



Watson-Marlow Pumps Group

WATSON-MARLOW BREDEL E-MANUALS

PB0230GB02

Watson-Marlow 701 baseplate pumps



Contents

- | | |
|---|---|
| 1. Declaration of conformity | 16. 701RB, 701RBX, 701RBG, 701RBE, 701RBEX
Pump installation |
| 2. Declaration of incorporation | 17. Tube loading |
| 3. Warranty | 18. Fitting an extension pumphead |
| 4. Information for returning pumps | 19. Pumphead spares: continuous tubing |
| 5. Safety | 20. Pumphead spares: tubing elements |
| 6. Recommended operating
procedures | 21. Pumphead spares: rotor |
| 7. Installation | 22. Flow rates |
| 8. Troubleshooting | 23. 701RB, 701RBX, 701RBG, 701RBE, 701RBEX
product codes |
| 9. AC Motor maintenance | 24. Flow, pressure and suction |
| 10. Gearbox maintenance | 25. Maximum peak working pressure ratings |
| 11. 701PB air motors | 26. Outline dimensions |
| 12. 701PB air motors:
troubleshooting | 27. Trademarks and disclaimer |
| 13. Pump specification | 28. Warning not to use pumps in patient-connected
applications |
| 14. 701RB pumphead: key safety
information | 29. Decontamination certificate |
| 15. 701R safe-guarding | |

701DFBRA, 701DFB/REA, 701DFB/RA/RXA, 701DFB/REA/REXA	 ATEX II 2 G T4
701FB, 701IB, 701PB	 ATEX

1 Declaration of conformity

CE When this pump unit is used as a stand alone pump it complies with: Machinery Directive 2006/42/EC, EMC Directive 2004/108/EC.

	
<p>Watson-Marlow Limited Falmouth Cornwall TR11 4RU England</p>	<h3>Declaration of Conformity</h3>
Description	700 Series ATEX-compliant configured peristaltic pumps
Product codes	701D, (F, V, X, and P variant), ATEX close-coupled pumps, configured with 701RBA, 701RBEA, 701RBXA or 701RBEXA ATEX pumpheads
Conformity	This document certifies that the above equipment complies with the requirements of Directive 94/9/EC (the "ATEX" directive).
Rating	The pumps are rated as Group II, Category 2 equipment, with a T4 temperature classification, for use in gas-based environments.
	 II 2 G, c T4
Standards	EN13463-1:2001 EN13463-5
Manufacturer	Watson-Marlow Bredel Pumps, TR11 4RU, England
Notified body	Full details of the conformity assessment procedure can be found in the technical reference file "ATEX-700-CP". In accordance with the requirements of Directive 94/9/EC a copy of this file has been archived with the following notified body: Intertek (CE 0359), KT22 7SB, England
Date	November 15 2004
Signature	 Christopher Gadsden, Managing Director, Watson-Marlow Limited

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.

Responsible person: Christopher Gadsden, Managing Director, Watson-Marlow Limited, Falmouth, Cornwall TR11 4RU, England. Telephone +44 (0) 1326 370370 Fax +44 (0) 1326 376009.



3 One year warranty - 701PB/R

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, including labour, any part of this product which fails within one year 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.

Two year warranty - 701FB/R, 701DVB/R, 701DFB/R, 701IB/R

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, including labour, 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 tubing and rollers 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 distributor. A certificate included at the rear of these operating instructions, or 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, this pump and the tubing selected should only be used by competent, suitably trained personnel after they have read and understood this manual, and considered any hazard involved. Any person who is involved in the installation or maintenance of this equipment should be fully competent to carry out the work. In the UK this person should also be familiar with the Health and Safety at Work Act 1974.



This symbol, used on the pump and in this manual, means: **Caution, risk of electric shock.**



This symbol, used on the pump and in this manual, means: **Caution, refer to accompanying documents.**



This symbol, used on the pump and in this manual, means: **Do not allow fingers to contact moving parts.**



Fundamental work with regard to lifting, transportation, installation, starting-up, maintenance and repair should be performed by qualified personnel only. Make absolutely sure that no voltage is applied at all while work is being carried out on the geared motor. The motor must be secured against accidental start up.

6 Recommended operating procedures

On variable speed models please note that the mechanical speed variator must not be adjusted when the motor is not running.

