

- D** Einbau- und Betriebsanleitung
- GB** Installation and Maintenance Instructions
- F** Notice de mise en service et de montage
- I** Istruzioni di montaggio, uso e manutenzione

## Wilo-Star-Z 15

**Z 15 A**  
**Z 15 APress**  
**Z 15 C**





# 1 General data

## Installation and service by qualified personnel only

### 1.1 Field of application

The circulating pump Star-Z 15 is designed to circulate secondary hot water.

The main fields of application are:

- Circulation systems for secondary hot water,
- Cooling water circulation.

### 1.2 Product information

#### 1.2.1 Connecting and performance data

	Unit	Z 15	Z 15 A/C	Z 15 APress
Voltage		1 ~ 230 V/50 Hz		
Motor Power P <sub>1</sub>	W	28		
Max. Motor speed (constant)	1/min	2600		
Nom. size of connecting pipe (threaded union)		Rp1/2	R1	∅ 15
Installation length	mm	84	140	164
Max. permissible operating pressure	bar	10		
Min. static head at inlet port at temperature 65°C *	bar	0,2		
Allowable water temperature range	°C	20 to 65		

\* This value is applicable up to 300 m above sea level, addition for higher values: 0.01 bar/100 m height increment.

To avoid cavitation noises, the minimum static head must be maintained.

When ordering spare parts, all the pump and motor data found on the name plate is to be quoted.

## 2 Safety

These instructions contain important information which must be followed when installing and operating the pump. It is therefore imperative that they be read by both the installer and the operator before the pump is installed or started up.

Both the general safety points in this section and the more specific safety points in the following sections should be noted.

### 2.1 Instruction symbols in this operating manual

Safety precautions in these operating instructions which, if not followed, could cause personal injury are indicated by the symbol:



Safety precautions warning of danger due to electricity are indicated by the symbol:



The following symbol is used to indicate that by ignoring the relevant safety instructions, damage could be caused to the pump/machinery and its functions:

**ATTENTION!**

### 2.2 Personnel qualifications

The personnel installing the pump must have the appropriate qualifications for this work.

### 2.3 Risks incurred by failure to comply with the safety precautions

Failure to comply with the safety precautions could result in personal injury or damage to the pump or installation. Failure to comply with the safety precautions could also invalidate any claim for damages.

In particular, failure to comply with these safety precautions could give rise, for example, to the following risks:

- Failure of important pump or installation functions,
- dangers to persons caused by electrical and mechanical effects.

## 2.4 Safety precautions for the operator

local regulations for the prevention of accidents must be observed. Dangers resulting from electrical energy are to be prevented. The VDE (German association of Electrical Engineers) and national/local energy supply company regulations must be observed.

## 2.5 Safety information for inspection and assembly

The operator must ensure that all inspection and installation work is carried out by authorised and qualified specialists who have carefully studied these instructions.

Work on the pump/machinery should only be carried out when the machine has been brought to a standstill.

## 2.6 Unauthorised modification and manufacture of spare parts

Changes to the pump/machinery may only be made in agreement with the manufacturer. The use of original spare parts and accessories authorised by the manufacturer will ensure safety. The use of any other parts may invalidate claims invoking the liability of the manufacturer for any consequences.

## 2.7 Unauthorised operating methods

The operating safety of the pump or installation supplied can only be guaranteed if it is used in accordance with paragraph 1 of the operating instructions. The limiting values given in the catalogue or data sheet must neither be exceeded nor allowed to fall below those specified.

# 3 Transport and intermediate storage

## ATTENTION!

The pump must be protected against moisture and mechanical damage during transport and intermediate storage.

# 4 Description of products and accessories

## 4.1 Description of secondary-water pump

The circulator pump Z 15 (Fig. 1) has been especially designed to operate in secondary hot water circulation systems. Due to a proper selection of material and design it will not corrode when installed for this purpose. Motor protection is not necessary, because the motors are of the non overloading type.

The version Z 15 A (Fig. 2) is a compact, ready-for-installation solution with a ball shut-off valve on the inlet side and a non-return valve on the pressure side directly fitted to the pump and which are normally required for installation within a circulation pipeline system.

The version Z 15 APress (Fig. 3) is a compact, ready-for-installation solution with a compressible connection pipe, a ball shut-off valve in the inlet side and a non-return valve in the pressure side directly integrated.

The ready-to-connect version Z 15 C (Fig. 4) contains a timer for related switching (on and off) of the pump in addition to the extra features found with the Z 15 A.

