

Vacuum Generator

ECV

Maximum vacuum flow: -92Kpa

HANWHA



General

Product characteristics

- * Energy efficient nozzle technology enables high suction rates while minimizing compressed air loss consumption
- * Compact, lightweight, can be installed directly on the grasping system
- * Single L-bracket, integrated DIN rail mounting, centralized gas supply
- * ECV-180M-S effectively reduces noise, with A minimum noise value of 60[dB(A)]

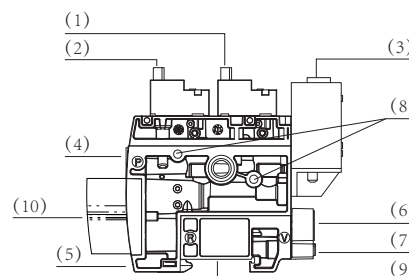


ECV-180M-S

ECV-180M

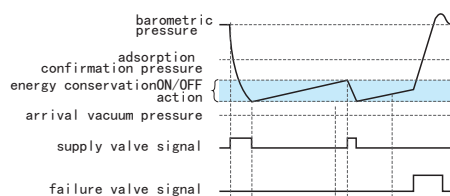
Product structure

- * "Build vacuum" valve (1)
- * "Quick Release" valve (2)
- * LED display vacuum pressure switch (3)
- * Air intake P: G1/8 (4)
- * Air Intake & Muffler Cover (5)
- * Vacuum port V: G1/8 (6)
- * Exhaust adjustment screws (7)
- * Mounting holes (8)
- * Optional rail mounting (9)
- * Enhanced muffler cover (10)

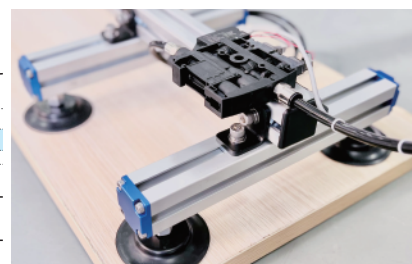


Product advantages

- * Pressure switch with energy-saving function minimizes compressed air consumption by 90% (according to our measurement conditions)
- * The ON/OFF action of the supply valve can be switched automatically within the set value range
- * The exhaust noise of the vacuum generator is also reduced in the energy-saving state



output action mode



* Vacuum generator ECV-180 application example

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ECV-180M Ordering NO

ECV	180M	10	N
1	2	3	4

1-Series	2-Models	3-Specification
ECV	180M 180M-S	10 15 GH GM
	Low noise	1.0nozzle 1.5nozzle High vacuum Low supply voltage

4-Vacuum Pressure switch	
N	NPN No energy saving function
P	PNP No energy saving function
NE	NPN With energy-saving function
PE	PNP With energy-saving function
	With energy-saving function without vacuum switch

ECV-180M Technical Data

Models	inlet pressure [Bar]	Inspiratory air consumption [L/Min]	Air consumption by blowing [L/Min]	Vacuum pressure reached [-KPa]	Maximum vacuum flow [L/Min]	* Noise at maximum vacuum [dB (A)]
ECV-180M-10	4.3	45	60	85	36.1	64
ECV-180M-15	4.3	100	60	85	65.5	68
ECV-180M-GH	5	26.4	60	92	45	64
ECV-180M-GM	3.2	27.6	60	90	41	64
ECV-180M-10-S	4.3	45	60	85	36.1	60
ECV-180M-15-S	4.3	100	60	85	65.5	65
ECV-180M-GH-S	5	26.4	60	92	45	60
ECV-180M-GM-S	3.2	27.6	60	90	41	60

