



**NOCCHI®**  
Pentair Water



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**I****DICHIARAZIONE CE DI CONFORMITÀ**

La Ditta Pentair Water Italy Srl dichiara sotto la propria responsabilità che i prodotti della serie:

**SR3 - R2SE**

sono conformi ai Requisiti Essenziali di Sicurezza di Tutela della Salute di cui alle Direttive 98/37, 73/23, 89/336 e loro successive modifiche.

**GB****EC DECLARATION OF CONFORMITY TO STANDARDS**

The Company Pentair Water Italy Srl declares, under its own responsibility, that the products of series:

**SR3 - R2SE**

are compliant with the relevant Health and Safety standards, specified in directives 98/37, 73/23, 89/336 and subsequent amendments.

**D****KONFORMITÄTSERKLÄRUNG**

Die unterzeichnende Firma Pentair Water Italy Srl erklärt unter eigener Verantwortung, daß die Produkte der Serien:

**SR3 - R2SE**

den wesentlichen Sicherheits- und gesundheitlichen Anforderungen der Richtlinien 98/37, 73/23, 89/336 und nachfolgenden Änderungen entsprechen.

**F****DECLARATION CE DE CONFORMITE**

La société Pentair Water Italy Srl déclare sous sa propre responsabilité que les produits de la série:

**SR3 - R2SE**

sont conformes aux Conditions Essentielles de Sécurité et de Tutelle de la Santé selon les Directives 98/37, 73/23, 89/336 et leurs modifications suivantes.

**E****DECLARACIÓN CE DE CONFORMIDAD**

La Empresa Pentair Water Italy Srl declara bajo la propia responsabilidad que los productos de la serie:

**SR3 - R2SE**

cumplen con los Requisitos Esenciales de Seguridad y de Tutela de la Salud establecidas en las Directivas 98/37, 73/23, 89/336 y sucesivas modificaciones.

**NL****CONFORMITEITSVERKLARING CE**

De ondertekende firma Pentair Water Italy Srl verklaart onder eigen verantwoording dat de producten van de serie's:

**SR3 - R2SE**

voldoen aan de Essentieel Eisen met betrekking tot de veiligheid en de Gezondheid vermeld in de richtlijn 98/37, 73/23, 89/336 en de daaropvolgende wijzigingen.

**P****DECLARAÇÃO CE DE CONFORMIDADE**

A Firma Pentair Water Italy Srl declara sob a sua responsabilidade que os produtos da série:

**SR3 - R2SE**

são em conformidade com os Requisitos Essenciais de Segurança e de Tutela da Saúde e com as suas Directivas 98/37, 73/23, 89/336 e sucessivas modificações.

**RUS****ЗАЯВЛЕНИЕ О СООТВЕТСТВИИ НОРМАТИВАМ ЕС**

Фирма Pentair Water Italy Srl заявляет под свою ответственность, что оборудование серии:

**SR3 - R2SE**

соответствует основным требованиям по безопасности и здравоохранению согласно Директивам 89/392, 73/23, 89/336 со всеми последующими изменениями и дополнениями.

**FIN****EU-VAATIMUSTENMUKAISUUSVAKUUTUS**

Yhtiö Pentair Water Italy Srl ilmoittaa omalla vastuullaan, että alla osoitetut sähköpumput noudattavat oleelliset turvallisuus- ja terveydensuojeluvaatimukset kuten mainitaan direktiiveissä 98/37, 73/23, 89/336 sekä niiden myöhemmissä muutoksissa.

**SR3 - R2SE****S****TILLKÄNNAGIVANDE OM EU-ÖVERENSSTÄMMELSE**

Företaget Pentair Water Italy Srl intygar under sitt eget ansvar att elpumparna nedan beskrivna överensstämmer med de hälso- och skyddsnormer som specificeras i direktiven 98/37, 73/23, 89/336 och senare tillägg.

**SR3 - R2SE****N****SAMSVARSERKLÆRING**

Firmaet Pentair Water Italy Srl erklærer, under eget ansvar, at de elektriske pumpene nevnt nedenfor, samsvarer med helse- og sikkerhetsstandardene i derektivene 98/37, 73/23, 89/336 og senere endringer.

