

Vacuum Solutions

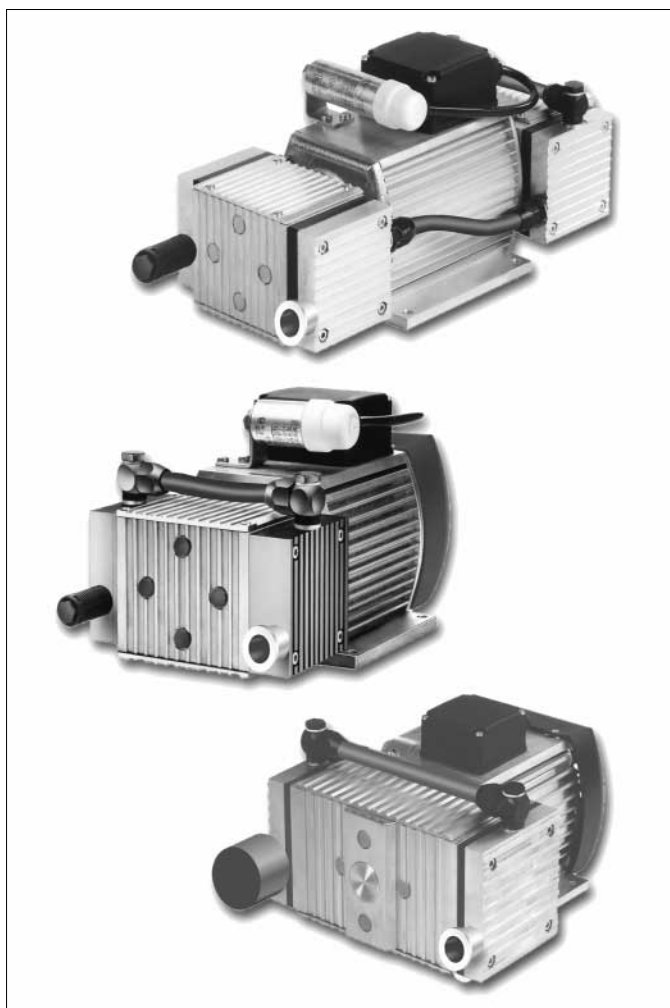
Application Support

Service



LEYBOLD VACUUM

GA 01.422/4.02



## DIVAC

0.8 T; 0.8 LT; 2.5 T  
2.5 VT; 3,6 TC; 4.8 VT

### Diaphragm Backing Pumps

Catalog numbers:

127 80 / 127 81  
127 83 / 127 84  
127 86 / 127 87  
127 89 / 127 90  
127 92 / 127 93

500 210  
500 211  
500 212

Operating Instructions

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**Before starting to use this equipment you must in any case read these Operating Instructions and observe the information provided in connection with all applications so as to avoid hazards and damage.**

You have decided in favour of a product from Leybold. The information provided in the following has been compiled so that you may operate the equipment safely, reliably and over a long period of time.

These Operating Instructions were written for the series pumps stated in these Operating Instructions. In the case of custom units deviations from what is being described are to be expected.

## Figures

The references to figures, e.g. (1/2) consist of the Fig. No. and the Item No. in that order.

## Warning



Indicates procedures that must be strictly observed to prevent hazards to persons.

## Caution

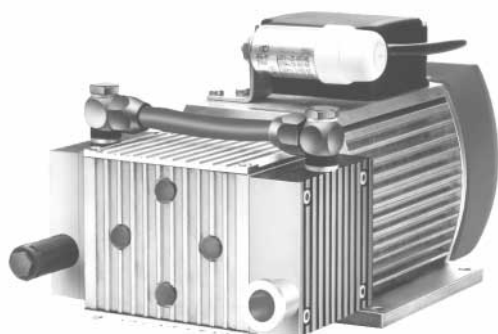
Indicates procedures that must strictly be observed to prevent damage to, or destruction of the equipment.

## Leybold Service

If a pump is returned to Leybold, indicate whether the pump is free of substances damaging to health or whether it is contaminated.

If it is contaminated also indicate the nature of the hazard. Leybold must return any pumps without a "Declaration of Contamination" to the sender's address. For details refer to page 16.

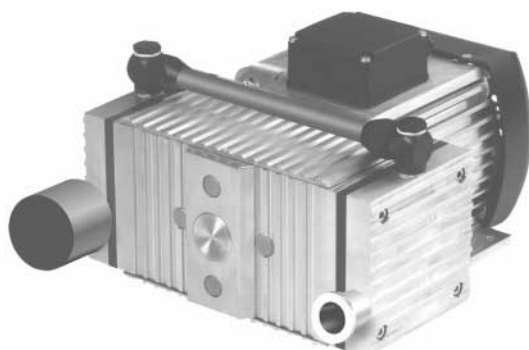
We reserve the right to modify the design and the specified data. The illustrations are not binding.



