

TCS MICROPUMPS: M100 / M200 – S,S-3 (including W and SUB versions)

(Patents Pending, Quality Assured ISO 9001, RoHS compliant)

INTRODUCTION

The TCS Micropump is a high-quality miniature pump for liquids. It is highly efficient, small and lightweight. The solid construction and wide temperature tolerance, enable it to perform reliably even in hostile environments. Your Micropump can be quickly and easily installed into the smallest spaces, in a vast range of laboratory, prototype and production equipment.

ELECTRICAL CONNECTION

Red + Positive
Black – Negative

Voltage: 2.0v – 4.5v dc (Nominal 3.0v dc)

CAUTION: REVERSED OR INCORRECT CONNECTION WILL PERMANENTLY DAMAGE THE ELECTRONICS IN YOUR PUMP!

Your micropump can be connected to batteries or a low voltage dc power supply > 600mA. Pumping rate can be fine tuned by using input voltages between 2.0v – 4.0v dc. Micropump life is increased at lower operating voltage/speed.

TUBING

M100S / S-3: Flexible tubing 2.4mm (3/32") bore
M200S: Flexible tubing 3.2mm (1/8") bore
M200S-3: Flexible tubing 3.2mm (1/8") bore. Vent port – Flexible tubing 2.4mm (3/32")

These Micropumps are required to be filled with liquid (primed) before they can operate.

DO NOT immerse your Micropump (unless you have a Waterproof or Submersible version)
DO NOT run your Micropump when dry.

USE OF MICROPUMP 3RD PORT – M100S-3 & M200S-3

Sealed circuits may be filled through the "Vent" port on your Micropump. Sealed circuits can be fitted with a "T" connector at the furthest point in your circuit from the Micropump. To fill the circuit, liquid is pushed into the vent port of the Micropump using for example a flexible fill bottle. Excess liquid exists through the "T" Tubing. Once your liquid circuit is filled, the Micropump "Vent" and "T" tubing can be plugged.

Additionally if the "Vent" and "T" tubing are positioned vertically, they will help to collect any small air/gas bubbles which are trapped or form in your liquid circuit.

TCS Micropump Performance Data	Input Voltage (V)	Current Draw (A)	Power Usage (W)	Pressure (mBar)	Pressure (psi)	Free Flow Rate (ml/min)	Operating Temperature range (C)
M100-S & M100S-3	3.0 4.0	0.28 0.39	0.84 1.56	70 90	1.0 1.3	250 350	-20 to 120 -20 to 120
M200S & M200S-3	3.0 4.0	0.28 0.38	0.84 1.52	150 190	2.2 2.8	550 650	-20 to 120 -20 to 120



TCS MICROPUMPS: D200S Series

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INTRODUCTION

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ELECTRICAL CONNECTION

Voltage: 2.0 to 6.0v dc (Nominal 4.5v)

Positive +: Solder terminal marked "+"

Negative -: Solder terminal

Your Micropump can be connected to batteries or TCS power supply TCS-600 (see accessories page on website).

Pumping rate can be adjusted by varying input voltages between 1.2v and 6.0v dc. Further fine tuning can be made by restricting the outlet of your pump using a fixed jet restriction or flexible tubing and an adjustable clamp. The D200 pump is quite happy to run even with the outlet completely blocked. Pressure inside the pump will increase.

Micropump life is increased at lower operating voltage/speed.

TUBING

Flexible tubing TCS602 2.4mm bore (see accessories page on the website)

DO NOT IMMERSE YOUR MICROPUMP

MATERIALS

Housing: Precision injection moulded, reinforced nylon alloy

Diaphragm Valves: Silicone, Nitrile. Viton optional.

TCS Micropump Performance Data FOR AIR	Input Voltage (V)	Current Draw (A)	Power Usage (W)	Pressure (mBar)	Vacuum	Free Flow Rate (ml/min)	Weight	Operating Temperature range (C)
D200S Series (at min voltage)	2.0	0.019	0.038	--	--	100	32g (1.13oz)	-20 to 100
D200S Series (at max voltage)	4.5	0.022	0.099	400 (5.8 psi)	300 (4.4 psi)	380		

Designed & Manufactured in the United Kingdom by TCS Micro Limited.
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M100 Series

