



DECLARATION OF CONFORMITY

89/392/EEC - BSEN292 PT1/PT2 - PrEN809 - EN60335 PT1 - EN29001  
89/336/EEC - BSEN55014 - BSEN50081-1 - PREN50082-1 - PREN50082-2  
73/23/EEC - EN60335-1 - EN60204-1 - BS4999 - BS5000-11 - BS3456 - IEC34-1

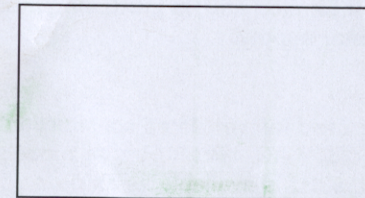
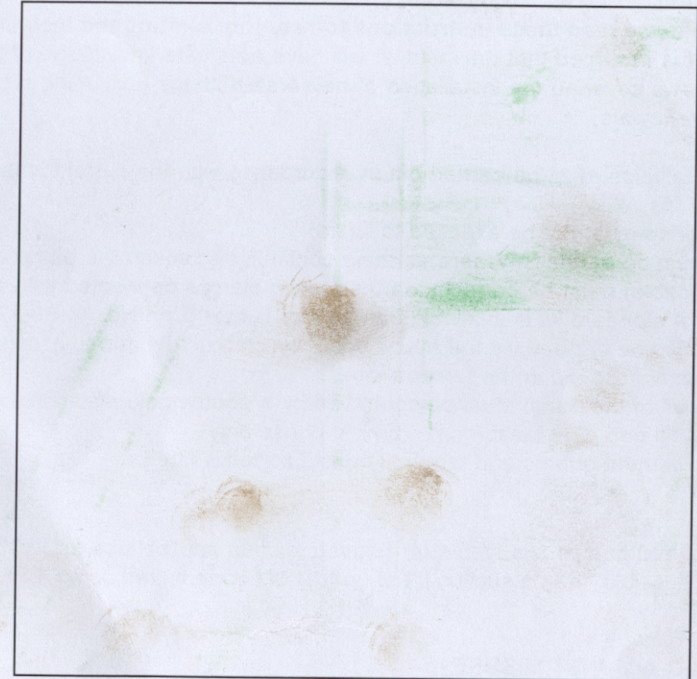


G.B It is hereby certified that the Stuart electric motor driven pump as serial number below, complies with the essential requirements of the above E.E.C. Directives.

14-50-45317 RG100 /4697/W20624 1997

Signed

Quality Assurance  
Manager



# Large Peripheral Pumps

OPERATING INSTRUCTIONS

Please leave these instructions with the pump



Stuart Turner Ltd

Henley-on-Thames, Oxfordshire RG9 2AD. Telephone: Sales 01491 572655 Fax: 01491 573704

After Sales: 01491 579997

ENGLAND



G.B.

Model:

RG100  
RG153  
RG202

**IMPORTANT NOTES**

**Please read these instructions fully before starting the installation:** It is assumed that the installer will have adequate knowledge of the by-laws covering the installation of new water fittings (excluding repairs and renewals).



- The electrical installation must be carried out in accordance with the current local electrical regulations.
- The motor and wiring must not be exposed to liquid.
- This appliance must be earthed. Where earthing continuity is broken the pump and pipework (if applicable) must be correctly earthed using clamps connected with earthing wire size 4mm<sup>2</sup>. A standard kit is available from Stuart Turner (Part No. 14-50-17044). The pump must also be earthed via the mains cable which must be correctly connected to the earthing terminal supplied in the terminal box.
- The final sub-circuit to the pump must be controlled by a double pole isolation switch with a contact separation gap of at least 3mm. (Single phase only).
- Do not run pump without guards and terminal box lid correctly fitted.

**APPLICATION**

The range of peripheral pumps is suitable for flooded suction applications preferably. Should this not be possible, then a suction lift of up to 4.6M is permitted using a Stuart footvalve/strainer.

**WARNING AGAINST MISUSE**

**This pump set must not be used for any other application without the written consent of Stuart Turner Limited and, in particular, must not be connected directly to the mains water supply.**

**PRODUCT DESCRIPTION**

**Motor:** Induction type, totally enclosed fan ventilated construction requiring no routine maintenance. Continuously rated, 230V AC, 1PH 50Hz. All models comply to IEC 34-1, insulation class B, 400V AC, 3PH, 50Hz is available as an option on all models.

**Pump:** Close coupled to motor, being of peripheral construction. The pump body, impeller are of brass manufacture with any other wetted components being made of brass or stainless steel. All models are supplied with a carbon/ceramic mechanical seal fitted with nitrile rubber as standard. Other seal options are available on request.

**LIMITS OF APPLICATION**

Max liquid temperature 80°C.  
Min liquid temperature 4°C.  
Suction - flooded.  
Max Amb Temp 40°C.  
Max working pressure 10 bar.

