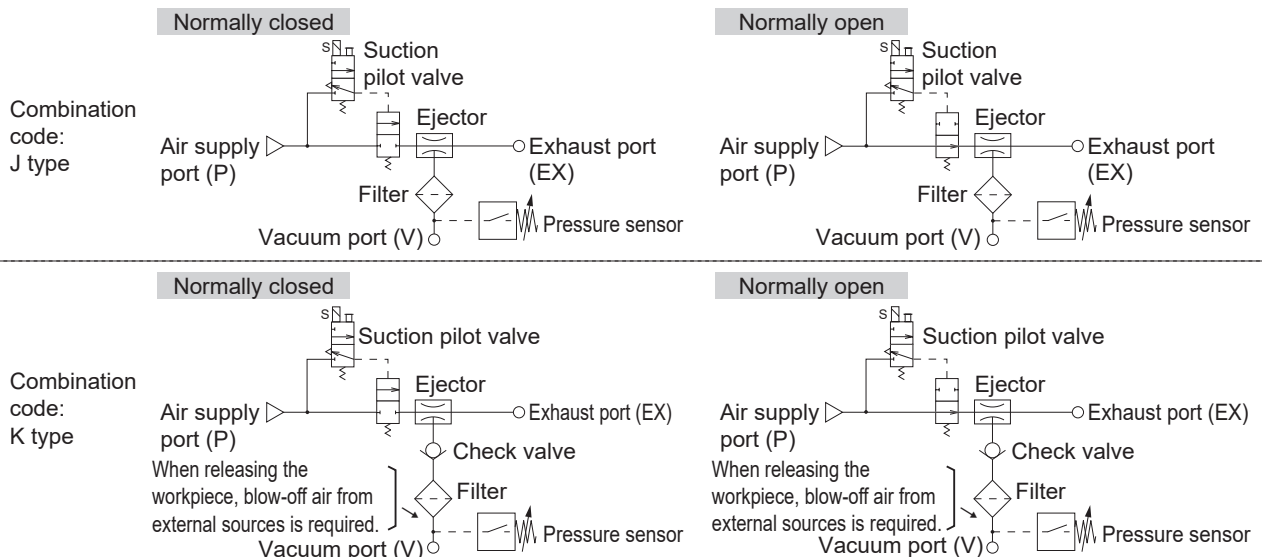
J-K Type

Model code: VKB J- -
 VKB K- -



*Refer to the latter pages for the dimensions of air supply port (P), vacuum port (V), and exhaust port (EX).

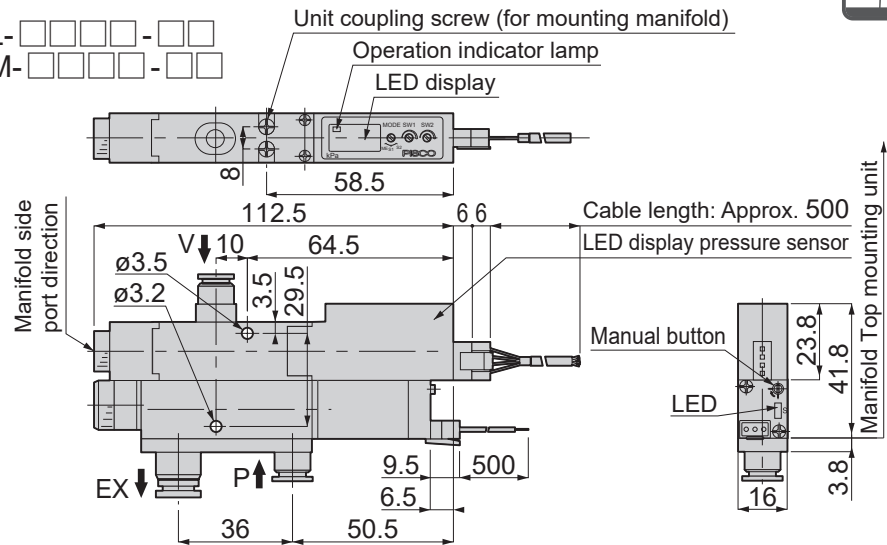
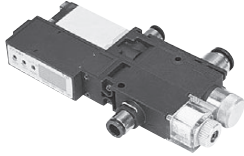
Common Circuit Diagrams for This Page



VKA**With Pressure sensor (LED display), Suction solenoid valve, Filter**

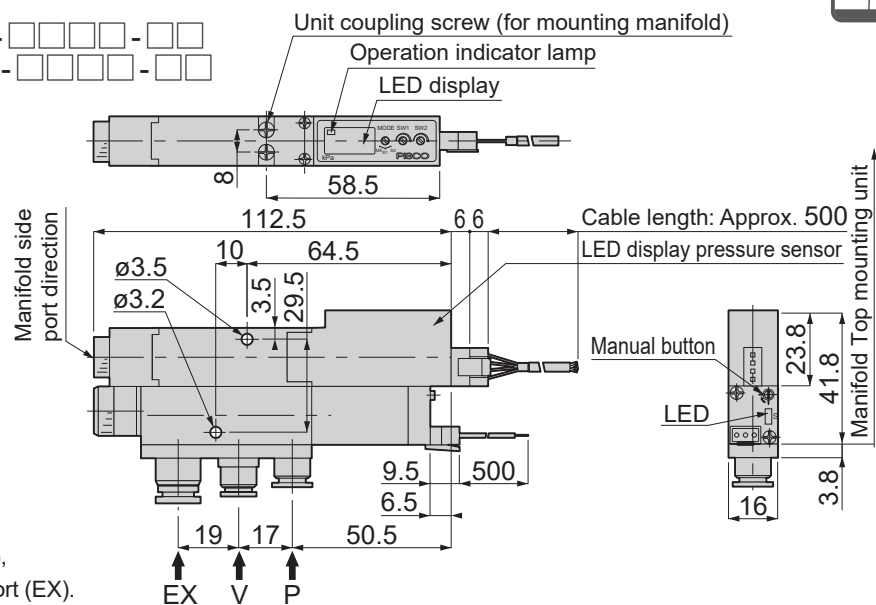
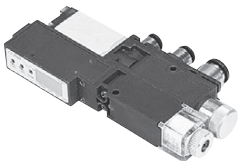
L-M Type

