

# TRIVAC L

Leybold

The perfect balance  
of performance for  
various applications



# Two-stage rotary vane pumps

The new generation Leybold **TRIVAC L** two-stage rotary vane vacuum pumps perfectly balance the performance, reliability and overall ownership costs of your application processes. Aircooled **TRIVAC L** pumps are designed to meet countless industrial application requirements requiring stable performance and ease of operation. The standard

**TRIVAC L** pumps with LVO 130 mineral oil meet the industrial requirements of various applications. The **TRIVAC L** features an optimized design that extends the uptime of your processes via convenient and efficient onsite maintenance. Custom versions of the **TRIVAC L** are available for specific demands, like motors, oil options and systems.



## Performance Driven

- A 90m<sup>3</sup>/h version for a complete line of two-stage rotary vane pumps for higher pumping speeds
- A high level of adaptability for humid applications via enhanced water vapor handling capacity



## Extended Uptime

- Innovative optimized thermal design
- Improved durability from inner mechanical optimization



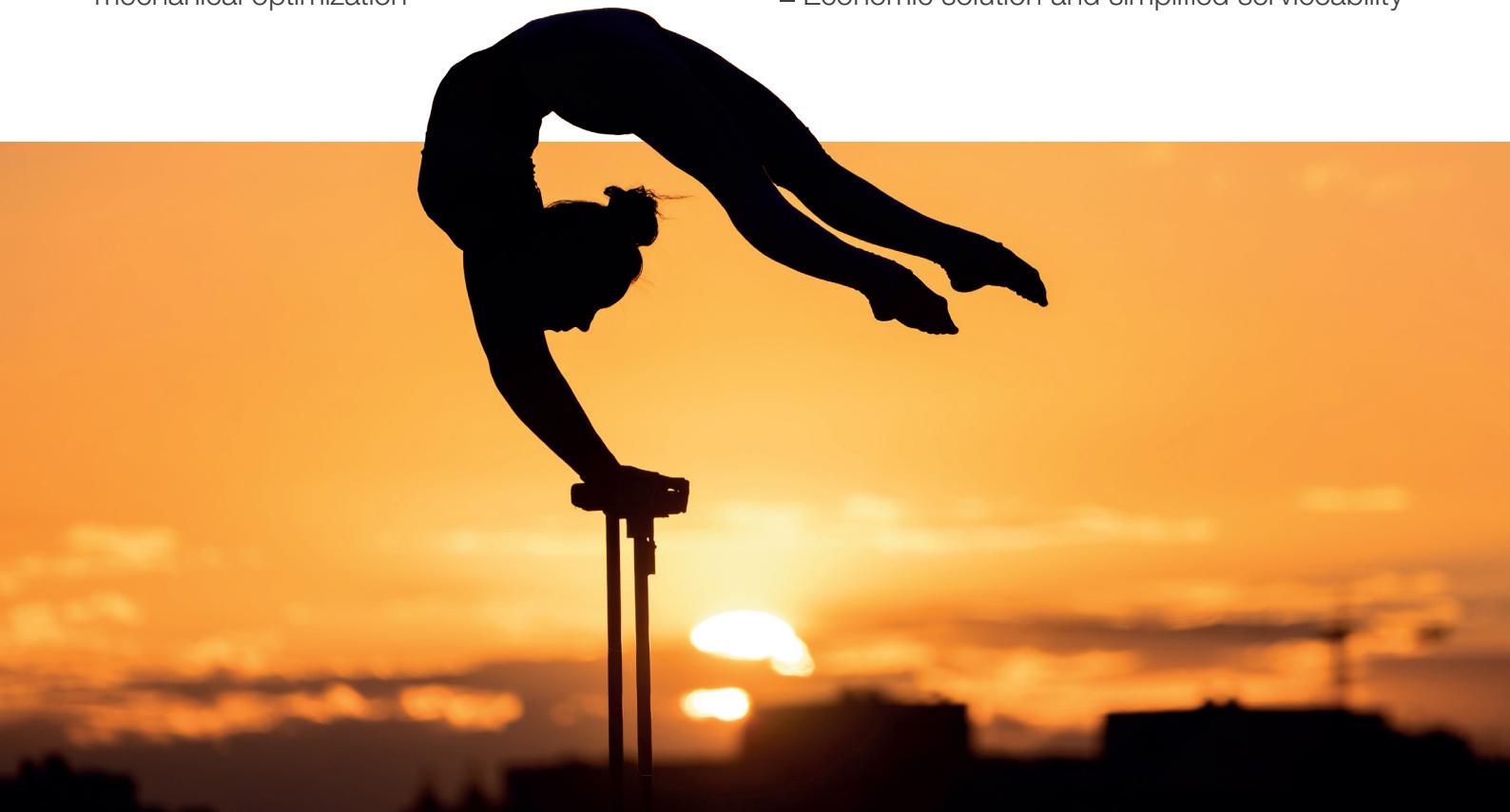
## Plug & Pump

- Upgrade to a competitive two-stage rotary vane pump via easy replacement
- Adjustable outlet flange and roots adapter for easy connection



