Documentation

Explosion-proof vacuum pump 34-570

(230 V connection)

TÜV-A 18ATEX0057 X
(Ex-proof shaded pole motor type Ex-3038-117/-65)

TÜV-A 18ATEX0058 X
(Vacuum pump M/K, pneumatic part)

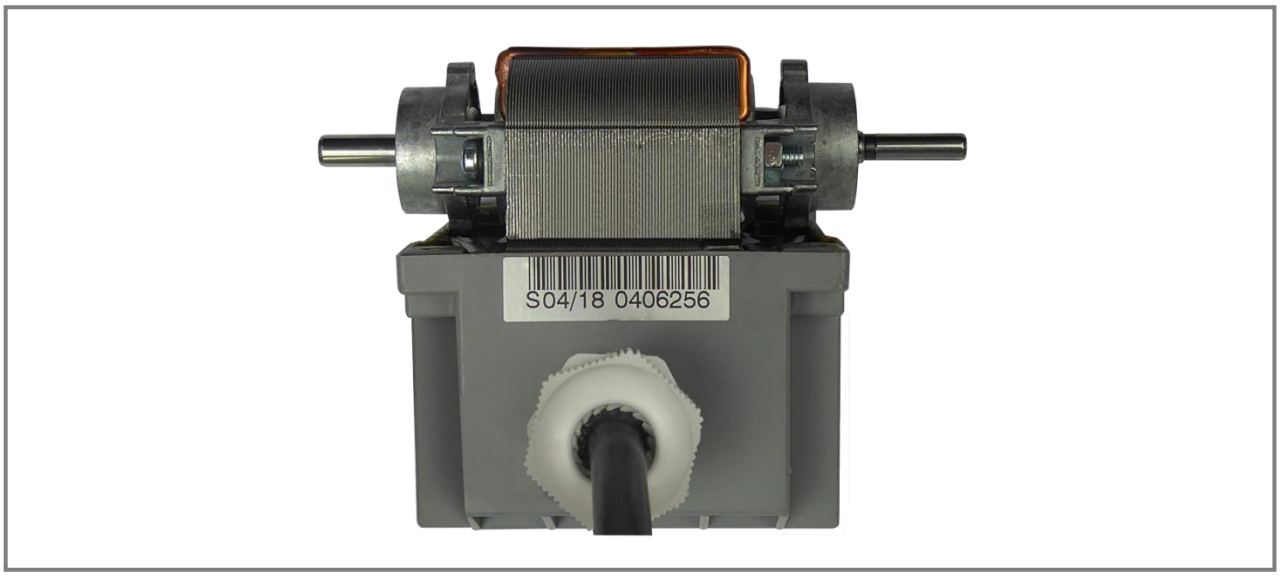
Please read the instructions before commencing any work
Last updated: 11/2019
Art.-No.: 648122

Documentation

Explosion-proof shaded pole motor

Type Ex-3038-65 and Ex-3038-117

TÜV-A 18ATEX0057 X



Please read the instructions before commencing any work

Last updated: 11/2019

Art. No.: 648162

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1 Subject

Explosion-proof shaded pole motor, category 1 for driving a membrane vacuum pump.

2 Field of application, or application conditions (application limitations)

(1) Motor for driving a vacuum pump for application in explosion-proof leak detectors in the following designs:

(2) Application of the motor in Zone 1 or Zone 2 (or outside the Ex-area) provided it is installed and operated in a housing with safety class IP 54 which has passed an impact test in accordance with EN 13463-1.

(3) The motor can be used for explosive vapor-air mixtures in gas groups II A, II B and hydrogen; with regard to temperature code 2 design variations are available:
- Type Ex-3038-117 for temperature code T3
- Type Ex-3038-65 for temperature code T4

(4) Temperature range (operation):
- Type Ex-3038-117: from - 20°C to +60°C.
- Type Ex-3038-65: from - 20°C to +45°C.

(5) Motor design: 100% duty cycle (continuous duty); it should be noted that the motor should be replaced after a maximum run time of 30,000 h[1].

3 Function Description

The motor with pump must be installed and operated in a housing as described above in which the additional switching and display elements of the leak detector are installed. It is used to maintain the vacuum of a leak detection system.

3.1 Normal Operating Condition

A leak-proof leak detection system (interstitial space, connection lines and leak detector) is assumed for the normal operating condition (sealing requirement must be maintained in accordance with the documents for the leak detector).

The motor (pump) is switched on as a result of a loss of vacuum due to an unavoidable leak and switched off again after the vacuum build-up. That is, the pump has short run times and longer downtimes depending on the size and seal tightness of the interstitial space.

3.2 Frequent operation of the pump up to continuous operation (= failure in the leak detection system)

In the event of a leak of the container or due to another leak, the motor (pump) may run continuously.

[1] The lifetime of the membrane is significantly below the lifetime of the motor. If a membrane is defective the entire pump (i.e. Incl. motor) should be replaced.

