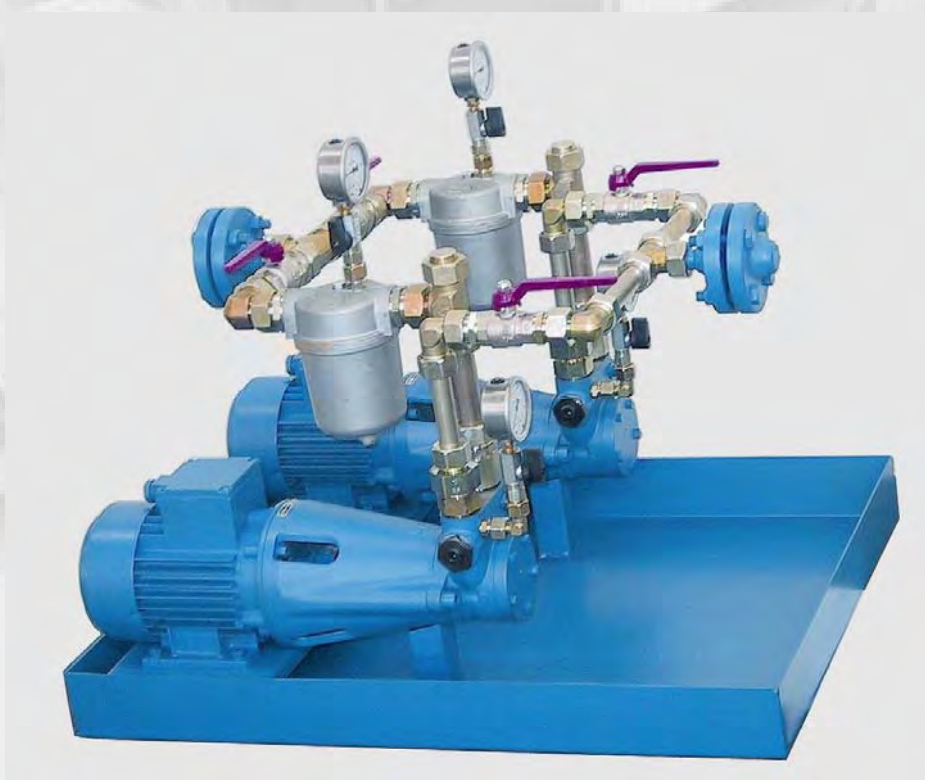


**Aggregat – series: BIK**



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- The units have been constructed, tested and registered as per DIN – EN 12 514/1 -

**These installation and maintenance instructions are for use of specialists only !**

### 1. Technical Data

Refer to our main catalog for design, scope of delivery, diagrams and technical tables and charts, in to the appendix to.

### 2. Brief Functional Description

Dual fuel oil aggregates have two feed pumps, each with its own respective mountings and pipe systems mounted on a mutual oil pan.

The hp internal gear pump with built-in pressure relief (overflow) valve sucks in the fluid via the "T" suction connections, via the opened ball valve (1) and via the suction filter (2) and simultaneously forces it into the "P" pressure connection via the automatically opening non-return valve (7) and the opened ball valve (1).

The ball valves (1) on the suction and pressure side of the pump must be open to allow for the switching between the two pumps as desired (e.g. manually via the protective motor switch, alternating weekly, or automatically via a time switch every 12 hours).

Except when a pump (5) or a suction filter unit (2) has to be dismantled, it will never be necessary to close the respective ball valve of this feed stage. At such a time, however, the remaining pump will assure continued, uninterrupted operation.

### 3. Assembly

Mount the oil pan on a base/pedestal. If vibration transmission is a problem, the pan can be mounted on anti-vibration pads or the like. Connect the suction, pressure and bypass (overflow) lines using screwed or flanged pipe joints. Connect the lines using suitable compensators in order to equalize different lengths and to prevent vibration transmission.

Clean the lines thoroughly before connecting them and take care that you do not apply stress to the piping when connecting it. Do not use hemp or any other similar type of sealing material when sealing the joints.

**3.1 The BIK 5001 to BIK 5013 model fuel oil systems, constructed, tested and registered as per DIN EN 12514-1 must always be used in conjunction with an electrical manometric switch (Accessory "S") as a pressure line monitor (pipe burst safety device).**

### 3.2 Pipe Connections

T = suction connection (from tank)

P = discharge (pressure) connection (closed circular line to burner)

R = by-pass (overflow) connection

**All connections have to be sealed, are air- as well as oiltight !**

### 3.3 Electrical Connections

Before plugging in and connecting the electric motors, assure that the electrical data on the rating plates complies with the mains ratings.

The pumps must be operated in the sense of rotation designated by the arrow which has been stamped into the body of the pump.

First open all ball valves (1) before checking the sense of rotation of the electric motors!

To protect the motor, we recommend that you install a protective motor switch with an overflow (pressure relief) trigger.

#### Electrical Connections:

N = neutral connector

L1, L2, L3 = threephase motor 230/400 V or 400/690 V



= protective ground conductor

All electrical connections are to be installed in conformance with the applicable regulations of the VDE (Association of German Electrotechnical Engineers) and with the specifications of the local electrical supply company.

