

Innovative ♦ Handy ♦ Comfortable ♦ Exact



Microprocessor controlled peristaltic pumps

**Multifunctional for all applications in laboratories for
Analysis, biotechnology, medicine**

Peristaltic Pumps TC / TU / TL / TB / TI / TV / HP

A perfect pump can transport the fluid based on the peristaltic principle in sterile manner. A tube pump should be able to pump even viscous media without problems. MDX tube pumps master both functions. MDX peristaltic pumps can be used in the laboratories for medicine, biotechnology, environmental analysis, chemistry and food industry. They differ by the following exclusive properties from pumps of other companies:

- Simple operation using 5 function keys
- Easy change of tubes
- Graphical LCD-display with two lines
- Display of pump capacity in ml/min
- Clockwise/anticlockwise rotation
- Variable driving speed 1:100 controlled by microprocessor
- Calibration, timer operation, cyclic operation. start and stop
- High precision. linearity and reproducibility > 0.3%
- optional external triggering
- Temperature and current limitation for max. reliability even in continuous operation
- High quality motors with almost noiseless transmission
- 6 and 8 roller heads with low pulsation
- Depending on pump type usable as dosing pump
- Pump heads can be disassembled easily and turned by 90°
- Duplication of flow rate by parallel operation of two channels
- Stackable case

Operation:

A touch pad with 5 function keys and a display with 2 lines ensure a very simple and comfortable operation of all MDX peristaltic-pumps. The display takes over the operation and shows all relevant data during the operation of the pumps. The flow rates can be adjusted very exactly by the calibrating function both by proportional choice of the speed and directly by predefined flow of liquid. With multiple channel pumps it is advisable to use the same sizes of tube cassettes, tubes and all channels for the calibration of the capacity indication because the calibration of only one channel is enough. However the flow rates remain unchanged because they are dependent on tube diameter and outer influences like pressure, viscosity and temperature of the liquids. In the timer function the break time and the number of cycles are predefined. In the tact operation the flow rates are predefined and triggered by hand. The start of both functions can be triggered by a foot switch also. All data are saved until further changes.

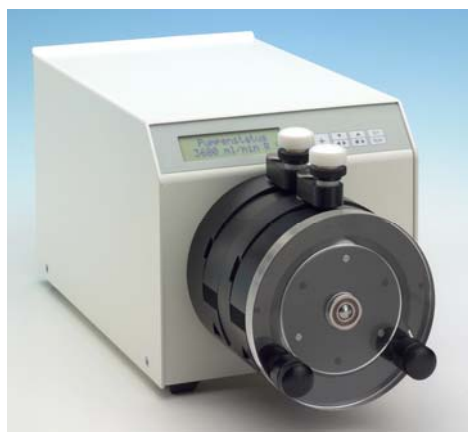
Pump capacities:

The pump powers which are shown in the tables are for single pump heads with 3 rolls. The flow rates of the pumps are decreased with increasing number of roles. 6 rolls pump head reduce the flow rates up to 30%, but reduce also the pulsation. 8 rolls heads reduce the flow rates up to 40% and the pulsation to the minimum.

Options:

- Timer and trigger function depending on the type
- External control, analogue 0 - 10 V
- External control, analogue (0) 4 - 20 mA
- External control, digital RS 232
- 6-rollers heads
- 8-rollers heads
- 2-channel models
- 3-channel models
- 4-channel models depending on the type
- Stainless steel case
- Foot switch

TC



Flow rates per channel 6 - 2000 ml/min

Calibrate able, flow rate display LCD, for flow of larger liquid quantities

Pump head:

Diameter	106 mm
Number of rollers	3, 6 or 8
Number of channels	1 or 2

Technical data:

Dimensions (W x H x D)	156 x 146 x 245 mm
Weight with head	5800 g
Voltage	230 VAC
Fuse	T 1.25 A / 250 V
Drive	DC motor with gearbox
Output	95 W

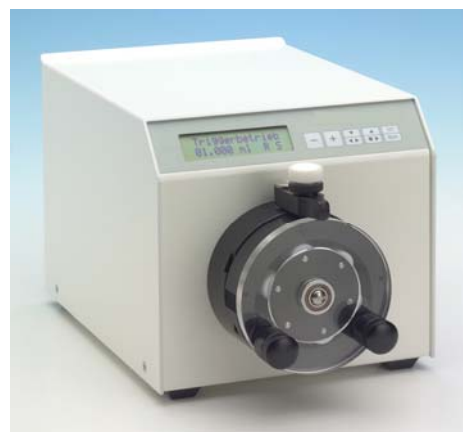
Flow rate per channel:

No. of rollers	Tube ID x W	Head Ø 106
		ml/min
3	4.8 x 2.4	6 - 580
3	6.4 x 2.4	10 - 1020
3	8 x 2.4	15 - 1450
3	9.5 x 2.4	20 - 2000
6	Flow rates -30%	
8	Flow rates -40%	

Ordering requisitions:

Type	No. of rollers	Options
TC	3 / 6 / 8	External triggering analogue 0 - 10 V, external triggering analogue (0) 4 - 20 mA, external triggering digital RS 232, 6- and 8-rollers head, 2 channel model, housing of stainless steel, foot switch

TU



Flow rates per channel 0.4 - 980 ml/min

Calibrate able, flow rate display LCD, for the flow of all fluids also of shear-sensitive and viscous liquids

Pump head:

Diameter	84 or 62 mm
Number of rollers	3, 6 or 8
Number of channels	1-4

Technical data:

Dimensions (W x H x D)	156 x 146 x 245 mm
Weight with head	4700 g
Voltage	90 - 230 VAC
Fuse	T 1.0 A / 250 V
Drive	DC motor with gearbox
Output	48 W

Flow rate per channel:

No. of rollers	Tube ID x W	Head Ø 62	Head Ø 84
		ml/min	ml/min
3	1.6 x 1.6	0.4 - 40	0.6 - 55
3	3.2 x 1.6	1.5 - 150	2 - 210
3	4.8 x 1.6	3.5 - 350	5 - 480
3	6.4 x 1.6	-	8 - 820
3	8 x 1.6	-	10 - 980
6	Flow rates -30%		
8	Flow rates -40%		

Ordering requisitions:

Type	No. of rollers	Options
TU	3 / 6 / 8	External triggering analogue 0 - 10 V, external triggering analogue (0) 4 - 20 mA, external triggering digital RS 232, 6- and 8-rollers head, 2, 3 or 4 channels, housing stainless steel, foot switch

TB



TBS



Flow rate per channel 0.07 – 240 ml/min

Simple operation via two control, **Variable driving rpm 1:10**

Pump head:

Diameter	62 mm
Number of rollers	3, 6 or 8
Number of channels	1 or 2

Technical data:

Dimensions (W x H x D)	134 x 131 x 190 mm
Weight with head	1.700 g
Voltage	90 - 230 VAC
Fuse	T 0.63 A / 250V
Drive	DC motor with gearbox
Output	10 W

Flow rate per channel:

No. of rollers	Tube ID x W	TB/150	TB/10
		150 rpm ml/min	10 rpm ml/min
3	1.0 x 1.0	1.0 - 10	0.07 - 0.66
3	1.6 x 1.6	3.0 - 30	0.2 - 2
3	2.0 x 1.0	4.5 - 45	0.3 - 3
3	3.0 x 1.0	10 - 100	0.7 - 7
3	3.2 x 1.6	12 - 120	0.8 - 8
3	4.0 x 1.0	18 - 175	1.2 - 12
3	4.8 x 1.6	24 - 240	1.6 - 16
6		Flow rate -30%	
8		Flow rate -40%	

Ordering requisitions:

Type	No. of rollers	Options
TB	3	6 and 8-rollers head, 2 channel model, housing of stainless steel, foot switch

Flow rate per channel 1.5 - 900 ml/min

Simple operation via two control knobs

Variable driving speeds 1:10.

Pump head:

Diameter	62 and 84 mm
Number of rollers	3, 6 or 8
Number of channels	1 or 2

Technical data:

Dimensions (W x H x D)	134 x 131 x 190 mm
Weight with head	1.800
Voltage	90 - 230 VAC
Fuse	T 0.63 A / 250V
Drive	DC motor with gearbox
Output	15 W

Flow rate per channel:

No. of rollers	Tube ID x W	Head Ø 62	Head Ø 84
		ml/min	[ml/min]
3	1 x 1	1.5 - 15	2 - 20
3	1.6 x 1.6	4 - 40	6 - 55
3	2 x 1	6 - 58	8 - 80
3	3 x 1	13 - 130	18 - 180
3	3.2 x 1.6	14 - 140	20 - 200
3	4.8 x 1.6	24 - 240	45 - 450
3	6.4 x 1.6	-	76 - 760
3	8 x 1.6	-	90 - 900
6		Flow rate -30%	
8		Flow rate -40%	

Ordering requisitions:

Type	No. of rollers	Options
TBS	3	6 and 8-rollers head, 2 channel model, housing of stainless steel, foot switch