The cause for continuous operation such as this must be determined and remedied (see documentation for leak detector)

4 Intended Use

- Assembly of the pump in a housing of safety class IP 54, housing has passed an impact/shock test in accordance with EN 13463-1.
- Use only in leak detectors, other fields of application only after consultation with the manufacturer.
- Installation of the housing in Zone 1 or Zone 2.
- If the motor (the pump, or leak detector) is operated outside the Ex-area the operator is obliged to conduct a zone assessment in accordance with EN 60079-10 and to take appropriate measures.
- Installation position of the pump is discretionary.

5 Electrical connection

1. The electrical connection of the motor of the pump will be conducted by the manufacturer of the leak detector in an Ex-terminal box.
2. The grounding of the pump is ensured through the electrical connection.

5.1 Electrical data of the motor

(1)	Supply voltage:		230 V (±10%) – 50 Hz
(2)	Safety class of the motor:		IP 00
(3)	Nominal speed:		2600 1/min
(4)	Nominal output (discharge):		6 W
(5)	Recorded nominal output:		29 W
(6)	Power consumption at nominal speed:		235 mA
(7)	Thermal fuse	T3:	117°C
		T4:	65°C
(8)	Temperature switch (only T4):		60°C

6 Conditions for the replacement of a pump

If a pump needs to be replaced only the complete pump may be replaced. The following points must be taken into consideration:

1. Confirm that there is no gas present in and around the leak detector. Work may only be conducted if the concentration lies a min. of 50% below the LEL (lower explosion limit). It is recommended that you ensure that there is absolutely no gas present.
2. Disconnect the leak detector from the power supply and while doing so ensure that the potential equalization is maintained. Disassemble leak detector.
3. Replace pump outside of the explosive area.
4. Re-install the leak detector, connect to the electrical supply and put into operation.
5. Perform a functional check on the leak detector

7 Marking

- Type
- Manufacturer or manufacturer symbol, with address
- CE - symbol
- Number of the audited location
- Year (month/year)
- Serial No.
- Approval number
- Ex 2 G IIB T4 (+H_2) or II Ex G IIB T4 (+H_2)

8 Declaration of Conformity

We,

SGB GmbH

Hofstr. 10

57076 Siegen

Germany,

hereby declare in sole responsibility that the motors

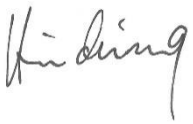
Ex-3038-65 and Ex-3038-117

are in conformity with the essential requirements of the EU regulations listed below.

In case the device is modified or used in a way that has not been agreed with us, this declaration shall lose its validity.

Number/short title	**Satisfied regulations**
2014/30/EU EMC Directive	EN 61000-6-1: 2016 EN 61000-6-2: 2006 EN 61000-6-3: 2012 EN 61000-6-4: 2011
2014/34/EU Equipment for EX Areas	TÜV-A ATEX 0057 X with: EN 60079-0:2012 + A11:2013 EN 60079-7:2015 EN 60 079-18: 2015
Notified body: with the code number:	TÜV Austria Services GmbH 0408

Conformity is declared by:



As of: 02/2019

ppa. Martin Hücking
(Technical Director)

9 EU Type-examination certificate

ZERTIFIKAT | CERTIFICATE | CERTIFICAT | CERTIFICADO | СЕРТИФИКАТ | شهادة | 证书 | 인증서

TÜV AUSTRIA

Certificate

(1) **EU - TYPE EXAMINATION CERTIFICATE**

(2) Equipment or Protective System Intended for use in potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3) Certificate Number: TÜV-A 18ATEX0057 X

(4) Product: Motor, Type Ex-3038-65
Serial no.: Motor, Type Ex-3038-117

Online Verification

(5) Manufacturer: SGB GmbH

(6) Address: Hofstraße 10
57076 Siegen
GERMANY

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) TÜV AUSTRIA SERVICES GMBH, Notified Body number 0408, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report No. TUV-A 2018-TAD-000045_2.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012/corr. 2013 EN 60079-18:2015 EN 60079-7:2015

except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

II 2 G Ex eb mb IIB+H2 T4 Gb (Typ Ex-3038-65)

II 2 G Ex eb mb IIB+H2 T3 Gb (Typ Ex-3038-117)

Filderstadt	12.07.2018	Michael Reuschel
Ort *Place*	Datum *Date*	freigegeben durch approved by

Deutschstraße 10
AT-1230 Vienna
Phone: + 49 711 722 336-18
Email: explosionsschutz@tuv.at
Web: www.tuv-ad.de

Akkreditierung Austria A 0274 ISO/IEC 17020

005118-17-4

(13) # ANNEX

(14) EU - TYPE EXAMINATION TÜV-A 18ATEX0057 X

(15) **Description of Product**

The motor with pump is mounted and operated in a housing in which the other switching and display elements of the leak detector are mounted. It is used to maintain the negative pressure of a leak detection system.