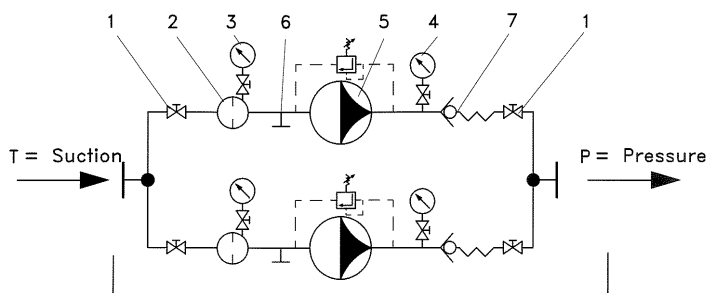
Refer to and comply with the installation and maintenance instructions for threephase and alternating current motors!

#### 4. Initial Operation

- 4.1 Before starting up the unit, fill the suction filter (2) with the fluid which is to be pumped. First fill long suction lines manually from the highest point (e.g. the tank dome) with the fluid which is to be pumped.
- 4.2 All ball valves on the suction side must be open!
- 4.3 Before you turn the pump on, first set the pressure relief (overflow) valve with which the pump has been equipped to the lowest pressure of the appropriate pressure stage. (Also refer to "Factory Adjustments", Item 5.)
- 4.4 As the pump unit sucks in oil, bleed at the bleeder valve (6) on the delivery side.
- 4.5 The pump's maximum suction capacity is -0.9 bar. However, for cavitation reasons, and to avoid the generation of extreme noise levels, do not allow the maximum suction pressure to exceed -0,6 bar.
- 4.6 The tank should be at least half full when the pump is started up for the first time.

#### Installations acc. schema:

BIK schema I:



#### Packing list:

1. shut of valve
2. single filter / double filter / on request
3. vacuum gauge
4. pressure gauge
5. hp-motor pump with internal overflow valve
6. filling connection
7. non return valve

#### 5. Pressure Relief Control settings

- The factory setting for supply aggregates is approx. 6 bar.
- The factory setting for pressure aggregates is approx. 15 bar.
- The pressure may be reset to up to 30 or 40 bar. (Pressure range either 15 to 30 or 15 to 40 bar.)

Do not reset without an intact and functioning manometer!

Do not set the pressure any higher than the authorized 9, 30 or 40 bar as this will lead to the blocking of the adjusting piston and to pressure thrusts which in turn will cause pump breakdown within no time at all.

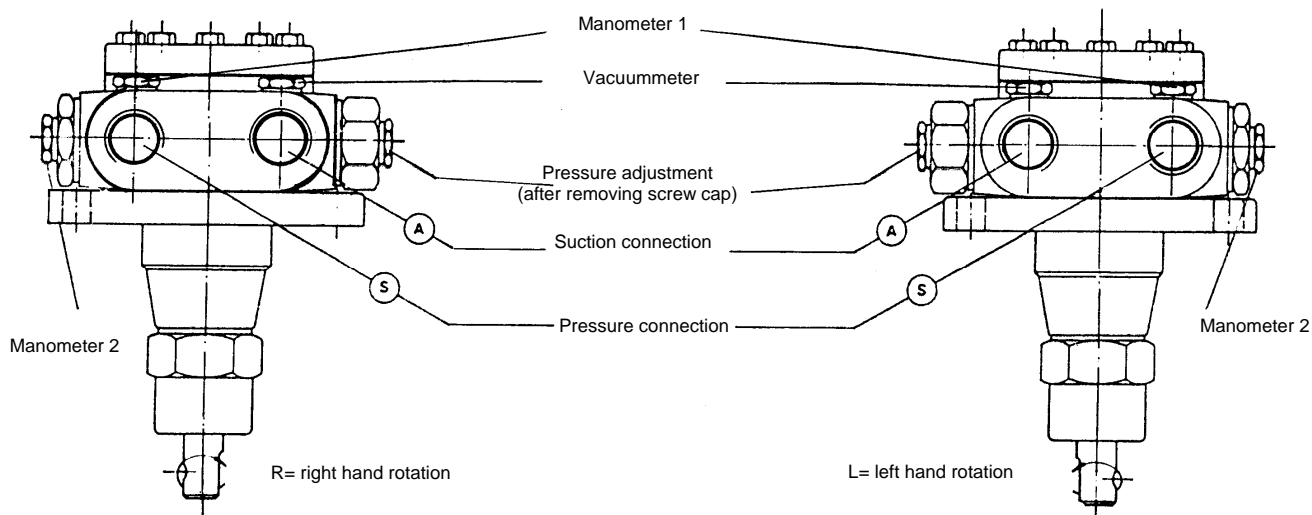
First remove the cover screw. You can now increase the pressure by turning the setting screw clockwise with a screwdriver or an Allen key and reduce the pressure by turning the setting screw counter-clockwise. Bleed the pump via the bleeder valve (6) during the suction process. After airing the pump, retighten the "L" screw (locking screw) with its oil retainer ring to assure that no oil can leak.

#### 6. Inspection and Maintenance

All movable parts are lubricated automatically by the fluid as it is pumped through the unit, thus making any maintenance of the aggregate unnecessary.

- 6.1 Check the unit's suction filter (2) regularly for signs of dirt and leakage. Simply remove and clean the filter insert or replace it with a new one as is necessary.
- 6.2 When changing the filter, assure that the vacuum at the pump's suction connection is no greater than -0.6 bar. (Use a vacuum meter between the suction filter and the pump [5].)
- 6.3 The feed pressure - measured at the same point (3) - may not be allowed to exceed 5 bar.

## Pump connections Series VB



### **ATTENTION:**

According to the specifications of DIN EN 12 514, Section 1, Paragraph 4.3.3, a lower limiter (clipper circuit) or some kind of electrical pressure control device must be installed in the overall system by the user.