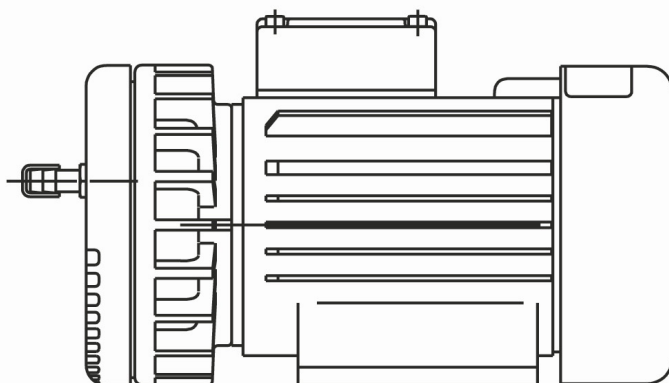




OPERATING INSTRUCTION OIL-FREE VACUUM PUMP MODEL TD



www.duerr-technik.com



The information in this document can be altered without prior announcement. No part of these pages may be duplicated or used, for any purpose, without prior written permission of the company, Dürr Technik; either electronically or mechanically.

© 2007 by Dürr Technik

All rights reserved.

The use of brand name, trade name, trademark etc. in this manual is covered by trademark protection legislation and must not be assumed to be free to use.

These operating instructions correspond with the technical standard of our products, subject to alteration and errors accepted.

The present operating instructions give you all the necessary advice for the proper and safe handling of the oil-free vacuum pumps model TD.

Please read and carefully observe the operating instructions to avoid mistakes and dangerous situations.

The operating instructions are arranged as follows:

Chapter	Planned purpose	Target group
Chapter 1	Gives you safety advice and important general information for the products.	Installer, operator, qualified personnel, user
Chapter 2	Contains detailed instructions and advice for the transport, storage, installation and the initial operation of the product.	Operator, installer and qualified personnel
Chapter 3	Contains instruction and advice for safe technical handling of the product.	User
Chapter 4-5	Gives detailed instruction for cleaning, maintenance and servicing the product.	Operator, qualified personnel
Appendix	In the appendix you will find important technical information.	Qualified personnel

PREFACE

This operating manual is valid for oil-free vacuum pumps, hereinafter called product.

The operating manual is only valid so long as your product complies with the status described within.

These instructions contain all details required for the transport, installation, operation, shut-down and maintenance of these products.

Therefore please read the operating instructions carefully prior to the first operation, thus ensuring the safe and economic application of the products.

When a fault occurs or maintenance is required which is not dealt with in the operating manual, you should contact our qualified personnel.

All service and maintenance work must be carried out by qualified personnel.

If service and maintenance work is neglected or carried out improperly, our warranty will be invalidated.

Should you have any problems understanding the operating instructions our qualified personnel will be pleased to help you.

Dürr Group

Dürr Technik GmbH + Co. KG
Pleidelsheimer Straße 30
74321 Bietigheim-Bissingen
Telefon 0 71 42 / 90 22 0
Telefax 0 71 42 / 90 22 99

CONTENT

1. INTRODUCTION AND GENERAL

ADVICE 6

1.1	Symbol explanation and definition.....	6
1.1.1	Symbol explanation.....	6
1.1.2	Definitions	6
1.2	General safety advice.....	6
1.3	Product description.....	8
1.3.1	Agreed application.....	8
1.3.2	Function description.....	8
1.3.3	Delivery schedule	9

2. Transport, storage 10

2.2	Transport and storage requirements	10
2.3	Assembly and initial operation.....	11
2.3.1	Environment requirements	11
2.3.2	Vibration damping	12
2.3.3	Assembly position	12
2.3.4	Hose connections.....	13
2.3.5	Electro installation	14
2.3.6	Protection type	14

3. Operation : 15

4. Cleaning 15

5. Maintenance..... 15

5.1	Suction filter	15
-----	----------------------	----

6. Repair 16

6.1	Dismantle	16
6.2	Checking slide vanes	17
6.3	Assembly.....	17

Appendix 18

Appendix 1:Technical Data	18
Performance diagramme.....	19
Appendix 2:Dimensions	20
Appendix 3:Manufacturer Declaration	21
Appendix 4:Trouble Shooting.....	22
Appendix 5: Exploded diagramme	24
Appendix 6: Spare parts list	24
Appendix 8: Addresses	26


Index 27


1. INTRODUCTION AND GENERAL ADVICE


1.1 Symbol explanation and definition


1.1.1 Symbol explanation

In the manual and on the product hand symbols and pictograms are used whose meaning you should memorise. These symbols help you to understand the information in this manual quicker and make you aware of potential danger or important advice.


 **Attention!** Danger sign. It points out danger as well as rules and bans to prevent personal and /or danger to property.


 **Advice!** Attention is brought to advise on the handling and economic use of product.

 **Warning against electric energy!** Your life could be in danger. Make sure that all electrical work is carried out by a qualified electrician.