Type	**Ex-3038-65**	**Ex-3038-117**
Power [P1]	29 W	29 W
Power [P2]	6 W	6 W
Voltage [V AC]	230V	230V
Frequency [f]	50 Hz	50 Hz
Current [I_n]	235 mA	235 mA
Driving speed [n]	2600 1/min	2600 1/min
Duty cycle	S 1	S 1
Manufacturer compound	Henkel AG & Co. KGaA	Henkel AG & Co. KGaA
Type compound	LOCTITE® EA 9483	LOCTITE® EA 9483
Temperature fuse	65 °C	117 °C
Temperature switch	60 °C	--

Additional specification acc. explosion protection:

Group:	II	
Category:	2 G	
Equipment protection level:	Gb	
Type(s) of protection	Ex eb mb	
Temperature class:	T4 (Typ Ex-3038-65) T3 (Typ Ex-3038-117)	
Explosion group:	IIB + H_2	
Temperature range T_{amb}	Typ Ex-3038-65 -20°C bis +40°C „X“: -20°C bis +45°C	Typ Ex-3038-65 -20°C bis +40°C „X“: -20°C bis +45°C
Rel. humidity	15% bis 90% r. H. not condensed	
IP Rating:	IP 00	

Deutschstraße 10
AT-1230 Vienna
Phone: + 49 711 722 336-18
Email: explosionsschutz@tuv.at
Web: www.tuv-ad.de

(16) **Test report**

TUV-A 2018-TAD-000045_2

(17) **Special conditions of use**

The "X" sign after the certificate number indicates special operating conditions.
The intended use of the device, which is specified by the manufacturer, must be observed.

The following additional "Special conditions" for safe installation and operation of the equipment must be included in the EU-Type Examination Certificate

The motor may only be operated in a housing, which min. corresponds IP rating IP 54 and meets the housing requirements of EN 60079-0.

In order to avoid effective sources of ignition, caused by the shaft bearing of the motor, the motor must be replaced after 30,000 hours at a duty cycle of ED = 100%.

The installation, including the wiring, is carried out by the installer and must be carried out in accordance with the requirements of EN 60079-14.

(18) **Essential health and safety requirements**

Met by the standards mentioned above.

Filderstadt	12.07.2018	Michael Reuschel
Ort *Place*	Datum *Date*	freigegeben durch approved by

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Deutschstraße 10
AT-1230 Vienna
Phone: + 49 711 722 336-18
Email: explosionsschutz@tuv.at
Web: www.tuv-ad.de

Warranty

Dear customer,

You have purchased a high-quality leak detector from our company.

All of our leak detectors undergo a 100% quality control examination. The type plate with the serial number is only affixed after all test criteria have been complied with.

The **warranty period** for our leak detectors is **24 months**, beginning on the date of installation on site. The maximum warranty period is 27 months from our date of sale.

Our warranty will be effective only if the customer submits to us the functional report or test report on initial putting into service, prepared by a recognised company specialised in water and water protection systems, including the serial number of the leak detector.

The warranty shall not apply in the event of faulty or improper installation or improper operation, or if modifications or repairs are carried out without the manufacturer's consent.

The warranty is also subject to our General Terms and Conditions of business (see these online at: www.sgb.de/en/contact/imprint.html).

In case of malfunction, please contact your local specialist company:

Stamp of the specialist company

Yours sincerely

SGB GmbH
Hofstr. 10
57076 Siegen
Germany

Phone: +49 271 48964-0
E-mail: sgb@sgb.de
Web: www.sgb.de

Documentation

Vacuum pump, pneumatic part

M 30-570 and K 500-950

TÜV-A 18ATEX0058X

Please read instructions prior to commencing any work
As of: 11/2019
Art. No.: 648052

Table of Contents

1. General

1.1 Information

This manual provides important information on handling the vacuum pump M 30-570/K 500-950. The pre-requisite for workplace safety is the adherence to all safety and handling instructions specified in this manual.

Furthermore, any local regulations for prevention of accidents applicable at the site of use of the pump and general safety instructions must be complied with.

1.2 Explanation of Symbols

In these instructions, warnings are marked with the adjacent symbol.

The signal word expresses the level of hazard.

DANGER:
Imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING:
Potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION:
Potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

Information:
Highlights useful tips, recommendations and information.

1.3 Limitation of Liability

All information and instructions in this documentation have been compiled considering the applicable norms and regulations, the state of the art and our longstanding experience.

SGB does not assume any liability in the case of:

- Noncompliance with these instructions
- Improper use
- Use by unqualified personnel
- Unauthorized modifications
- Connection to systems not approved by SGB

1.4 Copyright

The contents, texts, drawings, images and other representations are copyrighted and subject to industrial property rights. Any misuse is punishable.

1.5 Warranty Conditions

The warranty conditions on site for the pump are 24 months from the date of installation.

The maximum warranty period is 27 months from our date of sale.

Warranty conditions are subject to submission of the functional/test report on initial commissioning by trained personnel.
Stating the serial number of the leak detector is required.

The obligation of warranty shall cease to exist in case of
- inadequate or improper installation,
- Improper operation, e.g. excessively long run times for the pump and with it failure of a wear and tear part,
- Modifications/repairs without consent of the manufacturer.