Do site the fluid reservoir above the pump wherever possible.

Do keep delivery and suction lines as short and direct as possible.

Do use gradual sweeping bends in installation pipe work with minimum radius equal to five times the tubing diameter. Avoid tight pipeline bends, pipe reducers and excessive lengths of smaller bore tubing than that in the pumphead, particularly in pipelines on the suction side.

Do ensure that there is always a minimum of one metre of smooth bore flexible tubing connected to the discharge port of the pumphead. This will help minimise any impulse losses and pulsation in the pipeline. This is especially important with viscous fluids and rigid pipework.

Do use suction and delivery pipelines with a bore equal to or larger than the bore of the tube fitted 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 fit an over-length pump tube in the system to allow its position to be varied relative to the rotor. This will extend tube life and minimise the downtime of the pumping circuit.

Do ensure that connecting pipe work and fittings are suitably rated to handle the predicted pipeline pressure.

If rigid pipe work comes in close proximity to the pumphead, a drop out section of pipe work will simplify tube replacement.

Do keep the pumphead rollers and track clean.

If unsure of an installation please contact your local Watson-Marlow Technical Support Office for further assistance.

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.

Tube selection. The chemical compatibility list published in the Watson-Marlow catalogue is only a guide. If in doubt about the compatibility of a tube material and the duty fluid, request a tube sample card for immersion trials.

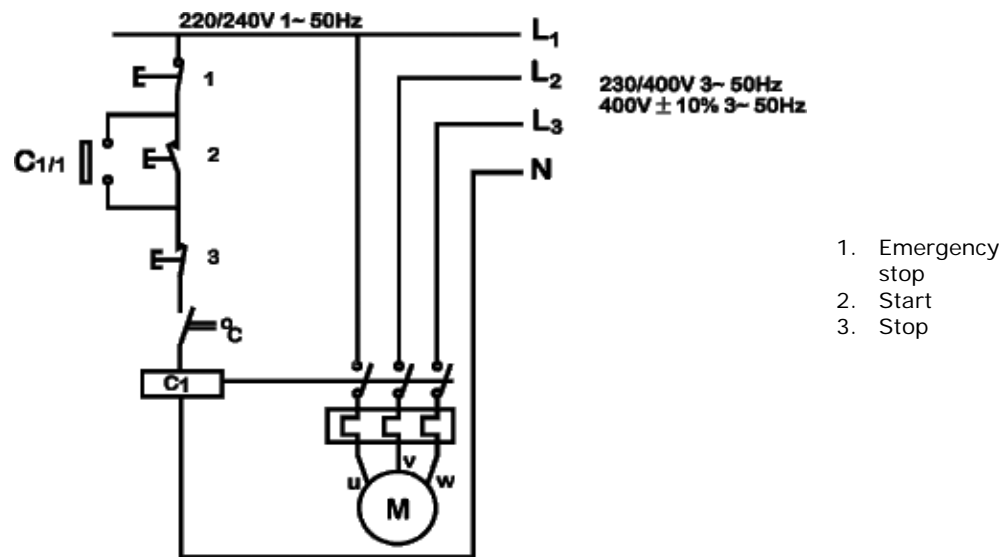
7 Installation

Pump

Site the pump on a flat, horizontal, vibration-proof surface allowing a free flow of air around it. Ensure there is 1m of relatively straight flexible tubing before the pumphead inlet and after the pumphead outlets. Two 15mm-diameter holes are provided for bolting the baseplate to the mounting surface, if required.

AC Motor

- Ensure that mains voltage/frequency are in accordance with motor nameplate information.
- Secure protective conductor connections.
- If a three-phase motor is running in the wrong direction, interchange any two phases.
- Close unused cable entrance holes and the terminal box itself in a dust and watertight manner.
- A current overload relay should be fitted to a contact breaker. Connect the motor in accordance with the wiring diagram that is 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 below for the connection of the drive motor showing possible ancillary switches and protections.



The ancillary switches are rated to 220/240V 1ph 50Hz. The Start contact should have a sprung return which will disengage following energisation of the coils C1 and C1/1.



Ensure that an emergency stop switch is fitted within reach of the pump.



