Eurovacuum

Eurovacuum Installations and Operating manual EVDR-Series Compressors Models: EVDR-D010 till D040

Dry Rotary Vane Compressors

Contents

It is mandatory that these operating instructions be read and understood prior to the Compressor installation and start-up.

1.0 INSTALLATION

1.1 General description

The EVDR compressors are able to run 24 hours a day and especially suited for harsh industrial applications. They are supplied with self-lubricated long life graphite vanes to insure a long time between service, combined with the easy accessible service of the compressor, this results in a very short service down time for the EVDR-series.

1.2 Unpacking and Storage

Inspect the box and compressor carefully for any signs of damage incurred in transit. Since all compressors are ordinarily shipped EXW from our factory or regional warehouse, such damage is the normal responsibility of the carrier and should be reported to them.

The outlet of the compressor is covered with plastic caps to prevent dirt and other foreign substances from entering the compressor. Leave the cap in place until you are ready to pipe the compressor to your equipment.

The compressors should be stored in a dry environment with normal air humidity (RH 0~80%, -10°C to 45°C), not for more than 12 months.

1.3 Location

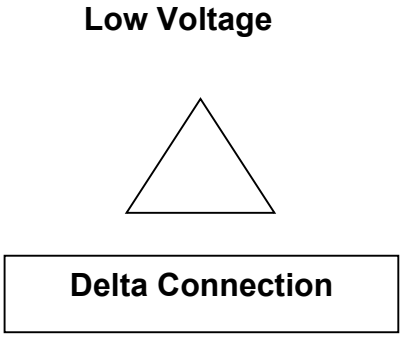
Install the compressor in a horizontal position on a level surface so that the compressor can be evenly supported on its rubber feet. Leave 10 ~ 15 cm of access around the compressor to allow proper cooling. Also, adequate ventilation must be provided for the cooling of the compressor and motor. Ambient temperatures should not exceed 45°C.

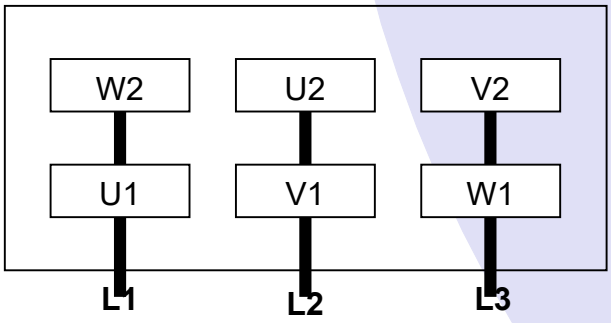
1.4 Power Requirements

A schematic diagram for the electrical motor terminal connections is located in the junction box of the motor or on the motor nameplate. Typical wirings for Three Phase Motors are as below:

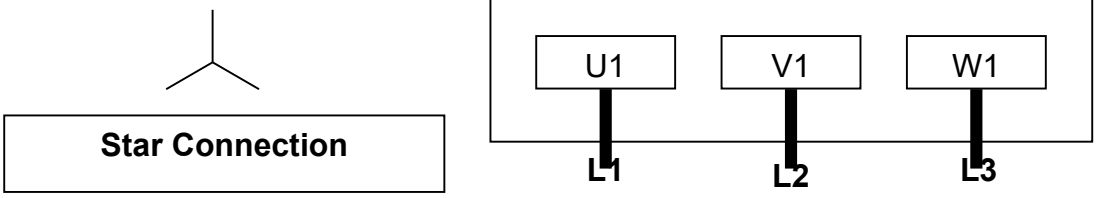
Wiring Scheme- Three Phase Motor

Low Voltage





High Voltage



The motor must be connected according to the electrical codes through a fused switch in order to protect the motor against electrical or mechanical overload conditions. The overload of the motor starter must be set at a level equal to the full load motor current listed on the motor nameplate.

Check the rotation connection before starting the compressor, the correct direction of rotation is marked by an arrow on the compressor casing.

Avoid more than 10 switches per hour.

After electrical connections have been made, the rotation of the motor must be checked. If backward, reverse any two leads of the three at the power connection.