Max viscosity 50 secs.  
Redwood No.1 scale (9.5 Centistokes).  
Max suction lift 4.6 Metres (with footvalve fitted).  
Max inlet pressure 3 bar.  
Max operating head (see max operating head section).

**CONNECTIONS**

RG100 G $\frac{3}{4}$   
RG153 & 200 G1

**TECHNICAL SPECIFICATION**

Model	Nominal Watts Output	Max Watts consumed at nominal volts		Full Load (AMPS)		Enc. Rating	Max suction lift	Dims. mm			Gross Weight kg
		1PH	3PH	1PH	3PH			H	W	L	
RG100	750	1100	1011	5.8	1.8	I.P. 44	4.6m	162	178	302	11.2
RG153	1100	1550	1410	7.4	2.6	I.P. 44	4.6m	180	249	351	20.0
RG202	1500	2200	1975	9.5	3.4	I.P. 44	4.6m	180	249	376	20.0

Stuart Turner reserve the right to amend the specification in line with its policy of continuous development of its products.

**SITING OF THE PUMP / PIPEWORK**

The pump must be located in a horizontal position where it cannot be sprayed with liquid. Site the pump as close to the liquid source as possible, having a flooded suction. Where the unit is to be mounted above the liquid source, a footvalve/strainer must be used. To prevent loss of water pressure through pipework, use pipe size to match pump whenever possible, (22mm RG100), (28mm 153 and 202) minimising 90° bends. The pump enclosure must be ventilated and there should be a minimum clearance of 80mm between the pump and housing on all sides.



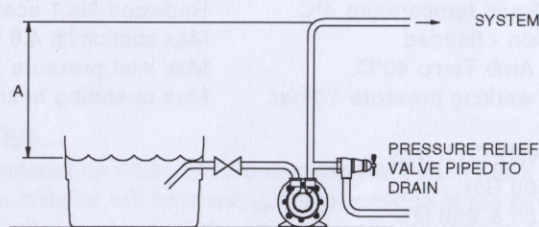
**WARNING:** • Ensure pipework to and from pump is independently supported to prevent forces being transferred to inlet and outlet branches of pump. An installation pack is available, Part No. 14-50-16691, for RG100 or Part No. 14-50-17504 for RG153 and RG202.

- Do not fit a non-return valve in suction line to the pump.
- Do not run against a closed valve.
- When a foot valve is required on installations that incorporate automatic pump control, it is recommended that a suitable pressure relief valve be fitted in the discharge (outlet) pipework from the pump. (See max operating head chart).



## MAXIMUM OPERATING HEAD

	Max. operating head at zero static inlet head
Pump type	Dim A
RG100	6 bar
RG153	5.5 bar
RG202	6.9 bar



### Max. operating head chart

These pumps must never be run above the maximum operating head as stated in the above chart and on the pump identification label. To ensure this can never occur an appropriately rated pressure relief valve set to the maximum operating head should be fitted close to the pump in the discharge pipework. The above chart states the maximum operating head when there is NO positive or negative inlet heads on the pump.

Whatever the inlet head conditions, positive or negative, it should be reasonably constant.

Maximum positive inlet head = 30m (3 bar)

Maximum suction lift 4.6m (.46 bar).

Pressure relief valve settings will increase in direct relationship with positive static inlet heads eg:-

Maximum operating head + static inlet head = pressure relief valve setting.

Pressure relief valve settings will decrease in direct relationship with suction lifts eg:-

Max operating head - suction lift = pressure relief valve setting.

## ELECTRICAL INSTALLATION



Before starting work on the electrical installation ensure the power supply is isolated.

The single phase pumps are suitable for a supply of 230V - 1 Phase - 50Hz. The pump must be permanently connected to the fixed wiring of the mains supply via a starter complete with suitably sized thermal overload.

Three phase pumps are suitable for a supply of 400V - 3 Phase - 50Hz and should be connected via a starter complete with suitably sized thermal overload.

The starter to which the pump is connected should be mounted in an easily accessible position and labelled if confusion is possible to allow easy isolation of the unit.

## WIRING

Cable selection and corresponding fuse size should be chosen in accordance with the current involved/surrounding conditions. For information on cable fitting consult the wiring diagrams. All electrical installation work should be carried out by a competent person.

**WARNING: This appliance must be earthed.**

## COMMISSIONING

Peripheral pumps should never be allowed to run dry. Before operating the system, both pump and pipework should be primed. Vent plugs are fitted as standard on all models. To prime, release the vent plug until all air is expelled and liquid emerges from the threads then re-tighten. Check pressure relief valve is correctly set. Further checks should be made for leaks and when all is satisfactory the electrical supply to the pump may be switched on.

Ensure pump is rotating in correct direction (anti-clockwise when looking on pump end).



