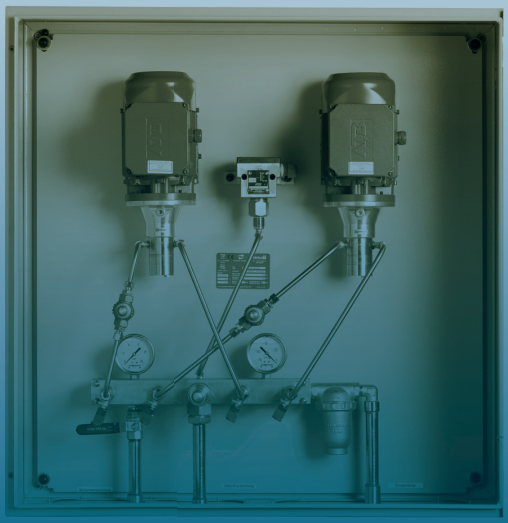


Installation, service and operating manual for feeder pump assemblies Type SIMKA RL METHANOL

simka

SIMKA RL METHANOL

Closed ring circuit pump assemblies

The unit has to be installed exclusively by authorized qualified personnel. Type SIMKA RL Methanol pump assemblies are specified for installation in a closed ring circuit (see application example).

Installation for continuous operation:

Using the pressure holding valve, the line pressure is adjusted to the pressure required by the system between the minimum of 0.8 bar and the maximum of 6 bar. Switch on the device at the control box and hold the started button down until the device continues running by itself. If pressure falls to 0.5 bar (due to line rupture, empty tank, etc.) switch the device to the error mode.

The internal gear ring pumps in the assemblies are self priming and can draw the substance up to a level of approx. 3 meters (see suction diagram). However, the assemblies must be depressurized to achieve the suction effect. Therefore, all pressure-side valves should be opened during suction. When the substance has been sucked in, the shut-off devices can be closed.

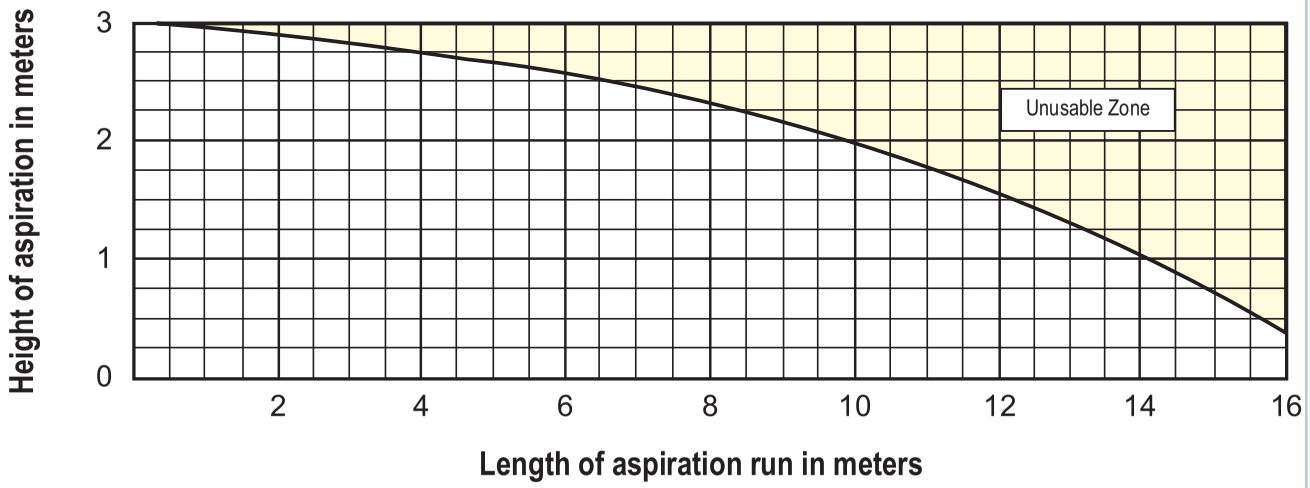
Pressure relief and drain valves:

