

Boxer Pumps > Products > Peristaltic Pump

15KS flip-top peristaltic pump with Nema 23 Stepper Motor.

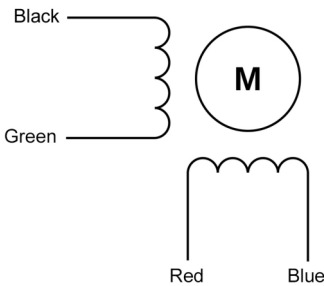


Technical Data

Flow per Revolution		
ID Ø 1.6 mm	210 / 190 / 170 µl per revolution (3 / 4 / 6 Rollers)	
ID Ø 2.4 mm	435 / 390 / 320 µl per revolution (3 / 4 / 6 Rollers)	
ID Ø 3.2 mm	730 / 660 / 495 µl per revolution (3 / 4 / 6 Rollers)	
ID Ø 4.8 mm	1340 / 1250 / 830 µl per revolution (3 / 4 / 6 Rollers)	
Flow at 800 rpm (max recommended speed)		
ID Ø 1.6 mm	168 / 152 / 136 ml/min (3 / 4 / 6 Rollers)	
ID Ø 2.4 mm	348 / 312 / 256 ml/min (3 / 4 / 6 Rollers)	
ID Ø 3.2 mm	584 / 528 / 396 ml/min (3 / 4 / 6 Rollers)	
ID Ø 4.8 mm	1072 / 1000 / 664 ml/min (3 / 4 / 6 Rollers)	
Power Consumption (including A4 driver)		18.0 to 20.5 W
Tubing		
Material	Pharm-a-line / Silicone / Lagoprene / ED-Plex	
ID Ø range	ID Ø 1.6 to 4.8 mm	
Wall thickness	1.6 mm	
General Data		
Max pressure	2.0 bar	
Max suction height (dry)	9.0 m H ₂ O	
Motor life	>10000 hour	
Weight (without driver)	890 g	
Available Configurations		
Stepper motor (without driver)		
Stepper motor with analogue driver (A4) , 0 to 5V speed input		
Stepper motor with analogue driver (A4), with speed potentiometer		
Stepper motor with programmable digital driver (iD)		

All data measured with 'run-in' Pharm-a-line tubing and H₂O.

Motor Details

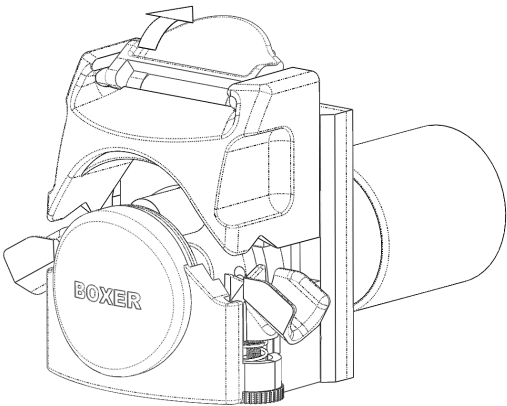


Specification	
Type	2 phase, hybrid, bipolar
Size	Nema 23 / 57 mm
Step Angle	1.8 ° (200 steps per revolution)
Voltage	24 V
Phase 1 / Phase 2	Black - Green / Red - Blue (see diagram above)
Ambient temperature range	-20 to +50 °C
Max temperature rise	80 °C
Insulation resistance	100 MΩ
Insulation class	B
Rated current	0.86 A
Resistance per phase	4.94 Ω ±10%
Inductance per phase	11.45 mH ±20%
Wire gauge	26 AWG
Lead length	300 mm
Available drivers	→ Drivers
Recommended driver rating	4 A

A current limiter should be used for low speed operation to avoid excessive motor temperatures

Tube Loading / Unloading

The 15KS peristaltic pump is a flip-top design. The loading and unloading of the tube is through operation of the lever:

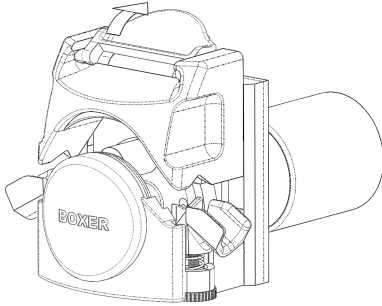


The tube grips are sprung loaded and adjust automatically to the OD of the tube. The 15KS is designed for 1.6 mm wall tubing from ID of 1.6 to 4.8 mm. Only tubing suitable for peristaltic pumps should be used.