## Lower Total Cost of Ownership

- Low power consumption
- High energy efficient motors
- Economic solution and simplified serviceability



## Economic solutions for worldwide industrial applications

### Lower total cost of ownership

IE3 motors with low power consumption, high energy efficiency and simplified serviceability.

8

### Easy installation and operation

KF40 flanges for inlet and outlet connection. Outlet adjustable for vertical or horizontal orientation.

7

### Easy systemization

Roots adapter kits for a compact direct combination and comprehensive accessories platform for variable system configurations.

1

### New solution for faster evacuation

90 m<sup>3</sup>/h two-stage RVP for higher pumping speed requirement with compact installation and easy systemization.

2

### Worldwide motor options

Multiple motor options for various world regions. Default CE certification for motorized variants and bare shaft variants also available.

3

### Proven performance for humid processes

Patented three-stage gas ballast provides enhanced water vapor tolerance for applications with high humidity.

5

### Simple daily check

Glass window for monitoring oil status and default drain valve for applications requiring frequent oil changes.

4

### Optimized air cooling

Patented oil casing design reduces heat emission into the environment, lowers oil temperature and extends the life of oil.



# Markets and applications

## ✓ Charging System

- Refrigerator production
- Air conditioner / Heat pump production
- Heat pipe production



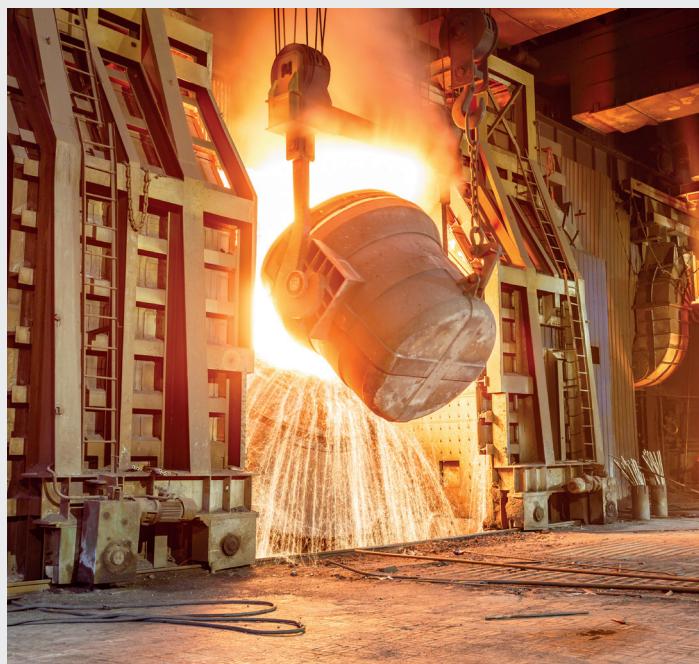
## ✓ General Industry

- Leak detection systems
- Insulated containers / LNG-Cryo tanks production
- Purification / Oil degassing



## ✓ Furnace & Metallurgy

- Industrial furnaces / Heat treatment
- Welding technology
- Metallurgical systems



## ✓ Analytical, Research & Development

- Laboratory equipment
- Magnetic medical equipment
- Spectrometers and leak detectors