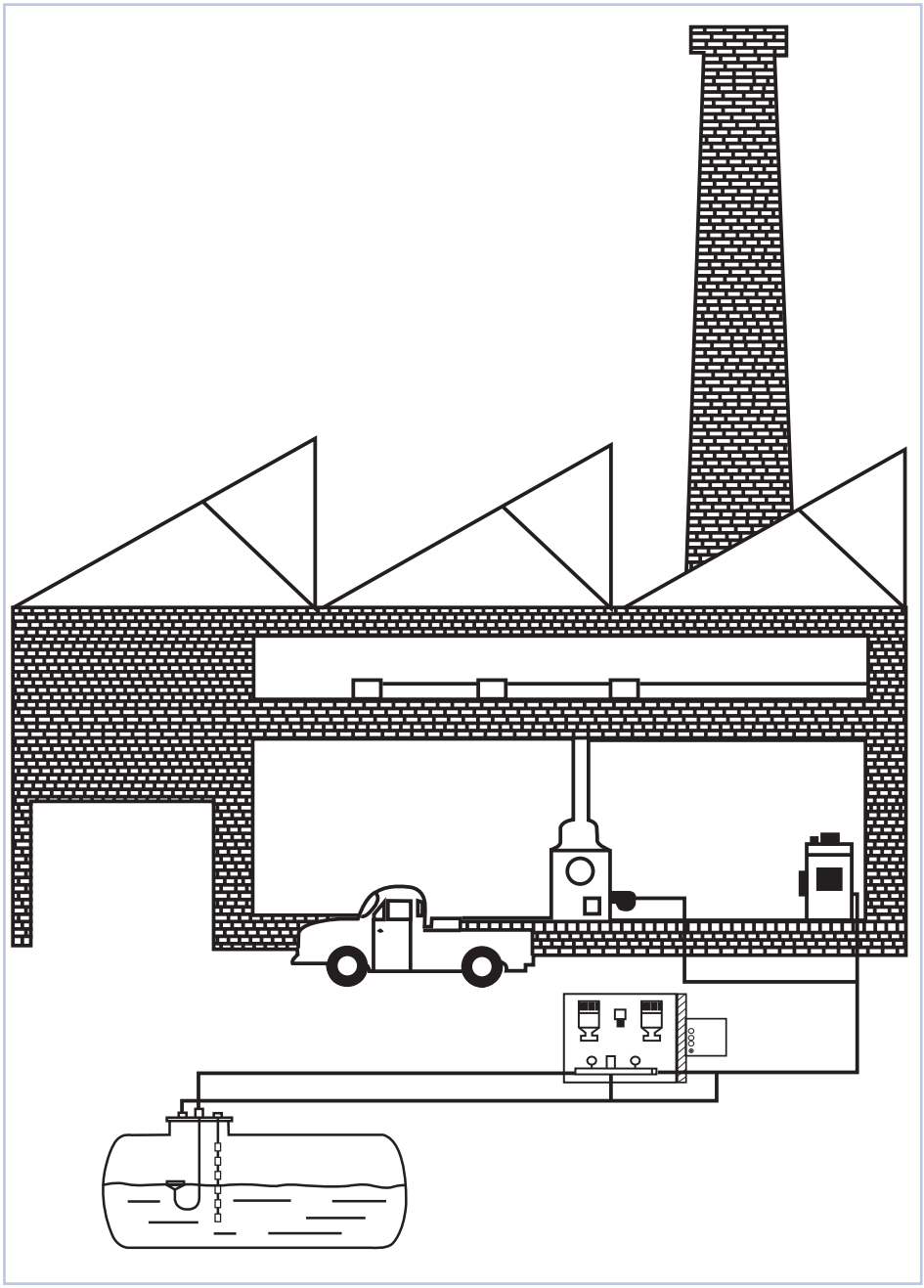
An angle, relief and drain valve is built in. German regulations for flammable liquids (VbF) require the relief and drain valve to be connected with the return line. There is a knurled ring on the angle, relief and drain valve. When this knurled ring is screwed in, this is the position for the relief valve. By turning the knurled ring counter clockwise, the valve is used to drain the system, which is then depressurised. The normal position is with the knurled ring turned clockwise until the stop is reached.