The 701R pumphead range has electrostatic earth straps which are connected to the baseplate. Please ensure that the baseplate is electrostatically earthed to ground before operation.



Do not under any circumstances wire switches directly across any of the phases of a 3-phase supply. If in doubt disconnect the pump immediately!



Do not connect ancillary switches to the terminal box of a flameproof motor unless the switch has a suitable Ex rating for the zone area in which it is to be mounted.

8 Troubleshooting

Should the pump fail to operate, make the following checks to determine whether or not servicing is required.

- Check the mains supply is available at the pump.
- Check that the pump is not stalled by incorrect fitting of tubing.



Always check to ensure that an EEx-d motor gearbox is suitably rated for the hazardous zone area in which it is to be mounted. EEx-d motors should only be installed by EEx-d qualified personnel.



Any deviation from normal operating conditions (increased power consumption, temperature, vibrations, noise) or warning signals by monitoring equipment suggest malfunction. Inform the responsible maintenance personnel at once to prevent the trouble from worsening. If in doubt disconnect the pump immediately.

9 AC Motor maintenance

- Remove any dust deposits from the fan cover to avoid overheating.
- Ensure that the bearing cage is packed to about 1/3 with evenly distributed lubricating grease.
- Suitable lubricant: Mobilux 2 (-30°C-60°C) or similar.

10 Gearbox maintenance

- Change lubricant every 10,000 working hours or after 2 years.
- Combine a lubricant change with a thorough cleaning of the gear unit.
- Extreme working conditions (high air humidity, aggressive media and large temperature variations) will reduce the interval between lubricant changing intervals.
- Suitable lubricant: Mobil XMP 220 (mineral -5°C-40°C) or similar.

Belt variator maintenance

- Pulleys are supplied with permanent grease packing. No refill is necessary. The variator should occasionally be run over its full range to apply a grease coating to the full track.
- The control spindle should be cleaned and greased occasionally.

Replacing the V-belt

- Unscrew the socket head screws and remove the cover with the entire speed control mechanism.
- Remove the V-belt.
- Wrap the new V-belt around the open adjustable pulley and let it slip over the spring loaded pulley. The V-belt can be easily attached if the adjustable pulley is opened. Ensure that the adjustable pulley is opened carefully.
- Replace the removed cover with the complete speed control mechanism and re-assemble.
- When positioning the top (adjustable pulley closed) speed limiting lock nut, ensure that the adjustable pulley has a gap of 0.5-1.0mm to prevent damage to the pulley and motor bearings.
- The V-belt should not be in contact with the bottom of the adjustable pulley.

11 701PB Air motors



The air motor is designed for air only. Do not allow corrosive, flammable or explosive gases or particulate material to enter the motor. Water vapour, oil-based contaminants, or other liquids must be filtered out. The recommended air pressure should not exceed 7 bar (100 PSIG) maximum. **Always disconnect the air supply before servicing.**

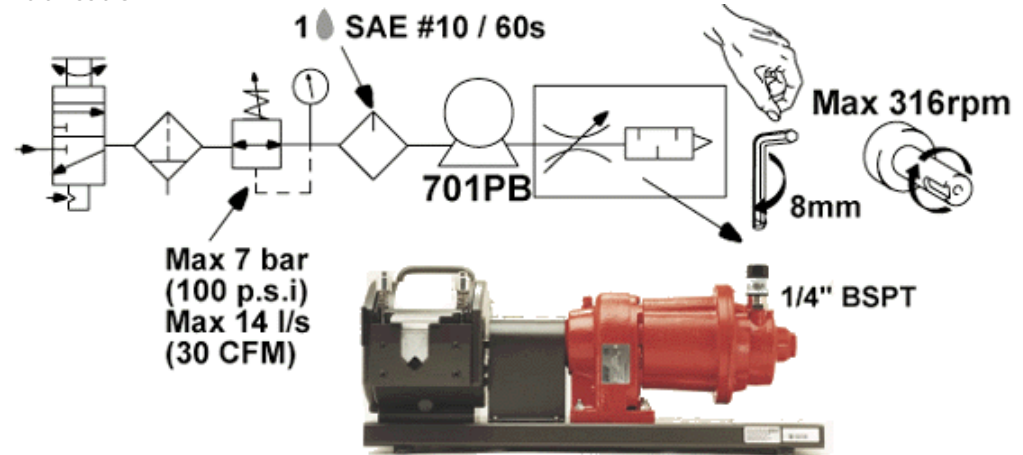


Ensure that the air motor is correctly installed and lubricated in accordance with the guidelines in this operating instruction. Each air motor is fitted with an outlet port restrictor to stop the motor running faster than the maximum designated speed. Failure to observe correct installation and lubrication procedures with air motors will cause damage that will invalidate your warranty.

