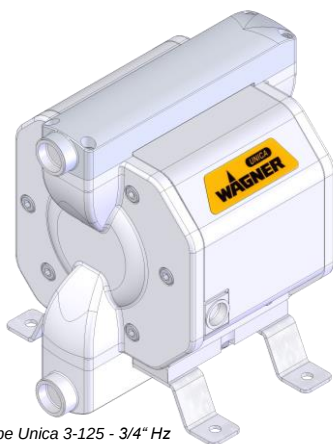




Wag-Mat: 2450365
DIS-Nr. 11484793_A
Version 06/2022



Pumpe Unica 3-125 - 3/4" Hz



Pumpe Unica 3-125 - 3/8" Hz

Pneumatic diaphragm pump

Pumpe Unica 3-125 - 3/4" Hz

Pumpe Unica 3-125 - 3/8" Hz

Translation of the original operating manual 99988159 Rev. 1.X



II 2G Ex h ib IIB T4 Gb X

II 2D Ex h ib IIIC T135°C Db X

For professional use only.

Observe the information in this manual at all times, especially

the safety instructions and warnings. Keep the instructions in a safe place.

We reserve the right to perform technical modifications that may oppose the illustrations and details contained in these instructions in order to improve product characteristics.

All copyrights and industrial property right to this product and all associated technical documents shall remain with manufacture of the pump.

This manual is intended for everyone who is assigned to perform tasks on and with the pump. It contains guidelines and drawings that must not, neither in whole nor in part, be duplicated, disseminated used for competitive purposes, or communicated to other persons without authorisation.

All rights reserved.

Copyright 2022 Manufacture

Contents

1	About this manual	6
1.1	Use and safekeeping	6
1.2	Integrator-Informationen.....	7
1.3	Areas of applicability	7
1.4	Warranty.....	8
2	Safety.....	9
2.1	Basic information concerning safety	9
2.2	Compliance with the instructions in the operating manual.....	10
2.3	Operational prerequisites	11
2.4	Intended use	11
2.5	Non-intended use	12
2.6	Foreseeable misuse.....	13
2.7	Labelling on the pump.....	13
2.7.1	Nameplate.....	13
2.7.2	Identification of the connection of the sensor	14
2.8	Qualifications of personnel.....	14
2.9	Personal protective equipment	14
2.10	Safety notices in the operating manual.....	15
2.11	Safety notices.....	16
3	Additional ATEX information.....	19
3.1	ATEX marking in accordance with Directive 2014/34/EU and DIN EN ISO 80079-36 for the pump	19
3.1.1	Ignition sources in the device.....	21
3.2	Explosion-proof sub devices (optional)	21
3.3	Note on the assembly according to Atex Directive 2014/34/EU	21
4	Transport.....	22
4.1	Check scope of delivery	22
5	Storage	22
6	Product description.....	23
7	Installation.....	24
7.1	Safety notices.....	24
7.2	Preparations.....	25
7.3	Mounting	25
7.4	Connection pump	26
8	Commissioning.....	28
8.1	Safety notices.....	28

9	Operation	31
9.1	Regulating the delivery rate	31
9.2	Control of residual emptying	31
10	Fault rectification	32
11	Cleaning	33
11.1	Safety notices	33
12	Maintenance	35
12.1	Safety notices	35
12.2	Maintenance schedule	36
12.3	Service	36
13	Decommissioning	37
13.1	Safety notices	37
14	Replacing components	38
14.1	Safety notices	38
14.2	Exploded-view drawing	40
14.3	Replacing the diaphragm	41
14.4	Replacing the pneumatic valve	43
14.4.1	Dismantling the pneumatic valve	45
14.4.2	Installation of the pneumatic valve	46
14.5	Replacing the ball valves and suction pipes Unica 3-125-3/8" HZ	48
14.6	Replacing the ball valves and suction pipes Unica 3-125-3/4" HZ	50
15	Disposal	52
16	Return shipment	52
17	Technical data	53
18	Spare parts for standard model	54
18.1	Diaphragm set	54
18.1.1	Diaphragm Unica 3-125-3/8", Art. No. 2436890	54
18.1.2	Diaphragm Unica 3-125-3/4", Art. No. 2436891	54
18.2	Valve Set	55
18.2.1	Valve set Unica 3-125 -3/8", Art. No. 2436886	55
18.2.2	Valve set Unica 3-125 -3/4", Art. No. 2436887	55
18.3	Service Set Pneumatic Unica 3-125 kpl, Art. No. 2436892 for Unica 3-125 -3/8", and Unica 3-125 -3/4"	56
19	Annex	57

19.1	Documentation of third-party manufacturers (optional)	57
20	Translation EU Declaration of Conformity	58

1 About this manual

1.1 Use and safekeeping

Please note the following points:

- The pump can only be appropriately and safely commissioned, operated and maintained with the aid of this operating manual.
- This operating manual refers only to the product that is specified on the cover sheet.
- This operating manual is part of the scope of delivery.
- Consequently, always keep this operating manual in legible condition, within easy reach for the operator, in the vicinity of the pump. Keep this document with the pump in the event of resale or rental.
- This operating manual is intended only for instructed and authorised specialists.
- The Safety section provides an overview of all important safety aspects for optimal protection of personnel, and for safe and trouble-free operation of the pump.
- The manufacturer is not liable for damage resulting from failure to comply with the instructions in this operating manual.
- Reprints, translations and duplications in any form, including excerpts, require the written consent of the publisher.
- The copyright remains with the manufacturer.

1.2 Integrator-Informationen

J. Wagner GmbH

Otto-Lilienthal-Strasse 18

Postfach 1120

D-88677 Markdorf

Telefon: +49 (0)7544 5050

Telefax: +49 (0)7544 505200

E-Mail: ts-liquid@wagner-group.com

1.3 Areas of applicability

This product complies with the directives of the European Union.

In this regard, please note:

- The provided EU Declaration of Conformity
- The intended use
- Non-intended use

1.4 Warranty

For all pumps, we grant the initial purchaser a one year warranty on workmanship and material, starting from the date of purchase; provided that the pump is used as intended. Normal wear is excluded from the liability. The warranty is automatically null and void, if parts other than original manufacture spare parts are installed in the pump.

In accordance with applicable law, the manufacture and distributor excludes all liability for consequential damages. In all cases the liability of the manufacturer and distributor shall be restricted to, and in no case shall exceed the equivalent value of the purchase price. Prior to purchase and shipment of the pump, the customer should review the national and local laws and regulations to ensure that the product, the installation and the application are in compliance with the applicable regulations.

- Notify the distributorA immediately of warranty claims after defects or faults are detected.
- The information, illustrations and descriptions in this operating manual do not give rise to any claims for changes to systems and components that have already been delivered.
- No liability is accepted for damage or malfunctions that occur as described below:
 - Disregarding the operating manual
 - Unauthorised modifications of the system
 - Operating error
 - Failure to perform maintenance tasks

2 Safety

2.1 Basic information concerning safety

The Safety section provides an overview of all important safety aspects for optimal protection of personnel, as well as for safe and trouble-free use of the pump, from transport to operation and disposal.

Failure to comply with the instructions and safety notices cited in this operating manual can result in considerable hazards for personnel and material damage of the pump.

The pump is operationally reliable.

However more extensive residual hazards can be associated with operation of the pump under the following circumstances, if

- The pump is not used as intended.
- The pump is used improperly or operated by untrained or uninstructed personnel.
- The pump is not properly maintained or serviced.
- The safety instructions, notices and warnings specified in this operating manual are not complied with.
- The pump is improperly modified or converted.
- The prescribed maintenance is not performed in a timely manner.

2.2 Compliance with the instructions in the operating manual

Every person who is assigned to perform tasks on and with the pump must have read and understood this operating manual, particularly the "Safety" section.

Knowledge of and compliance with the content of this manual is the prerequisite for protecting personnel from danger and avoiding errors.

Therefore, all safety notices and safety instructions must be strictly complied with.

Compliance is for your own safety.

The operating manual is a component of the pump and must always be available in the vicinity of the product. The operating manual must be complied with. If the content of this operating manual leaves any questions unanswered or is not understandable, contact the manufacturer immediately – see the "Manufacturer information" section.

In addition to the safety instructions in this operating manual the following rules and regulations must also be complied with:

- Intended use
- The national and company-internal accident prevention regulations (UVV)
- Occupational health regulations
- Generally accepted rules for safety
- Country-specific regulations
- Manufacturer information (safety data sheets) for operating materials and auxiliary materials, chemical substances

Moreover, these rules and regulations can be supplemented with work instructions that take into account plant-internal regulations or operational particularities.