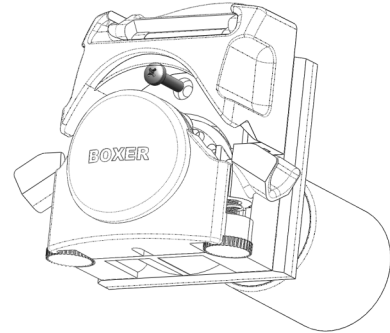
Removal / Assembly of Pump Head

The 15KS peristaltic pump is designed with a bayonet style head assembly onto the motor plate.

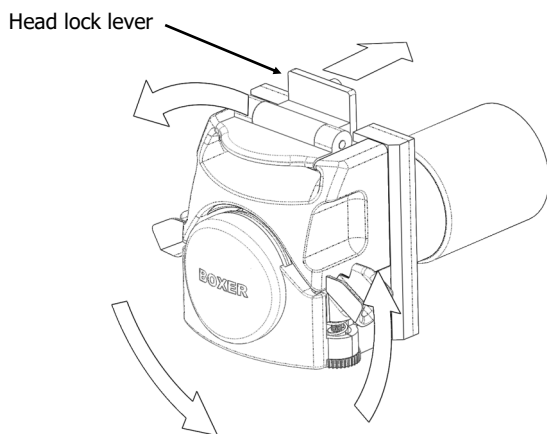
- ❶ Open the tube clamp lever completely.



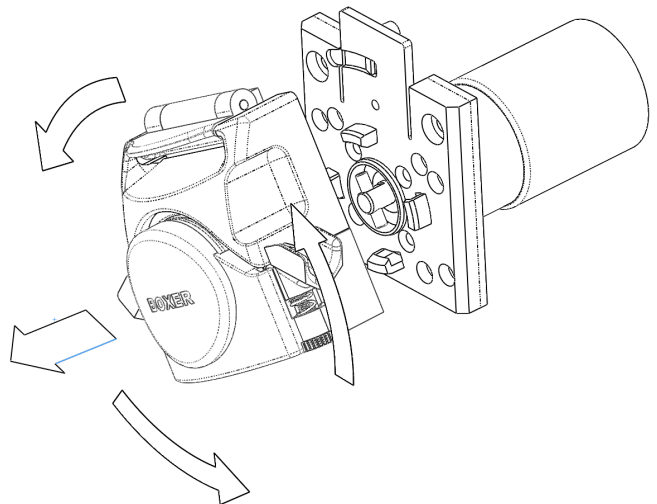
- ❷ Remove the M3x12mm screw. Close clamp lever.



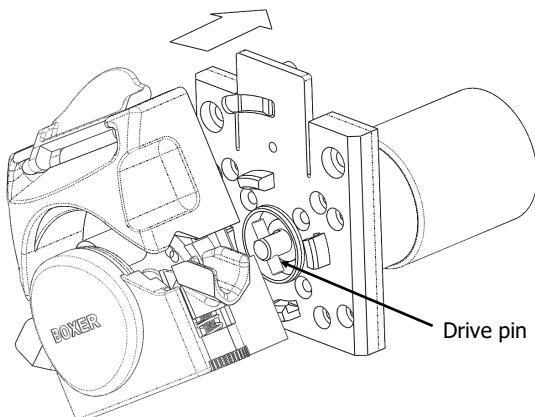
- ❸ Push head lock lever in direction on the motor. Rotate the head anti clockwise.



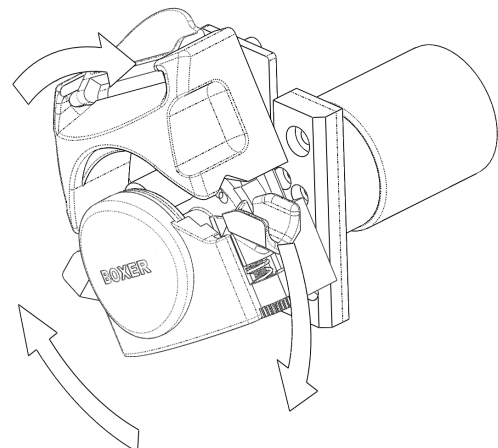
- ❹ Pull the head assembly away from the motor plate.