* For details see < Noise Decibel Diagram >

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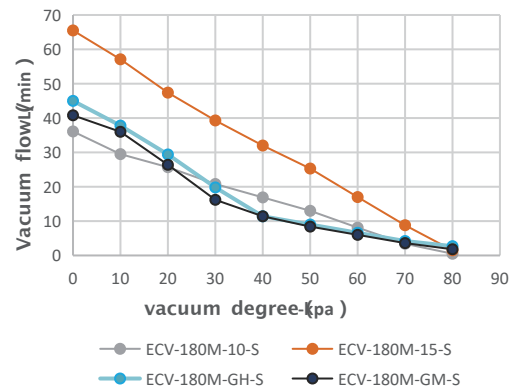
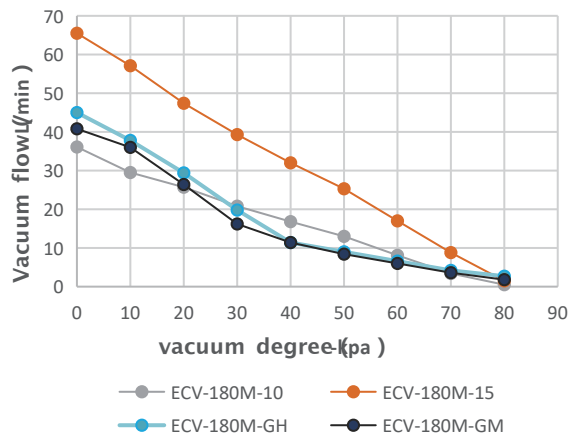
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Vacuum flow (L/min) with different vacuum degree (-KPa)

Models	0	10	20	30	40	50	60	70	80
ECV-180M-10	36.1	29.5	25.7	20.8	16.9	13	8.1	3.4	0.5
ECV-180M-15	65.5	57.1	47.4	39.3	32	25.3	17	8.8	1.5
ECV-180M-GH	45	37.8	29.4	19.8	11.4	9	6.6	4.2	2.7
ECV-180M-GM	40.8	36	26.4	16.2	11.4	8.4	6	3.6	1.8
ECV-180M-10-S	36.1	29.5	25.7	20.8	16.9	13	8.1	3.4	0.5
ECV-180M-15-S	65.5	57.1	47.4	39.3	32	25.3	17	8.8	1.5
ECV-180M-GH-S	45	37.8	29.4	19.8	11.4	9	6.6	4.2	2.7
ECV-180M-GM-S	40.8	36	26.4	16.2	11.4	8.4	6	3.6	1.8



Vacuum Generator ECV

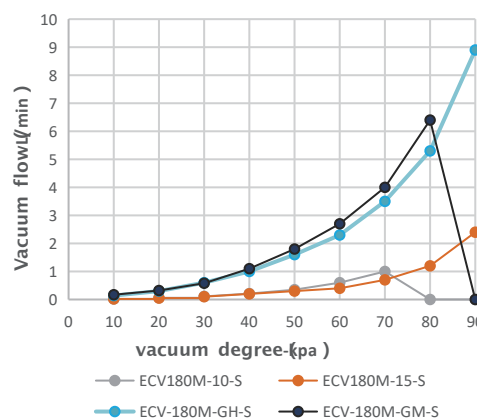
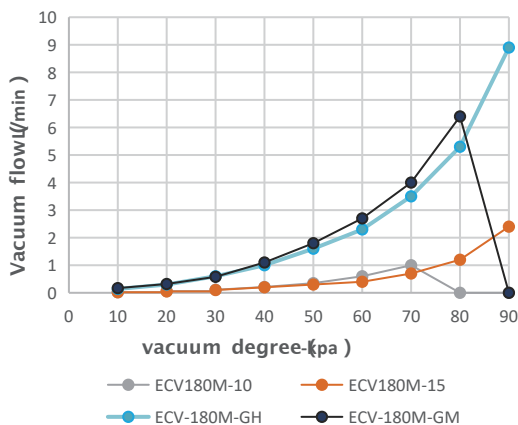


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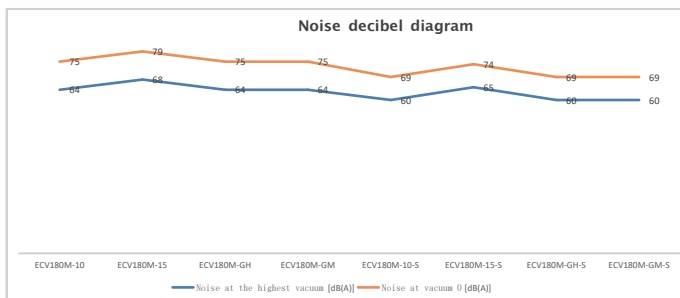
Pumping time with different vacuum (-KPa) (S/L)