In supplementation to this operating manual, company-internal instruction with due consideration of the technical qualifications of the respective persons must also be provided.

At the same time, the instructions in the operating instructions for the built-in electrical devices must be observed and adhered to.

2.3 Operational prerequisites

Dependence on other installations and equipment must be tested by the owner separately.

Moreover, the following prerequisites must be met for regular operation of the pump, unless they are within our area of responsibility:

- Properly concluded installation
- Successful trial run with all required adjustment tasks
- Instruction of operating personnel concerning operation of the pump and the national safety regulations and the company's own safety regulations
- If hot or cold machine parts result in additional danger, then the customer must provide guards that prevent these parts from being touched
- The possibility of hazards due to electrical energy must be excluded (for details in this regard see VDE guidelines or guidelines issued by the electrical utility, for example)
- The pump must be easily accessible
- Determination of a person who is primarily responsible for proper operation

2.4 Intended use

- The pump and the operating manual are intended exclusively for commercial use.
- The pump must only be used for pumping fluid media (see section "Technical data").
- The pump must only be operated within the limits specified for intended use (see section "Technical data").
- The pumped medium must be compatible with the materials of the pump (see section "Technical data").
- The owner of the pump is responsible for selection of the medium to be pumped.
- The pump must only be operated in environments that do not adversely affect the properties of the materials used.
It is the responsibility of the owner to verify the suitability of the material.

2.5 Non-intended use

A use other than the use described in the section, "Intended use" and in this operating manual, and any use that extends beyond the specified intended use, is considered non-intended use. The manufacturer shall not be liable for damage resulting from non-intended use. This risk is borne solely by the user / owner.

- Pumping of media that does not meet the product specification
- Do not modify the pump in any manner whatsoever.
- Use of the pump for purposes other than those cited in section 2.4
- Operating a damaged pump
- Operation, maintenance and repair of the system by unauthorised and/or untrained personnel
- Pump operation without earthing
- Pump operation outside of the specified parameters and/or operating data
- Operating the pump at a location where there are ignition hazards due to sources of ignition in the vicinity of the pump
- Use or commissioning of the pump by private users
- Modifying or converting the pump
- Set up on unsuitable substrates
- Attaching transport aids on the housing
- Failure to comply with the specified maintenance intervals
- Operating the pump in Zone 0 explosive gas/dust atmospheres
- Immersing the pump in the pumped medium
- Operation in explosive atmospheres without prior implementation of the requirements stipulated in Directive 1999/92/EC and national regulations for explosion protection, on the part of the owner
- Initial commissioning without prior inspection of the area and the pump by a person qualified to perform the inspection
- Pumping of media that is chemically incompatible with the materials used to construct the pump – The owner of the pump must check the chemical compatibility of the pumped media
- Pumping of media with parameters (e.g. ignition temperatures) that are not compatible with the information specified on the pump
- Operating the pump with bypassed safety devices is prohibited

2.6 Foreseeable misuse

The following points describe foreseeable misuse of the pump:

- Set up on unsuitable substrates
- Attachment of transport aids on the housing
- Failure to comply with the operating data
- Failure to follow the maintenance schedule
- Operation with unsuitable media
- Operation in the wrong Ex zone

2.7 Labelling on the pump

The data on the rating plate affixed on the pump must always be complied with. The rating plate must not be removed, and it must be kept in completely legible condition.

2.7.1 Nameplate

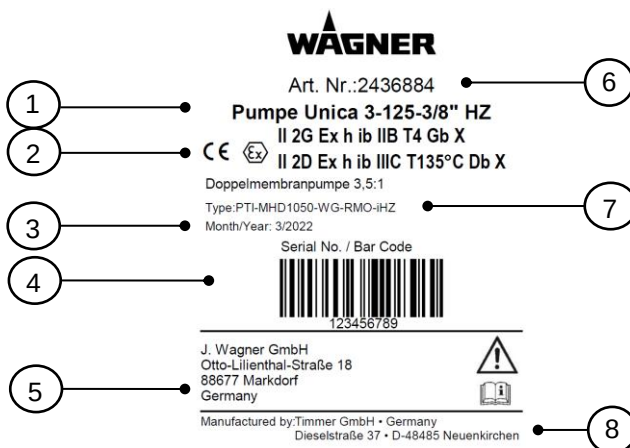
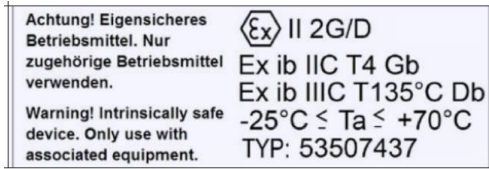


Abb. 1: nameplate

1	Product designation	5	Address Integrator
2	ATEX marking in accordance with R L2014/34/EU	6	Item Number
3	Serial number	7	Type Key
4	Date	8	Manufacturer address

2.7.2 Identification of the connection of the sensor

Identification of the connection of the electrical sub-device.



2.8 Qualifications of personnel

Tasks on the pump must only be performed in accordance with existing rules and statutory regulations, by personnel who have been instructed and who are qualified in this regard, in compliance with due diligence obligations.

The following requirements must be met:

- Personnel must have special skills and experience in the respective technical area. This particularly applies for maintenance and repair tasks on mechanical and pneumatic fixtures of the pump.
- Personnel must be familiar with applicable standards, directives, accident prevention regulations and operating conditions.
- Personnel must have been authorised by the person responsible for safety to perform each of the required activities.
- Personnel must be capable of recognising and avoiding possible dangers.

The required personnel qualifications are subject to different statutory regulations depending on the installation site. The owner must ensure compliance with applicable laws.

2.9 Personal protective equipment

Failure to wear the personal protective equipment can result in severe or fatal injury.

- Wear the operationally prescribed protective equipment, e.g. hearing protection, eye protection, safety footwear, hard hat, protective clothing and protective gloves for all tasks on the pump.



- Long hair must be tied back and covered; do not wear loose clothing or jewellery.
Danger of injury through snagging, being drawn in or entanglement due to moving parts.
- Ensure that there are no unauthorised persons in the danger zone.

2.10 Safety notices in the operating manual

WARNING

The signal word **WARNING** indicates a possible danger.
Failure to comply with the instruction can result in severe or fatal injury.

CAUTION

The signal word **CAUTION** indicates a possible danger.
Failure to comply with the notice can result in minor to moderate injury.

! Attention

The signal word **Attention** indicates possible material damage.
Failure to comply with the notice can result in machine damage.

Environmental protection notice

The signal words **Environmental protection notice** indicate information on environmental protection.

Note

The signal word **Note** indicates additional information for the machine or its use.

2.11 Safety notices

CAUTION

Hazard for personnel due to a defective pump!

- Check the pump regularly for damage and leaks.
- Switch off a damaged or leaking pump immediately.

CAUTION

Health impairment due to contact with harmful media!

- If the possibility of contact with the medium cannot be excluded, do not perform cleaning, repair, troubleshooting and fault rectification, until after you have put on the appropriate personal protective equipment PPE (at least protective clothing, protective gloves, protective goggles).
- Comply with the safety data sheets provided by the manufacturers and the national laws and regulations.

Caution

Pump damage due to the operating conditions and properties of the pumped media!

- The characteristics of the pumped media (such as abrasiveness, viscosity, etc.) and the operating conditions can have a negative effect on the service life and the function of the pump.
- Solids in the media can damage the pump, particularly the diaphragms, and cause immediate failure.

Caution

Pump damage due to media that is chemically incompatible!

- The owner of the pump must check whether the pumped media is chemically compatible with the materials that were used to construct the pump.

A list of the materials used in the pump is provided in the "Technical data" section.

Caution

Pump damage due to high mechanical forces!

- Do not subject the pump to strong mechanical forces.

Caution

Destruction of the pump due to excessive supply air pressure!

Excessive supply air pressure can destroy the diaphragms and cause the pump to burst.

- Operate the pump with a maximum supply air pressure of 6 bar.
- Ensure that the exit point of the pumped medium is not clogged or sealed.