- ❺ To re-assemble: open tube clamp lever. Align head with motor plate at the angle shown below. Rotate pump rotor until the rotor is aligned with drive pin. Push head into bayonet.

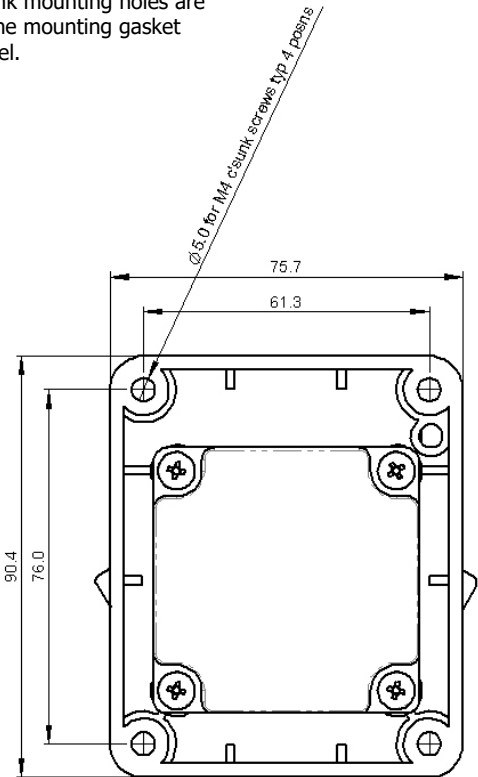


- ❻ Rotate head assembly clockwise until 'clicks' into position. Replace M3x12mm screw. Close tube clamp lever.