 **Warning advice. The product can start without warning!**

On the product and in the operating instruction special information signs and warning Symbols with following meaning are used:

 **Warning of hot surfaces!** There is a danger of burns! Observe especially that these surfaces may still be hot after the product has been switched off. Work near these surfaces only after they have cooled off.

 **CE** CE Conformity symbol. It can be recognised by this conformity symbol that the product corresponds to the safety guidelines of the European Union.

1.1.2 Definitions

User, Operator: The responsible Person who has the authorisation to use the product. The user must have been given instructions on the safe handling of the unit from the appropriate authority.

Operator Authority: Responsible for the safe installation, regular servicing and cleaning of the product.


Qualified personnel: Trained by the operating authority or by authorised Dürr Technik personnel who are aware of the dangers of the product and familiar with the technical aspects of the product.


Qualified personnel are trained to carry out service and repair on the product.

Product: General term used for oil-free vacuum pumps model TD.

1.2 General safety advice

During use, care and maintenance of the product, the following fundamental safety measures must be observed for the protection of the operator, maintenance and service engineers as well as the product:

 During the development and manufacture of the product, the recognised regulations of the technical aspects, as well as the recognised valid standards and guidelines were taken into account and used. In addition the product has been designed and constructed in such a way that endangerment through the agreed use are minimized. Nonetheless we feel obliged to describe the following safety measures so the remaining dangers can also be minimized.

 **Warning!** When electrical equipment is being used, the basic safety precautions must be followed, to prevent risk of fire, electric shock and personal injury.



Therefore please read the manual to hand, prior to starting work. Keep this manual within reach for the engineer and the operator. The information should be passed on to any successor.

During operation of the products the relevant laws and regulations for the place of deployment must be observed! In the interest of safe operation the authorised operator and the supervisory personnel are responsible for keeping within the regulations.

Check during all work on the product for possible dangers. All parts must be correctly fitted and all requirements fulfilled to ensure safe operation. Should the product be damaged in any way, the product should no longer be used. The product should only be repaired by experts. Mark the defect clearly and pull out the mains plug, so that until the repair is effected, no accidents or damage can occur through the defective product.



Take account of **environmental influences!** Do not operate the product in a wet or damp environment.



In dangerous situations or during technical problems, separate the product at once from the power supply (pull the plug).

Check regularly the power supply line and the casings of electrical components and if they are damaged, have them repaired by a qualified electrician.

Check the electrical equipment for external damage before work starts. Check thoroughly whether lines or cables are damaged. If there is damage, do not operate the product.



If there is damage, do not operate the product. Pull out mains plug!

For all maintenance and repair work the mains plug must be pulled out of the socket.



Attention! Work on electrical equipment must only be carried out by a qualified electrician.

Only original spare parts must be used. Otherwise there may be injury to the user.



Warning! The use of other spare parts and other accessories, as stated in this manual, can cause personal injury. Only use spare parts permitted by the manufacture!

1.3 Product description

1.3.1 Agreed application

The product is intended for aspiration of air and non-aggressive gases.



The aspiration of fluids, aggressive or explosive gases is forbidden! It will cause danger to health and the possible danger of explosion or fire!

The product is designed for use in equipment or a unit. It should only be used if the manufacturer of the equipment or unit, in which the product is to be incorporated, has ensured that all requirements for safe operation have been met.

The product is designed for operation in a dry, well ventilated room.

The product should not be operated in a damp or wet environment. In addition, operating near gases or flammable fluids is forbidden.

1.3.2 Function description

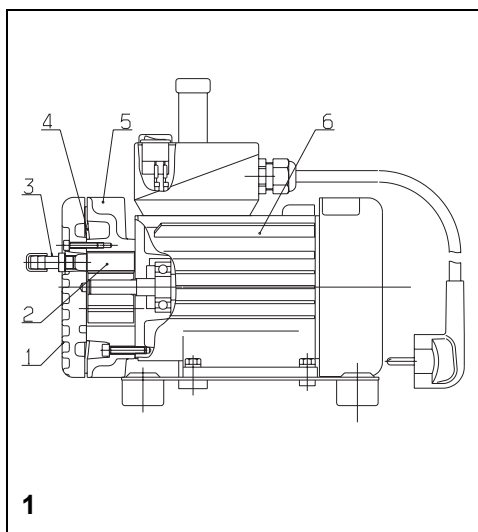
The product belongs to the group of multi-varied vacuum pumps. The product parts are directly connected to an electro-motor. The basic model is provided with a 230V/50 Hz electric-motor as standard. With the electric-motor an additional temperature switch is integrated. When the temperature switch is activated, the product switches off automatically.



Warning advice. After cooling off the product starts automatically.


The product parts consist of a pump housing (5), a rotor with 5 slide vanes (2) a felt washer (4) and a pump cover (1).


