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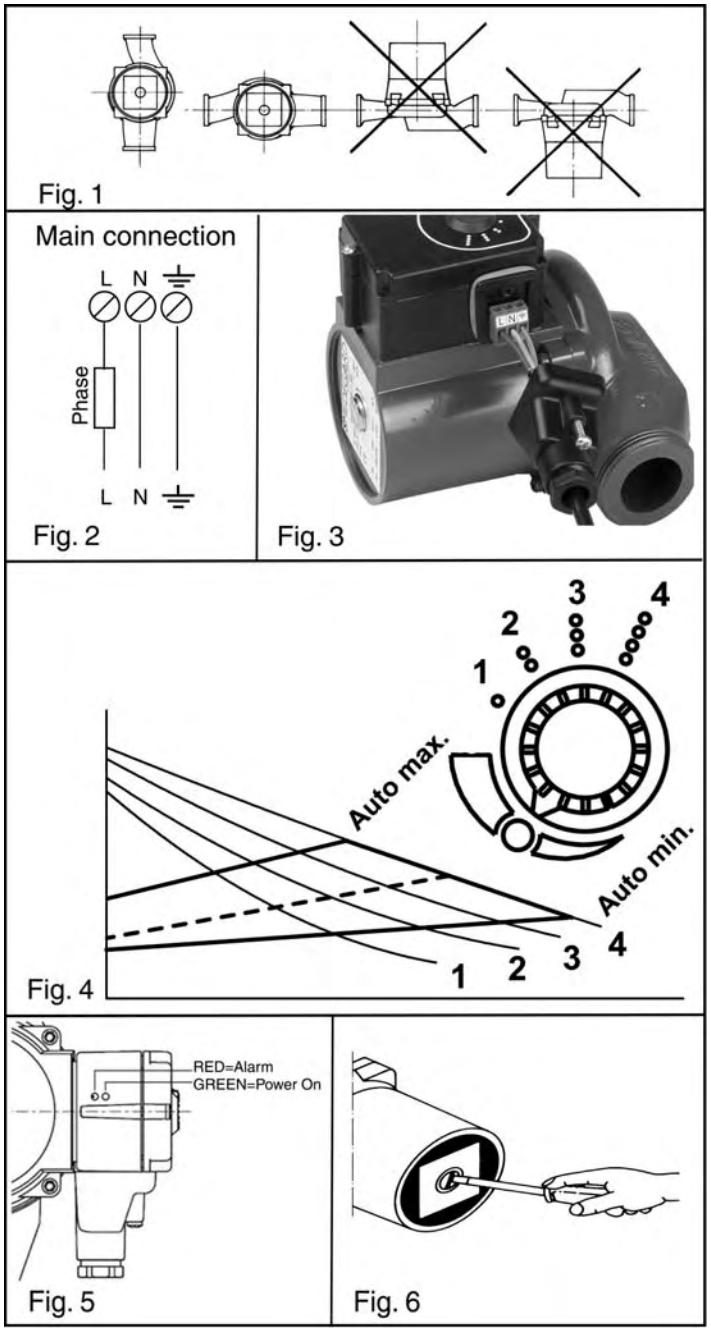


SMEDEGAARD
OF DENMARK

■Montagevejledning

■Installation Guide

■ Einbauanleitung

IsoBar SimFlex™

2-50, 3-50, 2-65, 3-65, 2-70, 3-70, 2-72, 3-72, 4-60

CE

English

Installation Guide
IsoBar SimFlex™
2/3-50, 2/3-65, 2/3-70, 2/3-72, 4-60

This installation guide gives basic instructions which are to be observed during installation, operation and maintenance of the pump. It is therefore imperative that this manual is read by the responsible person/operator prior to the installation and should always be kept available at the site.
It is not only the general safety instructions under this main heading "Safety" that are to be observed but also the specific information provided under the other main headings.
Serial No: **See nameplate**

Application
The IsoBar™ circulating pumps are used in all types of heating systems. Via the advanced internal speed control reduces the input power by automatic adjustment of the pump performance according to system needs (see also heading "**duty control"**). This design concept gives electrical and thermal savings together with reduced noise level in the installation.

Pump medium
Clean, thin, no aggressive and no explosive fluids without any solids or fibres.
Antifreeze without any mineral oil (special model available upon request).
Kinematic viscosity: Max. 10mm^2/s
Please note: If any liquid other than water is being pumped, we recommend that you contact
T. Smedegaard A/S or their representative as the pump characteristics may change.

Technical data

Electrical data:	See nameplate
Max. working pressure:	10 bar (1000 kPa)
Min. static head at 82°C:	2 - 5 m
Min. static head at 95°C:	3 - 7 m

Airborne sound pressure level Max. 40 dB(A)
According to EN 12639

IsoBar SimFlex™ type	Water temp. max. [C°]	Ambient temp. max. [C°]
2/3-50,2/3-65, 2/3-70	110	30
2/3-72, 4-60	90	40

Safety

- *The surface temperature might be hot.*
- *When venting the pump (**see fig. 6**), it could result in a slight escape of hot water or steam!*

- *Pump should be wired in line with the existing regulations.*
- *The mains electrical supply must be isolated before any work is carried out on the pump. The IsoBar pump must be earthed.*

Personnel qualification and training
Personnel responsible for operation, maintenance, inspection and installation of the pump must be adequately qualified.
The person responsible for the complete installation must ensure that the contents of this manual are fully understood by any personnel working on the system.

