



# Vacuum Solutions for Food Processing and Packaging

**FRESH.  
FRESHER.  
LEYBOLD.**

**NEW! 100% OILFREE  
NOVADRY PRODUCT SERIES**



# The Experts for Real Freshness

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Since 1850 Leybold has supported the success of many customers with innovative vacuum technology, thanks to a broad spectrum of application specific solutions. Today, vacuum solutions are used in a huge variety of industries and in all major research projects.

The products of Leybold are specifically configured to suit the individual requirements of each application. Also the food producing industry benefits from our solutions as almost all current food production processes require vacuum.



A large fish, possibly a salmon, is shown in profile, swimming towards the left. Its mouth is wide open, revealing its tongue and teeth. The fish has a dark, speckled pattern on its head and a lighter, silvery-grey body. The background is a clear blue ocean with sunlight filtering through the water. In the lower half of the image, there is a dense field of green seaweed or kelp, with long, narrow leaves swaying in the current. The overall scene is vibrant and natural.

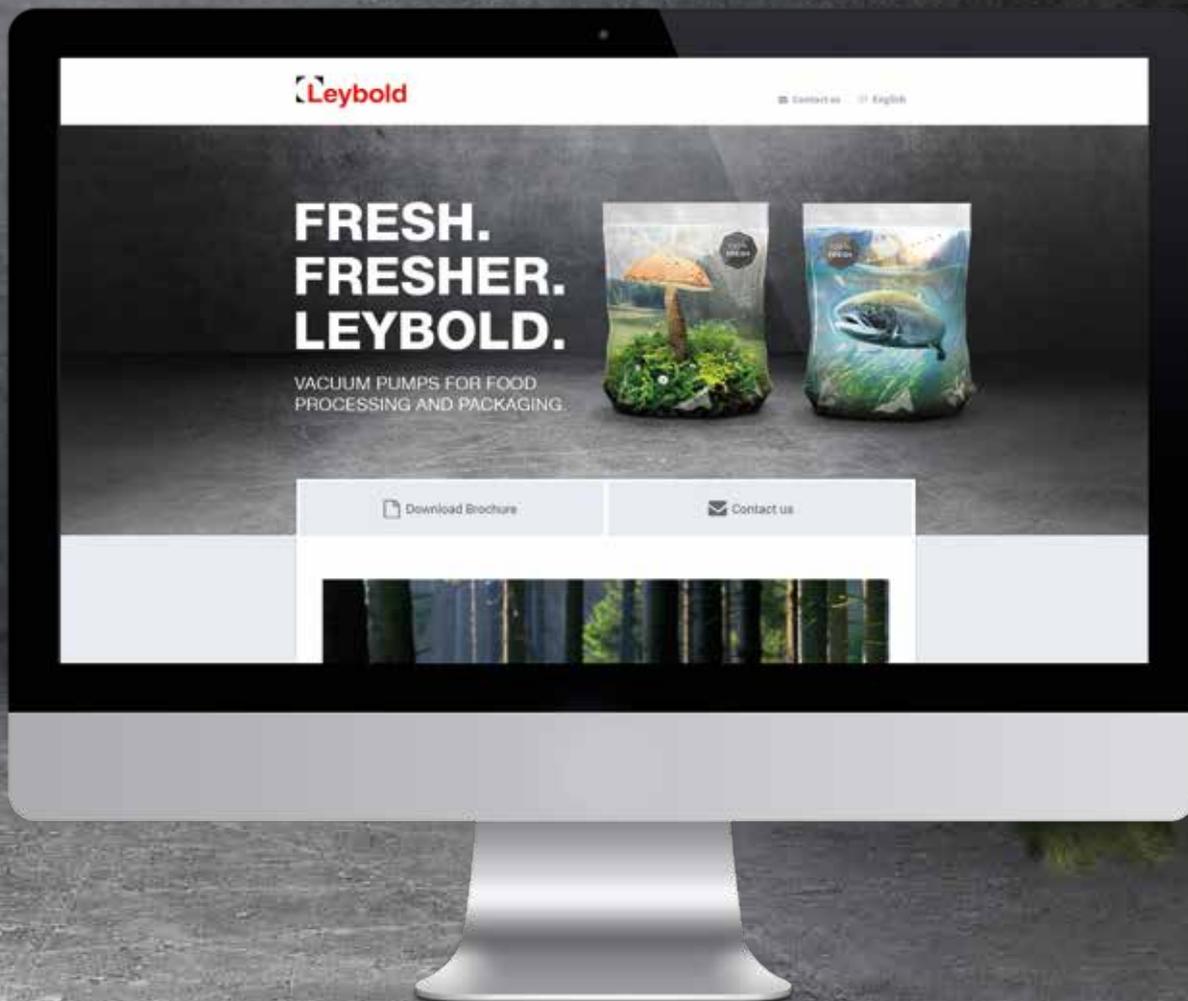
Highest product quality is the target for all food producing companies. Leybold supports this with our broad product portfolio and application specific vacuum solutions.

**100 % Freshness**

# Explore the world of freshness now

Learn more about the possibilities of vacuum: On our webpage you will not only learn about food processing and packaging, you will also find more about our customer solutions and application specific products.

Please “dive in” and experience our world of freshness.  
See for yourself: [www.leybold-foodandpack.com](http://www.leybold-foodandpack.com)



## Vacuum Solutions for Food Processing and Packaging

### General

Application Matrix Food and Packaging Market . . . . .	4
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### Products

NOVADRY dry compressing screw pumps . . . . .	8
DRYVAC dry compressing screw pumps . . . . .	10
SCREWLINE dry compressing screw pumps . . . . .	12
CLAWVAC dry rough vacuum claw pumps . . . . .	14
VACUBE oil sealed screw central vacuum system . . . . .	16
RUVAC FP Roots pump range . . . . .	18
SOGEVAC SV FP oil-sealed rotary vane pumps . . . . .	20
SOGEVAC SV B oil-sealed rotary vane pumps . . . . .	24
SOGEVAC Oxygen Range . . . . .	26
Oil for SOGEVAC by pump types . . . . .	27
Liquid separator, see-through . . . . .	28
Dust filter, see-through . . . . .	29
Dust filter (suction side) . . . . .	30
Range of stainless steel fittings . . . . .	32
Vacuum pressure gauges for the low and medium vacuum range . . . . .	34
Range of LEYBONOL food-grade vacuum oils . . . . .	35

### Appendix

Services and After Sales support . . . . .	36
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## Pumps and solutions for every food application

<b>Vacuum Pumps</b>	<b>NOVADRY</b>	<b>DRYVAC</b>	<b>SCREWLINE</b>	<b>CLAWVAC</b>
<b>Size available (m³/h)</b>	65/100/160/200	200 - 650	250 / 630	65/150/300
<b>Cooling</b>	Air	Water	Air or Water	Air
<b>Washdown</b>	Yes (housing version)	Yes (-r version)	No	Yes
<b>Technology</b>	Dry screws	Dry screws	Dry screws	Dry claws
<b>Pressure range (mbar)</b>	1000 - 0.1	1000 - 0.005	1000 - 0.01	1000 - 50/140
See pages	8	10	12	14

### Food Processing

Freeze drying	★★	★★	★★★★	
Tumbling / Marinating / Mixing	★★★★		★★★★	★★★★
Vacuum cooling	★★	★★★★	★★★★	
Slaughterhouse applications	★★			★★★★
Filling / Stuffing	★★★★			★★★★
Vacuum cutting / grinding	★★★★			★★★★
Bottling	★★★★			★★★★
Controlled Atmosphere storage	★★			
Pasta processing	★★★★		★★★★	
Vacuum cooking / frying	★★★★		★★★★	★★★★
Vacuum conveying	★★			★★★★
Vacuum microwave drying	★★★★	★★★★	★★★★	
Central vacuum system for processing	★★	★★★★	★★★★	★★★★

### Food Packaging

Belt chamber packaging machines		★★★★		
Thermoforming / Rollstock	★★★★	★★★★		★★
Tray sealing	★★★★	★★★★		
Carousel packaging		★★★★		
Skin packaging	★★★★	★★★★		
MAP with O <sub>2</sub>	★★★★	★★★★		
Leak testing				★★
Metal can sealing (powder milk, coffee...)	★★			
Table top packaging machines / Clipping	★★★★			
Central vacuum system for packaging				

- ★★★★ Best in class
- ★★ Recommended
- ★ Suitable, lower capital cost with increased user maintenance

VACUBE	RUVAC FP	SOGEVAC FP	SOGEVAC B	SOGEVAC Oxygen	Application Challenges			
					Gas and ambient temperature	Average operating pressure	Dust / Powder / Particles	Moisture
400 - 1650	250 - 2000	10 - 300	470 - 750	16 - 630				
Air	Air	Air	Air or Water	Air				
No	Yes	Yes	No	Yes				
Lubricated screws	Roots	Oil sealed rotary vane	Oil sealed rotary vane	Oil sealed rotary vane				
1000 - 1	----	1000 - 1	1000 - 1	1000 - 1				
16	18	20	24	26				
	★★★	★	★		L	L	M	H
		★			L	H	H	H
	★★★	★	★★		L	M	L	M
					L	H	H	H
		★			L	M	M	H
					L	H	M	H
★			★		L	M	L	H
		★★	★★		L	H	L	L
★★		★	★		M	H	H	H
					H	M	L	H
					H	M	L	M
					H	M	M	M
★★★			★					
★★	★★		★★		L	M	L	L
★★	★★	★★	★★		L	M	L	L
★★	★★	★★	★★		L	M	L	L
★★	★★★		★★		L	L	L	L
★★	★★	★★	★★		L	L	L	L
			★★★		L	M	L	L
		★★			L	L	L	L
★★		★★	★★		L	M	L	L
		★★★			L	L	L	L
★★★	★★★		★★		L	L	L	L

L Low  
M Medium  
H High

## NOVADRY



NOVADRY ND 65



The NOVADRY sets new standards for the food packaging and processing applications.

