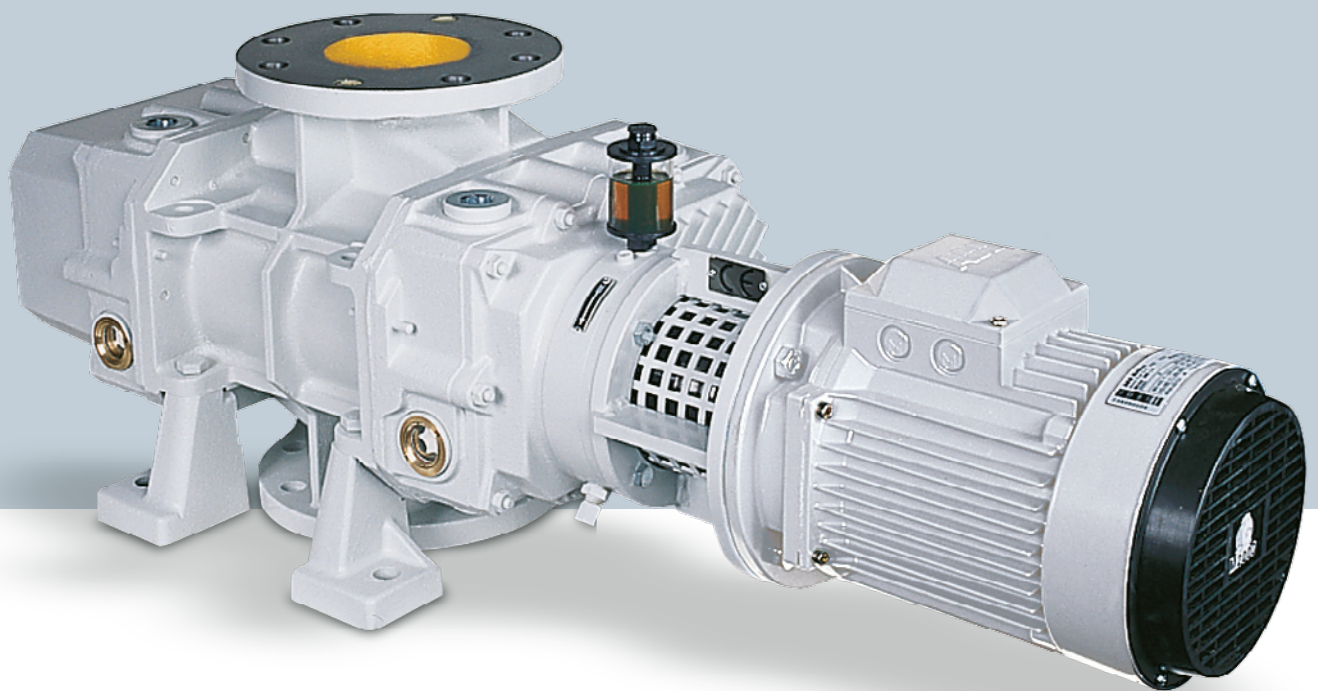


Vacuum

RV



Vacuum Pumps RV





For over 100 years, we at **PEDRO GIL** have been providing technologically advanced, high performance air blowers, vacuum pumps, and vacuum systems with excellent durability.

Our leading-edge technology, service, and quality provide our clients with global coverage and exceptional after-sales service.

Our range

Pedro Gil delivers a complete portfolio of high-performance vacuum pumps engineered for the most demanding industrial environments.

Each model combines innovation, efficiency, and long-term reliability to ensure consistent performance and reduced operating costs.

RV & RVB Series

Two-lobe boosters designed to operate in combination with a primary pump. These eco-friendly solutions are ideal for contaminated wastewater and vapor-recovery processes, providing dependable performance with a minimal environmental footprint.



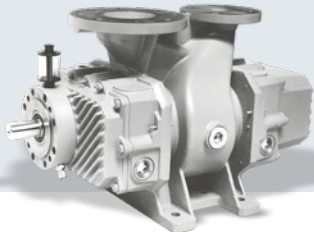
RVR & RVRB Series

Two-lobe boosters with integrated bypass. Perfect for applications requiring a constant vacuum—such as food packaging—these pumps feature an intelligent recirculation bypass system with over-pressure valve for enhanced motor protection.



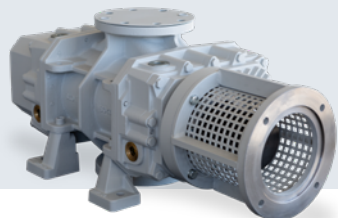
RVTP Three-Lobed Pumps

Robust, energy-efficient units for high-speed, low-pressure duties. Activated by a flexible coupling, they deliver exceptional reliability in demanding high-vacuum environments.



RVM Magnetic-Coupling Pumps

Two-lobe boosters equipped with advanced magnetic coupling technology. Ideal for chemical applications, they offer superior sealing, reduced leakage, and extended service life.



Main Industries and Applications

Pedro Gil vacuum pumps serve **a wide range of industries and processes**, delivering reliable performance wherever high-quality vacuum is essential.



