Vacuum Pumps America Inc.

VPA-R/PFPE Prepared Double Stage Rotary Vane Vacuum Pumps

Features of VPA-R/PFPE Double Stage Rotary Vane Vacuum Pumps prepared with PFPE fluid:

- Supreme quality product by using high quality materials and excellent design. Chemically protected against corrosion.
- Excellent ultimate vacuum and pumping speed.
- Large Oil Sight Glass for better monitoring of oil color, quality and vacuum pump performance.
- Advanced Oil Filtration System available upon request.
- Advanced anti suck back valve to protect the vacuum system against oil back streaming in the event of sudden stop included.
- Exclusive Optional adjustable gas ballast valves available upon request depending on applications:
  - Ball valve Ex
  - Needle Valve Ex
  - Fine Leak Valve Ex
  - Solenoid Valve or ATEX Solenoid Valve Ex, Explosion Proof Solenoid Valve Ex
    - The above options let you precisely control the amount of air or inert gas entering the vacuum pump hence you will have better control of inlet pressure for your application.
- Inert Gas Bubbler and Inert Gas Injection system combined with all above valve assemblies available for Explosion Proof VPA-R/Ex/PFPE series to dilute explosive or flamable gases in the oil box Ex.
- Considerably vibration free and extremely quiet.
- Easy maintenance and oil change with low cost of ownership without using any special tools.
- Competitive and affordable prices.
- Internal Modular Design makes complete overhaul and easy repair in less than one hour for VPA-R6/PFPE, VPA-R12/PFPE, VPA-R24/PFPE, VPA-R36/PFPE, VPA-R60/PFPE and VPA-R90/PFPE.
- 1 phase 110Volt, and 2201Volt, 50/60Hz also 3 phase motors at different voltages like: 380V, 208V, 230V, 460V, 575V, 50/60Hz are available with CSA, UL and CE approvals compatible for all VPA-R/PFPE Dual Stage Rotary Vane Vacuum Pumps upon request.
- PFPE prepared VPA-R/Ex/PFPE series are available upon request for Oxygen or Hydrogen pumping and chemical applications in hazardous areas Ex

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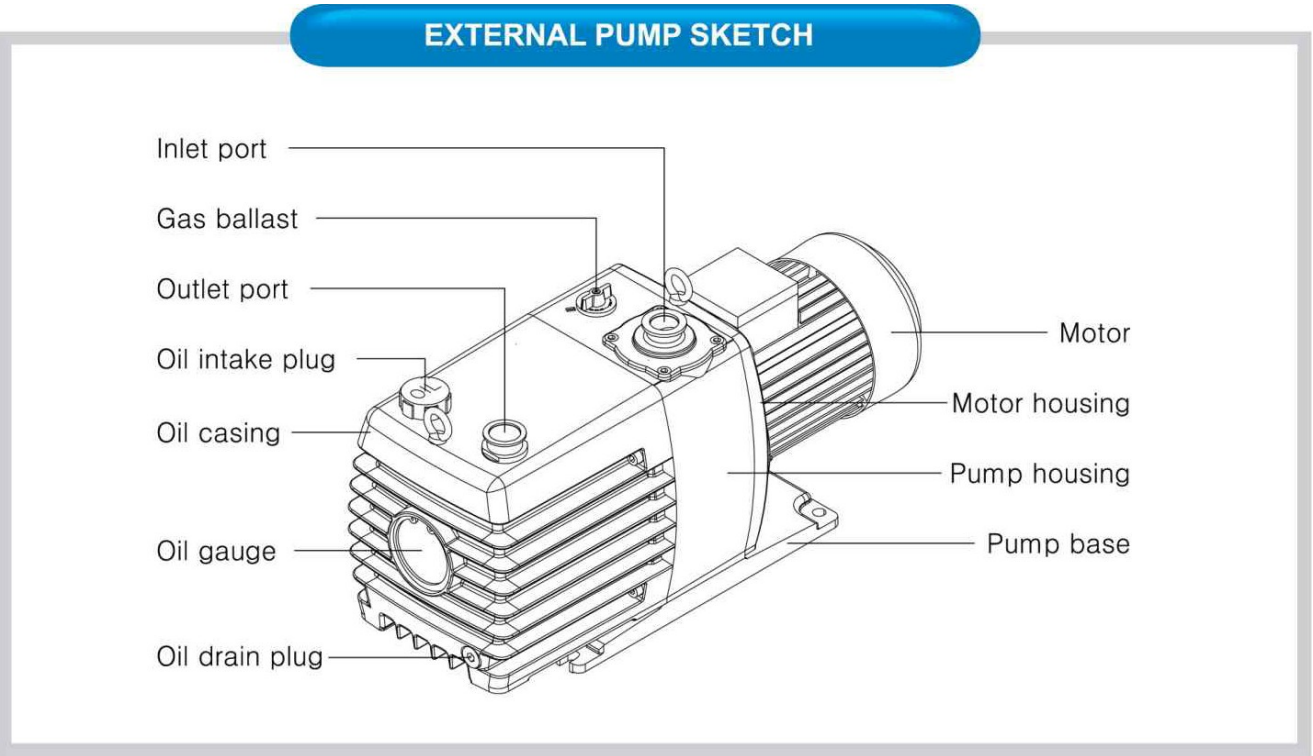
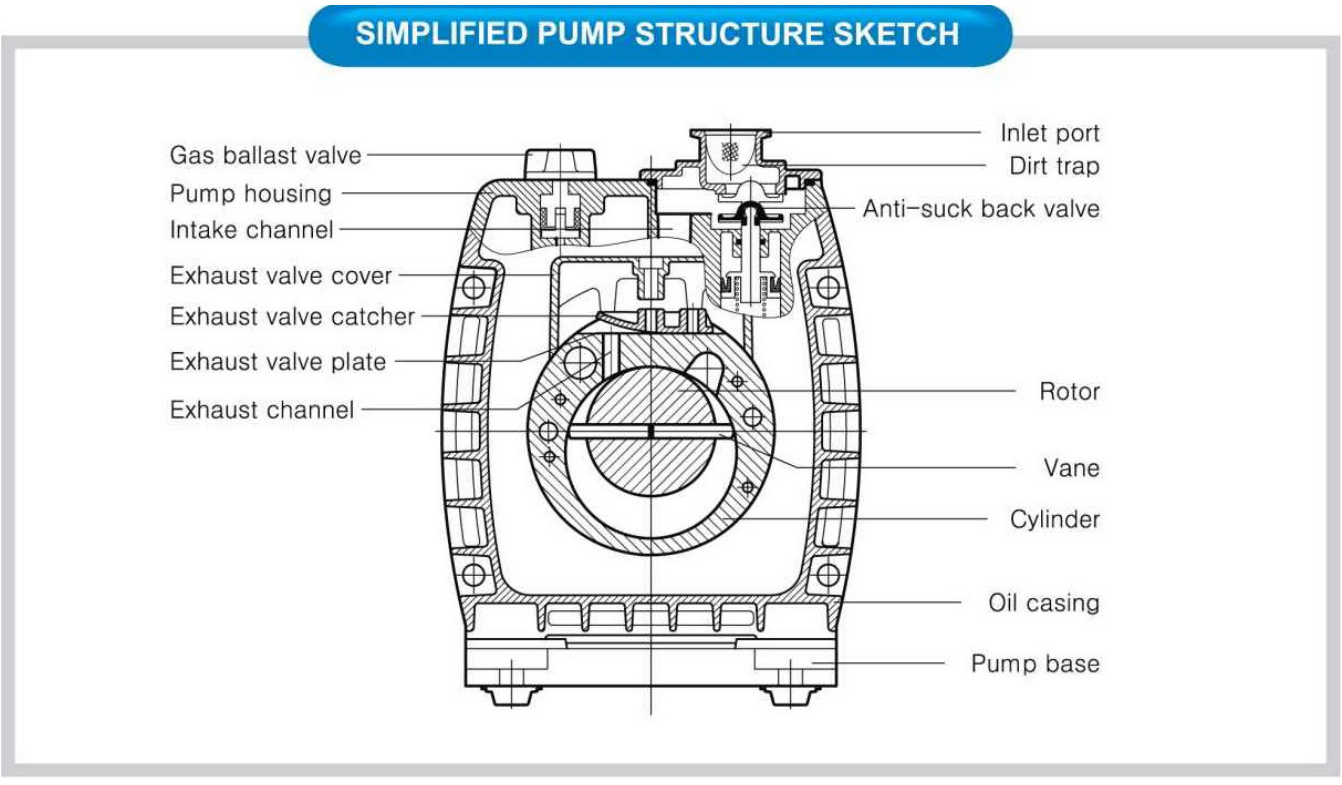
Design Features of VPA-R/PFPE Double Stage Rotary Vane Vacuum Pumps



