

PERISTALTIC PUMP

Type : PP*.*



Description

The peristaltic pump PP*.* consists of miniature motor with planetary gear and stainless body of peristaltic pump. Optionally the motor is equipped with encoder. The pump has one channel. The flow is in one direction. The pump is designed for extremely small applications such as medical or military applications. It can be used in hand-held devices. The lifetime of tubing is optimized to maximal value. The pulzation is minimized for flow cell FC2.

Physical Parameters

Model	Dimensions		
	Length	Height	Width
PP10	16 mm	70 mm	16 mm
PP13	22 mm	70 mm	22 mm

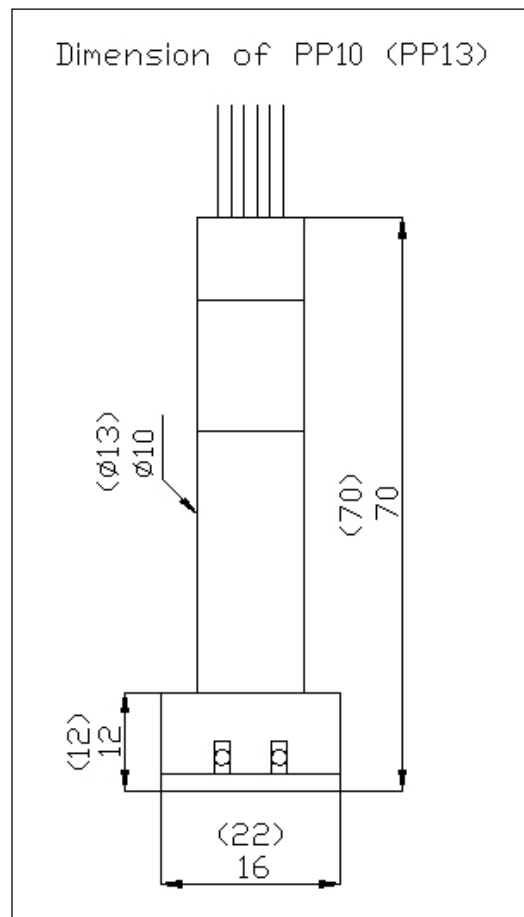
Weight PP10 = 32 gms

Weight PP13 = 50 gms

Additional Technical Parameters

- PCB
- Calibration curve
- Long term stability
- Pulzation

(On the bottom of this document)



Technical Parameters	Model									
	PP10.S	PP10.1	PP10.2	PP10.3	PP10.4	PP13.S	PP13.1	PP13.2	PP13.3	PP13.4
Single channel	•	•	•	•	•	•	•	•	•	•
3 rollers	•	•	•	•	•	•	•	•	•	•
DC Supply: 0 – 3V	•	•	•	•	•	•	•	•	•	•
Consumption: 70mA – 100mA – 150mA (min – typical – max)	•	•	•	•	•	•	•	•	•	•
Starting current : 500mA (10ms)	•	•	•	•	•	•	•	•	•	•
Diameter of motor 10 mm	•	•	•	•	•					
Diameter of motor 13 mm						•	•	•	•	•
Flow in range : 20 – 200µl/min	•	•	•			•	•	•		
Flow in range : 0,01 – 200µl/min				•	•				•	•
TTL signals for controlling movement of peristaltic head			•					•		
PC board and SW				•	•				•	•
Programming from text file					•					•
Flow adjustable in 8 steps			•					•		
Flow adjustable in 1000 steps				•	•				•	•
Magnetic Encoder		•	•	•	•		•	•	•	•

The pump is provided with 2 spare tubing. Required diameter should be specified by customer: 0,127 mm, 0,254 mm, 0,504 mm, 0,750 mm or 1,016 mm.

Optional Equipment

- FC2

The pump is serviceable. The service at producer after 2000 hours of function is recommended.

Device Usage

- Portable device
- Hand-held device
- Low power application

Software Packs

Control SW is available for:

- PP*.2 (included in delivery)
- PP*.3 (included in delivery)

Ordering Information

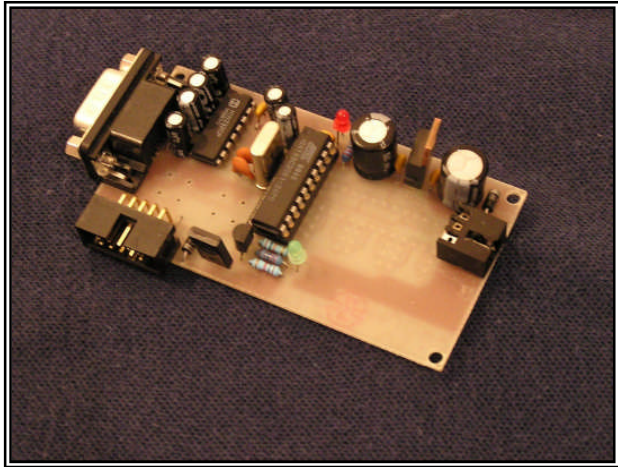
- The order is specified by whole product code
- Minimum order quantity – 1 peristaltic pump
- Delivery time for standard PP*.* is 7- 9 weeks from receipt of order
- Delivery time for non-standard PP*.* depends on final technical specification of order