Models	10	20	30	40	50	60	70	80	90
ECV-180M-10	0.02	0.06	0.11	0.21	0.35	0.6	1	0	0
ECV-180M-15	0.02	0.05	0.1	0.2	0.3	0.4	0.7	1.2	2.4
ECV-180M-GH	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8
ECV-180M-GM	36	36	36	36	36	36	36	36	36
ECV-180M-10-S	0.02	0.06	0.11	0.21	0.35	0.6	1	0	0
ECV-180M-15-S	0.02	0.05	0.1	0.2	0.3	0.4	0.7	1.2	2.4
ECV-180M-GH-S	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8
ECV-180M-GM-S	36	36	36	36	36	36	36	36	36



ECV-180M/ECV-180M-S Noise decibels of vacuum generators [dB(A)]

Models	Noise at the highest vacuum [dB(A)]	Noise at vacuum 0 [dB(A)]
ECV-180M-10	64	75
ECV-180M-15	68	79
ECV180M-GH	64	75
ECV180M-GM	64	75
ECV-180M-10-S	60	69
ECV-180M-15-S	65	74
ECV180M-GH-S	60	69
ECV180M-GM-S	60	69



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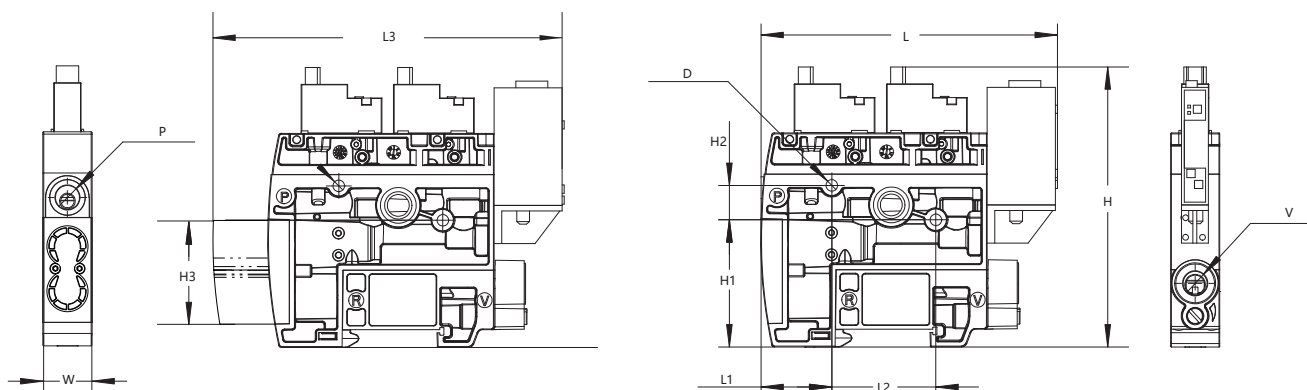
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ECV-180M Design Data



ECV-180M/ECV-180M-S

Size[mm]

Models	L	L1	L2	L3	H	H1	H2	H3	W	D	P	V
ECV-180M-**	108.5	25.9	38.1	/	102.5	46.55	12.6	/	18	2-φ4.2	G1/8"	G1/8"
ECV-180M-**-S	108.5	25.9	38.1	128	102.5	46.55	12.6	38	18	2-φ4.2	G1/8"	G1/8"



Solenoid Valve Technical Data

Item	Technical parameter number	Project	Technical parameter number
Type	Two-position tee	Port type	T102-BL-B
Working medium	Compressed air, inert gas	Electrical interface mode	Right Angle (L-shaped)
Ambient temperature	-10°C~+80°C	Standard voltage	DC 24V
Working pressure	0~7bar	Allowable voltage fluctuation	Plus or minus 10%
On-current duration	ED 100%	Maximum operating frequency	10 Hz
Insulation class	H	Service life	More than 50 million times
Class of protection	IP50		

* Supply air containing foreign matter, moisture, oil, condensate, etc., may lead to poor operation of supply valve and damage valve. Therefore, please set up air purification components in the upstream of the product, and carry out regular maintenance, and fully manage the supply air.