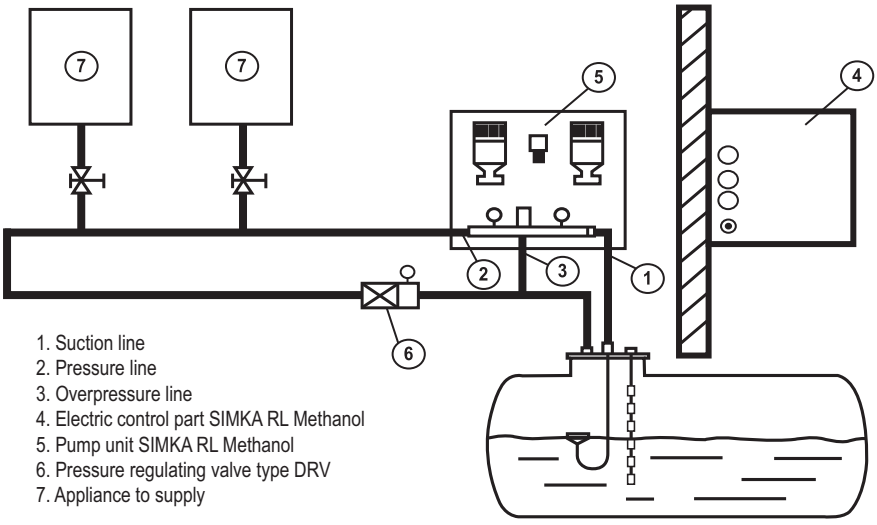
Pressure relief line:

With several kinds of tanks, the pressure relief line must always be connected to the tank from which the liquid is drawn (see VbF).

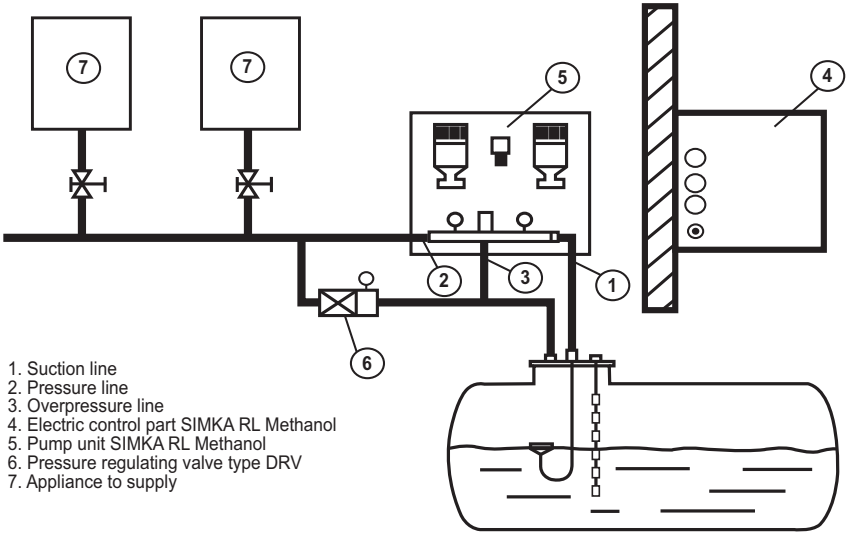
Suction diagram SIMKA RL Methanol pumps







1. Suction line
2. Pressure line
3. Overpressure line
4. Electric control part SIMKA RL Methanol
5. Pump unit SIMKA RL Methanol
6. Pressure regulating valve type DRV
7. Appliance to supply



1. Suction line
2. Pressure line
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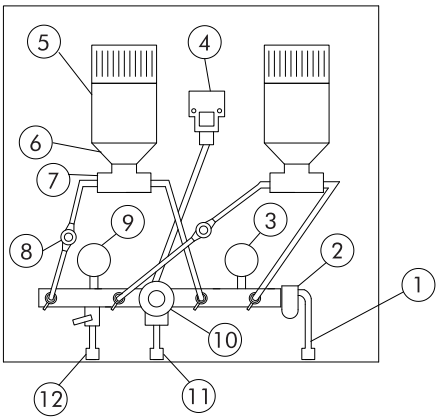
4. Electric control part SIMKA RL Methanol
5. Pump unit SIMKA RL Methanol
6. Pressure regulating valve type DRV
7. Appliance to supply

Hydraulic unit SIMKA RL Methanol

Parts description

1. Suction pipe
2. Filter
3. Vacuum gauge
4. Pressure switch-low presure security
5. Triphase motors
6. Magnetic coupling
7. Gear pump
8. Anti return valve
9. Pressure gauge
10. Overpressure control valve
11. Overflow pipe
12. Pressure pipe