WARNING

When handling dangerous substances:

The following instructions must be complied with if the hazard analysis conducted by the owner reveals that a possible leak of the medium poses an increased risk:

- The installation of media shut-off valves at the medium inlets and outlets to shut off the medium flow in case of a leakage on the pump.
- The installation of the pump with shut-off valve, 3-way valve and check valve in the compressed air supply line. These 3 components prevent the pumped medium from entering the compressed air system if a diaphragm tears.
- If diaphragms are completely defective, the fluid can enter the compressed air circuit, damage the compressed air circuit and exit via the silencer. Depending on the pumped medium, the silencer must be replaced by a suitable pipe or hose connection to avoid danger. The discharge must be taken to safe place.
- In the event of leaks in the bellows in the media valve control, the medium can escape from the cylinder ventilation holes.
- If diaphragms are completely defective, the medium to be pumped can react with materials in the compressed air circuit. Prior to commissioning the owner must assess the risk and take suitable measures.

 WARNING**Danger of explosion due to improper installation tasks!**

- During installation and dismantling, maintenance, transport to/from the place of use, and maintenance there is danger of generating sparks through friction, impact and rubbing processes or through electrostatic charging. Consequently, ensure that these hazards are safely eliminated or that an explosive atmosphere is not present during these work stages.

 WARNING**Pollution of the environment!**

- During In the event of a membrane rupture, a large area of the environment can be contaminated with the medium to be conveyed.

**Environmental protection notice****Environmental pollution due to pumped media and cleaning agents.**

- Regularly check all lines, hoses and connections for leaks and apparent damage. Immediately repair any damage!
- Take up or wipe up leaked and spilled media and cleaning agents and dispose of them in an eco-friendly manner.
- Prevent escaped or spilled media and cleaning agents from getting into the groundwater.
- For safe and eco-friendly disposal of media, cleaning agents and replacement parts.
- Comply with the safety regulations applicable to the media and cleaning agents.

3 Additional ATEX information

3.1 ATEX marking in accordance with Directive 2014/34/EU and DIN EN ISO 80079-36 for the pump



II 2G Ex h ib IIB T4 Gb X

II 2D Ex h ib IIIC T135°C Db X

Symbol	Meaning
	CE mark.
	Marking relevant for explosion prevention in accordance with ATEX.
II	Atex device of Equipment Category II intended for use in explosive atmospheres, except for mines.
h	Non-electrical device for the explosive area.
ib	Identification of intrinsically safe electrical devices for use in potentially explosive atmospheres.
2 G/D	ATEX device of Equipment Category 2 (avoidance of effective ignition sources). The device can be used as intended in areas where Zone 1 and Zone 2 explosive gas or dust atmospheres can occur. Use of the device is prohibited in Zone 0.
IIB	The intended use is permitted in gas explosive areas with gases and vapours of explosion groups IIA and IIB. The intended use is not permitted in gas explosive areas with gases and vapours of explosion group IIC.
IIIC	Use as intended in potentially explosive dust atmospheres with dusts of dust groups IIIA, IIB and IIIC
T4 bzw. T135°C	Temperature class / max. Surface temperature for the gas or dust explosion hazard area.
Gb/Db	Device protection class for gas or dust. In normal operation and for the faults that can usually be expected (defects on the device), the device ensures the required degree of safety and avoidance of ignition sources.
X	The following special conditions must be met to ensure safe operation of the pump in explosive atmospheres. Pay attention to the limited ambient temperature. Mechanisms/processes that generate stronger charges than are generated through manual rubbing, must be prevented on the labels, the ball valve and the silencer and possibly the diaphragm.

 Warning

Danger due to highly effective charge-generating processes!

- Highly efficient charge-generating processes can cause electrostatically dangerous charging of diaphragms that have a non-dissipative layer (e.g. PTFE) on the media side. Highly-effective processes that generate static charges, include fast pumping of multiphase fluids and liquids with low conductivity ($< 100 \text{ pS/m}$) and the purging of the pump with compressed air.
The owner must take additional protective measures to safely prevent these processes. Possible measures include:
 - Filling the pipes and pump chambers with inert gas during dry-run
 - Slow filling and emptying of the pump
 - Reliable avoidance of dry-run (slurp operation)
- Highly-effective charge-generating processes can cause electrostatic charging of labels/stickers, silencers and ball valve handles. Highly efficient processes that generates charges include cleaning the pump with a high-pressure cleaner.
The owner must take additional protective measures to safely prevent these processes. Possible measures include:
 - Large-area, permanent covering of the labels/stickers with transparent conductive foil, or the removal of such labels/stickers (rating plates must not be removed).
 - Replacement of the silencer with a conductive/dissipative silencer.

 WARNING

Danger of explosion due to hot surfaces!

The maximum surface temperature is equal to the max. temperature of the pumped medium and/or the compressed air temperature.

- In accordance with national regulations, the medium temperature/compressed air temperature must with certainty and with a sufficient differential, underrange the ignition temperature of the explosive atmosphere.

3.1.1 Ignition sources in the device

Mechanically generated sparks, chemical reaction and static electricity are potential ignition sources in the pump. The effectiveness of these ignition sources is reliably prevented, even in event of the usual errors, through integration into the equipotential bonding system and by limiting the operating parameter settings and ambient conditions.

The ignition hazards of the electrical device (intelligent sensor) are to be taken from its operating instructions. The electrical device may only be operated with the specified electrical parameters.

3.2 Explosion-proof sub devices (optional)

No	Designation	Manufacturer	Type	Device identification
1	Magnetic proximity sensor (intelligent sensor)	Timmer GmbH	53507437	II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T135°C Db -25°C ≤Ta≤+70°C

3.3 Note on the assembly according to Atex Directive 2014/34/EU

The Pump with intelligent sensor is to be regarded as an assembly consisting of mechanical parts (pump) and an electrical device (intelligent sensor) in accordance with ATEX Directive 2014/34/EU. These sub-assemblies of the assembly are ATEX/CE compliant sub-assemblies. The assembly has been subjected to a risk assessment for additional ignition hazards and other relevant hazards that could become relevant as a result of the combination. It was determined that the assembly did not change the explosion characteristics of the subassemblies with respect to the essential health and safety requirements and did not create any additional ignition hazards. Therefore, an assessment of the assembly as electrical equipment by a notified body is not necessary (ATEX Guidelines to Directive 2014/34/EU, 1st edition of April 2016, §43 electrical equipment and §44 Combined components (assemblies 2.b)). It is sufficient in this case if the manufacturer

- prepares the technical documentation,
- affixes the CE and Ex markings to the assembly in accordance with Annex II point 1.0.5 of the Atex Directive 2014/34/EU - indicating the intended use,
- signs the EU declaration of conformity for the entire assembly,
- indicates the technical specifications/standards applied, and
- provides operating instructions
- if applicable, deposits the technical documents with a notified body.

4 Transport

To prevent transport damage, if possible only transport the pump only in its original packaging.

4.1 Check scope of delivery

1. Remove the transport packaging of the pump.
2. Dispose of the packaging material properly.
3. Examine the pump for transport damage.
 - Immediately notify the transport company and the manufacturer of transport damage, in writing.
 - Protect the pump from further damage.
4. Use the delivery note to verify the completeness of the delivery.

5 Storage

- The storage conditions influence the service life of the diaphragms.
- The pump must not be stored for safekeeping unless it has been thoroughly cleaned beforehand.
- Extreme storage conditions accelerate the ageing process.
- We recommend a storage temperature between +10 °C and +25 °C.
- The diaphragms must not be exposed to heat sources or direct sunlight.
- Exclude the possibility of exposure to ozone or ionising radiation.
- Store the diaphragms in tension-free condition.
- We recommend replacing the diaphragms at the latest after one year of storage under the storage conditions cited above.

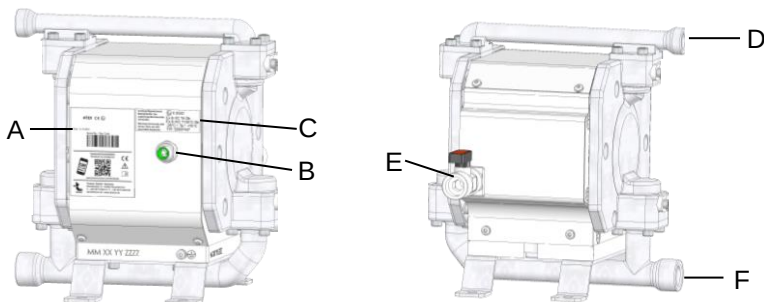
6 Product description

The double diaphragm pump is a self-priming, pneumatically driven fluid pump. The fluid is conveyed by the opposing movement of two diaphragms. A reversing valve ensures that the two diaphragms are alternately charged with compressed air. Each diaphragm has a fluid inlet valve and a fluid outlet valve.