**WARNING: The motor casing can become very hot under normal operating conditions, care should be taken to ensure it cannot be touched during operation.**

## NOISE

The equivalent continuous A-weighted sound pressure level at a distance of 1M. from the pumpset is as follows:-

RG100 - 78dB(A)

RG153 - 83dB(A)

RG202 - 83dB(A)

**LIQUID SUPPLY:** Always ensure that water storage capacity is adequate to meet the demand. Ensure the pump chamber is full of water before starting the pump. Failure to do this could result in seal damage.

## MAINTENANCE



No routine maintenance is required, but provision should be made for easy access to the pump to allow for repairs due to normal wear and tear. Isolate the pump from the electricity supply, turn off liquid supplies to the pump and release pressure by opening liquid outlets before

attempting repair.

All pumps are fitted with a mechanical seal which may leak. Appropriate precautions must be taken in consideration of this to ensure any spillage is contained.

## STORAGE

If this product is not installed immediately on receipt, ensure that it is stored in a dry, frost and corrosion free location in its original packaging.



## TROUBLE SHOOTING GUIDE

Symptoms	Probable Cause	Recommended Action
Pump will not start.	Electrical supply.	Check power to motor. Check the circuit breaker is set. Check the correct fuse is being used. Check starter overload has not tripped.
Pump runs, but no liquid.	Air locked.	Bleed pipework and pump to clear air.
	No supply.	The supply valves are turned on. Check outlet not restricted or blocked.
	Motor running backwards.	3PH only - check motor is rotating in the correct direction, if not, reverse connection of any two supply wires.
	Connections reversed.	Check liquid connections are on the right way round.
	No flooded suction.	Check the pump has a flooded suction and is primed. If a suction lift exists, fit a Stuart footvalve/strainer and ensure suction is airtight. Prime the pump and suction pipe.

## YOUR 1 YEAR GUARANTEE

Stuart Large Peripheral Pumps are guaranteed by Stuart Turner Limited to be free from defects in materials or workmanship for 1 year from the date of purchase. Within the guarantee period we will repair, free of charge, any defects in the pump resulting from faults in material or workmanship, repairing, exchanging parts or exchanging the whole unit as we may choose.

Not covered by this guarantee: Damage arising from improper use, unauthorised repair, normal wear and tear and defects which have a negligible effect on the value or operation of the pump.

Reasonable evidence must be supplied that the product has been purchased within 1 year prior to the date of claim.

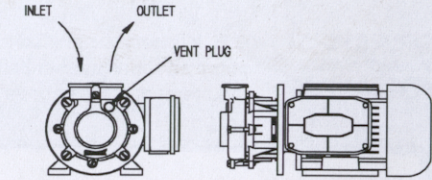
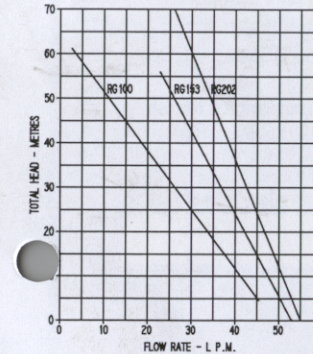
This guarantee is in addition to the purchaser's rights under any legislation presently in force.

In the event of a claim please telephone Stuart Turner Ltd. on 01491 579997 or return pump with accessories removed, plugs, pipes etc.

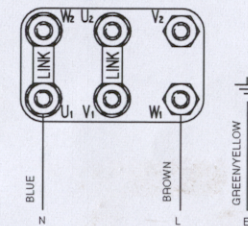
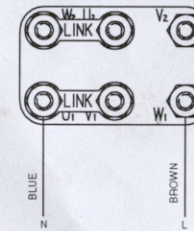
Proof of purchase should accompany the returned unit to avoid delay in action.

## GENERAL INFORMATION

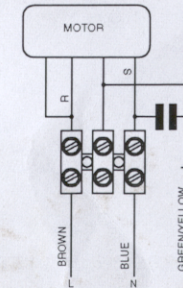
Performance curves are based on liquids having the same specific gravity and viscosity as clean water at 20°C.



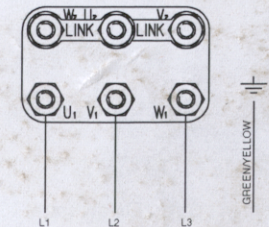
Direction of rotation is anti-clockwise when looking at pump end.



RG100 MOTOR  
230/VAC/1PH/50Hz SUPPLY  
TO REVERSE SHAFT ROTATION INTERCHANGE LINK AS SHOWN



RG153, RG202 MOTOR  
230/VAC/1PH/50Hz SUPPLY



RG100, RG153, RG202 MOTOR  
400/VAC/3PH/50Hz SUPPLY  
TO REVERSE SHAFT ROTATION INTERCHANGE ANY TWO SUPPLY WIRES (L1, L2 or L3)