RL hydraulic driving unit for ring transferring system, in double pump version, special version for methanol, in safety steel cabinet

- 2 gear pumps with magnetic hermetic couplings, self aspirating, ATEX protection (EX 11 z GDcX[1])
- 2 triphase motors 230/400 Volt, ATEX protection (EX 11 2GEExe 11 T4 IP55[1])
- 2 anti return valves with mounted Cu-pipes
- 5 quick shutoff valves
- Filter with sintered bronze sieve and brass filter cup
- Vacuum gauge, manometer 6,5 bar
- Overpressure valve
- Pressure switch for protection against dry run or pipe failure controlled through relay, ATEX protection (EX 11 2 GD EEX de 11C T6 IP65[1])
- Connections (suction, pressure, overpressure): 1/2" inside thread
- Protection type: IP54
- All parts are assembled in a protection cabinet of approx.: 800 x 800 x 300 mm

ATEX certifications for the parts are sent with the equipment.
Indications: Electric connection wiring must be conducted with plastic NYKY cables with lead casing.
The hydraulic unit is manufactured according to:
TRbF 100 and TRbF 110 EX protected installations:

VDE 170/171 corresponding to DIN 50014 as well as DIN 50020
VDE 165 corresponding to DIN 57165

Technical modifications can be applied.

(1) ATEX-Equipment and Protective systems intended for use in Potentially Explosive Atmospheres based on European Directive 94/9/EC.

Technical data hydraulic unit

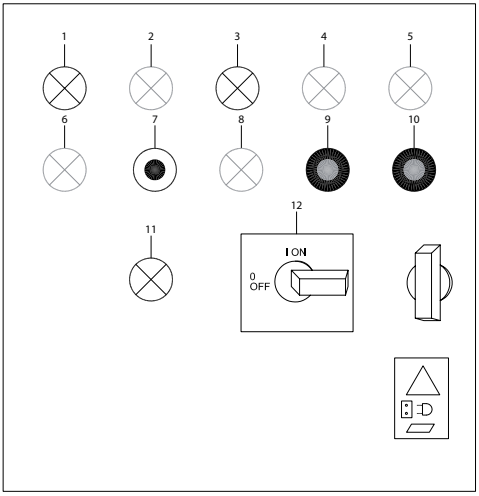
The dual assembly was developed for pumping methanol. It is equipped with a magnetic clutch and electrical components which correspond to high-safety type "e" for protection against explosion.

TYPE	MAX. FLOW	FEEDING FLOW	UNIT CONNECTIONS			SUPPLY VOLTAGE	MOTOR POWER	OVERPRESSURE VALVE OPEN AT	DIMENSIONS	WEIGHT
	l/h	l/h	SUCTION	DRIVE	OVERPRESSURE	Volt	kW	bar	mm	kg
RL 140 ZW METHANOL	140	70	1/2"	1/2"	1/2"	230/400 TRIPHASE	0,25	6,5	800 x 800 x 300	65
RL 260 ZW METHANOL	260	130	1/2"	1/2"	1/2"	230/400 TRIPHASE	0,25	6,5	800 x 800 x 300	74

Electrical – control cabinet SIMKA RL Methanol

Parts description

1. P1 Operation
2. Low Pressure Alarm
3. P2 Operation
4. Low Pressure Alarm P1
5. Low Pressure Alarm P2
6. Alarm Pump 1
7. Start
8. Alarm Pump 2
9. Start P1
10. Start P2
11. Pumpset Operation
12. Mains Switch



Electrical -control cabinet, scope of delivery

Automatic alternating switch with internal timer for double ring pump system, consisting of:
- 2 pcs. motor protect switches
- Start-up button
- Operating lamp
- Malfunction warning lamp
- Alternative operation with pump 1 and pump 2 with timer, duration of run adjustable for each pump
- Time relay for bridging pressure drop
- Transistor relay
- Automatic breakdown switching over in case of malfunction (indication with warning light)
- Automatic pump alternation in case of an actuating motor protect switch
- Optional manual alternation from pump 1 to pump 2

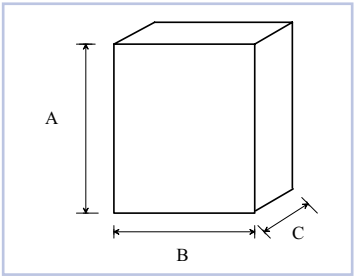
(1) ATEX-Equipment and Protective systems intended for use in Potentially Explosive Atmospheres based on European Directive 94/9/EC.