DIVAC 0,8 T / 2,5 T



DIVAC 0,8 LT



DIVAC 2,5 VT



DIVAC 4,8 VT

Fig.1 DIVAC pumps - overview

# 1 Description

The DIVAC pumps from Leybold are capable of providing a vacuum with is 100 % oil-free. They are gas-tight and will not require any maintenance. The noise levels produced by the pumps when linked to a vacuum system remain below 52 dB(A) (dual head versions) and below 53 dB(A) (four head versions).

Before using a particular medium, the compatibility of this medium with the materials used for the pump head, diaphragm and the valves must be checked (for a list of materials used in the pump refer to Chapter 1.2 - Technical Data).

If your application is such that it does not match the range of applications specified, please call our experts from our Engineering Consulting Center in Cologne.

Tel.: +49(0) 221 347 1234.

## 1.1 Area of Application

**Warning** These pumps must not be used in explosion hazard environments.



These pumps have been designed for pumping air, gases and vapours within the temperature range from +5 °C to +40 °C.

For maximum permissible operating overpressure, ultimate pressure, and pumping speed refer to Chapter 1.3 - Technical Data.

**Caution** The DIVAC pumps from Leybold must never be used to pump liquids.

## 1.2 Ambient Conditions

During operation, the following ambient conditions need to be maintained: +5 °C to +40 °C.

**Warning** These pumps must not be used in explosion hazard environments.



1.3 Technical Data

	DIVAC 0.8 T	DIVAC 0.8 LT	DIVAC 2.5 T	DIVAC 2.5 VT	DIVAC 4.8 VT	DIVAC 3.6 TC
Pumping speed according to DIN 28 426, Part 1						
Pumping speed (at.)	0,60	0,60	2,20	2,20	4,70	3,60
Seff at 10 mbar	0,16	0,20	1,20	1,20	2,40	0,87
Seff at 5 mbar	0,10	0,15	0,70	0,70	1,60	0,34
Ultimate pressure (absolute)	≤ 3	≤ 0,5	≤ 3	≤ 3	≤ 2	≤ 2
Max. exhaust back pressure, (absolute)	2000	2000	2000	2000	2000	2000
Pump heads	2	4	2	2	2	2
Connection						
Inlet (suction-side)	16 KF	16 KF	16 KF	16 KF	16 KF	hose nipple DN 10 + chemical hos
Exhaust (pressure side)	Silencer	Silencer	Silencer	Silencer	Silencer	hose nipple DN 10
Thread (intake and exhaust side)	G 1 <sup>1</sup> / <sub>8</sub> "	G 1 <sup>1</sup> / <sub>8</sub> "	G 1 <sup>1</sup> / <sub>4</sub> "	G 1 <sup>1</sup> / <sub>4</sub> "	G 3 <sup>3</sup> / <sub>8</sub> "	G 3 <sup>3</sup> / <sub>8</sub> "
Sound pressure level according to DIN 45 635 Part 13, approx.	49	53	49	53	55	50
Starting up under vacuum, beginning at	+ 5	+ 5	+ 5	+ 5	+ 5	+ 5
Permissible gas admission temp., max.	+ 5 to + 40	+ 5 to + 40	+ 5 to + 40	+ 5 to + 40	+ 5 to + 40	+ 5 to + 40
Permissible inlet temperature, max.	+ 5 to + 40	+ 5 to + 40	+ 5 to + 40	+ 5 to + 40	+ 5 to + 40	+ 5 to + 40
Voltage/nominal frequency (single-phase motor)						
German mains plug (SCHUKO)	198-264 / 50/60	230/50 ± 10%	230/50 ± 10%	230/50 ± 10%	230/50 ± 10%	230/50 ± 10%
NEMA-plug	90-127 / 50/60	115/60 ± 10%	115/60 ± 10%	115/60 ± 10%	115/60 ± 10%	115/60 ± 10%
Protection	IP 44	44	54	54	54	54
Motor power	50	80	300	300	350	220
Rated speed, approx.	1500	1500	1500	1500	1500	1500
Dimensions (L x W x H), approx.	305 x 155x 178	335 x 155 x 178	342 x 268 x 192	342 x 268 x 192	400 x 296 x 215	295 x 282 x 187
Weight, approx.	5,9	7,5	12,9	13,1	18,0	14,3
Material						
Diaphragms	Neoprene	Neoprene	EPDM	EPDM	EPDM	PTFE coated
Valves	EPDM	EPDM	Neoprene	Neoprene	Viton	FFPM
Pump head	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	PTFE