## **4.2 Scope of delivery**

### **Z 15:**

- pump,
- Installation and maintenance instructions.

### **Z 15 A:**

- Pump with ball shut-off valve and non-return valve,
- Installation and maintenance instructions.

### **Z 15 APress:**

- Pump with ball shut-off valve and non-return valve,
- Compressible connection pipe,
- Installation and maintenance instructions.

### **Z 15 C:**

- Pump with ball shut-off valve, non-return valve and connecting cable 1.8 m with earthing contact plug,
- Timer S1h with 24-h switching programme,
- Installation and maintenance instructions.

## **4.3 Accessories**

- Reserve/stand-by motor suitable for each pump housing of the design,
- Special mounting position R<sup>1/2</sup> a /  $\varnothing$  15 i for a threaded or soldered connection inc. Coupling nuts R1 and gaskets.

## 5 Siting/Installation

### 5.1 Mounting

#### 5.1.1 General

- Any installation work may be performed only upon termination of all welding and soldering work and the potentially necessary flushing of the pipework system. Any dirt remaining in the pipeline may cause the pump to fail.
- Mount the pump in an easily accessible location with isolating valves at both suction and discharge ports in order to facilitate later inspections or exchange. It may be necessary, depending on the application (e.g. potable/domestic water services) to use a spring-activated non-return valve in lieu of the discharge isolating valve. Provision and installation of isolating valves are not required for A/APress- and C-design pumps as their functions are covered by the integrated non-return and isolating valves.
- Carry out stress-free installation with circulator shaft in the horizontal position. Closely follow the installation positions as per Fig. 5.
- The directional arrow on the pump housing shows the direction of flow.
- With Z 15 A/C, the non-return valve (Fig. 2, pos. 1) is screwed into the pressure socket, whereas the ball valve (Fig. 2, pos. 2) is screwed into the inlet socket.  
With Z 15 APress the non-return valve (Fig. 3, pos. 1) is integrated into the pressure socket, whereas the ball valve (Fig. 3, pos. 2) is integrated into the inlet socket.  
The ball valve is opened, when the slot is in-line with the direction of flow and closed when the slot is at 90 degrees to the direction of flow.
- The cable screw connection (Fig. 2, pos. 3) must be downwards, otherwise water may easily penetrate into the motor housing. In some cases, the motor housing must be turned somewhat after loosening the coupling nut (Fig. 2, pos. 4) to achieve this objective.

**ATTENTION!** Do not damage the housing gasket.

#### 5.1.2 Mounting of the Wilo-Star-Z15 APress

- For preparing a press fitting (system Viega), a pressing tool is required. This tool forms the connector before and behind the bead. In this way,

an absolutely reliable and positive connection, (actuated by pressing) is always guaranteed.

- The pressing tools of companies Geberit, Mannesmann and Viega are compatible. The pressure clamps are not. The pressure clamps of the different suppliers are specific for their systems and therefore relate to each specific system. The pressing tool of a.m. suppliers can be equipped with the pressure clamps of each other supplier.

**ATTENTION!** For Wilo-Star-Z15 A Press, only the pressure clamps of the system Viega can be used.

## 5.2 Electrical connection



The electrical connection is to be performed by an electrical technician authorised by local electricity supply company and in accordance with the applicable local authority regulations.

- The electrical connection is to be carried out in accordance with local regulations via a „fixed“ or hardwire connecting line provided with plug-type equipment or an all-pole switch with a contact opening width of 3 mm at least.
- To ensure drip (water) protection and strain relief for the compression gland, the connecting cable used shall have a sufficient outside diameter (e.g. H 05 VV-F 3 Gl.5).
- Check the type of current and voltage of the mains connection,
- **Observe pump name plate data.**
- Establish the mains connection of pump Z 15 according to the connection diagram 6. Loosen the screw (Fig. 2, pos. 5), remove motor housing (Fig. 2, pos. 6, with snap-action lock). The terminal strip shows the designations of the connections.
- Observe earthing regulations. Ensure the earth wire has been securely fastened.

## 6 Commissioning

### 6.1 Filling and bleeding

Fill the system properly. The pump rotor chamber is automatically bled after a short period of operation. Short-term dry-running conditions are harmless for the pump.

## 7 Maintenance

The pumps are maintenance-free.

## 8 Fault finding, Causes and Remedies

### 8.1 Pump does not run with power supply switched on:

- Check electrical fuses/trips,
- Check pump voltage (see nameplate data),
- Timer adjusted?
- Motor is blocked, e.g. by dirt in the water circuit.

