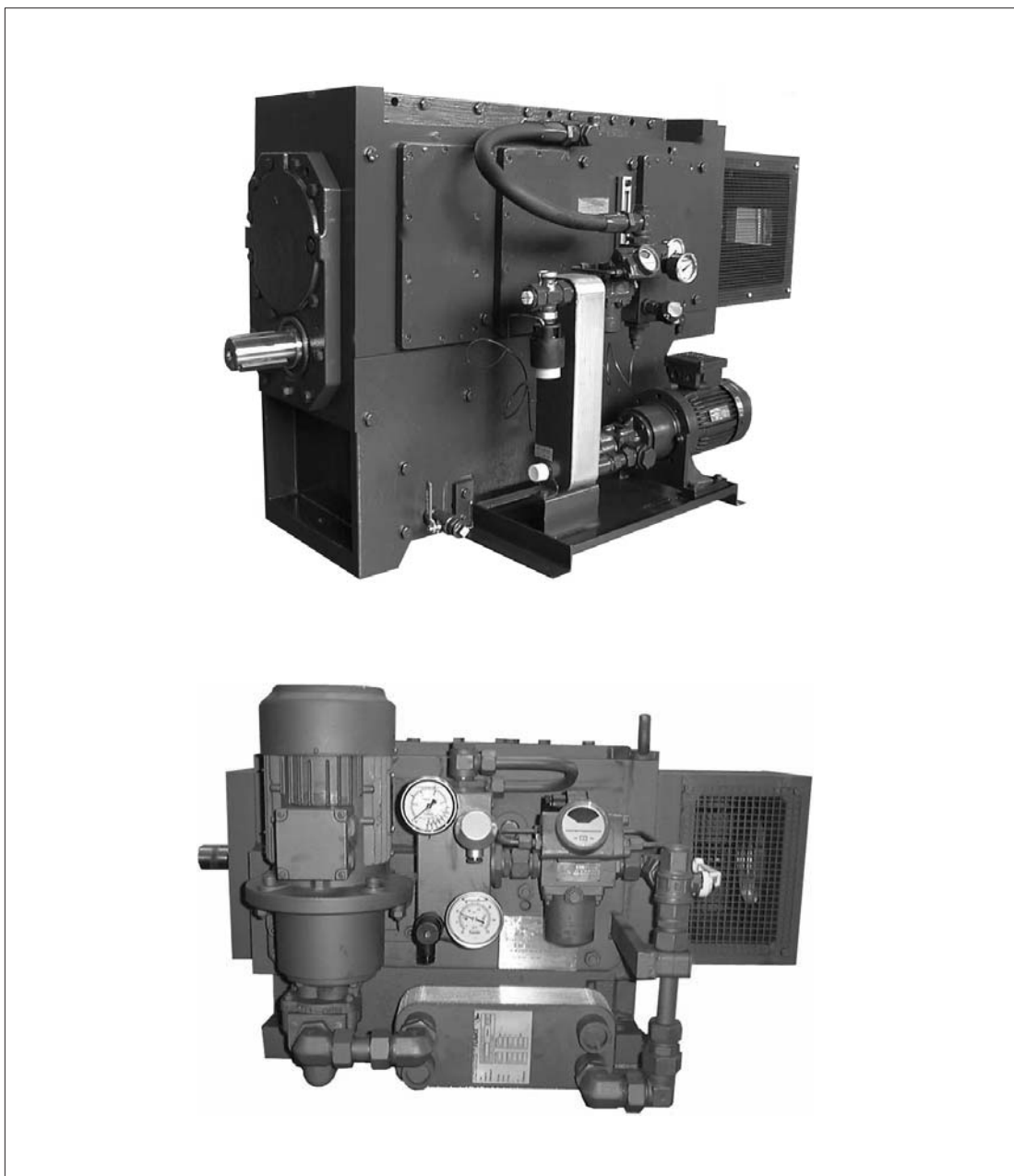


Operating Instructions

BA 9733 EN 10.04

Oil supply systems of type **OWGX**



FLENDER

Contents

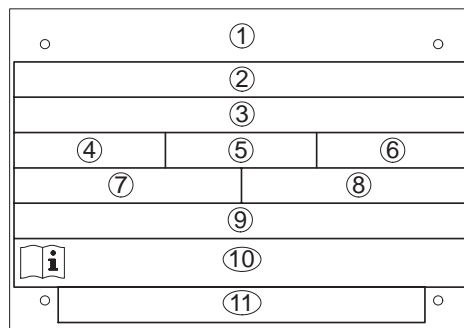
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1. Technical data

1.1 General technical data

The most important technical data on the oil supply system are shown on the rating plate. These data and the contractual agreements between FLENDER and the customer for the oil supply system determine the limits of its correct use.