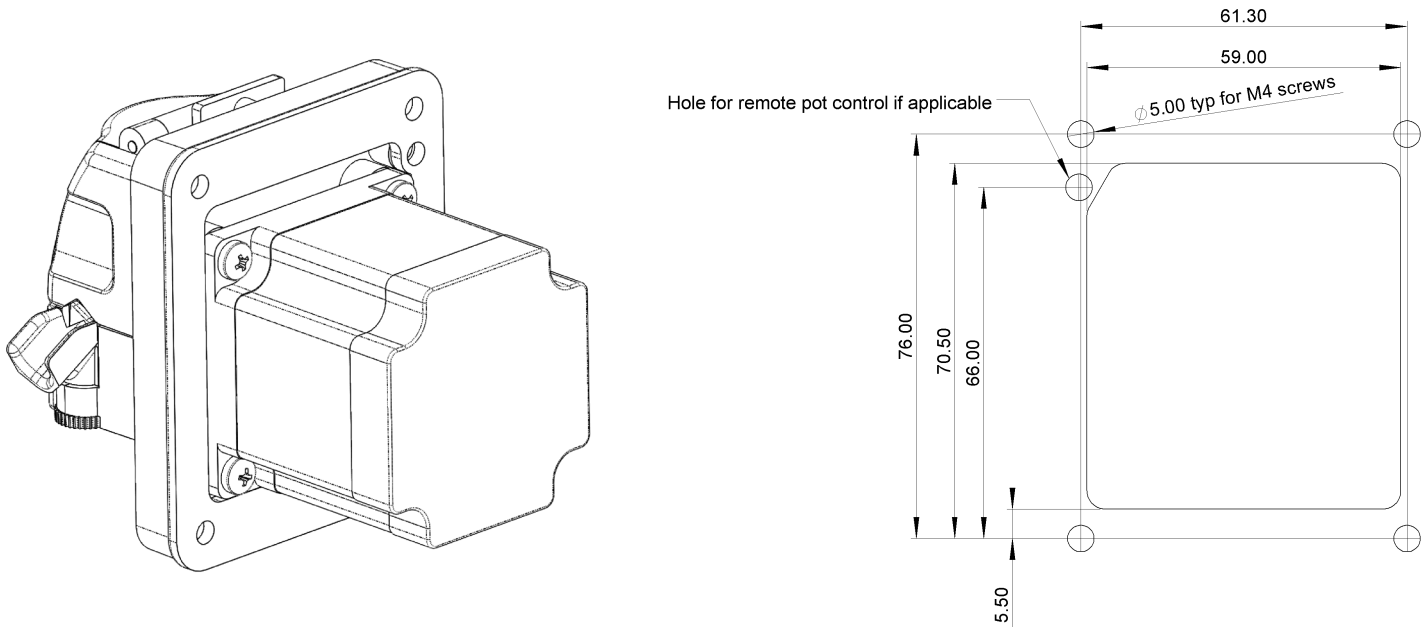


Assembly Information

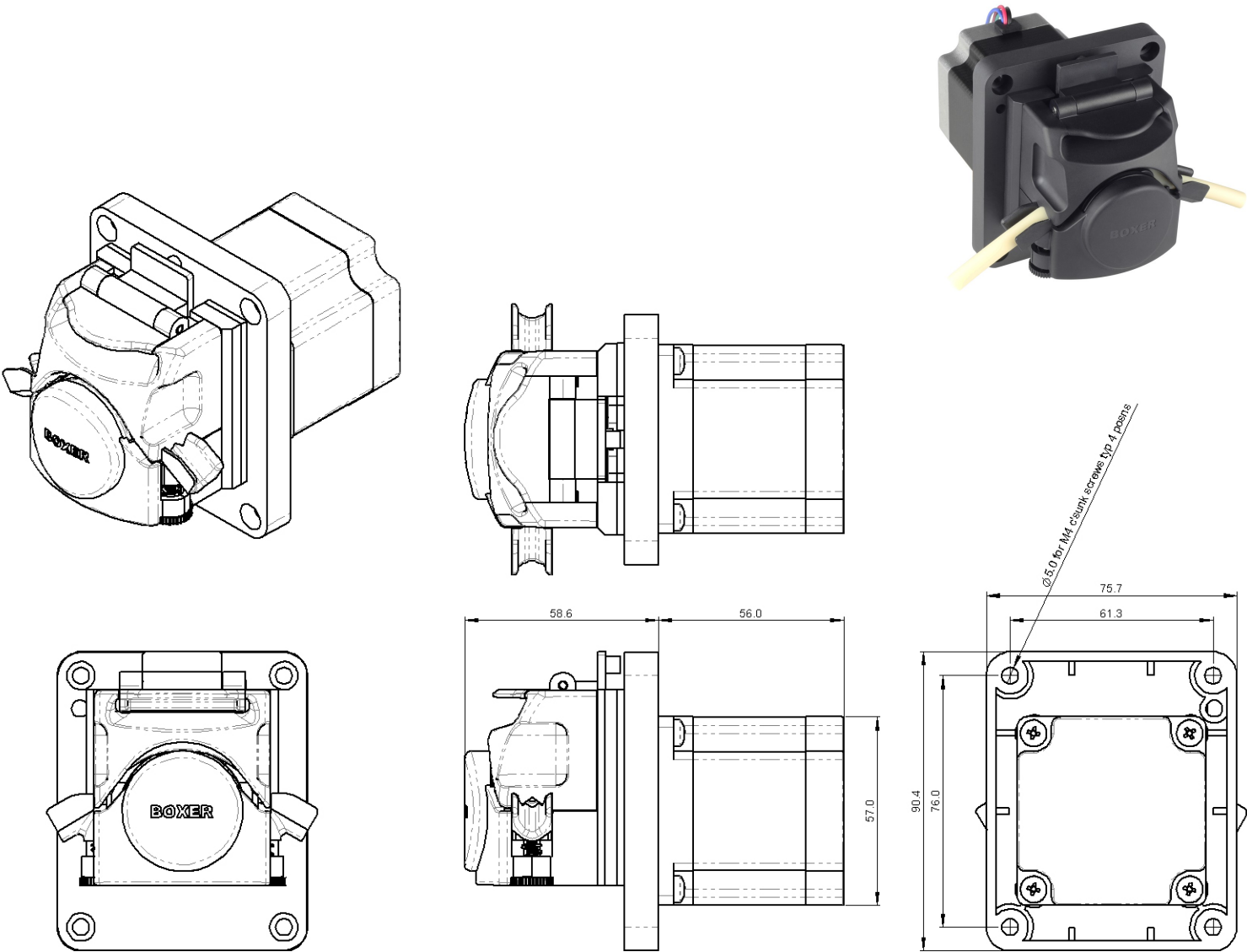
The 15KS peristaltic pump with Nema 23 stepper motor is assembled to a panel cut-out using 4 x M4 bolts. The counter-sunk mounting holes are accessed without removal of the head assembly. The mounting gasket should be placed between the motor plate and panel.



