


Watson-Marlow 825 / 840 pumps



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1 Declaration of conformity

 This declaration was issued for Watson-Marlow 825 and 840 pumps on August 1, 2006. When this pump unit is used as a stand-alone pump it complies with: Machinery Directive 2006/42/EC, Low Voltage Directive 2004/108/EC. See 8 Pump specifications.

2 Declaration of incorporation

When this pump unit is to be installed into a machine or is to be assembled with other machines for installations, it must not be put into service until the relevant machinery has been declared in conformity with the Machinery Directive 2006/42/EC BS EN 60204-1.



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The information in this user guide is believed to be correct at the time of publication. However, Watson-Marlow Limited accepts no liability for errors or omissions. Watson-Marlow Bredel has a policy of continuous product improvement, and reserves the right to alter specifications without notice. This manual is intended for use only with the pump it was issued with. Earlier or later models may differ. The most up-to-date manuals appear on the Watson-Marlow website: <http://www.watson-marlow.com>

3 Two-year warranty

Watson-Marlow Limited warrants, subject to the conditions below, through either Watson-Marlow Limited, its subsidiaries, or its authorised distributors, to repair or replace free of charge, any part of this product which fails within two years of delivery of the product to the end user. Such failure must have occurred because of defect in material or workmanship and not as a result of operation of the product other than in accordance with the instructions given in this manual.

Conditions of and specific exceptions to the above warranty are:

- Consumable items such as rollers and tubing are excluded.
- Products must be returned by pre-arrangement, carriage paid, to Watson-Marlow Limited, its subsidiaries, or its authorised distributor.
- All repairs or modifications must have been made by Watson-Marlow Limited, its subsidiaries or its authorised distributors or with the express permission of Watson-Marlow Limited, its subsidiaries, or its authorised distributors.
- Products which have been abused, misused, or subjected to malicious or accidental damage or electrical surge are excluded.

Warranties purporting to be on behalf of Watson-Marlow Limited made by any person, including representatives of Watson-Marlow Limited, its subsidiaries, or its distributors, which do not accord with the terms of this warranty shall not be binding upon Watson-Marlow Limited unless expressly approved in writing by a Director or Manager of Watson-Marlow Limited.

4 Information for returning pumps

Equipment which has been contaminated with, or exposed to, body fluids, toxic chemicals or any other substance hazardous to health must be decontaminated before it is returned to Watson-Marlow or its distributors.

A certificate included at the rear of these operating instructions, or a signed statement, must be attached to the outside of the shipping carton.

This certificate is required even if the pump is unused. If the pump has been used, the fluids that have been in contact with the pump and the cleaning procedure must be specified, along with a statement that the equipment has been decontaminated.

5 Safety

In the interests of safety, these pumpheads and the products selected should only be used by competent, suitably trained personnel after they have read and understood this manual, and considered any hazard involved. In the UK this person should be familiar with the Health and Safety at Work Act 1974.