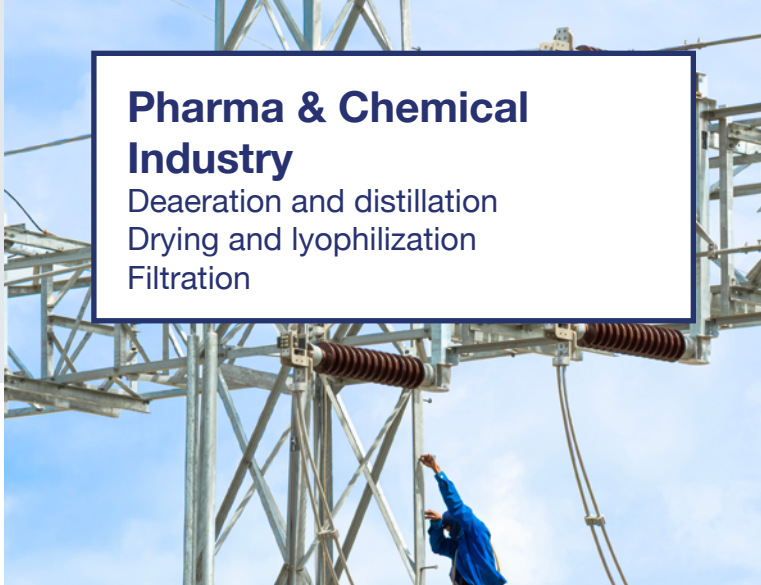
Food Industry

Lyophilization, deaeration, drying
Solvent recovery



Electrical Industry

Drying and impregnation of
condensers, motors, and cables
Deaeration of varnish and resin
Metallization



Pharma & Chemical Industry

Deaeration and distillation
Drying and lyophilization
Filtration



Metallurgy

Casting impregnation
Sintering
Deaeration
Welding with special materials
Heat treatment



Optics

Thin-film coating



Paper Industry

Deaeration and drying
Metallization

Plastics

Deaeration and drying
Fusion, injection, molding, and
extrusion
Metallization

Textile Industry

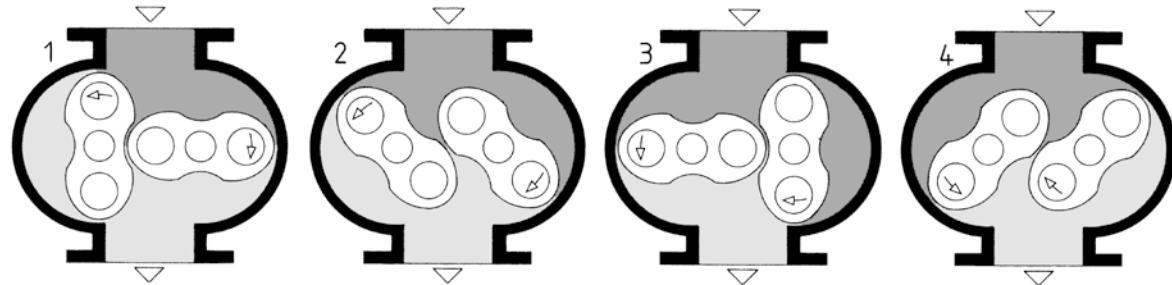
Drying and deaerationn

RV + RVB

Vacuum pumps RV+RVB

The **Roots-type pumps** belong to the group of positive displacement delivery pumps.

Two symmetrical pistons having an eight feature, housed in the pump body, rotate in opposite directions with no contact between each other nor with the pump body, meshing continuously. The pistons are driven by a set of gears with synchronised rotation, which guarantees friction free movement.



Operating principle

During rotation, a progressively growing space is created which corresponds to the suction stage:

- phases 1 and 2, being gradually decreased
- phases 3 and 4, compressing the volume of gas.

This cycle is repeated four times per each complete rotation of the drive shaft.

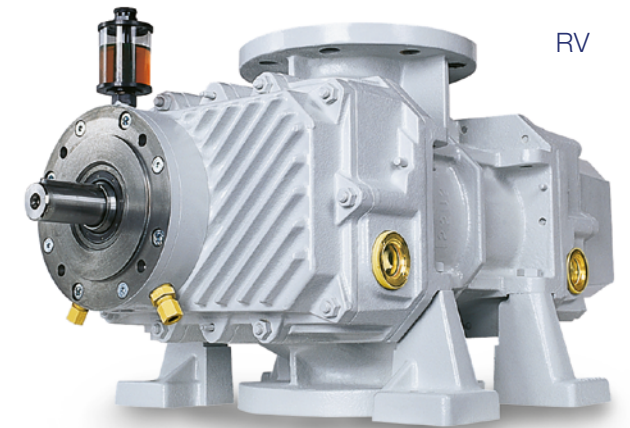
Construction characteristics RV+RVB Roots pumps

RVB pumps are used in combination with liquid ring and rotary vane pumps and can also be used with condensers arranged in series connection.

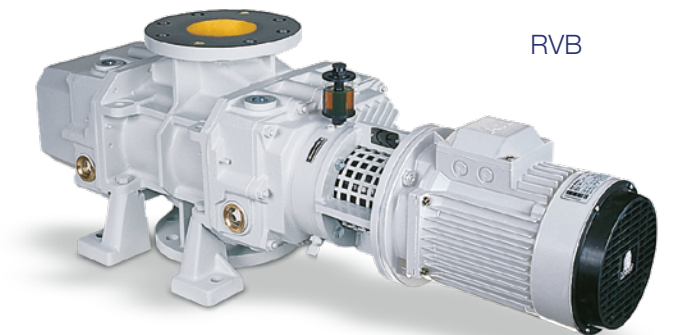
The Roots-type pump drive shaft is directly driven by the motor shaft by means of an elastic coupling. The shaft passage is closed off by seals with an oil chamber, the oil being used as a sealing fluid.

A cooling chamber is included for the shaft passage to eliminate the heat produced by the seal. The seals and the rest of the elastomers are made of VITON Fluorinated elastomer.

The RVB type is supplied with an AC, three-phase motor and standardized flanges, in accordance with IEC standards..