Recommended panel cut-out:



15KS with Stepper Motor (without driver)



Links to Drawing and STEP file:
→ [Drawing \(.png\)](#)
→ [STEP \(.zip\)](#)

Order Information

Part Number	Description
15701.100	15KS 24 V Stepper / 3 Rollers
15702.100	15KS 24 V Stepper / 4 Rollers
15703.100	15KS 24 V Stepper / 6 Rollers

Please enquire for part numbers of other configurations.

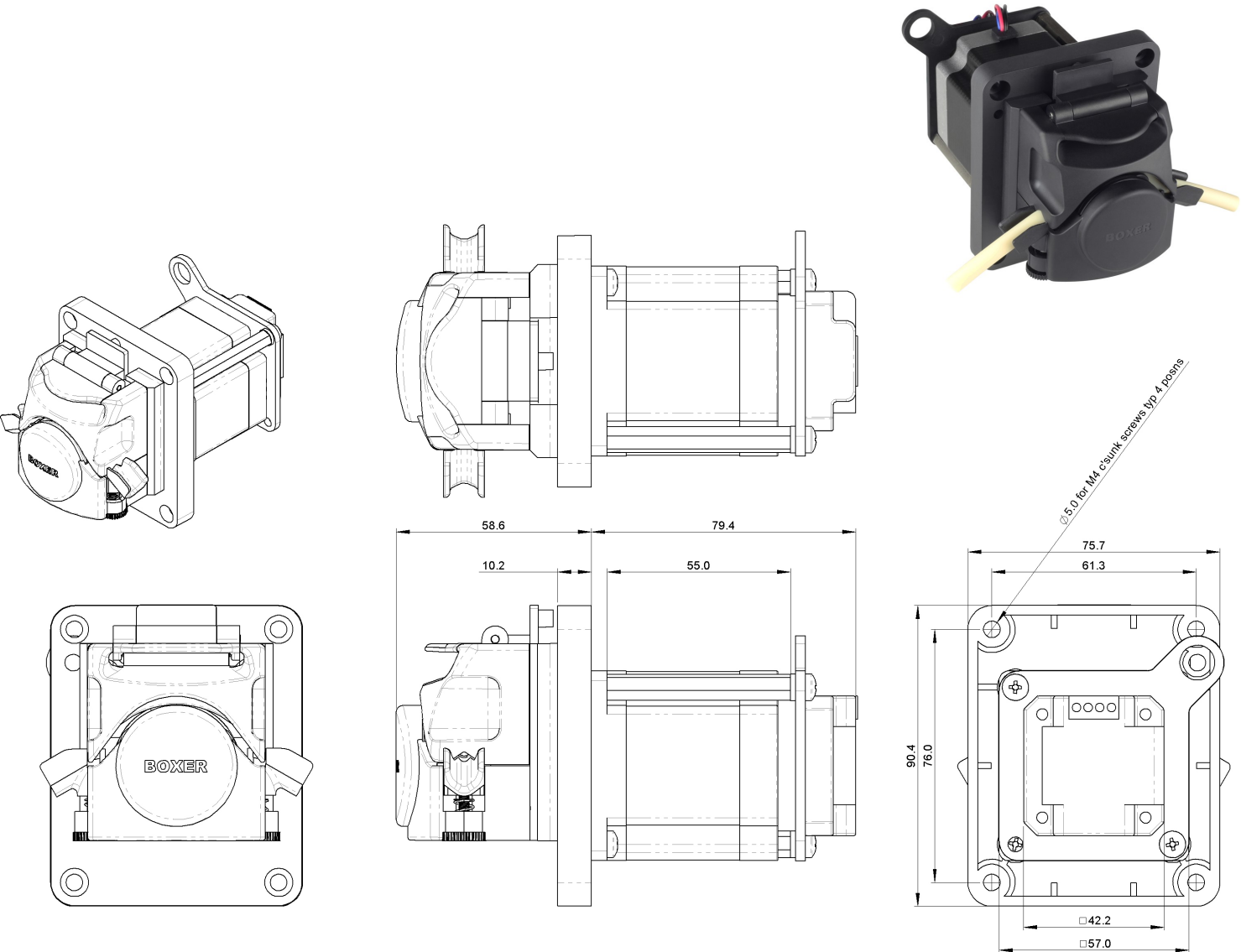
BOX-it (Webshop)