Remedy: Open pump as follows:

- Separate electrical connection,
- Loosen coupling nut (Fig. 2, pos. 4), remove motor with impeller and restore smoothness of operation of the impeller by turning it and flushing out dirt/residues. NB: Take care of the gasket/O-rings.



Before removing the pump, close shut-off valves and fittings upstream and downstream of the pump. Allow pump to cool prior to strip down.



Depending on the fluid temperature and the system pressure hot liquid or gas may escape or even shoot out at high pressure when dismantling the pump.

**Beware of scalding!**

### 8.2 Pump emits noise:

- In the event of cavitation due to insufficient static head.

Remedy: Increase the system static head to the recommended level.

**If the fault cannot be remedied, please contact your local plumbing and heating specialist or Wilo customer service.**



**Notizen**

**Notes**

**Notes**

**Appunti**

---

## WILO GmbH – Service International (subsidiaries)

### Austria

WILO-Handelsges. m.b.H.  
Julius-Ficker-Straße 81  
A-1210 Wien  
Tel. (00 43) 1/2 50 62-0  
Fax (00 43) 1/2 50 62-15

### Belgium

WILO NV/SA  
Rusatiralaan 2  
B-1083 Ganshoren  
Tel. (00 32) 2/4 82 33 33  
Fax (00 32) 2/4 82 33 30

### Bulgaria

WILO Bulgaria EOOD  
Blvd. „G. M. Dimitrov“ 54 app. 404  
BG-1125 Sofia  
Tel. (00 359) 88 71 71 77

### China

WILO Salmsom (Beijing) Pumps Ltd.  
Beijing Airport Industrial Zone B  
Yuhua Road 23 a  
101300 Beijing  
Tel. (00 86) 10/80 49 39 00  
Fax (00 86) 10/80 49 37 88

Tel. (00 86) 10/64 99 39 82  
and 64 99 39 98  
Fax (00 86) 10/64 99 41 10

### Czech Republic

WILO Praha s.r.o.  
U Pekařky 7  
CZ-18000 Praha 8  
Tel. (00 420) 2/83 84 02 08  
Fax (00 420) 2/66 31 61 67

### Denmark

WILO Danmark A/S  
Metalgangen 9C  
DK-2690 Karlslunde  
Tel. (00 45) 70 25 33 12  
Fax (00 45) 70 25 33 16

### Finland

WILO Finland OY  
Ruokintie 20 c  
SF-02320 Espoo  
Tel. (00 358) 9/26 06 52 22  
Fax (00 358) 9/26 06 52 20

### France

WILO France S.A.  
Zone Industrielle Les Broderies  
11, Av. de la Gare  
F-78310 Coignières  
Tel. (00 33) 1/34 61 47 07  
Fax (00 33) 1/34 61 49 59

### Great Britain

WILO Salmsom Pumps Ltd.  
Centrum 100  
Burton-on-Trent  
DE14 2WJ Staffordshire  
Tel. (44) 1283 523000  
Fax (44) 1283 523099

### Greece

WILO-Hellas AG  
Panomou 86  
GR-11523 Athen  
Tel. (00 30) 1/6 92 63 12  
Fax (00 30) 1/6 91 01 25

### Hungary

WILO Magyarország Kft  
Gvadányi utca 67  
H-1144 Budapest XIV  
Tel. (00 36) 1/46 770-70 Sales Dep.  
46 770-80 Tech. Serv.  
Fax (00 36) 1/4 67 70 89

### Ireland

WILO Engineering Ltd.  
Enterprise Centre  
Childers Road  
IRE-Limerick  
Tel. (00 353) 61/41 09 63  
Fax (00 353) 61/41 47 28

### Italy

WILO Italia s.r.l.  
Via I Maggio 6/BIS  
I-20068 Peschiera Borromeo  
(Milano)  
Tel. (00 39) 2/5 53 83 51  
Fax (00 39) 2/55 30 33 74

### Korea

WILO Pumps Korea Ltd.  
3rd Floor, Hansung Bldg.  
2B-11 Hannam-Dong,  
Yongsan-Ku  
K-140-210 Seoul  
Republic of Korea  
Tel. (00 82) 2/7 96 86 38/9  
and 7 90 41 58/9  
Fax (00 82) 2/7 96 91 39

### Latvia

WILO Baltic SIA  
Maskavas 198 a  
LV-1019 Riga  
Tel. (00 371) 7/14 52 29  
Fax (00 371) 7/14 55 66

