>>> https://www.pisco.co.jp/en/

Vacuum pumps with special shaped rotor

⚠ 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)



(1) Rotary Vacuum Pump Series

(2) Cylinder numbers and layout, motor power output

Code	2-60	3-90	4-200	A-60
Combination	Parallel twin, 60 W motor	Parallel triple, 90 W motor	Parallel quad, 200 W motor	In-line twin, 60 W motor
Final vacuum (50Hz/60Hz) (Pa abs)		≦3,500/≦3,000		≦350/≦300
Final vacuum (50Hz/60Hz) (kPa G)		≦-97.8 ∕≦-98.3		≦-100.98 ∕≦-101.03

(3) Motor type (○: Available)

Code	U100	U100SW	U110	V200
Tuno	Single phase 100 VAC	Single phase 100 VAC	Single phase 110/115 VAC	3 phase 200/220/230 VAC
Туре	induction motor	induction motor with a built-in power switch	induction motor	induction motor
RPV06A-60	0	0	0	0
RPV062-60	0	0	0	0
RPV063-90	_	_	_	0
RPV064-200	_	_	_	0

^{*1} For U100SW type, an electrical power cable (2m), a 3-prong to 2-prong electrical adapter, and a tubular fuse (5A) are enclosed.

(4) Vacuum port

-	and in adia a	Tube O.D.		mm	ø12	mm	ø16	mm	ø3		ø1	1/2	ø5	5/8
<u>C0</u>	mbination		()					()				
	Push-in fitting	Straight	1	0	-1	2	1	6	13	/8	11	/2	15	/8
0	(*3)	Elbow	20		2	2	26		23/8		21/2		25/8	
Code	Compression	Straight	AO	ВО	A2	B2	A6	B6	-	_	_	_	-	-
Ф	fitting	Tube I.D. (mm)	ø6.5	ø7.5	ø8	ø9	ø11	ø13	_	_	_	_	_	
	No fitt	No code												

^{*1} ø10 mm or ø3/8" fitting cannot be selectable for RPV064

(5) Exhaust port

Co	ombination	Tube O.D.) m	ø12	mm		mm	ø3 (*		ø1	1/2	ø5 (*	
	Duch in fitting	Straight	3	0	3	2	3	6	33	/8	31	/2	35	/8
0	Push-in fitting	Elbow	4	0	4	2	4	6	43	/8	41	/2	45	/8
Code	Compression	Straight	CO	DO	C2	D2	C6	D6	-	_	-	_	-	_
Ф	fitting	Tube I.D. (mm)	ø6.5	ø7.5	ø8	ø9	ø11	ø13	_	_	_	_	_	_
	No fit	ting(*³)						No c	ode)				

^{*1} ø10 mm or ø3/8" fitting cannot be selectable for RPV064. *2 ø16 mm or ø5/8" fitting cannot be selectable for RPV06A.

(6) Exhaust cleaner (with fittings)

Со	Tube O.D. mbination	ø10 mm (*1)	ø12 mm	ø16 (*²)	ø3/8 (*1)	ø1/2	ø5/8 (*²)
	Exhaust cleaner only)		
င္ပ	Exhaust cleaner & straight fitting			5	5		
de	Exhaust cleaner & elbow fitting			E	3		
	No exhaust cleaner & fittings			No c	code		

^{*1} ø10 mm or ø3/8" fitting cannot be selectable for RPV064.

● Table-1. Thread size of vacuum & exhaust port (○: Available)

Thread size	Vacuum port									Exhaust port														
Tilleau Size			G3	3/8			G1/2						G1/4						G3/8					
Tube O.D. (mm/in.)	ø10	ø12	ø16	ø3/8	ø1/2	ø5/8	ø10	ø12	ø16	ø3/8	ø1/2	ø5/8	ø10	ø12	ø16	ø3/8	ø1/2	ø5/8	ø10	ø12	ø16	ø3/8	ø1/2	ø5/8
RPV06A	0	0	0	0	0	0	_	_	_	_	_	_	0	0	_	0	0	_	_	_	_	_	_	_
RPV062	_	_	_	_	_	_	0	0	0	0	0	0	_	_	_	_	_	_	0	0	0	0	0	0
RPV063	_	_	_	_	_	_	0	0	0	0	0	0	_	_	_	_	_	_	0	0	0	0	0	0
RPV064	_	_	_	_	_	_	_	0	0	_	0	0	_	_	_	_	_	_	_	0	0	_	0	0

^{*1} The pump without a built-in power switch does not come with electrical power cables for motor. Properly connect cables by following the enclosed motor handling instruction manual and

^{*2} U100SW type is not CE marked

^{*2} The thread sizes of pump's port are different depending on (2): the cylinder numbers, layout and motor power output. Please refer to Table-1.