Material abbreviations according to DIN ISO 1629

# 1.4 Ordering Information

GA 01.422/4.02 - 02/03

	DIVAC 0.8 T	DIVAC 0.8 LT	DIVAC 2.5 T	DIVAC 2.5 VT	DIVAC 4.8 VT	DIVAC 3.6 TC
DIVAC backing pumps for turbomolecular pumps including 1 m long mains cable, country-specific plug, silencer, rubber feet as well as on/off switch						without silencer
198-264 V / 50/60 Hz	127 80	–	–	–	–	–
090-127 V / 50/60 Hz	127 81	–	–	–	–	500 212 - 100 V, 50/60 Hz
230 V / 50 Hz ± 10%	–	127 83	127 86	127 89	127 92	500 210 - 240 V, 50 Hz
115 V / 60 Hz ± 10%	–	127 84	127 87	127 90	127 93	500 211 - 115V, 60 Hz
Spare parts kit, consisting of						
2 diaphragms, 4 valves, 4 valve sealing rings,						
4 gaskets for head interconnections	127 95	127 95 (2x)	127 96	127 96	127 97	500 215 <sup>1)</sup>
Exhaust silencer	127 98	127 98	127 99	127 99	127 94	500 214 <sup>2)</sup>

T = Application for Turbomolecular pumps  
L = Very Low ultimate pressure  
V = Low Vibration  
C = Chemical (Corrosive)

1) Spare parts kit, consisting of:  
2 diaphragms, 4 valves, 4 valve gaskets

2) Hose nipple 3/8" PVDF

## 2 Safety

**Caution** Please note that the pumps may only be used in line with the purpose specified for these pumps.

**Warning** These pumps must not be used in explosion hazard environments.



When connecting the pumps to the mains, please observe the applicable safety regulations.

As to the media used the appropriate safety regulations must be observed.

If operation of the pump is interrupted by the overtemperature switch, the pump will start up automatically after having cooled down sufficiently. You must make sure that this will not cause any dangerous situations.

**Caution** In the case of pumps with dynamic mass balancing (VT types) the following must be observed:

If such a pump is installed on a platform which itself represents an oscillating system, it needs to be ensured that the two systems will not mutually influence each other.

The components connected to the pump must match the pneumatic ratings specified for the pumps.

Use only spare parts from Leybold.

The pumps comply with the safety regulations of the Low-voltage Guideline 73/23 EWG and the EWG guideline on the Electromagnetic Compatibility 89/336 EWG.

## 3 Operation

**Warning** During installation of the pump, the regulations relating to accident prevention and safety must be observed. This also applies to subsequent operation of the pump. In any case you must take into account the information provided in Chapter 2 - Safety.



### 3.1 Installation

Install the pumps at the highest part of the system so as to avoid the collection of condensate in the pump head - this will increase service life.

**In the case of pumps with dynamic mass balancing (VT types) the following must be observed:**

If such a pump is installed on a platform which itself represents an oscillating system, it needs to be ensured that the two systems will not mutually influence each other.

Use rubber or vibration absorbing components under the pump when installing it so that the resonant frequency of the system will be  $f_{\text{res}} > 1.7 \text{ Hz}$ . If  $f_{\text{res}}$  is below the specified value, proper operation of the dynamic mass balancing facility can not be ensured.

### 3.2 Electrical Connection

**Warning** During all electrical installation work the applicable safety regulations must be observed.



In particular it needs to be ensured that all electrical power has been switched off reliably before connecting the pump.

The DIVAC pumps are supplied with a single phase AC motor.

The pump may be connected directly via its mains cord and mains plug to the mains power.

The pump carries an ON/OFF switch.

A check on the pump's direction of rotation will not be necessary since this is fixed.

Compare the data given on the motor's name plate with the data of the locally available mains voltage; the power supply voltage may deviate by +10 % resp. -10 % from the level indicated on the name plate for the motor.

### 3.3 Connection to the System

Fit the intake line using a centering ring and a clamping ring.

A silencer has been fitted on the exhaust side as standard.

In order to implement other connections, simply unscrew the small flange resp. the silencer and fit an adaptor having a suitable thread, see Table 1.3.

The direction of the gas flow is indicated on the pump's head.

Lay the intake and the exhaust lines so that no condensate may collect within the pump (drooping line).

## 4 Operation

**Warning** As to the media used, the appropriate safety regulations and safety measures must be observed.



Before using a particular medium the compatibility of this medium with the materials used for the pump head, diaphragm and the valves must be checked (for a list of materials used in the pump refer to Chapter 1.3 - Technical Data).

**Caution** The cross section of the intake line and the exhaust line must at least be the same as the cross section available at the pump's connections.  
An intake line where the cross section is too small will throttle the pump.  
An exhaust line where the cross section is too small can cause an overpressure within the pump.

When the pump is at standstill, normal atmospheric pressure must be established within the connecting lines.

Diaphragm and valve plates are the only wearing parts of the pumps. Wear will make itself felt by an increase in the attainable ultimate pressure resp. pumping speed will be impaired.

How to exchange these components is detailed in Chapter 5. For ambient conditions refer to Chapter 1.2/1.3.

