

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 (low 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

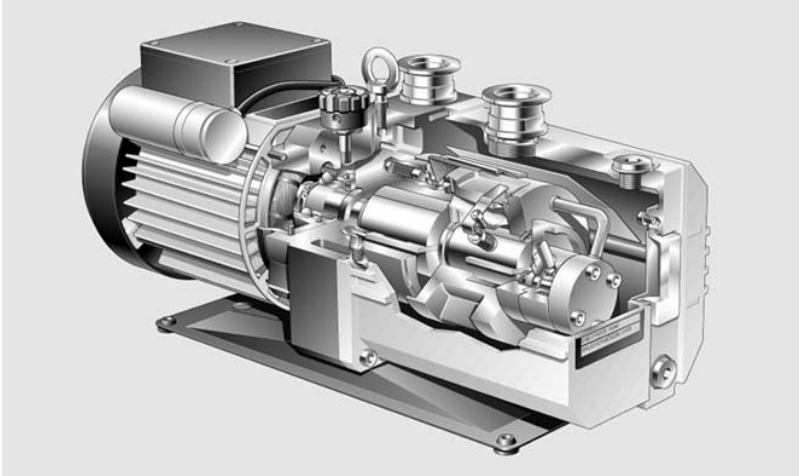
- Mass and X-ray spectrometers
- Leak detectors
- Electron beam microscopes
- Sterilizers
- Freeze-drying systems
- Chemical and research labs
- General vacuum engineering
- Backing pump for high vacuum pump systems

Supplied Equipment

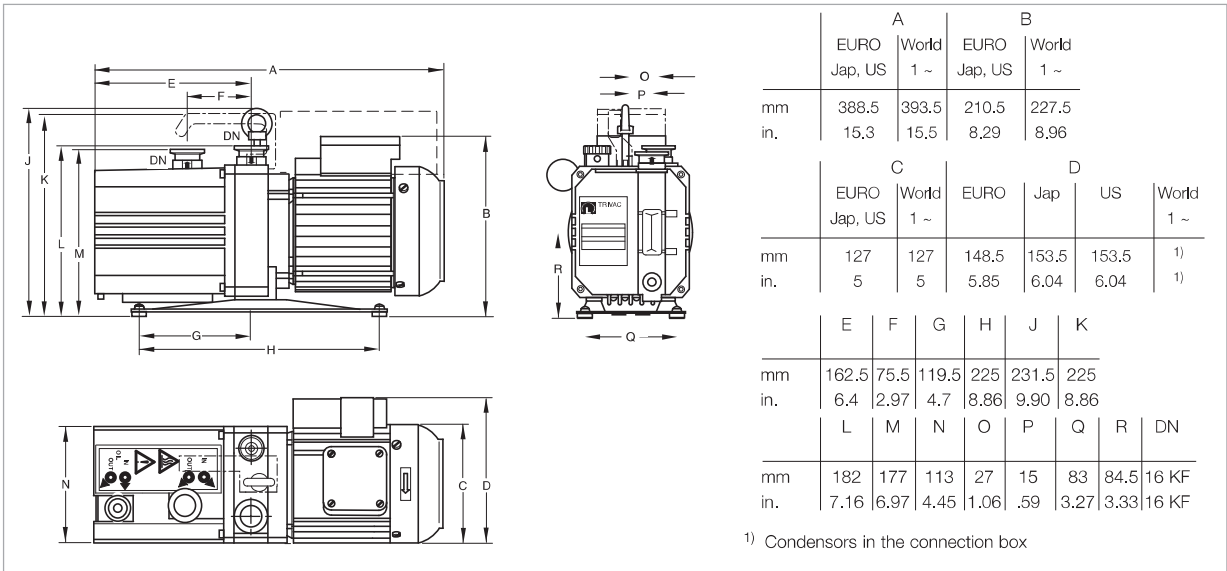
- Dirt trap
- Oil filling included separately (standard N 62; HE-200 in the U.S.)
- Gas ballast device
- Mains cord with the specific plug for EURO, US and Japan motors
- Optional: Mains cord with country specific plug for the world motor
- With handle

All pumps are 100% subjected to a vacuum test before delivery!

