



The Minipuls evolution® offers enhanced performances for applications such as :

- > Perfusion chamber
- > Bioreactor feeding
- > Purification column
- > Animal perfusion
- > LPLC
- > Media filling
- > Transfer of viscous, corrosive and hazardous liquids
- > ...



Minipuls evolution® fitted with three 4-channel Medium Flow pump heads



Minipuls evolution® fitted with one 4-channel Medium Flow pump head and one 2-channel High Flow pump head



Minipuls evolution® fitted with one single-channel Medium Flow pump head

Tubing for MF1 & MF4 pump heads (length = approx 40cm/16in)

Material	Internal diameter (mm)	Reference tubing (calibrated tubing)	Color coded stops	Extension tubing (3m/118in)	Connectors	Maximum Flow rate (mL/min)
PVC	0.25	F117932	● ●	F117952	F117985	0.574
	0.38	F117933	● ●	F117953	F117985	1.22
	0.51	F117934	● ●	F117954	F117985	1.90
	0.76	F117936	● ●	F117956	F117986	3.00
	1.02	F117938	● ●	F117958	F117986	6.0
	1.30	F117940	● ●	F117960	F1179941	9.0
	1.52	F117942	● ●	F117962	F1179941	14
	1.65	F117943	● ●	F117963	F1179941	16
	2.06	F117945	● ●	F117965	F1179941	25
	2.29	F117946	● ●	F117966	F1179941	29
	2.79	F117948	● ●	F117968	F1179951	39
3.16	F117949	● ●	F117969	F1179951	47	
ISOVERSINIC®	0.5	F1817741	● ●	F117740	F117986	2.9
	1.0	F1817743	● ●	F117742	F117986	10
	2.0	F1817745	● ●	F117744	F1179941	24
	3.0	F117747	● ●	F117746	F1179951	55
	4	F117749	● ●	F117748	-	70
SILICONE	0.6	F1825111	● ●	F1825131	F117986	3.2
	1.0	F1825112	● ●	F1825132	F117986	7
	2.0	F1825113	● ●	F1825133	F1179951	21
	2.8	F1825114	● ●	F117975	F1179951	31
PHARMED®	0.5	F1825101	● ●	F1825121	F117986	2.5
	1.0	F1825102	● ●	F1825122	F117986	7
	2.0	F1825103	● ●	F1825123	F1179941	24

Tubing for HF2 pump head (length = 3m/118in)

Material	Internal diameter (mm)	Reference tubing (calibrated tubing)	Maximum Flow rate (mL/min)
PVC	2.06	F117965	33
	2.29	F117966	41
	2.79	F117968	66
	3.16	F117969	85
	4.0	F117970	128
	5.0	F117980	179
	6.0	F117981	218
	8.0	F117982	340
ISOVERSINIC®	2.0	F117744	30
	3.0	F117746	67
	4.0	F117748	120
SILICONE	6.0	F117750	246
	2.0	F1825133	31
	3.0	F117975	57
	4.0	F117976	105
	5.0	F117977	148
	6.0	F117978	207
PHARMED®	7.0	F117979	300
	2.0	F1825123	31
	3.2	F1825124	77
6.4	F1825125	240	

Description

Part Number

Minipuls evolution® - Speed control module

F110701

Line Frequency: 50 to 60Hz / Line voltage: 100 to 240V AC / Power consumption: full load 48W at 220V – no load 35W at 220V / operating conditions: 0 to 40°C, 80% humidity; no warm-up required / Input-output options: Analogue (stop / start-clockwise / counter clockwise / input voltage for speed adjustment (0 to 2.5V)) or Serial: RS232 interface / Dimensions (wxdxh): 164 x 182 x 169 mm, weight = 2.4 Kg (5.4 lbs). Conforms to CE, CEM, WEEE.

Medium Flow pump head

To be fitted with tubing with colored stops. For 0.2µL/min to 70mL/min up to 0.3MPa (42 psi) of back pressure / with 6 stainless steel rollers / Stackable on the speed control module and on HF2 pump heads / Up to 4 MF pump heads can be stacked together.