1.6 Customer Service

Our customer service is available for any inquiries.

For information on contacts, please refer to our website www.sgb.de or the label of the display unit.

2. Safety

2.1 Intended Use

WARNING!

Danger from misuse

- Only for use in leak detectors, other fields of application only after consultation with the manufacturer.
- Material resistance must be reliable
- Grounding, or potential equalization in accordance with applicable regulations (e.g. EN 1127)
- Assembly of the pump in a housing of safety class IP 54, housing has passed an impact/shock test in accordance with EN 13463-1.
- Assembly of the housing in Zone 1, Zone 2 or outside the explosive area, whereby the pump, depending on the interior design can be a Category 1, or 2.
- Explosive vapor-air mixtures and pressures see technical data
- Ambient temperature max. 90°C
- Installation site of the pump and the detonation flame arresters as desired, the tank is always the component which should be protected.

Any claims arising from misuse are excluded.

2.2 Obligation of the Operating Company

The detonation flame arrester is used in the commercial sector. The operating company is therefore subject to statutory occupational safety obligations.

In addition to the safety instructions in this documentation, all applicable safety, accident prevention and environmental regulations must be adhered to. In particular:

WARNING!

Danger in case of incomplete documentation

- Preparation of a risk assessment, in particular it should be noted when the pump (the leak detector) is installed outside the explosive area, and implementation of the results into operating instructions
- Performing regular checks as to whether the directive is in compliance with the current standards
- The directive includes, among others, how to react to an alarm that might arise
- Arranging for an annual functional check

2.3 Qualification

WARNING!

Danger to humans and the environment in case of inadequate qualification

The personnel must be capable of independently recognizing and avoiding potential risks based on their qualifications.

Companies commissioning leak detectors should have completed respective training with SGB, through SGB or its authorized representative.

National guidelines must be adhered to.

For Germany: Technical service qualification for assembly, commissioning and maintenance of leak detection systems.

2.4 Personal protective equipment (PPE)

Personal protective equipment must be worn during work.

- Wear necessary protective equipment for the relevant work
- Note and comply with existing PPE signs

Entry in the "Safety Book"

Wear suitable HV vest

Wear suitable safety footwear

Wear suitable hard hat

Wear suitable gloves – where necessary

Wear safety goggles – where necessary

2.5 Fundamental Hazards

DANGER

from explosive vapor-air mixtures

Explosive vapor-air mixtures can exist in the sensors, connection lines and the pump unit.

Ensure there is no gas present prior to performing work.

Comply with explosion regulations, e.g. BetrSichV (and/or directive 1999/92/EC and the laws of the respective member states resulting therefrom) and/or others.

DANGER

from working in chambers

The detonation flame arresters are installed, among other things, in access chambers. Therefore, the chamber must be entered for assembly.

Before inspecting the appropriate protective measures should be taken. Ensure no gas is present and that sufficient oxygen is available.

3. Technical data of the detonation flame arrester

3.1 General Data

Dimensions, M 30-570	W x H x D = 43 x 82 x 43 mm
Dimensions, K 500-950	W x H x D = 46 x 105 x 54 mm
Weight, M 30-570	0.4 kg
Weight, K 500-950	0.5 kg
Storage temperature range	-40°C to +100°C
Operating temperature range	-40°C to +90°C
Permissible operating pressure:	0 to -995 mbar
Permissible overpressure:	0 to 100 mbar

3.2 EX data

Temperature code:	T1 to T4
Gas group:	IIA to IIB3 or II C, depending on design
Category, exterior:	2
Category, interior:	2
As before, however with F 501:	1, to IIB3
As before, however with F 502:	1, to IIC

3.3 Field of Application

Usually the pump is used in vacuum leak detectors in order to create the negative pressure for monitoring.

The exhaust line is generally connected to the tank ventilation, due to the limitation of the overpressure in the exhaust line (pressure line) the following length limitations of the exhaust line result:

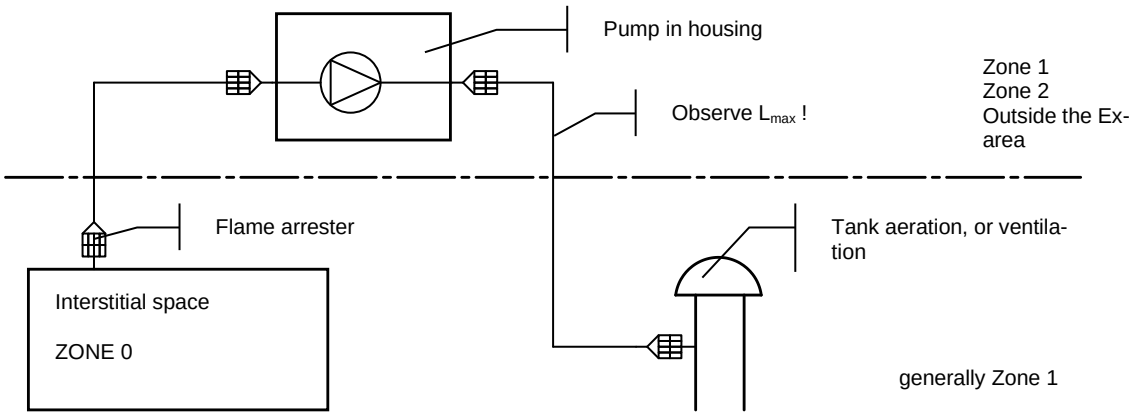
M 30-570,	**with F 501**	**with F 502**
4 mm clear width:	max. 15 m	max. 10 m
6 mm clear width:	max. 50 m	max. 50 m
K 500-950,	**with F 501**	**with F 502**
4 mm clear width:	max. 10 m	max. 5 m
6 mm clear width:	max. 25 m	max. 45 m

