



D200 Series Brushless Micropump

TCS MICROPUMPS: D220 & D250 BLZ

(Patents Pending, Quality Assured ISO 9001, RoHS compliant, IP45 protection rating)

INTRODUCTION

The TCS D220BLZ and D250BLZ Micropumps are high-quality 'Long Life' self priming miniature pumps for liquids and gases. They are highly efficient, small and lightweight. The solid construction and wide temperature tolerance, enable them 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

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

Voltage: 3.0 to 6.0 Volts dc (Maximum 0.5Amps)

The simplest connection is Red +ve (Positive) supply, Black to -ve (Negative) supply with the pump output controlled via the supply voltage.

Wire Colour	Description	Connection	Status
RED	Supply	+Ve	Required
GREEN	Speed control Signal	Speed Signal Output	Optional
YELLOW	CW/CCW control	-Ve Motor rotates counter clockwise viewed from output shaft end when connected and clockwise if unconnected.	NOT USED
BLACK	Supply	-Ve	Required
BLUE	PWM Speed Control	Connect to PWM signal to adjust motor speed. Motor runs full speed if unconnected	Optional

Your Micropump can be connected to batteries, a DC power source of up to 6V or a TCS power supply TCS-600 (see accessories page on website).

Pumping rate can be adjusted by varying input voltages between 3.0v 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 pump is quite happy to run even with the outlet completely blocked with gases but the **flow must NOT be blocked when pumping fluids** as pressure inside the pump will increase and damage may occur.

Materials

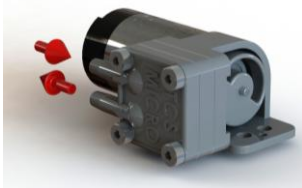
D220 Pump Head	Glass Filled Nylon
D250 Pump Head	Anodised Aluminium
Housing	Glass Filled Nylon
D220 Tubing Connectors	Glass Filled Nylon
D250 Tubing Connectors	Stainless Steel 316
Seals	'Silicon, Nitrile'

TUBING

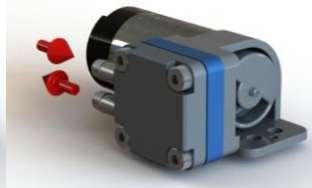
D200 series: 2.4mm (3/32") bore flexible tubing

Notes on Operation

All 'D series' pumps are self priming by design. Simply connect the pump into your flow circuit, noting the flow direction shown below, and begin pumping.



D220BLZ



D250BLZ



Flow reversing manifold
For use with both gases and liquids. Changes the direction of flow within a given circuit

Accessory - TCS-303

Performance	Input Voltage	Power Usage	Max Pressure	Max Free Flow
	(v)	(w)	(psi)	(mlpm)
D220BLZ - AIR	3.0 - 6.0	0.1 - 0.6	11	450
D250BLZ - AIR	3.0 - 6.0	0.1 - 0.6	12	620
D220BLZ - WATER	3.0 - 6.0	0.6 - 1.8	8	90
D250BLZ - WATER	3.0 - 6.0	0.6 - 1.8	9	100