^{*3} Push-in fittings permit a leakage. Use compression fittings if there is any usability problem.

^{*3} The thread sizes of pump's port are different depending on (2): the cylinder numbers, layout and motor power output. Please refer to Table-1.

^{*2} ø16 mm or ø5/8" fitting cannot be selectable for RPV06A. *3 When selecting code "5" or "6", the tube O.D. of the fitting is same size as the exhaust port (selected in §).

^{*4} Connection thread size of exhaust cleaner is Rc1/2.

detailed safety instructions.

*2 For motor type U 100 (without built-in power switch type), a power supply box with cable, which is designed based on the recommended circuit (See the enclosed motor handling instruction manual.) can be provided. For details, please contact your nearest sales office.

Characteristics

Contribute to energy saving

The top level high efficiency in the industry is realized for the pumping speed per motor power 1(W). \rightarrow 1.0 / 1.2 [pumping speed (ℓ /min) /motor power (W)] (50 / 60 Hz)

Light weight and compact

Space saving is realized by adoption of the special rotor form.

Max weight: about 11.5 kgs. Max. dimension: 125 x 391.6 x 181 mm (width x depth x height) (For 120 L type RPV 064-120 V 200) (Can be installed in narrow space.)

Low heat generation

Low generation of heat is realized by adoption of forced air-cooling system.

No rotating seal structure by magnet coupling minimizes slide section. Thus, there is no heat generation by the seal. The pump can be kept at approx. 20°C lower than equivalent other brand models. (Based on our research.)

Suppressing a rise in room temperature.

Low driving noise and vibration

Low noise operation and low vibration are realized by thorough balancing design for rotary part.

Noise : ≤ 58/ ≤ 63 dB (50/60 Hz) (Same level as air conditioner or quiet car) Vibration is about 1/10 of equivalent other brand models. (Our investigation)

Long life

High durability is realized by adopting of super engineering plastic, which is excellent in self-lubricity and wear resistance, and special surface treatment. With minimum clearance between rotor and cylinder wall, the fundamentally contactless structure and minimization of sliding parts are realized. Adoption of magnet-coupling, no sliding seal required.

- ⇒ No maintenance necessary by seal abrasion
- ⇒ Support to longer operation life of motor by minimizing load to the motor shaft part.

Maintenance free for 3 years. (Based on our operational conditions. Life varies depending on operational conditions, suction air (dust, moisture, etc.) *1 year for RPV06A.

Low generation of dust

Lubrication is unnecessary by adoption of the excellent clean vacuum grease for low dust and low volatile. Low dust generation is realized by minimization of sliding parts.

 \Rightarrow Suppress environmental pollution such as abrasion powder created by vane pump.

Suppressing environmental pollution by exhausting cleaner air.

Eco friendly and safe design

RoHS compliance, CE marking corresponding (Single phase 100 VAC type with a built-in power switch does not have CE marking.)

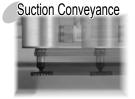
Variety of options.

Not only a pump but also push-in fittings, compression fittings for medium vacuum model, and exhaust cleaners (exhaust mufflers) are prepared as optional.

Single phase 100 VAC (Parallel twin / In-line twin) type with a built-in power switch is available. It can be used immediately by plugging into an outlet.

Single phase 110 / 115 V type and inch size push-in fitting are selectable.

Applications





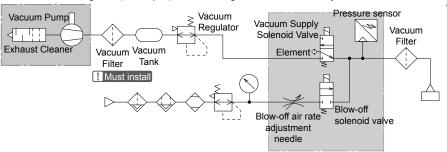




Others

Various vacuum system where scattering of oil or abrasion powder to circumference should be avoided.