RV



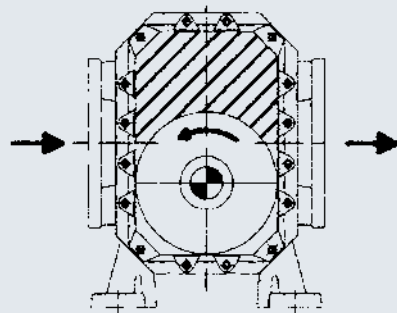
RVB

CONSTRUCTION FORM

TYPE A-2

From view of the drive shaft

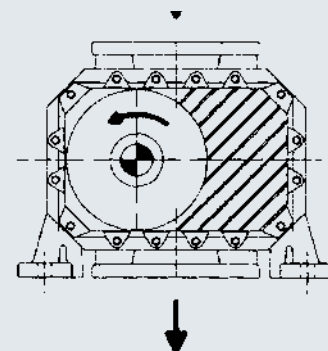
Direction of gas: From left to right.
Shaft position: Bottom
Rotation direction: To the left (anticlockwise)



TYPE B-4

From front view of the drive shaft

Direction of gas: From top to bottom
Shaft position: To the left
Rotation position: To the left (anticlockwise)



NOTE: B-4 is the standard operation.

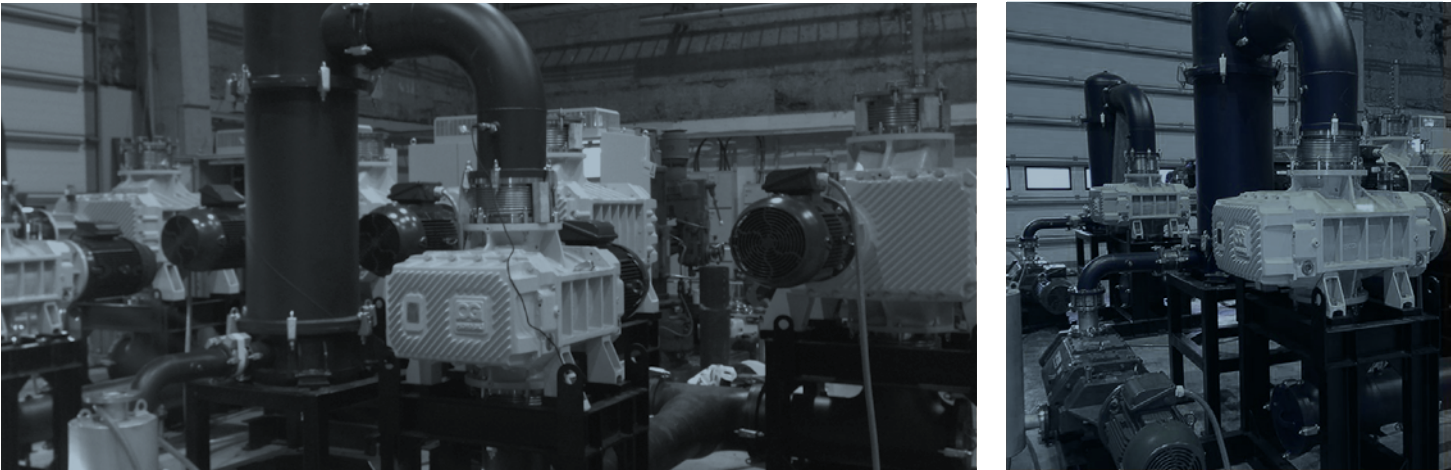
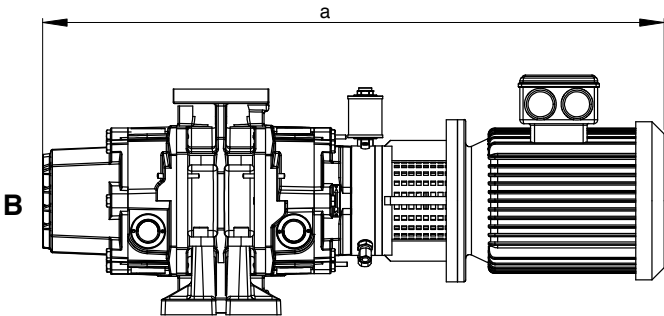