VPA-R6/PFPE to VPA-R90/PFPE General Drawing



VPA-R6/PFPE to VPA-R90/PFPE Cross Sectional Drawing

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Advanced design of VPA-R/PFPE makes repair very easy as follows

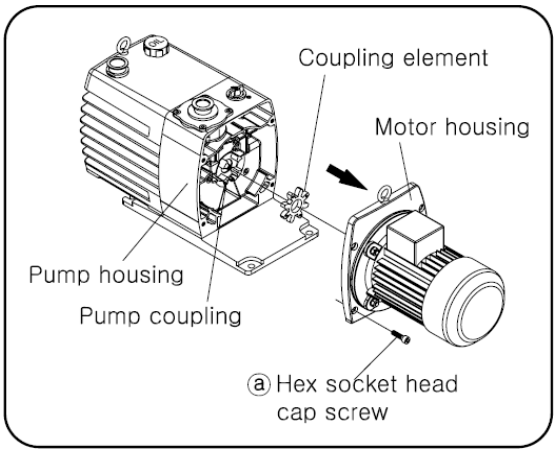

Figure 1

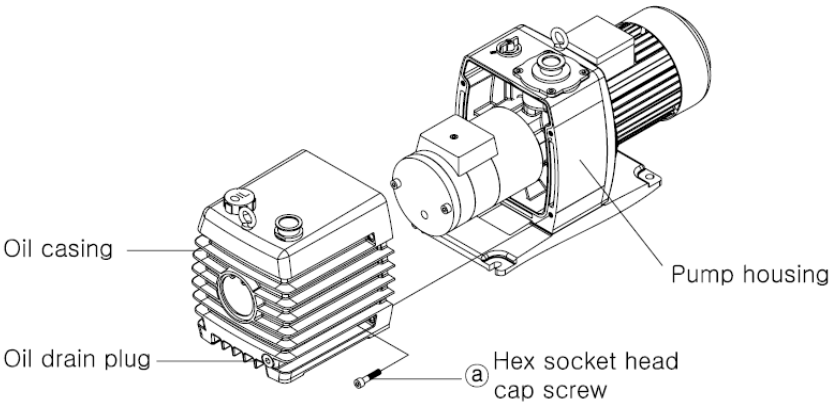

Figure 2

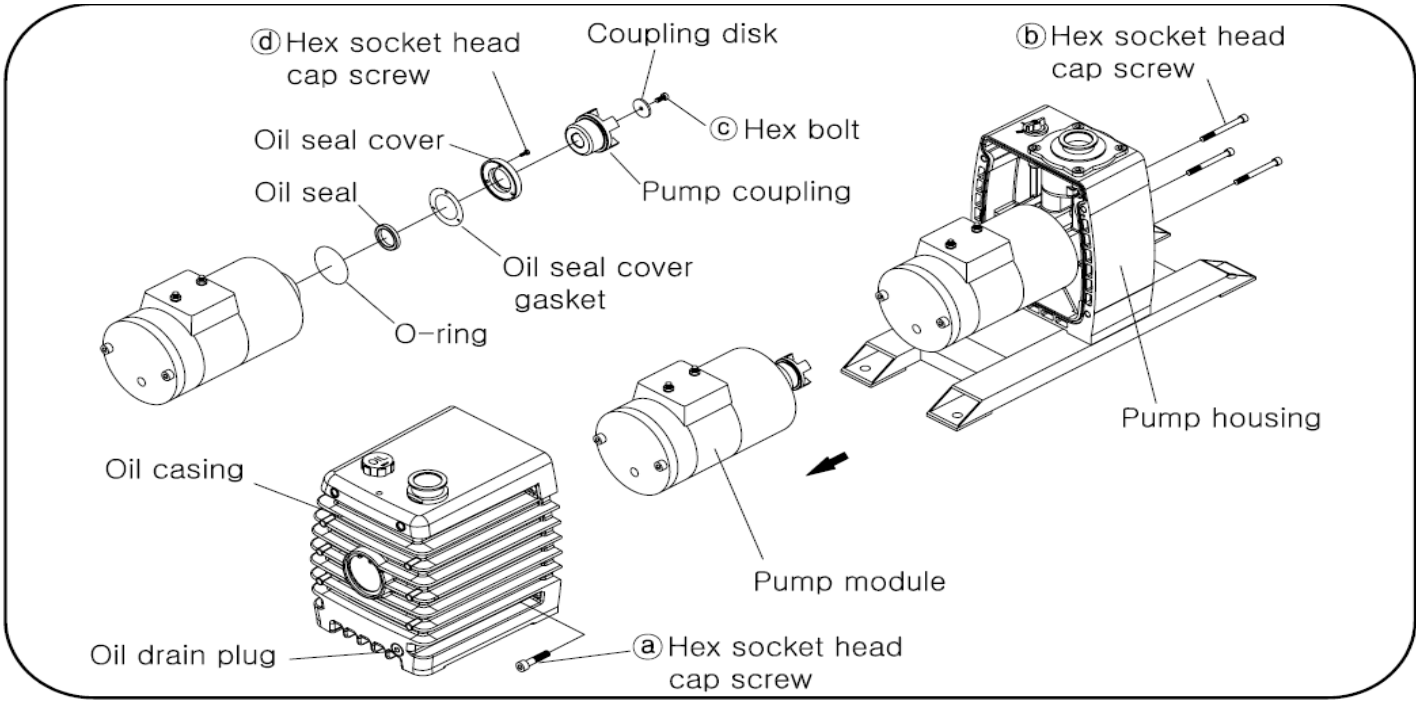

Figure 3

Modular design of VPA-R/PFPE Double Stage Rotary Vacuum Pumps makes it very easy to repair as follows:

1- Disconnect the motor from mains.
2- Dismantle the motor from vacuum pump with its bracket. Figure 1
3- Drain the oil from oil box.