The cast iron rotor is situated off-centre in a cylindrical chamber (5). In the rotor are 5 valve plates (2) movably arranged. During rotation these are pushed against the wall of the pump casing (5) by centrifugal force, during which the volume between the valve plates changes continuously. The vacuum is created through volume variation.



1

- 1 Pump cover
- 2 Slide vane
- 3 Suction nozzle
- 4 Felt washer
(not necessary for 1260-18 and 1260-22)
- 5 Pump housing
- 6 Electro motor

 **At unduly high temperatures the product will switch itself off.**

 **Product for pressure operation.**
The product TD-801 with exhaust nozzle can also be fitted as a compressor. The max. pressure is approx. 0.8 bar. Exceeding this pressure can lead to motor damage.

1.3.3 Delivery schedule

The product are also supplied as a ready to use portable version. The basic version is fitted onto a base plate with carrying handle. Additionally in the motor connection box there is an ON/OFF switch and a mains cable with fitted plug. The base plate is fitted with 4 anti vibration dampers for damping vibration.

2. TRANSPORT, STORAGE

2.1 Transport and Storage

The product is dispatched from the factory in a specially padded transport carton. With this the product is safe against transit damage. Always use the original packaging of the product if possible.

Transport the product in an upright position.



Protect the product during transport and storage against dampness and extreme temperatures. Take special care that the electrical equipment does not get damp or wet.



Product must only be transported pressureless. Remove air from any fitted pressure containers and lines.



Keep packaging if at all possible.

Environmental rules regarding the disposal of the packaging must be observed and to assist this please note the labels on the packaging.

2.2 Transport and storage requirements

Temperature: -25 °C to + 55 °C

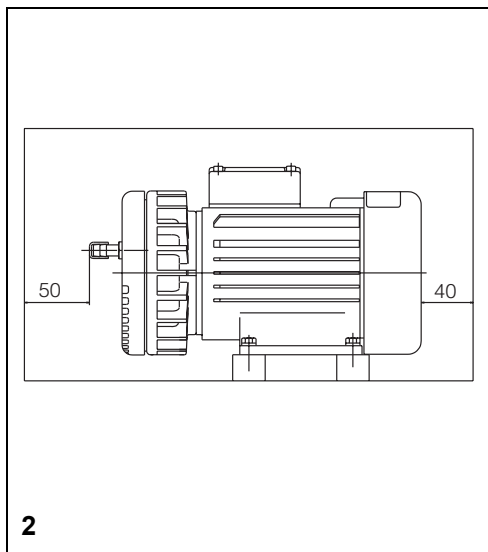
Relative humidity: 10% to 90% (without condensation)

The products are intended for immediate use. Products in their original packaging can be stored in a warm, dry, dust free room. If the products should be stored long term, e.g. as a replacement pump then they must be protected with a drying agent. This will prevent corrosion of the inner parts of the product.

When the product has been stored for a long time the motor ventilator must be rotated by hand and then started a number of times.



The mains supply must be disconnected before rotating the product by hand.



2.3 Assembly and initial operation

The product is designed to be inserted into units. They should only be fitted by a trained engineer, who is familiar with any potential hazards. The product must only be operated when it has been made certain that all relevant safety requirements have been fulfilled.

2.3.1 Environment requirements



The product must only be installed and operated in dry, well ventilated and dust free rooms.

Take care when choosing the site for installation that the product is easily accessible for operating, cleaning and maintenance, especially the connection piece and the operational parts.

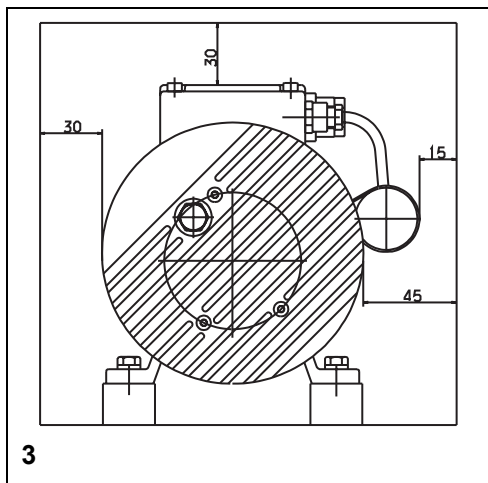
The product should be installed on a level and sufficiently solid surface. To reduce vibration the supplied vibration dampers should be mounted. If the vacuum is built into a machine or housing, it must be noted that the identification plate is visible and readable, without having to dismantle the product. Also ensure that the connection clamps are easily accessible when taking off or opening the housing.



Please make sure that the exhaust airway is clear.


When fitting into a housing it should be observed that the minimum distance is kept (see fig. 2 and 3). It must also be noted that there is sufficient ventilation. In certain cases an independent ventilation system may be required.

Please make sure that the power line connection and air hoses are not kinked.



The room temperature must not fall below 5° C, otherwise problem free operation cannot be guaranteed.

The ambient operating temperature must not exceed 40°C. Operating ambient temperatures above 40° C will require additional ventilation. The ideal ambient temperatures are between 10°C to 15°C.

