

FRANCAIS

CE MANUEL DOIT ETRE REMIS A
L'UTILISATEUR FINAL ET ETRE TOUJOURS
DISPONIBLE SUR SITE

ENGLISH

THIS LEAFLET HAS TO BE GIVEN TO THE
END USER AND MUST BE LEFT ON SITE.

ITALIANO

QUESTO LIBRETTO D'USO DEVE ESSERE
RIMESSO ALL'UTILIZZATORE FINALE E
RIMANERE SEMPRE DISPONIBILE SUL POSTO.

ESPAÑOL

ESTE MANUAL HA DE SER ENTREGADO AL
UTILIZADOR FINAL Y SIEMPRE DISPONIBLE
EN SU EMPLAZAMIENTO.



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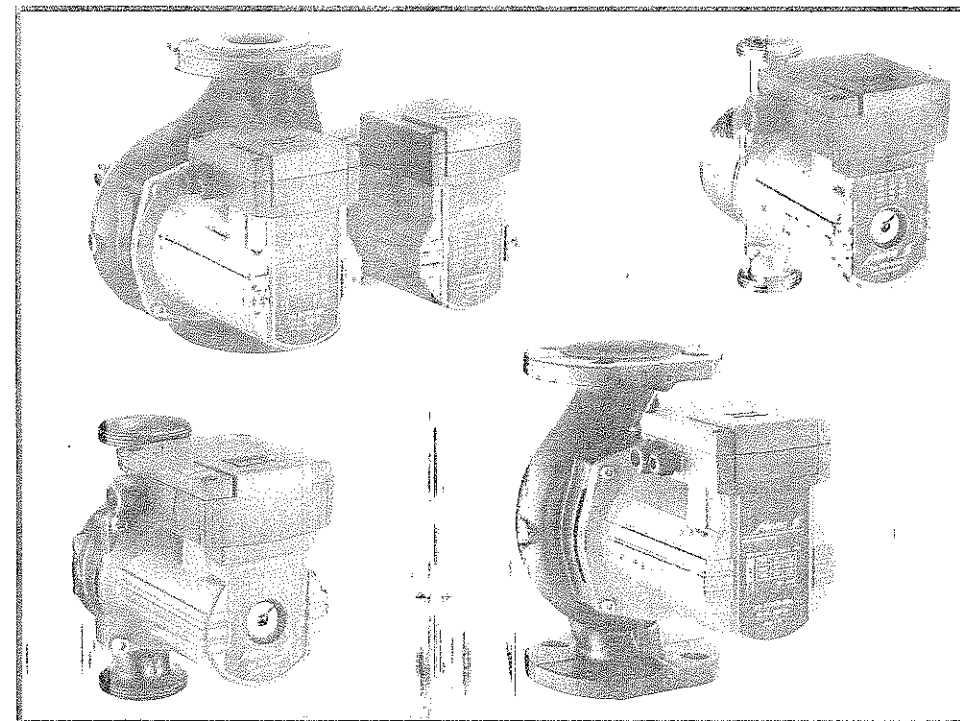
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SEX-DEX/SXM-DXM/SXS/NSB-S



NOTICE DE MONTAGE ET DE MISE EN SERVICE

FRANCAIS

INSTALLATION AND OPERATING INSTRUCTIONS

ENGLISH

ISTRUZIONI DI MONTAGGIO, USO E MANUTENZIONE

ITALIANO

INSTRUCCIONES DE INSTALACIÓN Y
FUNCIONAMIENTO

ESPAÑOL

N.M.S.