- ① Company logo and production location
- ② Material No.
- ③ Production order no.
- ④ Type
- ⑤ Size
- ⑥ Variant
- ⑦ $p_{\text{Oil max}}$ = max. permissible oil operating overpressure
- ⑧ t_{min} = minimum starting temperature
- ⑨ perm. operating pressure of the water: $P_{\text{Water max.}}$... bar / ... PSI
- ⑩ Operating Instructions number
- ⑪ special data (eg. total weight)

Note: These operating instructions generally include a list of equipment including the drawings to the oil supply system and the operating instructions for the accessory components.

For further technical data, refer to the list of equipment and the drawings.

1.2 Oil viscosity / oil type

For the oil viscosity and oil type, refer to the operating instructions or the gear unit rating plate.

The oil supply systems are designed for oil viscosities < 5000 cSt at minimum starting temperature (see rating plate ⑦).

2. General notes

2.1 Introduction

These Operating Instructions (BA) are an integral part of the delivery of the oil supply system and must be kept in its vicinity for reference at all times.

Note: Please also observe the Operating Instructions of the gear unit.

Caution!

All persons involved in the installation, operation, maintenance and repair of the oil supply system must have read and understood these Operating Instructions and must comply with them at all times. We accept no responsibility for damage or disruption caused by disregard of these Instructions.

The "FLENDER oil supply system" dealt with in these Operating Instructions (BA) has been developed for use as an oil supply system of gear units. Possible applications for oil supply system of this series are the chemical, rubber, food plastics and other industries.

The oil supply system is designed only for the application described in section 1, "Technical data" and the List of Equipment. Other operating conditions must be contractually agreed.

The oil supply system described in these Instructions reflects the state of technical development at the time these Instructions (BA) went to print.

In the interest of technical progress we reserve the right to make changes to the individual assemblies and accessories which we regard as necessary to preserve their essential characteristics and improve their efficiency and safety.

2.2 Copyright

The copyright to these Operating Instructions (BA) is held by **FLENDER AG**.

These Operating Instructions must not be wholly or partly reproduced for competitive purposes, used in any unauthorised way or made available to third parties without our agreement.

Technical enquiries should be addressed to the following works

A. FRIEDR. FLENDER AG
D-46393 Bocholt

Tel.: 02871/92-0
Fax: 02871/92-2728

or to one of our customer-service addresses. A list of our customer-service addresses is given in section 11, "Spare parts, customer-service addresses".

3. Safety notes

Note: Please also observe the Operating Instructions of the gear unit.

3.1 Proper use

- The oil supply system has been manufactured in accordance with the state of the art and is delivered in a condition for safe and reliable use. Any changes on the part of the user which may affect safety and reliability are prohibited. This applies equally to safety features designed to prevent accidental contact.
- The oil supply system must be used and operated strictly in accordance with the conditions laid down in the contract governing performance and supply agreed by FLENDER and the customer.

3.2 Obligations of the user

- The operator must ensure that all persons involved in installation, operation, maintenance and repair have read and understood these Operating Instructions and comply with them at all times in order to:
 - avoid injury or damage,
 - ensure the safety and reliability of the oil supply system,and
 - avoid disruptions and environmental damage through incorrect use.
- During transport, assembly, installation, dismantling, operation and maintenance of the unit, the relevant safety and environmental regulations must be complied with at all times.
- The oil supply system must be operated, maintained or repaired only by authorised, duly trained and qualified personnel.
- The gear unit must not be cleaned using high-pressure cleaning equipment.
- All work must be carried out with great care and with due regard to safety.
- All work on the oil supply system must be carried out only when it is at a standstill. The drive unit must be secured against being switched on accidentally (e.g. by locking the key switch or removing the fuses from the power supply). A notice should be attached to the ON switch stating clearly that work on the oil supply system is in progress.
- If any changes are noticed during operation of the oil supply system (e.g. increased operating temperature or unusual noises), the drive assembly must be switched off immediately.
- Rotating drive components such as couplings, gearwheels, belt drives etc. must be protected against accidental contact.
- If the oil supply system is intended for mounting on plant or equipment, the manufacturer of such plant or equipment must ensure that the contents of the present Operating Instructions are incorporated in his own instructions.
- Notices attached to the oil supply system, e.g. rating plate, direction arrows etc. must always be observed. They must be kept free from dirt and paint at all times. Missing plates must be replaced.
- All spare parts must be obtained from FLENDER.