4- Remove the oil box from the pump. Figure 2
5- Remove 3 cap screws of vacuum pump module from back of the vacuum pump housing. Figure 3
6- Remove pumping module from housing. Figure 3
7- Insert new pump module in pump housing bracket. Figure 3
8- Put the oil box and motor back to the pump housing. Figure 1 and Figure 2
9- Fill the oil box with appropriate vacuum pump oil to the maximum level.
10- Your vacuum pump is ready to start.

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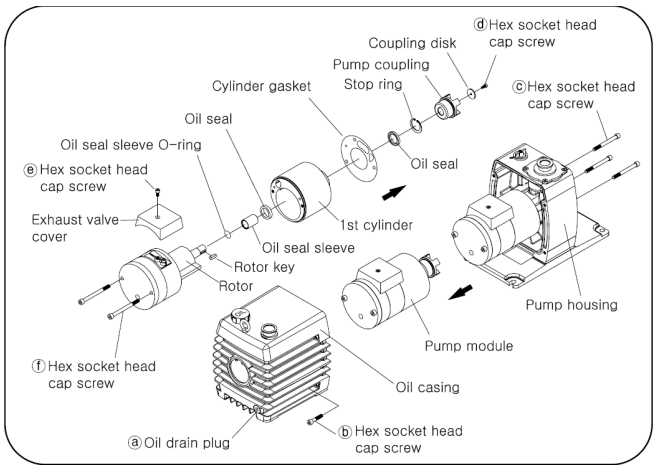
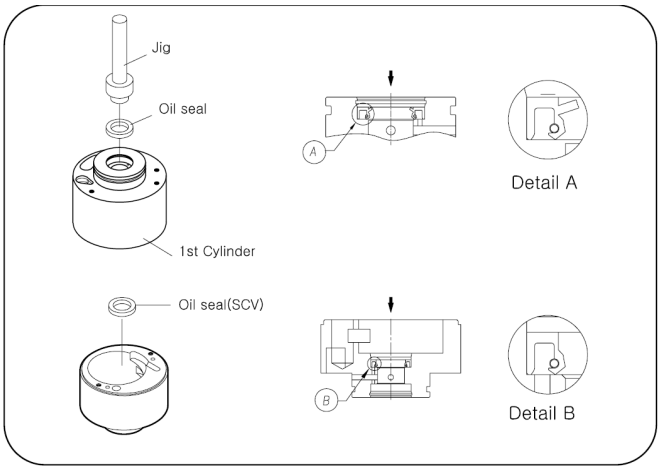
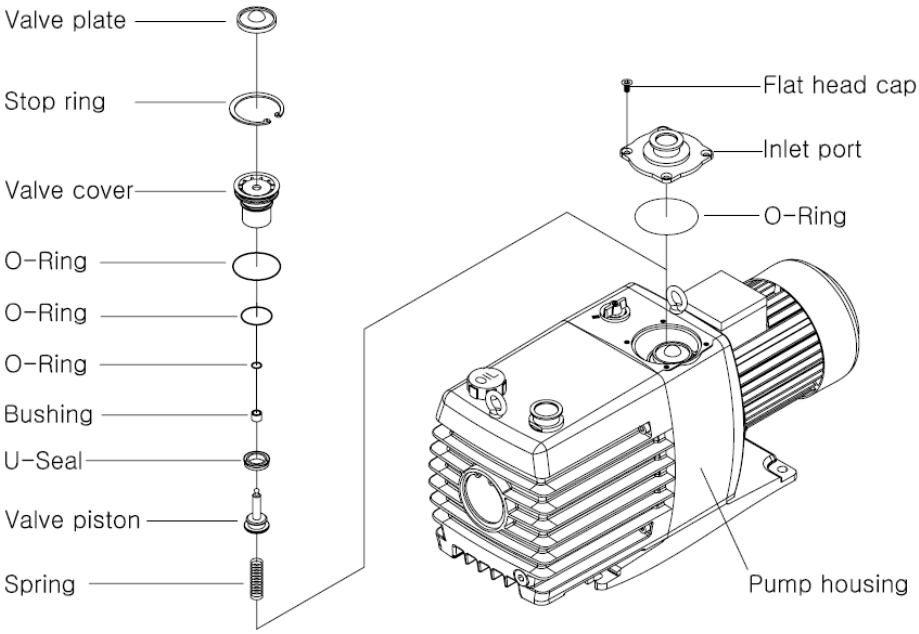