Schematic diagram (example) when using for suction conveyance



External Vacuum Controller VNP

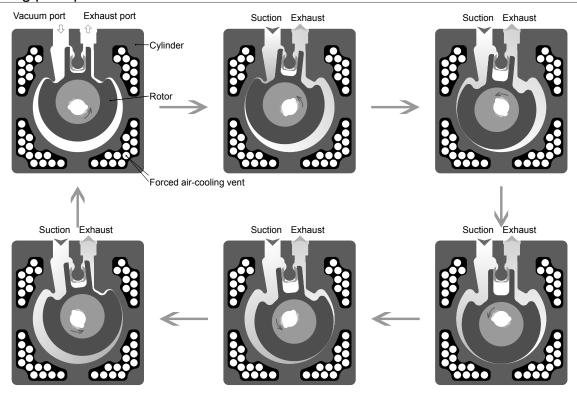
Since the rotary vacuum pump is the delicate and precision equipment, make sure to install a vacuum filter, which filtration rate is 5 μm or less, on vacuum port in order to prevent water mist, dust or particles entering the pump. It causes deterioration in a lifetime or damage of the pump when they enter.

* Compressed air is not necessary for suction conveyance by using the external vacuum controller VNP, which have direct operating valve for vacuum supply and blow-off solenoid valve. (Compressed air is necessary for blow-off.) Therefore, the consumption amount of compressed air can be remarkably reduced.

Related Products

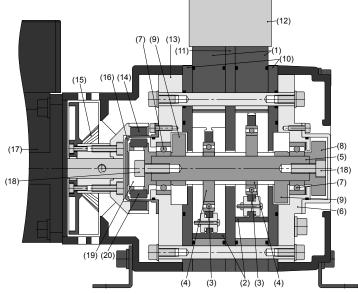


Operating principle



- 1. The eccentric rotor is placed in the space formed by the cylinder and plates which sandwich the cylinder.
- 2. When the rotor carries out eccentric rotations, air is inhaled by the pressure difference to atmospheric pressure with increasing capacity of the space formed between the rotor of vacuum port side and cylinder. At the same time, air is discharged with decreasing capacity of the space formed between the rotor of exhaust port side and cylinder.
- 3. By performing this operation continuously, the air transfer from the vacuum port to the exhaust port is realized.

Sectional drawing Parallel twin, 60W motor type : RPV062-60



No.	Parts	Material
(1)	Cylinder	aluminum alloy
(2)	Rotor	PPS resin
(3)	Bearing	Stainless steel
(4)	Crank plate	Stainless steel
(5)	Main shaft	Stainless steel
(6)	Side block E	aluminum alloy
(7)	Bearing	Stainless steel
(8)	Balancer E	Stainless steel
(9)	Balancer R	Stainless steel
(10)	Side plate	aluminum alloy
(11)	Center plate	aluminum alloy
(12)	Manifold	aluminum alloy
(13)	Side block M	aluminum alloy
(14)	Magnet	Neodymium magnet
(15)	Cooling fan	PPS resin
(16)	Sealing cup	PPS resin
(17)	Motor	aluminum alloy, etc.
(18)	Cap screw	Stainless steel
(19)	Inner coupling	Stainless steel
(20)	Magnet	Neodymium magnet

^{*} All seal rubber material is FKM.

Specifications

Ту	/pe							Medium vacuum· 30 ℓ						
M	odel code		RP	VO	6A-60)V2	200	RPV06A-60U100 (U100SW*2)	RPV06	A- 6	50U110			
Nı	umbers of cylinder							Twin (2)						
Cy	rlinder layout							Parallel layout OUT						
р.	umping and (f/min)	50 Hz						30						
P	umping speed (l/min)	60 Hz						36						
Ei.	nal vacuum (Pa abs)	50 Hz		≦350										
1 11	nai vacuum (Fa abs)	60 Hz						≦300						
Ei.	Final vacuum (kPa G) 50 Hz ≦-100.98													
60 Hz ≤-101.03														
M	Max. suction pressure Atmospheric pressure													
Ar	Ambient temperature (indoor) (°C) 5 to 40													
Ar	mbient humidity (indoor	.)						Max. 85%RH (no dew condensation)						
G	as (inhaled gas)							No corrosive or exposable gas						
Vi	bration of installation si	te						Max. 4.9 m/s ² (10 to 60 Hz)						
Αľ	titude of installation site	9		1000 m ASL or less										
In	stall orientation			Motor axis to be horizontal										
	Output (W)			60										
	Туре				otor, Buil at proof o		hermal : 130 (B)	Single-phase capacitor type inducti Heat proof cl	on motor Built-ir ass: 130 (B)	the	ermal protector,			
	Voltage (V)*3		200	/	220	1	230	100	110	1	115			
Motor	Rated current (A)	50 Hz	0.50	1	_	1	_	1.2		_				
₫	Nated Current (A)	60 Hz	0.43	1	0.45	1	0.46	1.19	1.09	1	1.1			
	Rated rotation speed (min ⁻¹)	50 Hz	1,300	1		1		1,200		_				
	Traced Totalion Speed (IIIIII)	60 Hz	1,550	1	1,600	1	1,600	1,450	1,450	1	1,450			
	Striking current (A)	50 Hz	1.51	/		/	_	2.66		_				
	Striking current (A) 60 Hz 1.37													
Or	peration noise (dB (A)) *1	50 Hz					≦	58		_				
—	Cration Hoise (ab (A))	60 Hz						≦63						
Va	acuum port size							G 3/8						
	chaust port size							G 1/4						
Dir	nensions (width x depth x heig	ht) (mm)					125 × 29	9.6 × 166.5 (U 100 SW*²: 125 × 299.6						
W	eight (kg)				7.0			7.2 (U100SW*²: 7.5 (ir	cluding access	ories	s))			
Co	ooling system							Forced air cooling						
*1	Operating poice is an actually	region poise is an actually measured value excluding suction and exhaust poises, and is not a guaranteed value. Operating poise varies depending an operating condition												