Example of Order:

- 10 pieces – PP13.S

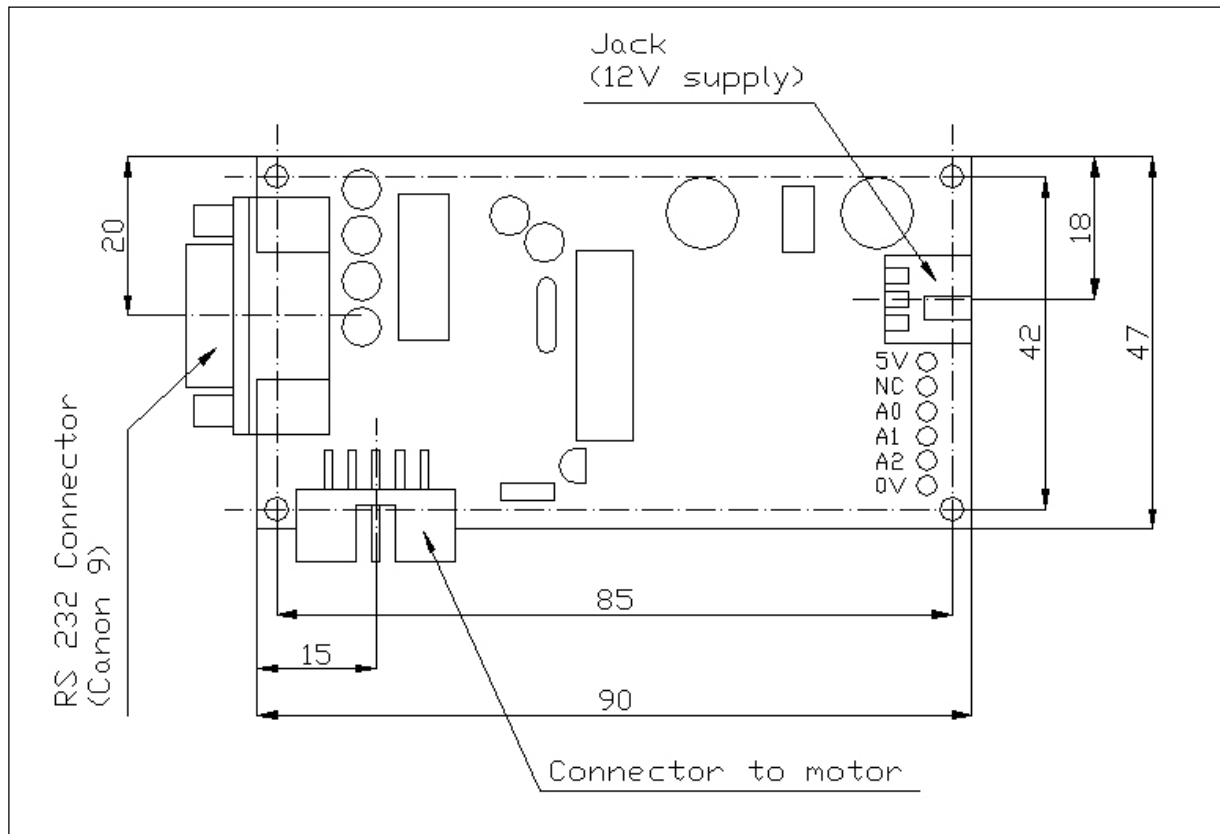
PRINTED CIRCUIT BOARD

Type : PP – PCB*



Description

Simple electronic board which controls the function of pump PP*.* and 2PP*.*.



Physical Parameters

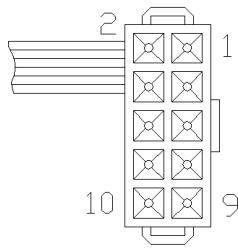
Dimensions		
Length	Height	Width
90 mm	47 mm	23 mm

Weight = 40 gms

Technical Parameters

- Supply voltage 12V
- Reading of rotor position 12 pulses per revolution
- Communication with PC via RS232 (PP – PCB2)
- Possibility to switch 8 preprogrammed flows by TTL signals (PP – PCB1)
- The printed board PP – PCB* is a part of set PP*.1, 2PP*.1 (PP – PCB1) or PP*.2, PP*.3, 2PP*.2, 2PP*.3 (PP – PCB2)

Input/Output connector for motor



- Pin 1 – Motor +
 - Pin 2 – V_{CC}
 - Pin 3 – Channel A
 - Pin 4 – Channel B
 - Pin 5 – GND
 - Pin 6 – Motor -
- } Input/Output of encoder