Model code: VKA L- -
 VKA M- -

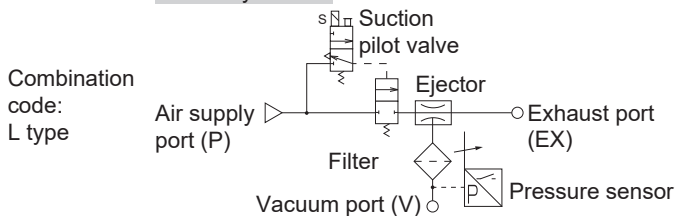
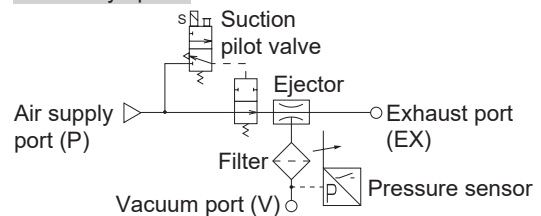
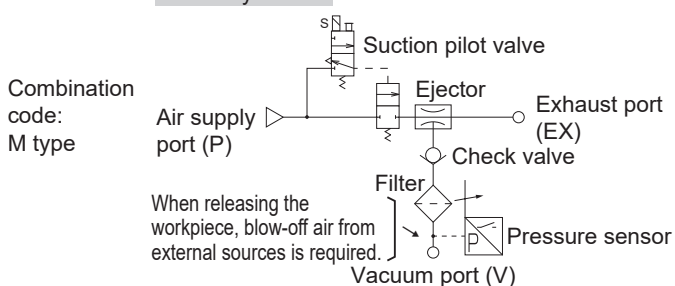
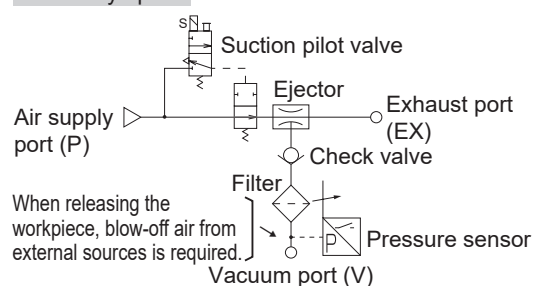
**VKB****With Pressure sensor (LED display), Suction solenoid valve, Filter**

L-M Type

Model code: VKB L- -
 VKB M- -

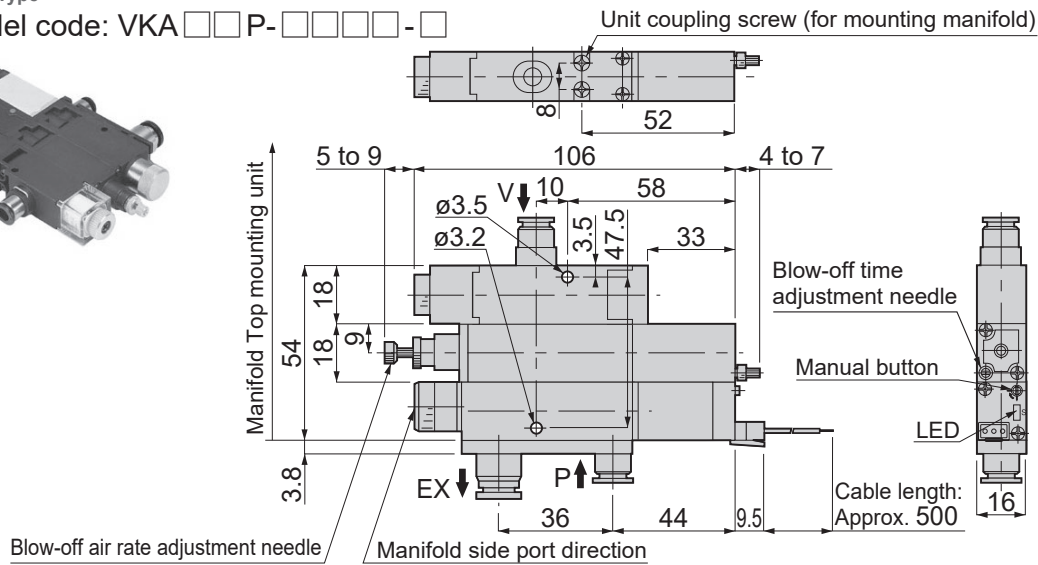
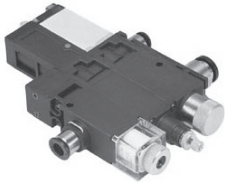


*Refer to the latter pages for the dimensions of air supply port (P), vacuum port (V), and exhaust port (EX).

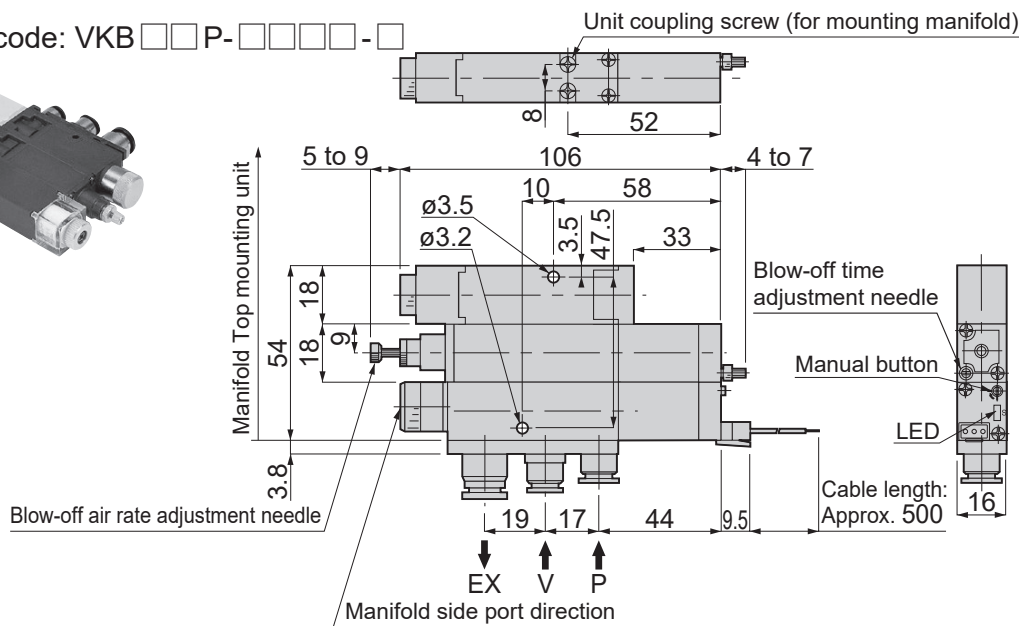
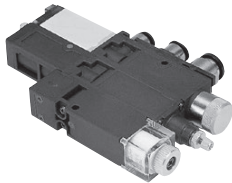
Common Circuit Diagrams for This Page**Normally closed****Normally open****Normally closed****Normally open**

VKA**With Blow-off valve (Air-timer), Suction solenoid valve, Filter**

P Type

Model code: VKA P- - **VKB****With Blow-off valve (Air-timer), Suction solenoid valve, Filter**

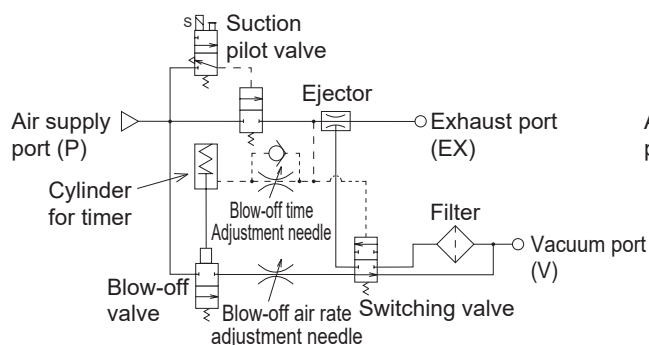
P Type

Model code: VKB P- - 

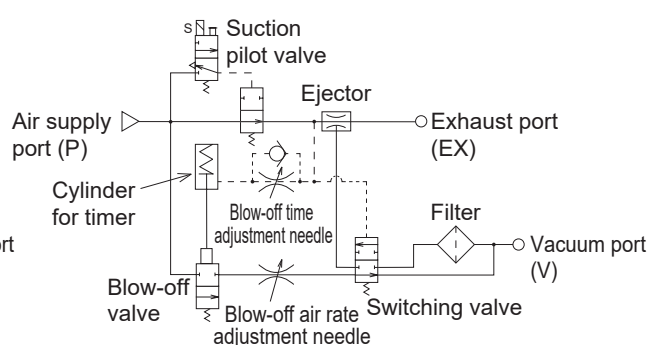
*Refer to the latter pages for the dimensions of air supply port (P), vacuum port (V), and exhaust port (EX).