 Approx. 70% of the products induced electrical energy is converted into heat and is given off to the surrounding area.

The motor ventilator normally ensures an effective pressurised cooling of the product. To do this the air must be able to flow to and for unhindered. Ventilation openings must be large enough to allow this to happen. In unsuitable cases, e.g. when the product is built-in an independent air cooling system might be required.

2.3.2 Vibration damping

The product produces vibrations. To dampen this vibration suitable vibration dampers must be used.

Vibration dampers specially made for these products can be found in the accessory list.

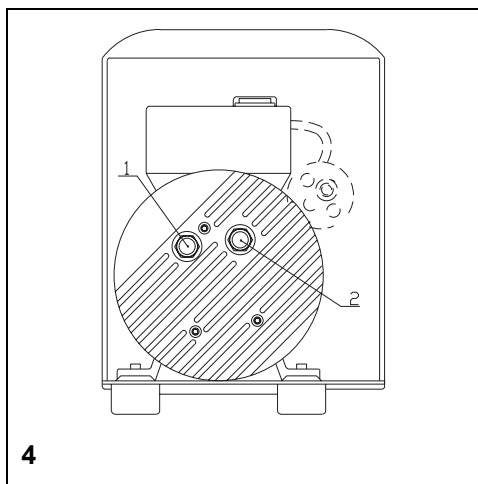
Do not use rigid connections between the product and the pipeline system.



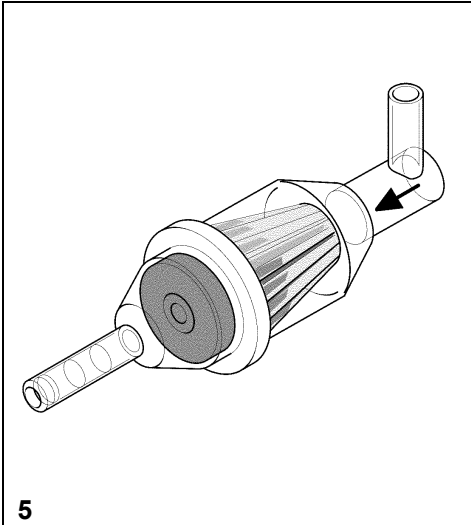
The wrong kind of vibration dampers or the use of rigid connections can damage the product or the equipment into which the unit has been built.

2.3.3 Assembly position

Products must be fitted in a horizontal position (see fig. 2 and 3).






- 4
- 1 Suction nozzle
 - 2 Exhaust nozzle / pressure nozzle
(only on special models
1260-18 and 1260-22)



Suction filter with non-return valve

2.3.4 Hose connections

Product connections:

-  **A non-return valve is necessary.** If when switching off the product the evacuated space cannot be ventilated. The negative pressure will aspirate air from the product into the line system.
-  **A fine filter must be built-in otherwise dust particles can be aspirated.**
-  **When fitting the fine filter please note the through flow direction (arrow).**

Fine filter with non-return valve hose connection:

Pull off the protective cap from the vacuum, and if required, the exhaust nozzle. Then push a vacuum hose (NW8) onto the suction nozzle (1, ill.4).

On the standard product the exhaust air escapes sound dampened, via the felt washer between pump cover and pump housing. If the exhaust air should be led out of the built-in space, a product with exhaust nozzle must be used.

3. OPERATION:



Please note whether the product has a hot surface. There is a danger of burns, if these surfaces are touched when hot.

Before daily operation please check that the suction filter is clean.



Product does not start against pressure. Therefore the pressure line must be pressure free. The starting volume should be $\geq 50 \text{ cm}^3$.

Operate the product via a separate switch or through the system, for the portable product insert the mains plug and use the on/off switch.

4. CLEANING

To maintain faultless function, it is recommended to keep the product clean.



The product has hot surfaces. Let the product cool off before starting any cleaning work.

Clean the surfaces of the product with a fluff free cloth, special attention particularly the cooling fins and the motor ventilator kept free from dust and pollutants.

5. MAINTENANCE



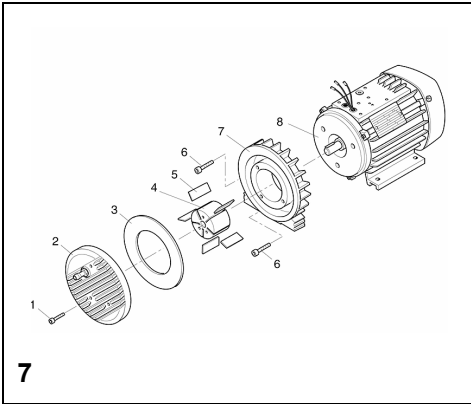
The product has hot surfaces. Let the product cool off before starting any maintenance work.

