

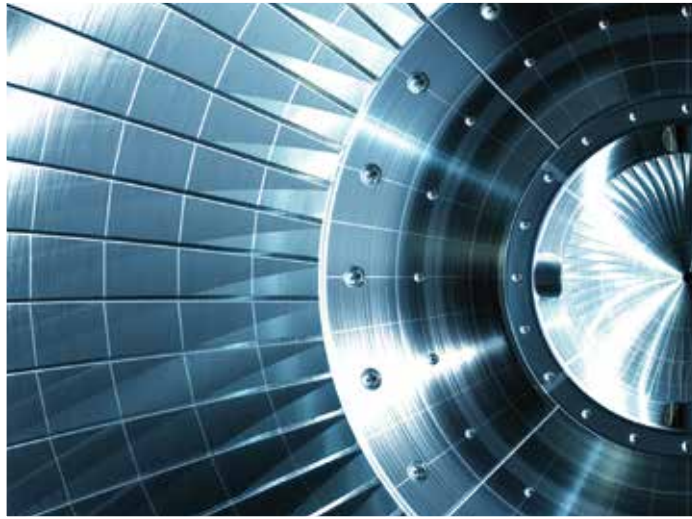


SCREWLINE

The dry
vacuum solution for
industrial applications



Leybold SCREWLINE dry compressing screw vacuum pumps are extremely robust and meet the special demands of industrial heavy duty processes



SCREWLINE

Dry Vacuum Pumps

The innovative, modular design of the SCREWLINE allows these pumps to be used where reliable, and low maintenance vacuum technology is demanded.

The cantilevered design allows easy access to the rotors for in-situ cleanability in short time.

- The SCREWLINE pump design minimizes build-up of layers and maximizes potential cleaning intervals
- The vacuum system is designed to pass all extracted vapors to the exhaust, no maintenance intensive and sensitive pre-filtration or condenser systems necessary
- The user is able to help himself in case of unexpected pump contamination
- Leybold uses own developed, standard components and combines these in modular skids, enabling us to offer cost-competitive with fast delivery for each individual demand

SCREWLINE Benefits

- Very rugged, for demanding processes
- Aluminium chamber construction
- Air-cooling
- Easy to disassemble pump chamber for on site cleaning by end user
- Monitoring system
- Certified according to ATEX RL 2014/34/EU



Well-proven in harsh Industrial Processes



Typical **Applications**

- Industrial systems and machinery
- Large area coating
- Food packaging
- Photovoltaic lamination
- Industrial furnaces / heat treatment (hardening, annealing, sintering, carburization, melting)
- Industrial coating
- Electrical industry
- Metallurgical systems
- Display coating
- Semiconductor industry
- Food processing
- Load lock chambers
- Degassing
- Research and development
- Space simulation
- Lamps and tubes manufacture
- Automotive industry
- Food freeze-drying
- Leak detection



Design **Features**

- Two synchronized, cantilevered positive displacement rotors form the pump chamber and ensure multistage compression with very few components
- Non-contact and practically wear-free shaft seals
- The cantilevered rotors avoid bearings in the vacuum and ensure easy accessibility of the pump chamber for cleaning at the same time
- Integrated rotor cooling and air cooling from the outside via thermal link (SCREWLINE pumps stay significantly cooler than comparable screw pumps in the market)
- Water cooling device for use in air-conditioned rooms is available as an option
- SCREWLINE pumps are available as O₂ models for pumping pure oxygen
- SCREWLINE pumps can handle unlimited amounts of Argon

Low **Maintenance** required

Maintenance on SCREWLINE pumps will usually be limited to a regular visual inspection of the pump and the annual change of gear oil and oil filter. The heat exchanger (standard air cooling) can be cleaned on-site by simply blowing it out with compressed air. The pump chamber may be cleaned from process deposits with the optional purge kit if necessary.

Explosion protection **ATEX**

SCREWLINE vacuum pumps are available as ATEX certified models for zone 2 and 3.

These pumps comply with the ATEX Guideline requirements (ATEX RL 2014/34/EU)

As standard, all SCREWLINE ATEX pumps are equipped with a barrier gas control unit.

Range of **Accessories**

The comprehensive line of accessories allows for optimum adaptation to the individual requirements of the different applications:

- Exhaust silencer
- Roots pump adapter
- Gas ballast valve - manual or solenoid
- Dust filter
- Flushing kit for simple pump chamber cleaning
- Purge gas retrofit kit
- Non-return valve

SCREWLINE vacuum pumps are equipped with the SP-Guard monitoring system as standard to monitor vital operating parameters constantly. The SP-Guard indicates critical operating conditions at an early stage.