Installation

A silencer is installed on the air motor's exhaust port. Install a moisture trap and filter in the air line ahead of the motor. If condensates need to be flushed out of the motor, use clean, dry air at low pressure. For efficiency of output and speed control, use air lines of the same size or next pipe size larger than the intake port of the motor. A 4-way valve which can be connected by piping to both air ports of the motor will make reversing possible. Use a pressure regulator or a simple shut off valve to obtain desired power and conserve air to regulate speed and torque.

Lubrication



Use a detergent SAE#10 automotive engine oil. Lubrication is necessary for all moving parts and rust prevention. We recommend that an automatic air lubricator be installed in the air line just ahead of the motor.

- *Automatic lubrication (recommended)* - An In-line oiler should be adjusted to feed one drop per minute for high speed or continuous duty use. Do not overfeed oil as contamination of the exhaust air may occur.
- *Manual lubrication* - Add 10-20 drops of oil every eight hours of operation through the inlet port while the pump is shut down.

12 701PB Air motors: troubleshooting

Reason	Low torque	Low speed	Won't run	Runs hot	Runs well then slows
Dirt, foreign material	•	•	•		
Internal rust	•	•	•		
Misalignment	•	•	•	•	•
Insufficient air pressure	•	•			
Air line too small		•			
Restricted exhaust		•			•
Poor lubrication	•	•	•	•	
Jammed machine	•	•	•		•
Compressor too small		•			•
Compressor too far from unit		•			•

13 Pump specification

Control range	See pump specification label
Voltage/frequency	See pump specification label
Power consumption	See pump specification label
Operating temperature range	5°C to 40°C
Storage temperature range	-40°C to 70°C
Noise	<85dBA at 1m
Standards	EN60529 (IP55) Machinery Directive: 2006/42/EC EMC Directive: 2004/108/EC

14 701RB Pumphead: key safety information



Before opening the pumphead guard please ensure that these safety directions are followed.

- Ensure that the pump is isolated from mains voltage.
- Ensure that there is no pressure in the pipeline.
- If a tube failure has occurred, ensure that any product in the pumphead has been allowed to drain from the pumphead to a suitable drain.
- Ensure that protective clothing and eye protection is worn if hazardous products are being pumped.

15 701R Safe-guarding

Primary safety on 701R electrical and air powered baseplate pumps is provided by the tool-lockable pumphead guard.

Guard switch

The pumphead has been fitted with two guard switches. When the track is removed, the pump stops. The pump can be restarted only if the track is returned to its correct position.

16 701RB, 701RBX, 701RBG, 701RBE, 701RBEX Pump installation

A correctly engineered installation will promote the best possible tube life, so please ensure that the following guidelines are followed:

On variable speed models please note that the mechanical speed variator must not be adjusted when the motor is not running.

Do site the fluid reservoir above the pump wherever possible.

Do keep delivery and suction lines as short and direct as possible.

Do use gradual sweeping bends in installation pipe work with minimum radius equal to five times the tubing diameter. Avoid tight pipeline bends, pipe reducers and excessive lengths of smaller bore tubing than that in the pumphead, particularly in pipelines on the suction side.

Do ensure that there is always a minimum of one metre of smooth bore flexible tubing connected to the discharge port of the pumphead. This will help minimise any impulse losses and pulsation in the pipeline. This is especially important with viscous fluids and rigid pipework.

Do use suction and delivery pipelines with a bore equal to or larger than the bore of the tube fitted 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 fit an over-length pump tube in the system to allow its position to be varied relative to the rotor. This will extend tube life and minimise the downtime of the pumping circuit.

Do ensure that connecting pipe work and fittings are suitably rated to handle the predicted pipeline pressure.