Sample quantities are available for direct online purchase:



→ [BOX-it](#)

15KS with Stepper Motor with Analogue Driver (A4), 0 to 5 V Speed Input



Link to driver information:
→ [Drivers webpage](#)
→ [Drivers datasheet \(.pdf\)](#)

Links to Drawing and STEP file:
→ [Drawing \(.png\)](#)
→ [STEP \(.zip\)](#)

Order Information

Part Number	Description
15701.101	15KS 24 V Stepper / 3 Rollers / A4 Driver
15702.101	15KS 24 V Stepper / 4 Rollers / A4 Driver
15703.101	15KS 24 V Stepper / 6 Rollers / A4 Driver

Please enquire for part numbers of other configurations.

BOX-it (Webshop)

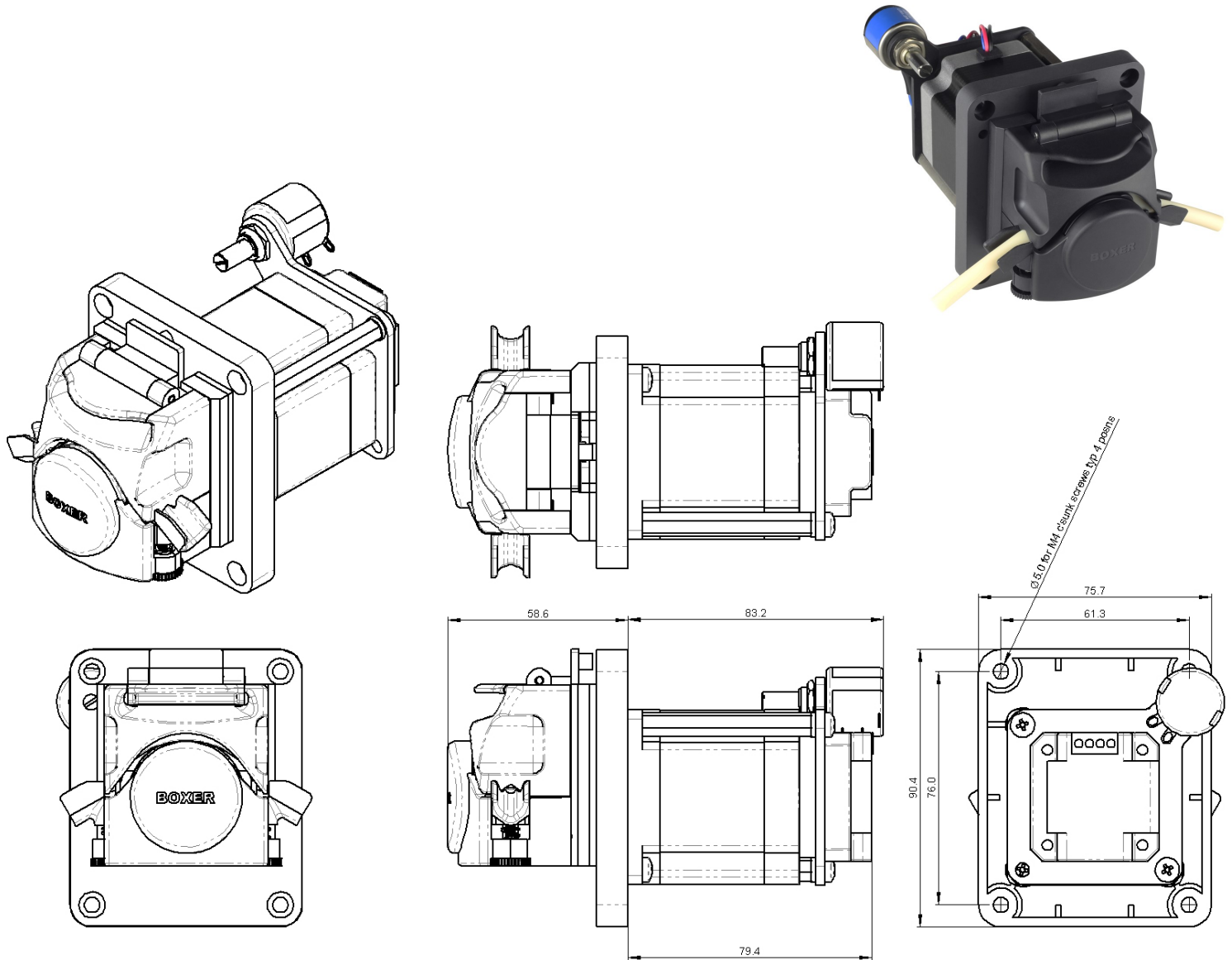
Sample quantities are available for direct online purchase:



→ [BOX-it](#)

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15KS with Stepper Motor with Analogue Driver (A4) with Speed Potentiometer



Link to driver information:

→ [Drivers webpage](#)

→ [Drivers datasheet \(.pdf\)](#)

Links to Drawing and STEP file:

→ [Drawing \(.png\)](#)

→ [STEP \(.zip\)](#)

Order Information

Part Number	Description
15751.101	15KS 24 V Stepper / 3 Rollers / A4 Driver
15752.101	15KS 24 V Stepper / 4 Rollers / A4 Driver
15753.101	15KS 24 V Stepper / 6 Rollers / A4 Driver

Please enquire for part numbers of other configurations.

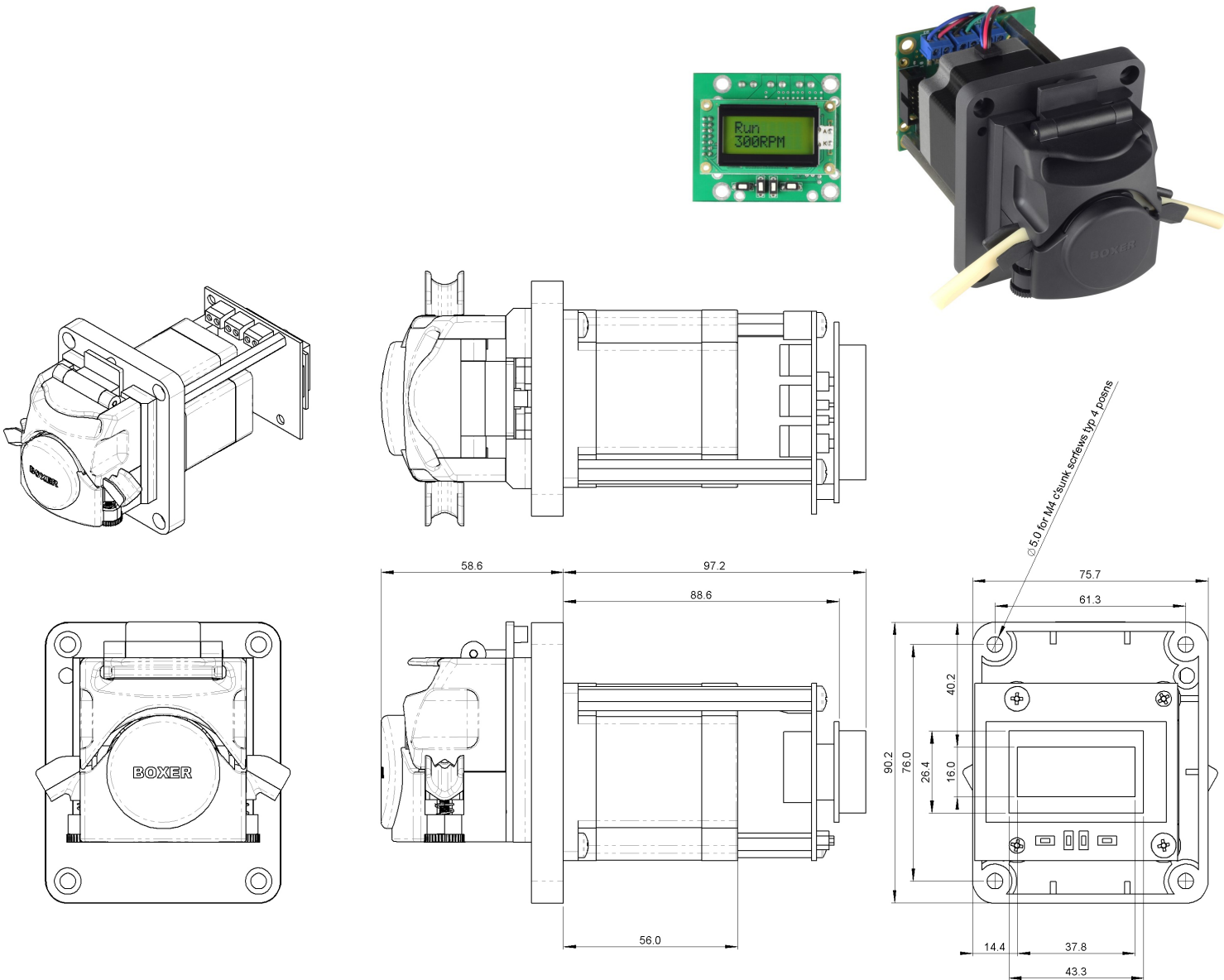
BOX-it (Webshop)