Technical data

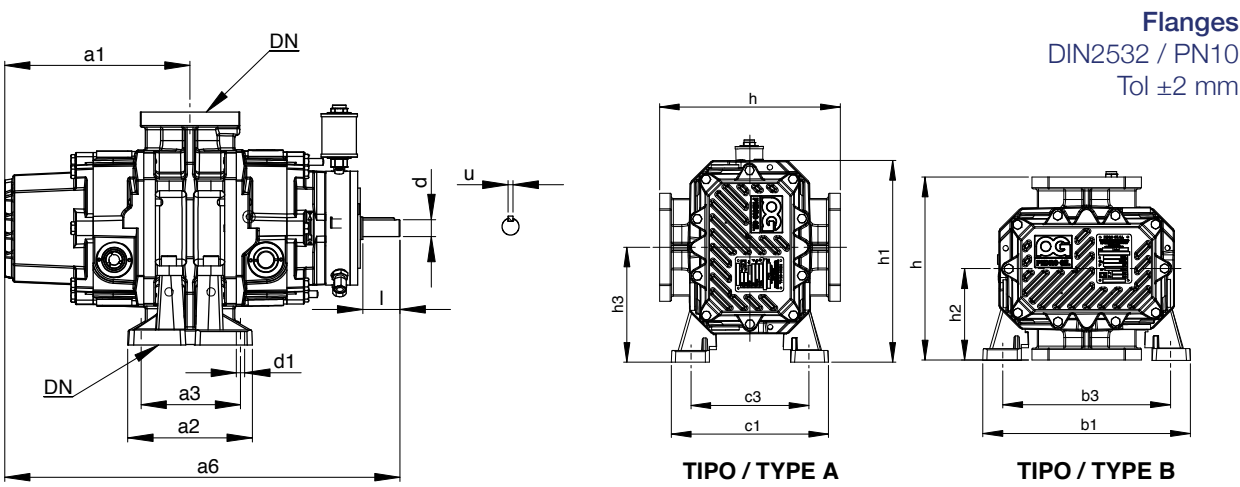
Size		20.10	20.20	21.20	21.30	22.20	22.30	23.20	23.30	24.20	25.10	25.20	26.20	26.30	27.10	27.20	27.30
Rated suction flow	m3/h	200	280	500	740	1000	1430	2000	2880	3725	5422	7295	7954	9470	11515	15558	30000
Rotation speed	min	2850	2850	2860	2860	2895	2895	2910	2910	2915	2915	2930	1460	1460	1465	1465	1500
Max. pressure difference with continuously	mbar	130	80	80	80	80	66	50	40	50	50	50	50	40	40	30	25
Motor power	kW	0,75	1,1	2,2	3,0	4,0	4,0	5,5	7,5	11,0	15,0	18,5	22,0	22,0	30,0	30,0	37,0
Normal supply voltage, 50 Hz	V	230/400	230/400	230/400	230/400	230/400	230/400	230/400	400△	400△	400△	400△	400△	400△	400△	400△	400△
Oil Capacity in oil box A/B	Ltr	0,62/0,98	0,62/0,98	1,1/1,61	1,1/1,61	1,58/2,45	1,58/2,45	3,05/4,69	3,05/4,69	4,95/8,5	7,5/12,5	7,5/12,5	15/22	15/22	27/35	27/35	27/35
Oil capacity shaft passage seal	Ltr	0,06	0,06	0,07	0,07	0,08	0,08	0,1	0,1	0,15	0,15	0,2	0,25	0,25	0,3	0,3	0,3
Consumption cooling water	Ltr/h	60	60	80	80	100	100	120	120	140	140	160	180	180	200	200	200
Weight Roots pump with motor	kg	73	85	130	158	240	270	360	400	580	580	850	1600	1700	2490	2690	3000
Weight of pump (free shaft)	kg	62	76	115	135	208	245	320	360	460	460	710	1450	1550	2250	2450	2685

RV+RVB dimensions

RVB



RV



Size	DN	a	a ₁	a ₂	a ₃	a ₆	b ₁	b ₃	c ₁	c ₃	d ₁	h	h ₁	h ₂	h ₃	Shaft's end		
																d	l	u
20.10	50	767	220	148	118	470	313	253	240	178	14	276	340	138	176	20k6	45	6
20.20	80	807	240	188	158	509	313	253	240	178	14	276	340	138	176	20k6	45	6
21.20	100	958	291	270	230	615	366	290	281	204	18	320	353	160	203	28k6	53	8
21.30	100	1103	341	370	330	715	366	290	281	204	18	320	383	160	203	28k6	53	8
22.20	100	1134	345	327	282	731	426	354	313	240	18	350	417	175	232	32k6	68	10
22.30	150	1246	401	439	394	843	426	354	313	240	18	350	417	175	232	32k6	68	10
23.20	150	1286	398	412	362	832	529	444	388	298	24	400	494	200	271	38k6	68	10
23.30	150	1445	468	552	502	972	529	444	388	298	24	400	494	200	271	38k6	68	10
24.20	200	1622	470	363	288	993	592	528	421	357	24	500	607	250	335	42k6	88	12
25.10	200	1599	468	329	249	962	728	638	514	424	24	630	748	315	421	42m6	86	16
25.20	250	1762	528	458	378	1091	728	638	514	424	24	630	748	315	421	42m6	86	16
26.20	300	2088	665	620	510	1381	948	848	668	570	24	780	930	390	525	75m6	106	20
26.30	300	2220	729	750	640	1512	948	848	668	570	24	780	930	390	525	75m6	106	20
27.10	300	2300	717	575	450	1528	1147	1057	814	724	40	1000	1153	500	668	90m6	190	25
27.20	350	2524	852	799	674	1753	1147	1057	814	724	40	1000	1153	500	668	90m6	190	25
27.30	400	2901	988	1065	940	2040	1147	1057	814	724	40	1000	1153	500	668	90m6	190	25

Roots-type vacuum pumps

RVR/RVRB

General details on the roots-type vacuum pumps

The **RVR vacuum pump** with recirculation is especially designed for applications in which the vacuum needs to be interrupted constantly. For instance, vacuum packaging of food. To protect the pump from such working conditions, it is provided with the recirculation bypass conduit, regulated by a relief valve.

This pump is very well suited for applications where a frequency shifter cannot be used, like working conditions with constant changes that can damage the electrical motor. Since this pump is provided with the bypass, it is possible to simultaneously start the Roots pump and the former pump, because the machine is able to work temporarily without a prior high vacuum.

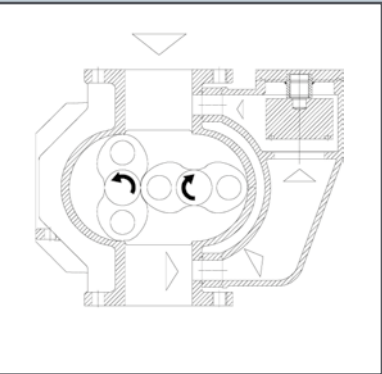
It is advisable not to work within a range of pressures that can result in permanent opening of the by-pass conduit, since the gas will continue to heat up until it reaches the thermal limit of the machine.