Common Circuit Diagrams for This Page

Normally closed



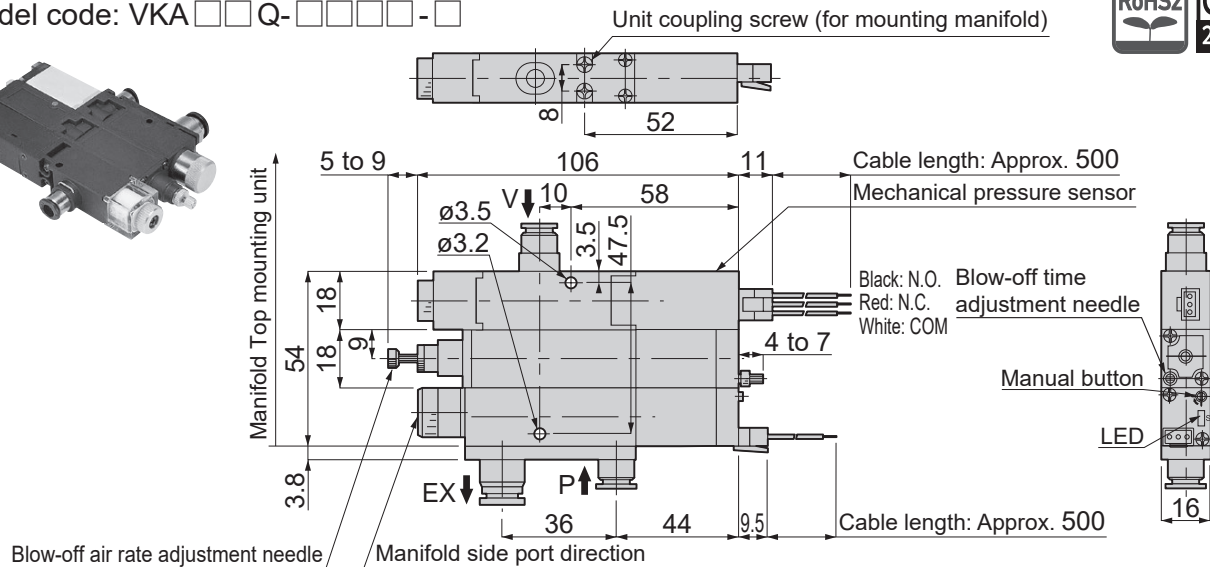
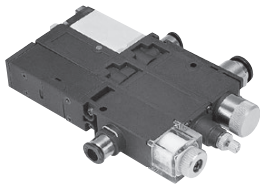
Normally open



VKA**With Blow-off valve (Air-timer), Mechanical press. sensor, Suction solenoid valve, Filter**

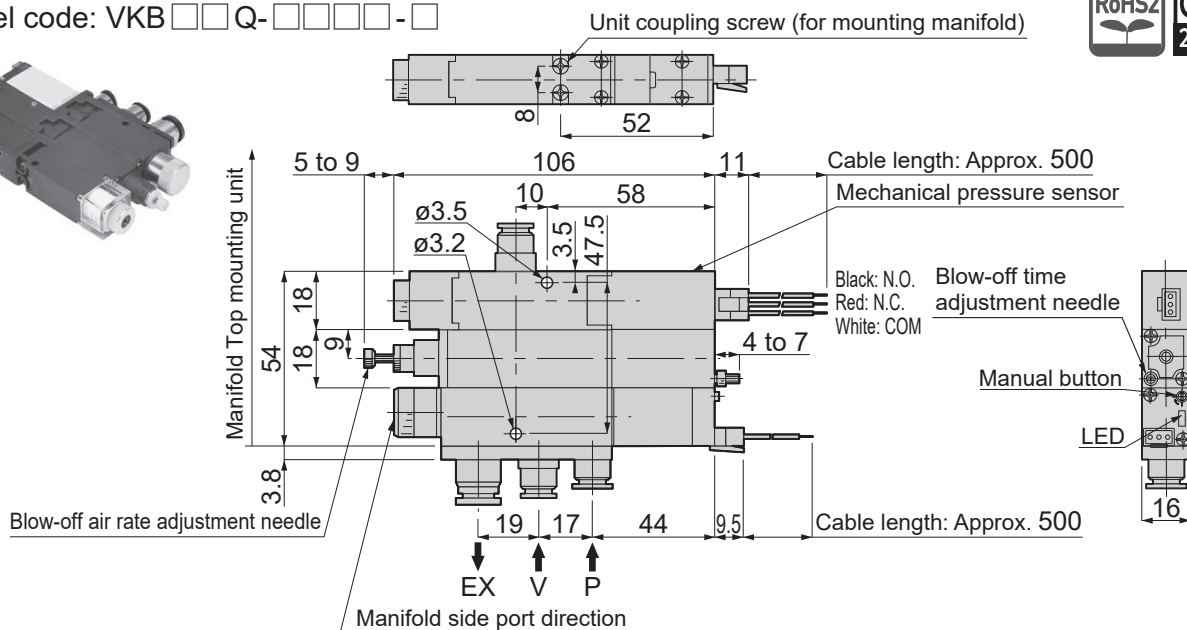
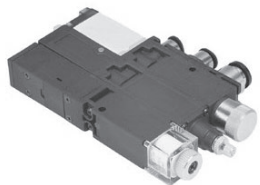
Q Type

Model code: VKA □□ Q-□□□□ -□

**VKB****With Blow-off valve (Air-timer), Mechanical press. sensor, Suction solenoid valve, Filter**

Q Type

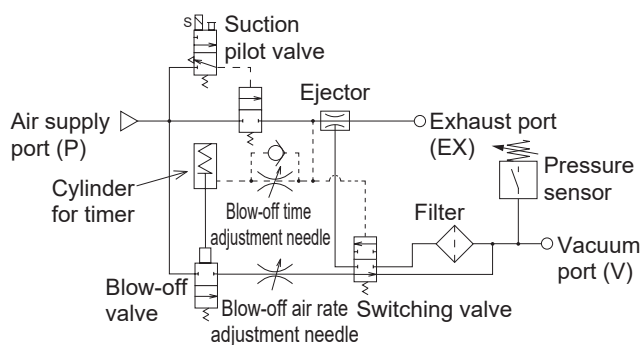
Model code: VKB □□ Q-□□□□ -□



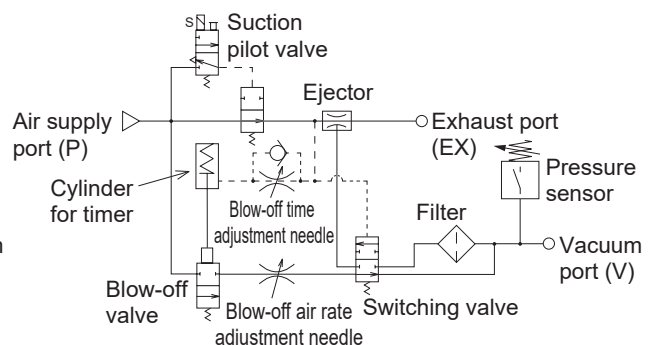
*Refer to the latter pages for the dimensions of air supply port (P), vacuum port (V), and exhaust port (EX).