The perfect balance of performance for various applications

### ✓ Freeze Drying

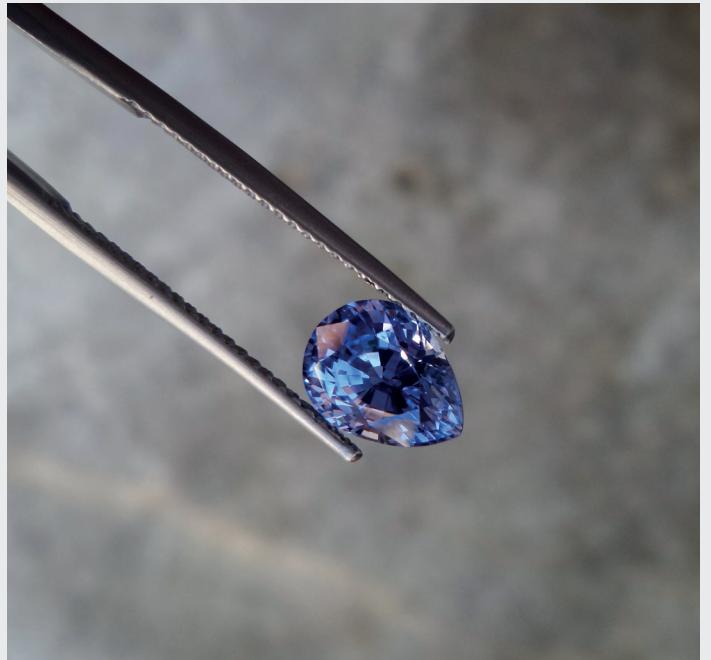
Freeze drying of food

Freeze drying of pharmaceuticals



### ✓ Special Applications

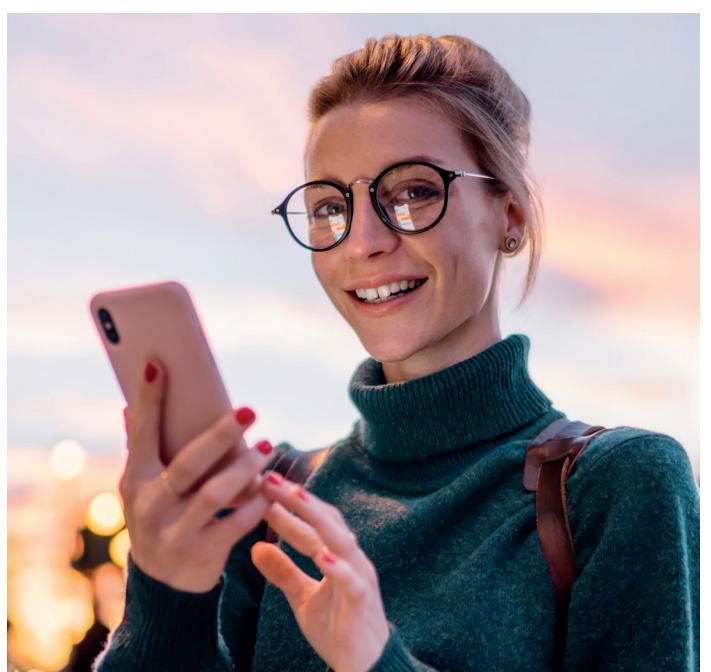
Crystal pulling like sapphire, SiC or other substrate material for Semi or Solar.



### ✓ Thin Film Coating

Large area coating

Industrial coating



# Product Line

**Complete product line  
for your applications**

**The TRIVAC L is available in three sizes:**

TRIVAC D 40 L

TRIVAC D 63 L

TRIVAC D 90 L

**The Standard TRIVAC L provides four  
options for motor selection:**

- EU/CN: Economic solution for 50Hz regions with IE3 and CE defaults
- EU/US: Wide range version for most regions with IE3 / CE / UR / CSA / EAC defaults
- JP/KR: EU/US: Special version for Japan / Korea / Taiwan with IE3 / CE / UR / CSA / EAC defaults, design meets Korea's KEMCO requirements
- Bare shaft: Pump delivered without motor for individual requirements

# Accessories

**The TRIVAC L vacuum pumps provide a comprehensive line of accessories offering an optimal adaptation to individual requirements in various applications:**

- Exhaust oil mist filters
- Roots pump adapters
- Gas ballast kits - permanent or solenoid
- Thermal switches
- Inlet dust filters
- Inlet absorption traps



# Systems + Solutions

## Custom-made solutions for you applications

**TRIVAC L** pump systems are combinations of fore vacuum pumps along with roots vacuum pumps, which are typically used to attain a base pressure of  $10^{-3}$  mbar. A line of standard pump systems has been developed to provide the right solution for your processes.

- RUVAC WA(U), WS(U) and WH(U) roots pumps
- Standardized adapter versions with compact footprint
- Customized frames (e.g.: movable or on castors)
- Electronic controls per your specifications, including solutions with electrical cabinets
- Peripheral accessory extensions (e.g., vacuum gauges, valves, dust filters, oil mist filters...)
- Subsystems for integration within customers' plants

Please contact your local Leybold sales office for custom designed vacuum solutions for special processes and configuration.