STOCK N° 2.115.936/Ed.01-02/11



Fig. 1

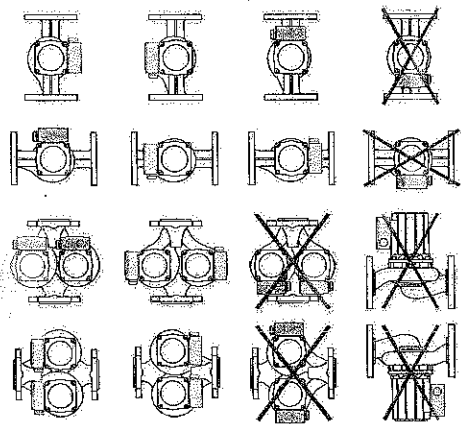


Fig. 2

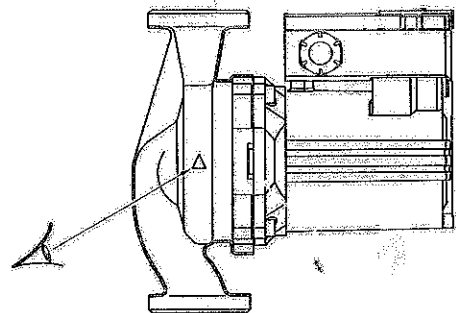


Fig. 3

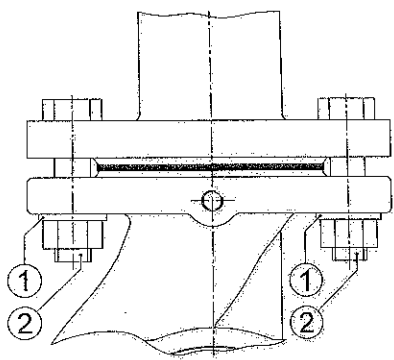


Fig. 4

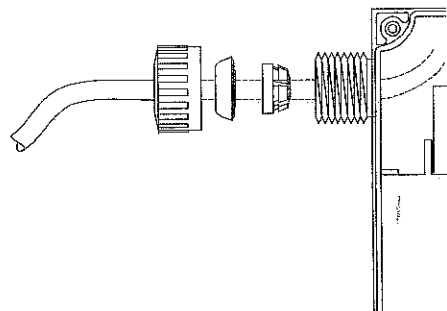


Fig. 5a

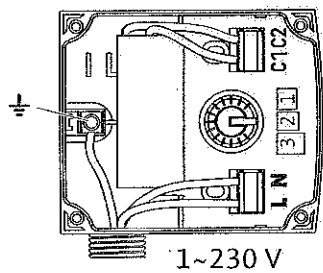


Fig. 5b

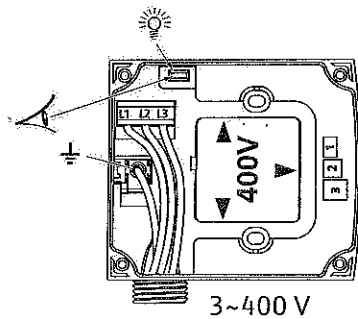


Fig. 6a

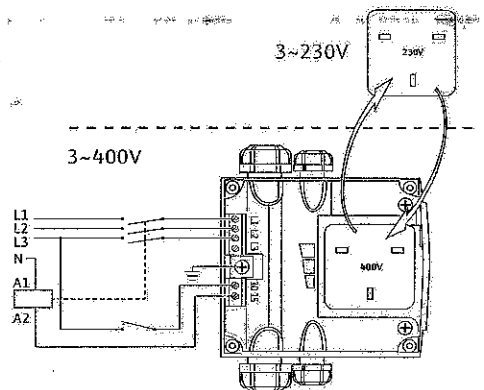


Fig. 6b

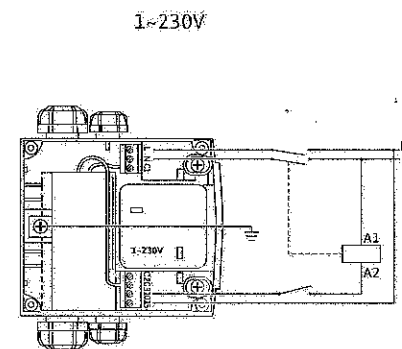


Fig. 7

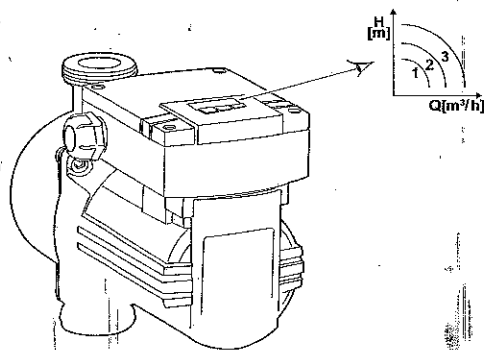


Fig. 8

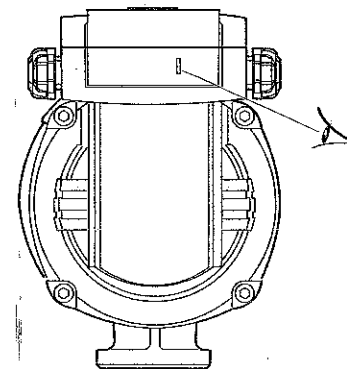


Fig. 9

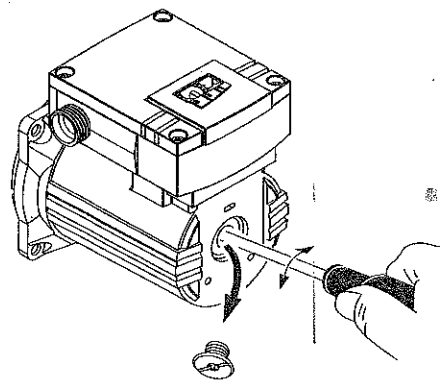
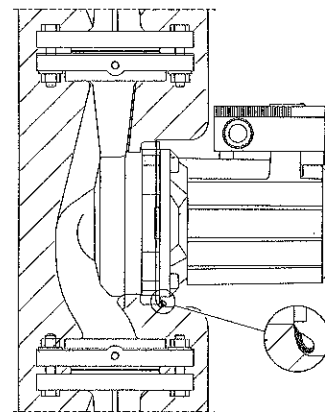


Fig. 10



1 General

About this document

The language of the original operating instructions is German. All other languages of these instructions are translations of the original operating instructions.

These installation and operating instructions are an integral part of the product. They must be kept readily available at the place where the product is installed. Strict adherence to these instructions is a precondition for the proper use and correct operation of the product.

These installation and operating instructions correspond to the relevant version of the product and the underlying safety standards valid at the time of going to print.

EC declaration of conformity

A copy of the EC declaration of conformity is a component of these operating instructions.

If a technical modification is made on the designs named there without our agreement, this declaration loses its validity.

2 Safety

These operating instructions contain basic information which must be adhered to during installation, operation and maintenance. For this reason, these operating instructions must, without fail, be read by the service technician and the responsible specialist/operator before installation and commissioning.

It is not only the general safety instructions listed under the main point "safety" that must be adhered to but also the special safety instructions with danger symbols included under the following main points.

2.1 Indication of instructions in the operating instructions

Symbols:

General danger symbol



Danger from electrical voltage



USEFUL NOTE:



Signal words:

DANGER!

Acutely dangerous situation

Non-observance results in death or the most serious of injuries.

WARNING!

The user can suffer (serious) injuries. 'Warning' implies that (serious) injury to persons is probable if this information is disregarded.

CAUTION!

There is a risk of damaging the product/unit. 'Caution' implies that damage to the product is likely if this information is disregarded.

NOTE: Useful information on handling the product. It draws attention to possible problems.

Information that appears directly on the product, such as

- Direction of rotation arrow,
 - Identification for fluid connections
 - Name plate
 - Warning sticker
- must be strictly complied with and kept in legible condition.

2.2 Personnel qualifications

The installation, operating and maintenance personnel must have the appropriate qualifications for this work. Area of responsibility, terms of reference and monitoring of the personnel are to be ensured by the operator. If the personnel are not in possession of the necessary knowledge, they are to be trained and instructed. This can be accomplished if necessary by the manufacturer of the product at the request of the operator.