**SR3 - R2SE**

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HARMONIZED STANDARDS:

EN 809  
 EN 60335-241  
 EN 50081  
 EN 55014  
 EN 60555

**08**

Lugnano (Pisa) 13/09/2006

Vittorio Brundu  
 PLANT MANAGER



## 1. General Safety Rules

These instructions are of fundamental importance for the installation, use and maintenance of these products and must therefore be read before commencing work and then carried out accurately by the installer and end user. Installation and maintenance must be carried out by qualified personnel only. Failure to comply with these safety instructions will cause risk to people and equipment and may invalidate the guarantee.

Identified hazards are highlighted by the following symbols: -

Danger from general causes:

Danger from electrical causes:

Instructions which if ignored could cause damage or impair the function of the pump are highlighted by the word: **ATTENTION**

### 1.1 Field of Application

The range is suitable for open vented or pressurised domestic central heating systems only.

		SR3 xx/40 SR3 xx/50 SR3 xx/60	SR3 25/70	R2SE
Connection Voltage		1~230V ±10%, 50Hz	1~230V ±10%, 50Hz	1~230V ±10%, 50Hz
Insulation class		H(180°C)	H(180°C)	F(155°C)
Temperature class		TF110	T110	TF95
System of protection		IP44	IP44	IP42
Weight		2.9Kg (6.5lbs)	3.5Kg (7.7lbs)	2.4Kg (5.3lbs)
Permitted fluid temperature		Dew point ~ +110°C	-10°C ~ +110°C	+2°C ~ +95°C
Maximum Ambient temperature		55°C	35°C	40°C
Maximum static pressure		10 bar (102m water gauge)	10 bar (102m water gauge)	10 bar (102m water gauge)
Normal operating flow rate		2 – 26 l/min	5 – 26 l/min	2-26 l/min
Min. inlet pressure at suction side at	50°C	0.05 bar	0.05 bar	0.05 bar
	82°C	0.15 bar	0.15 bar	0.15 bar
	95°C	0.3 bar	0.3 bar	0.3 bar
	110°C	1.1 bar	1.4 bar	-
Recommended cable type		HOFR 3 x 0.75mm <sup>2</sup> 85°C	HOFR 3 x 0.75mm <sup>2</sup> 85°C	HO5VV-F 3 G15
Power Consumption		Rating Plate	Rating Plate	Rating Plate

Minimum static head - open vented systems. Pumps may be fitted to systems with a minimum static head of 300mm provided the pump inlet is adjacent to the neutral point and the water temperature does not exceed 80°C

## 2. Packaging & Handling

### 2.1 Transport and Storage **ATTENTION**

The pump must be protected from moisture, and must not be subjected to temperatures outside -10°C and 50°C.

### 2.2 Handling **ATTENTION**

Care must be taken when handling and installing the pump to avoid damaging components. If damage occurs the pump must not be used. Abnormal handling may invalidate the warranty.

## 3. Description of Pump

### 3.1 General Description

The pump is fitted with a wet running motor. The pumping fluid lubricates the bearings and rotor.

### Design and Function / Safety Devices

The motor windings are impedance protected.

A provision for earthing the outer casing is provided.


### Standard Pumps

Models offer a single or variable speed setting to allow system requirements to be accurately met.

### Electronic Pumps

The pump control channel is selected using a 3-stage selector switch in accordance with the installation requirements.

### Prohibited Use **ATTENTION**

-  The pump must not be used on secondary hot water services, handling drinking water or food related liquids.

## 4. Installation

### 4.1 Electrical Connection Block Positioning

If the electrical connection block is not in a convenient position when the circulator is delivered, the motor head may be rotated prior to fitting. Release the screws on the pump casing and rotate the motor head to its new position.

If this is done please check the following: -

1. Take care not to remove or damage the seal between motor head and pump casing.
2. Tighten the fixing screws in a diagonal pattern in stages to a final torque of 25Kg cm (22lb in).