If the pump chamber is enlarged due to movement of the diaphragm, the outlet valve closes and the inlet valve opens so that fluid is suctioned into the pump chamber. When the diaphragm moves in the other direction, the pump chamber becomes smaller, the inlet valve closes, the outlet valve opens and the fluid is pumped out.

When one of the diaphragms reaches its end position in the suction process, the limit switch activates the reversing valve so that the other diaphragm is charged with compressed air.

The reversing valve is designed in such a manner that it cannot remain in a middle position.



Position	Designation
A	Type plate
B	Connection sensor
C	Label sensor ATEX info
D	Media outlet
E	Compressed air connection (ball valve not included in the scope of delivery)
F	Media inlet

7 Installation

7.1 Safety notices

WARNING

Personnel are in danger due to improper installation!

- Connections must be used that are made of material that is compatible with the pumped medium and with the material of the pump.
- The pump does not have its own pneumatic shut-off valve. If the pump cannot be switched off by simply, safely disconnecting or switching off the compressed air supply, an additional, easily accessible shut-off valve must be installed upstream of the compressed air connection.
- The pump must be integrated in the compressed air system in such a manner that it can be taken out of service by switching off the compressed air.
- Select the installation location for the pump in such a manner that the possibility of impacts that can cause ignition is excluded.
- The compressed air supply (hoses, etc.) must be installed in such a manner that they do not pose any hazard.
- Use a pressure relief valve in the compressed air supply if there is a risk of exceeding the operating parameters.
- Installation tasks must only be executed by trained personnel.
- Wear personal protective equipment (PPE).

WARNING

Danger of explosion due to electrostatic charging!

- Before commissioning, connect the pump to the protective earth system (equipotential bonding).

CAUTION

Personnel are in danger due to inadequate lighting!

- Only perform installation tasks on the pump in an adequately illuminated and air-conditioned environment.

! Attention

Fault or damage due to residual substances in the pump

- Prior to commissioning, purge the pump with suitable media to remove from the pump interior any substances introduced during the customer process (goods receipt, handling, storage, installation, etc.) that are detrimental to paint adhesion, or substances that are incompatible with the pumped medium.
- For this, strictly comply with the instructions in section 11 Cleaning

7.2 Preparations

- Do not use the pump as a support for the piping system.
- Ensure that the system components are properly supported to prevent weight load on the pump parts.
- Ensure that the regulations regarding the protective earth system (equipotential bonding) are complied with.

► Note

- An electrical connection is not required.
- The pump is self-priming.

7.3 Mounting

1. mount the pump on a horizontal, level surface with the media inlet pipe pointing downwards as shown in Fig. right.

The pump will only operate safely to its full extent in this position.

Check whether additional shut-off valves must be installed if necessary

2. Ensure that the pump is securely positioned by fixing it with suitable fastening screws. When selecting the fixing, take into account the vibrations of the pump, which may cause the fixings to loosen.
Do not immerse the pump in the medium to be pumped.



7.4 Connection pump

- 1.. Install a compressed air hose from the compressed air source to the pump.

The connection thread on the pump is G $\frac{1}{2}$ ", to which e.g. a ball valve (1) can be connected.

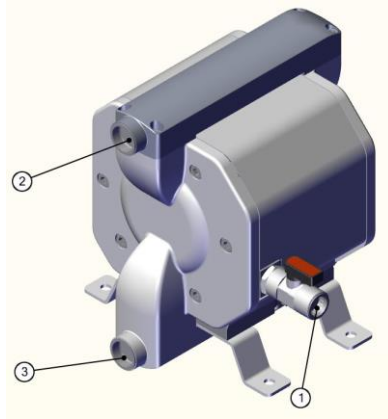


Fig. 2: Connections on the pump

2. Provide flexible suction and outlet connections (e.g. hose connections). The flexible connections prevent vibrations being transferred to the pipework system.
- 3.. Pay attention that the connections are compatible with the conveyed medium and are able to withstand high pressures.
4. Ensure that the line cross-sections are sufficiently dimensioned. This depends on the viscosity of the medium and the circumstances of the system.
5. Make absolutely sure to connect the suction and conveying hose with suitable hose clamps.
- 6.. Connect the suction hose to the inlet point (3).
- 7.. Connect the conveying hose to the outlet point (2).
8. Connect the pump to a protective earthing system. The connection for the equipotential bonding is marked accordingly on the pump foot (4).

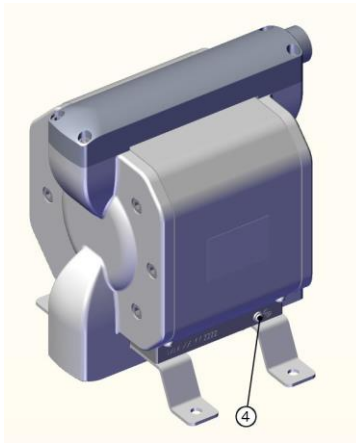


Fig. 3: Connection for the equipotential bonding

9. Check that all connections are tight and do not leak.
10. Attach the compressed air hose to the compressed air connection on the pump.

8 Commissioning

8.1 Safety notices

WARNING

Danger of explosion due to dust on the pump housing!

- Regularly clean the surface of the pump housing and remove the layers of dust.

WARNING

Life-threatening danger due to pumping explosive media in hazardous areas!

The **medium to be pumped can corrode or otherwise damage components of the pump and escape. This can result in an explosive mixture.**

- Pumping of explosive media or gases is prohibited
- The intended use in the Ex environment is only possible in due compliance with Directive 2014/34/EU, in accordance with the marking on the rating plate of the pump.

WARNING

Danger to life from operating the residual emptying function in potentially explosive atmospheres!

- When the pump is in operation and the residual discharge function is used at the same time, an explosive atmosphere (zone 0) may form permanently inside the pump's media section.
- When using the residual discharge function, the flow rate of the medium in the pump depends on the type of medium and the design of the system. High flow velocities can generate ignition-effective charges on the diaphragm. The flow velocity must be limited to a non-critical level.

 WARNING**Life-threatening danger when operating the pump in hazardous areas!**

- The pump may be used in explosive areas (for example paint shops), only if this is appropriately indicated on the pump rating plate.
- Moreover, the owner of the pump is obligated to comply with the requirements stipulated in Directive 1999/92/EC.
- The pump may only be used in explosive atmospheres (e.g. paint shops) if the ATEX markings on the rating plate of the pump and its sub-devices meet the requirements of the zone classification.
- During operation, ensure that the pump is always completely filled with fluid. The continuous pumping of ignitable gas/fluid mixtures that cause a Zone 0 to occur inside the pump, is prohibited.
- The pumped medium can react exothermally with the material of the pump. Before pumping the medium, check the suitability of the pump materials for the medium to be pumped.
- Operation of the pump above the permissible flow rate and longer dry-run operation can cause overheating of the pump.
- When pumping media in ring systems, the delivery capacity of the pump is converted into heat. For short lines, this can cause dangerous heating of the medium.
- Operation of the pump can adiabatically compress explosive gas mixtures in the pump and/or the piping system. This can result in increases in temperature that pose an ignition hazard. The owner must take appropriate measures. The media outlet must not be closed during pump operation.
- The special operating conditions of the pump must be noted and complied with.

Caution

Destruction of the pump due to excessive supply air pressure!

Excessive supply air pressure can destroy the diaphragms and cause the pump to burst.

- Operate the pump with a maximum supply air pressure of 6 bar.
- Ensure that the exit point of the pumped medium is not clogged or sealed.

1. If the pump has not been mounted on a horizontal, level surface with the pump base downwards, vent the pump chambers.
2. Set the compressed air pressure between 1 and 6 bar.
The pump is ready for operation.
3. The pump starts pumping as soon as it is charged with compressed air.
4. Operate the pump with supply air pressure of maximum 6 bar.

9 Operation

9.1 Regulating the delivery rate

Note

If the delivery rate of the pump must be regulated, the owner must install a throttle valve in the compressed air supply or in the delivery line.

Reduce the delivery rate

- Reduce the compressed air supply or the medium outflow.

Increase the delivery rate

- Increase the compressed air supply or the medium outflow.