It is the only 100% oil free and air cooled vacuum pump on the market. Its noise level is also incredibly low.

Maintenance and service requirement are reduced to the minimum.

Its design already incorporates hygienic design rules, not allowing accumulations of liquids. Full process room wash-down capability can be reached with the optional stainless enclosures.

### Our Solution

- Dry screw technology
- Air cooled
- Sizes 65, 100, 160 and 200 m<sup>3</sup>/h

### Typical Applications

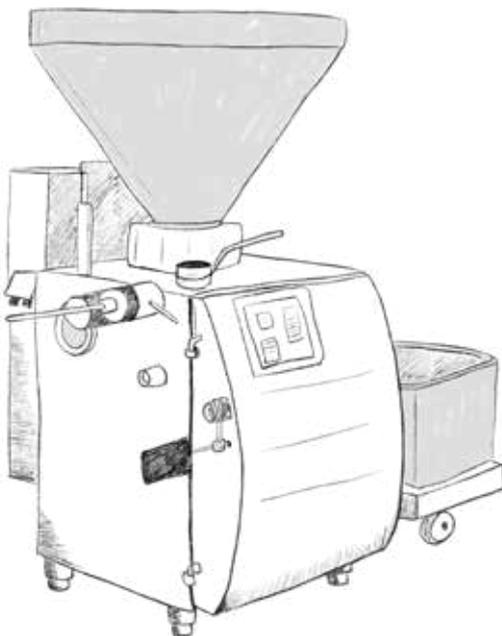
- Thermoforming
- Chamber packaging
- Tray sealing
- Skin packaging
- Tumbling / mixing
- Stuffing filling

### Customer Benefits

- Maximum food safety (no oil leakage nor oil mist at exhaust)
- Highest uptime and performance
- Low total cost of ownership by most robust design
- Simple installation and operation
- Comfort of use for the operators: low and comfortable noise thanks to optimized rotor design and integrated silencer

### Options

- Stainless steel hygienic enclosures for full wash-down capability



# NOVADRY

## Technical Data

		NOVADRY			
		ND 65	ND 100	ND 160	ND 200
Nominal speed without gas ballast <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup>	65	105	150	200
Ultimate pressure without gas ballast <sup>1)</sup>	mbar	0.1	0.1	0.1	0.1
Water vapor tolerance with gas ballast	mbar	20	20	20	20
Water vapor capacity with gas ballast	kg x h <sup>-1</sup>	0.6	1	1.5	2
Permissible ambient temperature	°C	0 to 40	0 to 40	0 to 40	0 to 40
Cooling		Air	Air	Air	Air
Mains voltage					
50 Hz versions	V	400 or 200, ±10%			
60 Hz versions	V	460 or 230, ±10%			
Max. power consumption	W	1500	2200	3000	4000
Permissible motor speed <sup>2)</sup>	Hz	50/60	50/60	50/60	50/60
Protection class EN 60529	IP	55	55	55	55
Noise level with integrated silencer at ultimate pressure <sup>3)</sup>	dB(A)	64	65	69	71
Connections					
Intake side	DN	G 2"	G 2"	G 2"	G 2"
Pressure side	DN	G 1 1/2"	G 1 1/2"	G 1 1/2"	G 1 1/2"
Weight, approx.	kg	85	95	105	115
Dimensions (W x H x D)	mm	488 x 315 x 644	488 x 315 x 736	488 x 315 x 889	488 x 315 x 889

<sup>1)</sup> To DIN 28 400 ff.

<sup>2)</sup> Depending on version 50 Hz or 60 Hz. Please refer to the pump nameplate.

<sup>3)</sup> To DIN EN ISO 2151

## Ordering Information

		NOVADRY			
		ND 65	ND 100	ND 160	ND 200
		Part No.	Part No.	Part No.	Part No.
NOVADRY dry screw pump with 3 phase motor					
400V+/-10% or 200V+/-10%, 50 Hz		<b>111065N10</b>	<b>111100N10</b>	<b>111160N10</b>	<b>111200N10</b>
460V+/-10% or 230V+/-10%, 60 Hz		<b>111065N11</b>	<b>111100N11</b>	<b>111160N11</b>	<b>111200N11</b>

## DRYVAC



**DRY AND  
EXTREMELY  
COMPACT**

DRYVAC DV 650

Our DRYVAC is a rugged, dry screws vacuum pump with excellent energy efficiency. Compactness and low noise level enable installation close to the machine resulting in shorter cycle time and lower cost of installation.

### Our Solution

- Dry screw technology
- Water cooled
- Driven by frequency converter
- ISO-6 certificate for clean rooms
- PFPE versions for MAP of red meat with oxygen
- Direct connection of RUVAC Roots blower via adapter
- “Hygienic design” versions include stainless steel protection housing for installation in wash down areas and optionally:
  - Plug and Play device to control the purge valves, gas ballast and flushing valve according to the process
  - E-saver allowing up to 50% energy savings at low pressure

### Typical Applications

- Freeze drying
- Thermoforming
- Vacuum baking and cooling
- Modified Atmosphere Packaging (MAP) and skin packaging
- Vacuum cooling
- Belt chamber packaging machines

### Customer Benefits

- Extremely compact design and water cooling allows installation directly inside the air-conditioned process area
- Highest energy efficiency
- Three inlet ports available allowing flexible installation and connection to the machine
- Integrated frequency converter for optimal process control and easy networking



DRYVAC DV 650 FP Hygienic design with stainless steel housing for installation in wash-down areas

## Technical Data

		<b>DRYVAC</b>		
		<b>DV 300</b>	<b>DV 650</b>	<b>DV 650 FP Hygienic</b>
		<b>50/60 Hz</b>	<b>50/60 Hz</b>	<b>50/60 Hz</b>
Nominal speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup>	280	650	650
Ultimate pressure <sup>1)</sup>	mbar	≤ 0.01	≤ 0.005	≤ 0.005
Maximum permissible Water vapor capacity	kg x h <sup>-1</sup>	5	25	25
Cooling		Water	Water	Water
Motor power	kW	7.5	15	15
Protection class EN 60529		IP 54	IP 54	IP 65
Lubricant filling	l	1.0	1.2	1.2
Noise level <sup>2)</sup>	dB(A)	65	65	< 65
Connections				
Intake side	DN	63 ISO-K	100 ISO-K	G 3"
Pressure side	DN	40 ISO-K	63 ISO-K	G 3"
Weight, approx.	kg	370	580	580
Dimensions (W x H x D)	mm	1110 x 613 x 478	1280 x 420 x 570	1468 x 773 x 568

<sup>1)</sup> To DIN 28 400 ff.

<sup>2)</sup> Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

## Ordering Information

		<b>DRYVAC</b>		
		<b>DV 300</b>	<b>DV 650</b>	<b>DV 650 FP Hygienic</b>
		<b>Part No.</b>	<b>Part No.</b>	<b>Part No.</b>
<b>DRYVAC</b>				
with double purge - with LVO210 with gas ballast and blow-off valve		<b>112030V15</b>	-	-
with on-board frequency converter F&P version with epoxy painting with LVO210		-	<b>112065FP18-1</b>	-
with on-board frequency converter F&P version with epoxy painting with LVO410		-	<b>112065FP28-1</b>	-
without Plug and Play device without E-Saver device - with LVO410		-	-	<b>504807V901</b>
without Plug and Play device with E-Saver - with LVO210		-	-	<b>504816V901</b>
with Plug and Play device with E-Saver - with LVO210		-	-	<b>504779V901</b>
with Plug and Play device without E-Saver - with LVO210 - with flushing valve		-	-	<b>504857V901</b>
with Plug and Play device without E-Saver - with LVO410		-	-	<b>504860V901</b>
Inlet threaded adapter 3"		-	<b>112005A18</b>	-
Inlet threaded adapter 4"		-	<b>112005A19</b>	-
Exhaust silencer		-	<b>119002</b>	<b>already included</b>
E-Saver device (only for LVO210 versions)		<b>115005A21</b>	<b>112005A60</b>	<b>112005A60</b>

## SCREWLINE



**DRY  
AIR COOLED  
ON-SITE CLEANABLE  
FOR HARSHTEST  
PROCESSES**

Our SCREWLINE is an extremely robust dry screw pump for food processing applications with on-site cleanability of pump chamber and screw rotors by the user.