Installation
1) The pump should always be installed with the pump shaft horizontal **(see fig. 1).** Direction of flow through the pump casing is indicated by an arrow.
2) If terminal box is to be repositioned by rotating head, care must be taken to ensure the casing "0" ring is correctly positioned.
3) Ensure pipe-work alignment and the pump and pipe-work are adequately supported. Sharp bends should be avoided adjacent to the pump.
4) If pump is mounted in vertical pipe-work, flow should be upwards. If flow is downwards, an air-vent must be fitted at the highest point before pump suction.
5) Pump should never be allowed to operate for a long period in a closed valve condition.
6) To avoid accumulation of impurities in the pump, make sure that it is not mounted at the lowest point in a system.
7) It is recommended that isolating valves are fitted on either side of the pump.
8) System should be thoroughly flushed out to clear any solder, steel wool, plaster or any other foreign matter that may be lodged in the pump.

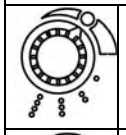
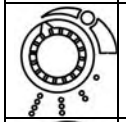
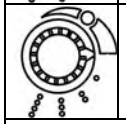
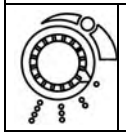
Electrical connection
Electrical data is shown on the nameplate. To connect the pump **(see fig. 2).** The green lamp will be lit when connections is done correctly **(see fig. 5).**
The pump needs no external protection but must be earthed.

Venting

Once the system has been filled, vent the pump before start-up. Venting can be achieved by loosening the plug positioned in centre of nameplate **(see fig. 6)** This process should be repeated periodically until all air held in suspension in the system water has been removed. Venting is best done in speed 4.

Duty Control
There are two modes for controlling the pumps.
- Controlled to follow a specific defined differential head at different flows **(auto).**
- Controlled to follow constant speed for systems with constant demand **(1-4).**

Setting is done via the rotating button on the front of the terminal box.

Electronic controlled settings		
	Normal setting, to cover app. 90 % domestic houses **Factory-setting**	Auto controlled performance for power savings and comfort where flow demands are changing. (see fig. 4)
	Reduced need for head. Systems with little resistance.	
	Increased need for head. Systems with high resistance as Underfloor heating.	
Setting for fixed speed		
	1-4 speeds 1. For small systems 4. for large systems or venting	Fixed speed for systems with constant resistance. (see fig. 4)

General
In all IsoBar pumps, **Pressure Loss Compensation (P.L.C.)** is included in the control, which means that the pump does not follow a constant differential head but takes into account the decreasing pressure needs at decreasing flow **(see fig. 4).** This setting is in the auto controlling mode.

Signals
The IsoBar™ pumps have two LED's on the terminal box for status indication (**see fig. 5**). Power is on when green lamp is on. The red lamp will be on if pump is faulty. Reset is carried out by switching the mains supply off for 5 sec. and then switch on.

Signal LED	Description
No light	Main supply switched off
Green light	Normal operation -power on
Red light	Blocked motor Electronic error

Fault finding

Fault	Cause	Action
The pump is not running.	See under heading "Signals"	Reset fault indication. Check main supply and fuses.
Pump will not start / is running irregularly	Impurities in the pump.	See under heading "Service/ Maintenance".
The pump is running but no flow.	Air in the system. Closed valve	Vent pump and system. Open valve.
Pump noisy.	Pump speed too high. Static head too low. Air in system	Decrease set point of control. Increase inlet pressure. Vent pump and system.

Service/Maintenance
Smedegaard's IsoBar SimFlex™ range of glandless pumps are virtually maintenance free and in a well designed system should give many years of operation. If motor shaft is seized as a result of pump standing for a long period without use or by a limited accumulation of magnetite or other impurities, it should be freed. Insert a screwdriver through vent plug hole into the slot in the end of the shaft and rotate **(see fig. 6).**
Please note: Any repairs required to the internal electrical parts of the pump/terminal box, are to be carried out by a Service Department approved by T. Smedegaard A/S.

Declaration of conformity
We **T. Smedegaard** A/S, hereby declare that our product IsoBar SimFlex™, is in conformity with:
- Council Directive 73/23 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.
- Council Directive 89/336 on the approximation of the laws of the Member States relating to electromagnetic compatibility.
- Council Directive 89/392 on the approximation of the laws of the Member States relating to construction and making of machines.

If further information is required, please contact **T. Smedegaard A/S** or their representatives whose addresses are listed at the end of this installation guide.

EN standards:
Electrical equipment: EN 60335-2-51, 60335-1
Electromagnetic compatibility: EN 50081-1 and EN 50082-2.
Making of machines: EN 292 part 1+2, EN 809

Glostrup 2006 04.01

Søren Smedegaard
Managing Director