# 5 Maintenance

## 5.1 General

**Warning** Before starting to work on the pumps it needs to be ensured and verified that the power supply has been switched off and that no power remains applied to the pump.



Diaphragm and valve plates are the only wearing parts of the pumps. They can be easily exchanged.

**Note** As a rule all valve plates, diaphragms and sealing rings should be replaced simultaneously. In the case of pumps with two or four heads this applies to all heads.

### Required Tools / Parts

Valve plates, sealing rings (2 each per pump head) and diaphragm (1 for each pump head) as contained in spare parts kit - see Chapter 1.4).

Crosstip screwdriver No. 1

Felt-tip pen

Open jawed spanner size 14	for DIVAC 0.8 T
Open jawed spanner size 14 + 17	for DIVAC 0.8 LT
Open jawed spanner size 17	for DIVAC 2.5 T/VT
Open jawed spanner size 22	for DIVAC 4.8 VT

**Diaphragms, valve plates and sealing rings must be exchanged in the following order:**

**Note** With the exception of removing and fitting the cover as well as the pneumatic lines running between the heads, all work must be done separately on each head so as to avoid any inadvertent interchanging of components between the heads.

The ribbed covers of the heads are not the same.

### 5.1.1 Removing the Pneumatic Lines Running between the Heads

(once for all pump heads)

Remove the pneumatic interconnection lines (Fig. 3 and 4, item 12) running between the heads.

Use an open jawed spanner to open the joint (4/12) at both pump heads and lift the interconnecting line up and away.

#### DIVAC 0.8 LT only

Open and remove the two pneumatic interconnecting lines (3/14) using a 17 mm open jawed spanner.

### 5.1.2 Removing the Cover

After having loosened and removed the four bolts from the case (Fig. 4 and 5, item 1) remove the cover (Fig. 4 and 5, item 5).

(DIVAC 0.8 T, 2.5 T, 2.5 VT and 4.8 VT: One cover  
DIVAC 0.8 LT: Two covers).

### 5.1.3 Disassembly of the Pump Head

(for each pump head individually)

Mark the ribbed cover (Fig 4 and 5, item 3), intermediate panel (Fig. 4 and 5, item 2) and the casing (Fig. 4 and 5, item 1) with a felt-tip pen (Fig. 4 and 5/M). During subsequent re-assembly this will help to identify the parts thereby avoiding the incorrect assembly of wrong parts.

Loosen the four bolts of the ribbed covers (Fig. 4 and 5/item 4) and detach the ribbed cover together with the intermediate panel from the pump's casing.



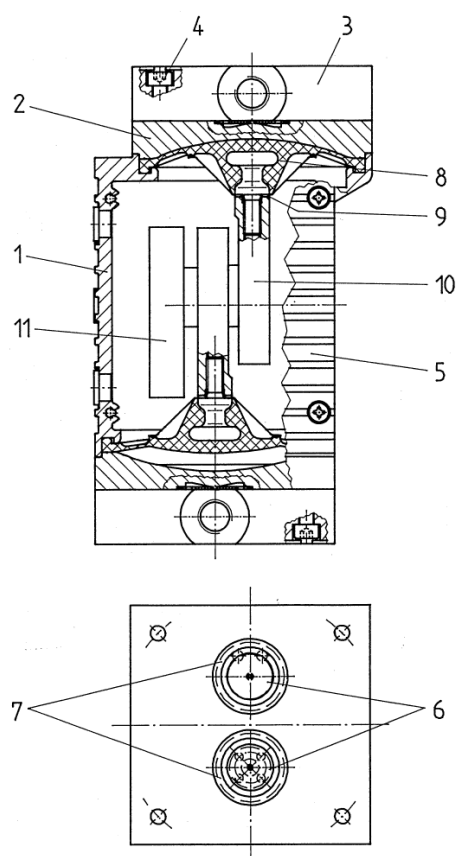


Fig. 2 Figure depicting one part of the pump (applies to all types)

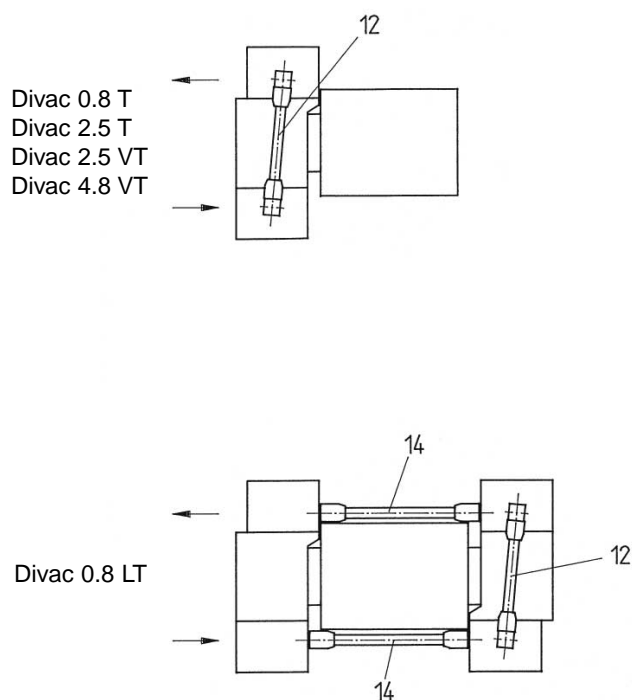


Fig. 3 Pneumatic interconnecting line between pump heads (schematic diagram)

