

## BOXER

**29QQ Peristaltic Pump***Miniature Peristaltic Pump, 10µl to 50 ml/min***DESCRIPTION**

The 29QQ Series is Boxer's most compact miniature peristaltic pump. The low dosing volume and small form factor make it ideal for microfluidic applications. OEM customization is at the core of the 29QQ through the ability to cater the product configuration towards the application requirements. Through selection of motor type and tubing size, the 29QQ can achieve flows as low as 10 microliters per minute and as high as 50 milliliters per minute. Applications requiring speed control can be handled through selection of stepper motor and drivers. Alternatively, a constant dose rate can be handled with a brushed DC gearmotor. Add-on options such as encoders for speed sensing and lid close sensors are also useful for OEM integration.

Considering the full range of options and tube sets, over 800 different configurations of this pump are available.

**FEATURES**

- Compact pump face: less than 1.25" wide and 2" tall
- Inert and biocompatible tube sets
- Cost-effective at high quantities
- Floating saddle to increase tube life
- Stepper motor with driver or standard DC motor
- Options for speed sensor (encoder) and lid close sensor

**29QQ DC/GEAR MOTOR FLOW DATA**

Tube Size	12V/15 RPM	12V/116 RPM	12V/315 RPM	12V/520 RPM
ID Ø 0.5 mm	0.1 - 0.2	0.8 - 1.5	2.1 - 4.1	3.4 - 6.7
ID Ø 1.0 mm	0.3 - 0.5	0.2 - 3.9	5.4 - 10.7	8.9 - 17.7
ID Ø 2.0 mm	0.8 - 1.5	5.8 - 11.6	15.8 - 31.5	26.0 - 52.0

Tube Size	24V/33 RPM	24V/107 RPM	24V/315 RPM	24V/520 RPM
ID Ø 0.5 mm	0.2 - 0.4	0.7 - 1.4	2.1 - 4.1	3.4 - 6.7
ID Ø 1.0 mm	0.6 - 1.1	1.8 - 3.6	5.4 - 10.7	8.9 - 17.7
ID Ø 2.0 mm	0.8 - 1.5	5.4 - 10.7	15.8 - 31.5	26.0 - 52.0

All Flow data given in ml/min

Both 12 and 24 V motors are available each with 4 different fixed planetary gears for different speeds. Reduced speed and flow is obtained with supply voltage reduction by maximum 50%. The flow values below shows 50% (at half nominal voltage) to 100% (at nominal voltage).

**29QQ STEPPER MOTOR FLOW DATA**

Tube Size	Flow at 100 RPM	Flow at 300 PRM	Flow at 500 RPM
ID Ø 0.5 mm	1.3	3.9	6.5
ID Ø 1.0 mm	3.4	10.2	17.0
ID Ø 2.0 mm	10.0	30.0	50.0

All Flow data given in ml/min



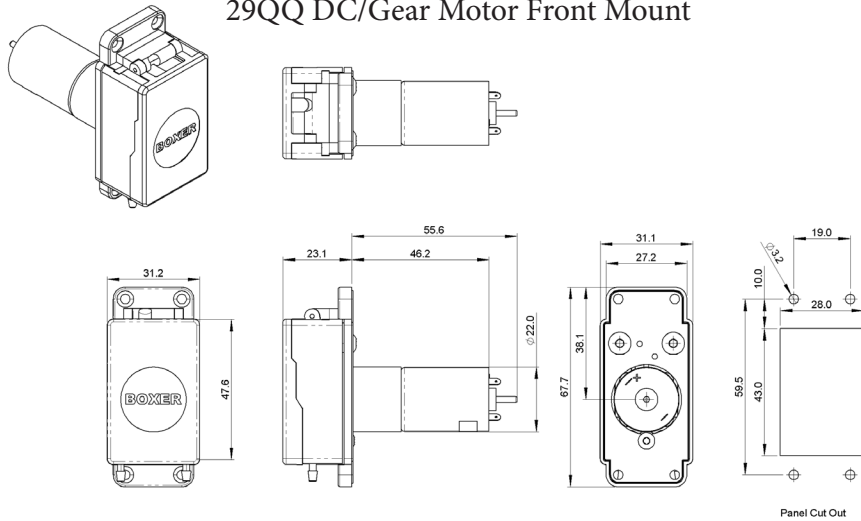
DC/Gear Motor Front Mount      Stepper Motor Rear Mount