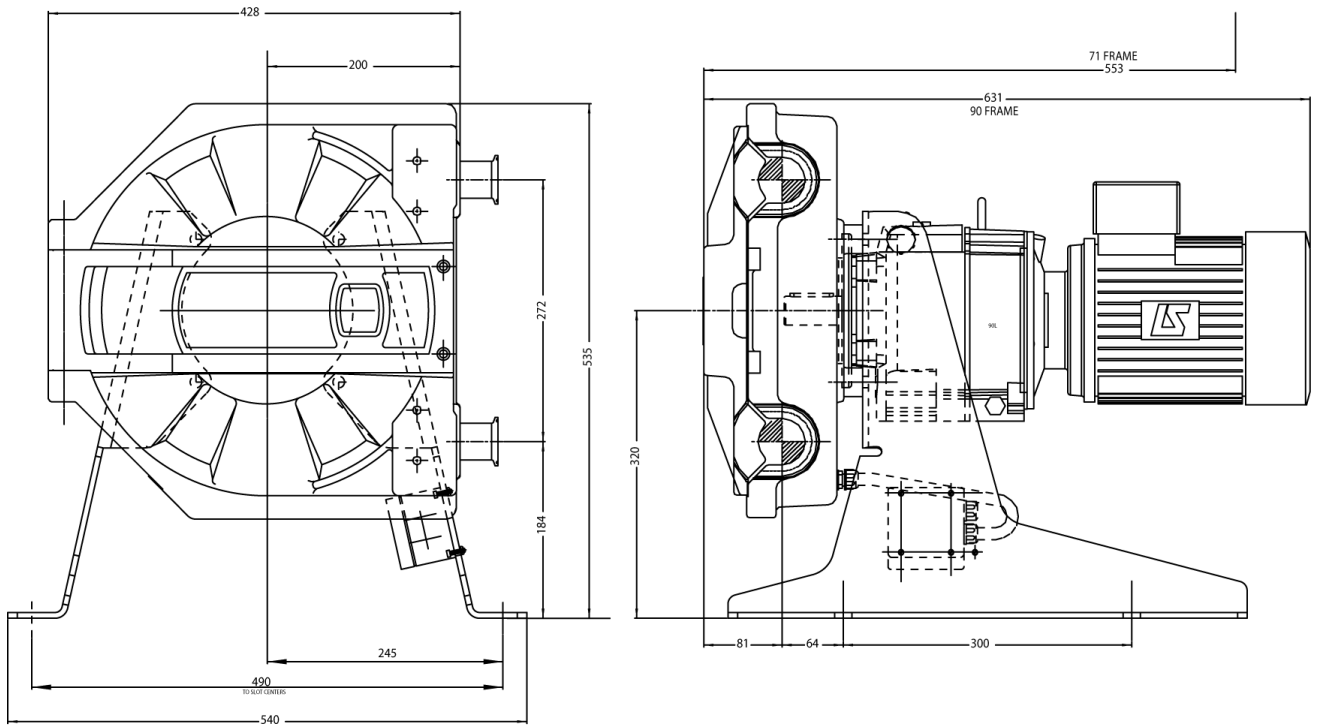
Any person who is involved in the installation or maintenance of the equipment should be fully competent to carry out the work.



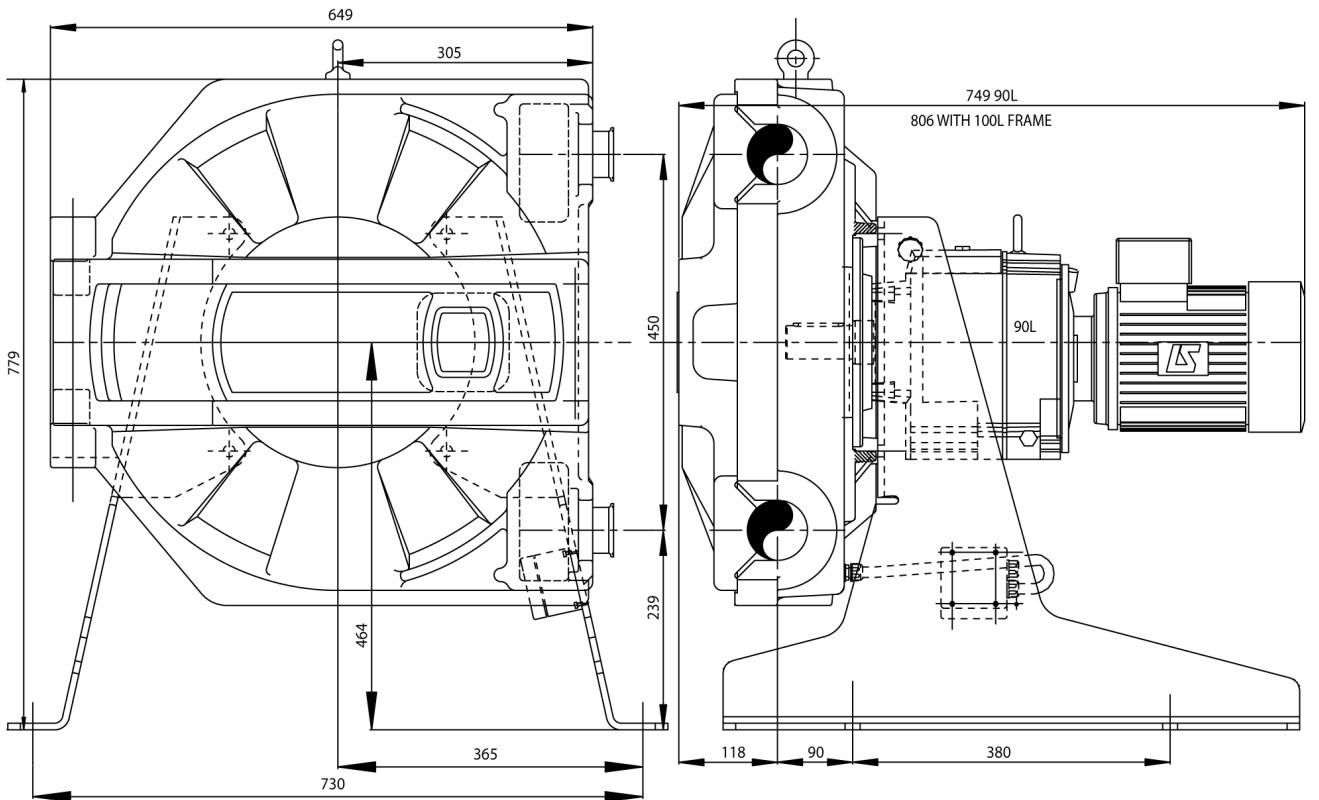
There are dangerous voltages (at mains potential) inside the terminal box. If access is required, isolate the pump from the mains before removing the terminal box cover. Do not place any part of the body inside the pump-head while the pump is running.

