

Oil Diffusion Pumps

DIJ Series

Most innovative design for
best performance, flexibility
and efficiency



The new DIJ oil diffusion pump series

Oil diffusion pumps from Leybold are ideally suited for industrial high vacuum applications. They excel with superior vacuum performance and are reliable components in medium vacuum and high vacuum systems with a fit and form retrofit capability.

DIJ benefits at a glance

■ Most innovative heating concept

utilizing newly developed heater cartridges with large heat exchange surface for an optimized energy transfer into the oil. Effective temperature monitoring protects the system against overheating. The insulated heater area ensures minimum energy losses.

- + Minimum stress and longest lifetime for heaters and oil
- + Highest uptime
- + Flanged heaters, easy to exchange

■ Choice of flange variants

for improved connectivity

- + ANSI / Inch flanges (with O-ring)
- + ISO-F or ISO-K flanges (with centering ring)

■ Unique baffle design

- + Proven cold cap baffle at the inlet to minimize oil backstreaming
- + Innovative, new foreline baffle for reduced oil losses

■ Various electrical connection opportunities

to meet customers requirements

- + Three different connection types available
 - Basic – simplified OEM connection with male plug
 - Standard – with circuit breaker box
 - ECO, with switchbox and energy control unit

■ Five stage system design

provides excellent performance data

- + Four diffusion pump stages for highest suction speed at low pressures and lowest final pressure
- + One ejector stage for high forevacuum stability and stable throughput at pressures $>10^{-3}$ mbar



Improved design features for your **vacuum requirements**



DIJ oil diffusion pumps are wear-free high vacuum pumps without wearing and moving components. The pumping effect of these pumps is created through the diffusion of gases into an oil vapor stream.

Typical Applications

- Vacuum coating
- Metallurgy
- Vacuum furnaces
- Vacuum drying
- Research and development

DIJ Oil Diffusion Pump Advantages

Prolonged maintenance intervals, non-wearing, high safety standard.

- High and stable throughput at pressures $>10^{-3}$ mbar
- High forevacuum tolerance
- High pumping speed
- Safe and economical
- CE compliant electronics supplied
- No wear caused by moving parts
- Simple to operate
- Maintenance friendly design for rapid and simple replacement of heating elements
- Wide range of accessories available
- Innovative ECO Energy control unit (ROI < 2 years)

The innovative **power efficiency control unit** for diffusion pumps ensures minimized power consumption perfectly adapted to the current heating demand.



Pump fluids

Specifications

LEYBONOL pump fluid for oil diffusion pumps in any application



The matching pump fluid influences the performance and pumping speed of oil diffusion pumps. Our LEYBONOL pumping fluids fulfil the requirements for working in a high vacuum:

- High-quality, reliable fluids for a long service life of oil and pump
- Excellent vacuum performance data

■ ECO (Energy control unit) compliant
The product line of suitable pump fluids and vacuum oils for your application are described in our full line catalog.

We gladly provide personal advice for the selection of the suitable pump fluid. Please contact us.



Technical Data *

Oil diffusion pumps		DIJ 10	DIJ 16	DIJ 20	DIJ 35	Accessories	P/N
High vacuum connection	ANSI	10"	16"	20"	35"	Astrotorus baffle	on demand
Forevacuum connection	ANSI	2"	3"	4"	6"	Overtemperature protection switch	122 84
Nominal pumping speed ¹⁾	l/s	2800	6000	10000	28000	Contact thermometer	218 81
Ultimate total pressure ¹⁾	mbar	< 10 ⁻² · 10 ⁻⁷	< 10 ⁻² · 10 ⁻⁷	< 10 ⁻² · 10 ⁻⁷	< 10 ⁻² · 10 ⁻⁷	Resistance thermometer (Pt 100)	200 02 958
Weight	kg	60	195	220	1150	Pump fluids/oils	P/N
Cooling water consumption	l/h	150	280	620	900	Mineral oil base, for standard applications:	
Oil filling LEYBONOL LVO 500	l	1.0 / 1.5	3.5 / 4.5	5.5 / 7.0	15 / 18	LEYBONOL LVO 500	1 l L500 01 5 l L500 05 20 l L500 20
Number of heating cartridges		2	6	9	18	LEYBONOL LVO 510	1 l L510 01 20 l L510 20
Heating power	kW	2	4.8	10.8	19.2	Silicone oil base, for processes with aggressive media or oxygen:	
P/N *						LEYBONOL LVO 520	1 l L520 01 5 l L520 05
DIJ diffusion pump, ANSI flange versions						LEYBONOL LVO 530	1 l L530 01 20 l L540 20
Basic , with male plug						Hydrocarbon-based pump fluid:	
400 V, 50/60 Hz		22212	22222	22227	22242	LEYBONOL LVO 540	200 l L540 99
460 V, 50/60 Hz		22212V001	22222V001	22227V001	22242V001		
Standard , with circuit breaker box ("star" wiring)							
400 V, 50/60 Hz		22212V003	22222V005	22227V005	22242V005		
460 V, 50/60 Hz		22212V006	22222V006	22227V006	22242V006		
ECO , with switchbox and energy control unit							
400 V, 50/60 Hz		-	-	22227V009	22227V010		
460 V, 50/60 Hz		-	-	22242V009	22242V010		

* For more detailed information and additional specifications, please contact us. We shall be pleased to help you.



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