3.3 Environmental protection

- When changing oil, the used oil must be collected in suitable containers. Any spillage of oil must be removed immediately.
- Preservative agent should be stored separately from used oil.
- Used oil, preservative agent, oil-binding agents and oil-soaked cloths must be disposed of in accordance with environmental legislation.

3.4 Special dangers

Depending on operating conditions, the surface of the oil supply system may heat up considerably.
Danger of burns!

- When changing oil, take care to prevent scalding by hot oil.

3.5 Warnings and symbols used in these Instructions



This symbol indicates safety measures which must be observed to avoid **personal injury**.

Caution!

This symbol refers to safety measures which must be observed to avoid **damage to the oil supply system and gear unit**.

Note: This symbol indicates general **operating instructions** which are of particular importance.

4. Handling and storage

Note: Observe the "Safety instructions" in section 3.

Note: Please also observe the Operating Instructions of the gear unit.

4.1 Scope of supply

The products supplied are listed in the despatch papers. Check immediately on receipt to ensure that all the products listed have actually been delivered. Parts damaged during transport or missing parts must be reported in writing immediately to FLENDER AG.

4.2 Handling

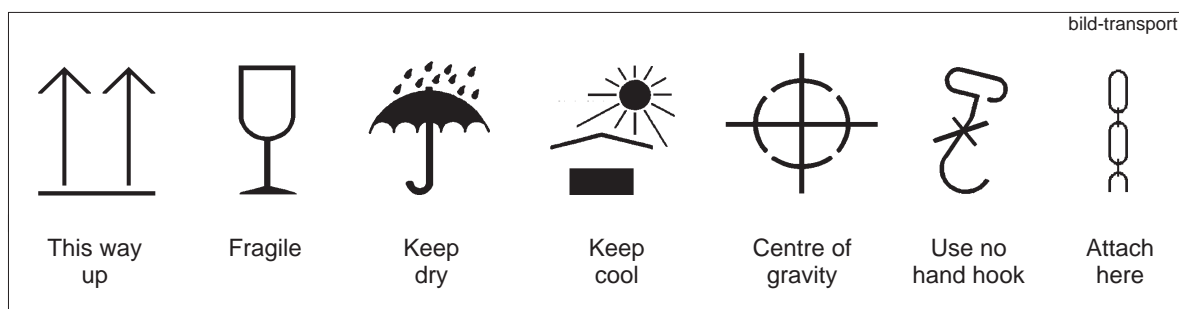


When handling FLENDER products, use only lifting and handling equipment of sufficient load-bearing capacity!

The oil supply system is delivered in the fully assembled condition. Additional items are delivered separately packaged. Depending upon the individual application, they can also be assembled to the gear unit and delivered with it as an assembled unit.

Different forms of packaging may be used depending on the size of the oil supply system / assembled unit and method of transport. Unless otherwise agreed, the packaging complies with the **HPE Packaging Guidelines**.

The symbols marked on the packaging must be observed at all times. These have the following meanings:



Caution!

The oil supply system or assembled unit must always be transported with due care to avoid injury to persons and damage to the unit.

Note:

The oil supply system or assembled unit must be transported using suitable transport equipment only.

Never transport the gear unit with an oil filling.

Caution!

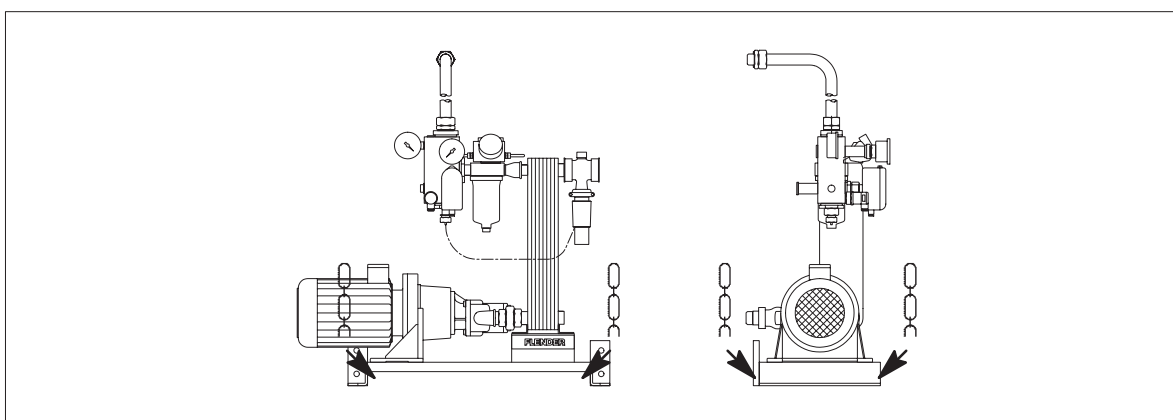
To transport and handle gear units with attached oil supply systems, use only the lifting eyes specially provided for this purpose on the gear units. The position of the attachment points is shown in the documentation of the gear unit for each specific order.