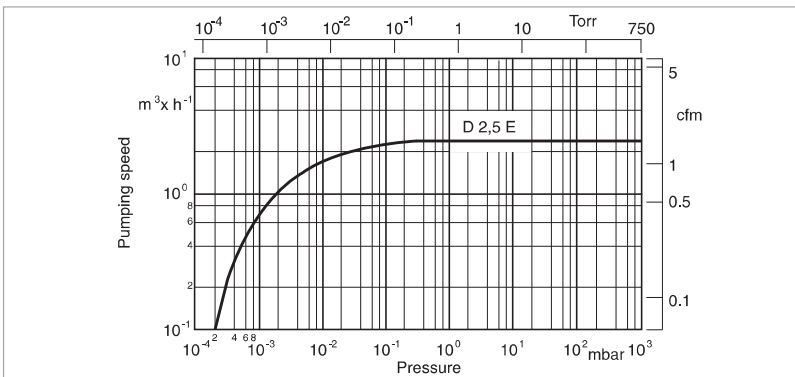
TRIVAC D 2,5 E



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 ¹⁾	m ³ /h (cfm)	3.2 (1.9)	3.6 (2.1)
Pumping speed ¹⁾	m ³ /h (cfm)	2.7 (1.6)	3.3 (1.9)
Ultimate partial pressure without gas ballast	mbar (Torr)	≤ 5 × 10 ⁻⁴ (≤ 3.8 × 10 ⁻⁴)	≤ 5 × 10 ⁻⁴ (≤ 3.8 × 10 ⁻⁴)
Ultimate total pressure without gas ballast ²⁾	mbar (Torr)	≤ 2 × 10 ⁻³ (≤ 1.5 × 10 ⁻³)	≤ 2 × 10 ⁻³ (≤ 1.5 × 10 ⁻³)
Ultimate total pressure with gas ballast Step 2 ²⁾	mbar (Torr)	≤ 3 × 10 ⁻² (≤ 2.3 × 10 ⁻²)	≤ 3 × 10 ⁻² (≤ 2.3 × 10 ⁻²)
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 to +122) (EURO motor) / +10 to +40 (+50 to +104) (US/Japan motor)	+10 to +50 (+50 to +122) (EURO motor) / +10 to +40 (+50 to +104) (US/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

¹⁾ To DIN 28 426 T1

²⁾ 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
US 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

Ordering Information

TRIVAC D 2,5 E

TRIVAC E with 1.8 m (6 ft.) long mains cord EURO version, 1-ph., 220-240 V, 50 Hz; 230 V, 60 Hz Earthed plug	Part No. 140 000
UK plug	Part No. 140 004
CH plug	Part No. 140 005
US version, 1-ph., 110-120 V, 60 Hz, NEMA plug	Part No. 140 002
Japan version, 1-ph., 100 V, 50/60 Hz, NEMA plug	Part No. 140 003
Single phase world motor, 100-120 V, 200-240 V 50/60 Hz (without mains cord)	Part No. 140 001
Further variants upon request	

Accessories

Connection cable for single phase world motor 230 V earthed plug 230 V UK plug 230 V CH plug 230 V NEMA plug (200-240 V) 115 V NEMA plug (100-120 V)	Part No. 200 81 091 Part No. 200 81 097 Part No. 200 81 099 Part No. 200 81 141 Part No. 200 81 090
Exhaust filter AF 8	Part No. 190 50
Replacement filter elements FE 8 for AF 8 (pack of 5)	Part No. 190 80
Exhaust filter drain tap (G 1/4")	Part No. 190 95
Manual oil return AR-M via gas ballast inlet (kit for AF 8-16)	Part No. 190 93
Oil suction AR-V controlled by a solenoid valve via the gas ballast inlet (kit for AF 8-16)	Part No. 190 92
Condensate trap AK 8	Part No. 190 60
Oil drain tap (M 16 x 1.5)	Part No. 190 90
Oil drain kit (M 16 x 1.5)	Part No. 190 94
Connection components Elbow (1x) DN 16 KF	Part No. 184 36
Centering ring with O-ring (2x) DN 16 KF	Part No. 183 26
Clamping ring (2x) DN 16 KF	Part No. 183 41

Spare Parts

Maintenance kit 1 (oil demister, oil box seal)	Part No. 200 40 022
Repair kit 1 (motor side sealing, shaft sealing ring, coupling sleeves, compression spring)	Part No. E 100 000 351
Repair kit 2 (valves, oil demister, oil box seal)	Part No. 200 40 024
Repair kit 3 (oil demister, sealing, wearing parts)	Part No. E 100 000 347
For further accessories see Section "Accessories for TRIVAC E, NT, B and BCS"	