### Our Solution

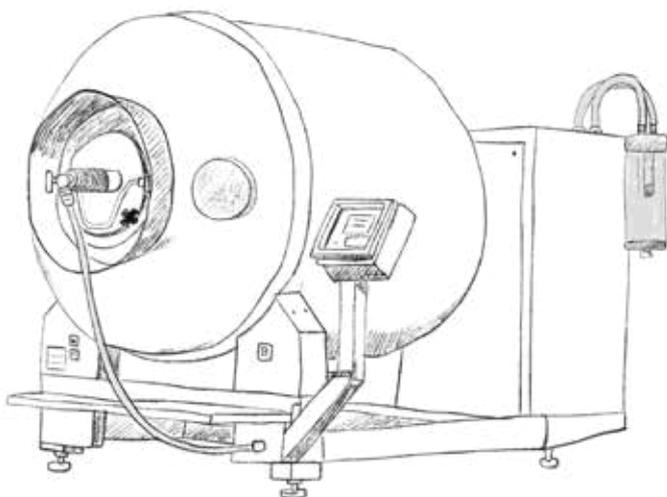
- Dry screw technology
- Cantilevered design
- Air cooled
- Pumping speed 250 and 630 m<sup>3</sup>/h
- Ultimate pressure  $\leq 1 \times 10^{-2}$  mbar
- Monitoring system
- Direct connection of RUVAC Roots pumps via adapter

### Typical Applications

- Freeze drying (human food and pet food)
- Tumbling
- SRM and by-products conveying
- Vacuum cooling

### Customer Benefits

- Designed for demanding processes
- Highest uptime
- Low total cost of ownership
- Easy to disassemble pump chamber for rapid cleaning



SCREWLINE pumps enable simple disassembly of the pump chamber for on-site cleaning by the customer

## Technical Data

## SCREWLINE

		SP 250		SP 630	
		50 Hz	60 Hz	50 Hz	60 Hz
Nominal speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup>	270	330	630	630
Ultimate pressure <sup>1)</sup>	mbar	≤ 0.01	≤ 0.005	≤ 0.01	≤ 0.01
Maximum permissible water vapor capacity	kg x h <sup>-1</sup>	10	18	14	14
Cooling		Air	Air	Air	Air
Motor power	kW	7.5	7.5	15	15
Protection class EN 60529		IP 55	IP 55	IP 55	IP 55
Lubricant filling	l	7	7	13	13
Noise level <sup>2)</sup>	dB(A)	67	72	73	75
Connections					
Intake side	DN	63 ISO-K	63 ISO-K	63 ISO-K	63 ISO-K
Pressure side	DN	100 ISO-K	100 ISO-K	100 ISO-K	100 ISO-K
Weight, approx.	kg	450	450	530	530
Dimensions (W x H x D)	mm	1350 x 880 x 530	1350 x 880 x 530	1630 x 880 x 660	1630 x 880 x 660

<sup>1)</sup> To DIN 28 400 ff.

<sup>2)</sup> Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

## Ordering Information

## SCREWLINE

	SP 250 50/60 Hz	SP 630
	Part No.	Part No.
SCREWLINE with manual gas ballast and SPGuard 400V, 50Hz / 200V, 50Hz / 460V, 60Hz / 210V, 60Hz	<b>115 001</b>	-
SCREWLINE with manual gas ballast and SPGuard 190V-210V / 380V-420V, 50Hz 190V-210V / 380V-420V, ±5%, 60Hz	- -	<b>117007</b> <b>117008</b>
SCREWLINE Oxygen version with electromagnetic gas ballast and SPGuard 190V-210V / 380V-420V, ±5%, 50Hz 190V-210V / 380V-420V, ±5%, 60Hz	- -	<b>117039</b> <b>117040</b>
Exhaust silencer	<b>119002</b>	<b>119001</b>

## CLAWVAC



CLAWVAC CP 150

The CLAWVAC operates smoothly with a pair of wearfree rotating claw rotors. The CLAWVAC differentiates itself from conventional claw pumps mainly through its material selection.

Stainless steel rotors as well as the corrosion-resistant coated vacuum chamber deliver stable operation even under very harsh process conditions.

The CLAWVAC offers great advantages for a wide range of rough vacuum applications.

The pump design offers extreme robustness, especially for challenging applications, which include handling of particle or vapor contaminated gases.

### Our Solution

- Dry claw technology
- Air cooled
- Pumping speed 65, 150 and 300 m<sup>3</sup>/h
- Compact design, small space requirements
- Extremely efficient air cooling, low heat emission
- Stainless steel claws and corrosion resistant pumping chamber
- Low noise level

### Typical Applications

Food processing

- Bottling
- Dairy products (e.g. milking)
- Vacuum conveying (e.g. slaughterhouse)
- Beverage production
- Tumbling / Marinating
- Mixing / Cutting

Food packaging

- Thermoforming of foil containers
- Tray sealing
- MAP (Modified Oxygen Packaging)

### Customer Benefits

- Oil free generation (no oil migration into process, no oil contamination to the environment) guarantees maximal food safety
- Comfort of use for the operator thanks to low noise level
- Low maintenance requirements and low operating cost
- Simple and complete on-site cleaning of all surfaces wetted by media



Stainless steel claws and corrosion resistant pumping chamber

## Technical Data

## CLAWVAC

			CP 65	CP 150	CP 300
Pumping speed <sup>1)</sup>	50 Hz	m <sup>3</sup> x h <sup>-1</sup>	65	150	300
	60 Hz	m <sup>3</sup> x h <sup>-1</sup>	79	184	347
Ultimate vacuum		mbar	50	50	140
Continuous operation range		mbar	50-1000	50-1000	140-1000
Permissible ambient temperature range		°C	0 - 40	0 - 40	0 - 40
Connections	Inlet		G 1 1/4" or NPT	G 1 1/4" or NPT	G 2" or NPT
	Outlet		G 1 1/4" or NPT	G 1 1/4" or NPT	G 1 1/4" or NPT
Motor power	50 Hz	kW	1.8	4.0	6.2
	60 Hz	kW	2.2	3.7	7.5
Operation range		Hz	20 - 60	20 - 60	20 - 60
Noise level (50/60 Hz)		dB(A)	66 / 77	75 / 80	77 / 84
Weight		kg	120	160	252
Motor protection class		IP	55	55	55

<sup>1)</sup> To DIN 28 400 ff.

## Ordering Information

## CLAWVAC

	CP 65	CP 150	CP 300
	Part No.	Part No.	Part No.
CLAWVAC dry vacuum pump with 3 phase motor			
230 V, 50 Hz	<b>178065V01</b>	<b>178150V01</b>	<b>178300V01</b>
380 V, 60 Hz	<b>178065V02</b>	<b>178150V02</b>	<b>178300V02</b>
400 V, 50 Hz	<b>178065V03</b>	<b>178150V03</b>	<b>178300V03</b>
575 V, 60 Hz	<b>178065V04</b>	<b>178150V04</b>	<b>178300V04</b>
200 V, 60 Hz	<b>178065V05</b>	<b>178150V05</b>	<b>178300V05</b>
460 V, 60 Hz	<b>178065V06</b>	<b>178150V06</b>	<b>178300V06</b>
230/460 V, 60 Hz	<b>178065V07</b>	<b>178150V07</b>	<b>178300V07</b>
200 V, 50 Hz	<b>178065V08</b>	<b>178150V08</b>	<b>178300V08</b>
230 V, 60 Hz	<b>178065V09</b>	<b>178150V09</b>	<b>178300V09</b>
500 V, 50 Hz	<b>178065V10</b>	<b>178150V10</b>	<b>178300V10</b>

## VACUBE



**PLUG & PUMP  
VACUUM ON  
DEMAND**  
UP TO 50%  
POWER SAVINGS

VACUBE 800 iCH

The VACUBE range is a new generation of intelligent, single-stage, oil-sealed screw vacuum pumps with variable speed drive (VSD) technology.

VACUBE generates vacuum on demand. The pump is controlled and maintained by an internal controller. The system offers superior performance for a wide range of rough vacuum applications.

Four models are available. Next to the standard model, the „iH“ model should be used for vapour handling, the „iC“ model is ideal for high cycling applications. „iHC“ is there to cover humid cycling applications.

### Our Solution

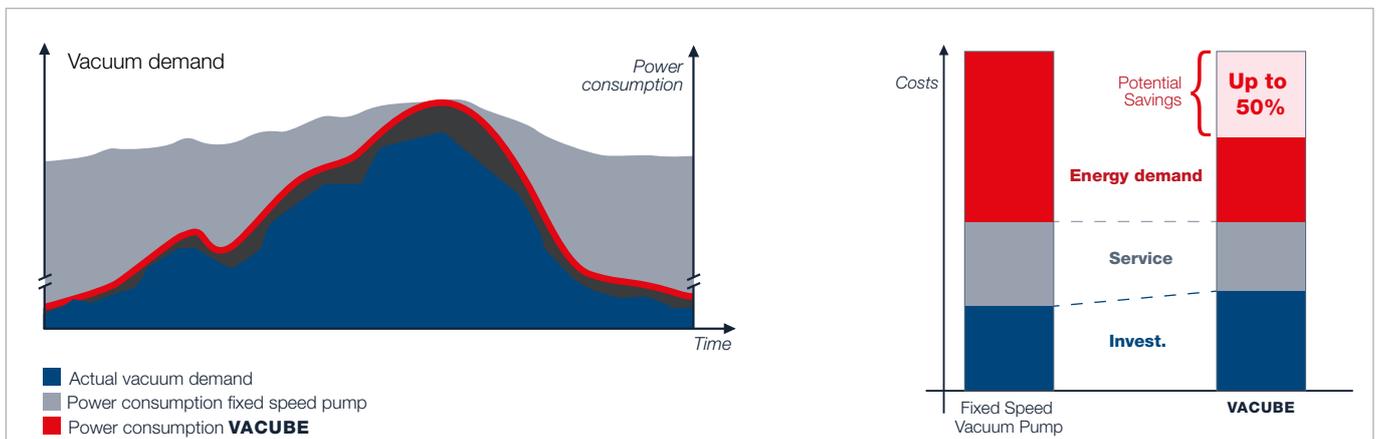
- Plug and pump system set up
- Highly efficient oil-sealed rotary screw technology
- Pumping speed 420 to 1,620 m<sup>3</sup>/h
- Ultimate pressure ≤ 0.35 mbar
- Integrated frequency inverter for load depending speed control
- Controller with intuitive menu navigation for configuration and control
- Small footprint
- Programmable operation modes
- Long maintenance intervals