1.5 Connections

Use a pipe size that is at least the size of the compressor inlet connections. Smaller lines result in a reduced compressor capacity.

Compressors operating in parallel on a common main line should have a manual or automatic operated shut-off valve or positive action check valve, installed in the outlet line adjacent to the compressor outlet flange. Remove the plastic protective cap from the outlet port prior to connection of compressor to the system.

Should air contain dust or other foreign particles be able to enter the inlet of the compressor, a suitable in line filter should be connected to the inlet port. Consult Eurovacuum for recommendations.
The inlet piping should be designed to ensure that no liquids such a condensate or liquid can reach the compressor.

The following thread sizes are standard on the compressors

Compressor Model	**Inlet Size**
EVDR-D010 & D016	G 1/2”
EVDR-D025 & D040	G 3/4”

2.0 SAFETY

Please read the following safety notice carefully before operating the compressor.

2.1 General Notices

- Understand fully this installation and operating manual before operation.
- Any other person except authorized operator should not operate the compressor
- When the compressor is not properly working, it should be stopped immediately.
- Eurovacuum shall have no liability for any accident and failure arising from no compliance with instructions in this manual.

2.2 Warning labels and its explanation

Following warning labels are shown and attached on EVDR series compressors

2.2.1 No oil:

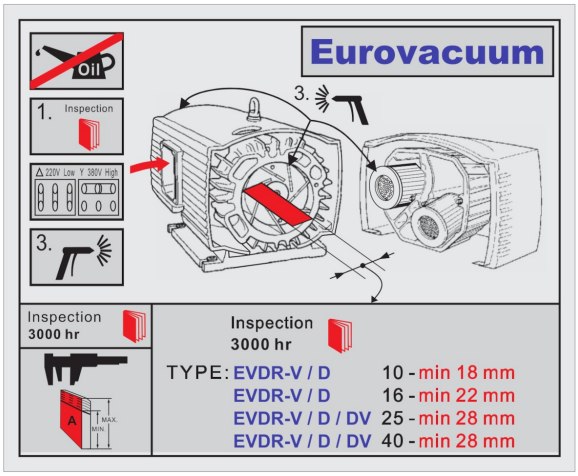
No oil should be used in this compressor and the intake of oil and oil mist must be prevented

2.2.2 Read operating instruction manual:

Read and understand operator's manual before using this machine

2.2.3 Vane inspection

Inspect the size of the vanes after 3.000 hours of running



2.2.4 Location of the labels

The labels shall be shown on the top of sound shield of the compressor.

2.3 Risks and warnings

2.3.1 Risk of burns

During operation the surface of the compressor may reach temperatures of more than 70°C.

- Avoid contact with the compressor during and after directly after operation.

2.3.2 Risk of damage to hearing

If people are present near to the compressor over extended periods then there is a risk hearing damage.

- Ear protection must be used.
- Do not lubricate the compression chamber of the compressor with oil or grease

2.3.3 Damage to the compressor

- Do not lubricate the compression chamber of the compressor with oil or grease
- Avoid more than 10 on/off switches of the compressor per hour

3.0 OPERATION

3.1 Start-up

Check rotation of the motor as described in paragraph 1.4 Power Requirements.

3.2 Stopping the compressor

To stop the compressor, turn off the power.

3.3 Operating Conditions

The EVDR-Dxxx compressors are designed to run the ultimate levels stated in technical data (6.0) for continuous operation. A regulator is installed on the compressor, the desired level to can be achieved by rotating the adjustment knob on the regulator.

The standard version is for use of dry air only, and may not be used in hazardous areas. Handling of humid air or gases containing aggressive chemicals is possible only with specially configures units. Consult Eurovacuum for assistance.

It is recommended for operating personnel who are working near the compressor to wear ear protectors. If noise below the designed dBA is required, an external sound enclosure can be added to the system, provided adequate ventilation is provided
The ambient and suction air temperature must be below 45°C.

Caution: Any non compliance may lead to severe injury to persons and damage to the compressor.

Caution: Maximum number of motor starts per hour should not exceed 10 per hour. Excessive starting of the motor can cause overheating and premature failure of the motor.