Sample quantities are available for direct online purchase:



→ [BOX-it](#)

15KS with Stepper Motor with Programmable Digital Driver (iD)



Link to driver information:
→ [Drivers webpage](#)
→ [Drivers datasheet \(.pdf\)](#)

Links to Drawing and STEP file:
→ [Drawing \(.png\)](#)
→ [STEP \(.zip\)](#)

Order Information

Part Number	Description
15701.105	15KS 24 V Stepper / 3 Rollers / iD Driver
15702.105	15KS 24 V Stepper / 4 Rollers / iD Driver
15703.105	15KS 24 V Stepper / 6 Rollers / iD Driver

Please enquire for part numbers of other configurations.

BOX-it (Webshop)

Sample quantities are available for direct online purchase:



→ [BOX-it](#)

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Tube Sets / Tube Lengths

Tubing should always be ordered separately. Listed here is **Pharm-a-line** (PHI) tubing in 150 mm single lengths, 1m (or multiples of) lengths or 15 m coils:

Part Number	Description
15000.019	Tube length PHI ID Ø 1.6 mm x 150 mm
15000.020	Tube length PHI ID Ø 2.4 mm x 150 mm
15000.021	Tube length PHI ID Ø 3.2 mm x 150 mm
15000.048	Tube length PHI ID Ø 4.8 mm x 150 mm
15000.210	Tube length PHI ID Ø 1.6 mm x 1 m
15000.211	Tube length PHI ID Ø 2.4 mm x 1 m
15000.212	Tube length PHI ID Ø 3.2 mm x 1 m
15000.213	Tube length PHI ID Ø 4.8 mm x 1 m
81616.115	Tube length PHI ID Ø 1.6 mm x 15 m
82416.115	Tube length PHI ID Ø 2.4 mm x 15 m
83216.115	Tube length PHI ID Ø 3.2 mm x 15 m
84816.115	Tube length PHI ID Ø 4.8 mm x 15 m



Technical information including chemical compatibility:

→ [Pharm-a-line](#)

Alternative tubing (**Silicone**, **Lagoprene** and **ED-Plex**):

→ [15KS Tubing](#)

Additional Information (Links):

→ [15KS Webpage](#)

→ [Boxer peristaltic pump overview](#)

All data is representative for initial selection purposes. It is the responsibility of the user to determine suitability for the intended use. Technical changes reserved. These peristaltic pumps are not suitable for in-vivo applications.