### Typical Applications

- Central vacuum systems for packaging and processing
- Meat packaging under modified atmosphere (no O<sub>2</sub>)
- Chamber packaging
- Canning
- Food freeze drying

### Customer Benefits

- Sustainable power saving due to on-demand vacuum generation
- Low total cost of ownership



Energy optimised operation with VACUBE: The power consumption changes proportional to the real vacuum demand, often allowing energy savings up to 50% compared to other vacuum pump technologies

## Technical Data

### VACUBE

#### VQ 400 VQ 550 VQ 700 VQ 800 VQ 1250 VQ 1500 VQ 1650

Pumping speed, max. eff. <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup>	420	530	700	790	1250	1490	1620
Ultimate pressure	mbar	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Motorshaft power	kW	5.5	7.5	11	15	22	30	37
Noise level	dB(A)	51 - 65	51 - 65	51 - 73	51 - 76	65 - 75	65 - 75	65 - 80
Ambient temperature	°C	0 - 46	0 - 46	0 - 46	0 - 46	0 - 46	0 - 46	0 - 46
Weight	kg	500	500	510	520	1058	1058	1073
Protection class	IP	54	54	54	54	54	54	54
Supply voltages*		380 - 460 V, 3 phase, 50/60 Hz						

<sup>1)</sup> To DIN 28 400 ff.

\* Other voltages available on request

## Ordering Information

### VACUBE

#### i Models

#### iH Models

#### iC Models

#### iCH Models

	Part No.	Part No.	Part No.	Part No.
VACUBE VQ 400	177040V01	177040V10	-	-
VACUBE VQ 550	177055V01	177055V10	177055V05	177055V15
VACUBE VQ 700	177070V01	177070V10	177070V05	177070V15
VACUBE VQ 800	177080V01	177080V10	177080V05	177080V15
VACUBE VQ 1250	177125V01	177125V10	-	-
VACUBE VQ 1500	177150V01	177150V10	177150V05	177150V15
VACUBE VQ 1650 i	177165V01	177165V10	177165V05	177165V15
LEYBONOL vacuum oil LVO 320, 20 liter	L320 20	L320 20	L320 20	L320 20

## RUVAC WAU FP



RUVAC WAU 2001 FP Roots vacuum pump

Roots blowers, also called boosters are contactless dry impellers pumps.

In combination with forevacuum pumps, the use of RUVAC Roots blowers features:

- increased pumping speed
- improved ultimate pressure
- shortened cycle times

### Our Solution

- Air-cooled line WAU FP with four blower sizes
- Reliable and trouble-free operation
- Easy installation, direct coupling without a support frame for SOGEVAC SV 100 FP or larger
- Available with special motors if required
- Integrated pressure equalization line for protection against overloading at high pressures
- Conversion from vertical to horizontal flow
- Maintenance-friendly
- Mineral oil LVO 100 is used as standard. The required lubricant filling is included with the delivery
- Gasket in the intake flange with dirt sieve

### Typical Applications

- Large capacity chamber packaging machines
- Vacuum cooling of fruits and vegetables
- Freeze drying

### Customer Benefits

- Shorter cycle time and/or higher production output
- Low total cost of ownership

### Optional Equipment

- Wash-down duty motors
- Base frame with hose barb connections

## Technical Data

## RUVAC

		WAU 251 FP	WAU 501 FP	WAU 1001 FP	WAU 2001 FP
Nominal speed <sup>1)</sup>					
at 50 Hz	m <sup>3</sup> x h <sup>-1</sup>	253	505	1000	2050
at 60 Hz	m <sup>3</sup> x h <sup>-1</sup> (cfm)	304 (179)	607 (357)	1200 (707)	2462 (1449)
Ultimate pressure for combination with SOGEVAC ... FP	mbar (Torr)	6.7 x 10 <sup>-2</sup> (5 x 10 <sup>-2</sup> )	6.7 x 10 <sup>-2</sup> (5 x 10 <sup>-2</sup> )	6.7 x 10 <sup>-2</sup> (5 x 10 <sup>-2</sup> )	6.7 x 10 <sup>-2</sup> (5 x 10 <sup>-2</sup> )
Motor power	kW (hp)	1.1 (1.5)	2.2 (3.0)	4.0 (5.4)	7.5 (10.0)
Noise level	dB(A)	< 64	< 67	< 75	< 80
Oil capacity	l (qt)	0.7 (0.74)	1.2 (1.3)	1.8 (1.9)	1.8 (1.9)
Connecting flanges	DN	63 ISO-K	63 ISO-K	100 ISO-K	160 ISO-K

<sup>1)</sup> To DIN 28 400 ff.

## Ordering Information

## RUVAC

	WAU 251 FP	WAU 501 FP	WAU 1001 FP	WAU 2001 FP
	Part No.	Part No.	Part No.	Part No.
RUVAC WAU ... FP 3 phase motor 200-240 V / 380-400 V, 50 Hz 200-240 V / 380-480 V, 60 Hz	<b>117 21 FP</b>	<b>117 31 FP</b>	<b>117 41 FP</b>	<b>117 51 FP</b>

## SOGEVAC SV FP



SOGEVAC FP range

SOGEVAC FP are proven oil sealed rotary vane pumps. This technology has been used by the food industry since decades and is today recognized as a standard.

SOGEVAC FP are delivered in serial with food grade oil.

### Our Solution

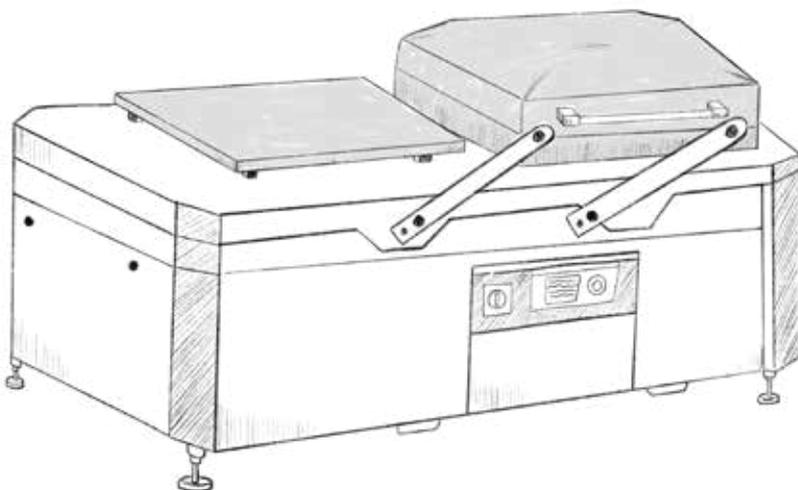
- High pumping speed / footprint ratio by compact design
- Maximum tightness and low complexity thanks to integrated functions and no external pipes
- Lowest noise level on the market
- Wide range of motors available for all pump sizes
- Complete pump range from 10 m<sup>3</sup>/h to 300 m<sup>3</sup>/h
- Based on proven SOGEVAC design with manual gas ballast and oil filter
- Delivery with food grade oil NSF H1 (LEYBONOL LVO 140 or LVO 150)

### Typical Applications

- Thermoformers / Rollstock machines
- Chamber packaging machines
- Modified Atmosphere Packaging (except with O<sub>2</sub>)
- Rotary chamber packaging
- Blenders
- Stuffers
- Vacuum cutters
- Freeze drying
- Vacuum cooling

### Customer Benefits

- Lowest cost of ownership by easy maintenance and minimized after sales costs



Technical Data		SOGEVAC SV 10 FP		SOGEVAC SV 16 FP	
		50 Hz	60 Hz	50 Hz	60 Hz
Nominal speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup> (cfm)	11 (6.5)	13.0 (7.7)	16.0 (9.4)	19.0 (11.2)
Pumping speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup> (cfm)	9.5 (5.6)	11.5 (6.8)	15.0 (8.8)	17.0 (10.0)
Ultimate partial pressure without gas ballast <sup>1)</sup>	mbar (Torr)	≤ 1.5 (≤ 1.1)	≤ 1.5 (≤ 1.1)	≤ 1.0 (≤ 0.8)	≤ 1.0 (≤ 0.8)
Ultimate total pressure with gas ballast <sup>1)</sup>	mbar (Torr)	≤ 2.5 (≤ 1.9)	≤ 2.5 (≤ 1.9)	≤ 2.0 (≤ 1.5)	≤ 2.0 (≤ 1.5)
Maximum permissible Water vapor capacity	kg x h <sup>-1</sup> (qt/hr)	0.02 (0.02)	0.03 (0.03)	0.03 (0.03)	0.05 (0.05)
Motor power	kW (hp)	0.55 (0.75)	0.75 (1.02)	0.55 (0.75)	0.75 (1.02)
Noise level <sup>2)</sup>	dB(A)	60	64	60	64
Oil capacity	l (qt)	0.5 (0.53)	0.5 (0.53)	0.5 (0.53)	0.5 (0.53)
Connections <sup>3)</sup>					
Intake side <sup>4)</sup>	G or NPT	3/4" + 1/2"	3/4" + 1/2"	3/4" + 1/2"	3/4" + 1/2"
Pressure side	G or NPT	-	-	-	-