Manufacturing materials

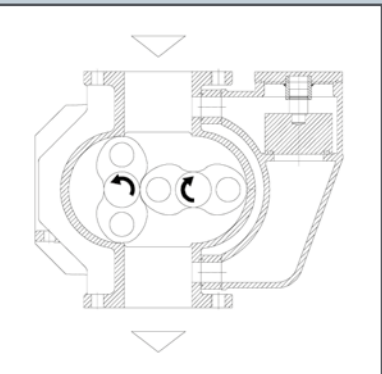
Size		21.20	22.20	23.20
Rated suction flow	m³/h	500	1000	2000
Rotation speed	min	2860	2895	2910
Maximum pressure difference with continuous operation	mbar	60	60	60
Motor power	kW	2,2	4	5,5
Normal supply voltage, 50 Hz	V	230/400	230/400	230/400
Oil Capacity in oil box A/B	Ltr	1,1/1,61	1,58/2,45	3,05/4,69
Oil capacity shaft passage seal	Ltr	0.07	0.08	0.1
Consumption cooling water	Ltr/h	80	100	120
Weight Roots pump with motor	kg	156	260	402
Weight of pump (free shaft)	kg	141	228	360

Construction characteristics

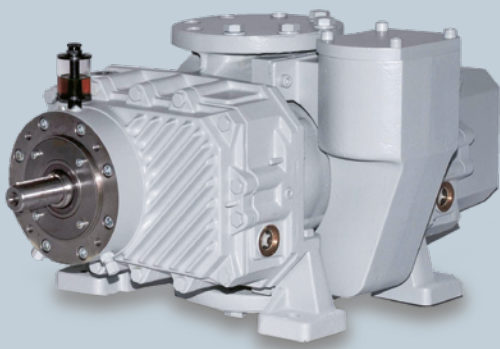
The same as the RVB type, with the difference that the motor mounting support is supplied without the compensating coupling and without the motor. In short, it shaft-free.



Relief valve open



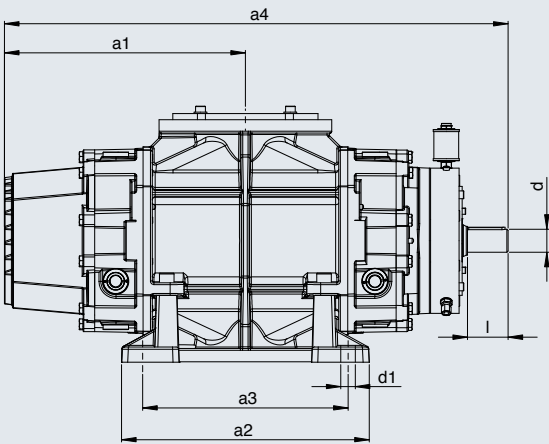
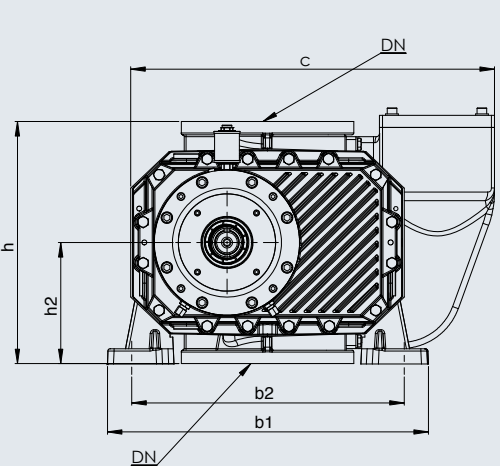
Relief valve closed



Cylinder	Cast iron GG-25
By-pass	
Intermediate headplates	
Oil sumps	
Piston - Shaft	Forged steel CK-45
Gears	Steel Din 18 Cr Mo 4

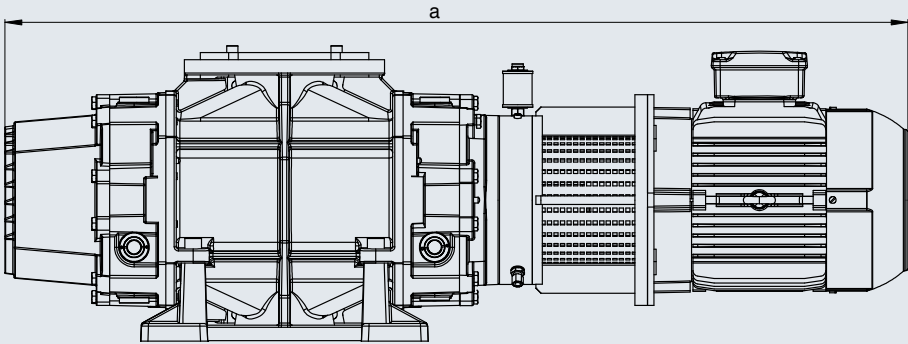
Technical data

RVR



Flanges
DIN 2532/PN10
Tol ±2 mm

RVRB



Dimensions RVR / RVRB Pumps

Size	Pmax. mbar	n v/min.	Pmax. kW	Size motor	DN	a	a ₁	a ₂	a ₃	a ₄	b ₁	b ₂	h	h ₂	d ₁	Kg
21.20	60	3000	2.2	90L	100	932	291	270	230	611	366	290	320	160	18	156
			3	100L		984										160
22.20	60	3000	3	100L	100	1109	345	327	282	735	426	354	350	175	18	254
			4	112		1130										260
			5.5	132 S		1181										270
			7.5	132 S												274
23.20	60	3000	4	112	150	1217	398	412	362	828	534	444	410	200	24	392
			5.5	132 S		1268										402
			7.5	132 S		1390										406
			11	160 M		1471										437
			15	160 M		1181										470
			18.5	160 L												565