Common Circuit Diagrams for This Page

Normally closed



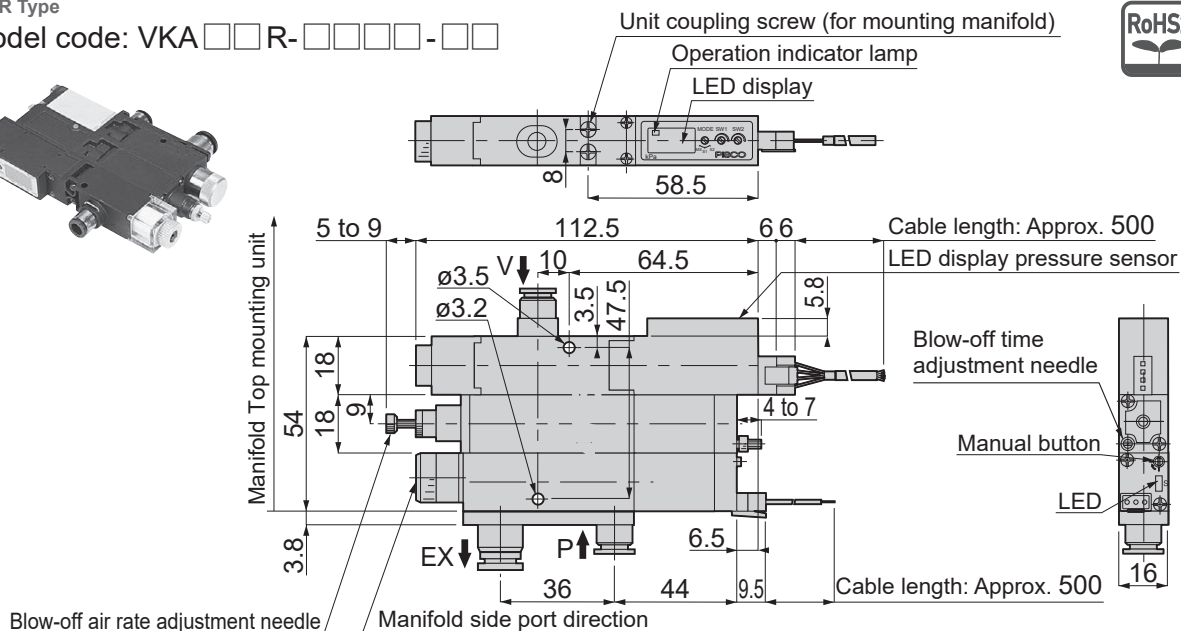
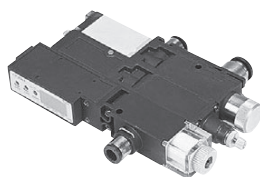
Normally open



VKA**With Blow-off valve (Air-timer), Press. sensor (LED display), Suction solenoid valve, Filter**

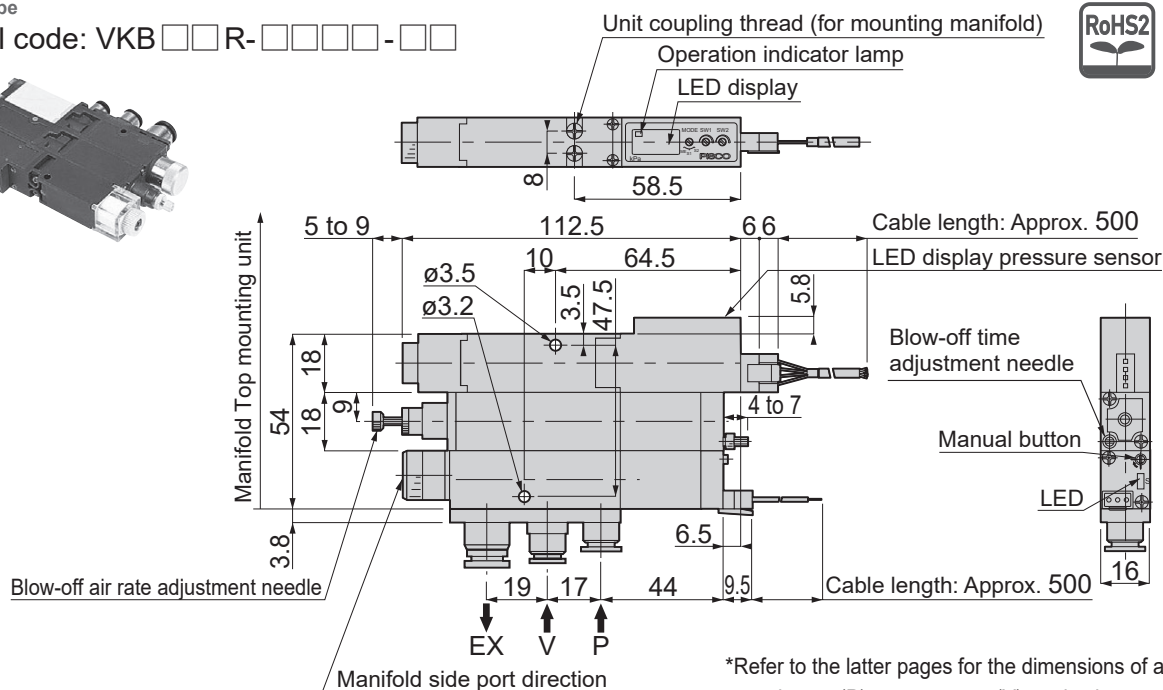
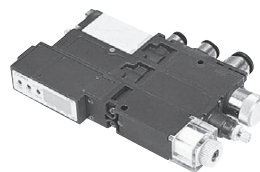
R Type

Model code: VKA □□ R-□□□□ - □□

**VKB****With Blow-off valve (Air-timer), Press. sensor (LED display), Suction solenoid valve, Filter**

R Type

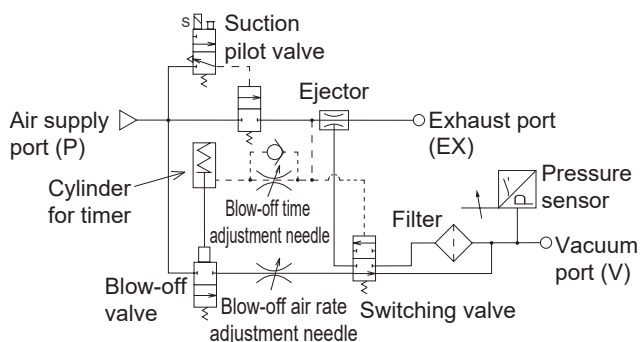
Model code: VKB □□ R-□□□□ - □□



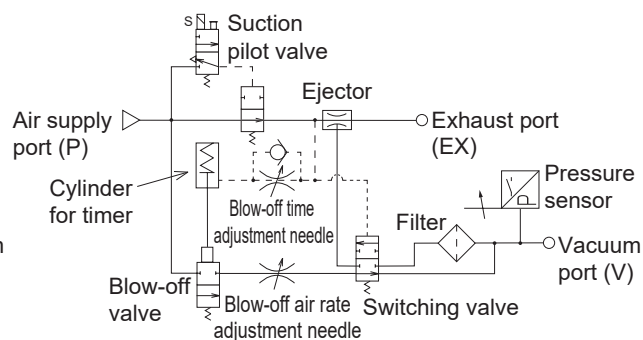
*Refer to the latter pages for the dimensions of air supply port (P), vacuum port (V), and exhaust port (EX).