Remark: The SV 10 FP and SV 16 FP cannot work continuously above 150 mbar. Please consult Leybold for this application

Technical Data		SOGEVAC SV 25 FP		SOGEVAC SV 45 FP	
		50 Hz	60 Hz	50 Hz	60 Hz
Nominal speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup> (cfm)	26.0 (15.3)	31.0 (18.3)	44.0 (25.9)	53.0 (31.2)
Pumping speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup> (cfm)	22.5 (13.3)	25.0 (14.7)	38.5 (22.7)	47.0 (27.7)
Ultimate partial pressure without gas ballast <sup>1)</sup>	mbar (Torr)	≤ 0.5 (≤ 0.4)	≤ 0.5 (≤ 0.4)	≤ 0.5 (≤ 0.4)	≤ 0.5 (≤ 0.4)
Ultimate total pressure with gas ballast <sup>1)</sup>	mbar (Torr)	≤ 0.8 (≤ 0.6)	≤ 0.8 (≤ 0.6)	≤ 1.5 (≤ 1.1)	≤ 1.5 (≤ 1.1)
Maximum permissible water vapor capacity	kg x h <sup>-1</sup> (qt/hr)	0.085 (0.09)	0.1 (0.11)	0.76 (0.81)	0.9 (0.95)
Motor power	kW (hp)	0.9 (1.2)	1.1 (1.5)	1.1 (1.5)	1.5 (2.0)
Noise level <sup>2)</sup>	dB(A)	64	67	58	60
Oil capacity	l (qt)	0.5 (0.53)	0.5 (0.53)	1.0 (1.05)	1.0 (1.05)
Connections <sup>3)</sup>					
Intake side <sup>4)</sup>	G or NPT	3/4" + 1/2"	3/4" + 1/2"	1 1/4"	1 1/4"
Pressure side	G or NPT	3/4"	3/4"	1 1/4"	1 1/4"

<sup>1)</sup> To DIN 28 400 and following numbers

<sup>2)</sup> Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

<sup>3)</sup> 1/2" adapter supplied. Basic port is 3/4"

<sup>4)</sup> Single-phase motors do not have plugs, cords or ON/OFF switches

## SOGEVAC SV FP

Technical Data		SOGEVAC SV 70 FP		SOGEVAC SV 105 FP	
		50 Hz	60 Hz	50 Hz	60 Hz
Nominal speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup> (cfm)	59.0 (34.8)	71.0 (41.8)	97.5 (57.4)	117.0 (68.9)
Pumping speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup> (cfm)	54.0 (31.8)	64.0 (37.7)	87.5 (51.5)	105.0 (61.8)
Ultimate partial pressure without gas ballast <sup>1)</sup>	mbar (Torr)	≤ 0.5 (≤ 0.4)	≤ 0.5 (≤ 0.4)	≤ 0.5 (≤ 0.4)	≤ 0.5 (≤ 0.4)
Ultimate total pressure with gas ballast <sup>1)</sup>	mbar (Torr)	≤ 1.5 (≤ 1.1)	≤ 1.5 (≤ 1.1)	≤ 1.5 (≤ 1.1)	≤ 1.5 (≤ 1.1)
Maximum permissible Water vapor capacity	kg x h <sup>-1</sup> (qt/hr)	1.0 (1.1)	1.25 (1.33)	1.6 (1.7)	1.7 (1.8)
Motor power	kW (hp)	1.5 (2.0)	1.8 (2.4)	2.2 (3.0)	3.5 (4.7)
Noise level <sup>2)</sup>	dB(A)	60	64	61	64
Oil capacity	l (qt)	2.0 (2.1)	2.0 (2.1)	2.0 (2.1)	2.0 (2.1)
Connections					
Intake side	G or NPT	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Pressure side	G or NPT	1 1/4"	1 1/4"	1 1/4"	1 1/4"

Technical Data		SOGEVAC					
		SV 200 FP		SV 300 FP		SV 320 FP	
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
Nominal speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup> (cfm)	180 (106)	220 (130)	280 (165)	340 (200)	330 (194)	385 (227)
Pumping speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup> (cfm)	170 (100)	200 (118)	240 (141)	290 (171)	284 (168)	330 (194)
Ultimate partial pressure without gas ballast <sup>1)</sup>	mbar (Torr)	≤ 0.08 (≤ 0.06)	≤ 0.08 (≤ 0.06)	≤ 0.08 (≤ 0.06)	≤ 0.08 (≤ 0.06)	≤ 0.08 (≤ 0.06)	≤ 0.08 (≤ 0.06)
Ultimate total pressure with gas ballast <sup>1)</sup>	mbar (Torr)	≤ 0.7 (≤ 0.5)	≤ 0.7 (≤ 0.5)	≤ 0.7 (≤ 0.5)	≤ 0.7 (≤ 0.5)	≤ 0.7 (≤ 0.5)	≤ 0.7 (≤ 0.5)
Maximum permissible Water vapor capacity	kg x h <sup>-1</sup> (qt/hr)	3.4 (3.6)	5.4 (5.7)	1.3 (1.4)	1.8 (1.9)	1.3 (1.4)	1.8 (1.9)
Motor power	kW (hp)	4.0 (5.4)	4.6 (6.2)	5.5 (7.4)	6.3 (8.4)	7.5 (10)	7.5 (10)
Noise level <sup>2)</sup>	dB(A)	69	73	72	76	70	73
Oil capacity	l (qt)	9.0 (9.5)	9.0 (9.5)	11.5 (12.2)	11.5 (12.2)	11.5 (12.2)	11.5 (12.2)
Connections							
Intake side	G or NPT	2"	2"	2"	2"	2"	2"
Pressure side	G or NPT	2"	2"	2"	2"	2"	2"

<sup>1)</sup> To DIN 28 400 and following numbers

<sup>2)</sup> Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

<sup>3)</sup> 1/2" adapter supplied. Basic port is 3/4"

<sup>4)</sup> Single-phase motors do not have plugs, cords or ON/OFF switches

## Ordering Information

## SOGEVAC

	SV 10 FP	SV 16 FP	SV 25 FP	SV 45 FP	SV 70 FP
	Part No.				
SOGEVAC SV 10 - 70 FP Three-phase world motor	960 100 FP	960 160 FP	960 251 FP	960 324 FP	960 424 FP
Three-phase world motor 230 V / 400 V, 50 + 60 Hz / 460 V, 60 Hz	-	-	-	960 307 FP	960 407 FP
Single-phase world motor 230 V, 50/60 Hz; G	960 105 FP	960 165 FP	960 256 FP	-	-
230 V, 50/60 Hz; NPT	-	-	960 257 FP	-	-
110 - 120 V, 60 Hz	960 110 FP	960 170 FP	960 261 FP	-	-
Other voltages/frequencies <sup>1)</sup>	On request				

For accessories, see pumps SOGEVAC SV 10 B, SV 16 B, SV 25 B, SV 40 B and SV 65 B

<sup>1)</sup> Variants with wide range motor, NEMA motors and NPT flanges are available

## Ordering Information

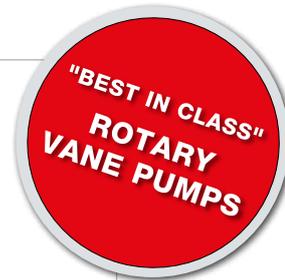
## SOGEVAC

	SV 105 FP	SV 200 FP	SV 300 FP	SV 320 FP
	Part No.	Part No.	Part No.	Part No.
SOGEVAC SV 105 - 300 FP Three-phase Europe motor 230 V / 400 V, 50 Hz and 460 V, 60 Hz	960 507 FP	109 27 FP	960 702 FP	960 722 FP
Three-phase USA motor <sup>1)</sup> 230 V / 460 V, 60 Hz and 400 V, 50 Hz UL/CSA with terminal board	960 514 FP	950 27 FP	960 707 FP	-
Three-phase world motor 230 V / 400 V, 50 + 60 Hz / 460 V, 60 Hz	960 524 FP	109 2 791 FP	960 717 FP	-

For accessories, see pumps SOGEVAC SV 40 B, SV 65 B, SV 100 B, SV 200 and SV 300 B

<sup>1)</sup> Pumps with USA motors have NPT inlet and outlet flanges

## SOGEVAC SV B



SOGEVAC SV 570 B with air cooling (SV 470 B similar)

SOGEVAC are proven oil sealed rotary vane pumps with high recognition from the industrial market.