Caution!

When handling the separate oil supply system, exercise special care to avoid damage due to the use of force or careless loading and unloading.

To transport and handle the oil supply system, use ropes or chains. Only the designated lifting eyes on the base frame must be used for fastening.

Care must be taken that the carrier ropes do not damage fittings and piping. A cross-beam is therefore required for protection. The lengths of the ropes must be set to ensure that the base frame is suspended horizontally.



4.3 Storage of the oil supply system

The oil supply system or assembled unit must be stored in the position of use on a vibration-free wooden base in a sheltered place and covered over.



Do not stack oil supply systems or assembled units one on top of another.

Caution!

If the oil supply system or assembled unit is being stored out of doors, it must be very carefully covered over and care must be taken that neither moisture nor foreign material can collect on the drive.

Note:

Provision for special environmental conditions during transport (e.g. transport by ship) and storage (climate, termites, etc.) must be contractually agreed.

The openings must be sealed with plugs or flanged covers.

4.4 Standard corrosion protection

The properties of the outer paint coat are as follows: Resistant to acids, weak alkalis, solvents, atmospheric action, temperatures up to 120 °C (temporarily up to 140 °C) and to tropical conditions.

Note:

Unless otherwise contractually agreed, the internal preservation is guaranteed for 6 months, provided that storage is in dry, frostfree sheds.

The guarantee period starts on the date of delivery.

For longer periods of storage (> 6 months) we advise regular checking and, if necessary, renewal of the internal preservation (see section 7, "Start-up").

5. Technical description

Note: Observe the "Safety instructions" in section 3.

5.1 General

Note: Please also observe the Operating Instructions of the gear unit.

The oil supply system specified below serves to cool the oil and/or lubricate gear units (see section 1, "Technical Data").

Caution!

Before initial start-up the pressure monitor, the temperature monitoring system and the differential pressure monitor installed in the filter must be connected up.

- The oil supply is ensured by a battery of pumps.
- The pump sucks the oil out of the gear unit oil sump via a suction pipe.
- A filter to filter the circulating oil is installed in the oil circuit.
- Heat generated by losses and not removable by convection is removed via a water oil-cooler.
- Filtered and re-cooled oil is then resupplied to the gear unit via a pressure line.

Note: For control instructions, refer to section 8, "Operation".

Observe for this the drawings and the list of equipment. The components specified in the list of equipment can also be found on the drawings with the part number.

Note: The direction of discharge of the pump used is **dependent upon the direction of rotation**.

Caution!

To ensure optimum cooling performance, the specified direction of flow in the water oil-cooler must be observed. The cooling-water inlet and outlet must not be reversed.

The pressure of the cooling water must not exceed 8 bars.

If the gear unit is being withdrawn from service for a longer period or if there is a danger of freezing, the cooling water must be drained off. Remove any remaining water with compressed air.

6. Assembly

Note: Observe the "Safety instructions" in section 3.

6.1 General

Note: Please also observe the Operating Instructions of the gear unit.

All preserved flange surfaces must be washed down with a solvent, e.g. petroleum ether.



Environmental protection requirements must be observed.

- If connection pipes are not supplied with the system, seamlessly drawn and bright normalised (NBK) pipes of ST 35.4 in accordance with DIN 2391 c (hydraulic tubing, quality grade C) must be used.
- The interfaces must be provided with the appropriate flanges or screw connections.
- For connection pipes we recommend using compensators to insulate against vibration and compensate for stretching.
- Pipe fastenings (plastic clips) must be used to install piping. The distance between clips must be less than 2 m / 78.7".
- Make sure the piping is not twisted.
- After installation the pipes must be flushed out. Welded pipes must be pickled.
- The motors and monitoring equipment must be connected up electrically in accordance with terminal diagrams, equipment lists and regulations. Check voltage and circuits.
- Before connecting the water oil-cooler remove the plugs from the water connection and flush the water oil-cooler well to remove any dirt.
- Install the cooling-water in- and outflow pipes. For the flow direction of the cooling water and the location of the connections please refer to the dimensioned drawing.
- Wire pressure monitor, temperature monitoring system and differential pressure monitor electrically.