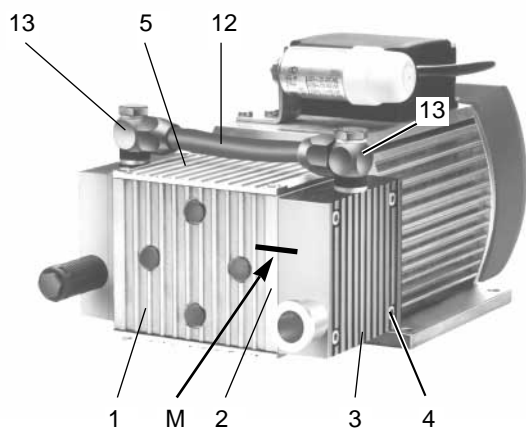


Fig. 4 Two head design

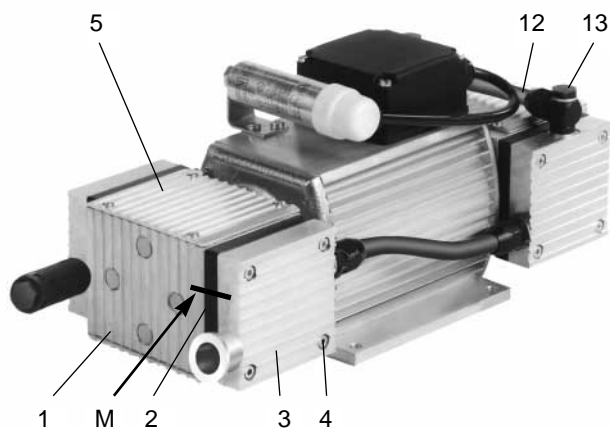


Fig. 5 Four head design (DIVAC 0.8 LT only)

#### Key to figures 2 to 5

- |                      |                                     |
|----------------------|-------------------------------------|
| 1 Case               | 9 Adjusting washer(s)               |
| 2 Intermediate panel | 10 Connecting rod                   |
| 3 Ribbed cover       | 11 Balancing weight                 |
| 4 Hex. socket screw  | 12 Pneumatic interconnecting line 3 |
| 5 Cover              | 13 Fitting                          |
| 6 Valve plate        | 14 Pneumatic interconnecting line 4 |
| 7 Sealing ring       | M Mark aiding re-assembly           |
| 8 Diaphragm          |                                     |

### **5.1.4 Exchanging the Diaphragms**

By moving the balancing weight (2/11) move the diaphragm (2/8) to its upper return point.

Lift the diaphragm at opposing sides and turn the diaphragm out in the counter clockwise direction.

Remove the adjusting washer(s) (2/9) from the thread of the diaphragm and keep them at hand.

Check all parts to see if they have accumulated any dirt and clean the parts as required (see Chapter 6 - Cleaning).

Push the adjusting washer(s) over the threads on the new diaphragm.

Via the balancing weight (2/11) move the connecting rod (2/10) to the upper return point.

Screw the new diaphragm with the adjusting washer(s) on to the connecting rod (in the clockwise direction) and tighten manually.

### **5.1.5 Exchanging Valve Plates and Sealing Rings**

Separate the ribbed cover (Fig. 2/4/5, item 3) from the intermediate panel (Fig. 2/4/5, item 2).

Remove the valve plates (2/6) and the sealing rings (2/7) from the intermediate panel.

Check valve seats, intermediate panel and ribbed cover for dirt; in case of unevenness, scratches and corrosion these parts must be replaced.

Insert the new valve plates into the valves seats in the intermediate panel; the valve plates for the exhaust and intake sides are identical; the same applies also to the upper and lower sides of the valve plates.

By slightly moving the valve plates horizontally make sure that these have not been trapped in any way.

Place the sealing rings into the intermediate panel.

### **5.1.6 Fitting the Pump Head**

By moving the balancing weight (2/11) move the diaphragm (2/8) to its upper return point.

Fit the intermediate panel (Fig. 2/4/5, item 2) with the valve plates and sealing rings (Fig. 2/item 6 and 7) as well as the ribbed cover (Fig. 2/4/5, item 3) according to the marks (M) on the case.

Only slightly tighten the bolts (Fig. 2/4/5, item 4) crosswise.

Move the balancing weight to see that the pump will run smoothly.

Now manually tighten the bolts (Fig. 2/4/5, item 4).