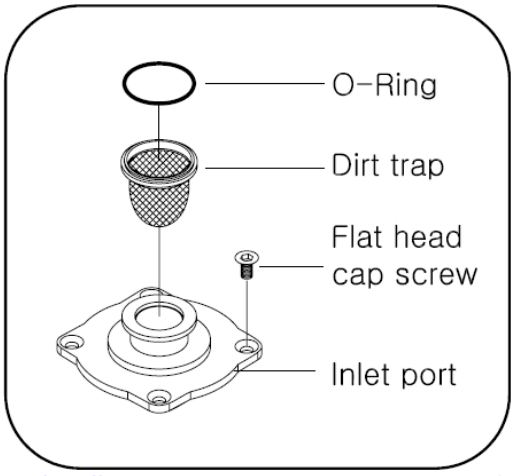
Vacuum pump module change and repair



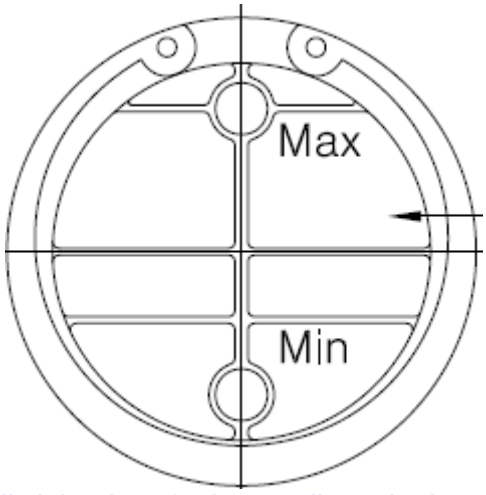
Shaft seal change and repair



Exclusive simple design of Anti Suck Back valve guaranties No Oil Back Steaming and No Air Leak into the vacuum system in case of power failure or sudden shut down.