The stated maintenance intervals are guidelines for normal operational conditions. With extreme operational conditions (e.g. long working times under full load, high ambient temperatures, very dusty ambient air, high humidity) the maintenance intervals must be shortened. When carrying out maintenance work the mains plug must be pulled out. Alternatively the product must be voltage free.

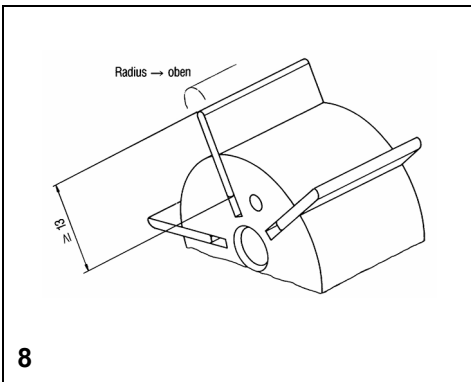
5.1 Suction filter

The maintenance interval of the suction filter depends on the dust content of the aspirated gases and the filter area. Working without or with a macro pored suction filter, the product parts will deteriorate quicker. The volume flow is noticeably reduced with dirty suction filters. Change dirty suction filters!

Operating time	Activity	Measures to be taken
Daily	Sight check suction filter	Change dirty filter
Every 5000 h	Check rotor vanes	Dismantle rotor vanes and measure



- 1 Screw
- 2 Pump cover
- 3 Felt washer
(not for 1260-18 and 1260-22)
- 4 Rotor
- 5 Vane
- 6 Screw
- 7 Pump housing
- 8 Electro motor



6. REPAIR

6.1 Dismantle

See ill. 6 and 7.



Separate product from power supply. Lines must be pressure free.



All repair work must only be carried out by a qualified personnel.

1. Disconnect all hose lines.
2. Turn off all electrical connections and dismantle product.
3. Undo screws (1) holding pump cover (2) take off pump cover and remove felt washer (3) and pull the slide vanes (5) from the rotor.
4. Clean all component parts and blow through with compressed air.



The pump housing and the rotor must not be loosened from the electric motor as they have been factory set.



Before starting work with cleaning agents, eye protection, breathing protection and relevant protective clothing should be worn.



No liquid and no lubrication must get into the product!

All component parts should be given a visual inspection. Change any damaged parts. Any parts which have to be returned to the manufacture for repair should be carefully packaged and noted.

6.2 Checking slide vanes

Give the slide vanes a visual inspection. Change slide vanes which are damaged or very dirty.

Measure the slide vanes. If the height is less than 13 mm, renew them. Always change the complete set of slide vanes, never an individual one!

6.3 Assembly

See ill. 7 and 8.

1. Assemble slide vanes as per ill. 8.



When fitting the pump cover take care that the contact areas are clean.

2. If necessary fit felt washer (3) and pump cover (2) and fasten with screws (1).
3. Re-assemble product.
4. Make electrical connection again and connect hose lines.

APPENDIX

Appendix 1: Technical Data

Type	Art.-No.	S	S	P _{abs}	Sound level	Nominal data of motors					weight	Protection class
		Suction capacity	Suction capacity	End pressure		Motor wattage	Current consumption	Motor	voltage	Frequency		
		m³/h	l/min	mbar	dB(A)	P1 (W)	A	min ⁻¹	V	Hz	kg	IP
TD-461	1260-17	2,8	46	180	<54	200 230	1,5 1,0	1420 1700	220-240	50 60	9,1	54
TD-461	1260-18	2,8	46	180	<54	200 230	1,5 1,0	1420 1700	230	50 60	9,4	54
TD-461	1260-19	2,8 3,4	46 55	180	<54	140-170 160-180	2,1 1,8	1400 1700	90-115	50 60	9,4	54
TD-461T*	1260-32	2,8	46	180	<54	200 230	1,5 1,0	1420 1700	220-240	50 60	10,5	54
TD-800-14	1260-14	5,7	96	130	<60	360 370	3,3	3300	110 115	60	8	54
TD-801**	1260-21	4,8	80	130	<60	310-350 350 300 350	1,8-2,3 1,7 1,6 1,8	2850 3400 2800 3260	220-240 220-240 200 200	50 60 50 60	10	54
TD-801**	1260-22	4,8	80	130	<60	300 350 310-350 350	1,6 1,8 1,8-2,3 1,7	2800 3260 2850 3400	200 200 220-240 220-240	50 60 50 60	10	54
TD-801	1260-23	4,8	80	130	<60	300 400	3,0 3,5	2850 3400	100-115 100-127	50 60	9,4	54
TD-801*	1260-36	4,8	80	130	<60	310-350 350	1,8-2,3 1,7	2850 3400	220-240	50 60	11,4	54

- All motors are fitted with a temperature switch.
- All models duty rated S1 = 100% duty rated.