## Service: Easy, Competent, Reliable

**Along with our comprehensive line of innovative service solutions, we offer unrivaled support for your Leybold vacuum pumps, and we're committed to:**

- Providing you with reliable, first-class service throughout your pump's lifecycle, no matter where in the world it's installed
- Maximizing your pump's uptime and making sure it receives the best possible service
- Offering you specialist support with preventive maintenance and repairs



Maintaining your uptime and reducing the risk of production downtime is critical. Wherever you are, Leybold is there to support you as your vacuum service partner. Our Field Service Team and our fully-equipped Service Technology Centers are at your disposal.

- Oil and spare parts
- Exchange pumps
- Certified used vacuum pumps
- Pump repair centers
- Service agreements
- On-site service
- Pump rentals

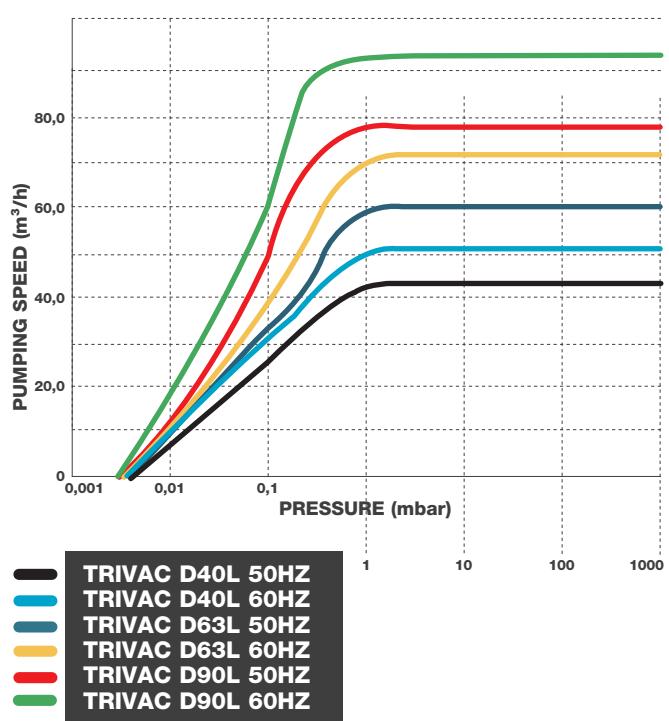
## Technical data

### Ordering information

TRIVAC		D 40 L	D 63 L	D 90 L
Nominal pumping speed 50/60Hz	m³/h	49/59	67/80	92/110
Pumping speed 50/60Hz	m³/h	42/50	60/72	79/95
Ultimate total pressure without gas ballast	mbar		$3 \times 10^{-3}$	
Ultimate total pressure with gas ballast in position 1	mbar		$6 \times 10^{-3}$	
Ultimate total pressure with gas ballast in position 2	mbar		$2 \times 10^{-2}$	
Water vapor tolerance	mbar	35	30	25
Water vapor capacity 50/60Hz	g/h	1090 / 1308	1334 / 1601	1464 / 1757
Oil filling, min / max	l	3.1/4.1	3.3/4.3	3.6/4.6
Admissible ambient temperature	°C		10-40	
Noise level with / without gas ballast in position 1	dB(A)		58/60	
Motor rating power 50/60Hz	kW	1.1/1.3	1.5/1.8	2.2/2.6
Type of protection	IP		55	
Intake / exhaust connection	DN		40 KF	
Pump dimensions (LxWxH)	mm	717x244x352	747x244x352	834x244x352
Net weight	kg	84		101

For the weights and motor rating of other variants, please refer to product operation instructions.

### Pumping speed curve



TRIVAC	D 40 L	D 63 L	D 90 L
Nominal supply (VAC)			
220/230/380/400 V	50 Hz	1019040V00	1019063V00
220/230/380/400/415 V	50 Hz	1019040V01	1019063V01
230/460 V	60 Hz		1019090V01
200 V	50 Hz	1019040V02	1019063V02
200/380 V	60 Hz		1019090V02
Exhaust Oil Mist Filter AF 40			
Exhaust Oil Mist Filter AF 63-90			
Permanent GB Kit with NW16			
EM GB Kit with NW16			
Roots Adapter			

All variants above are filled and delivered with LVO 130 oil.

For bare-shaft pumps and customized versions, please contact your local Leybold sales office.



Pioneering products. Passionately applied.