Common Circuit Diagrams for This Page

Normally closed

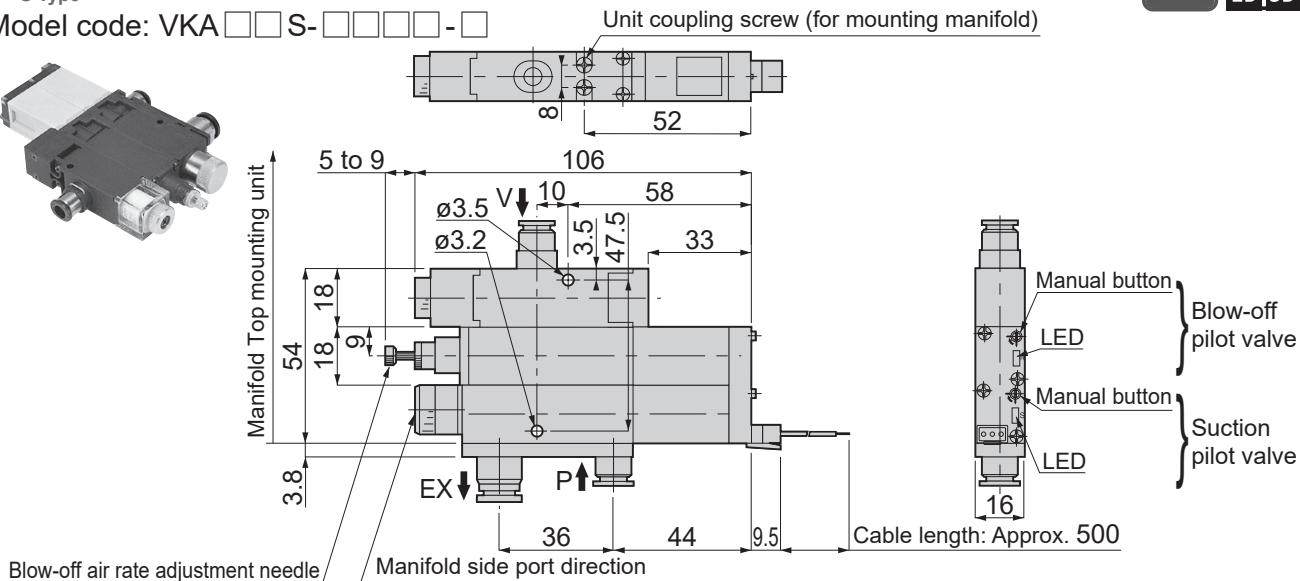
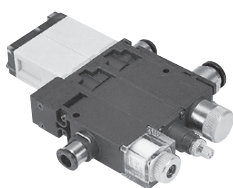


Normally open



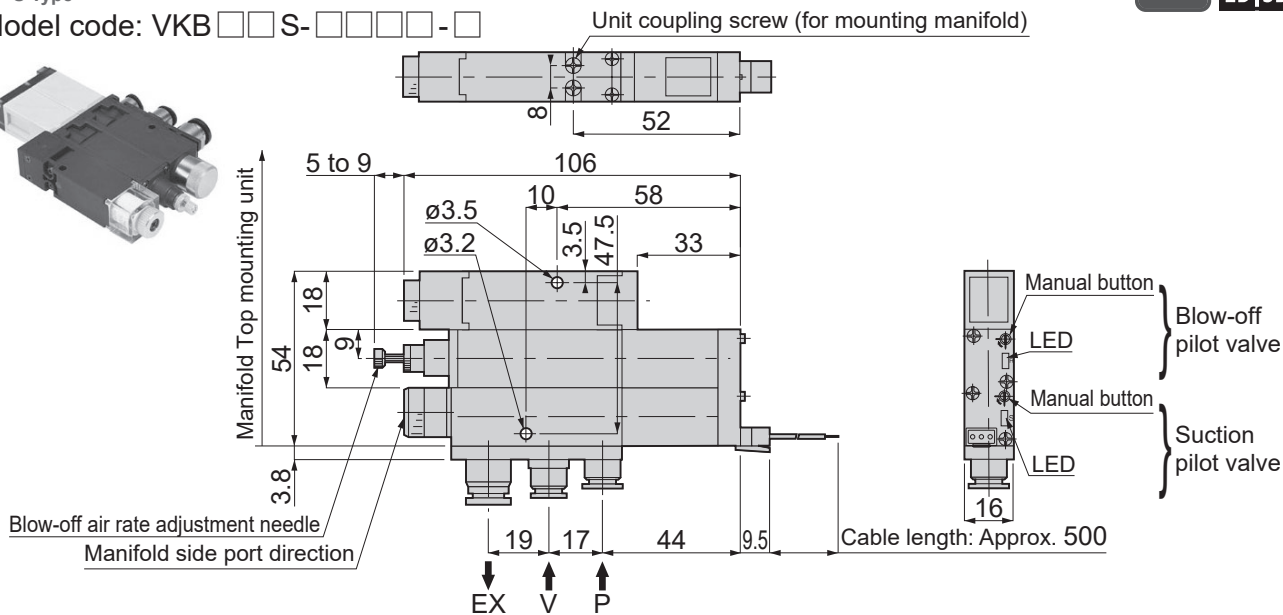
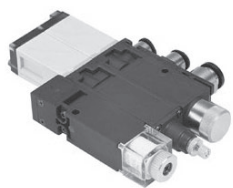
CAD
2D | 3D

Unit coupling screw (for mounting manifold)

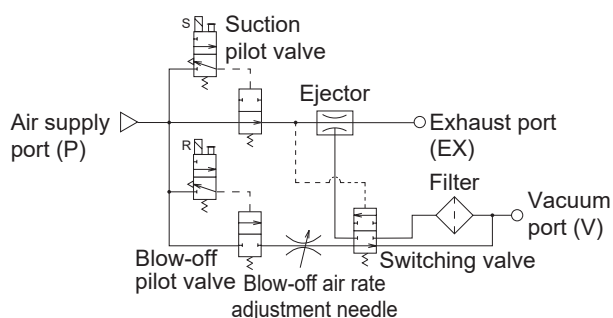
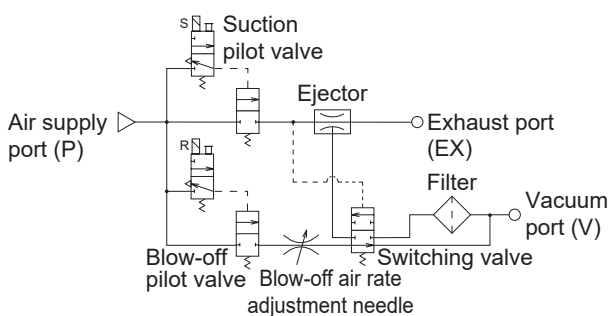
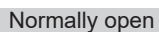