### Our Solution

- Very low rotational speed increases the lifetime of the pump and leads to noise level reduction
- Extremely low noise level in any working conditions
- Long lifetime of oil and exhaust filters
- Simplified maintenance thanks to an easy access to all key components
- Small footprint
- Air or water-cooling and many motors and options available
- Adaptors for direct mounting of Roots blowers

### Typical Applications

- Big thermoforming and chamber packaging machines
- Freeze drying
- Vacuum cooling
- Central vacuum systems for packaging and processing

### Customer Benefits

- Low operating costs
- Shorter cycle times versus competition
- Excellent comfort of use thanks to low noise level

## Technical Data

## SOGEVAC

		SV 470 B 50 Hz	SV 570 B 50 Hz	SV 630 B 50 Hz	SV 750 B 50 Hz
Nominal speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup> (cfm)	470 (277)	570 (366)	700 (412)	840 (494)
Pumping speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup> (cfm)	400 (236)	470 (277)	640 (377)	755 (444)
Ultimate partial pressure without gas ballast <sup>1)</sup>	mbar (Torr)	≤ 0.08 (≤ 0.06)	≤ 0.08 (≤ 0.06)	≤ 0.08 (≤ 0.06)	≤ 0.08 (≤ 0.06)
Ultimate total pressure with gas ballast <sup>1)</sup>	mbar (Torr)	≤ 0.7 (≤ 0.5)	≤ 0.7 (≤ 0.5)	≤ 0.7 (≤ 0.5)	≤ 0.7 (≤ 0.5)
Water vapor tolerance <sup>1)</sup>	mbar (Torr)	15.0 (11.3)	20.0 (15.0)	40.0 (30.0)	50.0 (37.5)
Maximum permissible Water vapor capacity	kg x h <sup>-1</sup> (qt/hr)	5.0 (5.3)	7.5 (8.0)	17.0 (18.0)	24.0 (25.4)
Motor power	kW (hp)	9.2 (12.3)	11.0 (14.8)	15.0 (20.1)	18.5 (24.8)
Noise level <sup>2)</sup>	dB(A)	72	75	72	75
Oil capacity	l (qt)	20.0 (21.1)	20.0 (21.1)	23.0 (24.3)	23.0 (24.3)
Connections					
Intake side	G or NPT	3"	3»	100 PN / 100 ISO-K	100 PN / 100 ISO-K
Pressure side	G or NPT	3"	3»	Option	Option

Please refer to our general catalogue for the 60 Hz versions specifications

<sup>1)</sup> To DIN 28 400 and following numbers

<sup>2)</sup> Operated at the ultimate pressure without gas ballast, free-field measurement at a distance of 1 m (3.5 ft)

## Ordering Information

### SOGEVAC SV 470 B

### SOGEVAC SV 570 B

	Part No.	Part No.
SOGEVAC SV 470 - 570 B Three-phase Europe motor 230 V / 400 V, 50 Hz and 460 V, 60 Hz	<b>960 753V</b>	<b>960 765V</b>
Three-phase USA motor 230 V / 460 V, 60 Hz and 400 V, 50 Hz UL/CSA with terminal board	-	<b>960 755V</b>
Three-phase world motor 230 V / 400 V, 50 + 60 Hz / 460 V, 60 Hz	<b>960 754V</b>	<b>960 766V</b>

## Ordering Information

### SOGEVAC SV 630 B

### SOGEVAC SV 750 B

	Part No.	Part No.
SOGEVAC SV 630 - 750 B Three-phase Europe motor 230 V / 400 V, 50 Hz and 460 V, 60 Hz	<b>960 863</b>	<b>960 875</b>
Three-phase USA motor 230 V / 460 V, 60 Hz and 400 V, 50 Hz UL/CSA with terminal board	<b>960 865</b>	-
Three-phase world motor 230 V / 400 V, 50 + 60 Hz / 460 V, 60 Hz	<b>960 863 V3021</b>	<b>960 875 V2091</b>

## SOGEVAC SV Oxygen



SOGEVAC SV 100 B



As soon as oxygen is pumped at concentrations exceeding 21% (atmospheric air) the SOGEVAC pump needs to be prepared especially for such operation.

This is typically the case in red meat Modified Atmosphere Packaging processes (MAP).

### Our Solution

- SOGEVAC Oxygen version pumps are available in the following sizes: SV 25 B, SV 65 B, SV 100 B, SV 200, SV 300 B, SV 470 B, SV 630 B (F) and SV 750 B
- Hydrocarbon-free pump parts and inert PFPE oil filling for use in oxygen applications, respective when gas mixtures are pumped with O<sub>2</sub> concentrations exceeding 21%
- Air or water cooled
- Available in many different variants, motor voltages, ports etc.

### Typical Applications

- MAP (Modified Atmosphere Packaging) or red meat and tuna

### Customer Benefits

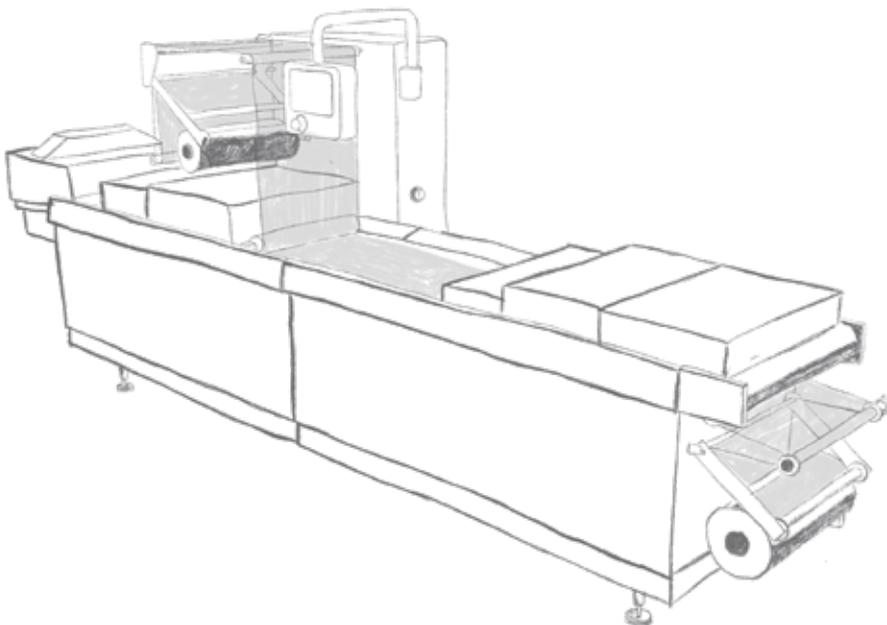
- Maximal safety level related to oxygen use
- Low cost of ownership thanks to lifetime of PFPE oil

### Safety Precautions

As standard, the pumps are equipped with FPM (FKM) seals and an oil filter bypass. Before assembly, all parts are degreased and the pumps are tested with PFPE lubricant.

Thereafter the pumps are emptied and delivered without PFPE lubricant.

The pumps are supplied with special Operating Instructions (GA) and Spare Parts List (ET).



# SOGEVAC SV Oxygen

## Pumps

Ultimate pressure (mbar (Torr))  
without gas ballast    with gas ballast

	Part No.		
SV 25 B	<b>960211V2016</b> <b>960215V2016</b>	1.0 (0.75)	1.5 (1.13)
SV 65 B	<b>960401V2016</b> <b>960412V2016</b>	1.0 (0.75)	2.5 (1.88)
SV 100 B	<b>960505V2016</b> <b>960512V2016</b>	1.0 (0.75)	2.5 (1.88)
SV 200	<b>1092716, 9502716</b>	0.5 (0.375)	1.5 (1.13)
SV 300 B	<b>960702V2016, 960707V2016,</b> <b>960717V2016</b>	0.5 (0.38)	1.5 (1.13)
SV 470 B	<b>960753V2016</b>	1.0 (0.75)	1.5 (1.13)
SV 630 B(F)	<b>960863V3011</b>	1.0 (0.75)	1.5 (1.13)
SV 750 B(F)	<b>960877V3001</b>	1.0 (0.75)	1.5 (1.13)

## Oil for SOGEVAC pumps

### SOGEVAC models

SV 10 FP / 16 FP	SV 25 FP	SV 45 FP SV 70 FP SV 105 FP	SV 200 FP SV 300 FP SV 320 FP	SV 470 B / 570 B(F)	SV 630 B / 750 B(F)	SV 1200	SV Oxygen version	SV Hydro version
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### LEYBONOL Oils

LVO 120 (Standard Mineral Oil)	●	●						
LVO 130 (Standard Mineral Oil)			●	●	■	■	■	■
LVO 140 (Food Grade Oil)	■	■						
LVO 150 (Food Grade Oil)			■	■	●	●	●	●
LVO 400 (PFPE Oil)							■	

- = Standard
- = Possible, please contact Leybold

The table only lists general applications. Your specific requirements might be subject to deeper analysis. For further questions, please contact our technical sales support. **For information on oil specifications please refer to our general catalogue.**

# Liquid Separator, see-through



See-through liquid separator with insert for the collection of large particles



Dimensional drawing of the liquid separators. For the dimensions please refer to the technical data



### Operating principle

Liquids and larger particles are separated by the integrated baffle and accumulate in a transparent polycarbonate container.

A float ball in the separator rises with the liquid level. At maximum filling level, it interrupts the gas flow on the outlet side to protect the pump.