2.3 Danger in the event of non-observance of the safety instructions

Non-observance of the safety instructions can result in risk of injury to persons and damage to the environment and the product/unit. Non-observance of the safety instructions results in the loss of any claims to damages.

In particular, lack of care may lead to problems such as:

- Danger to persons due to electrical, mechanical and bacteriological influences,
- damage to the environment due to leakage of hazardous materials,
- damage to property,
- failure of important product/unit functions,
- failure of required maintenance and repair procedures.

2.4 Safety consciousness on the job

The safety instructions included in these installation and operating instructions, the existing national regulations for accident prevention together with any internal working, operating and safety regulations of the operator are to be complied with.

2.5 Safety instructions for the operator

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

- If hot or cold components on the product/the unit lead to hazards, local measures must be taken to guard them against touching.
- Leakages of hazardous fluids must be led away so that no danger to persons or to the environment arises. National statutory provisions are to be complied with.
- Danger from electrical current must be eliminated. Local directives or general directives [e.g. IEC, VDE etc.] and local power supply companies must be adhered to.

2.6 Safety instructions for installation and maintenance work

The operator must ensure that all installation and maintenance work is carried out by authorised and qualified personnel, who are sufficiently informed from their own detailed study of the operating instructions.

Work on the product/unit must only be carried out when at a standstill. It is mandatory that the procedure described in the installation and operating instructions for shutting down the product/unit be complied with.

Immediately on conclusion of the work, all safety and protective devices must be put back in position and/or recommissioned.

2.7 Unauthorised modification and manufacture of spare parts

Unauthorised modification and manufacture of spare parts will impair the safety of the product/personnel and will make void the manufacturer's declarations regarding safety.

Modifications to the product are only permissible after consultation with the manufacturer. Original spare parts and accessories authorised by the manufacturer ensure safety. The use of other parts will absolve us of liability for consequential events.

2.8 Improper use

The operating safety of the supplied product is only guaranteed for conventional use in accordance with Section 4 of the operating instructions. The values in operation must on no account undershoot or overshoot the limit values specified in the catalogue/data sheet.

3 Transport and interim storage

On arrival, immediately check the product and its packaging for damage in transit. If damage is found, the necessary actions involving the forwarding agent must be taken within the specified period.



CAUTION! Risk of injuries to personnel and damage to the product!
Incorrect transport and interim storage can cause damage to the product and injury to personnel.

- The pump and its packaging must be protected against moisture, frost and mechanical damage during transport and interim storage.
- Packaging that has become weakened loses its strength and can allow the product to fall out, causing injury to personnel.
- When the pump must be transported, it may be carried only by the motor/pump housing. Never carry it by the module/terminal box, cable or external capacitor.

4 Intended use

Circulation pumps are used for delivering liquids in

- hot water heating systems
- underfloor heating
- cooling and cold water circuits
- closed-circuit industrial circulation systems



WARNING! Health hazard!
Because of the materials used in their construction, pumps of the SCX-DCX / SXM-DXM range are unsuitable for use in applications involving drinking water or foodstuffs.

- Pumps of the NSB-S and SXS range are additionally suitable for use in drinking water circulation systems

5 Product information

5.1 Type key

Examples SCX 50-100	
SCX	SCX/SXM Standard type three-phase / single-phase motor DCX/DXM Standard type twin-head pump three-phase / single-phase motor
	SXS Single-head pump for drinking water circulation systems three-phase motor
	SXS...M Single-head pump for drinking water circulation systems single-phase motor
50	Threaded connection: 20 (Rp ¾), 25 (Rp 1), 30 (Rp 1½) Flange connection: DN 32, 40, 50, 65, 80, 100 Combination flange(PN 6/10): DN 32, 40, 50, 65
-90	Delivery head in dm at nominal flow
Examples NSB-S 20-25	
NSB-S	Single-head pump for drinking water circulation systems single-phase motor, stainless steel pumphousing
30	Nominal flow (= 3 m³/h)
-25	Threaded connection: 20 (Rp ¾), 25 (Rp 1)
Technical data	
Max. flow rate	Depends on the pump type (see catalogue)
Max. delivery head	Depends on the pump type (see catalogue)
Speed	Depends on the pump type (see catalogue)
Mains voltage	1-230 V to DIN IEC 60038 3-400 V to DIN IEC 60038 3-230 V* to DIN IEC 60038 (optionally with change-over switch) *Exception: SCX/DCX 80-110 and 80-150 For other voltages see name plate
Nominal current	See name plate
Frequency	See name plate (50 or 60 Hz)
Insulation class	See name plate
Protection class	See name plate
Power consumption P ₁	See name plate
Nominal diameters	See type key
Connection flange	See type key
Pump weight	Depends on the pump type (see catalogue)
Permitted ambient temperature	-20 °C to +40 °C
Max. rel. humidity	≤ 95%