CAD
2D | 3D

Unit coupling screw (for mounting manifold)



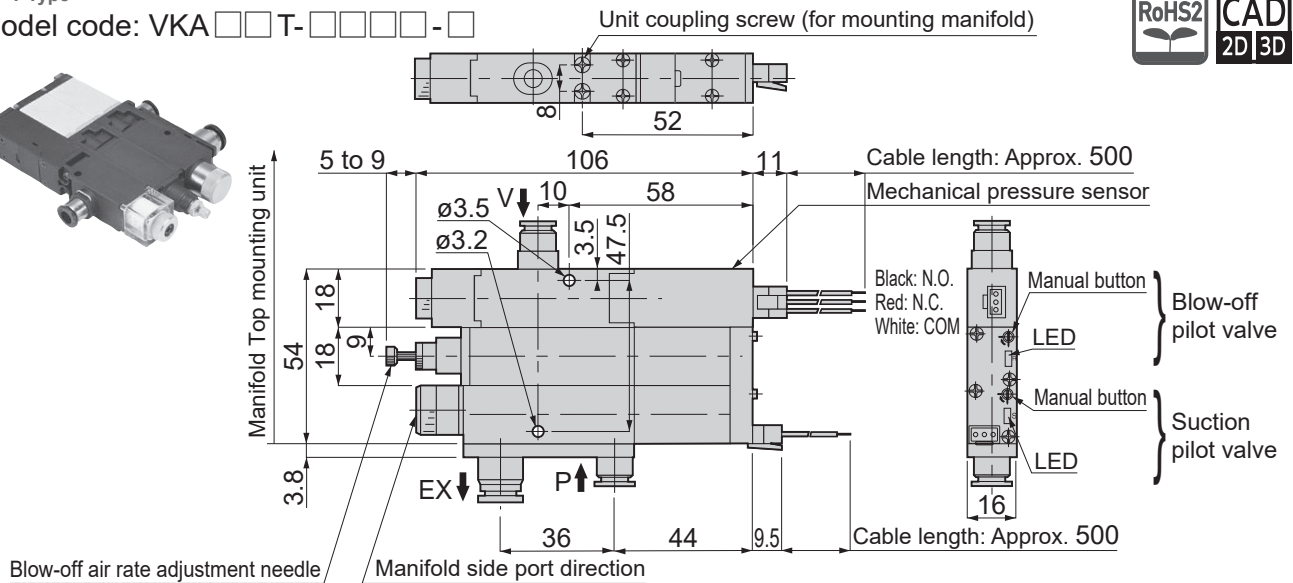
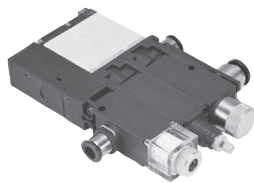
Common Circuit Diagrams for This Page



VKA**With Blow-off valve (Solenoid valve), Mechanical press. sensor, Suction solenoid valve, Filter**

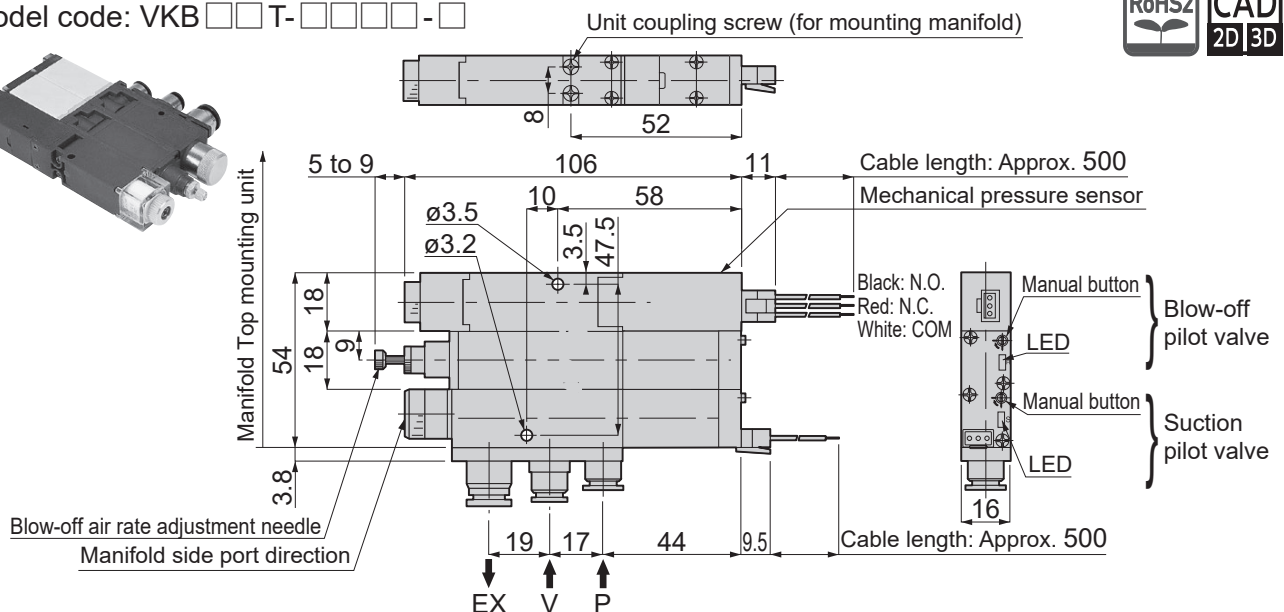
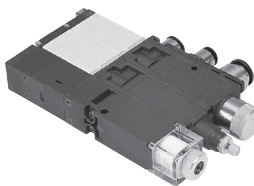
T Type

Model code: VKA □□ T- □□□□ - □

**VKB****With Blow-off valve (Solenoid valve), Mechanical press. sensor, Suction solenoid valve, Filter**

T Type

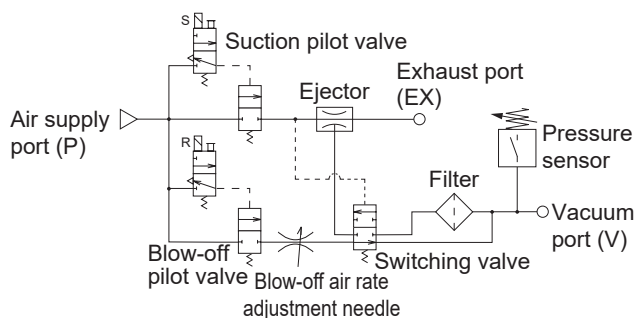
Model code: VKB □□ T- □□□□ - □



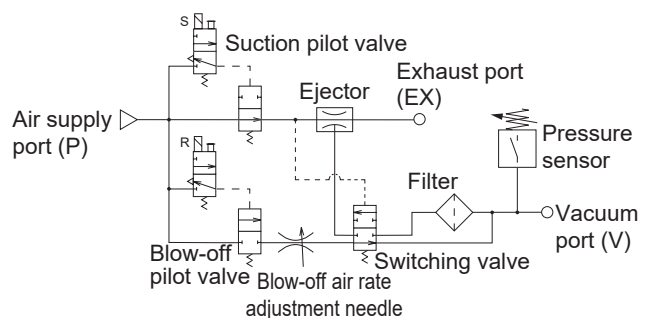
*Refer to the latter pages for the dimensions of air supply port (P), vacuum port (V), and exhaust port (EX).