### Lebanon

WILO SALMSOM Lebanon s.a.r.l.  
Yara Centre  
Autostrade Jdeideh  
P.O. Box 90291  
Beirut/Lebanon  
Tel. (00 961) 1/876691  
Fax (00 961) 1/871675  
GSM: (00 961) 3/250611

### The Netherlands

WILO Nederland B.V.  
Gooiland 10a,  
NL-1948 RC Beverwijk  
Postbus 270  
NL-1940 AG Beverwijk  
Tel. (00 31) 2 51/22 08 44  
Fax (00 31) 2 51/22 51 68

### Norway

WILO Norge A/S  
Borgejordet 80  
N-3269 Larvik  
Tel. (00 47) 3 31/2 68 11  
Fax (00 47) 3 31/2 45 20

### Poland

WILO Polska Sp. z o.o.  
ul. Sasaniki 25  
PL-05-090 Raszyn k/Warszawy  
Tel. (00 48) 22/7 20 11 11  
Fax (00 48) 22/7 20 05 26

### Romania

WILO Romania s.r.l.  
B-dul Metalurgiei 12-30, sect. 4  
RO-7000 Bucuresti (Bukarest)  
Tel. (00 40) 1/332-1556 und 57  
Fax (00 40) 1/332-1554

### Russia

WILO Rus o.o.o.  
ul. Narodnogo Opoltschenija 34  
RUS-123423 Moskau  
Tel. (00 7) 095/9 46 86 21  
Fax (00 7) 095/9 46 86 22

### Singapore

POMPES SALMSOM (SEA) PTE. Ltd.  
1, Claymore Drive  
10-03 Orchard Towers (Rear Block)  
Singapore 229594  
Telefon (00 65) 8 34 06 88  
Telefax (00 65) 8 34 06 77

### Slovakia

WILO Slovakia s.r.o.  
ul. Podunajská 25  
P.O. Box 19  
SR-82008 Bratislava 28  
Tel. (00 421) 74/5 52 01 22  
Fax (00 421) 74/5 24 64 71

### Spain

WILO Ibérica S.A.  
Avda. del Cañal, 11 y 13  
Pol. Ind. Borondo  
E-28500 Arganda (Madrid)  
Tel. (00 34) 91/8 75 74 40  
Fax (00 34) 91/8 75 74 41

### Sweden

WILO Sverige AB  
Smedjegatan 20  
Box 30 24  
S-350 33 Växjö  
Tel. (00 46) 4 70/72 76 00  
Fax (00 46) 4 70/72 76 44

### Switzerland

EMB Pumpen AG  
Erlenweg 4  
CH-4310 Rheinfelden  
Tel. (00 41) 61/8 36 80 20  
Fax (00 41) 61/8 36 80 21

### Turkey

WILO Pompa Sistemleri  
San. ve Tic. A.Ş.  
Akdeniz Cad. 30 Sokak  
TR-Ferhatpasa/Maltepe-Istanbul  
Tel. (00 90) 2 16/4 66 49 25  
Fax (00 90) 2 16/4 66 49 31

### Ukraine

WILO Ukraina t.o.w.  
Vozduhoflotsky Prospekt 72  
UA-03151 Kiev  
Tel. (00 38) 044/2 46 24 00  
Fax (00 38) 044/2 46 24 04

## WILO GmbH – Service International (residential engineers)

### Belarus

Mr. Andrej W. Petuschkov  
ul. Vostochnaya 129  
BY-220113 Minsk  
Tel./Fax (00 375) 172/62 13 24

### Bosnia and Herzegovina

Mr. Rino Kerekovic  
Buka 12  
BiH-71000 Sarajevo  
Tel./Fax (00 387) 71/21 10 72

### Croatia

Mr. Damir Hajdina  
Mr. Damir Markus  
Franje Fujsa 6  
HR-10000 Zagreb  
Tel./Fax (00 385) 1/3638054

### Kasachstan

Mr. In Pak  
174 B. Djambula Str., appt. 1  
KZ-480008 Almaty  
Tel./Fax (00 7) 3272/680818

### Macedonia

Mr. Valerij Vojneski  
ul. Varsavska 1-2/13  
MK-91000 Skopje  
Tel./Fax (00 389) 91/37 82 77

### Moldavia

Mr. Sergiu Zagorean  
(Assistex Group s.r.l.)  
str. Banulescu-Bodoni 45, of. 213  
Kishinev  
Tel./Fax (00 373) 2/22 94 55