Software Pack

Included in delivery

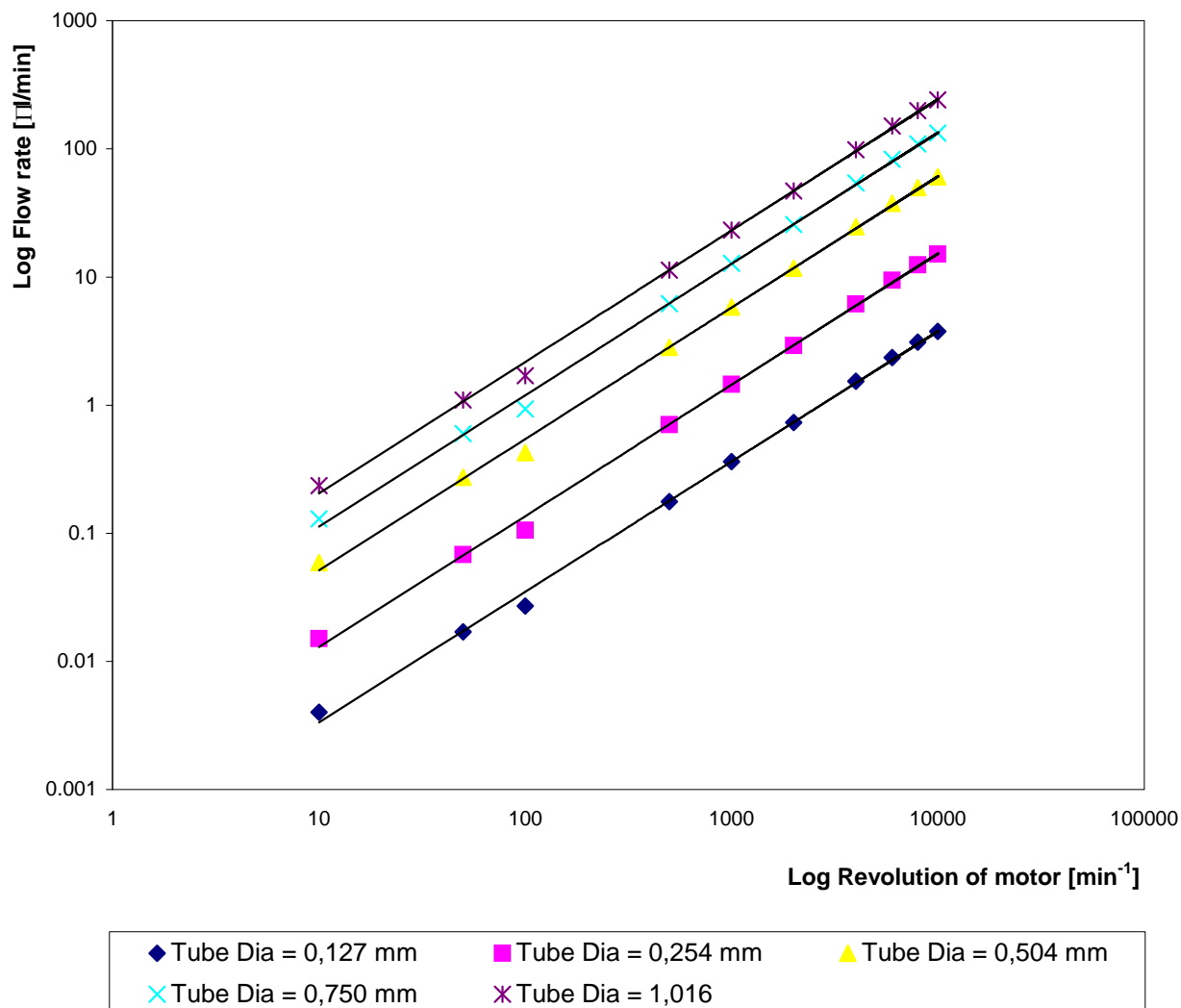
Ordering Information

- The PP – PCB* can be ordered as a spare part of peristaltic pumps PP and 2PP
- The ordering code involves the compatibility with pump

Example of Order:

- 10 pieces – PP – PCB2

PUMP CALIBRATION CURVE



Revolution of motor	Flow rate [µl/min]				
	Tube Dia 0,127 mm	Tube Dia 0,254 mm	Tube Dia 0,504 mm	Tube Dia 0,750 mm	Tube Dia 1,016 mm
10	0,004	0,015	0,059	0,130	0,236
50	0,017	0,068	0,274	0,602	1,096
100	0,027	0,106	0,426	0,936	1,703
500	0,177	0,707	2,826	6,209	11,305
1000	0,364	1,457	5,830	12,809	23,320
2000	0,733	2,931	11,723	25,756	46,892
4000	1,543	6,174	24,695	54,256	98,779
6000	2,357	9,429	37,714	82,860	150,857
8000	3,112	12,447	49,787	109,385	199,149
10000	3,778	15,113	60,450	132,812	241,800