If rigid pipe work comes in close proximity to the pumphead, a drop out section of pipe work will simplify tube replacement.

Do keep the pumphead rollers and track clean.

If unsure of an installation please contact your local Watson-Marlow Technical Support Office for further assistance.

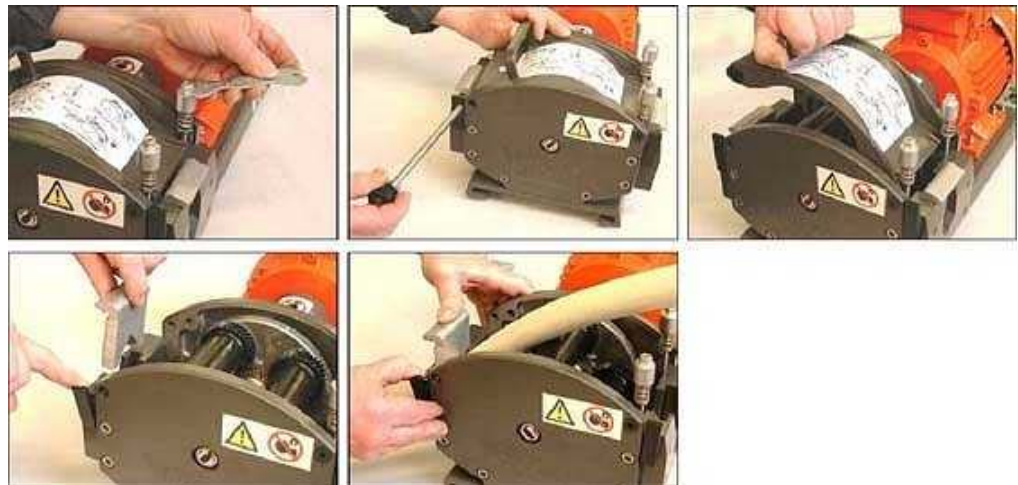
All performance figures in this operating instruction relate to peak pipeline pressures. Peak pressure is not always accurately shown by oil-filled analogue pressure gauges as damping of the gauge needle occurs. The pressure being recorded using an analogue gauge may only be 75% of true peak pressure. For accurate peak pressure measurement a digital pressure transducer should be used.

17 Tube loading

701 baseplate pumps can be operated with a 701RB continuous tubing pumphead or with a 701RBE pumphead fitted with Watson-Marlow LoadSure tube elements. For both pumphead types, extension "X" pumphead options are available.

701R, 701RB and 701RBX continuous tube loading

- Loosen the track compression spring knobs using a 10mm A/F spanner, turning them anticlockwise six (6) times.
- Unscrew the track securing bolt and withdraw the bolt fully. Lift the track by its handle and slide it out from under the springs.
- Release the tube clamps by pulling on the release levers and lift out both clamps.
- Lay the tubing across the pumphead. Secure the suction side by sliding in the first tube clamp while pulling the release lever.



- Fit the delivery clamp loosely to allow any excess tubing to work its way through the pumphead. (See Re-tensioning the tubing, below)
- Position the track over the pumphead cradle and locate the track securing bolt. Tighten the track-securing bolt using the 6mm Allen key provided.
- Tighten both the track compression spring knobs to a torque of 3Nm (2.2 lb-ft) using a 10mm A/F spanner.



701RB, 701RBX and 701RBG: Re-tensioning the tubing

Start the pump, allowing any excess tubing to work through the pumphead, then press down the delivery end clamp firmly. Check the tube for movement when the pump is running. If tubing moves through the pumphead, the tube should be more firmly clamped at the suction end. The delivery end should be unclamped to release any excess tubing, pulled tight and then firmly re-clamped again.



When using Marprene continuous tubing, after the first 30 minutes of running, re-tension the tube in the pumphead by releasing the tube clamp on the delivery side a little and pulling the tube tight. This is to counteract the normal stretching that occurs with Marprene which can go unnoticed and result in poor tube life.

701RBE and 701RBEX LoadSure tube element loading

700 series LoadSure tube elements:

- remove the chance of premature tube failure caused by incorrect tube loading;
- avoid over-clamping of tubing;
- remove the need to re-tension the tubing;
- extend tube life;
- reduce maintenance time for tube changeover and cleaning;
- offer standard industrial tube connections.