6.2 General notes on add-on components

Note: For operation and maintenance of the components specified in the equipment list, observe the specified operating instructions.
For technical data, refer to the list of equipment.

6.3 Final installation work

After the gear unit has been installed with the oil supply system, check that all visible screw connections are correctly tightened and, if necessary, retighten.



Mount necessary safety equipment!

7. Start-up

Note: Observe the "Safety instructions" in section 3.

7.1 Oil filling

Note: Please also observe the Operating Instructions of the gear unit.

To remove preservative residues, which could cause the oil to foam, the oil supply system must be flushed out together with the gear unit before starting up.

Before starting up the gear unit/oil supply system must be filled with oil. After filling the filling holes must be correctly closed and sealed.

The oil must then be carefully drained out of the oil supply system, the monitoring equipment and the oil chambers in the gear unit, while it is warm. It may be re-used only as flushing oil. The flushing oil must be cleaned before re-use.



There is a danger of scalding from the hot oil emerging from the housing. Wear protective gloves.

Caution!

Remove any oil spillage immediately with an oil-binding agent.

Oil must be put into the oil supply system via the gear unit (see operating instructions for "Gear Unit"). Care must be taken that no dirt can get into the oil circuit.

Oil must be poured in until it is level with the mark on the oil level indicator, while the pump is not operating (see operating instructions for "Gear Unit"). The pump can then be started.

Caution!

Start oil supply system 1 minute before the gear unit. Never operate the gear unit without the oil supply system!

Before starting up the gear unit for the first time the oil supply system must be run for at least 15 minutes to fill all the oil chambers (see operating instructions for "Gear Unit"). Then shut down the oil supply system and, if necessary, correct the oil level).

All piping - particularly suction pipes (inadmissible air intake) - as well as all screw connections and flanges must be retightened. Leaks must be resealed.

7.2 Pump

Caution!

The low-pressure pumps are approved for one direction of rotation only. The direction of rotation of the motors must correspond to the direction of the arrow on the pump.

As regards the pump, the specific Operating Instructions must be observed.

7.3 Water oil-cooler

The necessary water connections must be manufactured by the customer/operator for the water oil-cooler.

If the oil supply system is shut down for a longer period or if there is a danger of freezing, the cooling water must be drained off.

As regards the water oil-cooler, the specific Operating Instructions of the manufacturer must be observed.

7.4 Start-up

Before starting up the oil supply system check whether these operating instructions and the operating instructions for the gear unit have been correctly adhered to.

Caution!

**In all cases oil must be put in before starting up.
The cooling water circuit must be checked before starting up!
Shut-off valves must be secured against unintentional closing.**

All impurities must be removed from the oil supply system before starting up and after repair and maintenance work. This applies particularly to water (e.g. rainwater and leakage from the water oil-cooler) to prevent an oil-water mixture.

All pumps, filters and coolers must be ventilated.



Pressure relief valve/safety valve pressure settings made by FLENDER at its works must not be altered, as they are not used to control the pressure and the flow rate. They serve only as a protection against overload.

7.5 Removal from service

To remove the oil supply system from service, it must be shut off.



Secure the oil supply system to prevent it from being started up unintentionally. Attach a warning notice to the start switch.

- With oil supply systems fitted with water oil-coolers, close the stop valves on the water inflow and outflow pipes. To prevent freezing, drain the water from the water oil-cooler.

7.5.1 Interior protection with preservative agent

Oil supply systems with forced lubrication should be run idle with preservative prior to any long-term storage.

Duration of protection	Preservative agent	Special measures
up to 6 months	Castrol Alpha SP 220 S	None
up to 24 months		Close connection pipes
For storage periods longer than 24 months the oil supply system must be re-preserved. For storage periods over 36 months FLENDER should be consulted.		

Table 7.1: Preservation procedure when using mineral oil or PAO-based synthetic oil

Duration of protection	Preservative agent	Special measures
up to 6 months	Special anti-corrosion oil TRIBOL 1390 1)	None
up to 36 months		Close connection pipes
For storage periods over 36 months FLENDER should be consulted.		