RVTP

Roots pumps RVTP with three lobes

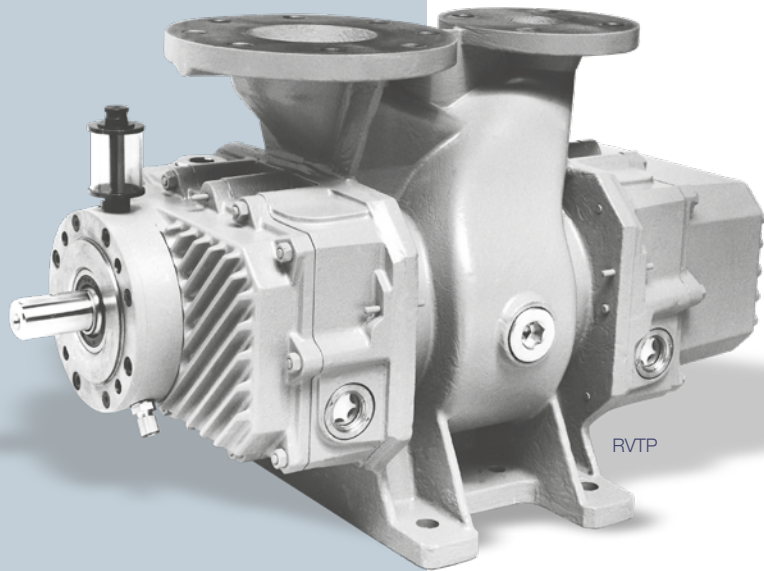
Eight sizes of previous intake rotary piston pumps are manufactured for rated flows from 200 to 10.000 m3/h.

This type of pump is designed to be driven preferably by elastic coupling, although it may use belt and pulley drive if due precautions are taken to avoid overloading the drive shaft. The shift passage is closed by seals with an oil chamber, the oil acting as a sealing fluid.

A cooling chamber is included for the shaft passage to eliminate the heat produced by the seal.

The seals are made of VITON Fluorinated elastomer.

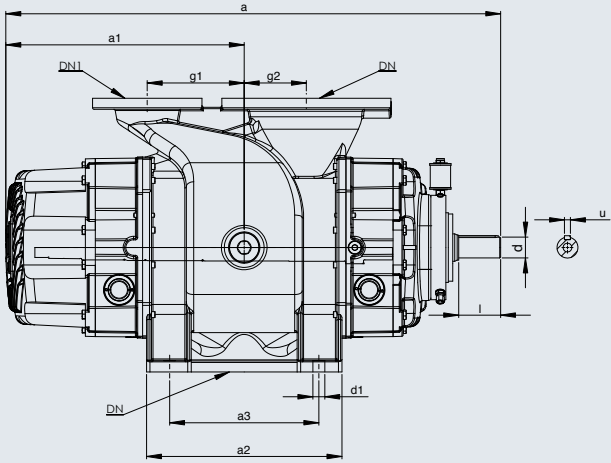
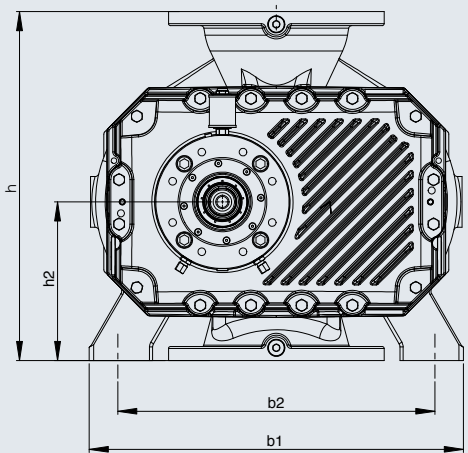
Always requires a previous pump.



Technical data

Size		30.20	31.20	32.20	33.20	34.20	35.20	36.20
Rated suction flow	m³/h	280	500	1000	2000	3000	4000	8000
Rotation speed	min	3000	3000	3000	3000	2200	1800	1500
Maximum permitted differential pressure	mbar	400	400	400	300	300	300	300
Maximum motor power	kW	4.0	7.5	15.0	30.0	37.0	55.0	90.0
Oil capacity in oil box	Ltr	0,62/0,98	1,1/1,61	1,58/2,45	3,05/4,69	4,95/8,5	7,5/12,5	15/22
Oil capacity shaft passage seal	Ltr	0.06	0.07	0.08	0.1	0.15	0.2	0.25
Consumption cooling water	Ltr/h	60	80	100	120	120	140	160
Weight of pump (free shaft)	kg	91	127	215	335	455	682	1385

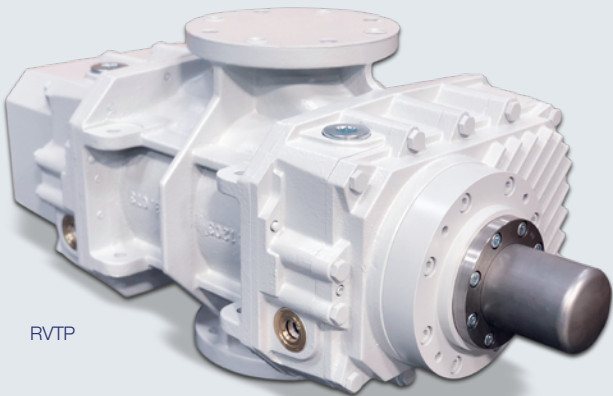
Dimensions RVTP



Sizes from 20 to 23
Sizes from 34 to 27

Flanges
DIN 2532/PN10
Tol ±2 mm

Size	DN	DN ₁	a	a ₁	a ₂	a ₃	b ₁	b ₂	g	g ₁	h	h ₂	d ₁	RVTP		
														d	l	u
30.20	80	50	509	240	138	90	290	253	97	103	340	140	14	20k6	45	6
31.20	100	50	615	291	210	156	340	290	100	120	370	160	18	28k6	53	6
32.20	100	80	743	345	256	196	426	346	115	125	410	180	18	32k6	68	10
33.20	150	100	831	398	324	264	520	464	130	160	450	200	24	38k6	68	10
34.20	200	100	993	479	363	300	592	528	125	195	550	250	24	42k6	88	12
35.20	250	150	1091	532	458	392	728	638	200	210	680	315	24	42m6	86	12
36.20	300	200	1381	665	654	548	946	846	230	250	760	355	24	75m6	106	20
27.20	350	200	1753	829	844	674	1140	1058	260	290	1000	500	27	90m6	190	25