Please note: the pictures below show LoadSure tube element loading into a 701RBE pumphead fitted to a 701 baseplate pump.



- Loosen the track-compression spring knobs using a 10mm A/F spanner, turning them anticlockwise six (6) times.
- Unscrew the track-securing bolt and withdraw the bolt fully. Lift the track by its handle and slide it out from under the springs.



- Locate the D-shaped flange fitted to the end of the tube element into the delivery (right-hand) sliding tube clamp. (The D flange ensures that the element can only be loaded correctly.)
- Slip the right-hand end of the track under the springs.
- Locate the second "D"-shaped flange into the suction (left-hand) sliding tube clamp. (Lifting the sliding tube clamp will aid the tube-loading.)



- Position the left-hand end of the track so that the track-securing bolt can be inserted.
- Tighten the track-securing bolt with the 6mm Allen key provided.
- Tighten both the track-compression spring knobs to a torque of 3Nm (2.2 lb-ft) using a 10mm A/F spanner.



- Connect both ends of the tubing element to the fluid line using 3/4in female cam and groove connectors.

18 Fitting an extension pumphead

- From the first pumphead remove:
 - the plug from the tapped hole in the top right hand corner of the pumphead frontplate (1);
 - the track securing bolt and the track (2);
 - the plug from the slot in the centre shaft (3);
 - the M8 x 16 socket head cap screw from the bottom left of the first pumphead (4).
- Grease the drive shaft dog of the extension pumphead with the grease supplied.
- Apply thread locking compound to the M8 x 16 socket head cap screw in the top right hand corner of the backplate of the extension pumphead.
- Align the drive shaft dog of the extension pumphead with the slot in the drive shaft of the first pumphead.
- Fit the extension pumphead to the first pumphead. Ensure the backplate of the extension pumphead is flat against the frontplate of the first pumphead.
- Lightly tighten the socket head cap screw with the modified 6mm Allen key provided.
- Apply thread locking compound to the M8 x 170 socket head cap screw in the bottom left of the extension pumphead frontplate, and tighten it in sequence with the M8 cap screw in the backplate.



19 Pumphead spares: continuous tubing

Models 701RB, 701RBX, 701RBG



1	MRA0027A	Pivot pin assembly
1	MRA0034A	Pivot pin assembly ~ 701RX
2	MRA0021A	Rotor assembly
2	MRA0036A	Rotor assembly ~ 701RX
3	701RB, 701RBX: MRA0104A 701RBG: MRA0295A	Knob assembly ~ 4.8mm wall tubing
3	MRA0103A	Knob assembly ~ 3.2mm wall tubing
4	701RB, 701RBX: SG0005 701RBG: SG0019	Spring
5	701RB, 701RBX: MR0674T 701RBG: MR0977T	501RL Spring retaining washer
6	MR0880C	Tube clamp
7	MR0662T	Stud ~ Set to 61mm
8	MRA0154A	Track assembly
9	MR0882M	Eccentric bush

20 Pumphead spares: tubing elements

Models 701RBE, 701RBEX



1	MRA0027A	Pivot pin assembly
1	MRA0034A	Pivot pin assembly ~ 701RX
2	MRA0021A	Rotor assembly
2	MRA0036A	Rotor assembly ~ 701RX
3	MRA0104A	Knob assembly ~ 4.8mm wall tubing
3	MRA0103A	Knob assembly ~ 3.2mm wall tubing
4	SG0005	Spring
5	MR0674T	Spring retaining washer
6	MR0662T	Stud ~ Set to 61mm
7	MR1118T	Sliding clamp
8	MRA0154A	Track assembly
9	MR0882M	Eccentric bush

21 Pumphead spares: rotor

All models












1	MR0667T	Spacer
2	FN0420	Screw M5x16 socket countersunk
3	FN0722	Washer
4	MRA0020A	Roller assembly
5	MRA0039A	Shaft with sun gear ~ 701R
5	MRA0040A	Shaft with sun gear ~ 701RX
6	MR0879C	Rotor flange
7	BB0018	Bearing

22 Flow rates

Flow rates were obtained using silicone tubing with the pumphead rotating clockwise, pumping water at 20°C with zero suction and delivery pressures. For critical applications determine flow rates under operating conditions.