^{*1.} Operating noise is an actually measured value excluding suction and exhaust noises, and is not a guaranteed value. Operating noise varies depending on operating condition.

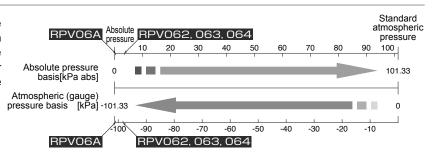
^{*4.} The final vacuum and the pumping speed described in the specification are confirmed at the time of delivery inspection according to our standard. The performance after normal operation for a certain running period of time will be the following table possibly.

Туре	Operation period	Fir	nal vacuum	Pumping speed
RPV06A	1 year	50 Hz	1.2 kPa abs -100.1 Kpa G	-20% compared
KF VUUA	1 year	60 Hz	1.0 kPa abs -100.3 Kpa G	with spec. value

^{*}The values are based on our operating conditions. The product life varies depending on the operation conditions and the inhaled gas (moisture or dust), etc.

About vacuum pressure indication

■ Absolute pressure (kPa abs or Pa abs) and gauge pressure (kPa G) are used in Pisco's vacuum pump catalogue. Please be careful not to make a mistake in a unit when selecting a pump. For other Vacuum equipment in this catalog, Gauge pressure (-kPa) is used.



^{*2.} Power switch built-in type. Not CE marking product

^{*3.} Temporary fluctuation range of voltage is within ±10% of rated voltage. In case of continuous fluctuation, ±3% of rated voltage is allowable.



Туре							Low vacuum· 60 ℓ						
Model code		R	PVC	62-60	V20	0	RPV062-60U100 (U100SW*2)	RPV062	2-60U110				
Numbers of cylinder							Twin (2)						
Cylinder layout						Pa	rallel layout OUT						
Dumning and ((/min)	50 Hz		60										
Pumping speed ({/min)	60 Hz		72										
Final vacuum (Pa abs)	50 Hz		≦3,500										
iliai vacuulii (Fa abs)	60 Hz						≦3,000						
Final vacuum (kPa G)	50 Hz						≦-97.8						
-iliai vacuulii (KFa G)	60 Hz						≦-98.3						
Max. suction pressure			Atmospheric pressure										
Ambient temperature (indo	or) (°C)						5 to 40						
Ambient humidity (indoo	r)						Max. 85%RH (no dew condensation)						
Gas (inhaled gas)							No corrosive or exposable gas						
/ibration of installation s	ite	Max. 4.9 m/s² (10 to 60 Hz)											
Altitude of installation sit	е	1000 m ASL or less											
nstall orientation		Motor axis to be horizontal											
Output (W)							60						
Туре		3-phase m		Built-in th oof class:			Single-phase capacitor to Built-in thermal protector, H						
Voltage (V) *3		200	1	220	1	230	100	110	/ 115				
Rated current (A)	50 Hz	0.50	1	_	1		1.2						
Rated current (A)	60 Hz	0.43	/	0.45	1	0.46	1.19	1.09	/ 1.1				
Rated rotation speed (min ⁻¹)	50 Hz	1,300	/	_	/	_	1,200	-	_				
Nateu Totation speed (IIIII)	60 Hz	1,550	1	1,600	1	1,600	1,450	1,450	/ 1,450				
Striking current (A)	50 Hz	1.51	1	_	1	_	2.66		_				
Striking current (A)	60 Hz	1.37	1	1.51	1	1.52	2.55	2.74	/ 2.79				
Operation noise (dB (A)) *1	50 Hz					≦	58						
operation noise (ub (A)) "	60 Hz						≦63						
/acuum port size							G1/2						
Exhaust port size		G3/8											
Dimensions (width × depth × height	ght) (mm)					125 × 29	99.6 × 176 (U100SW *2: 125 × 299.6 ×	180.8)					
Weight (kg)						7.2	(U100SW *2: 7.6 (including accessories	s))					
Cooling system		Forced air cooling											

