

313 rapid load pumpheads, three rollers

300 series Watson-Marlow Pumps

FEATURES

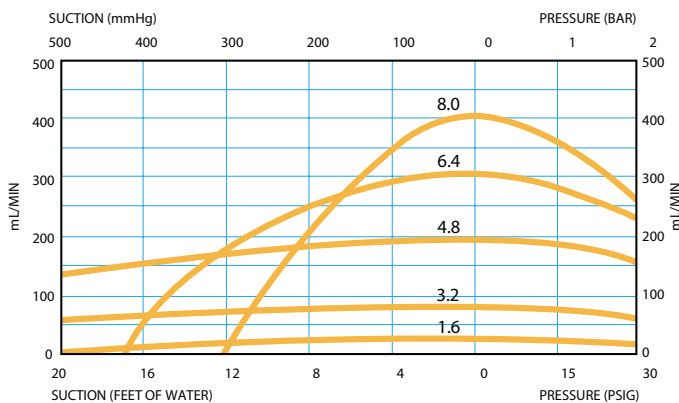
- Rapid and simple tube loading flip-top pumphead
- Three roller rotor for high flow performance
- Up to 2000 ml/min continuous flow
- Up to 3000 ml/min intermittent flow
- Accepts 2.4mm wall tubing for higher pressure applications
- Snap-fit 313X extension pumpheads available
- One year comprehensive warranty
- Range of pumpheads available to be mounted on Watson-Marlow 300 series OEM drives or user's own drive



Watson-Marlow...Innovation in Full Flow

PERFORMANCE

Flow rates (ml/min) Tubing 1.6 wall			
Tube bore	(ml/rev)	Max continuous flow (ml/min)	Max Intermittent flow (ml/min)
0.5	0.03	12	18
0.8	0.06	24	36
1.6	0.26	104	156
3.2	1	400	600
4.8	2.2	880	1320
6.4	3.6	1400	2160
8	5	2000	3000

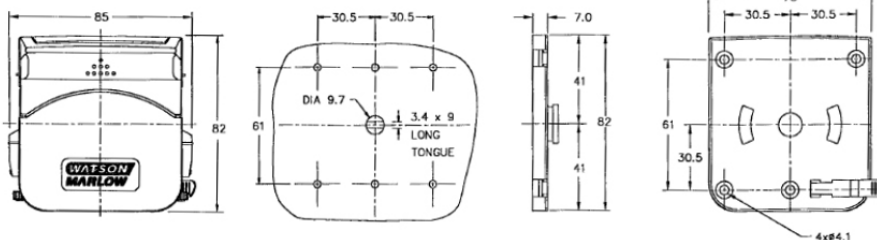


Conditions:

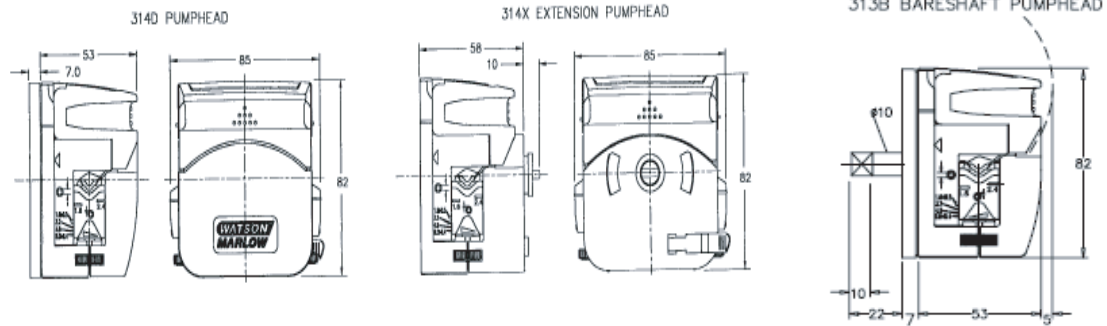
- Suction curves obtained with zero output pressure.
- Pressure curves obtained with zero lift.
- Pumphead speed 100 rpm.