### Technical features

- High impact, shatter resistant, polycarbonate bucket
- Corrosion resistant cast aluminum head with integrated knockout baffle
- Stainless steel float ball for emergency shut off
- 1/2" drain
- 1/4" differential gauge ports 2" to 4"

### Customer Benefits

- Protects vacuum valves and pumps from particles and deposits
- Quick visual inspection through transparent collection container
- Simple installation, minimal connection costs due to T-shaped design
- Compact filter, space-saving - ideal for tight installation situations

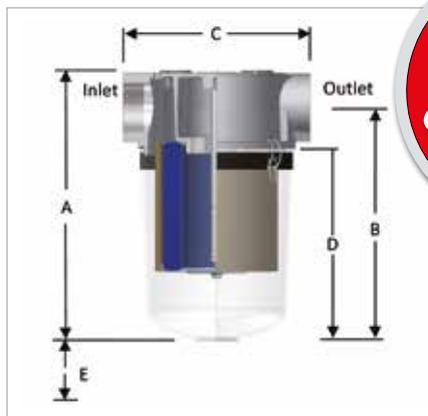
### Technical Data

		Liquid separator			
		1"1/4 FP	2" FP	3" FP	4" FP
Inlet / Outlet flange	BSP	G1"1/4	G2"	G3"	G4"
Rated for flow	m <sup>3</sup> /h	102	297	510	850
Dimensions	mm				
A		340	413	502	502
B		303	362	432	432
C		178	229	343	343
D		264	318	356	356
Suggested service height E	mm	228	228	228	228
Weight	kg	1.6	3.7	5.7	5.7
Ordering Information	Part No.	<b>95140FP</b>	<b>95144FP</b>	<b>95146FP</b>	<b>95147FP</b>

## Dust Filter, see-through



See-through dust filter with insert for the collection of large particles



Dimensional drawing of the dust filters.  
For the dimensions please refer to the technical data



### Operating principle

Inlet vacuum filter with exchangeable polyester cartridge (efficiency on 5 microns particles > 99%)

### Technical features

- See-through bucket made from polycarbonate material with high tensile strength for dimensional stability
- Cast, corrosion resistant aluminum top with machined connections with integrated baffle design
- Operating temperature range:
  - Dust filter: max. 104°C (220°F)
  - Bucket: max. 125°C (257°F)
- Inlet / Outlet:
  - G1"1/4 to G4" – depending on the size
- G1/4" differential gauge ports

### Customer Benefits

- Protects vacuum valves and pumps from particles and deposits
- Quick visual inspection through transparent collection container
- Simple installation, minimal connection costs due to T-shaped design
- Compact filter, space-saving - ideal for tight installation situations
- Simple cleaning and fast filter insert exchange

### Technical Data

		Dust filter			
		1"1/4 FP	2" FP	3" FP	4" FP
Inlet / Outlet	BSP	G1"1/4	G2"	G3"	G4"
Rated for flow	m³/h	102	298	510	884
Dimensions	mm				
A		340	413	502	502
B		303	362	432	432
C		178	229	343	343
D		264	318	356	356
Suggested service height E	mm	228	228	228	228
Weight	kg	4.7	7.2	13	11
<b>Ordering Information</b>		<b>Part No.</b>	<b>Part No.</b>	<b>Part No.</b>	<b>Part No.</b>
Dust filter		<b>95354FP</b>	<b>95356FP</b>	<b>95358FP</b>	<b>95360FP</b>
Spare filter cartridge		<b>EK95354PC</b>	<b>EK95356PC</b>	<b>EK95358PC</b>	<b>EK95358PC</b>

# Dust Filter (Intake side)



Dust filter F 630 and F 200-300

The filters consist of a steel housing and a lid with three quick locking clips.

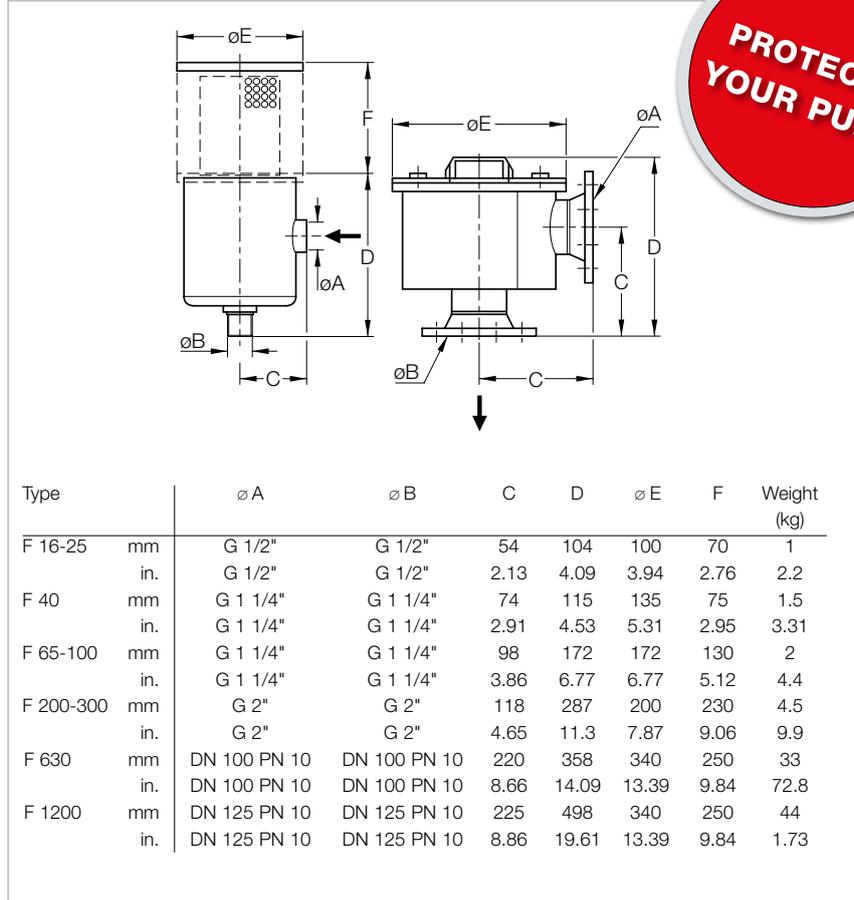
### Our Solution

#### Polyester Filter Cartridge

- Separation of particles down to 5 µm (moist process: dust, powders, chips etc.)

#### Metal Filter Cartridge

- 0.08 mm (0.003 in.) mesh
- Collects solid particles down to 0.08 mm (0.003 in.), like plastics, paper, packaging materials, foodstuffs



Dimensional drawing for the dust filters F 16-25 to F 1200

### Customer Benefits

- Same housing for different cartridges
- High separation capacity
- Quickly exchangeable cartridge

### Technical Notes

We recommend installing the filters horizontally on a 90° bend. This will prevent separated particles from falling into the intake line when disassembling the filter.

## Technical Data

## Dust filter

Dust Filter	Polyester Filter Cartridge	Metal Cartridge
Pumping speed reduction through a clean filter	2%	1%
Efficiency for 5 µm particles	98%	–

## Ordering Information

## Dust filter

Dust Filter	Part No.	Part No.
	Polyester Filter Cartridge	Metal Cartridge
F 16-25 for pumps from 10 to 25 m³/h (G 1/2")	<b>711 27 094</b>	<b>711 27 093</b>
Spare cartridge for F 16-25	<b>712 61 288</b>	<b>E 710 65 813</b>
F 40 for SV 40 B (G 1 1/4")	<b>711 27 104</b>	<b>711 27 103</b>
Spare cartridge for F 40	<b>712 61 298</b>	<b>710 49 083</b>
F 65-100 for SV 65 B, SV 100 B (G 1 1/4")	<b>711 27 114</b>	<b>711 27 113</b>
Spare cartridge for F 65-100	<b>712 61 308</b>	<b>E 712 13 324</b>
F 200-300 for SV 200, SV 300 B (G 2")	<b>711 27 124</b>	<b>711 27 123</b>
Spare cartridge for F 200-300 (G 2")	<b>712 61 318</b>	<b>712 13 334</b>
F470-570 for SV470-570B (G3")	<b>95170PP</b>	<b>95170MA</b>
Spare cartridge for F470-570	<b>EK95172PP</b>	<b>EK95172MA</b>
F 630 for SV 630 (B/F), SV 750 (B/F) (DN 100 PN 10)	<b>711 27 164</b>	<b>711 27 163</b>
Spare cartridge for F 630 (DN 100 PN 10)	<b>712 61 508</b>	<b>E 710 37 734</b>
F 1200 for SV 1200 (DN 125 PN 10)	<b>711 27 144</b>	<b>711 27 143</b>
Spare cartridge for F 1200 (2 x required)	<b>712 61 508</b>	<b>E 710 37 734</b>

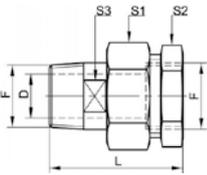
## Fittings

- Made of stainless steel 316 or 316L grade for withstanding daily wash-down process
- Sealing to be made with PTFE tape or suitable sealing glue
- Allows to connect the vacuum pump inlet to your process



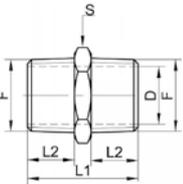
### Union coupling

To be mounted at the pump inlet. Allows orientating the pipe / filter in any wished position.