*T = portable products

** can be applied up to max. 800 mbar overpressure (special model with exhaust air nozzle)

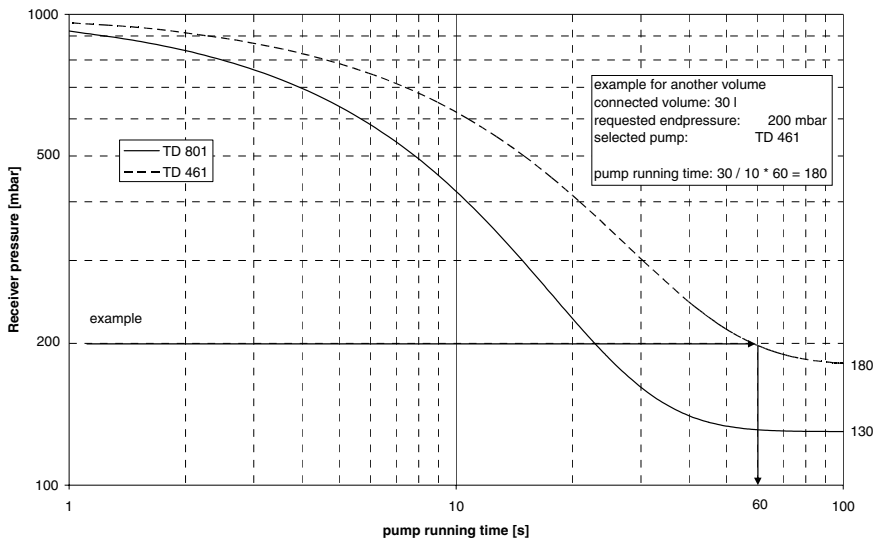
Remark: the sound-pressure level is higher on products with open exhaust air nozzles



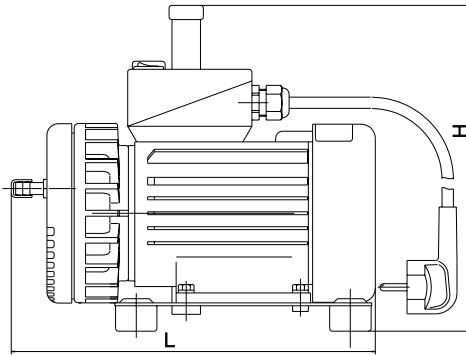
As our products are constantly being updated, they can be at variance with the listed technical data. Should you use this Operating Manual for outline planning, please clarify with us the current technical data of the product required.

Performance diagramme

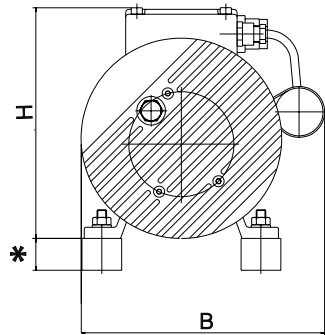
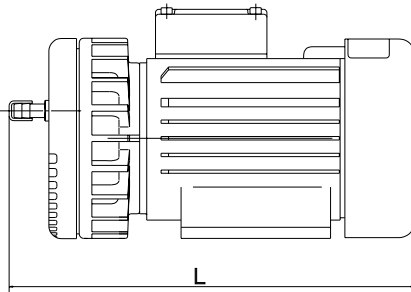
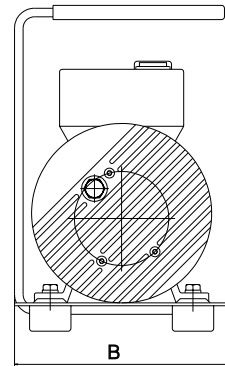
Time necessary to pump out a 10 l volume



Appendix 2: Dimensions



Portable model



*Vibration damper height = 20 mm
at vibration damper set 1225-991-00

Built-in model

Type	Art. – No.	l	b	h
TD-461	1260-17	256	157	147
TD-461	1260-18	256	157	147
TD-461	1260-19	258	166	165
TD-461 T	1260-32	265	170	228
TD-800-14	1260-14	250	158	158
TD-801	1260-21	256	157	147
TD-801	1260-22	256	157	147
TD-801	1260-23	258	166	165
TD-801 T	1260-36	265	170	228

Appendix 3 Manufacturer Declaration



MANUFACTURER'S CERTIFICATE FOR MACHINES 98 / 37 EEC annex II, B

Manufacturer:	Dürr Technik GmbH & Co. KG
Adresse:	Pleidelsheimer Str.30 D-74321 Bietigheim- Bissingen
Reference number:	Type TD
Product name:	Vacuum pump
starting with serial number:	V 000001

Herewith we declare that prior to initial operation, it must be determined that the machine in which this machine is to be installed, conforms to the stipulations of the applicable machine directive, 98/37/EEC.

Directive for low voltage 73/23/EEC.

Directive electromagnetic compatibility EMC, 89/336/EEC.