Table 7.2: Preservation procedure when using PG-based synthetic oil

- 1) Resistant to tropical conditions and sea water. Max. ambient temperature 50 °C

7.5.2 Interior preservation procedure

- Remove the oil supply system from service and drain off the oil
- Fill the oil supply system (if necessary, via the connected gear unit) with a sufficient quantity of preservative agent as indicated in Table 7.1 or 7.2
- Start the oil supply system and allow it to idle for a short time.
- Drain off the preservative agent into a suitable receptacle and dispose of the oil in accordance with the regulations



There is a risk of scalding from the hot preservative agent draining from the gear unit. Wear protective gloves to avoid scalding.

8. Operation

Note: Observe the "Safety instructions" in section 3.

Note: Please also observe the Operating Instructions of the gear unit.

8.1 Lubrication diagram

For the relevant lubrication diagram drawing number, refer to the list of equipment.

8.2 Control information

The part numbers (...) given in the following text have been taken from the enclosed list of equipment, assembly drawing and the lubrication diagram.

The following control information must be noted for the individual components:

Note: In addition to this control information, the specifications in the enclosed equipment list must always be observed.

Note: Only the control information of the part numbers shown in the list of equipment applies to the delivered oil supply system. For the specific switching points and values, refer to the list of equipment.

8.2.1 Pump (10)

When the pump is operating, the system pressure is limited by a pressure relief valve integrated into the pump.

Caution!

The factory adjustment of this valve may not be changed!

8.2.2 Filter (20)

The filter (20) is monitored visually by means of a differential pressure indicator and electrically by means of a differential pressure monitor.

8.2.3 Three-way cock (17)

A three-way cock is privoded downstream of the cooler for refilling purposes. The cock's position is to be adjusted in accordance with the desired function in each instance (see position symbol on the three-way cock and the oil flow in the lubrication diagram).

Caution!

During the filling process the pump must not be operating. After the filling process the cock must be set in operating position again.

8.2.4 Pressure gauge (45)

The oil pressure is indicated visually by means of a pressure gauge.

8.2.5 Pressure monitor (50)

The pressure in the oil supply system is monitored by means of pressure monitor.

8.2.6 Thermometer (60)

The oil temperature is indicated visually by means of a thermometer.

8.2.7 Resistance thermometer (65)

The temperature of the system is monitored by means of a resistance thermometer.

8.2.8 Temperature monitor (70)

The temperature of the system is monitored by means of a temperature sensor.

8.2.9 Cooling-water flow regulator (500)

The water circuit is controlled by means of a temperature-controlled cooling-water flow regulator, the sensor of which is screwed in downstream of the water oil-cooler.

8.2.10 General

After switching off the main drive the oil supply system must continue to run until the drive has come to a complete standstill.

8.3 Interlocking instructions

8.3.1 Gear unit enable

GEAR UNIT ENABLE takes place when all the following conditions are fulfilled:

Oil pressure > Switching point (50)

Oil temperature < Switching point (70) or < temperature value (65)

Filter differential pressure < Switching point (20)

Run-up time on the oil supply system at least 1 minutes.

8.3.2 Warning

WARNING is given when at least one of the following conditions is fulfilled:

Oil temperature > Switching point (70) or > temperature value (65)

Filter differential pressure > Switching point (20) after a period of 30 s

8.3.3 Gear unit stop

GEAR UNIT STOP takes place when at least one of the following conditions is fulfilled:

Oil pressure < Switching point (50)

Oil temperature > Switching point (70) or > temperature value (65)

If, when **GEAR UNIT STOP** occurs, the oil temperature is > switching point (70) or > temperature value (65), the pump must be set to remain on up to an oil temperature < switching point (70) or < temperature value (65).

8.4 Response to malfunctions



Irrespective of the following information, the local safety requirements will apply in all cases for operation of the oil supply system.

Monitoring during operation is essential to identify any malfunctions occurring (see Section 9, "Disturbances, reasons and remedy") and thus to implement preventive measures. The operating pressures and oil temperatures should be recorded regularly.

If irregularities at variance with the normal condition are noticed during operation, or if the operating data change, it is essential that the cause be identified immediately. If necessary, shut the system off. If the causes cannot be identified, even with the aid of the Troubleshooting List, inform FLENDER at once (see Section 11, "Stocking spare parts, service facility addresses").



We URGENTLY recommend that a lockable emergency switch be provided to ensure that the system is secured to prevent accidental switch-on during maintenance, repairs, or malfunctions. In addition, we would draw attention to the relevant accident prevention regulations on site!

For restart after malfunction, the information in Section 7, "Start-up" should be noted.