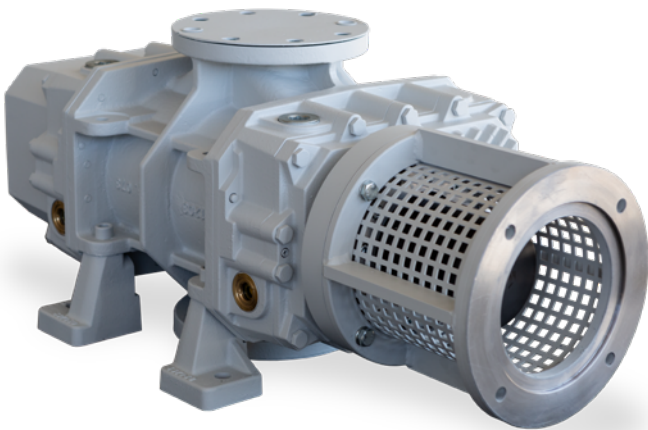


RVM

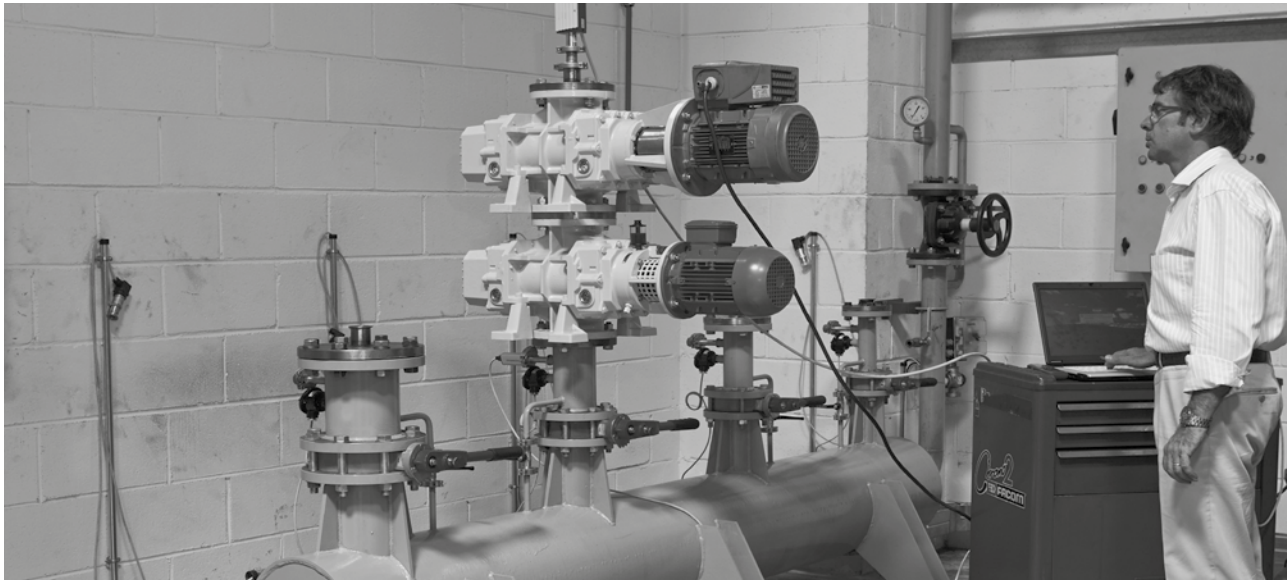
RVM Vacuum Pump with Magnetic Coupling

Instead of dynamic sealing, we now offer a new magnetic coupling obtaining better leak proof with a static sealing increasing pump life.

Roots RVM vacuum pumps driven with magnetic coupling provide extensive advantages over conventional pumps. Leaking the coefficient is much lower reaching a final vacuum up to 10⁻⁵ mbar, providing better efficiency in high vacuum range. Compression chamber's sealing is achieved whether by seal segments or by specific seals for concrete applications.



The RVM vacuum pumps offer superior performance, achieving vacuum levels down to 10⁻⁵ mbar with improved efficiency in high-vacuum applications. They are maintenance-free, require no water for refrigeration, and are suitable for clean room environments. Additionally, they can be adapted to any motor with flange and are compatible with frequency converters for intermittent speed increases.

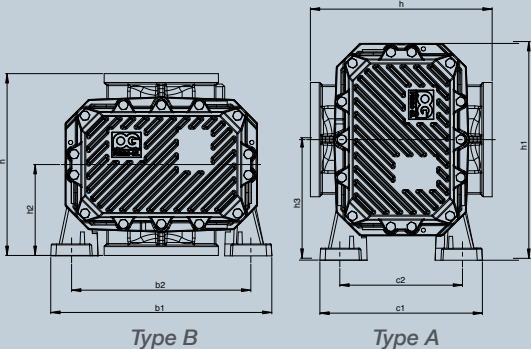
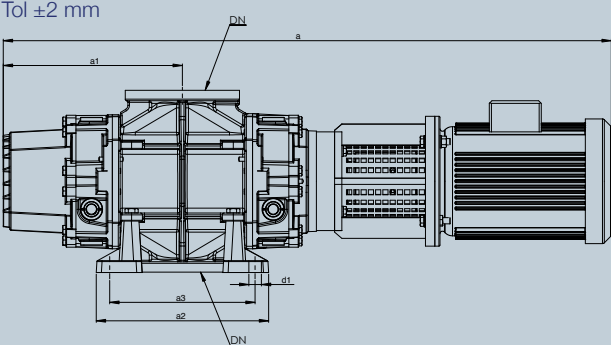