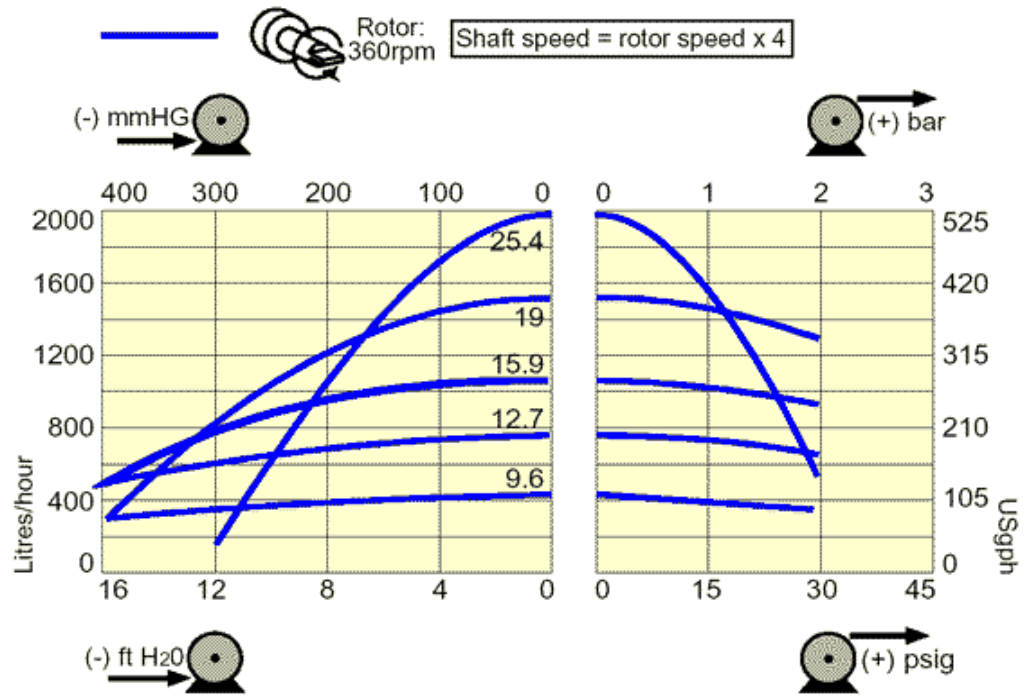


Flow rates: 701RB					Flow rates: 701RBE				
	mm	9.6	12.7	15.9	19.0	25.4	12.7	15.9	19.0
	inch	3/8	1/2	5/8	3/4	1	1/2	5/8	3/4
	#	193	88	189	191	92	88	189	191
	45	53	98	135	188	250	98	135	188
	134	156	290	402	558	745	290	402	558
	232	271	503	696	967	1290	503	696	967
	348	406	754	1044	1450	1935	754	1044	1450
	175	204	379	525	729	973	379	525	729
	265	309	574	795	1104	1473	574	795	1104
	316	369	685	948	1317	1757	685	948	1317

23 701RB, 701RBX, 701RBG, 701RBE, 701RBEX product codes

mm	inch	#	Marprene	Marprene LoadSure	Bioprene	Platinum silicone
9.6	3/8	193	902.0096.048		903.0096.048	913.A096.048
12.7	1/2	88	902.0127.048	902.0127.PPC	903.0127.048	913.A127.048
15.9	5/8	189	902.0159.048	902.0159.PPC	903.0159.048	913.A159.048
19.0	3/4	191	902.0190.048	902.0190.PPC	903.0190.048	913.A190.048
25.4	1	92	902.0254.048		903.0254.048	913.A254.048
mm	inch	#	Neoprene	Neoprene LoadSure	Butyl	Fluorel
9.6	3/8	193	920.0096.048			
12.7	1/2	88	920.0127.048	920.0127.PPC		
15.9	5/8	189	920.0159.048	920.0159.PPC		
19.0	3/4	191	920.0190.048	920.0190.PPC	930.0190.048	970.A190.048
25.4	1	92	920.0254.048		930.0254.048	
mm	inch	#	STA-PURE			
9.6	3/8	193	960.0096.048			
12.7	1/2	88	960.0127.048			
15.9	5/8	189	960.0159.048			
19.0	3/4	191	960.0190.048			
25.4	1	92	960.0254.048			