Conversion Factors:

- Suction pressure in Bar x 747.7 = mm Hg
- Suction pressure in Bar x 33.5 = Ft H₂O
- Back pressure in Bar x 14.5 = psi



TECHNICAL DRAWINGS



TECHNICAL SPECIFICATION

1.6mm wall thickness tubing							
Tube bore (mm)	0.5	0.8	1.6	3.2	4.8	6.4	8.0
Max continuous speed (rpm)	400	400	400	400	400	400	400
Max Intermittent speed (rpm)	600	600	600	600	600	600	600
With Marprene tubing							
Required torque up to 0.5 bar kgcm	1.4	1.4	2.0	2.8	4.2	4.8	6.3
Required torque up to 2.0 bar kgcm	1.5	1.5	2.1	4.0	6.1	6.8	7.8
Max continuous pressure; bar	2.0	2.0	2.0	2.0	1.3	1.3	1.3
Max intermittent pressure; bar	3.0	3.0	3.0	2.5	2.0	2.0	1.7
With Silicone tubing							
Required torque up to 0.5 bar kgcm	1.1	1.1	1.7	2.3	2.9	3.5	4.0
Required torque up to 2.0 bar kgcm	1.5	1.5	2.1	3.2	4.3	5.2	6.7
Max continuous pressure; bar	2.0	2.0	1.5	1.5	1.0	1.0	1.0
Max intermittent pressure; bar	2.5	2.5	2.0	2.0	1.3	1.3	1.3

MATERIALS OF CONSTRUCTION

Component	Material
Body rear	Glass filled polypropylene
Body front, body front extension, mounting plate, track & lever	IXEF
Rotor, tube clamps and mounting plate locking tab	Glass filled nylon
Rollers	MoS2 filled nylon 6 (nylatron)
Spindles	Electroless nickel plated, hardened steel
Screws	Stainless steel
Sealed bearings	Carbon steel

ORDER INFORMATION

Three roller 1.6mm wall thickness tubing						
Description	Partcode					
Clamp setting	313D	313X	313B	313XB	313DW	313BW
Variable	033.3411.000	033.3431.000	033.3421.000	033.3441.000	033.3451.000	033.3461.000
0.5-1.6	033.3411.00c	033.3431.00c	033.3421.00c	033.3441.00c	033.3451.00c	033.3461.00c
3.2	033.3411.00f	033.3431.00f	033.3421.00f	033.3441.00f	033.3451.00f	033.3461.00f
4.8	033.3411.00k	033.3431.00k	033.3421.00k	033.3441.00k	033.3451.00k	033.3461.00k
6.4-8.0	033.3411.00n	033.3431.00n	033.3421.00n	033.3441.00n	033.3451.00n	033.3461.00n

Three roller 2.4mm wall thickness tubing						
Description	Partcode					
Clamp setting	313D2	313X2	313B2	313XB2	313DW2	313BW2
Variable	033.3511.000	033.3531.000	033.3521.000	033.3541.000	033.3551.000	033.3561.000
0.5-1.6	033.3511.00c	033.3531.00c	033.3521.00c	033.3541.00c	033.3551.00c	033.3561.00c
3.2	033.3511.00f	033.3531.00f	033.3521.00f	033.3541.00f	033.3551.00f	033.3561.00f
4.8	033.3511.00k	033.3531.00k	033.3521.00k	033.3541.00k	033.3551.00k	033.3561.00k
6.4	033.3511.00n	033.3531.00n	033.3521.00n	033.3541.00n	033.3551.00n	033.3561.00n

All flow rates shown were obtained pumping water at 20C (68F) with zero suction and delivery heads. Watson-Marlow, Bioprene and Marprene are trademarks of Watson-Marlow Limited. 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. LoadSure is a trademark of Watson-Marlow Limited. © STA-PURE PFL and © STA-PURE PCS are registered trademarks of W.L Gore & Associates Inc. Please state the product code when ordering pumps and tubing.

**WATSON
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Pumps

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