

# TRIVAC E, Two-Stage, Oil-Sealed Rotary Vane Vacuum Pump



TRIVAC D 2,5 E

The TRIVAC E pump is an oil-sealed vacuum pump operating according to the rotary vane principle. Oil which is injected into the pump chamber is used for sealing, lubrication and cooling purposes.

New customers' requirements as well as increased environmental requirements gave rise to the further development of the successful range of TRIVAC B pumps.

The result is the TRIVAC E rotary vane vacuum pump.

Beyond the usual quality and reliability of the B series pumps, the TRIVAC E pump offers improvements in the area of quieter operation, smaller size and improved service-friendliness.

The intake and exhaust ports are equipped with small flanges. Besides standard voltages and frequencies, Oerlikon Leybold Vacuum offers world motors, which are specially required by OEMs.

The TRIVAC E pump includes also a set of accessories which also fit the TRIVAC D 4 - 16 B pumps.

## Advantages to the User

- Highly reliable
- Small and compact
- Quiet operation
- Environmentally compatible (low oil consumption, EMI compatible; IP 54 protection)
- Process quality (little backstreaming of oil)
- Motors for all standard supply voltages and frequencies
- Safe and intelligent vacuum protection (hermetically sealed)
- Free of yellow metals
- Compliance with international standards (CE and CSA)
- Suitable for continuous operation at 1000 mbar (750 Torr)
- Low power consumption
- Better individual performance given by 3 stage gas ballast device
- High water vapor tolerance
- Simplified customizing ability

## Typical Applications

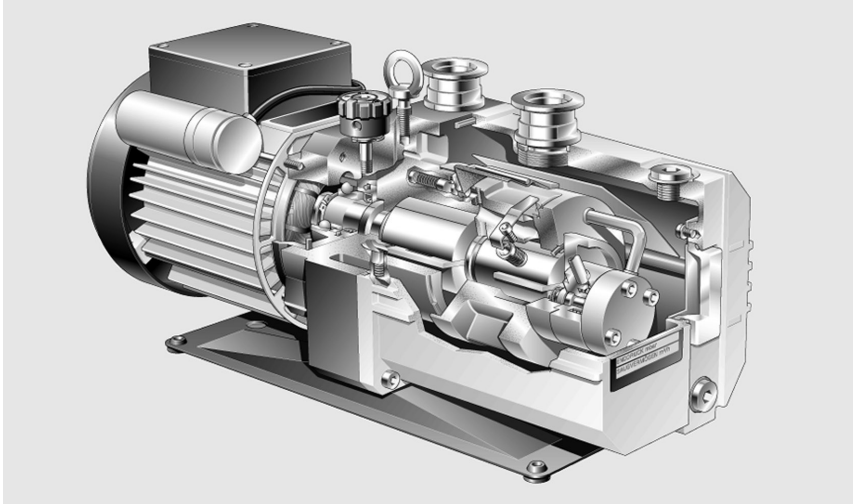
- Mass spectrometers
- Electron beam microscopes
- Sterilizers
- Freeze-drying systems
- Chemical and research labs
- TV tube
- General vacuum engineering
- Backing pump for high vacuum pump systems

## Supplied Equipment

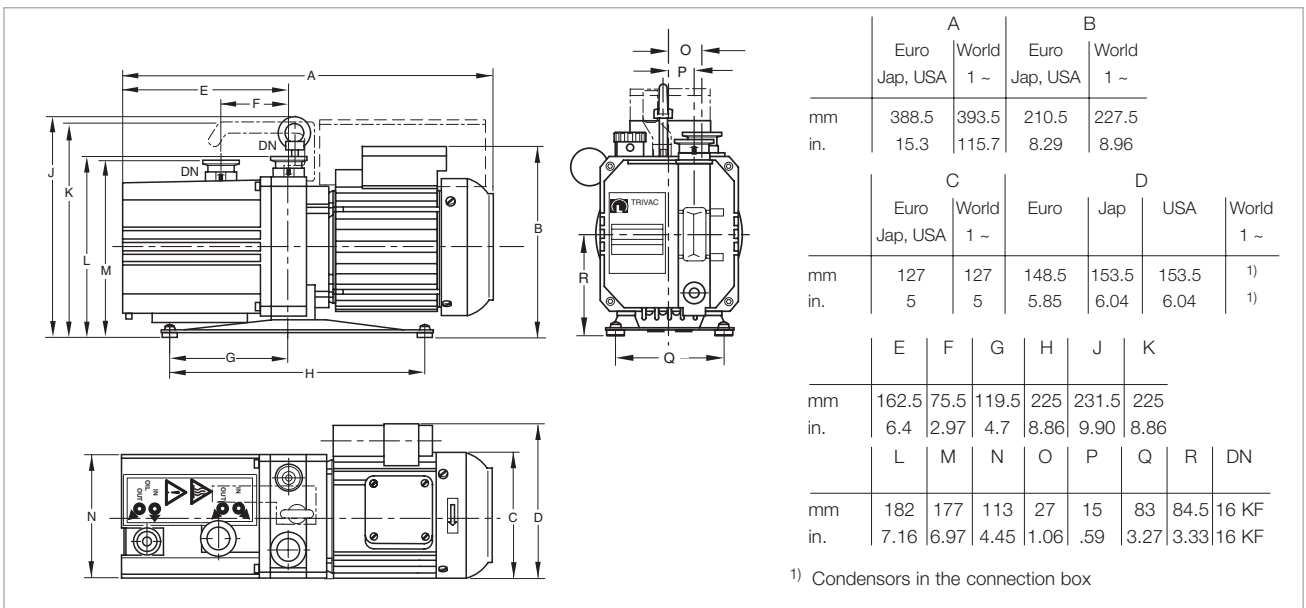
- Dirt trap
- Oil filling included separately (standard N 62; special oil HE-200 in the U.S.)
- Gas ballast device
- Main cord with the specific plug for Euro, USA and Japan motors
- Optional: Main cord with country specific plug for the world motor
- With handle

ALL PUMPS ARE SUBJECTED TO A VACUUM TEST BEFORE DELIVERY!