6 Dimensions in mm

825



840



7 Recommended operating procedures

Do keep delivery and suction tubes as short and direct as possible using a minimum of swept bends

Do use suction and delivery pipes equal to or larger than the bore of the tube in the pumphead. When pumping viscous fluids, the losses caused by increased friction can be overcome by using pipe runs with a cross sectional area several times greater than the pumping element.

Do keep the pumphead track and all moving parts clean and free from contamination and debris.

The self-priming nature of peristaltic pumps means valves are not required. Any valves fitted must cause no restriction to flow in the pumping circuit.

If the rotor is run in an anticlockwise direction with both rocker mechanisms unlocked no tube occlusion will occur. In this case the rocker mechanisms will snap back from their disengaged position when losing contact with the tubing. No damage to the pumphead action will be caused by this, however it is not advisable to allow this action to continue for a prolonged procedure.

8 Installation

Site the pump on a flat horizontal surface allowing a free flow of air around the pump. Ensure there is 1m of straight tubing before the pumphead inlet and discharge ports.

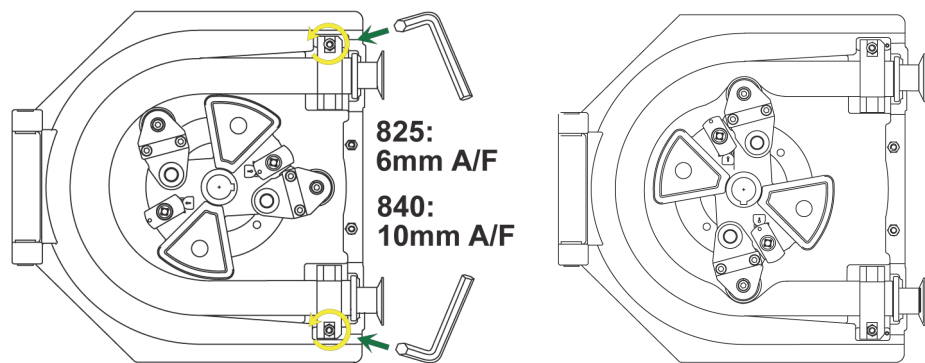
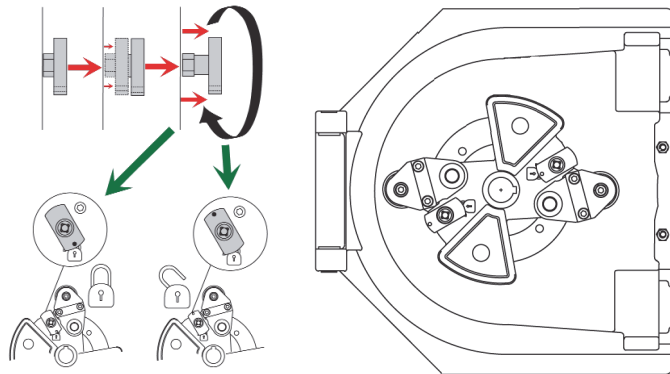
When requested, motors fitted to Watson-Marlow pumps incorporate a thermal protection switch which may be used to provide indication of an over-temperature condition. Aside from this, a current overload relay should also be fitted to a contact breaker. Connect the motor in accordance with the wiring diagram which will be found in the motor terminal box.

When a thermal protection switch is fitted in the motor, the leads will be found in the motor terminal box. They should be connected to stop the pump if the switch operates. The switch will open circuit at an over temperature condition. See picture for the simplest connection.