4.0 MAINTENANCE

EVDR-Series compressors require light maintenance. To ensure optimum performance, the following maintenance steps should be followed:

4.1 Vanes check

Check the vanes width every 3.000 operating hours or annually.
The vanes width minimum sizes, if smaller width then they must be replace.

Compressor type	Minimum width
EVDR-D010	18 mm
EVDR-D016	22 mm
EVDR-D025	28 mm
EVDR-D040	28 mm

Caution: Only use original Eurovacuum vanes or order them at www.durablevanes.com

4.2 Filter check

Check the filter cartridges inside the enclosure cover of the compressor and clean/replace them when necessary. You can order these from Eurovacuum or at www.durablevanes.com

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4.3 Maintenance Chart

Weekly: Check inline inlet filter element / Mesh. More often if high particulates in inlet stream.
Monthly: Clean the compressor from dust and dirt. When inlet filter is installed: check the filter cartridge, replace if needed.
Every 3.000 operating hours: Check the vanes size. Replace vanes if under the size.
Semi-Annually: Check cooling fan. More often if dirty environment.

5.0 PROBLEM SOLVING

5.1 Problem

Compressor does not start.

5.1.1 Possible Cause

Wrong voltage supplied.
Remedy : Check the power supply and compare it with the compressor motor data.

5.1.2 Possible Cause

Damaged electric motor.
Remedy : Call service agent for service or exchange program.

5.2 Problem

Compressor does not reach its usual pressure level.

5.2.1 Possible Cause

Filters are clogged with debris.
Remedy : Clean the filters or replace them if needed .

5.2.2 Possible Cause

regulator is out of order.
Remedy : Clean and check the regulator or replace it with new one.

5.2.3 Possible Cause

Vanes are stuck.
Remedy : Free the vanes or replace them.

5.2.4 Possible Cause

Vanes are worn out.
Remedy : Replace the vanes and clean the compressor inside.

5.3 Problem

Compressor runs very noisily.

5.3.1 Possible cause

The compressor runs in the wrong direction.
Remedy : Check and change the rotation direction if needed.

5.3.2 Possible cause

Defective bearings.
Remedy : Repair the compressor or call service agent for service or exchange program.

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5.4 Problem

The compressor runs too hot.

5.4.1 Possible cause

Ambient temperature is too high.

Remedy : Check the ambient temperature and take care of extra cooling.

5.4.2 Possible cause

Insufficient cooling.

Remedy : Remove dust and dirt from the compressor.

5.4.3 Possible Cause

Filters clogged.

Remedy : replace filter cartridges.

6.0 TECHNICAL DATA

Technical Data		EVDR-D010	EVDR-D016
Nominal displacement	50 Hz	10	16
	60 Hz	12	19
Ultimate pressure level	bar	+ 1,0	+ 1,0
Motor power at 50/60Hz	kW	0,37 / 0,45	0,55 / 0,7
Nominal speed at 50/60Hz	rpm	1420 / 1700	1420 / 1700
Noise level with exhaust silencer @50Hz	dB(A)	62 +/-3	64 +/-3
Cooling medium		air	air
Weight approx.	kg	15	24
Admissible ambient temperature	°C	0 to 40	0 to 40
Connection (inlet)	G(BSP)	1/2”	1/2”
Dimensions LxWxH	mm	429x206x195	452x231x211

Technical Data		EVDR-D025	EVDR-D040
Nominal displacement	50 Hz	25	40
	60 Hz	30	48
Ultimate pressure level	bar	+ 1,0	+ 1,0
Motor power at 50/60Hz	kW	1,1 / 1,3	1,85 / 2,2
Nominal speed at 50/60Hz	rpm	1420 / 1700	1420 / 1700
Noise level with exhaust silencer @50Hz	dB(A)	65 +/-3	67 +/-3
Cooling medium		air	air
Weight approx.	kg	37	46
Admissible ambient temperature	°C	0 to 40	0 to 40
Connection (inlet)	G(BSP)	3/4”	3/4”
Dimensions LxWxH	mm	545x328x290	625x328x290

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