TBE



Flow rates per channel 0.05 – 2000 ml/min

Continuous operable brushless motor, variable speed, head
Diameter 62, 84 or 106 mm

Pump head:

Diameter	62, 84 and 106 mm
Number of rollers	3, 6 or 8
Number of channels	1-2

Technical data:

Dimensions (W x H x D)	134 x 131 x 190 mm
Weight with head	2300 g
Voltage	230 VAC
Fuse	0.63 A / 250V
Drive	EC-motor with gearbox
Output	35 W

Flow rate per channel:

No. of rollers	Tube	TBE/10	TBE/200	TBE/200	TBE/200
		0.5 – 10 rpm	10 – 200 rpm	10 – 200 rpm	10 – 200 rpm
		Head Ø 62	Head Ø 62	Head Ø 84	Head Ø 106
	ID x W	ml/min	ml/min	ml/min	ml/min
3	1.0 x 1.0	0.05 - 1	1 - 20	-	-
3	2.0 x 1.0	0.15 - 3	3 - 60	-	-
3	3.0 x 1.0	0.35 - 7	7 - 140	-	-
3	4.0 x 1.0	0.6 - 12	12 - 230	-	-
3	1.6 x 1.6	0.1 - 2	2 - 40	3 - 55	-
3	3.2 x 1.6	0.37 - 7.5	8 - 150	11 - 210	-
3	4.8 x 1.6	0.85 - 18	17 - 340	24 - 480	6 - 580
3	6.4 x 1.6	-	-	42 - 840	10 - 1020
3	8.0 x 1.8	-	-	50 - 1000	15 - 1450
3	9.5 x 2.4	-	-	-	20 - 2000
6	Flow rate -30%				
8	Flow rate -40%				

Ordering requisitions:

Type	No. of rollers	Options
TBE/10	3 / 6 / 8	External triggering 0-10, 3, 6 or 8 rollers head, up to 4 channels, housing of stainless steel, foot switch
TBE/200	3 / 6 / 8	

TL



Flow rates per channel 0.9 µl - 240 ml/min

A peristaltic pump with easy operation and tube change, suitable for all sensitive tests in medicine, biotechnology, food and chemical industries.

Pump head:

Diameter	62 mm
Number of rollers	3, 6 or 8
Number of channels	1-4

Technical data:

Dimensions (W x H x D)	134 x 131 x 190 mm
Weight with head	1800 g
Voltage	230 VAC
Fuse	T 0.63 A / 250 V
Drive	DC motor with gearbox
Output	10 W

Flow rate per channel:

No. of rollers	Tube	TL/150	TL/15
		150 rpm	15 rpm
		ml/min	µl/min
3	0.13 x 0.8	0.0009 - 0.09	0.1 - 9
3	0.5 x 0.8	0.014 - 1.35	1.4 - 135
3	1 x 1	0.15 - 15	15 - 1500
3	2 x 1	0.5 - 50	50 - 5000
3	3 x 1	1.2 - 120	120 - 12000
3	4 x 1	1.7 - 170	170 - 17000
3	1.6 x 1.6	0.3 - 30	30 - 3000
3	3.2 x 1.6	1.2 - 120	120 - 12000
3	4.8 x 1.6	2.4 - 240	240 - 24000
6	Flow rate -30%		
8	Flow rate -40%		

Ordering requisitions:

Type	No. of rollers	Options
TL/150	3 / 6 / 8	External triggering analogue 0 - 10 V, (0) 4 - 20 mA, external triggering digital RS 232, 3, 6 or 8 rollers head, 2, 3 and 4 channel model, housing of stainless steel, foot switch
TL/15	3 / 6 / 8	

TV



Flow rates per channel 0.4 – 130 ml/min

Available with 3 fixed driving speeds,

Standard model: 50 rpm

Pump head:

Diameter 62 mm
Number of rollers 3, 6 or 8
Number of channels 1 to 4 (2)

Technical data:

Dimensions (W x H x D) 134 x 131 x 190 mm
Weight with head 1800 g
Voltage 230 VAC
Fuse T 0.63 A/250 V
Drive AC motor with gearbox
Output 5 W

Flow rate per channel:

No. of rollers	Type	TV/20	TV/50	TV/100
	Head	Ø 62	Ø 62	Ø 62
	Speed rpm	20	50	100
No. of channels		1-4	1-2	1-2
Tube ID x W		ml/min	ml/min	ml/min
3	0.5 x 1	0.4	1	2
3	1 x 1	1.5	3.7	7.5
3	2 x 1	6	15	30
3	3 x 1	13	33	65
3	4 x 1	20	50	100
3	1.6 x 1.6	4	10	20
3	3.2 x 1.6	16	40	80
3	4.8 x 1.6	26	65	130
6	Flow rate -30%			
8	Flow rate -40%			