Other applications are possible if the conditions of the authorization and this documentation are met.

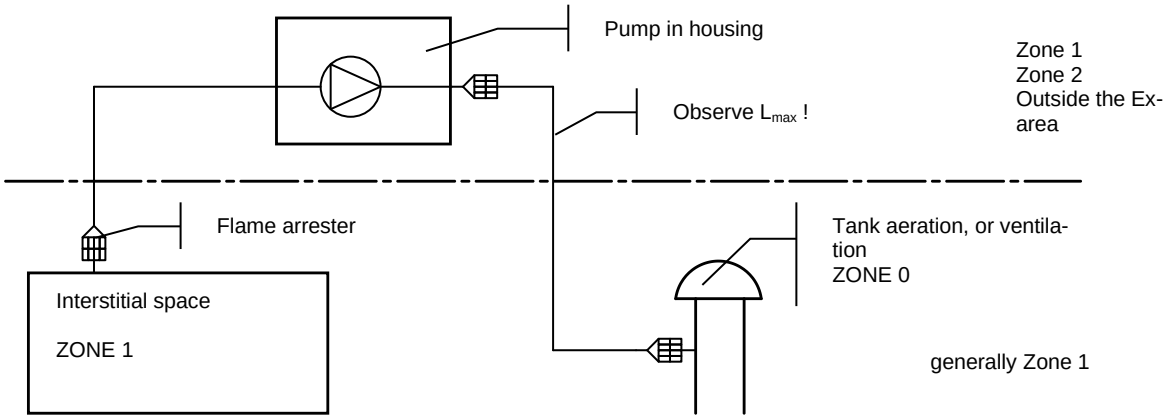
Pump design: 100% DC (duty cycle)

The drive power of the motor may not exceed 65 watt (output power at the shaft).

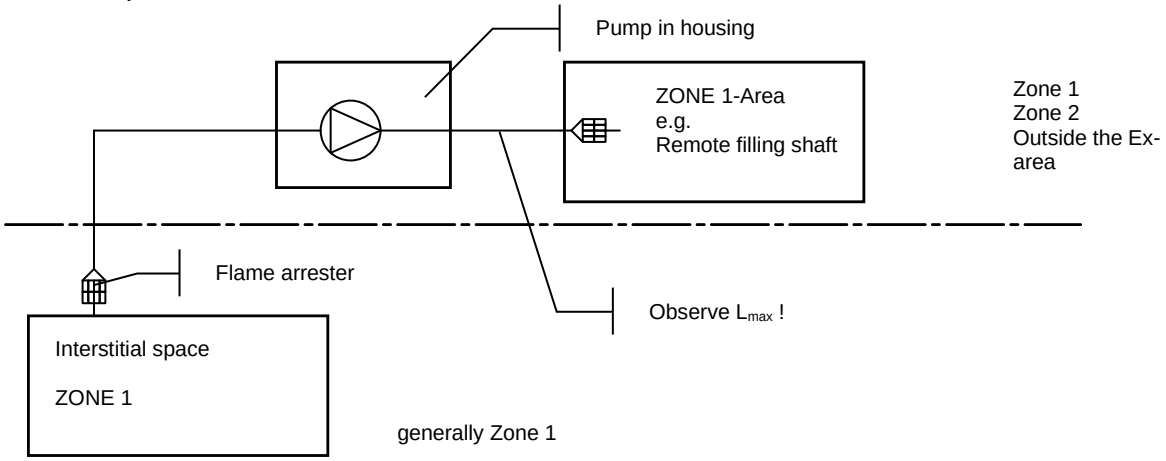
3.3.1 Interstitial space Zone 0 and exhaust line Zone 0