9.2 Control of residual emptying

1. Turn off the pump.
2. Activate residual emptying (pressurise the cylinder).
3. Wait until the system has drained.
4. Deactivate residual emptying (venting of the cylinders).
4. If necessary, switch the pump on again.

10 Fault rectification

Fault	Fault cause	How to eliminate the fault
Pump does not run or it runs too slow	Insufficient compressed air pressure	Set pressure between 4 and 6 bar
	The hose cross-section is too small	Use a hose with a larger cross-section
	Control valve leaks	Replace distributor valve and seals
	Clogging of the silencer, pump does not run smoothly, seal is swollen or piston material is damaged	Check material resistance, avoid dry run
Pump runs but does not pump any medium, or does not stop when the pressure side is shut off	Valves contaminated	Flush the pump with cleaning agent
	Delivery hose is clogged	Clean delivery hose
	Suction and pressure valves are contaminated	Let the pump run for 10 to 20 minutes at top speed
	Connections leak, possible intake of external air, vacuum collapses	Check connections for leaks; re-seal
	Valves contaminated	Clean or replace the valves
	No suction effect on the suction-side and pressure-side	Close openings with your hands to check the suction effect and, if necessary, replace the seals
	Excessive viscosity of the pumped medium	High-viscosity media cannot be pumped (see section "Technical data" for the limit values)
	Delivery hose has cracks or holes	Replace delivery hose

Fault	Fault cause	How to eliminate the fault
	Excessive counterpressure at the injection point	Reduce counterpressure at the injection point
	Threaded fittings, ball valve or non-return valve either have no passage or reduced passage	Restore passage: Clean or replace the components
	Air in the pump chamber	Vent the pump
Fluid container runs empty autonomously	Exit point of the fluid is lower than the fluid level in the container	Place the fluid container lower or position the exit point higher

11 Cleaning

11.1 Safety notices

Caution

Pump damage due to hardening, crystallising media!

- When pumping fluids containing solids that harden, crystallise, or that can corrode pump materials due to chemical or physical properties, the pump must be cleaned before longer standstill periods!
- A longer standstill period is defined depending on the previously pumped medium and the change of its aggregate state from fluid to solid.
- The definition is the responsibility of the owner and must be complied with in any case to avoid pump damage.

1. Only clean the pump with a cleaning agent that is suitable for the pump material and the pumped medium.
Water or solvents could be suitable.
Liquid and solid cleaning agents must not exceed a temperature of 65 °C.
2. Connect the suction pipe connection to the cleaning agent tank.
3. Connect the media outlet to a suitable container.
4. Pump the cleaning agent until all residues in the pump are detached.
5. Completely empty the pump.

6. To do this, pull the suction hose out of the cleaning agent far enough that air is suctioned in.
7. When cleaning agent no longer drains from the outlet, completely disconnect the media inlet and outlet of the pump.
8. To completely empty the pump, swivel it 90° to the connection side so that the media connections point downward.

Note

In the event of decommissioning and storage, complete emptying of the pump is necessary, because under certain circumstances the cleaning fluid can accelerate the ageing of the pump diaphragms.

9. Operate the pump with supply air pressure of approx. 1 bar.
10. In this process move the pump slightly back and forth until the residual quantity has completely run out.
11. Clean the outer parts of the pump.

Cleaning before decommissioning

1. Clean and drain the pump as described in the previous paragraph.
2. Renew the pump diaphragms after one year of storage at the latest, as they are subject to normal aging and to ensure safe and reliable operation of the pump.

Extreme storage conditions can accelerate the aging process.

12 Maintenance

12.1 Safety notices

WARNING

Hazard for personnel due to trapped compressed air and pressurised medium!

- Do not service or clean the pump, hoses and the outlet valve for the compressed air while the system is pressurised.
- Before performing tasks on the pump de-pressurise the pneumatic section and the fluid section.
- Shut off the compressed air supply and wait until the residual pressure is dissipated via the outlet valve for the compressed air.
- Empty the pump before replacing components.

WARNING

Hazard for personnel due to spraying fluids (media)!

- Ensure that the material hoses and other components can withstand the fluid pressure generated by this pump.
- Regularly check the pump for damage or wear.
- Ensure that the pneumatic valve, the outlet area for the compressed air and the suction side and pressure side for the medium are clean and function effectively.
- Depressurise the pump before dismantling. Under some circumstances there can still be a low residual pressure in the pressure chamber that causes medium to spray out.
- Before any dismantling tasks on the pump, comply with the safety data sheets provided for the previously pumped chemicals.

WARNING

Personnel are in danger due to improper installation!

- Installation tasks must only be executed by trained personnel.
- Wear personal protective equipment (PPE).

 CAUTION**Personnel are in danger due to inadequate lighting!**

- Only perform installation tasks on the pump in an adequately illuminated and air-conditioned environment.

The double diaphragm pump is low-wear except for the diaphragms. The quality of the compressed air supply, the characteristics of the pumped media (such as abrasiveness, viscosity, etc.) and the operating conditions can negatively influence the service life of the pump.

Consequently, we recommend regular inspection of the pump and of the pneumatic valve.

Nevertheless, should a fault occur, or if the delivery capacity decreases, you can perform the following tasks:

- Replace the diaphragms
- Clean the fluid valves
- Replace the seals
- Clean and grease the pneumatic valve

12.2 Maintenance schedule

The maintenance intervals depend on the operating conditions of the pump. Contact the respective integrator (system manufacturer) for detailed maintenance plans.

12.3 Service

In order to maintain full functionality and ATEX approval and to ensure uninterrupted production, we recommend using the integrator's service concepts.

We recommend that all maintenance work be carried out exclusively by Wagner Service. This is the only way to guarantee the full statutory warranty.

13 Decommissioning

13.1 Safety notices



WARNING

Personnel are in danger due to improper installation!

- Installation tasks must only be executed by trained personnel.
- Wear personal protective equipment (PPE).



CAUTION

Health impairment due to contact with harmful media!

- If the possibility of contact with the medium cannot be excluded, do not perform cleaning, repair, troubleshooting and fault rectification, until after you have put on the appropriate personal protective equipment PPE (at least protective clothing, protective gloves, protective goggles).
- Comply with the safety data sheets provided by the manufacturers and the national laws and regulations.

Shut off the compressed air supply to the pump, if the system will not be used for a longer period of time.

14 Replacing components

14.1 Safety notices

WARNING

Personnel are in danger due to improper installation!

- Installation tasks must only be executed by trained personnel.
- Wear personal protective equipment (PPE).

WARNING

Hazard for personnel due to spraying fluids (media)!

- Ensure that the material hoses and other components can withstand the fluid pressure generated by this pump.
- Check the pump for damage or wear on a regular basis.
- Ensure that the pneumatic valve, the outlet area for the compressed air and the suction side and pressure side for the medium are clean and function effectively.
- Depressurise the pump before dismantling. Under some circumstances there can still be a low residual pressure in the pressure chamber that causes medium to spray out.
- Before any dismantling tasks on the pump, comply with the safety data sheets provided for the previously pumped chemicals.

WARNING

Hazard for personnel due to trapped compressed air and pressurised medium!

- Do not service or clean the pump, hoses or the outlet valve for the compressed air while the system is pressurised.
- Before performing tasks on the pump de-pressurise the pneumatic section and the fluid section.
- Shut off the compressed air supply and wait until the residual pressure is dissipated via the outlet valve for the compressed air.
- Empty the pump before replacing components.

 CAUTION**Personnel are in danger due to inadequate lighting!**

- Only perform installation tasks on the pump in an adequately illuminated and air-conditioned environment.

Caution**Pump damage due to incorrect tightening torque of the housing screws!**

- The prescribed tightening torque for the hexagon screws of the housing cover is 18 Nm.
- To prevent pump damage and leaks, do not exceed this value.
- Use a calibrated torque spanner.