Technical data electrical-control cabinet

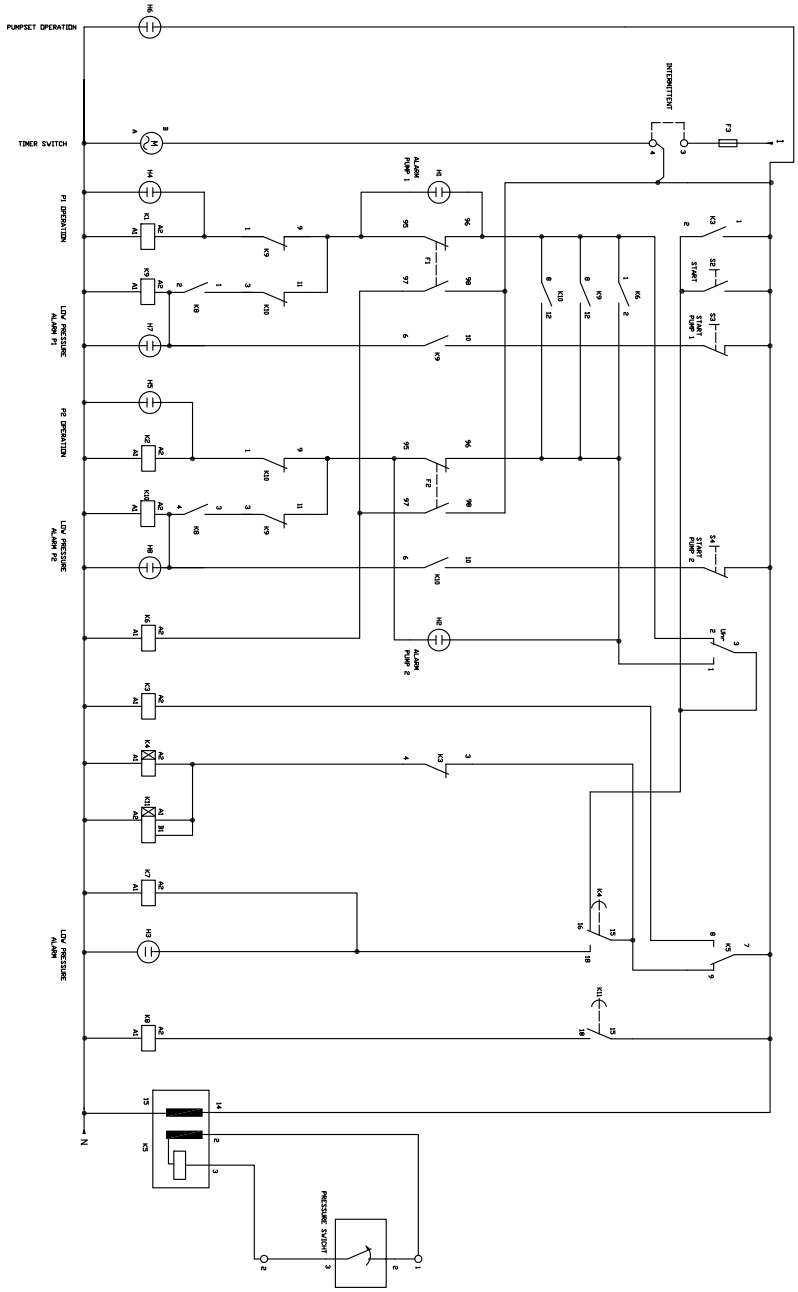
With built-in electric alternate action switch (time switch) for dual assemblies outside the EX zone:

Dimensions A x B x C	400 x 400 x 200 mm
Weight	10 kg
Protection rate	IP 54
Automatic alternating switch	With internal timer
∅ for cable gland	20 mm