Inlet dirt trap protects vacuum pump from particles



Large oil sight glass for better oil monitoring

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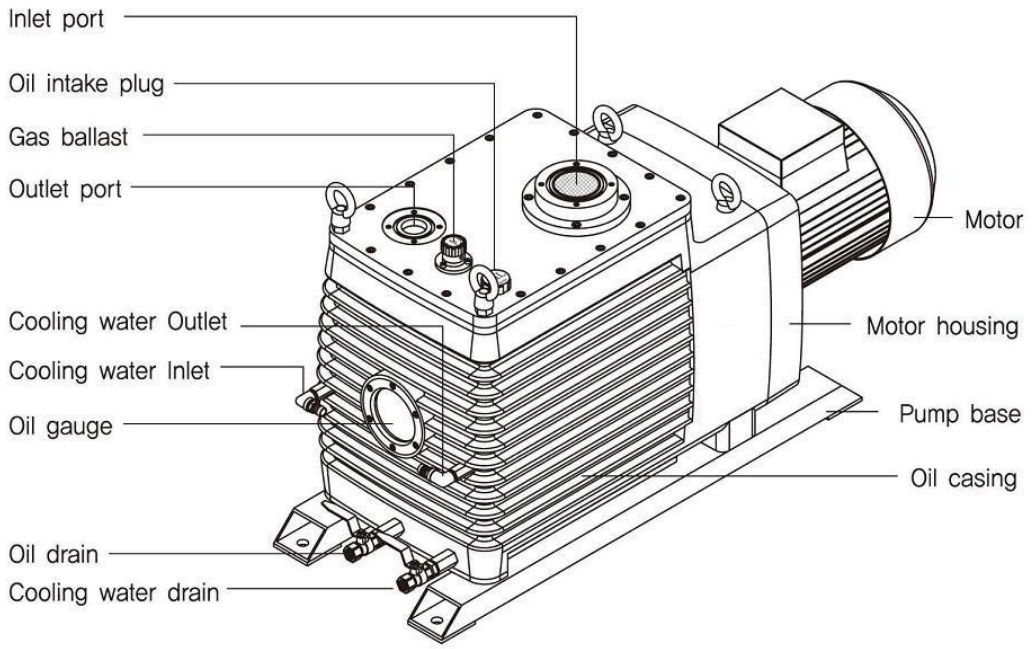
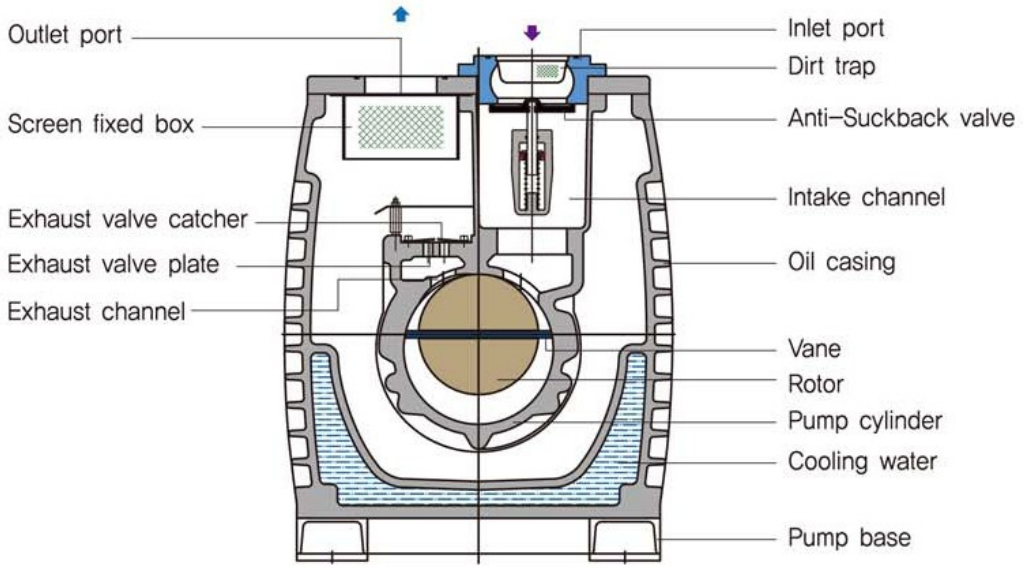
EXTERNAL PUMP SKETCH



VPA-R144/PFPE to VPA-R540/PFPE General Drawing

SIMPLIFIED PUMP STRUCTURE SKETCH



VPA-R144/PFPE to VPA-R540/PFPE Sectional Drawing

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Specifications of VPA-R/PFPE Double Stage Rotary Vane Vacuum Pumps:

Model	Pumping Speed L/min m^3/h (CFM) 50Hz /60Hz		Ultimate Pressure Torr -GB / +GB Water vapor tolerance millibar		Power kW (HP) 50Hz/60Hz		Rotational Speed (min^{-1}) 50Hz/60Hz		Port Size Quick Clamp Inlet/Outlet		Oil Capacity (L) Cooling water (L/min)	Weight** (kg)
VPA-R6/PFPE	83 5 (3)	100 6 (3.5)	3×10^{-3}	0.05 40	0.4 (0.5)	0.4 (0.5)	1500	1800	KF25	KF25	1.1	23
VPA-R12/PFPE	166 10 (6)	200 12 (7)	3×10^{-3}	0.05 40	0.4 (0.5)	0.4 (0.5)	1500	1800	KF25	KF25	1.2	23
VPA-R24/PFPE	333 20 (12)	400 24 (14)	3×10^{-3}	0.05 25	0.75 (1)	0.75 (1)	1500	1800	KF25	KF25	2	30
VPA-R36/PFPE	500 30 (17.5)	600 36 (21)	3×10^{-3}	0.05 25	0.75 (1)	0.75 (1)	1500	1800	KF25	KF25	2.3	54
VPA-R60/PFPE	830 50 (30)	1000 60 (35.5)	3×10^{-3}	0.05 40	1.5 (2)	1.5 (2)	1500	1800	KF40	KF40	4.5	67
VPA-R90/PFPE	1250 75 (44)	1500 90 (53)	3×10^{-3}	0.05 40	2.2 (3)	2.2 (3)	1500	1800	KF40	KF40	6.5	84
VPA-R144/PFPE	2000 120 (71)	2400 144 (85)	3×10^{-3}	0.05 40	3.7 (5)	3.7 (5)	1500	1800	ISO63	ISO40	11	172
VPA-R216/PFPE	3000 180 (106)	3600 216 (128)	3×10^{-3}	0.05 40	5.5 (7.5)	5.5 (7.5)	1500	1800	ISO63	ISO40	16	290
VPA-R324/PFPE	4500 270 (160)	5400 324 (192)	3×10^{-3}	0.05 40	7.5 (10)	7.5 (10)	1500	1800	ISO63	ISO40	17 (6)	358
VPA-R432/PFPE	6000 360 (213)	7200 432 (256)	3×10^{-3}	0.05 40	11 (15)	11 (15)	1500	1800	ISO100	ISO100	28 (8)	584
VPA-R540/PFPE	7500 450 (266)	9000 540 (319)	3×10^{-3}	0.05 40	15 (20)	15 (20)	1500	1800	ISO100	ISO100	35 (8)	668

VPA-R324/PFPE, VPA-R432/PFPE and VPA-R540/PFPE are Water cooled version only.
**Weight depends on type of motor.