8.5 Shut-down

If the gear unit and oil supply system are shut down for longer periods, the following measures are necessary:

- a) Gear unit and oil supply system should remain filled with oil. Every 4 weeks gear unit and oil supply system must be run for 1 hour. The necessary prelubrication and lubrication times should be observed.
- b) If the measures listed under a) are not possible, the gear unit and the oil supply system (see section 7, "Start-up") must be preserved.
Please also observe the Operating Instructions of the gear unit.

Note: If the oil supply system is shut down for a longer period or if there is a danger of freezing, the cooling water must be drained off.

9. Faults, causes and remedy

Note: Observe the "Safety instructions" in section 3.

9.1 General information on faults and malfunctions

Note: Please also observe the Operating Instructions of the gear unit.

Note: Faults and malfunctions occurring during the guarantee period and requiring repair work on the oil supply system must be carried out only by the FLENDER Customer Service.
In the case of faults and malfunctions occurring after the guarantee period and whose cause cannot be precisely identified we advise our customers to contact our customer service.

Caution!

FLENDER will not be bound by the terms of the guarantee or otherwise be responsible in cases of improper use of the oil supply system, modifications carried out without FLENDER's agreement, or use of spare parts not supplied by FLENDER.



**When remedying faults and malfunctions, the oil supply system must always be taken out of service.
Secure the drive unit to prevent it from being started up unintentionally.
Attach a warning notice to the start switch.**

9.2 Possible faults

Malfunctions	Causes	Remedy
Oil temperature too high	<p>No cooling water Insufficient cooling water Cooling water too warm</p> <p>Water oil-cooler has air in it</p> <p>Water oil-cooler contaminated</p>	<p>Rectify cooling water supply Increase cooling water supply</p> <p>Ventilate the water oil-cooler</p> <p>Remove pipe assembly and clean water oil-cooler and pipe assembly or replace with new pipe assembly. See separate Operating Instructions (BA).</p>
Oil temperature too low	<p>Gear unit has not heated up.</p> <p>Too much cooling water Cooling water too cold</p>	<p>Wait</p> <p>Reduce cooling water supply</p>
Oil pressure too low	<p>Filter clogged</p> <p>Suction line clogged</p> <p>Pump is drawing in air</p> <p>Oil temperature too high</p> <p>Oil viscosity too low</p> <p>Pump defective, pump drive defective</p> <p>Pressure relief valve incorrectly set</p> <p>Pressure relief valve defective</p>	<p>Clean or replace filter element, or switch to clean filter and clean or replace filter element See separate Operating Instructions (BA).</p> <p>Clean suction pipe</p> <p>Check suction pipe and, if necessary, repair leaks.</p> <p>see there</p> <p>Check oil viscosity and, if necessary, put in correct oil.</p> <p>Repair or replace pump. See separate Operating Instructions (BA).</p> <p>Contact FLENDER.</p> <p>Repair or replace pressure relief valve. See separate Operating Instructions (BA).</p>
Oil pressure too high	<p>Gear unit has not yet heated up</p> <p>Oil pipes to and on gear unit blocked</p> <p>Oil viscosity too high</p> <p>Pressure relief valve incorrectly set</p> <p>Pressure relief valve defective</p>	<p>Wait</p> <p>Find and clean blocked pipe</p> <p>Check oil viscosity and, if necessary, put in correct oil.</p> <p>Contact FLENDER.</p> <p>Repair or replace pressure relief valve. See separate Operating Instructions (BA).</p>

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Malfunctions	Causes	Remedy
Filter contaminated (unusual or increased filter residues)	Filter contaminated	Clean or replace filter
	Pipes dirty (Scale, welding residues)	Clean the pipes
	Oil contaminated	Change oil
	Abraded material from defective pump	Repair or replace pump See separate Operating Instructions (BA).
	Abraded material from gear unit	Check gear unit (bearings, teeth, alignment) and repair defects
Oil consumption too high	Leak in pipes, connections, valves or gear unit	Tighten screws. Reseal
	Shaft outlets on gear unit leaky	Replace sealing rings
	Water oil-cooler leaky	Replace sealing rings Seal or replace water oil-cooler. See separate Operating Instructions (BA).
	Filter leaky	Seal filter

Table 9.1: Faults, causes and remedies

10. Maintenance and repair

Note: Observe the "Safety instructions" in section 3.

Note: Please also observe the Operating Instructions of the gear unit.

10.1 Oils

For oil types and required oil change frequencies, refer to the operating instructions for the gear unit.