24 Flow, pressure and suction

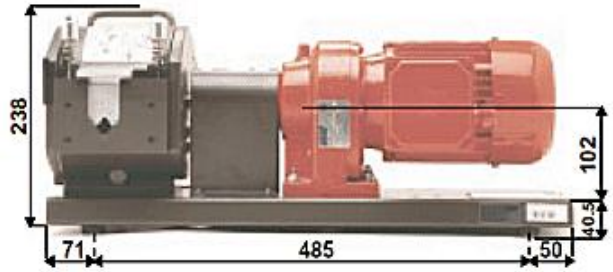


25 Maximum peak working pressure ratings

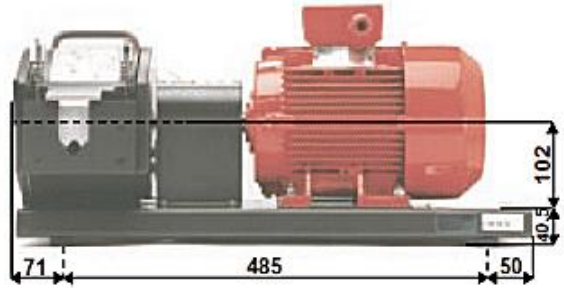
701RB	701RBX	701RBG	701RBE	701RBEX
2bar	2bar	4bar	2bar	2bar

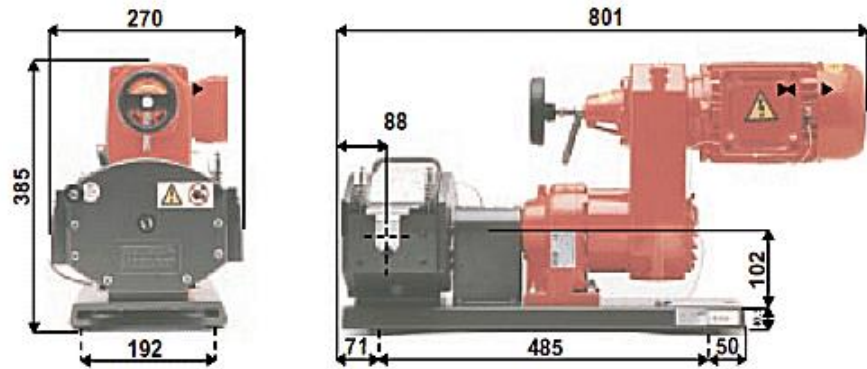
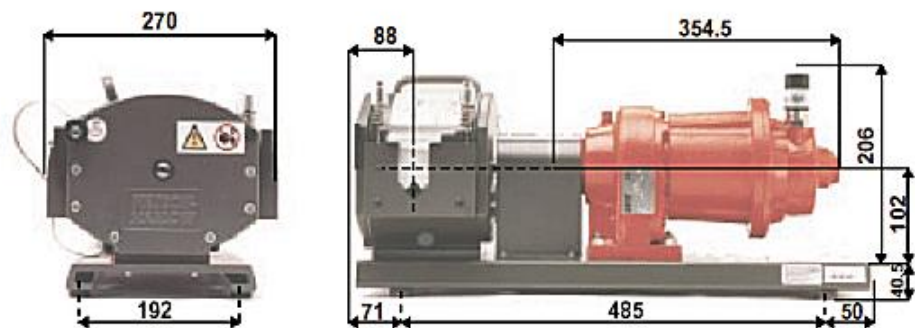
26 Outline dimensions

701FB/R 45rpm, 134rpm



701FB/R 232rpm, 348rpm



701DVB/R 175rpm, 265rpm**701PB/R 316rpm**

27 Trademarks and disclaimer

Watson-Marlow, Bioprene, LoadSure and Marprene are trademarks of Watson-Marlow Limited.

Fluorel is a trademark of 3M.

Sta-Pure is a trademark of W.L.Gore & Associates.

Disclaimer The information contained in this document is believed to be correct but Watson-Marlow Limited accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

28 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.

29 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="radio"/> Been used <input type="radio"/> 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"/>

Please print out, sign and fax to Watson-Marlow Pumps at +44 1326 376009.