Common Circuit Diagrams for This Page

Normally closed



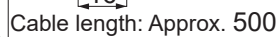
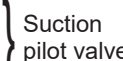
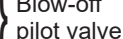
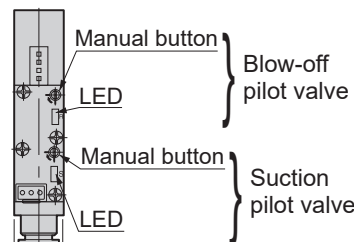
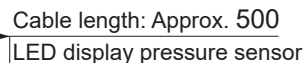
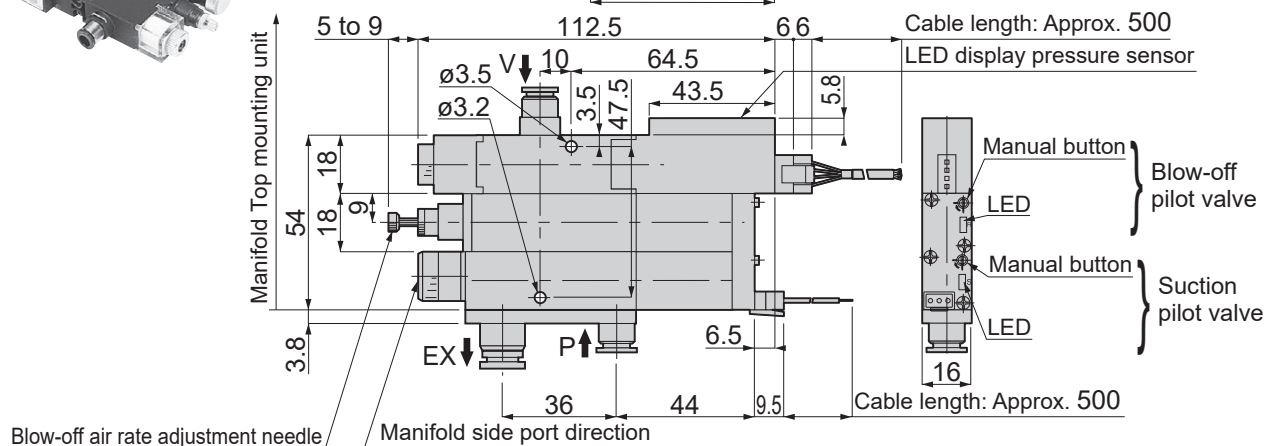
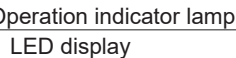
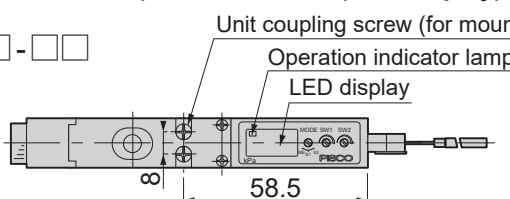
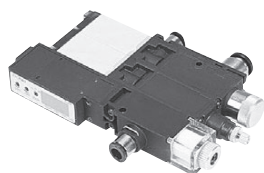
Normally open



With Blow-off valve (Solenoid valve), Press. sensor (LED display), Suction solenoid valve, Filter

W Type

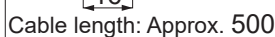
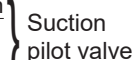
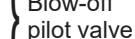
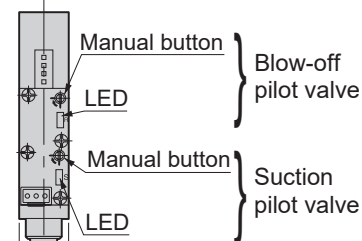
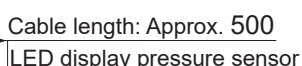
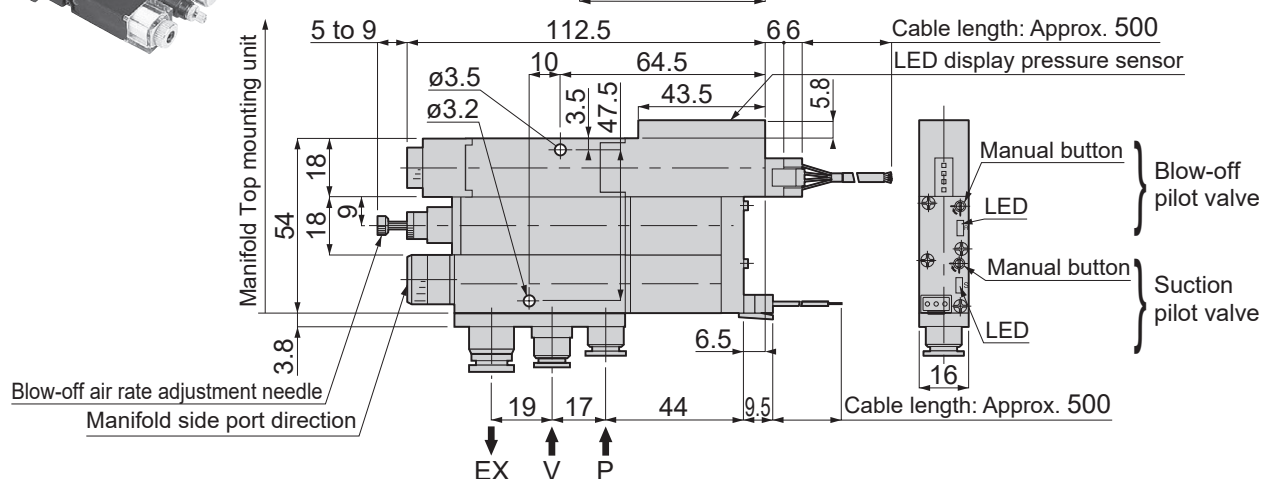
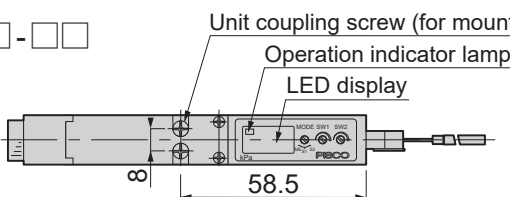
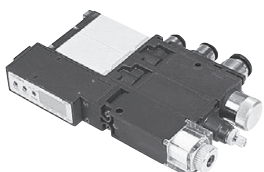
Model code: VKA T- -



With Blow-off valve (Solenoid valve), Press. sensor (LED display), Suction solenoid valve, Filter

W Type

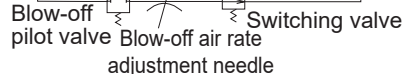
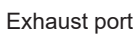
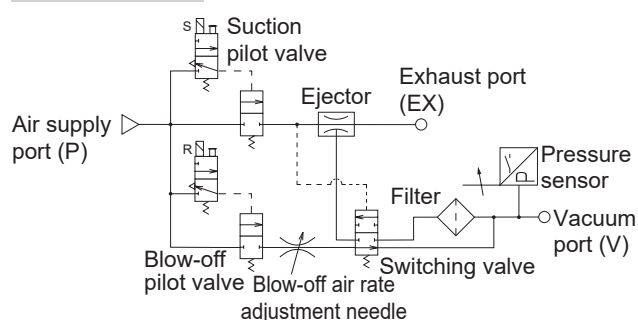
Model code: VKB T- -



*Refer to the latter pages for the dimensions of air supply port (P), vacuum port (V), and exhaust port (EX).