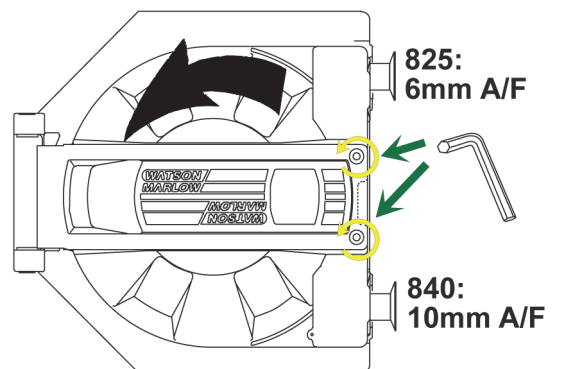
All pumps may be fitted with a door indicator switch. This switch is rated 240V 0.5A AC maximum power load 50W. This switch is not intended as a primary safety device. Under normal operation the pumphead door is kept closed and this meets all statutory requirements as a tool lockable fixed guard.

Do not connect the door switch a back up or any other switch gear with the terminal box of an explosion proof motor unless the switch has a suitable Exd rating for the zone area in which it is to be mounted.

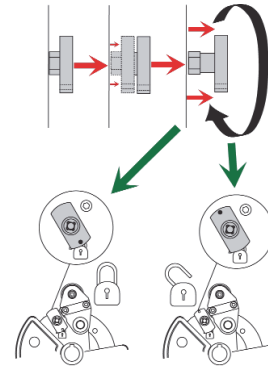
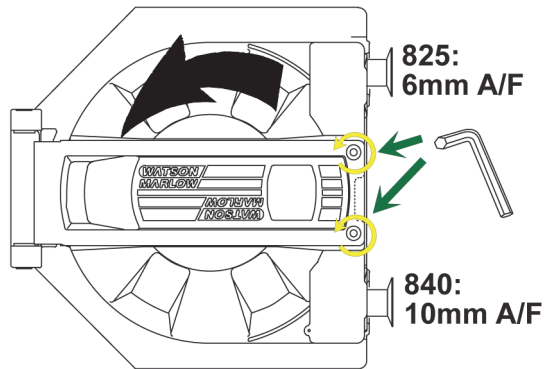
9 Tube fitting



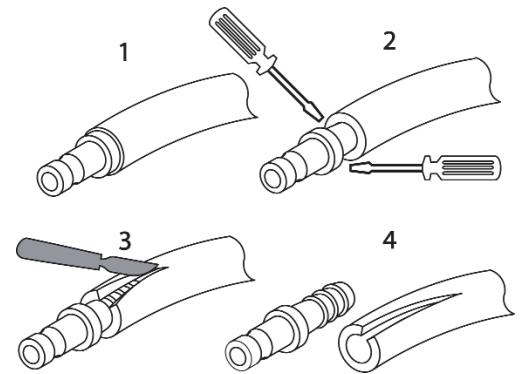
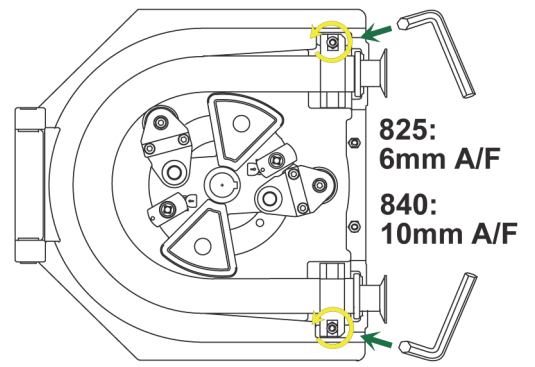
- Insert tube couplings
- Unlock one rocker assembly (top left)
- Position rotor in pumphead (top right)
- Locate one tube end in lower clamp and secure. Feed the tubing into pumphead clockwise while folding in the unlocked rocker assembly.
- Locate the other tube end into upper clamp and secure (above left)
- Close door. Turn on power supply to motor
- Rotate rotor clockwise until unlocked rocker assembly snaps into engaged position (above right)
- Isolate the motor from the power supply
- Open pumphead door. Lock rocker assembly (top left)
- Tighten door locking screws (right)