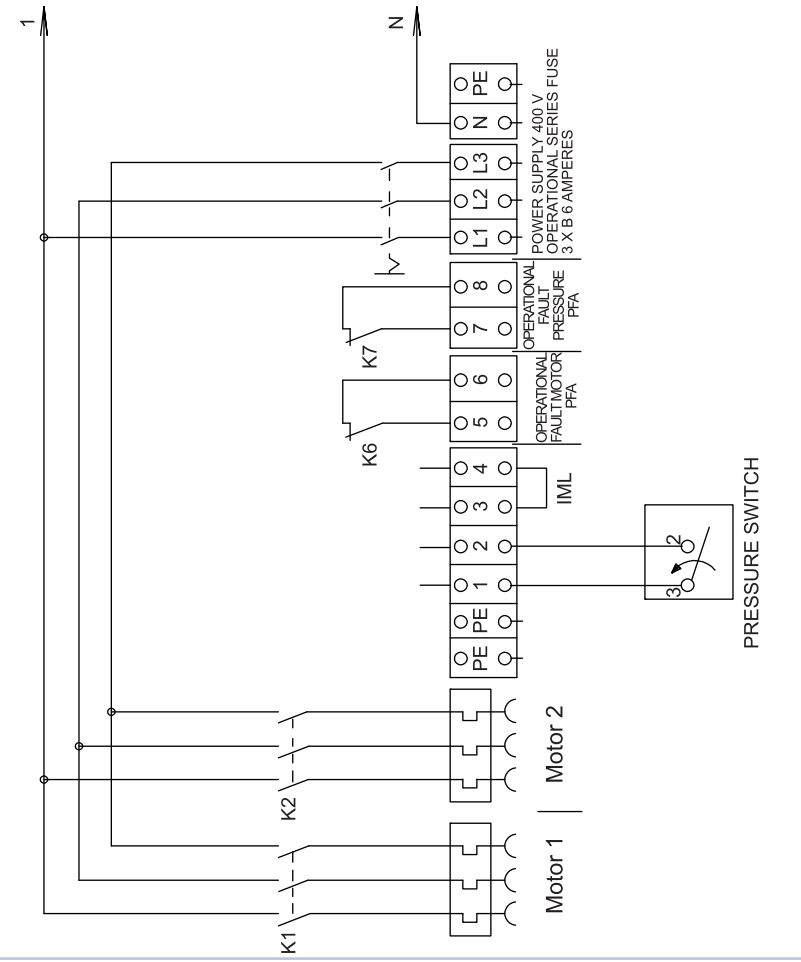
Dimensions



Circuit diagram pump assembly SIMKA RL Methanol



Electrical connection diagram for SIMKA RL Methanol



ATTENTION
During service and maintenance works, wear protective clothing suitable for the substance.
For tank facilities with more than one tank, the feed pump assembly must be shut off under all circumstances before switching from one tank to another.

On the suction side, there is a vacuum gauge which indicates the vacuum betwenn gear pump and filter. The vacuum indicated on this gauge may not exceed 0.25 bar in the case of methanol due to the risk of gas discharge (cavitation), in which case a loud roar from the increase of the original vacuum (e.g. 0.4 bar) indicates resistance in the intake pipe, often caused by a dirty filter, which must be cleaned.
It may be necessary to check the distance between tank and feed pump assembly (see suction diagram). (Example: intake pipe length 10 meters, suction height 2 meters). In the case of methanol, blast protection at the tank (VbF) must be taken into account, as this can increase suction resistance.

With methanol, after the assembly is completed, the pump stations are flushed with oil at the test facility to prevent corrosion and other problems.

A pressure monitor suitable for the EX zone is built in to the assembly. The galvanic isolating device , as well as remaining electrical switch, is mounted in a separate control box (see illustration). To ensure the operational readiness of both pumps, a time switch is built in to the control box for switching from Pump 1 to Pump 2 and vice-cersa, so that both pumps operate alternately.

In case one pump malfunctions due to an electrical failure, e. g. the motor protection switch is activated, the assembly continues to operate with the remaining pump until the second pump is checked and/or repaired. The malfunction is indicated by a warning lamp.

If the assembly is delivered without the manufacturer control box, a galvanic isolating device has to be observed at the installation. To ensure the operational readiness of both pumps, it is recommendable to switch from Pump 1 to Pump 2 and vice-versa at least once a day, preferably using the time switch.

Downtime:

The pump assembly must not be idle for long periods of time. To prevention corrosion, both pump units must to be switched on at least once a week and run for approx. 5 minutes.
Should one motor or one pump, or the entire pump-side unit, be replaced, the following must be observed:

The ball valve located on the idle pump must be closed on the pressure side first. Afterwards, the ball valve on the suction side is closed. This is necessary to avoid a pressure increase on the suction side.
With the new installation of a pump unit consisting of motor and magnetic clutch pump (round pump at 140 methanol) flanged together, a relief valve is located on the front side of the pump at the 2 o'clock position.
The factory pressure is set at 4 bar. The relief valve is secured with a 10 mm hex nut. In the hex nut, there is a 3 mm allen screw. This should only be done after consultation at the factory, however.