Perform further assembly as required for the other pump heads.

### **5.1.7 Fitting the Cover to the Case**

Affix the cover (Fig. 2/4/5, item 5) to the case.

### **5.1.8 Fitting the Interconnecting Lines**

Once more fit the pneumatic connecting line(s) between the pump heads.

In case you have any questions relating to servicing issues please get in touch with our experts.

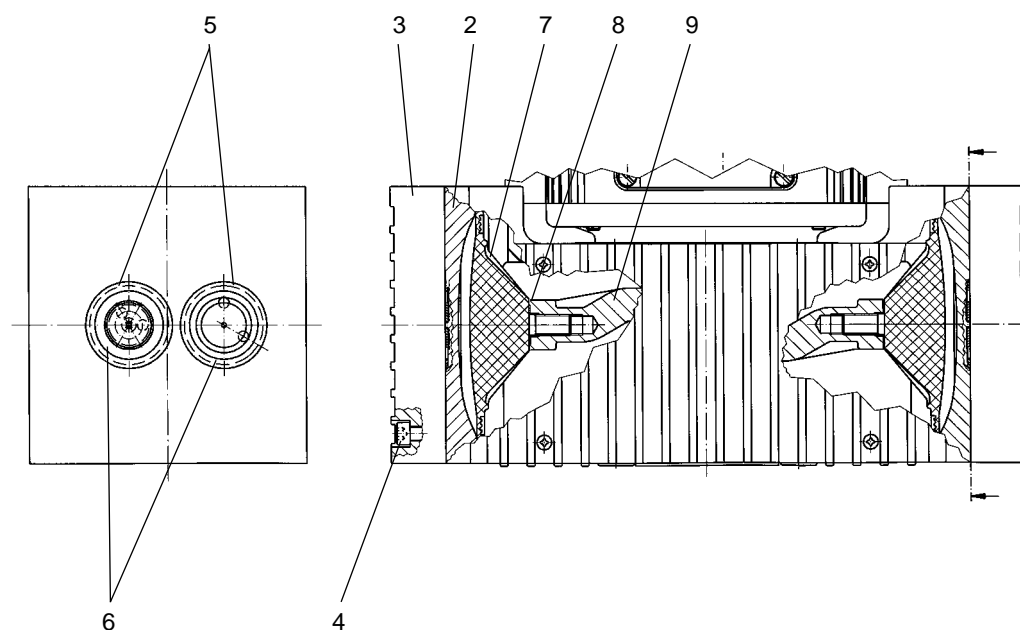


Fig.6 Pump heads of all types of pump (schematic)

**Key to figures 6 and 7**

- |                      |                                   |
|----------------------|-----------------------------------|
| 1 Case               | 8 Adjusting washer                |
| 2 Intermediate panel | 9 Connecting rod                  |
| 3 Ribbed cover       | 10 Pneumatic interconnecting line |
| 4 Hex. socket screw  | 11 Fitting                        |
| 5 Valve plates       | 12 Fan cowl                       |
| 6 Sealing ring       |                                   |
| 7 Diaphragm          |                                   |

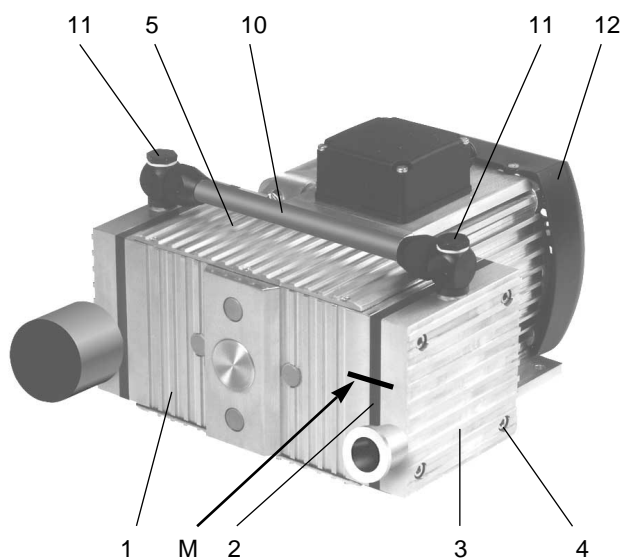


Fig. 7

## 6 Cleaning

**Caution** When replacing valve plates and diaphragms check all components first for contamination before starting any assembly work. If components are found to be contaminated these must be cleaned first prior to assembly.

If compressed air is available blow out the parts first.

## 7 Troubleshooting

**Warning** Before beginning with any work on the pump disconnect it first from all sources of power, ensure and verify that no power is or can be applied to the pump while working on it.



The following troubleshooting information is based on a hierarchical sequence, i.e. it should be utilised in the sequence as described in the following.

### 7.1 Pump will not Start

The overtemperature switch has responded because the pump was overheated.