#### 4.2 System ATTENTION

The pump must not be installed against wood or any other material which may be affected by heat from the pump.

Before installing the circulator ensure all soldering / welding adjacent to the pump is complete, the system has been thoroughly flushed out to remove any foreign matter and that vent and feed pipes are positioned so that the pump will not draw in air or pump over. It is advisable to ensure the impeller is free by rotating manually through the outlet.

The pump should not be installed in either a high point in the system where air could collect or a low point where sediment could build up

- ⚠ Pipes on both sides of the pump should be supported to reduce strain and must be correctly aligned prior to installing the pump to reduce the risk of scolding.

The pump must be installed with the rotating shaft horizontal (see fig.1)

Check the direction of flow indicated by an arrow on the pump casing and install the pump between the isolating valves. When replacing a pump maintain the same direction of flow.

#### 4.3 Electrical Connections ATTENTION

- ⚠ Electrical work to be carried out by a competent qualified and licensed electricians in strict conformity to ruling national conditions and local regulations.

All wiring and external switchgear to comply with the ruling local regulations in accordance with the latest edition of IEE wiring regulations.

Observe pump name plate data.

For pump fuse protection use a 3 Amp fuse.

A means of disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

#### ⚠ Wiring Procedure

If the pump already has a cable fitted to it, ensure the pump is isolated from the mains before removing the terminal cover.

#### ⚠ WARNING - "THIS PUMP MUST BE EARTHED"

- ⚠ The cable must not come in contact with the pump body or pipework.

1. Use cable as recommended in section 1.2
2. Thread cable through grommet.
3. Depress levers to open cable clamps. Connect cable - Brown to L, Blue to N, Yellow/Green to  $\perp$  see Fig 2a & 2b.
4. Adjust cable position and press outer sheath into clamp see Fig 2a.
5. Refit terminal cover, locating cover onto motor and tighten screw.

## 5. Commissioning / Operation ATTENTION

### Filling

- ⚠ Ensure no fluid drips onto the pump motor or its electrical connections during installation, venting or operation as when the pump is energised this may create a risk of electric shock.
- ⚠ In normal operation the pump surface can be hot (up to 125°C) creating a risk of being burnt. Water and water/glycol mixtures in the ratio of 1:1.  
Glycol mixtures require a reassessment of pump hydraulic data in line with the increased viscosity and depending on mixing ratios.  
Use only approved makes of additives with corrosion inhibitors and follow manufacturer's instructions.  
Do not leave system empty without protection from corrosion inhibitor.  
During this operation ensure the pump is switched off.  
Open both valves either side of the pump.

### Venting / Manual Restart

- ⚠ Protect all electrical parts against the leaking water  
During this operation be aware of the risk of scolding from escaping hot water or steam.  
When the system is filled with water the pump will normally self vent air within a short while of switching on.  
In cases where the pump venting is slow (identified by pump noise) the pump bearings may be quickly vented by using: -
  - (a) the manual restart knob. Switch off the pump. Unscrew the manual restart Fig 3b applying sideways pressure to the screw, with a screwdriver, until water emerges from it. Screw the manual restart knob back in. Switch pump back on
  - (b) vent plug Switch off the pump. Close valve on the discharge side. Carefully loosen and fully remove the vent plug with a suitable screwdriver Fig 3a , carefully push pump shaft back several times with screwdriver. Switch on pump. It is possible that the pump blocks with the vent plug open, depending on the system pressure. After 15 – 30 s tighten the vent plug. Reopen the valve

Note, a system may take 24 hours to vent all the air in the system to atmosphere

**ATTENTION** DO NOT run the pump dry as this will result in bearing failure.

### Speed Regulator – Standard Pumps

- ⚠ **Speed regulator adjustment should only be made with electrical supply switched off**

Models offer a single or variable speed setting to allow system requirements to be accurately met. Fig 4a



1. It is always preferable to use the lowest performance where this gives circulation sufficient to heat all the heat emitters evenly (uneven distribution of heat may be due to the need to balance the flow of water in each heat emitter)
2. If the pump is set at too high a speed, flow noise may occur in the system and in particular at the thermostatic valves. This can be rectified by switching to a lower speed.
3. If the pump performance requirement is not known start with the lowest pump setting. If heat emitters remain cold, or if the boiler inlet and outlet temperature differential (specified by the manufacturers of the boiler) is not achieved increase the flow by adjusting the speed control as shown in fig.4a.

