

100 SERIES OEM SYSTEMS

The 100 series of OEM systems offers a choice of pumps in a range of speeds, based on the 102R low-flow pumphead, and uses either synchronous or DC motors. The 102R pumphead is also available on its own, for use with users' own drives. Recently introduced into the range is the 100 series CIRA 1990! OEM speed control board providing direction and speed control for the 12V DC OEM pumps.

102R low flow pumphead



The 102R low-flow OEM pumphead accepts, without adjustment, all Watson-Marlow Bredel tubing from 0.5mm (1/50") to 4.8mm (3/16") internal diameter with 1.6mm (1/16") wall thickness. It has a spring-loaded, two-roller rotor and is suitable for continuous use up to 65 rpm, providing flow rates up to 106 ml/min (intermittent use up to 130rpm giving flow rates up to 212 ml/min).

The 102R may be driven in either direction: clockwise rotation will give a longer tube life, but anti-clockwise rotation can be used for working against greater pressures. It is available with a choice of track material and rotor springs and is suitable for either a 6mm or 8mm drive shaft if mounted on users' own drive. All 102R pumpheads have a choice of mounting points and a shatterproof clear polycarbonate guard which is hinged to allow easy access for tube changing.

For certain applications, the 102R can be supplied with snap-in connectors (as shown in the photograph bottom left) in place of the sprung tube clamps.

Ordering information

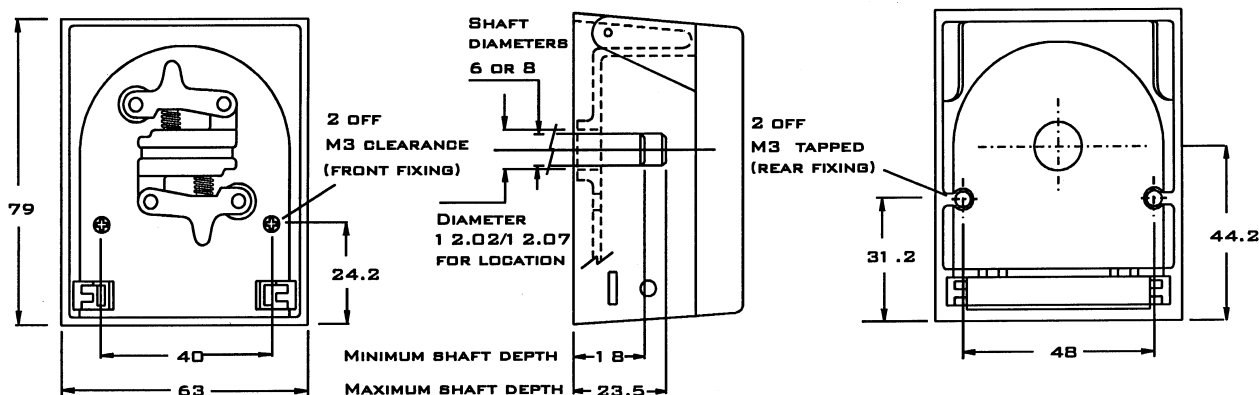
For 6mm drive shaft	Suitable for
Kematal track with standard springs	Platinum cured Silicone/Neoprene 013.2001.000
Kematal track with hard springs	Marprene/PVC/Fluorel 013.2011.000
PVDF track with standard springs	Platinum cured Silicone/Neoprene 013.3001.000
PVDF track with hard springs	Marprene/PVC/Fluorel 013.3011.000
For 8mm drive shaft	Suitable for
Kematal track with standard springs	Platinum cured Silicone/Neoprene 013.2101.000
Kematal track with hard springs	Marprene/PVC/Fluorel 013.2111.000
PVDF track with standard springs	Platinum cured Silicone/Neoprene 013.3101.000
PVDF track with hard springs	Marprene/PVC/Fluorel 013.3111.000

Materials of construction

IXEF (Polyarylamide)	Rotor
MOS2 filled Nylon 6 (Nylatron)	Rollers
Acetal copolymer (Kematal) or PVDF	Track
Acetal copolymer (Kematal)	Tube clamps
Polycarbonate	Guard
Stainless steel	Spindles, Guide pins



ALL DIMENSIONS IN MILLIMETRES





Flow rates

	1.6mm (1/16") wall tubing				
Bore mm	0.5mm	0.8mm	1.6mm	3.2mm	4.8mm
Bore "	1/50"	1/32"	1/16"	1/8"	3/16"
<i>Flow rate: ml/revolution</i>	0.02	0.05	0.22	0.81	1.66
<i>Maximum continuous flow rate (65rpm): ml/min</i>	1.38	3.22	14.0	52.0	106
<i>Maximum intermittent flow rate (130rpm): ml/min</i>	2.76	6.44	28.0	104	212

For tube selections, see Table A on page 47.

Specifications

	1.6mm (1/16") wall tubing				
Bore mm	0.5mm	0.8mm	1.6mm	3.2mm	4.8mm
Bore "	1/50"	1/32"	1/16"	1/8"	3/16"
<i>Maximum continuous speed: rpm</i>	65	65	65	65	65
<i>Maximum intermittent speed: rpm</i>	130	130	130	130	130
With silicone tubing (standard springs, clockwise rotation)					
Required torque up to 0.5 bar: kg cm	1.1	1.1	1.2	1.5	1.8
Required torque up to 1 bar: kg cm	1.2	1.2	1.25	1.8	2.1
<i>Maximum pressure: bar</i>	3.0	3.0	3.0	1.0	1.0
With Marprene tubing (hard springs, clockwise rotation)					
Required torque up to 0.5 bar: kg cm	3.5	3.5	3.6	4.2	4.6
<i>Maximum pressure: bar</i>	1.6	1.6	1.6	1.6	1.6

For counter-clockwise rotation, increase required torque figures by 80%.

Performance against pressure

Conditions:

- Suction curves obtained with zero output pressure.
- Pressure curves obtained with zero lift.
- Pumphead speed 32 rpm

Conversion Factors:

Suction pressure in bar x 760 = mm Hg
 Suction pressure in bar x 33.5 = Ft H₂O
 Back pressure in bar x 14.5 = psi