- Disconnect the pump from the mains power, let it cool down, determine the fault which caused the pump to overheat and make sure that this fault cause is eliminated.

Blocked connections or lines.

An external valve is still closed or a filter is clogged.

Liquid (condensate) has collected in the pump head.

- Operate the pump for some minutes with air as the medium.

- Install the pump at the highest point of the system.

Diaphragms or valve plates have been worn out.

- See Chapter 5 - Maintenance.

### 7.2 Pump will not Run, Inadequate Performance

First compare the attained performance of the pump with the performance data given in Chapter 1.3.

On the exhaust side there is an overpressure while at the same time there is a vacuum or atmospheric pressure on the intake side.

The pump has not been designed to handle such conditions.

Pneumatic lines or connecting components have a cross section which is too narrow or they are throttled.

In order to measure the performance of the pump it needs to be disconnected from the system first; already a line which is too narrow or a valve installed in the system may have a considerable effect on the measured data.

Leaks at the connections, in the lines or at the pump head.

Diaphragms resp, valve plates are defective or parts of the head are contaminated.

- See Chapter 5 - Maintenance.

After having replaced a diaphragm or a valve plate one of the pump heads was not fitted correctly.

If it is determined that none of the fault causes detailed here applies, although the pump is apparently not operating properly, then return such a pump to the Leybold After Sales Service.

When returning your Leybold pump for repair to the Leybold After Sales Service, please note the information given in Chapter 7.3 - Leybold Service.

## 7.3 Leybold Service

If a pump is returned to Leybold, indicate whether the pump free of substances damaging to health or whether it is contaminated.

If it is contaminated also indicate the nature of the hazard. For this you must use a form which has been included with these Operating Instructions.

A copy of this form is reproduced at the end of these Operating Instructions: "Declaration of Contamination of Vacuum Instruments and Components".

Please attach this form to the pump or enclose it with the equipment.

This declaration of contamination is needed to meet the requirements of German Law and to protect our personnel.

Leybold must return any pump without a "Declaration of Contamination" to the sender's address.

**Warning** The pump must be packed in such a way, that it will not be damaged during shipping and so that any contaminants are not released from the package.



## EG - Konformitätserklärung

### EC declaration of conformity

im Sinne der EG-Richtlinie über elektrische Betriebsmittel zur  
Verwendung innerhalb bestimmter Spannungsgrenzen 73 / 23 / EWG, Anhang III  
following the EC directive about electrical equipment  
for use within certain limits of voltage 73 / 23 / EWG, appendix 3

und / and

im Sinne der EG-Richtlinie über die elektromagnetische Verträglichkeit 89 / 336 / EWG, Anhang I.  
following the EC directive about the electromagnetic compatibility 89 / 336 / EWG, appendix 1.

Hiermit erklären wir, daß folgende Membranpumpen bzw. -kompressoren,  
Herewith we declare that the following diaphragm pumps and compressors respectively,

Typen :	<b>PJ15348 - 843.3</b>	<b>DIVAC 2,5T</b>
types :	<b>PJ15349 - 843.3</b>	<b>DIVAC 2,5VT</b>
	<b>PJ15350 - 880.3</b>	<b>DIVAC 4,8VT</b>

angetrieben von einem Käfigläufermotor, Schutzart IP 54,  
powered by a squirrel cage motor, protective class IP54,

den grundlegenden Anforderungen der  
correspond to the basic requirements of

- EG-Niederspannungsrichtlinie 73 / 23 EWG i.d.F. 93 / 68 EWG und der  
EC low voltage directive 73 / 23 EWG in version 93 / 68 EWG and the

- EG-Richtlinie über die elektromagnetische Verträglichkeit 89 / 336 EWG i.d.F. 93 / 68 EWG  
EC directive about the electromagnetic compatibility 89 / 336 / EWG in version 93 / 68 EWG.

entsprechen.

Folgende harmonisierte Normen wurden angewandt :  
The following harmonized standards have been used :

EN 55 014	EN 60 555 Teil2 und Teil3
EN 50 081 Teil1	EN 60 204 Teil1
EN 50 082 Teil1	

Da diese Membranpumpen und -kompressoren Einbaugeräte sind, müssen die Netzanschlüsse und Einrichtungen zum Trennen und Ausschalten der Pumpe bzw. des Kompressors sowie Überstrom- und Überlastschutzeinrichtungen beim entsprechenden Einbau berücksichtigt werden.

As these diaphragm pumps and compressors are OEM-models the power supplies and the equipments for disconnecting and switching-off the pump and the compressor respectively have to be considered when mounting as well as over-current and overload protective gear.

Freiburg, 10. Januar 2001



Geschäftsführer : M. Becker  
Managing Director

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following the EC directive about the electromagnetic compatibility 89 / 336 / EWG, appendix 1.