Following harmonized standards are applied:

EN 1012-1:1996-07
EN 1012-2:1996-07
EN 60335-1:2007-02
EN 50106:2001-08
EN 60034-1:2005-04
EN 60034-5:2001-12
EN 55014-1,2:2002-08

Bietigheim- Bissingen, date 24.04.07

ppa. A.Ripsam
vice president Dürr Technik

Signatures registered with original document
Dürr Technik archive

Appendix 4 Trouble Shooting

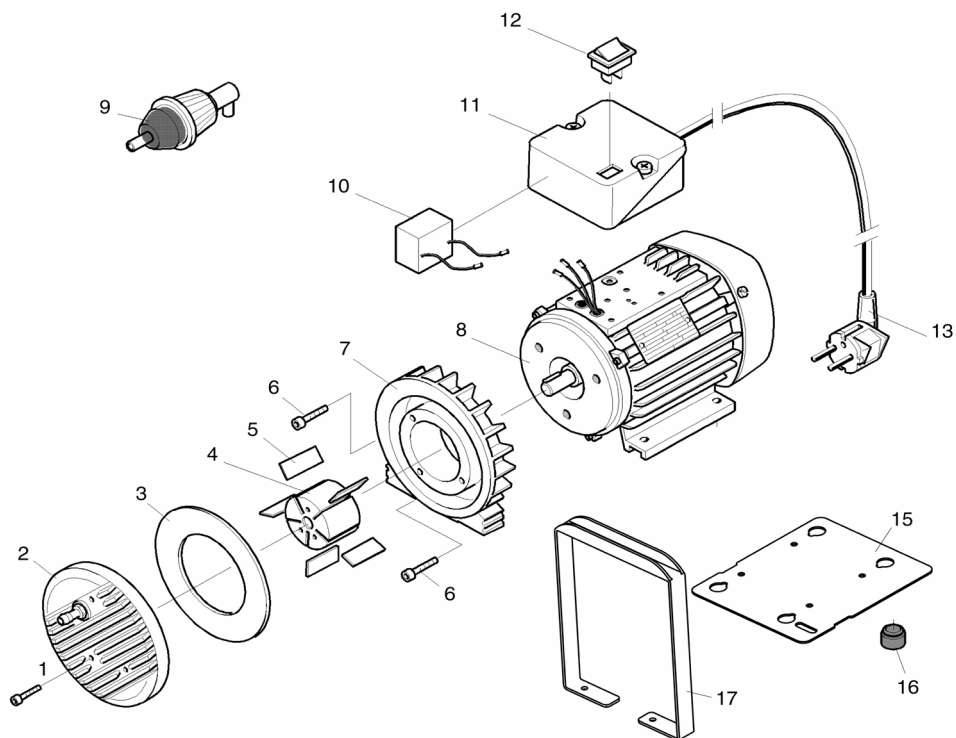


The following description for trouble shooting is only meant for qualified personnel. Repairs must only be carried out by qualified personnel!

Fault	Possible cause	Remedy
Product does not start	<ul style="list-style-type: none"> • Power supply missing • Power supply too low • Condenser defective • Machine incorrectly connected • Motor defective • Protector in motor has switched off <ol style="list-style-type: none"> 1. High ambient temperature 2. Mech. sluggish 3. Protector defective <ul style="list-style-type: none"> • Suction filter blocked • Mechanically sluggish <ol style="list-style-type: none"> 1. Dirt aspirated • Pressure in line • Motor ventilator blocked • Pump motor blocked, ice forming from condensed water pump 	<ul style="list-style-type: none"> • Check mains and equipment fuse, if necessary, call electrician • Check mains supply • Check condenser, if necessary, change it • Check connections • Factory repair • Let product cool-off <p>Warning: Product switches on again automatically!</p> <ol style="list-style-type: none"> 1. Arrange better cooling 2. Factory repair 3. Factory repair <ul style="list-style-type: none"> • Insert new filter (see chapter 6.1) • Factory repair <ol style="list-style-type: none"> 1. Factory repair – in future fit in-line filter • Ventilate vacuum line • Fit ventilator cover correctly • Warm up pump above 5° C
Performance falling off	<ul style="list-style-type: none"> • Lines leaking • Suction filter very dirty <ul style="list-style-type: none"> • Rotor vane worn • Felt washer dirty • Rotor vane incorrectly inserted during maintenance • Pump wrongly connected 	<ul style="list-style-type: none"> • Check and if necessary renew • Change suction filter, possibly fit filter with larger surface area • Change rotor vane • Change felt washer • Insert rotor vane correctly (see fig. 8) • Check electrical connection (see fig. 6)

Fault	Possible cause	Remedy
Product too noisy	<ul style="list-style-type: none"> • Bearing damaged • Vibration transmission to product • Dirt in product • Felt washer forgotten after maintenance 	<ul style="list-style-type: none"> • Factory repair • Use suitable vibration absorbers • Clean product; fit in-line suction filter • Fit felt washer
Product too noisy and no output	<ul style="list-style-type: none"> • Rotor vane worn • Rotation direction incorrect • During maintenance not all rotor vanes have been inserted • Pump cover not fastened securely • Soling of surface between pump cover and pump casing • Rotor vane sticking – fluid or dirt aspi-rated 	<ul style="list-style-type: none"> • Change rotor vane • Check electrical connection • Fit missing rotor vanes (see fig. 8) • Secure all screws • Clean all surfaces • Clean product and if necessary fit new rotor vane only air non-aggressive gases