Ordering requisitions

Type	No. of rollers	Options
TV/20	3	3, 6 and 8 rollers head, 2, 3 and 4 channels, housing of stainless steel, foot switch
TV/50	3	
TV/100	3	2 channels, 3, 6 and 8 rollers, housing of stainless steel, foot switch

TVS



Flow rate per channel 55 - 950 ml/min

Available 3 fixed driving speeds

Standard model: 200 rpm

Pump head:

Diameter TVS 84 mm
Number of rollers 3, 6 or 8
Number of channels 1

Technical data:

Dimensions (W x H x D) 134 x 131 x 190 mm
Weight with head 1800 g
Voltage 110 - 230 VAC
Fuse T 0.63 A/250 V
Drive DC motor with gearbox
Output 15 W

Flow rate per channel:

No. of rollers	Head	Ø 84
	Speed rpm	200
No. of channels		1
Tube ID x W		ml/min
3	1.6 x 1.6	55
3	3.2 x 1.6	200
3	4.8 x 1.6	450
3	6.4 x 1.6	760
3	8 x 1.6	950
6	Flow rate -30%	
8	Flow rate -40%	

Ordering requisitions:

Type	No. of rollers	Options
TVS	3	3, 6 and 8-rollers, housing of stainless steel, foot switch

TI



Flow rate per channel 0.4 - 130 ml/min

Timer pump, with preselection of the dosage and break time from 0.1 - 999 s on the 2 lines of LCD display, dosing-pulse triggering at the device or externally via potential-free contact or footswitch. Available with 3 fixed driving speeds.

Pump head:

Diameter	62 mm
Number of rollers	3, 6 or 8
Number of channels	1-4 (2)

Technical data:

Dimensions (W x H x D)	134 x 131 x 190 mm
Weight with head	1800 g
Voltage	230 VAC
Fuse	T 0.63 A / 250 V
Drive	AC motor with gearbox
Output	5 W

Flow rate per channel:

No. of rollers	Speed rpm No. of channels	20	50	100
		1-4	1-2	1-2
Tube ID x W		ml/min		
3	0.5 x 1	0.4	1.0	2
3	1 x 1	1.5	3.7	7.5
3	2 x 1	6	15	30
3	3 x 1	13	33	65
3	4 x 1	20	50	100
3	1.6 x 1.6	4	10	20
3	3.2 x 1.6	15	37	75
3	4.8 x 1.6	26	65	130
6		Flow rate -30%		
8		Flow rate -40%		

Ordering requisitions:

Type	No. of rollers	Options
TI62/20	3	6-rollers head, 8-rollers head, 2, 3 and 4 channel model, housing of stainless steel, foot switch
TI62/50 TI62/100	3	See above but <u>without</u> 3 and 4 channel models

HP



Flow rate per channel 0.05 µl - 27 ml/min

HP is a mini pump with two fixed speeds to choose. Application field are sensitive tests in research medical, biotechnological, food chemical and pharmaceutical laboratories.

Pump head:

Diameter	42 mm
Number of rollers	6
Number of channels	1

Technical data:

Dimensions (W x H x D)	73 x 56 x 120 mm
Weight with head	550 g
Voltage	12 VAC
External power supply	110/220 VAC
Drive	DC motor with gearbox
Output	6 W

Flow rate per channel:

No. of rollers	Tube ID x W	Driving speed	
		90 rpm ml/min	10 rpm µl/min
6	0.13 x 0.8	0.0005 - 0.045	0.05 - 5
6	0.5 x 0.8	0.007 - 0.650	0.8 - 75
6	1 x 0.8	0.025 - 2.500	4 - 420
6	1.5 x 0.8	0.05 - 5.500	8 - 820
6	2 x 0.8	0.1 - 10.00	13 - 1250
6	2.8 x 0.8	0.2 - 17.00	20 - 2000
3	2.8 x 0.8	0.3 - 27.00	33 - 3300

Ordering requisitions:

Type	Number of rollers	Options
HP/90 HP/10	6	External triggering, analogue 0 - 10 V, external triggering analogue (0) 4 - 20 mA, external triggering digital RS 232, foot switch

Insertion of tubes



1. Open swivel lever



2. Remove tube cassette



3. Insert appropriate tube



4. Pull tube tight and Insert the tube cassette



5. Close swivel lever until it locks

All commercial tubes without stopper can be used