		F	G1/2"	G1"1/4	G2"
		L	50	68	78
		D	15,5	33	48
		S1	32	55	75
		S2	30	52	70
		S3	18	38	54
		<b>Part. No.</b>	<b>UC050SST</b>	<b>UC125SST</b>	<b>UC200SST</b>

### Double nipple

To be inserted between the union coupling and the filter (or between the pump and filter directly).

		F	G1/2"	G1"1/4	G2"	G3"	G4"
		L1	34	52.5	62	78.4	94
		D	14	32	50	77	102
		S	22	46	65	90	120
		<b>Part. No.</b>	<b>DN050SST</b>	<b>DN125SST</b>	<b>DN200SST</b>	<b>DN300SST</b>	<b>DN400SST</b>

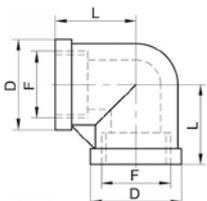
### Double nipple - long version

Same as above. In longer version to move filter away from pump inlet in case of space restriction.

		F	G2"	G3"	G4"
		D	53.3	80.9	106.4
		L	100	200	100
		L1	20	30	35
		<b>Part. No.</b>	<b>DNL200SST</b>	<b>DNL300SST</b>	<b>DNL400SST</b>

### Elbow 90°

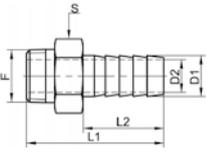
Always use an elbow when mounting a filter to protect the pump from particles falling in the inlet when cleaning or replacing the filtering cartridge.

		F	G1/2"	G1"1/4	G2"	G3"	G4"
		D	27	49	69	99	125
		L	27.5	45.5	57.5	78.5	96.5
		<b>Part. No.</b>	<b>EL050SST</b>	<b>EL125SST</b>	<b>EL200SST</b>	<b>EL300SST</b>	<b>EL400SST</b>

# Fittings

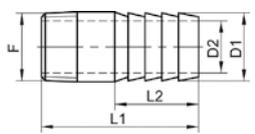
## Hose adapter (hexagonal)

To be used for flexible hose (PVC) connection.

		F	G1/2"	G3/4"	G1"1/4	G1"1/2	G2"
		D1	14	20.5	33	39.5	52
		D2	9	14.5	25.5	32	42.5
		S	24	31	46	52	62
		L1	64	69	81	95	106
		L2	40	40	46	59	65
		<b>Part. No.</b>	<b>HA050SST</b>	<b>HA075SST</b>	<b>HA125SST</b>	<b>HA150SST</b>	<b>HA200SST</b>

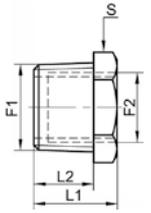
## Hose adapter (cylindrical)

Same as above for bigger diameters.

		F	G3"	G4"
		D1	89	114
		D2	80.9	106.3
		L1	120	140
		L2	60	70
		<b>Part. No.</b>	<b>HA300SST</b>	<b>HA400SST</b>

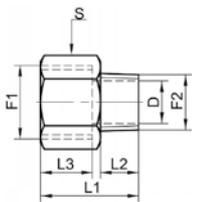
## Male - Female reduction

Allows all possible mounting combinations.

		F1	G3/4"	G1"1/2	G1"1/4	G3"
		F2	G1/2"	G1"1/4	G2"	G2"
		S	27	50	65	90
		L1	21	31	33	42
		L2	15	20	22	30
		<b>Part. No.</b>	<b>R075050SST</b>	<b>R150125SST</b>	<b>R200125SST</b>	<b>R300200SST</b>

## Female - Male reduction

Allows to mount hose adapter HA150SST (with D1 = 39.5 mm) on G1"1/4 port.

		F1	G1"1/2
		F2	G1"1/4
		S	55
		D	34
		L1	49
		L2	18
		L3	26
		<b>Part. No.</b>	<b>R125150SST</b>



## Vacuum Pressure Gauges

### DIAVAC DV 1000



The DIAVAC DV 1000 is a rugged mechanical diaphragm vacuum gauge with high measurement accuracy for pressure measurements in the rough vacuum range from 1000 to 1 mbar.

#### Our Solution

- Vacuum connection: DN 40 ISO-KF
- Individual scale calibration
- Absolute pressure gauge
- Readout is independent of gas type and changes in atmospheric pressure
- Dimensions (W x H x D): 180 x 166 x 100 mm

#### Customer Benefits

- Wide measurement range from 1000 to 1 mbar with high resolution in the 100 to 1 mbar range
- Stainless steel diaphragm for excellent media compatibility
- Easy measurement chamber cleaning due to the removable measurement flange

### PIEZOVAC PV 101



Digital Piezo gauge with data logger

#### Typical Applications

- Food and packaging industry
- Vacuum process quality assurance

#### Our Solution

- Measurement range 1200 to 0.1 mbar
- Usage possible directly in a vacuum
- Data logging via USB interface and internal memory for up to 2000 measured values
- Online measurement via USB possible; measuring data exportable
- Cordless power supply with standard 9 V battery or 15 V DC adapter
- Pressure unit selectable amongst mbar, Torr and Pascal
- Windows software VacuGraph for measuring data storage and PC analysis (optional)

#### Customer Benefits

The temperature compensated handheld gauge PIEZOVAC PV 101 is equipped with an internal piezoresistive silicone sensor and offers gas type independent measurement in the range of 1200 to 0.1 mbar.

The PIEZOVAC PV 101 measurement gauges are universal to use - as a mobile handheld instrument or fixed to a vacuum installation. Operates even under full vacuum conditions. For example: These gauges can be enclosed to the packaging during the packing process to monitor the real pressure in the inner packaging.

### Ordering Information

### Vacuum pressure gauges

	Part No.
DIAVAC DV 1000, complete with sintered filter, mbar readout / Torr readout	<b>160 67 / 896 06</b>
PIEZOVAC PV 101, DN 16 ISO-KF incl. AIMn block battery, 9V 6LR61	<b>230 080 V01</b>
VacuGraph Windows software accessory set, including USB interface cable (2 m), 12V AC adapter (100-260V, 50/60 Hz), protection case	<b>230 082 V01</b>

For detailed information please refer to our General Catalog or contact us.

# LEYBONOL LVO Vacuum Oil



## LEYBONOL food-grade oil

LEYBONOL oils and lubricants from Leybold are especially designed with regard to the high demands in vacuum technology.

Their vapour pressure is low at high temperatures and the water content and water uptake is minimal. Their viscosity characteristics are flat, lubricating properties excellent, and they have high resistance against thermal decomposition and increased mechanical stress.

The food-grade LEYBONOL is registered at NSF (Lev. H1). So it is ideal for use in food processing and packaging areas.

### LVO 140 and LVO 150

Mineral oil with additives

- Resistant against oxidation
- Highly resistant to contamination

#### Product examples:

- LVO 140: SOGEVAC (A-series ≤ SV65, B-series ≤ SV25B)
- LVO 150: SOGEVAC (A-series ≥ SV 100, B-series ≥ SV 40 B)

### LVO 300 and LVO 320

Synthetic oil (PAO with additives)

- High thermal and oxidative stability

#### Product examples:

- SOGEVAC, VACUBE

### LVO 400 and LVO 410

Synthetic oil (perfluoropolyether PFPE, free of additives)

- Chemical inert, highest thermal stability; for MAP packaging of red meat with high oxygen concentration

#### Product examples:

- RUVAC, DRYVAC, SOGEVAC

### LVO 700

Synthetic cyclic hydrocarbon

- Very high thermal stability and highly resistant against oxidation and decomposition, long lifetime

#### Product examples:

- SOGEVAC

## Ordering Information

	Part No.		Part No.
LEYBONOL LVO 140, 1 liter	<b>L14001</b>	LEYBONOL LVO 320, 20 liter	<b>L32020</b>
LEYBONOL LVO 150, 1 liter	<b>L15001</b>	LEYBONOL LVO 410, 0,6 liter	<b>L41000</b>
LEYBONOL LVO 150, 20 liter	<b>L15020</b>	LEYBONOL LVO 410, 1 liter	<b>L41001</b>
LEYBONOL LVO 300, 1 liter	<b>L30001</b>	LEYBONOL LVO 700, 2 liter	<b>L70002</b>
LEYBONOL LVO 300, 5 liter	<b>L30005</b>	LEYBONOL LVO 700, 5 liter	<b>L70005</b>
LEYBONOL LVO 300, 20 liter	<b>L30020</b>	LEYBONOL LVO 700, 20 liter	<b>L70020</b>

For detailed information please refer to our General Catalog or contact us.

**Leybold Services - all from a single source**  
**Fast, competent and reliable.**

## Our Global Support for You



In addition to high-quality products, Leybold offers you comprehensive services worldwide in accordance with our internationally unified quality standards.

Our fully-trained and certified engineers are experts in repairing and servicing your vacuum equipment.

Benefit from the densest service network in the entire vacuum industry!

No matter whether you use our products directly or integrate them into your plants - we are always close to you!

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### Our Performance

- Global Sales and Service network
- Factory overhaul of your vacuum components in one of our local service centers
- Preventive maintenance
- On-site service by our field service
- Tailor-made service contracts
- Extended warranty programs
- Exchange and back-up pool
- Remote maintenance
- Calibration of your measuring systems
- Installation and operator trainings
- Expertise and application consulting in all matters of vacuum technology
- Multi brand repairs on request



**Pioneering products. Passionately applied.**