**SPECIFICATIONS****GENERAL**

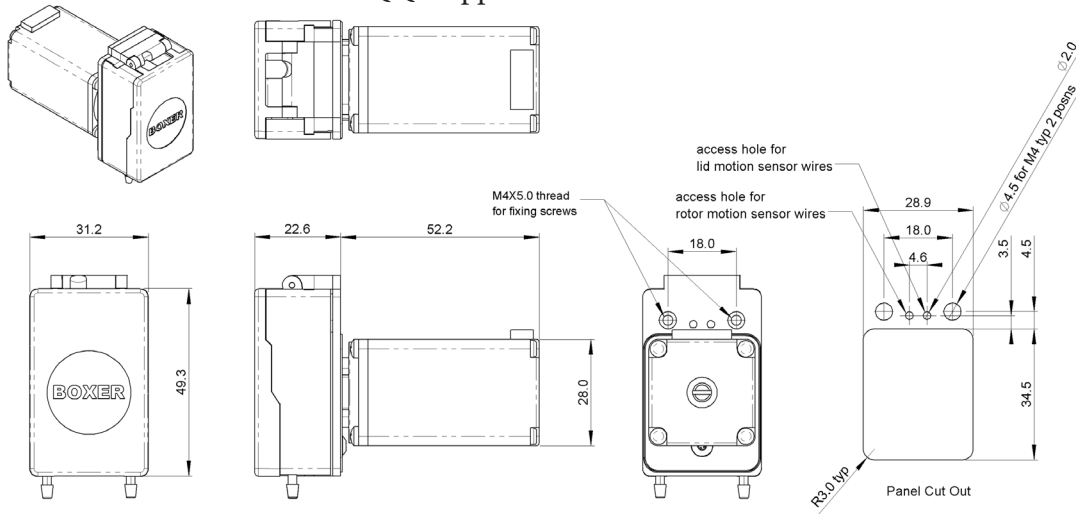
	29QQ DC/Gear Motor	29QQ Stepper Motor
Flow per Revolution		
ID Ø 0.5 mm tube	13 µl	
ID Ø 1.0 mm tube	34 µl	
ID Ø 2.0 mm tube	100 µl	
Power Consumption	3.8 W (with 2.0 mm ID tube and 520 rpm motor)	2.5 W (with 2.0 mm ID tube, Pico driver with 0.4 A current limiter setting)
Tube Materials	Pharm-a-line / Silicone / Lagoprene / ED-Plex	
Number of Rollers	4	
Mounting Gasket	Supplied as standard (for both front and rear mount options)	
Max Pressure	1.0 bar	
Max Suction Height (dry)	9.0 m H <sub>2</sub> O	
Typical Motor Life	>2,000 hour	>10,000 hour
Weight	125 g (+15g for front mount)	210 g (+ 15 g for front mount, + 22 g for assembled Pico driver)
All data measured with 'run-in' Pharm-a-line tubing and H <sub>2</sub> O.		

## Dimensions (MM)

### 29QQ DC/Gear Motor Front Mount



### 29QQ Stepper Motor Rear Mount



## ORDERING INFORMATION

Example Product Configurations	
Model	Description
29600.940	29QQ, 24VDC Stepper Motor, No Driver
21640.940	29QQ, 24VDC Standard DC Motor, 33 RPM
29150.940	29QQ, 24VDC Standard DC Motor, 520 RPM
29700.941	29QQ, Panel Mount, 24VDC Stepper Motor, with Driver attached

Additional configurations available.  
Special materials and connections are available in OEM quantities. Please consult us.

Options - Available for All Product Configurations
Description
Speed Sensor (Encoder)
Lid Close Sensor
Speed and Lid Close Sensor