14.2 Exploded-view drawing

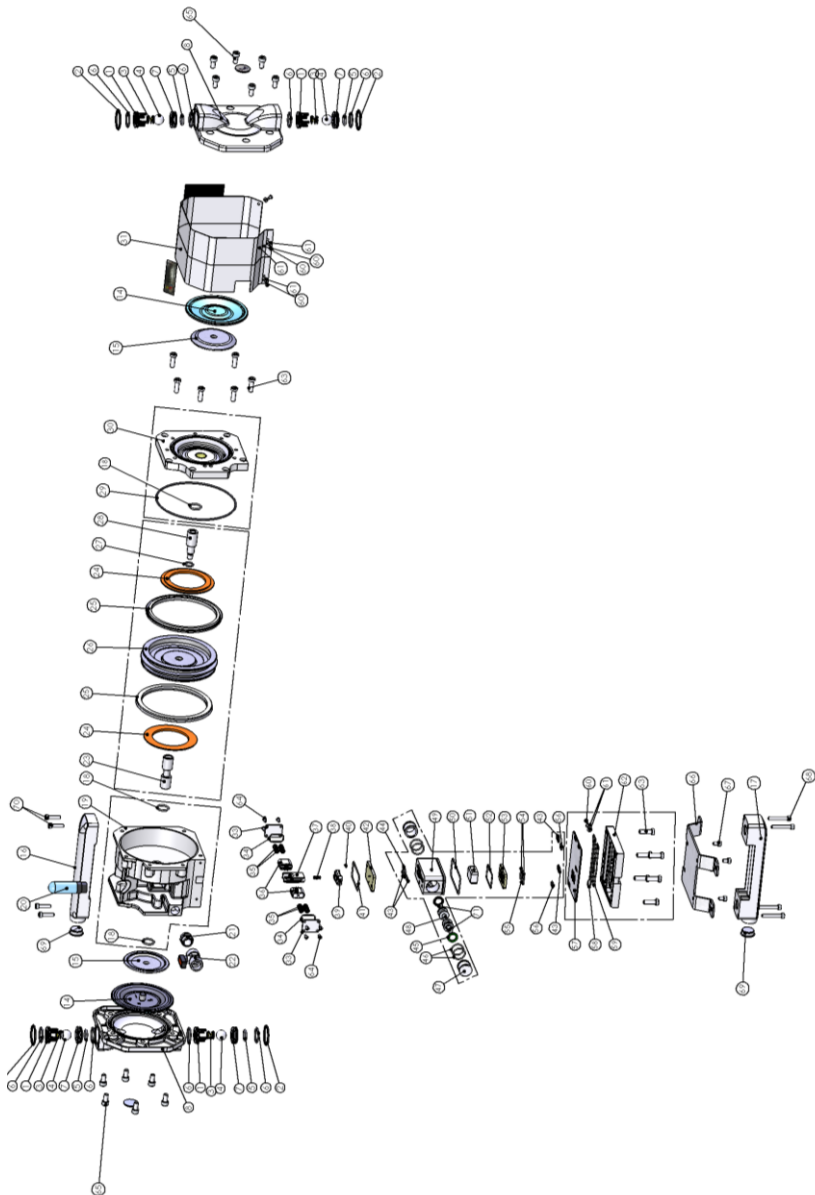


Fig. 4: Exploded-view drawing (similar to the illustration)

14.3 Replacing the diaphragm

► Note

- When changing the membrane, a change of support discs is imperative because due to the high load the support disc has only a limited lifetime.
- When changing the membranes, changing the media valve control is recommended in order to prevent possible leaks in the seals.
- If the membrane is exchanged without exchanging the support disc, the manufacturer and integrator refuse any warranty.

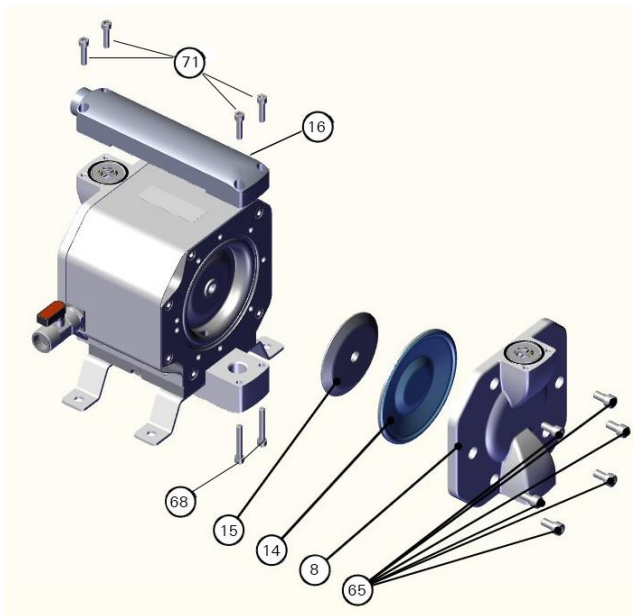


Fig. 5: Replacing the diaphragm

1. Loosen the fillister head screws (68, 71 and 65) at one of the housing covers (8) and remove the cover (8) at the pressure pipe (16).
2. Remove the diaphragm (14) and the support disc (15) from the piston rod by turning counterclockwise.
3. Place the new diaphragm (14) onto the new support disc (15) and screw both parts in a clockwise direction on the piston rod.

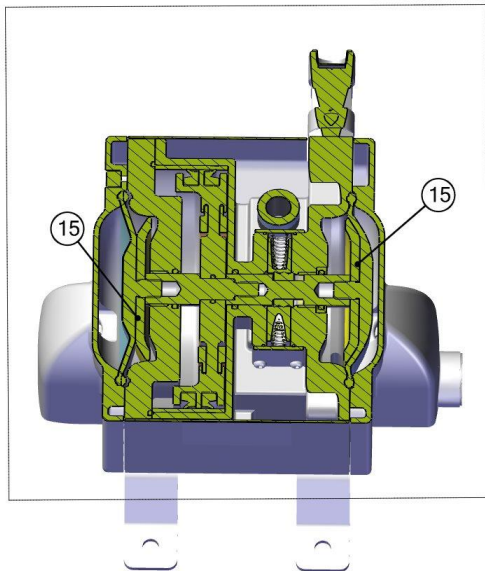


Fig. 6: Installation of the support disc

Observe the installation direction of the support disc (15 - see figure).

4. Assemble the housing cover (8) with fillister head screws (65).
5. Then tighten all screws with a torque of 10 Nm.

14.4 Replacing the pneumatic valve

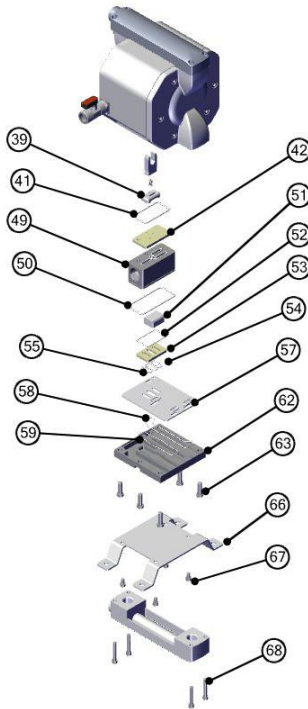


Fig. 7: Replacing the pneumatic valve

1. Loosen the fillister head screws (68) from the suction pipe and remove the suction pipe.
2. Loosen the fillister head screws (67) from the retaining plate and remove the retaining plate (66).
3. Loosen the fillister head screws (63) on the base plate (62) and remove the base plate.
4. Remove the O-rings (58) and (59), the intermediate plate (57), the O-rings (54), (55) and (52), the ceramic plate (53) and the O-ring (50).
5. Remove the assembled pneumatic valve (49) using the pulling hammer.



Fig. 8: Pulling hammer

6. Do this, position the hook of the pulling hammer in the main valve body in the middle under the main valve piston.
7. Remove the pneumatic valve (49) by a rapid upward movement of the hammer piston out of its seat.

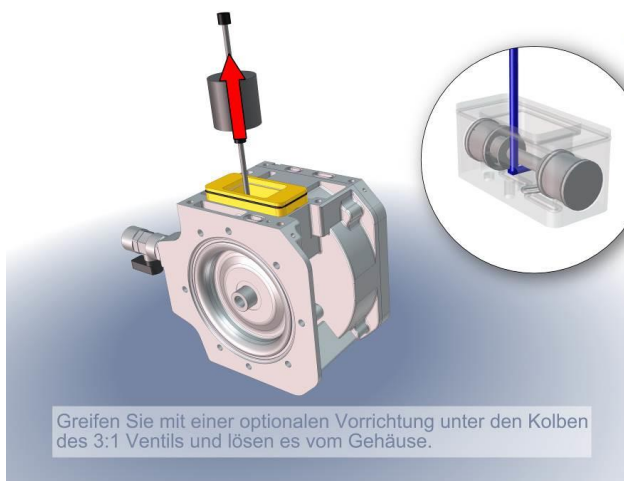


Fig. 9: Application of the pulling hammers

8. Remove the ceramic plate (42), the O-rings (21) and (20) and the control valve obturator (19).

14.4.2 Installation of the pneumatic valve

1. Place the O-rings (40) and (41) into the grooves in the centre piece of the pump.
The O-rings keep their position better if they are greased.
2. Place the control valve obturator (39) with the narrow side in front into the middle of the pump.