### Slovenia

Mr. Anton Mrak  
Stanezice 58A  
SLO-1210 Ljubljana-Sentvid  
Tel./Fax (00 386) 61/1 52 30 18

### Uzbekistan

Mr. Said Allmuchamedov  
ul. Tschimkentskaya h. 7, w. 75  
UZ-70029 Tashkent  
Tel./Fax (00 99) 871/1 52 71 29

### Yugoslavia

Mr. Vladimir Stojadinovic  
Ravanicka 36  
YU-11050 Belgrade  
Tel./Fax (00 381) 11/41 14 89

Oktober 2000

# Vertriebsbüros

## G1 Nord:

WILO GmbH  
Vertriebsbüro Hamburg  
Sinstorfer Kirchweg 74-92  
21077 Hamburg  
Telefon 0 40/5 55 94 90  
Telefax 0 40/55 59 49 49

## G2 Ost:

WILO GmbH  
Vertriebsbüro Berlin  
Juliusstraße 52-53  
12051 Berlin  
Telefon 0 30/6 28 93 70  
Telefax 0 30/62 89 37 70

## G3 Sachsen/Thüringen:

WILO GmbH  
Vertriebsbüro Dresden  
Frankenring 8  
01723 Kesselsdorf  
Telefon 03 52 04/70 50  
Telefax 03 52 04/7 05 70

## G4 Südost:

WILO GmbH  
Vertriebsbüro München  
Landshuter Straße 20  
85716 Unterschleißheim  
Telefon 0 89/4 20 00 90  
Telefax 0 89/42 00 09 44

## G5 Südwest:

WILO GmbH  
Vertriebsbüro Stuttgart  
Hertichstraße 10  
71229 Leonberg  
Telefon 0 71 52/9 47 10  
Telefax 0 71 52/94 71 41

## G6 Rhein-Main:

WILO GmbH  
Vertriebsbüro Frankfurt  
An den drei Hasen 31  
61440 Oberursel  
Telefon 0 61 71/7 04 60  
Telefax 0 61 71/50 77 41

## G7 West:

WILO GmbH  
Vertriebsbüro Düsseldorf  
Hans-Sachs-Straße 4  
40721 Hilden  
Telefon 0 21 03/9 09 20  
Telefax 0 21 03/90 92 15

## G8 Nordwest:

WILO GmbH  
Vertriebsbüro Hannover  
Ahrensburger Straße 1  
30659 Hannover  
Telefon 05 11/43 88 40  
Telefax 05 11/43 59 87

## Zentrale Auftragsbearbeitung für den Fachgroßhandel:

WILO GmbH  
Auftragsbearbeitung  
Nortkirchenstraße 100  
44263 Dortmund  
Telefon 02 31/4 10 26 82  
Telefax 02 31/4 10 25 55

## Technischer Kundendienst und Ersatzteile

WILO GmbH  
Zentrale Kundendienstleitung  
Nortkirchenstraße 100  
44263 Dortmund  
44263 Dortmund-Hörde  
Telefon 01 80 5\*/W•L•O•K•D  
9•4•5•6•5•3

Telefax 02 31/4 10 21 26  
\* 24 Pf/Minute

## WILO GmbH – International

### Austria

WILO-Handelsges. m.b.H.  
Julius-Ficker-Straße 81  
A-1210 Wien  
Tel. (00 43) 1/2 50 62 - 0  
Fax (00 43) 1/2 50 62 - 15

### Switzerland

EMB Pumpenbau AG  
Erlenweg 4  
CH-4310 Rheinfelden  
Tel. (00 41) 61/8 36 80 20  
Fax (00 41) 61/8 36 80 21

Weitere Vertriebstochtergesellschaften in:

**Belgien, China, Dänemark, Finnland,  
Frankreich, Griechenland,  
Großbritannien, Irland, Italien, Korea,  
Libanon, Litauen, Niederlande,  
Norwegen, Polen, Rumänien, Rus-  
sland, Schweden, Singapur, Slowakei,  
Spanien, Tschechien, Türkei, Ukraine,  
Ungarn**

**WILO GmbH, Nortkirchenstraße 100, 44263 Dortmund (Hörde)**  
Telefon 02 31/4102-516, Telefax 02 31/41 02-363  
e-mail: [wilo@wilo.de](mailto:wilo@wilo.de), Internet: [www.wilo.de](http://www.wilo.de)



Stand: Oktober 2000