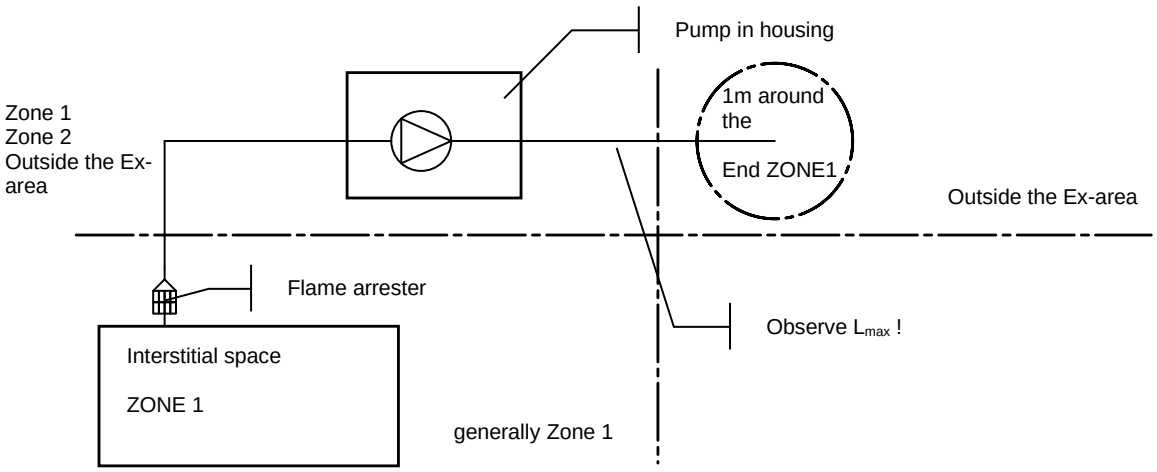
3.3.2 Interstitial space Zone 1 and exhaust line Zone 0



3.3.3 Interstitial space Zone 1 and exhaust line Zone 1



3.3.4 Interstitial space Zone 1 and exhaust line outside every zone (outdoors)



3.3.5 Materials

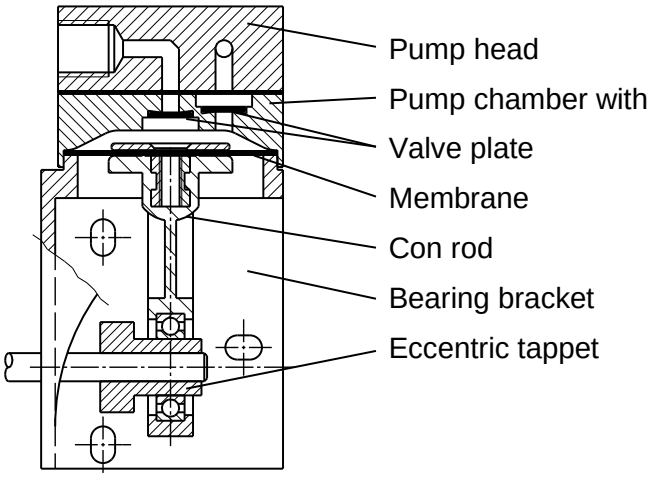
The materials used must be resistant to the relevant vapors and liquids.

4. Design and Function

4.1 Design

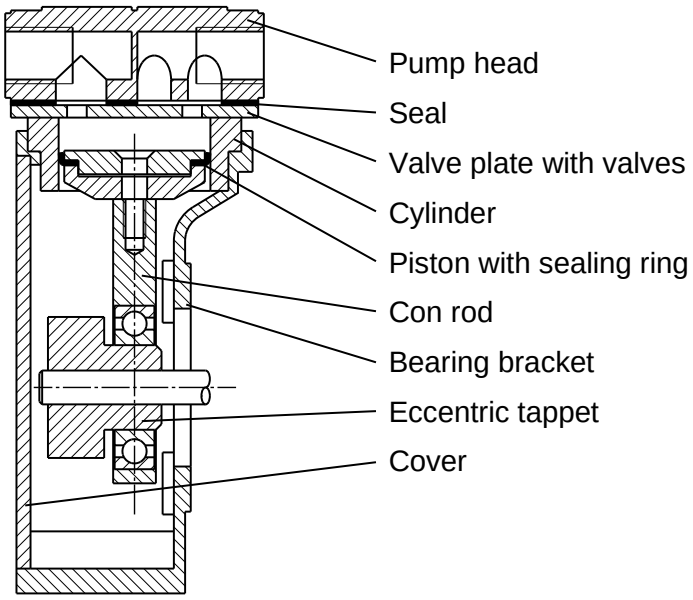
4.1.1 Type M 30-570

The Type M 30-570 is a membrane pump. The membrane is powered by an eccentric tappet and the eccentric tappet is fastened on a motor shaft.



4.1.2 Type K 500-950

The Type M 500-950 is a piston pump. The piston is powered by an eccentric tappet and the eccentric tappet is fastened on a motor shaft.



4.2 Function

The pump must be installed and operated in an above-described housing. The additional switching and display elements of the leak detector may also be installed in it. It is used to maintain the vacuum of a leak detection system.

4.3 Normal operating condition

A leak-proof leak detection system (interstitial space, connection lines and leak detector) is assumed for the normal operating condition (sealing requirement must be maintained in accordance with the documents for the leak detector).

The pump is switched on as a result of a loss of vacuum due to an unavoidable leak and switched off again after the vacuum build-up. That is, the pump has short run times and longer downtimes depending on the size and seal tightness of the interstitial space.