Hiermit erklären wir, daß folgende Membranpumpen bzw. -kompressoren,  
Herewith we declare that the following diaphragm pumps and compressors respectively,

Typen :	<b>PJ15346 - 813.3</b>	<b>DIVAC 0,8T</b>
types :	<b>PJ15347 - 813.4</b>	<b>DIVAC 0,8LT</b>

angetrieben von einem Käfigläufermotor, Schutzart IP 44,  
powered by a squirrel cage motor, protective class IP44,

den grundlegenden Anforderungen der  
correspond to the basic requirements of

- EG-Niederspannungsrichtlinie 73 / 23 EWG i.d.F. 93 / 68 EWG und der  
EC low voltage directive 73 / 23 EWG in version 93 / 68 EWG and the

- EG-Richtlinie über die elektromagnetische Verträglichkeit 89 / 336 EWG i.d.F. 93 / 68 EWG  
EC directive about the electromagnetic compatibility 89 / 336 / EWG in version 93 / 68 EWG.

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EN 55 014	EN 60 555 Teil2 und Teil3
EN 50 081 Teil1	EN 60 204 Teil1
EN 50 082 Teil1	

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Freiburg, 10. Januar 2001



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Geschäftsführer : M. Becker  
Managing Director

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for use within certain limits of voltage 73 / 23 / EWG, appendix 3

und / and

im Sinne der EG-Richtlinie über die elektromagnetische Verträglichkeit 89 / 336 / EWG, Anhang I.  
following the EC directive about the electromagnetic compatibility 89 / 336 / EWG, appendix 1.

Hiermit erklären wir, daß folgende Membranpumpen bzw. -kompressoren,  
Herewith we declare that the following diaphragm pumps and compressors respectively,

Typen : **PJ 17716 - 860.3**  
types :

angetrieben von einem Käfigläufermotor, Schutzart IP 54,  
powered by a squirrel cage motor, protective class IP54,

den grundlegenden Anforderungen der  
correspond to the basic requirements of

- EG-Niederspannungsrichtlinie 73 / 23 EWG und der  
EC low voltage directive 73 / 23 EWG and the
- EG-Richtlinie über die elektromagnetische Verträglichkeit 89 / 336 EWG  
EC directive about the electromagnetic compatibility 89 / 336 / EWG.

entsprechen.

Folgende harmonisierte Normen wurden angewandt :  
The following harmonized standards have been used :

EN 55 014	EN 61 000 Teil3-2/3
EN 50 081 Teil1	EN 60 204 Teil1
EN 50 082 Teil1	

Da diese Membranpumpen und -kompressoren Einbaugeräte sind, müssen die Netzanschlüsse und Einrichtungen zum Trennen und Ausschalten der Pumpe bzw. des Kompressors sowie Überstrom- und Überlastschutzeinrichtungen beim entsprechenden Einbau berücksichtigt werden.

As these diaphragm pumps and compressors are OEM-models the power supplies and the equipments for disconnecting and switching-off the pump and the compressor respectively have to be considered when mounting as well as over-current and overload protective gear.

Freiburg, 17. Dezember 2002



Geschäftsführer : M. Becker  
Managing Director





The repair and / or servicing of compressors, vacuum pumps and components will be carried out only if a correctly completed declaration has been submitted. Non-completion will result in delay. The manufacturer can refuse to accept any equipment without a declaration. A separate declaration has to be completed for every single component.

<b>Customer/Dep./Institute:</b>	<b>Reason for returning the item/s</b>
<b>Address:</b>	
<b>Person to contact:</b>	
<b>Phone:</b>	
<b>Fax:</b>	
<b>Order number of customer:</b>	

Type:	Ancillary equipment
Catalogue number:	
Serial number:	
Type of oil used:	

B. Condition of the equipment (machine or component)		Yes	No	Not known
1.	Has the equipment been used	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	Drained (product/service fluid)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	All openings sealed airtight	<input type="checkbox"/>		
4.	Purged:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cleaning agent: _____				
Method of cleaning: _____				

1. What substances have come in contact with the equipment:  
Trade name, chemical name of acids, bases and substances processed, properties of the substances according to safety data sheet (toxic, inflammable, corrosive, radioactive)

	Trade name:	Chemical name:	Properties:
a)			
b)			
c)			
d)			

2. Are these substances harmful? Yes ☐ No ☐ Not known ☐
3. Dangerous decomposition products when thermally loaded Yes ☐ No ☐ Not known ☐
- Which: \_\_\_\_\_

Components contaminated by micro biological, explosive or radioactive products will not be accepted without written evidence of decontamination.

I/we hereby declare that the information supplied on this form is accurate and sufficient to judge any contamination level.

Name of authorised person (block letters): \_\_\_\_\_

\_\_\_\_\_

date                                  signature of authorised person                                  firm stamp

Copies: Page 1 (white) to manufacturer or representative – Page 2 (yellow) attach to consignment packaging securely – Page 3 (blue) copy for file of sender

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