RVMB dimensions

Size	DN	a	a ₁	a ₂	a ₃	b ₁	b ₂	c ₁	c ₂	d ₁	h	h ₁	h ₂	h ₃
20.10	50	837	220	148	118	313	253	240	178	Ø14	276	340	138	176
20.20	80	877	240	188	158	313	253	240	178	Ø14	276	340	138	176
21.20	100	1028	291	270	230	366	290	281	204	Ø18	320	353	160	203
21.30	100	1173	341	370	330	366	290	281	204	Ø18	320	382	160	203
22.20	100	1199	345	327	282	426	354	313	240	Ø18	350	417	175	232
22.30	150	1316	401	439	394	426	354	313	240	Ø18	350	417	175	232
23.20	150	1356	398	412	362	534	444	388	298	Ø24	400	494	200	271
23.30	150	1515	468	552	502	534	444	388	298	Ø24	400	494	200	271
24.20	200	1696	470	363	288	592	528	420	356	Ø24	500	602	250	335
25.10	200	1699	468	329	249	728	638	514	424	Ø24	630	743	315	421
25.20	250	1862	532	458	378	728	638	514	424	Ø24	630	743	315	421
26.20	300	2188	665	620	510	948	848	666	566	Ø24	780	925	390	525
26.30	300	2320	732	750	640	948	848	666	566	Ø24	780	925	390	525
27.10	300	2400	717	575	450	1147	1057	812	722	Ø40	1000	1151	500	668
27.20	350	2624	829	799	674	1147	1057	812	722	Ø40	1000	1151	500	668

Under development

Flanges
DIN 2532/PN10 A
Tol ±2 mm



Technical data		20.10			20.20			21.20			21.30			22.20			22.30			23.20			23.30			24.20			25.10			25.20			26.20			26.30			
		50 Hz	60 Hz	máx. vel	50 Hz	60 Hz	máx. vel	50 Hz	60 Hz	máx. vel	50 Hz	60 Hz	máx. vel	50 Hz	60 Hz	máx. vel	50 Hz	60 Hz	máx. vel	50 Hz	60 Hz	máx. vel	50 Hz	60 Hz	máx. vel	50 Hz	60 Hz	máx. vel	50 Hz	60 Hz	máx. vel	50 Hz	60 Hz	máx. vel	50 Hz	60 Hz	máx. vel				
Flow	m3/h	200	280	350	280	336	465	500	600	830	740	950	1300	1000	1200	1750	1430	1716	1920	2000	2400	2720	2880	3456	3500	3725	4470	4470	5422	6506	6506	7295	8754	8754	7954	9545	10900	9545	11454	13075	
Turning Speed	r.p.m	2850	3420	5000	2850	3420	5000	2860	3432	5000	2860	3432	5000	2895	3474	5000	2895	3474	4000	2910	3492	4000	2910	3492	3600	2915	3498	3498	2925	3510	3510	2930	3516	3516	1460	1752	2000	1460	1752	2000	
Max. Pressure Diff. Cont	mbar	80	80	50	80	80	50	80	80	50	80	80	50	80	80	50	66	66	50	50	50	50	40	40	40	50	50	50	66	66	66	50	50	50	50	50	50	40	40	40	
Motor power	Kw	0,75	1,1	1,5	1,1	1,5	2,2	2,2	3	4	3	4	4	4	5,5	5,5	4	5,5	5,5	5,5	7,5	7,5	7,5	11	11	11	15	15	15	18,5	18,5	18,5	22	22	22	22	22	22	22	30	30
Oil capacity	Lt	1	1	1	1	1	1	1,6	1,6	1,6	1,6	1,6	1,6	2,5	2,5	2,5	2,5	2,5	2,5	4,8	4,8	4,8	4,8	4,8	4,8	8,5	8,5	8,5	12,5	12,5	12,5	12,5	12,5	12,5	17	17	17	17	22	17	
Weight of pump - with motor	Kg	75	78	82	85	87	130	130	135	135	165	165	185	240	240	240	270	290	290	360	375	375	400	420	420	580	600	600	755	755	755	850	850	850	1600	1600	1600	1700	1800	1800	
Weight of pump - free shaft	Kg	65	65	65	76	76	115	115	115	115	135	135	135	210	210	210	245	245	245	320	320	320	360	360	360	460	460	460	630	630	630	710	710	710	1450	1450	1450	1550	1550	1550	

Under development

Repair Service

Trust in technical repair services with the manufacturer's guarantee

Your vacuum pump is always ready for use with original Pedro Gil spare parts.

Using genuine parts ensures optimal performance and keeps your equipment warranty valid. Their use helps prevent downtime, production stoppages, and vacuum pump failures.



Quality



Guarantee



Trust

Aftermarket Support Modular Maintenance Contract

Modular maintenance contracts by Pedro Gil offer tailored solutions that cater to the diverse value and criticality of industrial assets, aligning with risk-based maintenance strategies increasingly adopted by top-tier companies. Read on for more about the benefits you can get with each maintenance contract.

Preventive
Basic

Preventive
Premium

Preventive
Install

Predictive
Basic

Predictive
Premium

Pedro Gil
Stock
Access



Discover more about our maintenance services at [pedrogil.com](https://www.pedrogil.com) or by scanning this QR code.





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