10 Tube removal

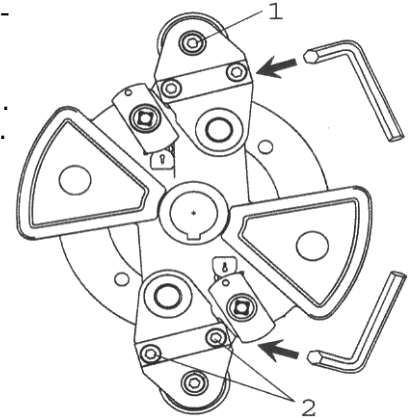
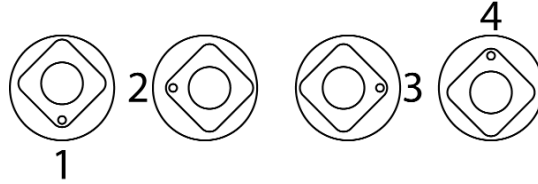


- Isolate the motor from the power supply
- Undo the door locking screws (above left)
- Unlock the rocker assembly not in contact with the tube using the locking knob (above right)
- Close the pumphead door. Switch on the power. Rotate rotor anticlockwise until unlocked rocker rests against the tube (right)
- Isolate the motor from the power supply. Open pumphead door
- Undo the tube clamps (right)
- Clean pumphead door and face
- Remove coupling from tubing (below right)



11 Roller adjustment

- Loosen the roller locking nut (1) and undo rocker locking nuts (2)
- Undo the roller spindle locking nuts
- Rotate roller for occlusion adjustment (below). Setting 2 represents the factory default setting.



12 CIP

When using a clockwise pumping direction and unlocked rockers no adjustment is required. If rockers are locked for bi-directional pumping unlock one rocker mechanism. Rotate rotor anticlockwise until no tube occlusion occurs. The free flow of cleaning agents through the tubing is now possible.



Ensure that no part of the body inside the pumphead while the pump is running.

13 SIP

Observe a 1m safety area to avoid possible scalding if a tube burst occurs. Monitor the process continuously .



Ensure that the pumphead door is closed and tool-locked before SIP cleaning

If a tube burst occurs shut down the process, do not touch the pumphead until a 10 minute cooling period has been observed. Ensure a 15 minute acclimatisation period is observed before running the pump following SIP.

Maximum permissible SIP process temperature is 135 C.

14 High pressure operation

- Ensure rocker mechanisms are locked to avoid premature wear.
- Observe a 1m safety area to avoid contact with high pressure jets in the case of a tube burst.
- Please note that only tubing elements and not continuous lengths of tubing can be used for higher pressure operation.
- No quick connectors are to be used with element tubing during high pressure operation.

15 Tubing

No length of tubing which has previously been used as a pumping element should be used in the transfer section due to the fact that it may be in a weakened condition.

16 Materials of construction

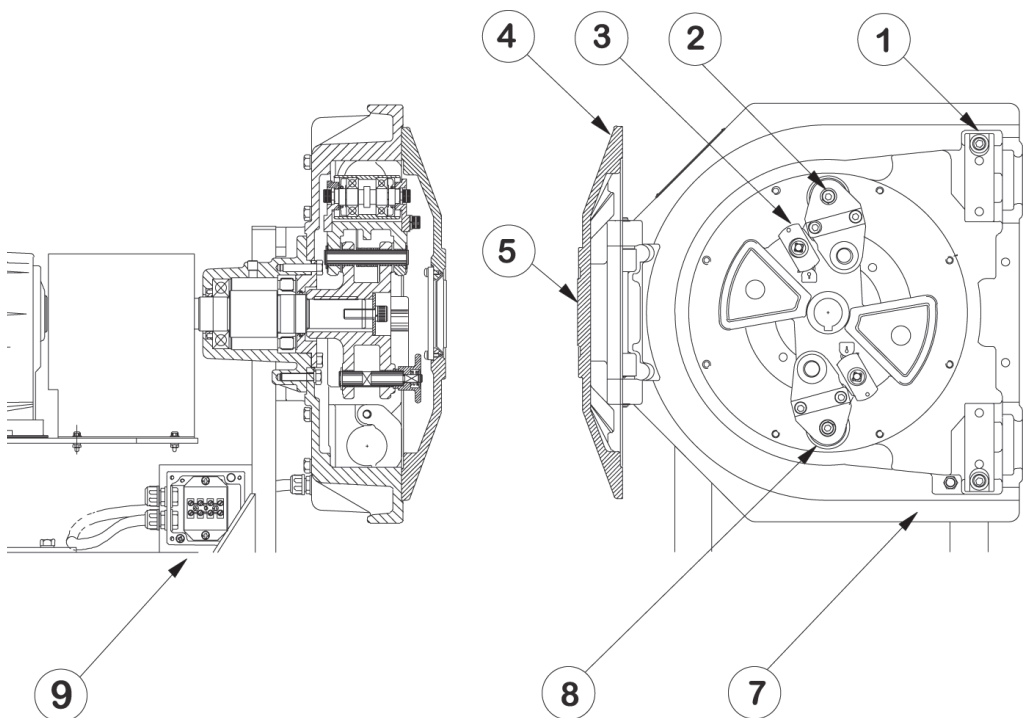
Description	Material	Finish
Pumphead body	Aluminium	Epoxy polyester powder coated white finish
Pumphead door	Aluminium	Epoxy polyester powder coated white finish
Pumphead rotor	Aluminium	Epoxy polyester powder coated
Rollers	Stainless steel 316	
Frame	Stainless steel 304	
Connectors	Stainless steel 316	
Door fixings	High tensile steel	
Motor fixings	High tensile steel	
Frame fixings	Stainless steel	
Rocker locking knob, 840	Polypropylene	
Rocker locking knob, 825	Stainless steel	

