

# Multi-channel Pumps

## More efficiency, even more possibilities

With the easily exchangeable cassettes, the throughput of the Hei-FLOW multi-channel pump can be increased to up to 12 simultaneously operated channels.

The following models are suitable for multi-channel operation: **Hei-FLOW Core/Expert/Ultimate 600**

Simply select the adapter and multi-channel pump head for the appropriate Hei-FLOW model and fit them with suitable cassettes and tubings.

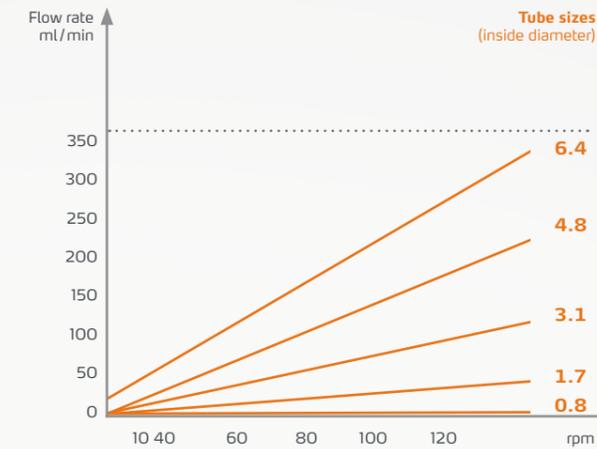
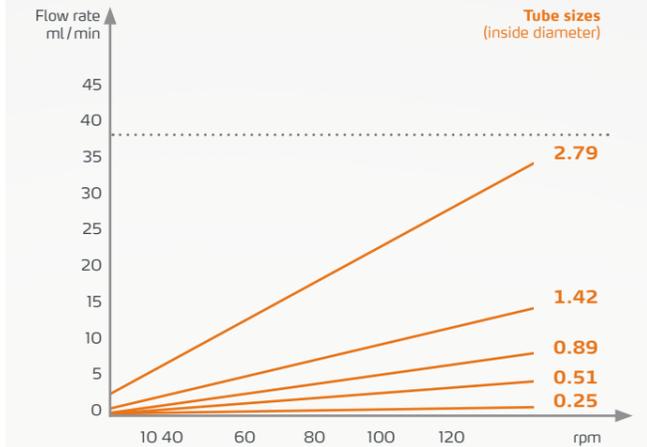
- When using tubes with different diameters per cassette, up to 12 individual pump volumes can be processed in one working part
- The tube can be changed easily and in a matter of seconds
- Pump heads with 8-roller system are also available to reduce pulsation
- A snap-action device makes inserting all cassettes child's play and even allows easy replacement during ongoing operation



## Flow rates of individual tubing sizes for multi-channel pump heads

### Multi-channel pump head C 4

For Cassette small



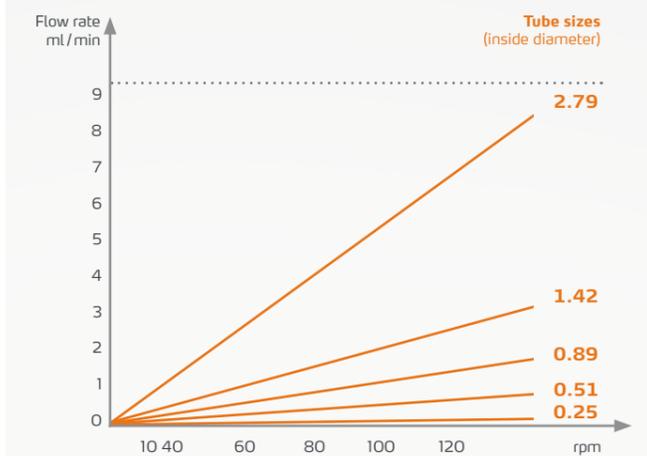
### Multi-channel pump head C 8

For medium or large cassettes



### Multi-channel pump head C 12

For Cassette small



## Multi-channel pump heads

### Easy to configure or retrofit

The brackets of the 2-stopper - tubings prevent the slipping of the tube when using the small cassette.



### Precise dosing or customized pumping

Low-pulsation pumping with the C 4 and C 12 multi-channel pump heads thanks to the 8-roller system and high-precision dosing depending on the tubing configuration. The C 12 model is optimally equipped for the smallest volumes thanks to an integrated gear support – for flow rates from 0.005 – 54 ml/min. For Cassette small (C 4/C 12), Two-Stop tubing is required. For Cassette medium and Cassette large (C 8) tubing by the meter.



#### Multi-channel-pump head C 4

- Can be equipped with 4 x Cassette small
- 8 rollers for low-pulsation pumping

P/N 524-80420-00



#### Multi-channel-pump head C 8

- Can be equipped with 8 x Cassette medium or 4 x Cassette large
- 4-roller system

P/N 524-40810-00



#### Multi-channel-pump head C 12

- Can be equipped with 12 x Cassette small
- Due to integrated gear reduction ideal for pumping smallest volumes
- 8 rollers for low-pulsation pumping

P/N 524-81220-00

## Multi-channel cassettes

Easily exchangeable cassettes even during the pumping process. The roller contact pressure is adjusted by means of an adjusting screw. Different tubing and sizes can be used in each cassette.