Different types of motors VPA-R/PFPE Dual Stage Rotary Vane Vacuum Pumps available as follows:

- ATEX
- Explosion proof
- Radiation proof with radiation proof enclosure
- Some Motors are always in stock

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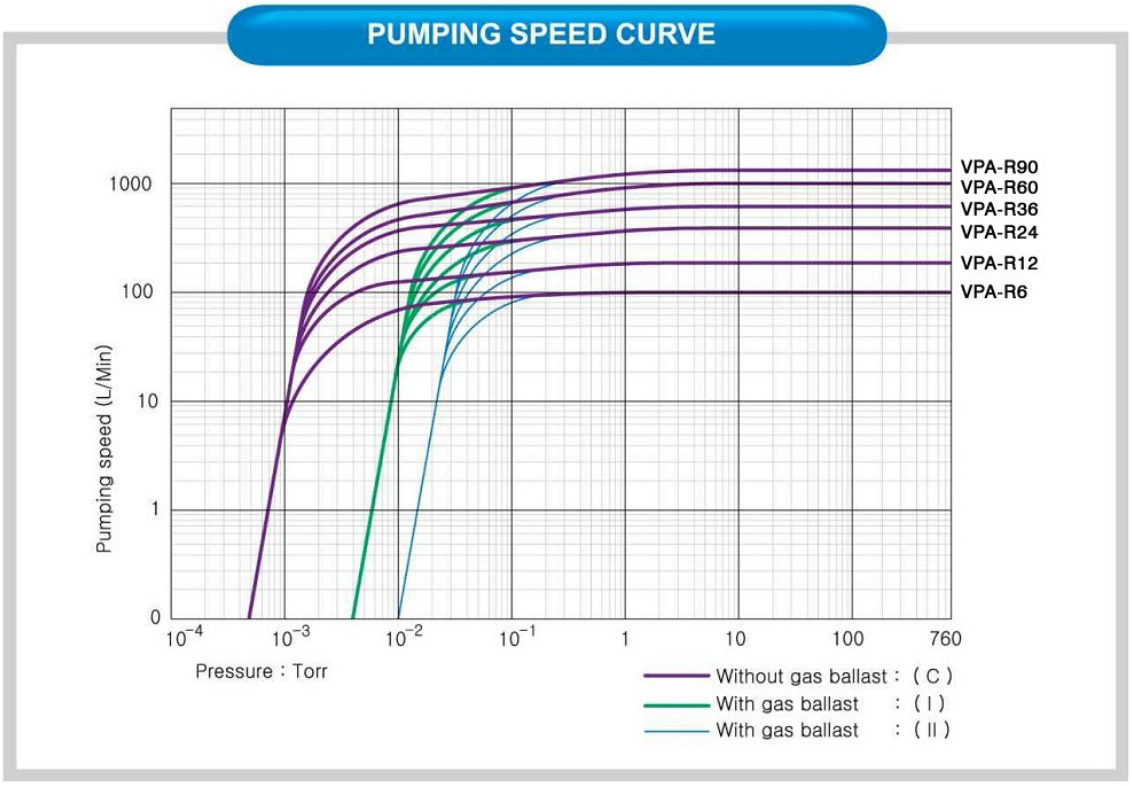
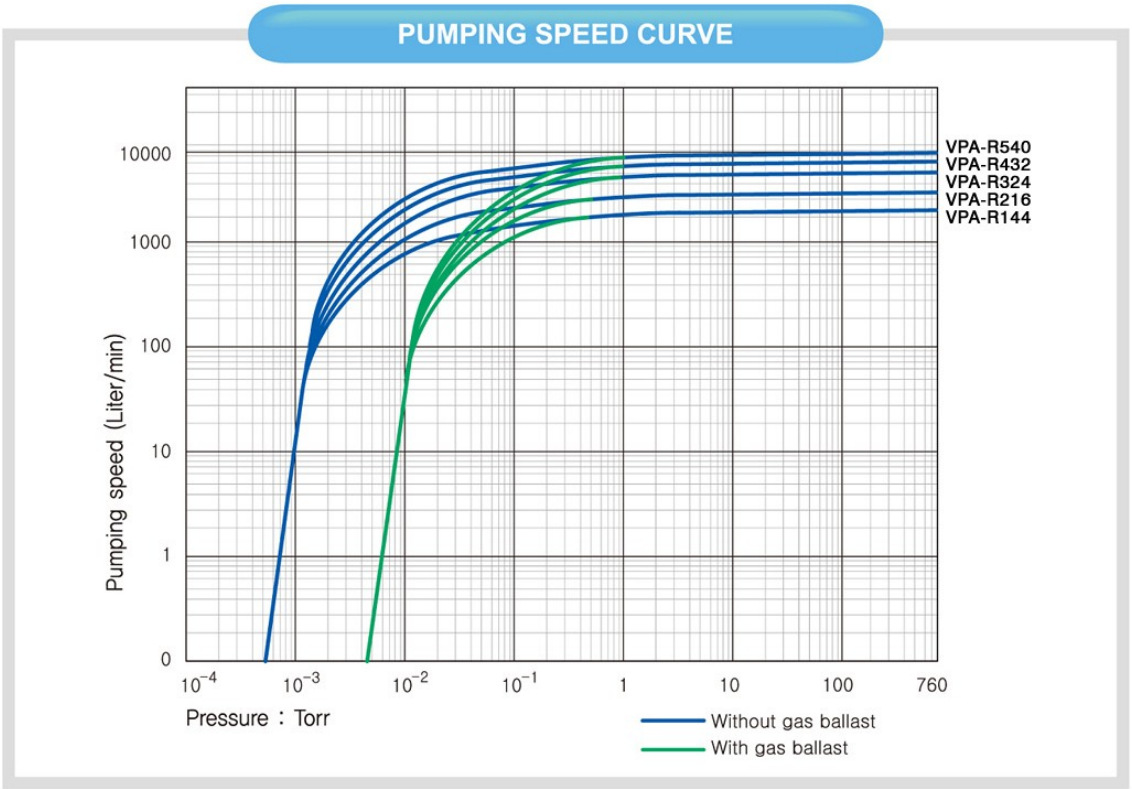


