

Two-Stage Rotary Vane Vacuum Pumps - FRVP Series

Rugged, must-have pumps for deep vacuum operation

These rugged Fisherbrand FRVP two-stage rotary vane pumps are characterised by their long service life, high reliability and low maintenance operation in a wide range of both laboratory and industrial applications. All pumps come with a wide range of accessories to suit your particular requirements.

Principal operating features

- Designed for longevity and reliability, with construction from high-grade materials and corrosion-resistant coating on internal surfaces
- Built for a cleaner working environment, these pumps have reduced oil mist emissions thanks to cool running temperatures with internal pre-filters and oil mist filters included (except FRVP28)
- Designed for quick and simple serviceability to keep down-times to an absolute minimum with mistake-proof 'poka-yoke' servicing design. Use Premium Oil for quick and simple oil changes with extended oil-change intervals. Oil levels are easily monitored through a large viewing port

Key applications

- Chemistry: Schlenk lines, glove boxes
- Life sciences: freeze dryers, vacuum concentrators, vacuum ovens (<0.1mbar)
- Industrial: vacuum furnaces, isolation vacuums
- Analytical: as replacement backing pumps for mass spectrometers
- General R&D: for evacuation of vacuum systems and chambers down to fine vacuum levels (10^{-3} mbar)



Cat. No 16224611



Cat. No 16254611



Cat. Nos 16234611/16244611

Cat. No	16224611	16234611	16244611	16254611	16264611
Model	FRVP2	FRVP5	FRVP8	FRVP16	FRVP28
Pumping speed @ 50Hz, L/min	38	85	122	280	483
Ultimate pressure					
- Without gas ballast partial	3×10^{-4} mbar	5×10^{-4} mbar	5×10^{-4} mbar	3×10^{-4} mbar	3×10^{-4} mbar
- Without gas ballast total	3×10^{-3} mbar	2×10^{-3} mbar	2×10^{-3} mbar	3×10^{-3} mbar	3×10^{-3} mbar
- With gas ballast total	9×10^{-2} mbar	7×10^{-2} mbar	7×10^{-2} mbar	6×10^{-3} mbar	6×10^{-3} mbar
Connection flanges	DN 16 KF	DN 16 KF	DN 16 KF	DN 25 KF	DN 25 KF
Noise level, dB(A)	≤50	≤50	≤50	≤55	≤55
Motor power	290W	370W	370W	700W	700W
Motor speed, rpm	1440	1450	1450	1450	1450
Motor protection level	IP 54	IP 54	IP 54	IP 54	IP 54
Oil capacity, mL	450	1150	1000	2400	2100
Weight, kg	15	22	22.5	37	39.5
Dimensions (l x w x h), mm*	384 x 138 x 211	463 x 157 x 230	463 x 157 x 230	569 x 206 x 289	569 x 206 x 289
Accessories included					
- Premium Oil	1L	2L	2L	3L	3L
- Exhaust oil mist filter	✓	✓	✓	✓	Optional extra
- Hose nozzle adapter	8mm	8mm	8mm	20mm	Optional extra
- Centering and clamping rings	✓	✓	✓	✓	✓
Electrical requirements	230V 50/60Hz	230V 50/60Hz	230V 50/60Hz	230V 50/60Hz	230V 50/60Hz

*Dimensions quoted are without handle and accessories.

Service Kits

Description	Cat. No	Cat. No	Cat. No	Cat. No	Cat. No
Model	FRVP2	FRVP5	FRVP8	FRVP16	FRVP28
Service Kit	16214621	16274611	16284611	16294611	16204621

Scope of delivery: Every pump is supplied complete with anti suck-back valve, gas ballast valve, vacuum oil (Premium Oil), centering ring, clamping ring and motor overload protection, EU (Schuko) and UK/IE power leads, plus accessories as detailed in the table above. Ready for use after oil filling. Certification: CE marked. Service Kits include all replaceable and wearable components and consumables such as O-rings, seals, vanes, valve components and oils