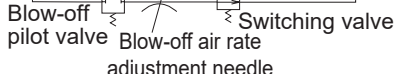
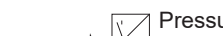
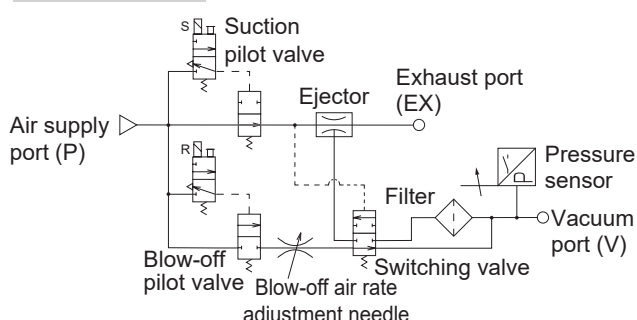
Common Circuit Diagrams for This Page

Normally closed



- Blew on air rate adjustment needle

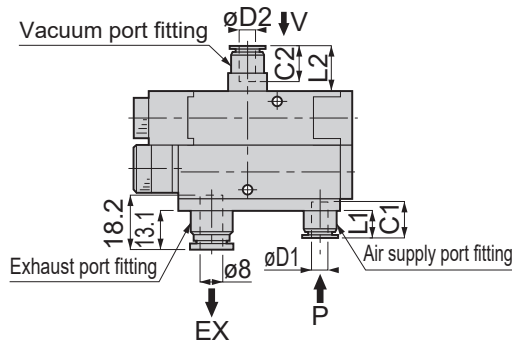
Normally open



- BLOW-Off all rate adjustment needle

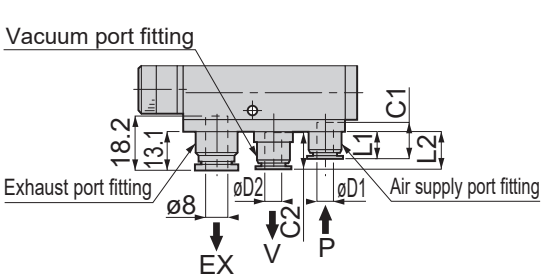
Fitting Part Dimensions

Air supply port, Vacuum port, and Exhaust port for VKA



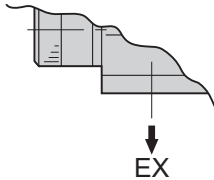
Unit: mm				Unit: mm			
	Tube O.D. øD	L1	C1		Tube O.D. øD	L2	C2
P port	4(5/32)	5.8	10.9	V port	4(5/32)	11.3	10.9
	6	8.7	11.7		6	14.2	11.7
	1/4	16	17		1/4	21.5	17
	8(5/16)	17.3	18.2		8(5/16)	22.8	18.2

Air supply port, Vacuum port, and Exhaust port for VKB

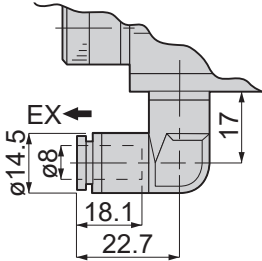


Unit: mm				Unit: mm			
	Tube O.D. øD	L1	C1		Tube O.D. øD	L2	C2
P port	4(5/32)	5.8	10.9	V port	4(5/32)	9.5	10.9
	6	8.7	11.7		6	12.4	11.7
	1/4	16	17		1/4	19.7	17
	8(5/16)	17.3	18.2		8(5/16)	21	18.2

Silencer (Exhaust) for VKA/VKB



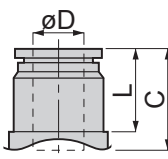
Exhaust Fitting (Elbow type) for VKA/VKB



Technical drawings of the Top mounting unit. The top drawing is a side view showing dimensions for a unit with n stations. Key dimensions include a total width of 26.8, a mounting flange width of 26, and a central body width of $16.2n + 32$. The bottom drawing is a top view showing the unit's profile with a height of 20.8 and a mounting flange height of 11.8. It also shows the silencer and block plate mounting example.

■ Fitting Part Dimensions for Air Supply Port

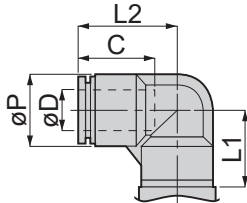
Straight type



Unit: mm

Tube O.D. øD	L	C
6(1/4)	11.1	17
8(5/16)	12.2	18.2
10(3/8)	14.7	20.7
12	18.8	23.3
1/2	18.6	23.1

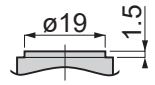
Elbow type



Unit: mm

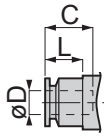
Tube O.D. øD	L1	L2	øP	C
8(5/16)	17	22.7	14.5	18.1
10(3/8)	21	26.2	17.5	20.2
12	23	29.4	21	23.4
1/2	23	29.7	21	23.7

Plug type



■ Fitting Part Dimensions for Vacuum Port

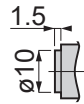
Straight type



Unit: mm

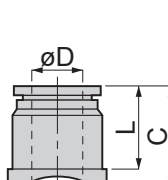
Tube O.D. øD	L	C
4(5/32)	5.8	10.9
6	8.7	11.7
(1/4)	16	17
8(5/16)	17.3	18.2

Plug type



■ Fitting part Dimensions for Exhaust Port

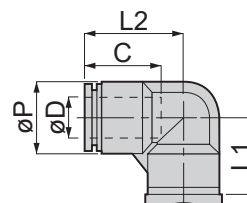
Straight type



Unit: mm

Tube O.D. øD	L	C
8(5/16)	12.2	18.2
10(3/8)	14.7	20.7
12	18.8	23.3
1/2	18.6	23.1
16(5/8)	23.9	24.8

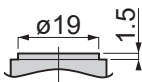
Elbow type



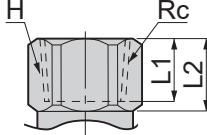
Unit: mm

Tube O.D. øD	L1	L2	øP	C
8(5/16)	17	22.7	14.5	18.1
10(3/8)	21	26.2	17.5	20.2
12	23	29.4	21	23.4
1/2	23	29.7	21	23.7

Plug type



Female thread type



Unit: mm

Rc	L1	L2	Hex. H
Rc1/4(1/4NPT)	11	14	22
Rc3/8(3/8NPT)	12	14	22
Rc1/2	13	17	24
1/2NPT	13	17	25.4