4.4 Frequent operation or continuous operation of the pump

In the event of a leak of the container or due to another leak the pump may run continuously. It is designed for 100% duty cycle (with regard to the Ex-protection, wear and tear parts such as the membrane are not taken into consideration here), up to an ambient temperature of 60°C.

The motor flange-mounted to the pump must also be designed for 100% duty cycle. The operating conditions of the motor must be included in the ignition risk assessment for the leak detector and the corresponding data (e.g. ambient conditions, thermal fuses ...), which results from the approval of the motor, identified.

5. Assembly and maintenance of the pump

5.1 Basic Instructions

- Prior to commencing work, the documentation must be read and understood. In case of ambiguities, please refer to the manufacturer.
- The safety instructions in this documentation must be adhered to.
- Comply with relevant regulations for prevention of accidents.
- Comply with Ex provisions (provisions found in Directive 1999/92/EC such as Betr.Sich.V)

5.2 Assembly

- As a general rule the pump is screwed together with a motor in the manufacturer's factory.
- The motor must be approved, or evaluated for the intended use.
- Installation of the motor only in the appropriate, suitable housing.

5.3 Electrical connection

- The electrical connection of the motor of the pump will be conducted by the manufacturer of the leak detector in an Ex-"e" terminal box.
- Potential equalization must be ensured

5.4 Maintenance / Replacement of the pump

- In general, the pump is maintenance-free, functionality is ensured via the annual inspection of the leak detector.
- Should operating noise be heard on the pump then it should be replaced.

The following points must be taken into consideration:

- Confirm that no gas is present in and around the leak detector, work may only be conducted if the concentration lies a min. of 50% below the LEL (lower explosion limit). It is recommended that you ensure that there is absolutely no gas present.
- Disconnect the leak detector from the power supply and while doing so ensure that the potential equalization is maintained. Disassemble leak detector.
- Replace pump outside of the explosive area.
- Re-install the leak detector, connect to the electrical supply and put into operation.
- Functional check of the leak detector

6. Disassembly and Disposal

6.1 Disassembly

Make sure the unit is free of gas before and during removal

Comply with, or produce grounding/potential equalization of the components.

Seal any openings gas-tight through which an explosion atmosphere can carry over.

Avoid using spark-producing tools (saws, parting grinders, etc.) for disassembly whenever possible. Should this be unavoidable, however, comply with EN 1127 or the area must be free of explosive atmosphere.

Avoid the build-up of electrostatic charges (e.g. through friction).

6.2 Disposal

Properly dispose of contaminated components (possibly through outgassing).

7. Appendix

7.1 Heating

7.1.1 General

The heating is only planned for model “M”. It serves to maintain the membrane’s flexibility and prevents the check valve in the vacuum line from icing up.

The heating is part of the pump and is usually installed in a housing with type of ignition protection “e”.

7.1.2 Description of the function and explosion protection

The heating is used purely as frost protection. I.e., when the temperature falls below the lower switch point, the temperature switch, which can be reset, switches on the heating and switches it off again once the upper switch point has been reached.

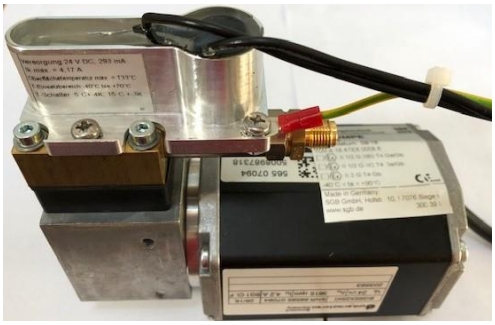
The heating (heat resistance) and temperature switch are cast (type of ignition protection “m”). The temperature switch meets the conditions of a safe component, meaning no thermal fuse is required and it is suitable for casting.

7.1.3 Technical Data

Dimensions, M 30-570	W x H x D = 43 x 82 x 43 mm
Storage temperature range	-40°C to +100°C
Operating temperature range	-40°C to +90°C
Lower switch point (ON)	+5°C ± 4K
Upper switch point (OFF)	-15°C ± 3K
Power supply	24 V DC, 300 mA
Fuse (via the leak detector)	2 A (1500 A)
Overvoltage category	2

7.1.4 Potential equalization

The potential equalization of the heating is integrated in the potential equalization of the device.



7.1.5 Mounting

The heating is mounted at the manufacturer’s factory and installed as a unit in the leak detector.

7.2 Declaration of Conformity

We,

SGB GmbH

Hofstrasse 10

57076 Siegen, Germany,

hereby declare in sole responsibility that the components

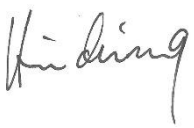
Vacuum pump M 30-570 and K 500-950

are in conformity with the essential requirements of the EC directives listed below.

In case the device is modified or used in a way that has not been agreed with us, this declaration shall lose its validity.