Pumping Speed Curves for VPA-R6/PFPE to VPA-R90/PFPE



Pumping Speed Curves for VPA-R144/PFPE to VPA-R540/PFPE

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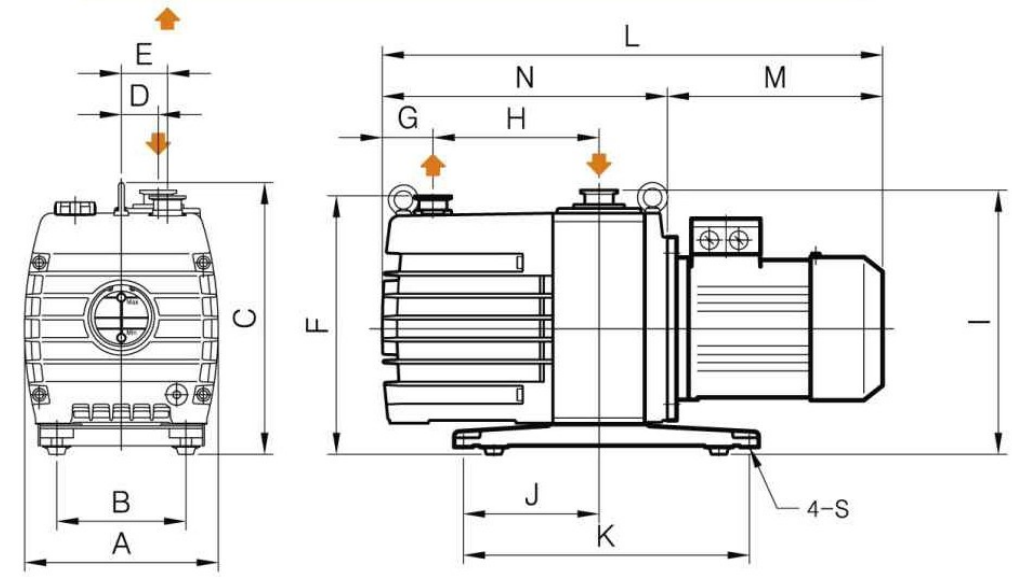
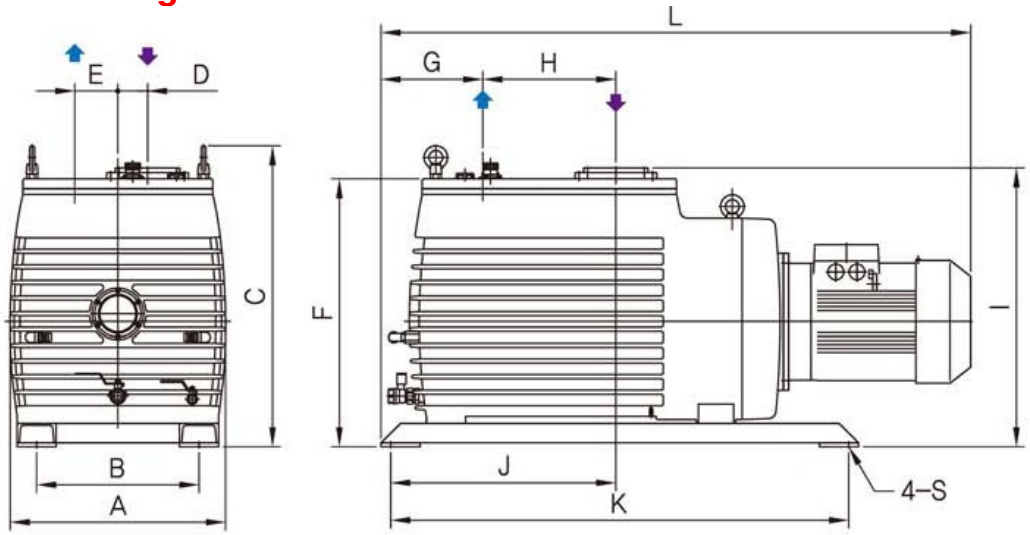
Dimensional drawing for VPA-R6/PFPE to VPA-R90/Ex



Model	A	B	C	D	E	F	G	H	I	J	K	N	S	M*	L*
VPA-R6	170	120	261	24	40	247	45	130	253	94	240	244	∅9	210	454
VPA-R12	170	120	261	24	40	247	45	155	253	94	240	269	∅9	210	479
VPA-R24	210	140	297	40	50	282	55	180	288	147	310	309	∅12	234	543
VPA-R36	210	140	297	40	50	282	58	210	288	147	310	342	∅12	234	576
VPA-R60	250	185	387	30	50	368	80	255	370	305	550	428	∅14	281	709
VPA-R90	280	184	441	30	50	412	85	295	415	305	600	479	∅14	312	791

***Length of the pump can be changed by use of different types of motors.**

Dimensional drawing for VPA-R144/PFPE to VPA-R540/PFPE



Model	A	B	C	D	E	F	G	H	I	J	K	S	L*
VPA-R144	320	230	501	40	65	414	193	175	465	348	740	∅14	974
VPA-R216	400	305	575	58	75	490	195	200	528	375	805	∅18	1101
VPA-R324	400	305	645	58	75	560	203	250	598	433	895	∅18	1179
VPA-R432	550	415	771	76	110	686	258	225	714	458	1040	∅18	1377
VPA-R540	550	415	771	76	110	686	260	340	714	575	1170	∅18	1507