10.2 Pump

For the pump, observe our supplier's specific operating instructions.

10.3 Filter

For filters, observe our supplier's specific operating instructions.

10.4 Water oil-cooler

For water oil-coolers, observe our supplier's specific operating instructions.

10.5 Preservation

see Section 8, "Operation"

11. Spare parts, customer-service addresses

11.1 Stocking spare parts

By stocking the most important spare and wearing parts on site you can ensure that the oil supply system is ready for use at any time.

To order spare parts, refer to the list of equipment.

We guarantee only the original spare parts supplied by us.

Caution!

Please note that spare parts and accessories not supplied by us have not been tested or approved by us. The installation and/or use of such products may therefore impair essential characteristics of the oil supply system, thereby posing an active or passive risk to safety. FLENDER will assume no liability or guarantee for damage caused by spare parts and accessories not supplied by FLENDER.

Please note that certain components often have special production and supply specifications and that we supply you with spare parts which comply fully with the current state of technical development as well as current legislation.

When ordering spare parts, always state the following:

Material no.	Type / Size	Part no.	Quantity
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11.2 Spare-part and customer-service addresses

When ordering spare parts or the services of our specialist engineers, apply first to FLENDER AG.

Adressen - Deutschland

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TAIWAN	A. Friedr. Flender AG	Taiwan Branch Company 1F, No.5, Lane 240 Nan Yang Street, Hsichih	Taipei Hsien 221	Phone: +886 (0) 2 - 26 93 24 41 Fax: +886 (0) 2 - 26 94 36 11	flender_tw@flender.com.tw
THAILAND	Flender Singapore Pte. Ltd.	Representative Office Talay-Thong Tower, 53 Moo 9 10 th Floor Room 1001 Sukhumvit Rd., T. Tungskula	A. Sriracha Chonburi 20230	Phone: +66 (0) 38 - 49 51 66 - 8 Fax: +66 (0) 38 - 49 51 69	contact@flender.th.com
VIETNAM	Flender Singapore Pte. Ltd.	Representative Office Suite 22, 16F Saigon Tower 29 Le Duan Street, District 1	Ho Chi Minh City	Phone: +84 (0) 8 - 8 23 62 97 Fax: +84 (0) 8 - 8 23 62 88	flender_vn@flender.com.vn
A U S T R A L I A					
	Flender (Australia) Pty. Ltd.	Head Office 9 Nello Place, P.O. Box 6047 Wetherill Park	N.S.W. 2164, Sydney	Phone: +61 (0) 2 - 97 56 23 22 Fax: +61 (0) 2 - 97 56 48 92	sales@flender.com.au www.flender.com.au
	Flender (Australia) Pty. Ltd.	Sales Offices Suite 3, 261 Centre Rd. Bentleigh	VIC 3204, Melbourne	Phone: +61 (0) 3 - 95 57 08 11 Fax: +61 (0) 3 - 95 57 08 22	sales@flender.com.au
	Flender (Australia) Pty. Ltd.	Suite 5, 1407 Logan Rd. Mt. Gravatt	QLD 4122, Brisbane	Phone: +61 (0) 7 - 34 22 23 89 Fax: +61 (0) 7 - 34 22 24 03	sales@flender.com.au
	Flender (Australia) Pty. Ltd.	Suite 2 403 Great Eastern Highway	W.A. 6104 Redcliffe - Perth	Phone: +61 (0) 8 - 94 77 41 66 Fax: +61 (0) 8 - 94 77 65 11	sales@flender.com.au
NEW ZEALAND	Flender (Australia) Pty. Ltd.	9 Nello Place, P.O. Box 6047 Wetherill Park	N.S.W. 2164, Sydney	Phone: +61 (0) 2 - 97 56 23 22 Fax: +61 (0) 2 - 97 56 48 92	sales@flender.com.au

12. Declaration by the manufacturer

Declaration by the manufacturer

in accordance with EC Engineering Guideline 98/37/EC, Appendix II B


We hereby declare that the

Oil supply systems of type **OWGX**

described in these Operating Instructions are intended for incorporation in a machine, and that it is prohibited to put them into service before verifying that the machine into which they are incorporated complies with the EC Guidelines (original edition 98/37/EC including any subsequent amendments thereto).

This Manufacturer's Declaration takes into account all the unified standards (inasmuch as they apply to our products) published by the European Commission in the Official Journal of the European Community.

Bocholt, 2004-10-29



Signature (Director TFE Engineering)