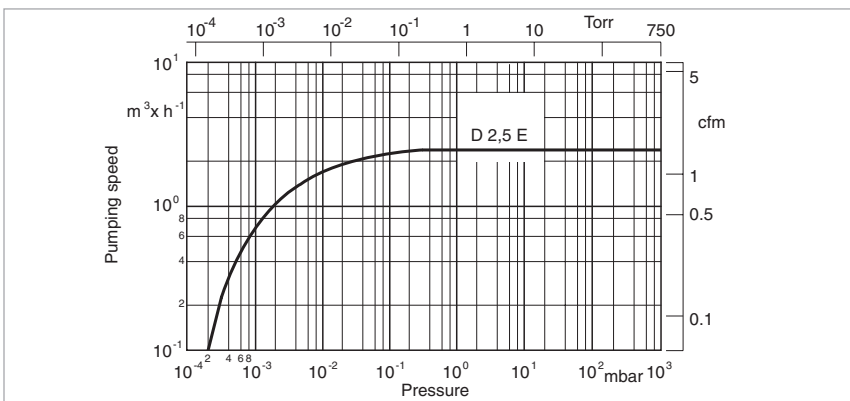
# TRIVAC D 2,5 E



TRIVAC E



Dimensional drawing for the TRIVAC D 2,5 E



Pumping speed of the TRIVAC D 2,5 E at 50 Hz (60 Hz curves at the end of the section)

## Technical Data

## TRIVAC D 2,5 E

		50 Hz	60 Hz
Nominal pumping speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup> (cfm)	3.2 (1.9)	3.6 (2.1)
Pumping speed <sup>1)</sup>	m <sup>3</sup> x h <sup>-1</sup> (cfm)	2.7 (1.6)	3.3 (1.9)
Ultimate partial pressure without gas ballast	mbar (Torr)	≤ 5 x 10 <sup>-4</sup> (≤ 3.8 x 10 <sup>-4</sup> )	≤ 5 x 10 <sup>-4</sup> (≤ 3.8 x 10 <sup>-4</sup> )
Ultimate total pressure without gas ballast <sup>2)</sup>	mbar (Torr)	≤ 2 x 10 <sup>-3</sup> (≤ 1.5 x 10 <sup>-3</sup> )	≤ 2 x 10 <sup>-3</sup> (≤ 1.5 x 10 <sup>-3</sup> )
Ultimate total pressure with gas ballast Step 2 <sup>2)</sup>	mbar (Torr)	≤ 3 x 10 <sup>-2</sup> (≤ 2.3 x 10 <sup>-2</sup> )	≤ 3 x 10 <sup>-2</sup> (≤ 2.3 x 10 <sup>-2</sup> )
Water vapor tolerance			
Step 1	mbar (Torr)	10 (7.5)	10 (7.5)
Step 2	mbar (Torr)	20 (15)	20 (15)
Step 3	mbar (Torr)	30 (22.5)	30 (22.5)
Water vapor capacity			
Step 1	g/h	20	20
Step 2	g/h	40	40
Step 3	g/h	60	60
Oil filling, max. / min.	l (qt)	0.7 / 0.4 (0.7 / 0.4)	0.7 / 0.4 (0.7 / 0.4)
Noise level	dB(A)	≤ 47	≤ 47
Admissible ambient temperature	°C (°F)	10 to 50 (50 - 122) (Euro motor) / 10 to 40 (50 - 104) (USA/Japan motor)	10 to 50 (50 - 122) (Euro motor) / 10 to 40 (50 - 104) (USA/Japan motor)
Motor rating 50/60 Hz	W (HP)	250 (0.34)	300 (0.41)
Nominal speed 50/60 Hz	rpm	1400	1600
Type of protection	IP	54	54
Weight (with oil filling)	kg (lbs)	15.3 (33.7)	15.3 (33.7)
Dimensions (W x H x D)	mm (in.)	127 x 225 x 383 (5 x 8.86 x 15)	127 x 225 x 383 (5 x 8.86 x 15)
Connections (Intake and Exhaust)	DN	16 KF	16 KF

<sup>1)</sup> To DIN 28 426 T1

<sup>2)</sup> To DIN 28 400 and following numbers

## Motor Dependent Data

Motors for D 2,5 E	Voltage (V)	Frequency (Hz)	Voltage tolerance	Power consumption (W (HP))	Nominal current (A)	Protection	Nominal speed (rpm)
Euro 1 ~	220-240/230	50/60	+/- 5 %	250/300 (0.34/0.41)	1.8/1.4	IP 54	1400/1600
Japan 1 ~	100	50/60	+/- 5 %	250/300 (0.34/0.41)	5.5/4.0	IP 54	1400/1600
USA 1 ~	110-120	60	+/- 5 %	300 (0.41)	3.3	IP 54	1600
World 1 ~	100-120; 200-240	50/60	+/- 5 %	250/300 (0.34/0.41)	4.4/3.0 2.2/1.5	IP 54	1400/1600