#### Cassette small

- Flow rates from 0.005 – 37.0 ml/min
- Suitable for tubes with 0.9 mm tube wall thickness
- Available tube diameters: 0.2/0.5/0.9/1.4 and 2.8 mm
- Special tube piece with 2 stoppers (length 40 cm) required for insertion into the cassette
- The tube is fixed by tube stoppers
- With tubing connectors and extension tubings, it is possible to extend the tubing length by the meter

#### Equipped with:

Multi-channel pump head C 4:  
max. 4 x Cassette small

Multi-channel pump head C 12:  
max. 12 x Cassette small

P/N 524-90022-00



#### Cassette medium

- Flow rates from 0.22 – 25.0 ml/min
- Suitable for tubes with 1.6 mm tube wall thickness
- Available tube diameters: 0.8 and 1.7 mm
- Tubes available by the meter

#### Equipped with:

Multi-channel pump head C 8:  
max. 8 x Cassette medium

P/N 524-90021-00



#### Cassette large

- Flow rates from 1.0 – 277.0 ml/min
- Suitable for tubes with 1.6 mm tube wall thickness
- Available tube diameters: 1.7/3.1/4.8 and 6.4 mm
- Tubes available by the meter

#### Equipped with:

Multi-channel pump head C 8:  
max. 4 x Cassette large

P/N 524-90010-00

## Tubing sizes for multi-channel pump heads

Tube sizes						
Inside diameter	mm	0.25	0.51	0.89	1.42	2.79
Outside diameter	mm	2.05	2.31	2.69	3.22	4.59
Tube wall thickness (wt)	mm	0.9	0.9	0.9	0.9	0.9
Max. operating pressure (duration/short-term)	bar	0.5/1.5	0.5/1.5	0.5/1.5	0.5/1.5	0.5/1.5
Suction lift	mH <sub>2</sub> O	7	7	7	7	7

Tube sizes						
Inside diameter	mm	0.8	1.7	3.1	4.8	6.4
Outside diameter	mm	4	4.9	6.3	8	9.5
Tube wall thickness (wt)	mm	1.6	1.6	1.6	1.6	1.6
Max. operating pressure (duration/short-term)	bar	0.7/1.7	0.7/1.7	0.7/1.7	0.7/1.7	0.5/1.5
Suction lift	mH <sub>2</sub> O	8.8	8.8	8.8	8.8	6.7

### Mean value of the flow rate in combination with pump head and pump drive

		Hei-FLOW Core 120		Hei-FLOW Expert 120		Hei-FLOW Ultimate 120						max. number of cass.
		min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	
Cassette small Pump head C 12	ml/min	0.005	0.11	0.01	0.54	0.03	1	0.10	3	0.29	9	12
Cassette small Pump head C 4	ml/min	0.02	0.49	0.08	2	0.24	6	0.60	14	2	36	4

All flow rate data refer to Tygon® (standard) tubes and the medium water.

		Hei-FLOW Core 120		Hei-FLOW Expert 120		Hei-FLOW Ultimate 120						max. number of cass.
		min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	
Cassette medium Pump head C 8	ml/min	0.22	6.8	1	25							8
Cassette large Pump head C 8	ml/min			1	25	3.7	88.5	7.7	184	11	277	4

All flow rate data refer to Tygon® (standard) tubes and the medium water.

### Order numbers

Tubing	P/N	P/N	P/N	P/N	P/N
<b>Silicone</b>					
Two-Stop tubing for Cassette small			525-30014-00	525-30015-00	525-30016-00
Extension tubes (by the meter)			525-30024-00	525-30025-00	525-30026-00
<b>Viton®</b>					
Two-Stop tubing for Cassette small			525-00014-00	525-00015-00	525-50016-00
Extension tubes (by the meter)			525-00024-00	525-00025-00	525-50026-00
<b>PharMed®</b>					
Two-Stop tubing for Cassette small	525-20012-00	525-20013-00	525-20014-00	525-20015-00	525-20016-00
Extension tube (by the meter)	525-20022-00	525-20023-00	525-20024-00	525-20025-00	525-20026-00
<b>Tygon® standard</b>					
Two-Stop tubing for Cassette small	525-60012-00	525-60013-00	525-60014-00	525-60015-00	525-60016-00
Extension tubes (by the meter)	525-60022-00	525-60023-00	525-60024-00	525-60025-00	525-60026-00
<b>Tube connector (PTFE)</b>	526-22000-00	526-22000-00	526-22000-00	526-22000-00	526-22000-00

Tubing	P/N	P/N	P/N	P/N	P/N
<b>Silicone</b>	525-33000-00	525-34000-00	525-36000-00	525-30027-00	525-30028-00
<b>Viton®</b>	525-53000-00	525-54000-00	525-56000-00	525-50027-00	525-50028-00
<b>PharMed®</b>	525-23000-00	525-24000-00	525-26000-00	525-20027-00	525-20028-00
<b>Tygon® standard</b>	525-63000-00	525-64000-00	525-66000-00	525-60027-00	525-60028-00
<b>Tygon® for hydrocarbons</b>	525-73000-00	525-74000-00	525-76000-00	525-70027-00	525-70028-00
<b>Tygon® 2001 for food</b>	525-83000-00	525-84000-00	525-86000-00	525-80027-00	525-80028-00