SCREWLINE

Dry pump technology you can rely on



Your Requirements

- High system availability
- Minimum maintenance complexity
- High vapor tolerance and particle compatibility
- Simple on-site cleaning
- Environment compliant production
- Low operating and investment costs

Our Solution

Best system uptime

- Minimum downtimes, maximum availability and maximum ruggedness through an application optimized design
- Reduced process time in batch operation or short cycles - high effective pumping speed also at low intake pressures

Most robust system design

- SCREWLINE pumps are in "heavy-duty" design and are tolerant against unexpected process loads

Flexibility

- Expandable to pump systems by adding Roots pumps -
- Universal flanges facilitate easy and flexible system integration
- Modular range of accessories

"Help Yourself"

- In case of contamination, the user can self-clean the inside surfaces of the pump chamber

Lowest cost-of-ownership

- Environment friendly, low operating costs
- Minimized operation costs by widely reduced maintenance - no production of contaminated waste oil, no waste disposal costs

Low maintenance demands

- Extended maintenance intervals, low servicing complexity - just an annual gear oil change is necessary
- Maintenance friendly, quick and easy accessibility to all servicing points

Smart process control

- The optional SP-Guard monitors important operating parameters

Technical data

Ordering information

SCREWLINE		SP 250	SP 630	SP 630 F
Max. pumping speed (50/60 Hz)	m ³ /h	270 / 330	630	630
Ultimate pressure (50/60 Hz)	mbar	≤ 0.01 / ≤ 0,005	≤ 0.01	≤ 0.01
Nominal power motor power at 50/60 Hz	kW	7.5 / 11.5	15	15
Motor power consumption at ult. pressure	kW	< 5.9 / < 7.2	< 11	< 11
Motor current / motor voltage	50 Hz	14.5 A / 400 V	28 A / 400 V	28 A / 400 V
	50 Hz	29.6 A / 200 V	56 A / 200 V	56 A / 200 V
	60 Hz	18.4 A / 460 V	24 A / 460 V	24 A / 460 V
	60 Hz	39.0 A / 210 V	52 A / 210 V	52 A / 210 V
Cooling		Air	Air	Water
Noise level with exhaust silencer ¹⁾	dB(A)	≤ 75	≤ 75	≤ 71
Flange connections at the intake and exhaust side		EN 1092-2 PN 6 - DN 65 EN 1092-2 PN 16 - DN 65 ISO 1609 -1986 (E) 63 (DN 63 ISO-K) ²⁾ ASME B 16.5 NPS3 Class 150	EN 1092-2 PN 6 - DN 100 EN 1092-2 PN 16 - DN 100 ISO 1609 -1986 (E) 100 (DN 100 ISO-K) ²⁾ ASME B 16.5 NPS4 Class 150	
Weight, approx.	kg	450	530	530
Dimensions (L x W x H)	mm	1350 x 530 x 880	1630 x 660 x 880	1630 x 660 x 880

¹⁾ with rigid exhaust line (acc. to DIN EN ISO 2151)

²⁾ Standard at the discharge flange

Ordering Information*

SCREWLINE		SP 250	SP 630	SP 630 F
SCREWLINE dry screw pump, equipped with				
Manual gas ballast	50 Hz	115 001	117 007	117 107
	60 Hz	115 001	117 008	117 108
Purge gas unit, manual gas ballast and castors	50 Hz	115 006	-	117 117
	60 Hz	115 006	-	117 118
Purge gas unit, manual gas ballast and ATEX cat 3i ³⁾	50 Hz	-	117 017	-
	60 Hz	-	117 018	-
ATEX cat 3i ³⁾	50 Hz	115 003	-	117 115
	60 Hz	115 003	-	117 116
ATEX cat 2i/3o	50 Hz	115012V11	-	117111V11
	60 Hz	115012V11	-	117112V11
Accessories				
Exhaust silencer		119 002		119 001
Exhaust silencer, maintainable		119 003V		119 004V
Roots pump adapter		119 022		119 021
Dust filter		951 68		951 72
Non-return valve for the exhaust		119 011		119 010
Purge gas retrofit kit		119 031		119 030
Flushing kit		119015V02		119015V02

* Selection from the product range. For detailed information on our full scope of SCREWLINE pump model versions, motor voltages and accessories please refer to our Leybold Full Line Catalog. Visit our webshop www.leyboldproducts.com.

Leybold

Leybold GmbH
 Bonner Str. 498 · D-50968 Köln
 T +49 (0) 221-347-0
 F +49 (0) 221-347-1250
 info@leybold.com
www.leybold.com