***Length of the pump can be changed by use of different types of motors.**

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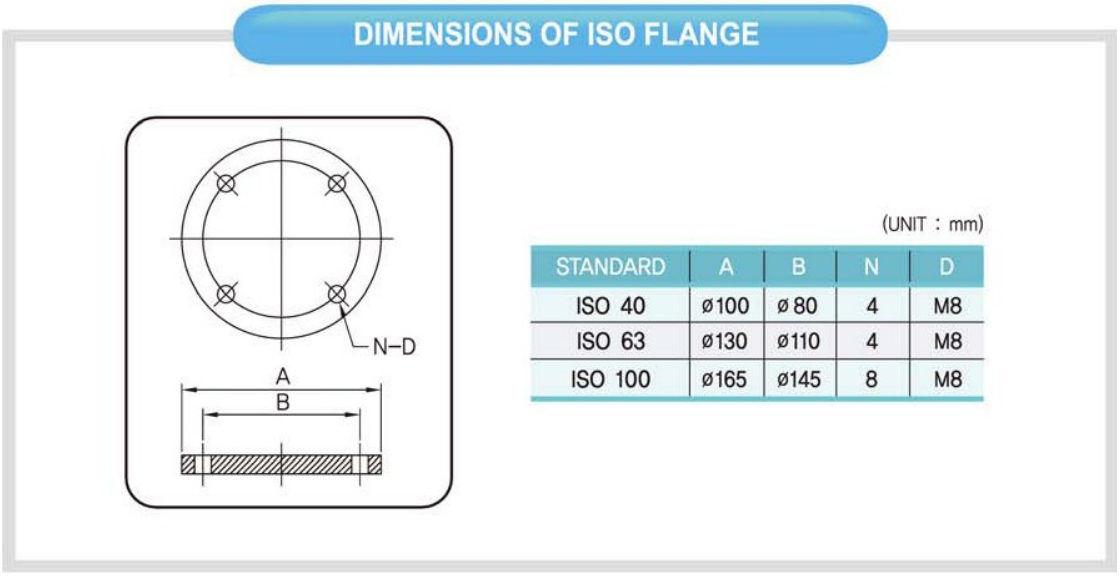
Flange Dimensions for VPA-R144/PFPE to VPA-R540/PFPE:



STANDARD	A	B	N	D
ISO 40	ø100	ø 80	4	M8
ISO 63	ø130	ø110	4	M8
ISO 100	ø165	ø145	8	M8

Applications of VPA-R/PFPE Double Stage Rotary Vane Vacuum Pumps:

Autoclaves
Automotive
Backing pump for High Vacuum Pumps
Brazing
Casting
Central vacuum Systems
Chemical Distillation
Chemical Laboratories
Chemical Processing
Chemical Vapour Deposition
Cluster Tool Load locks
Coating and Sputtering
Cryopump Roughing
Cryopump Regeneration
Debinderization
Diffusion Pump backing
Diffusion Pump Holding
Degassers
Degassing
Drying
Drying Chambers
Electron Microscopes
Evacuating of Refrigeration Systems
Evacuation of Process Chambers
Forming
Freeze Dryers
Heat Treatment
Impregnating
Investment Casting
Laboratory Experimentation
Leak Detection
Light Bulb Manufacturing
Liquid Gas Storage
Lyophilizers
Metallurgy
Metals Processing
Packaging
Oil and Gas Industry
Oil Degassers
PET Processing
Pharmaceutical processes
Physics Laboratories
Potting
Research & Development
Roll Coating
Roughing of Vacuum Vessels
Roots Pump Backing
Silicon Crystal Growing
Sintering
Transformer Drying
Vacuum Degassing
Vacuum Furnaces
Vacuum Heat Treating
Vacuum Melting
Vacuum Metalizing
Vacuum Ovens
Vacuum Packaging
Vacuum Pressure Impregnation

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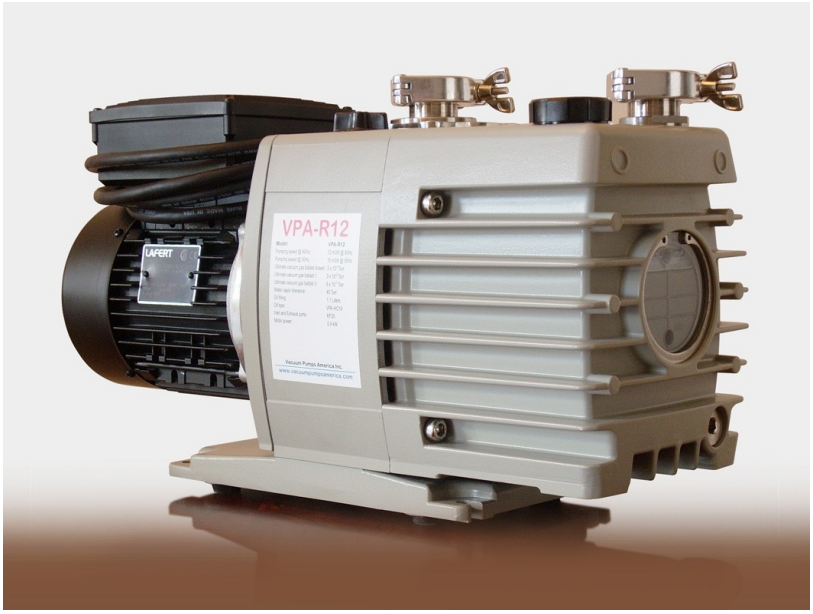

INFS-25 Inlet filter

EXFP Exhaust Filter

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Vacuum Pumps America Inc. PFPE Vacuum Pump Oils

We use different grades of PFPE Fluids to prepare our VPA-R/PFPE series depending on application. Please don't hesitate to contact us if you have any question.

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