- > **MF1 pump head with 1 cartridge for 1 tubing** **F110705**
Dimensions (wxdxh): 164 x 56 x 169 mm , weight = 0.4 Kg (0.9 lbs)
- > **MF4 pump head with 4 cartridges for 4 tubing** **F110706**
Dimensions (wxdxh): 164 x 92 x 169 mm , 0.6 Kg (1.3 lbs).

High Flow pump head - Consult your nearest local distributor for availability

To be fitted with tubing without stops. For 1mL/min to 340mL/min without back pressure and up to 300mL/min with up to 0.2MPa (29 psi) of back pressure / with 4 stainless steel rollers / Stackable on the speed control module and on MF4 and MF1 pump heads / Up to 3 HF pump heads can be stacked together.

- > **HF2 pump head with 2 cartridgeS for 2 tubing** **F110707**
Dimensions (wxdxh):164x92 x169mm , 0.5 Kg (1.3 lbs).

Footswitch

F1077081

Further information available at www.gilson.com

Distributed by

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MINIPULS *Evolution*®

Laboratory Peristaltic Pump

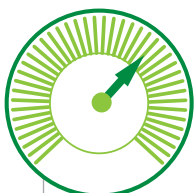


MINIPULS *Evolution*[®]

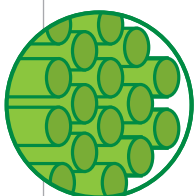
Laboratory Peristaltic Pump

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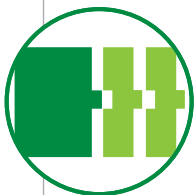
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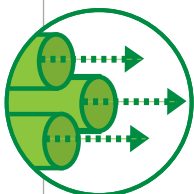
**Unbeatable flow rate range
from 0.2 μ L/min to 340 mL/min**



**Stackable pump heads
for up to 16 channels**



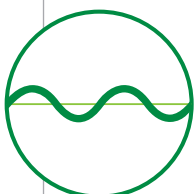
**Medium and high flow pump heads
can be used simultaneously in the
same module**



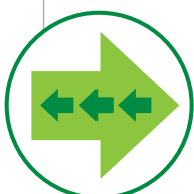
**Reproducibility
of flow rate on all channels
with a variation \leq 0.1%**



**0.01 rpm readability below
10 rpm, perfect for accurate
flowrate adjustment**



**Optimised 6-roller design limits
pulsations**



**Offers back pressure resistance
up to 0.3MPa (42psi)**

The Minipuls evolution[®] is the newest innovation from the makers of the Minipuls[™]3, offering unmatched flexibility and performance for liquid transfer applications.

Gilson Robustness and Reliability

- > Safe and durable design, can work 24/7 with low operating noise.
- > Stainless steel rollers for great durability and chemical resistance.
- > The stepper motor and the spring loaded cartridges assure a high precision of flow rate despite tubing stretching: less than 2% variation after 24h in operation.

Quick, Flexible & Safe Set Up

- > Cartridges snap in & out of the pump head for fast tubing change - no need to remove the pump head from the speed control module.
- > Pump heads can be changed within seconds even while pump is operating - no tool required.
- > Adjustable tubing occlusion for simple and fine pressure adjustment.
- > Intuitive software interface with large LCD screen.

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One click to fit or remove a pump head





Clear Setting Display on the Large LCD Screen

- > Start/Stop.
- > Variable flow rate and direction.
- > Prime mode : purge tubing at the touch of the button.

How to select the most appropriate configuration?

1



Speed control module

2



Select the pump head(s) that best fit your application depending upon:

- Required flow rate
- Number of channels
- From 0.2 $\mu\text{L}/\text{min}$ to 70 mL/min, connect up to 4 Medium Flow pump heads and 16 channels
- From 1 mL/min to 340 mL/min, connect up to 3 High Flow pump heads and 6 channels



3

Select the appropriate tubing:

- Check the appropriate material according to your sample's chemical compatibility
- 4 types of tubing are available to choose from:
 - PVC for standard use
 - Silicone for best biocompatibility
 - Pharmed® for increased lifetime - conforms to USP & FDA class 4
 - Isoversinic® for high chemical compatibility
- Check the maximum required flow-rate
- Choose tubing ID, connectors and extensions from the table at the back

Speed control module

Release the tab to fit High Flow tubing



Remove the identification label to connect an additional pump head