Number/short title	Satisfied regulations
2014/34/EU Equipment for EX Areas	TÜV-A 18 ATEX 0058 X with: EN 80079-36:2016 EN 80079-37: 2016 EN 60079-18:2015 (Heating) EN 60079-0:2012/A11:2013 (Heating) PTB 02 ATEX 4012 X (Detonation flame arrester F 501) PTB 09 ATEX 4002 (Detonation flame arrester F 502) Each with: EN 16852:2017 Marking of the components: II 2 G Ex h IIB T4 Gb (without detonation flame arrester) 1/2 G Ex h IIB3 T4 Ga/Gb (*with F 501)* 1/2 G Ex h IIC T4 Ga/Gb (*with F 502)* Marking of the components (each with heating): II 2 G Ex h mb II B T4 Gb (without detonation flame arrester, with heating) 1/2 G Ex h mb IIB3 T4 Ga/Gb (with *F 501, with heating)* 1/2 G Ex h mb IIC T4 Ga/Gb (with *F 502, with heating)*
Notified body: With the code number:	TÜV Austria Services GmbH: 0408

Conformity is declared by:



As of: 06/2019

ppa. Martin Hücking
(Technical Director)

7.3 Ex-approval

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TÜV AUSTRIA

Certificate

(1) EU - TYPE EXAMINATION CERTIFICATE

(2) Equipment or Protective System Intended for use in potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3)	Certificate Number:	TÜV-A 18ATEX0058 X
(4)	Product:	Vacuum pump M 30-570 und K 500-950
(5)	Manufacturer:	SGB GmbH
(6)	Address:	Hofstraße 10 57076 Siegen GERMANY

Online Verification

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) TÜV AUSTRIA SERVICES GMBH, Notified Body number 0408, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report No. TUV-A 2018-TAD-000046

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN ISO 80079-36:2016 EN ISO 80079-37:2016

except in respect of those requirements listed at item 18 of the Schedule.

(10) If the sign "X" is placed after the certificate number indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

Without detonation arrestor:	**Ex II 2 G Ex h IIB T4 Gb**
With detonation arrestor 501:	**Ex II 1/2 G Ex h IIB T4 Ga/ Gb**
With detonation arrestor F 502:	**Ex II 1/2 G Ex h IIC T4 Ga/ Gb**

Filderstadt	31.07.2018	Michael Reuschel
Ort *Place*	Datum *Date*	freigegeben durch approved by

TÜV AUSTRIA SERVICES GMBH
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TÜV AUSTRIA

(13) # ANNEX

(14) EU - TYPE EXAMINATION TÜV-A 18ATEX0058 X

(15) **Description of Product**

The pump is used to maintain the negative pressure of a leak detection system. Type M 30-570 is a diaphragm pump.
The type K 500-950 is a piston pump.

The pump must be mounted and operated in a suitable housing. In this also the other switching and display elements of the leak detector can be mounted.

The detonation arrestor comes with a corresponding EU-type examination certificate in accordance with Directive 2014/34/EU.

Technical data power supply

Type	M 30-570	K 500-950
Dimensions	B x H x T = 43 x 82 x 43 mm	B x H x T = 46 x 105 x 54 mm
Weight	0,4 kg	0,5 kg
Storage temperature	-40°C to +100°C	
Permissible operating pressure	0 to -995 mbar	
Tolerated overpressure	0 to 100 mbar	
Drive motor P_{max}	65 W	
Drive motor N_{max}	3000 1/min	

Additional specification acc. explosion protection:

	Without detonation safety barrier	With detonation safety barrier F 501	With detonation safety barrier F 502
Group:		II	
Category	2 G	1/2 G	1/2 G
Equipment protection level:	Gb	Ga / Gb	Ga / Gb
Type(s) of protection		Ex h	
Temperature class:		T4	
Explosion group:	IIB	IIB3	IIC
Temperature range T_{amb}		-20°C bis +40°C „X": -40°C bis +90°C	
Rel. humidity	15% bis 90% r. F. non-condensing		

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(16) **Test report**

TUV-A 2018-TAD-000046

(17) **Special conditions of use**

The "X" sign after the certificate number indicates special operating conditions.

The intended use of the device, which is specified by the manufacturer, must be observed.

An extended temperature range of -40 ° C ≤ Ta ≤ + 90 ° C

The vacuum pump shall only be operated in a housing which has a min. degree of protection of IP 54 and meet the housing requirements of EN 60079-0.

(18) **Essential health and safety requirements**

Met by the standards mentioned above.

Filderstadt	31.07.2018	Michael Reuschel
Ort *Place*	Datum *Date*	freigegeben durch approved by

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AT-1230 Vienna
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7.4 Marking

Type

Manufacturer or manufacturer symbol

Year (month/year)

Serial number

Approval number

Identification of the notified body

Applications without detonation flame arrester:

⟨Ex⟩ II 2 G T4

Applications with detonation flame arrester F 501:

⟨Ex⟩ 1/2 G IIB3 T4

Applications with detonation flame arrester F 502:

⟨Ex⟩ 1/2 G IIC T4

Contact

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