■ Table. Final vacuum and pumping speed based on the running period

Type	Operation period	Fin	al vacuum	Pumping speed
		50 Hz	12 kPa abs	
RPV062	2 1/0000	30 HZ	-89.3 Kpa G	-20% compared
KF V U U Z	3 years	60 Hz	10 kPa abs	withspec. value
		60 HZ	-91.3 Kpa G	

^{*}The values are based on our operating conditions. The product life varies depending on the operation conditions and the inhaled gas (moisture or dust), etc.

^{*1.} Operating noise is an actually measured value excluding suction and exhaust noises, and is not a guaranteed value. Operating noise varies depending on operating condition.

*2. Power switch built-in type. Not CE marking product

*3. Temporary fluctuation range of voltage is within ±10% of rated voltage. In case of continuous fluctuation, ±3% of rated voltage is allowable.

*4. The final vacuum and the pumping speed described in the specification are confirmed at the time of delivery inspection according to our standard. The performance after normal operation for a certain running period of time will be the following table possibly.

Ту				Lov	v vacuum· 🤄	90 l			Lov	v vacuum· 1	20 l				
Mc	odel code			RPV	063-90V	200			RPV	064-200\	/200				
Nu	imbers of cylinder		Triple (3)	\mathbf{C}		<u></u>		Quad (4)	51 (710				
Су	linder layout		Parallel la	ayout	OUT			Parallel layou	ut	OUT					
Pu	mping speed (l/min)	50 Hz 60 Hz			90 108					120 144					
		50 Hz			100		< '	3,500		144					
Fir	nal vacuum (Pa abs)	60 Hz						3,000							
		50 Hz						-97.8							
Fir	nal vacuum (kPa G)	60 Hz													
Ms	ax. suction pressure	00 112		≤-98.3 Atmospheric pressure											
	nbient temperature (indoor	or) (°C)						to 40							
	nbient humidity (indoor					Max		dew condensa	ition)						
	as (inhaled gas)	,						or exposable ga							
_	oration of installation si	ite		Max. 4.9 m/s² (10 to 60 Hz)											
Alt	itude of installation site	9	1000 m ASL or less												
Ins	stall orientation		Motor axis to be horizontal												
	Output (W)				90					200					
	Туре				3-phase m	otor, Bu	ilt-in thermal ¡	protector Heat	proof cla	ass: 130 (B)					
	Voltage (V) *3		200	1	220	1	230	200	/	220	/	230			
7	Rated current (A)	50 Hz	0.64	1	_	/	_	1.1	1	_	1	_			
Motor	Nateu current (A)	60 Hz	0.59	1	0.6	/	0.61	1.1	1	0.95	1	0.95			
	Rated rotation speed (min ⁻¹)	50 Hz	1,300	1		1	_	1,250	1		1	_			
	Trated Totalion Speed (IIIII)	60 Hz	1,550	1	1,600	1	1,600	1,500	/	1,550	1	1,600			
	Striking current (A)	50 Hz	2.01	1		1		3.60	1	_	1				
	Culturing current (71)	60 Hz	1.86	1	2.00	/	2.05	3.27	1	3.54	1	3.63			
On	eration noise (dB (A)) *1	50 Hz						≦58							
		60 Hz						≦63							
_	cuum port size							61/2							
	haust port size						G	3/8							
	nensions (width × depth × heig	ht) (mm)		125	× 340.6 ×	181			12	5 × 391.6 ×	181				
	eight (kg)				8.8 *2					11.5 * ²					
Cc	oling system						Forced	air cooling							

■ Table. Final vacuum and pumping speed based on the running period

Type	Operation period	Final vacuum		Pumping speed
RPV063 RPV064	3 years	50 Hz	12 kPa abs	-20% compared withspec. value
			-89.3 Kpa G	
		60 Hz	10 kPa abs	
			-91.3 Kpa G	

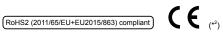
^{*}The values are based on our operating conditions. The product life varies depending on the operation conditions and the inhaled gas (moisture or dust), etc.