Pump Selection/Application Chart

Cat. No	16224611	16234611	16244611	16254611	16264611
Model	FRVP2	FRVP5	FRVP8	FRVP16	FRVP28
Freeze dryers					
Ice holding capacity	up to 2.5kg	✓	✓		
	up to 4.5kg		✓		
	up to 6kg		✓		
	up to 18kg			✓	
Vacuum concentrators					
High boiling point			✓		
Glove boxes					
Standard for all sizes				✓	
Schlenk line/vacuum manifolds					
Single manifold	✓				
Double manifold		✓			
Vacuum ovens					
Up to 100L capacity			✓		
Up to 250L capacity				✓	
Mass spectrometry					
Replacement for turbo backing pump					✓

FRVP Series Pump Accessories

Cat. No	Description	Pack qty
Pump connection kits – including accessories required for specific applications		
10084924	Freeze dryer adapter kit, DN 16 KF, includes two-way ball valve, hose connector, hinge clamp ring, centering ring, oil mist separator (AKD) and 1.5m vacuum hose	1
15331461	Vacuum concentrator adapter kit, DN 16 KF, hose connector, hinge clamp ring, centering ring, and 1.5m vacuum hose	1
Inlet accessories – protect your FRVP pump from chemical and condensable vapours		
15383455	Vacuum Pump Protection kit, KFG16 glass cold trap, 500mm flexible stainless steel hose, clamps and centring rings	1
16685922	Dry ice screen for use with KFG 16 cold trap	1
Exhaust accessories – protect your lab atmosphere by capturing oil mist		
10618812	Replacement oil mist filter cartridge for pump models FRVP2, FRVP5 and FRVP8	1
10539492	Replacement oil mist filter cartridge for pump model FRVP16	1
16695922	Replacement oil mist filter cartridge for pump model FRVP28	1
16605932	Oil mist filter for two-stage rotary vane pump FRVP28	1
Fisherbrand Premium Oil – triple distilled mineral oils especially for direct drive rotary vane pumps such as the FRVP series		
16224591	Fisherbrand Premium Oil	1L
16234591	Fisherbrand Premium Oil	5L
16665922	Oil change kit for FRVP pumps, includes oil drain valve and funnel	1



FRVP Series Pump Accessories

Cat. No	Description	Pack qty
Flange connectors, centering and clamping rings		
10625431	Clamping ring DN 16 KF	1
10221021	Clamping ring DN 25 KF	1
10077540	Centering ring stainless steel DN 16 KF with fluoroelastomer (FKM) O-ring	1
10534002	Centering ring stainless steel DN 25 KF with fluoroelastomer (FKM) O-ring	1
10086521	Centering ring external DN 16 KF with Viton O-ring	1
10157881	Centering ring external DN 25 KF with Viton O-ring	1
15159374	Flange adapter DN 16 KF for 8mm hose	1
10673881	Flange adapter DN 16 KF for 12mm hose nozzle, stainless steel	1
12724658	Flange adapter DN 16 KF for 20mm hose nozzle, stainless steel	1
10484082	Flange adapter DN 25 KF for 12mm hose nozzle, stainless steel	1
12714658	Flange adapter DN 25 KF for 20mm hose nozzle, stainless steel	1
10270022	Adapter for Schlenk line NS14/23	1



Austria: +43(0)800-20 88 40 Belgium: +32 (0)56 260 260 Denmark: +45 70 27 99 20
 Germany: +49 (0)2304 9325 Ireland: +353 (0)1 885 5854 Italy: +39 02 950 59 478
 Finland: +358 (0)9 8027 6280 France: +33 (0)3 88 67 14 14 Netherlands: +31 (0)20 487 70 00
 Norway: +47 22 95 59 59 Portugal: +351 21 425 33 50 Spain: +34 902 239 303
 Sweden: +46 31 352 32 00 Switzerland: +41 (0)56 618 41 11 UK: +44 (0)1509 555 500

© 2020 Thermo Fisher Scientific Inc. All rights reserved.
 Trademarks used are owned as indicated at fishersci.com/trademarks.