5.2 Technical data

Approved fluids SCX/SXM/DCX/DXM	Heating water (to VDI 2035) water/glycol mixtures, max. mixing ratio 1:1 (for mixtures with glycol the conveying data of the pump should be corrected to those for the higher viscosity, depending on the percentage mixing ratio) Only use brand-name goods with corrosion protection inhibitors; comply with the manufacturer's specifications and safety data sheets. The pump manufacturer's approval must be obtained for use of other fluids. Special versions with fluids-resistant materials (e.g. versions for use with oil) available on request.
SXS/NSB-S	Drinking water and water for foodstuff applications to EC drinking water directive. In systems to the German drinking water regulations 2001 and DIN 50930-6, pumps with housings of bronze (CC 499K) or stainless steel must be used.
Permissible fluid temperature	Heating water: SCX/SXM/DCX/DXM: -20 °C to +130 °C (for a short time (2h): +140 °C) Exception: SXM 25-90, SCX/DCX 80-110 and 80-150: -20 °C to +110 °C NSB-S and SXS: -20 °C to +110 °C Drinking water: SXS: to 24 °C: max. +80 °C (for a short time (2h): +110 °C) Exception: NSB-S: to 22 °C: max. +65 °C (for a short time (2h): +80 °C)
Max. permissible operating pressure	See name plate
Emission sound-pressures level	< 50 dB(A) (depending on the pump type)
Emission of interference	EN 61000-6-3
Resistance to interference	EN 61000-6-2



CAUTION! Risk of injuries to personnel and damage to the product!
Impermissible fluids can damage the pump and also cause injury to persons.
Comply strictly with the relevant safety data sheets and manufacturer's data!

Minimum inlet pressure (above atmospheric pressure) at the pump suction port in order to avoid cavitation noises (at fluids temperature T_{Med}):

SCX/SXM/PS/DXM								
T_{Med}	Rp 1/4	Rp 1	Rp 1 1/4	DN 32/40	DN 50	DN 65	DN 80	DN 100
+50 °C	0.05 bar			0.3 bar				
+95 °C	0.5 bar			1.0 bar				
+110 °C	1.1 bar			1.6 bar				
+130 °C	2.4 bar(*)			2.9 bar(*)				

(*) not applicable to SXM 25-90, SCX/DCX 80-110 et 80-150

N150-S/SXS							
T_{Med}	Rp 1/4	Rp 1	Rp 1 1/4	DN 40	DN 50	DN 65	DN 80
+50 °C	0.5 bar			0.8 bar			
+80 °C	0.8 bar			1.0 bar			
+110 °C	2.0 bar			3.0 bar			

The values apply up to 300 m above sea level; addition for higher locations: 0.01 bar/100 m increase in height.

5.3 Scope of delivery

- Pump, complete
 - Two seals for threaded connection
 - Two seals and bolts for flange connection
 - Eight M12 washers
(for M12 flange bolts for DN 32-DN 65 combination flanged version)
 - Eight M16 washers
(for M16 flange bolts for DN 32-DN 65 combination flanged version)
 - Installation and operating instructions

5.4 Accessories

Accessories must be ordered separately:

- Change-over switch for 3~230 V
- Kit-press 6 or Kit-press 16