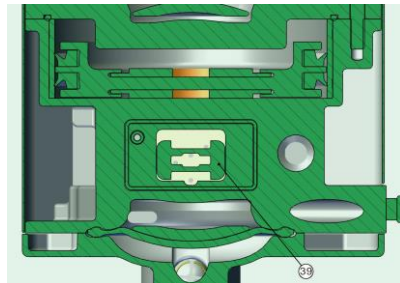
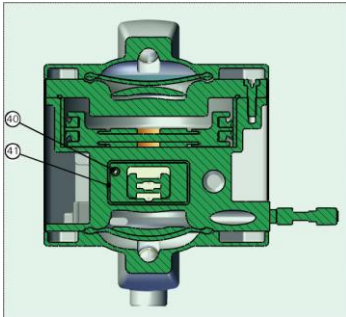


Fig. 11: Position of the ceramic plate and the pneumatic valve block

3. Insert the ceramic plate (42) into the middle section of the pump so that a hole (40) aligns with the O-ring (40) (see Fig. 11, left).
4. Mount the pneumatic valve block (49) in reverse order.
5. Before mounting, lubricate the seals and O-rings (e.g. With Fuchs® Renolit Unitemp 2) and avoid any damage to the seals and O-rings when mounting.
6. Install the piston seals (45) onto the pusher (48) so that the sealing lips face each other.
7. Insert the pusher (48) into the pneumatic valve block (49).
8. Reinstall the O-rings (46) on the caps (47) and mount the caps (47) from the side into the pneumatic valve block (49).
9. Insert the O-ring (50) into the outer groove of the pneumatic valve block (49).
10. Place the O-rings (43) and (44) into the groove of the pneumatic valve block (49).
During assembly, make sure that the O-rings do not get out of the grooves and get damaged.
11. Insert the mounted pneumatic valve block (49) into the middle section of the pump.

The mounting direction is shown by the opening on the pneumatic valve block (49) and the recess in the centre piece of the pump (see Fig. 11, right).

12. Insert the main valve obturator (51) with the close side in front into the pneumatic valve block (49). The main valve (51) must be inserted so that the valve (48) can move it.
13. Place the O-rings (52), (54) and (55) into the ceramic plate (53).
14. Insert the ceramic plate (53) into the pneumatic valve block (49).
Make sure the installation is correct (side with the large O-ring (52) first).
15. Place the O-rings (43) and (56) into the central part of the pump provided for this purpose.
Ensure that the O-rings are not damaged or get out.
16. Install the O-rings (58) and (59) on the pump base (62) and insert the intermediate plate (57) into the pump base (62).
When correctly assembled, no O-ring may be visible through the recesses in the intermediate plate (57).
17. Tighten the pump base (62) with fillister head screws (63).
Tighten the fillister head screws crosswise with the tightening torque of 10 Nm.
18. Then tighten all screws with a torque of 20 Nm.
19. Screw the retaining plate back onto the base plate and use a suitable screw lock
20. Fix the suction pipe using the corresponding screws. Tighten the screws with a torque of 10 Nm.

14.5 Replacing the ball valves and suction pipes Unica 3-125-3/8" HZ

► Note

The version of the media valves of the standard pump is specified at the end of the operating manual.

The pumps can be clearly identified by the article number on the nameplate!

The description refers to the Type Unica 3-125-3/8" HZ.

Mount the spring versions so as to ensure that the balls press on the lower parts of the cage (7).

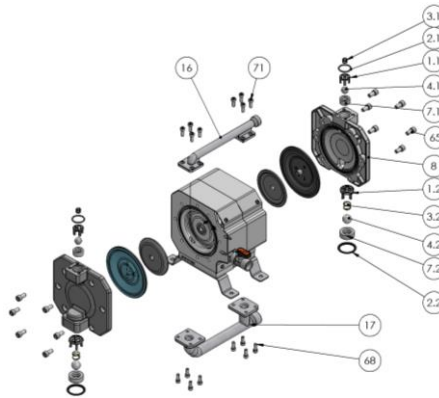


Fig. 12: Replacing the ball valves and suction pipes

1. Loosen the fillister head screws (65 / 68 / 71) at one of the housing covers (8) and remove the cover (8).
2. Remove the O-ring (2.1) and remove the upper valve cage (1.1) with the the spring (3.1) and the valve ball (4.1) and the lower part of the cage (7.1).
3. Remove the bottom valve cage (1.2), the spring (3.2) the lower part of the cage (7.2) and the valve ball (4.2).
4. Remove the suction pipe (17) and the outlet pipe (16) with the O-rings (2.2).
5. Clean the parts with a suitable cleaning agent.
Previously, check the media compatibility!
6. Check the parts, especially the O-rings for damage and wear.
Replace defective components.
7. Mount the valve seats with valve ball and O-ring in reverse order.

 Note

Do not mix up upper and lower valve!

Observe the mounting direction of the lower parts of the cage (23, 25) and the dimensions of the O-rings (see the detailed views)!

8. Mount the suction pipe (17) and the outlet pipe (16).
Pay attention to the marking of the low direction.
9. Assemble the housing cover (8) with fillister head screws (65 / 68 / 71).
10. Tighten the fillister head screws(65) crosswise with the tightening torque of 18 Nm.
11. Tighten the fillister head screws(68 and 71) with the tightening torque of 10 Nm.

14.6 Replacing the ball valves and suction pipes Unica 3-125-3/4" HZ

► Note

The version of the media valves of the standard pump is specified at the end of the operating manual.

The pumps can be clearly identified by the article number on the nameplate!

The description refers to the type Unica 3-125-3/4" HZ.

Mount the spring versions so as to ensure that the balls press on the lower parts of the cage (7).

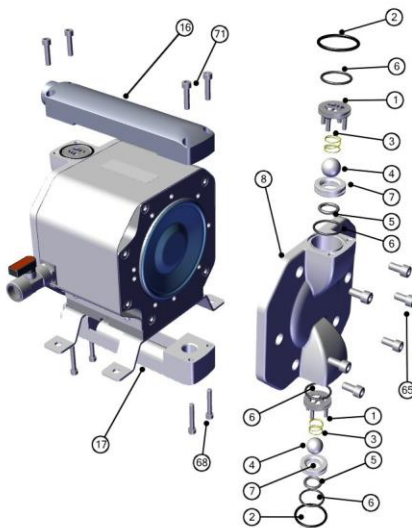


Fig. 2: Replacing the ball valves and suction pipes

1. Loosen the fillister head screws (65 / 68 / 71) at one of the housing covers (8) and remove the cover (8).
2. Remove the O-ring (2) and remove the upper valve cage (1) with the O-ring (6), the spring (3) and the valve ball (4) and the lower part of the cage (7) with the O-rings (5) and (6).
3. Remove the bottom valve cage (1) with O-ring (6), the spring (3) the lower part of the cage (7) with the O-rings (5) and (6) and the valve ball (4).
4. Remove the suction pipe (17) and the outlet pipe (16) with the O-rings (2).

5. Clean the parts with a suitable cleaning agent.
Previously, check the media compatibility!
6. Check the parts, especially the O-rings for damage and wear.
Replace defective components.
7. Mount the valve seats with valve ball and O-ring in reverse order.

 Note

Do not mix up upper and lower valve!

Observe the mounting direction of the lower parts of the cage (23, 25) and the dimensions of the O-rings (see the detailed views)!

8. Mount the suction pipe (17) and the outlet pipe (16).
Pay attention to the marking of the low direction.
9. Assemble the housing cover (8) with fillister head screws (65 / 68 / 71).
10. Tighten the fillister head screws crosswise with the tightening torque of 12 Nm.

15 Disposal

Before disposal, the product and the relevant hazardous substances transported must be decontaminated and emptied. The cleaned and dismantled product must be dismantled into its individual parts and disposed of in accordance with the applicable national regulations or returned to the material cycle.

16 Return shipment

A reshipment of the pump can only be sent back to the manufacturer / integrator after it has been completely cleaned and the decontamination has been confirmed.

You will receive the information you need from your integrator.