17 Specification

Control range	See pump specification label
Voltage/frequency	See pump specification label
Power consumption	See pump specification label
Operating temperature range	5C to 40C
Storage temperature range	-40C to 70C
Noise	70dB(A) at 1m
Standards	IEC 335-1, EN60529 (IP55)
Machinery Directive	2006/42/EC
Low Voltage Directive	2004/108/EC

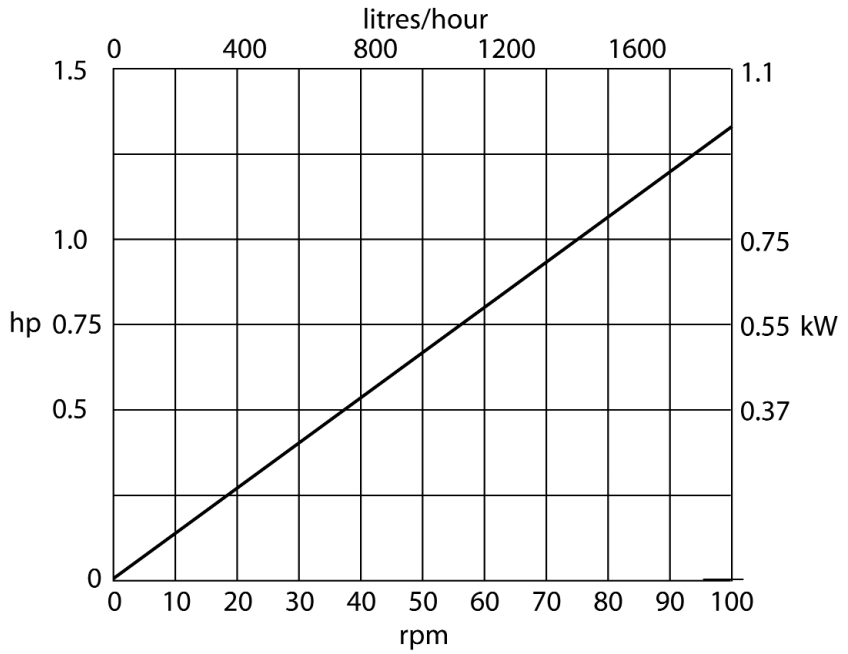
18 Spares

Number	825 spare	840 spare	Description
1	HFA1201A	HFA1401A	Tube clamp
2	HFA1205A	HFA1405A	Rocker assembly
3	HFA1206A	HFA1406A	Rotor assembly
4	HF1202C	HF1402C	Door
5	HF1005S	HF1005S	Window
6 (not shown)	HF1271S HF1272S	HF1467S HF1468S	Frame support RH Frame support LH
7	HF1201C	HF1401C	Track
8	HFA1204A	HFA1404A	Roller assembly
9	HFA1202A	HFA1202A	Terminal box