**ATTENTION** Too high a speed setting may result in pumping over or drawing in air.

**Important** - DO NOT use pump isolating valves for performance control.

#### **Speed Regulator – Electronic Pumps**

In order to guarantee efficient operation of the heating installation and optimum adaptation of the pump to the load on the hydraulic installation, it is important to select the right control range. The pump control channel is selected using a 3-stage selector switch fig 4b in accordance with the installation requirements. The pump operates within the chosen control range and adapts continuously to the fluctuating power requirements of the installation, in particular when thermostatic valves are used

After switching to a different control range, it will take some time before the heating installation control becomes stable.

## **6. Maintenance**

No routine maintenance is necessary, however, during prolonged shutdown e.g. summer months, it is advisable to run the pump for a few minutes every few weeks.

## **7. Trouble Shooting Guide**

### **Faults and Remedies**

#### **Pump Fails to Start**

Check power supply fuses

Check voltage at pump terminals (see pump nameplate data)

Check electrical connection wiring procedure (see section 4.3)

Check rotor free to rotate (see section 5)





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**Pump Starts but Provides Incorrect Circulation**

Check pump valves open

Check pump case and system adequately vented (see section 5).

Check correct electrical regulator setting (see section 5).

**Noise**

Check electrical regulator setting and readjust as required (see section 5).

Noise due to cavitation can be subdued by increasing the system pressure within the permissible limits.

Pump may require 48 hours to attain normal quiet operation.

**Locked Pump**

Should the pump fail to start, switch to maximum setting. If the pump still does not start the manual restart knob can be used to free a locked pump. (see manual restart procedure - section 5)

Once the pump is running the regulator should be reset to its original position.

## 8. Relevant Documentation

**Spare Parts**

No non-approved replacement parts may be used.

Fig 1.

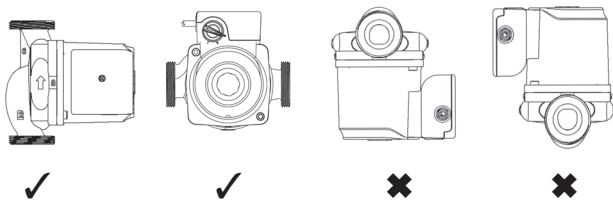


Fig 2a.

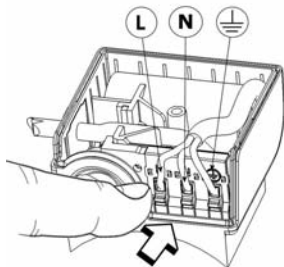


Fig 2b.

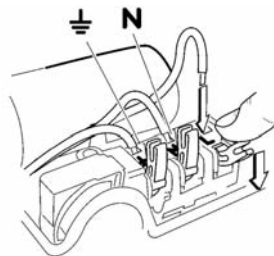


Fig 3a.

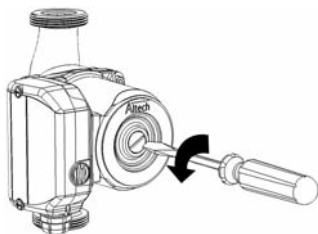


Fig 3b.

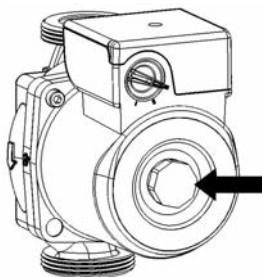


Fig 4a.

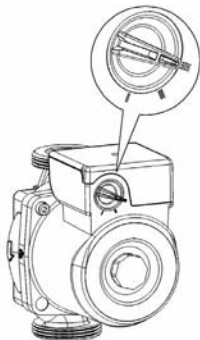


Fig 4b.