Appendix 5: Exploded diagramme



Appendix 6: Spare parts list

Pos No.	Article description	TD-461 1260-17/-19	TD-461 1260-18	TD-461 T 1260-32	TD-800-14 1260-14
3	Felt washer	1260-100-08	—	1260-100-08	1260-100-08
5	vane	5 x 1260-100-02	5 x 1260-100-02	5 x 1260-100-02	5 x 1260-100-02
9	Filter with non-return valve (3-er Set)	1100-040-00	1100-040-00	1100-040-00	1100-040-00

Further spare parts on request.

Accessories on request or by www.duerr-technik.com

TD-801 1260-21	TD-801 1260-22	TD-801 1260-23	TD-801 T 1260-36
1260-100-08	—	1260-100-08	1260-100-08
5 x 1260-100-02	5 x 1260-100-02	5 x 1260-100-02	5 x 1260-100-02
1100-040-00	1100-040-00	1100-040-00	1100-040-00

Appendix 7: Addresses

Technical advice

Dürr Technik GmbH + Co. KG
Postfach 1129
74301 Bietigheim-Bissingen
Telephone 0 71 42 / 90 22 - 0
Fax 0 71 42 / 90 22 - 99
www.duerr-technik.de

Dürr Technik (UK) Ltd.
Unit 5 Ashmead Business centre
Ashmead Road
Keynsham
Bristol
BS31-1SX
Telephone 0117 9860414
Fax 0117 9860416
office@durrtechnik.co.uk

Dürr Technik Sverige AB
Box 302
S-571 24 Nässjöv
Telephone 0380 - 55 49 80
Fax 0380 - 743 15

Spare parts service

Spare part orders to be sent in accordance with the existing spare parts list, written to the above address or by telephone to the following number:

Telephone 0 71 42 / 9022 - 19
Fax 0 71 42 / 9022 - 99
office@duerr-technik.de

For ordering spare parts the following details are required:

- **Model no. and article no.**
- **Order no. as per parts list**
- **How many of each item required**
- **Exact address to dispatch to**
- **Dispatch details**

Repairs / return delivery

When returning products, if possible, use the original packing. Always pack the equipment in synthetic packaging material. If possible use recyclable packing material.

INDEX

A

Addresses.....	26
Advice.....	6
Agreed application.....	8
Assembly.....	17
Assembly and initial operation.....	11
Attention.....	6
Authority.....	6

C

Checking slide vanes.....	17
Cleaning.....	15

D

definition.....	6
Definitions.....	6
Delivery schedule.....	9
Dimensions.....	20
Dismantle.....	16

E

Electro installation.....	14
Environment requirements.....	11
Exploded diagramme.....	24

F

Fine filter.....	13
Function description.....	8

G

General safety advice.....	6
----------------------------	---

H

Hose connections.....	13
-----------------------	----

M

Maintenance.....	15
Manufacturer Declaration.....	21

N

non-return valve.....	13
-----------------------	----

O

Operation.....	15
Operator.....	6

P

Performance diagramme.....	19
PREFACE.....	4
Product.....	6
Product connections.....	13
Product description.....	8
Protection type.....	14

Q

Qualified personnel.....	6
--------------------------	---

R

Repair.....	16
Repairs.....	26
return delivery.....	26

S

Spare parts service.....	26
storage.....	10
storage requirements.....	10
Suction filter.....	15
Symbol explanation.....	6

T

Technical Data.....	18
Transport.....	10
Trouble Shooting.....	22

U

User.....	6
-----------	---



Dürr Technik GmbH + Co. KG
Postfach 1129 • 74301 Bietigheim-Bissingen
Pleidelsheimer Straße 30 • 74321 Bietigheim-Bissingen
Tel. (+49) 71 42/90 22-0 • Fax (+49) 71 42/90 22-99
Internet: www.duerr-technik.com
E-Mail: office@duerr-technik.de

DÜRR TECHNIK Sverige AB
Box 302 • S-571 24 Nässjö
Tel.: (+46) 3 80 / 55 49 80 • Fax: (+46) 3 80 / 7 43 15
eMail: duerr@baskomponent.se

DÜRR TECHNIK (UK) Ltd
Ashmead Road, Keynsham • UK-Bristol
Tel.: (+44) 117/9 86 04 14 • Fax: (+44) 117/9 86 04 16
eMail: office@durrtechnik.co.uk

DÜRR TECHNIK France S.A.R.L.
26, rue Diderot • F-92000 NANTERRE
Tel.: (+33) 1 55/69 11 80 • Fax: (+33) 117/69 11 81
eMail: durrtechnik@durrtechnik.fr