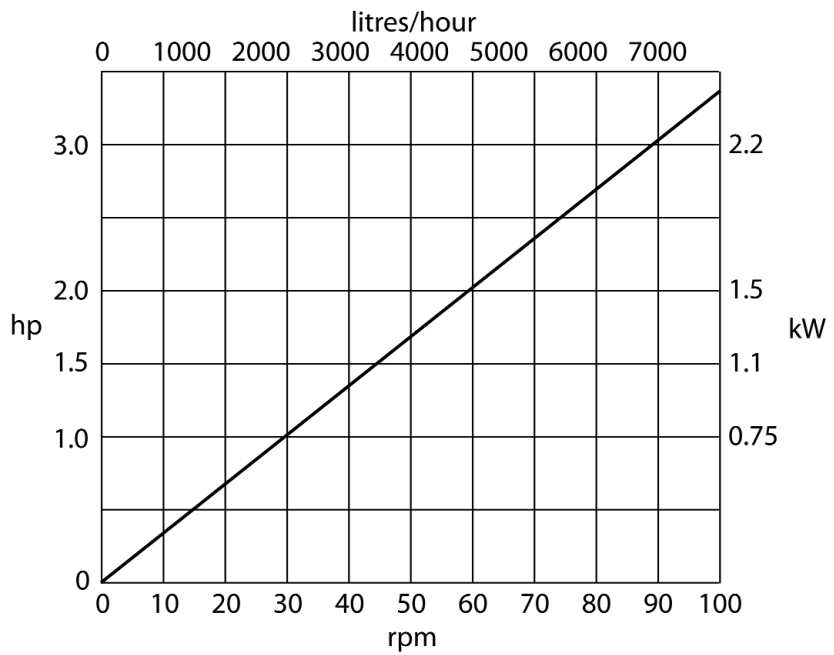


19 Flow rates

825



840



20 Occlusion setting

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Occlusion setting	Roller to track clearance	% tube over-occlusion	Roller to track clearance	% tube over-occlusion
Bottom	17.0	6%	24.0	8%
Left	16.2	10%	23.1	11%
Right	15.7	13%	22.5	14%
Top	15.0	16%	21.7	17%

21 Product codes

825 Bioprene	Maximum working pressure	Tube bore	Product code
770mm long ± 3mm	2 bar	25mm	088.T250.E0P
770mm long ± 3mm	3.5 bar	25mm	088.T250.E0G
2310mm long	2 bar	25mm	088.T250.00P
2310mm long	3.5 bar	25mm	088.T250.00G

840 Bioprene	Maximum working pressure	Tube bore	Product code
1250mm long ± 4mm	2 bar	40mm	088.T400.E0P
1250mm long ± 4mm	3.5 bar	40mm	088.T400.E0G

22 Warning not to use pumps in patient-connected applications

Warning: These products are not designed for use in, and should not be used for patient-connected applications.

23 Publication history

m-825-840-gb-03.qxp: Watson-Marlow 825, 840
 First published 07 06. This edition published 11 14.

24 Decontamination certificate

In compliance with the UK Health and Safety at Work Act and the Control of Substances Hazardous to Health Regulations, you are required to declare the substances which have been in contact with product(s) you return to Watson-Marlow or its subsidiaries or distributors. Failure to do so will cause delays. Please ensure that you fax us this form and receive an RGA (Returned Goods Authorisation) before you despatch the product(s). A copy of this form must be attached to the outside of the packaging containing the product(s). Please complete a separate decontamination certificate for each product. You are responsible for cleaning and decontaminating the product(s) before return.

Your name	<input type="text"/>	Company	<input type="text"/>
Address	<input type="text"/>		
Postcode/zip	<input type="text"/>	Country	<input type="text"/>
Telephone	<input type="text"/>	Fax	<input type="text"/>
Product type	<input type="text"/>	Serial number	<input type="text"/>
To speed the repair, please describe all known faults	<input type="text"/>		
The product has ...	<input type="checkbox"/> Been used <input type="checkbox"/> Not been used		
	<i>If the product has been used, please complete all the following sections. If the product has not been used, please just sign this form.</i>		
Names of chemicals handled with product(s)	<input type="text"/>		
Precautions to be taken in handling these chemicals	<input type="text"/>		
Action to be taken in the event of human contact	<input type="text"/>		
	<i>I understand that the personal data collected will be kept confidentially in accordance with the UK Data Protection Act 1998.</i>		
Signature	<input type="text"/>	RGA number	<input type="text"/>
		Your position	<input type="text"/>
		Date	<input type="text"/>
	<i>Please print out, sign and fax to Watson-Marlow Pumps at +44 1326 376009.</i>		