* Please set the air filter and oil mist separator upstream of the product (especially the oil mist separator must be installed in high-frequency occasions)

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Pressure Switch Technical Data

Model number	P93	
Rated pressure range	-100.0-100.0kpa	
Set pressure range	-105.0-105.0kpa	
Pressure resistance	500kpa	
Applicable gas	Air, non-corrosive, non-flammable	
The pressure unit is set to a minimum scale	Kpa	0.1
	Kgf/cm2	0.001
	Bar	0.001
	Psi	0.01
	Inhg	0.1
	Mmhg	1
Supply voltage	24V DC±10%, wave crest value below 10%	
Current consumption	≤40mA (off load)	
Switching output	Action display light output mode	NPN or PNP collector output
	Maximum load current	125mA
	Maximum supply voltage	24V DC
control input	Internal pressure drop	≤1.5V
		NPN type
		Low level input (SPST or electronic contact)
		Level voltage: below 0.4V DC, input time above 10ms
		PNP type
	High level input (SPST or electronic contact)	
	Level voltage: below 20-24V DC, input time above 10ms	
Solenoid valve drives maximum current	200mA@24V DC max	
repeatability	±0.2% F.S. ±1 digit	
Switching reaction time	≤2.5ms	
	(Error prevention function: 2.5ms, 20ms, 100ms, 500ms, 1000ms and 1999ms optional)	
Short-circuit protection	OUT switch: Yes, vacuum solenoid valve (V-Sol)/Broken vacuum solenoid valve (D-Sol) : No	
reveal	31/2-bit LED 7-segment display (red) (sampling rate 5 times/SEC)	
Display accuracy	±2% F.S. ±1 digit	
Motion display light	OUT Green/V-Sol control input: red (vacuum mark)	



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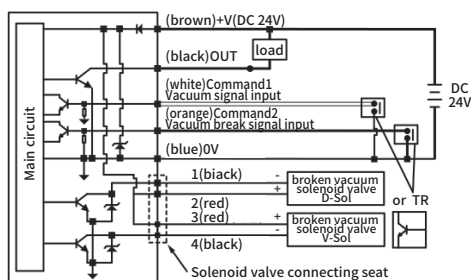


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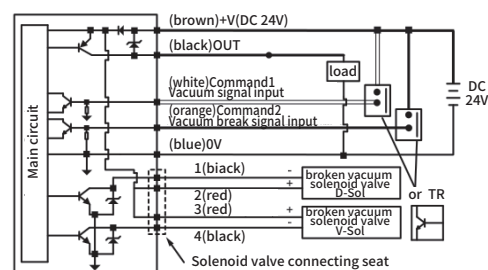
Pressure Switch Technical Data

Model number	P93	
Environmental requirement	Class of protection	IP40
	Ambient temperature	Action: 0-50°C storage -10-60°C (no water dew, no freezing)
	Ambient humidity	Operation and storage: 35-80% RH (no water)
	Withstand voltage	1000VAC 1 min (between lead and housing)
	Insulation impedance	Above 500MΩ (500V DC) (between the lead and the housing)
	Vibration resistance	Complex amplitude 1.5mm or 10G, 10HZ-150HZ-10HZ every minute, 2 hours in each direction X,Y,Z
	Impact resistance	900m/s ² (100G), 3 times in each direction X,Y,Z
Temperature characteristic	±2% F.F. Comparison reference temperature 25°C (0-50°C temperature range)	
Intake form	90 ° inlet Port & None	
Wire specification	Oil resistant PVC wire (0.15mm ²)	
weight	Approx. 58g (includes 2 meters of wire)	

Pressure Switch Circuit Wiring diagram



NPN output



PNP output

Schematic Diagram Of Gas Path