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Voltastr. 10, 63457 Hanau
Tel: 01801-SIMKADE
(01801-7465233)
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§ 1 Guarantee Undertaking

1. SIMKA-Gesellschaft für Apparatebau m. b. H. assumes the guarantee, in relation to which there are no manufacturing or material defects to date falling within the period of guarantee (Art. 2) for SIMKA feed pump assemblies for Methanol.

2. This guarantee is limited exclusively to our scope of delivery. It is valid only to the extent the assemblies were acquired by the purchaser in the Federal Republic of Germany.

3. This guarantee is non-transferable.

§ 2 Term of the Guarantee

1. The term of the guarantee for all components is 2 years.

2. In addition, it remains in effect for another 3 years for all except wearing parts: accumulator, pressure switch, hoses and filters.

3. The term of the guarantee begins when the purchaser receives all components of the pump assembly.

§ 3 Exclusions of the Guarantee

1. The guarantee is excluded when defects occur on the equipment due to:
   (a) improper assembly or handling, or
   (b) use of unsuitable or contaminated methanol, or
   (c) inadequate care in accordance with our installation, operating and maintenance manual, or
   (d) transport damages, or
   (e) force majeure (fire, charring, water damage, etc.).
   (f) installation of the unit by non-recommended

2. The guarantee is also excluded if heating maintenance is not performed at least once a year by an authorised heating installation company.

3. All rights arising from this guarantee are inapplicable if works are performed by third parties on the equipment during the term of the guarantee without our prior written consent.

§ 4 Rights arising from the Guarantee

1. We assume this guarantee voluntarily and without any legal obligations.

2. It exists along with the purchaser's claims to warranty against defects in the purchased items, as well as claims to compensation, which may be asserted against us or the seller. The guarantee does not restrict these legal rights.

3. Should a claim be asserted under the guarantee, we undertake to remedy defects attributed to material or manufacturing defects.

4. Works under the guarantee are generally performed by us or by our after-sales service.

5. Defective parts are replaced or repaired at our discretion. At our discretion, equipment of equivalent value may be supplied as a replacement. Replaced parts become the property of SIMKA-GmbH.

6. We assume material costs for 2 or 5 years in accordance with the term of the guarantee. Labour costs in-house or through the after-sales services are borne by us for only two years in general. Third party labour costs are borne by us only if we have given prior approval.

7. We do not assume transport costs for the shipment and return of the equipment or individual components.

8. The risk of destruction during transport is assumed by purchaser.

9. If it is determined during in-house inspections of equipment or components sent under the guarantee that there are no defects or the defects are not covered by the guarantee, we reserve the right to charge a minimum flat-rate inspection fee of EUR 10.00 plus shipping costs, even du ring the guarantee period.

10. This guarantee covers no other claims that may be asserted against us, especially cancellation, right of reduction, cost reimbursement for the repair of damage by third parties, and claims to compensation.

§ 5 Guarantee Claims

1. The purchaser (not the dealer or installer) must send the claim from accompanying the Guarantee Undertaking to our address indicated above no later than 14 days after receiving the SIMKA assembly. This form must indicate the supplier and the date of delivery.

2. The purchaser must assert any claim under the guarantee immediately upon discovery of the material or manufacturing defect. The purchaser has no rights under this guarantee for the delayed assertion of claims.

3. The guarantee claim should be sent to our address above.

4. The following should be included with the claim:
   (a) the duplicate name label included with the guarantee certificate or the guarantee documents
   (b) proof of performance of the annual heating maintenance required under § 3 Par. 2 of this Guarantee Undertaking
   (c) the sales document with stamp, date and signature of the seller.

§ 6 Miscellaneous

1. These guarantee conditions are accompanied by a list of our after-sales services.

We recommend that these instructions should be stored in the hydraulic unit

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IP-3112 / 07-10

Zertifiziertes Unternehmen TÜV SÜD ISO 9001

DIN Geprüft

* Anruftarif: 0,14.-€/Min