^{*1.} Operating noise is an actually measured value excluding suction and exhaust noises, and is not a guaranteed value. Operating noise varies depending on operating condition.

*2. Weight includes attached 2 plugs.

*3. Temporary fluctuation range of voltage is within ±10% of rated voltage. In case of continuous fluctuation, ±3% of rated voltage is allowable.

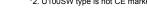
*4. The final vacuum and the pumping speed described in the specification are confirmed at the time of delivery inspection according to our standard. The performance after normal operation for a certain running period of time will be the following table possibly.

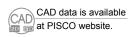


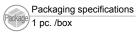
In-line/Twin	• ()	Parallel/Twin		
Туре	Model code	Туре	Model code	
Medium vacuum, 30 ℓ RPV06A	RPV06A-60V200-4-5-6 RPV06A-60U100-4-5-6 RPV06A-60U110-4-5-6		RPV062-60V200-[4]-[5]-[6] RPV062-60U100-[4]-[5]-[6] RPV062-60U110-[4]-[5]-[6]	
Туре	Model code	Туре	Model code	
Medium vacuum, 30 t (Single-phase motor & Built-in power switch type) RPV06A	HPV06A-60U100SW-[4]-[5]-[6]	Low vacuum, 60 ℓ (Built-in power switch type)	HPV062-60U100SW-[4]-[5]-[6]	
Parallel/Triple	е	Parallel/Quad		
Туре	Model code	Туре	Model code	
Low vacuum·90 ℓ RPV063	RPV063-90V200-4-5-6	Low vacuum·120 { RPV064	RPV064-200V200-4-5-6	



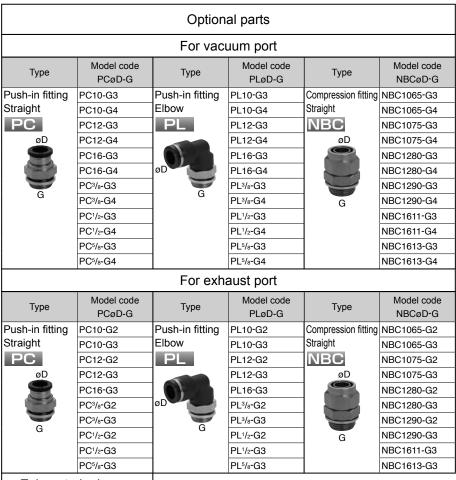
*1. For ① in model code, please select a vacuum port size. For ⑤, select an exhaust port size and for ⑥, select a code for exhaust cleaner (and fitting).
*2. U100SW type is not CE marked.







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



Exhaust air cleaner

Type Model code

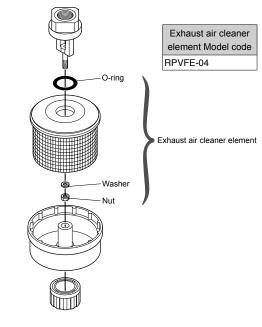
Exhaust air cleaner RPVF-04



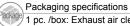
Туре	Model code PCøD-R
Push-in fitting Straight	
for Exhaust air cleaner	PC12-04
PC	PC16-04
øD	PC ³ / ₈ -04
	PC ¹ / ₂ -04
	PC ⁵ / ₈ -04
U R	

Туре	Model code PLøD-R
Push-in fitting Elbow	PL10-04
for Exhaust air cleaner	PL12-04
PL	PL16-04
øD ØD	PL ³ / ₈ -04
	PL ¹ /2-04
	PL ⁵ / ₈ -04
₩ _R	

Replacement element



CAD data is available at PISCO website.



1 pc. /box: Exhaust air cleaner, Exhaust air cleaner element

10 pcs. /bag: Straight/Elbow fitting for vacuum/exhaust port or for exhaust air cleaner