Note

- The pump must be flushed and the surface must be clean.
- If flushing is not possible, the media connections must always be sealed leak-tight to prevent the medium from running out.
- Always include a safety data sheet of the last pumped medium or cleaning agent with the returned pump.

17 Technical data

General data		
	Pumpe Unica 3-125 - 3/8" Hz	Pumpe Unica 3-125 - 3/4" Hz
Operating conditions	+5 ... +40 °C at a maximum relative humidity of 80%	
Maximum conveying output	ca. 28 l/min*	ca. 50 l/min*
	*(at 6 bar, outlet open, water)	
Drive	Pneumatic	
Compression ratio	approx. 3.5 : 1	
Liquid connections	Pressure side G 3/8 "BSP thread Suction side G 1/2 "BSP thread	Pressure an suction side: G 3/4 "BSP thread
Operating pressure	Maximum 6 bar compressed air, filtered acc. to DIN ISO 8573	
Compressed air connection	Pump: G1/2" thread	
Air connection	Minimum diameter: 13 mm, inner	
Suction height, dry	Maximum 4 m	
Weight	< 15 kg	
Maximum viscosity of conveyed medium	approx. 15,000 mPa•s	
Temperature of conveyed medium	+5 ... +65 °C	
Noise level	< 70 dB(A)	

Material of medium-carrying parts		
Housing	Stainless steel	
Pressure pipe	Stainless steel	
Diaphragm	Composite diaphragm PTFE/elastomer*	
Valve ball / spring	Stainless steel*	
Liquid seal	FEPM*	
Valve seat	Stainless steel	

18 Spare parts for standard model

► Note

Spare parts are only available through the wear parts packages. The packages differ depending on the selected variant. In this case the spare parts numbers are provided separately.

Use only original manufacture spare parts.

18.1 Diaphragm set

18.1.1 Diaphragm Unica 3-125-3/8", Art. No. 2436890

Pos.	Quantity	Description	
001	2	High pressure membrane	
002	2	Support disc	

18.1.2 Diaphragm Unica 3-125-3/4", Art. No. 2436891

Pos.	Quantity	Description	
001	2	High pressure membrane	
002	2	Support disc	

18.2 Valve Set

18.2.1 Valve set Unica 3-125 -3/8", Art. No. 2436886

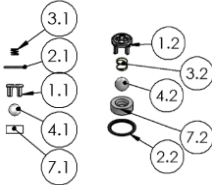
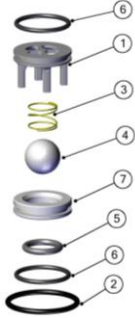
Pos.	Item No.	Quantity	
Pressure side			
1.1	N-FED-0,6x10,6x8,5-VA	2	
2.1	N-OR-25x2,5-FEPM	2	
3.1	Basket-RR-pressure side	2	
4.1	N-KU-16-VA	2	
7.1	PTI-MHD1050-ball seat-PTFE-16	2	
Suction side			
1.2	Basket	2	
2.2	Seal media tube-FEPM	2	
3.2	N-FED-0,8x15x12-VA	2	
4.2	N-KU-20-VA	2	
7.2	Ball seat-PTFE-20	2	

Fig. 3: Spare parts media valve

18.2.2 Valve set Unica 3-125 -3/4", Art. No. 2436887

Pos.	Beschreibung	Menge	 Abb. 4: Spare parts media valve
1	Basket for ball D20	4	
2	O-ring 36x3	4	
3	Spring 0.8 Di 15 H 21.5	4	
4	Ball 20 V4A	4	
5	O-ring 16x3-5	4	
6	O-ring 27x2.5	8	
7	Basket lower part for ball D20	4	

18.3 Service Set Pneumatic Unica 3-125 kpl, Art. No. 2436892 for Unica 3-125 -3/8", and Unica 3-125 -3/4"

Pos.	description	Quantity
58	N-OR-87x1.5	1
59	N-OR-67x1.5	1
43	N-OR-16x2	4
56	N-OR-13x2	2
55	N-OR-17x1.5	2
54	N-OR-19x1.5	1
52	N-OR-48x1.5	1
50	N-OR-72x2	1
46	N-OR-22x2	4
45	N-KD-Z8-2014-P5007	2
44	N-OR-25x2	1
40	N-OR-3x2	1
41	N-OR-59x2	1
39	Control valve slide on the side	1
53	Ceramic plate main valve	1
51	M3 main valve spool	1
42	M3 ceramic plate control valve	1
64	N-LS-ISO7380-M4-10	8
33	ET spring cover	2
34	N-OR-24x1.5	2
37	ET control spool piston rod	1
36	ET spring element on the side	2
35	N-FED-1.0x9.0x36	4
38	N-FED-6.4-0.63-18-6.5	1
20	J-SD3-1 / 2-VY	1
	PTI pneumatic grease pump	1
Fett: Service set pneumatic only seals		

19 Annex

19.1 Documentation of third-party manufacturers (optional)

Manufacture	Description
Timmer GmbH	Instruction Manual Intelligent Sensor

20 Translation EU Declaration of Conformity

Design: DOUBLE DIAPHRAGM PUMP

Types* (Manufacture): PTI-MHD1050-WG-iHz
PTI-MHD1050-WG-RMO-iHz

Type (Integrator): Pumpe Unica 3-125 - 3/4" HZ
Pumpe Unica 3-125 - 3/8" HZ

ATEX marking:   II 2 G Ex h ib IIB T4 Gb X
II 2 D Ex h ib IIIC T135°C Db X

This double diaphragm pump has been designed and manufactured in accordance with the following EC/EU directives:

Directive 2006/42/EC OJEU L157/24 of 17 May 2006

Directive 2014/34/EU, OJEU L 96/309 of 26 February 2014

under the sole responsibility of (manufacturer):

Timmer GmbH

Dieselstraße 37

D-48485 Neuenkirchen

www.timmer.de

The following harmonised standards have been applied:

EN ISO 12100:2010 Safety of machinery –

General principles of design – Risk assessment and risk reduction

EN 809:1998+A1:2009 Pumps and pump units for liquids – Common safety requirements

EN ISO 4414:2010 Pneumatic fluid power - General rules and safety requirements for systems and their components

DIN EN ISO 80079-36:2016: Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres– Basic method and requirements (ISO 80079-36:2016)

DIN EN ISO 80079-37:2016: Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non-electrical type of protection constructional safety "c", control of ignition sources "b", liquid immersion "k" (ISO 80079-37:2016)

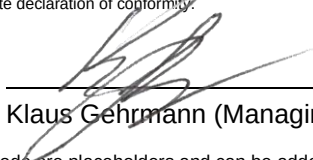
Person responsible for compiling the documentation: Timmer GmbH

Commissioning in potentially explosive atmospheres is prohibited until it has been ascertained that the special conditions specified in the installation and operating manual for the intended use in potentially explosive atmospheres have been met. The conformity of the built-in electrical device is confirmed by a separate declaration of conformity.

Address: See manufacturer

Neuenkirchen, April 2022

City, Date


Klaus Gehrman (Managing Director)

* The places marked with an "X" in the type code are placeholders and can be added accordingly.

Index

A

About this manual 6
Areas of applicability 7

B

Basic information concerning
safety 9

C

Check scope of delivery 22
Cleaning 33
Commissioning 28
Compliance with the instructions in
the operating manual 10
Connection pump 26
Control of residual emptying 31

D

Decommissioning 37
Dismantling the pneumatic valve
45
Disposal 52

E

Exploded-view drawing 40

F

Fault rectification 32
Foreseeable misuse 13

G

Guarantee and warranty 8

I

Installation 24
Installation of the pneumatic valve
46
Integrator-Informationen 7

Intended use 11

L

Labelling on the pump 13

M

Maintenance 35
Maintenance schedule 36
Mounting 25

N

Non-intended use 12

O

Operation 31
Operational prerequisites 11

P

Personal protective equipment 14
Preparations 25
Product description 23

Q

Qualifications of personnel 14

R

Regulating the delivery rate 31
Replacing components 38
Replacing the ball valves and
suction pipes 48, 50
Replacing the diaphragm 41
Replacing the pneumatic valve 43

S

Safety 9
Safety notices 16, 24, 28, 33, 35,
37, 38

Safety notices in the operating
manual 15
Service 36
Spare parts 54
Storage 22

T

Technical data 53

Translation EU Declaration of
Conformity 58
Transport 22
Typenschild 13

U

Use and safekeeping 6

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

