

Liquid Pumps, Heidolph

Precise dosing and dispensing

General advantages

- High precision, even for flow rates starting at 0.005 ml/min
- Optional foot-pedal remote control via cable to operate pump drive outside a closed fume hood and facilitates operation
- For the use in cell biology just use a pump head which features convex rollers and does not squeeze the tubing as conventional rollers
- All models feature a smooth start operation which prevents spills and splashing media. The speed will ramp up slowly until your set rpm has been reached
- Safety for continuous unattended operation: the motor will be switched off if a high thermal load situation occurs to preventatively avoid accidents

Analog Pump drive PD 5001 / PD 5006

For standard applications – liquid transfer

- High precision, even for flow rates starting at 0.005 ml/min
- Optional foot-pedal remote control via cable to operate pump drive outside a closed fume hood and facilitates operation
- For the use in cell biology just use a pump head which features convex rollers and does not squeeze the tubing as conventional rollers
- All models feature a smooth start operation which prevents spills and splashing media
- Safety for continuous unattended operation: the motor will be switched off if a high thermal load situation occurs to preventatively avoid accidents
- At the press of a button the pump operates clockwise or counterclockwise
- Adjust the variable speed on the analog control knob from 10 – 600 rpm. Your speed is held constant even under changing loads
- This model features electronic speed control at an accuracy of $\pm 2\%$

Pump drive PD 5001

- Flow rates of 0.8 – 790 ml/min with single-channel pump heads
- Low speed range from 10 – 120 rpm
- This pump drive is suitable for multi-channel operation
- Multi-channel flow rates from 0.005 – 320 ml/min
- Upgrade your PD 5001 for multi-channel operation in just minutes with a pump head adaptor: P/N 523-50013-00

Pump drive PD 5006

- Flow rates of 3.6 – 3.900 ml/min with single-channel pump heads
- High speed range from 50 – 600 rpm
- This pump drive is not suitable for multi-channel operation

Type	Flow rate single channel pump ml/min	Flow rate multi-channel pump ml/min	Order No.
① PD 5001	0.8-790	0.005-320	58 41 50010
PD 5006	3.6-3900	not recommended	58 41 50060

Pump drive PD 5101 / PD 5106 – For reproducible results – liquid transfer

- Control the speed (rpm) in a clockwise or counterclockwise direction and On/Off via analog interface for 1–10 V or 4–20 mA
- Adjust the variable speed on the analog control knob from 5.0 – 600 rpm. Your speed is held constant even under changing loads
- This model features electronic speed control at an accuracy of $\pm 3.5\%$
- This model connects to an optional foot pedal remote control via cable to start and stop your pump drive outside a closed fume hood increasing your personal safety or ease of use in multiple sample fills
- At the press of a button the pump operates clockwise or counterclockwise
- A press of the max button accelerates the filling and draining of your tubing

PD 5101

- Flow rates of 0.3 – 790 ml/min with single-channel pump heads
- Low speed range from 5 – 120 rpm
- This pump drive is suitable for multi-channel operation
- Multi-channel flow rates from 0.005 – 320 ml/min
- Upgrade your PD 5101 for multi-channel operation in just minutes with a pump head adaptor: P/N 523-51013-00

PD 5106

- Flow rates of 1.3 – 3,9000 ml/min with single-channel pump heads
- High speed range from 24 – 600 rpm
- This pump drive is not suitable for multi-channel operation

Type	Flow rate single channel pump ml/min	Flow rate multi-channel pump ml/min	Order No.
② PD 5101	0.3-790	0.005-320	10 41 51010
PD 5106	1.3-3900	not recommended	10 41 51060



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Pump drives PD 5201 / PD 5206

Reproducibility – pumping and dosing

- Control the speed (rpm) in clockwise or counterclockwise direction and On/Off via analog interface for 0 – 10 V, 4 – 20 mA or digital RS 232 interface
- Flow characteristic of pump heads in combination with various tubing diameters is pre-programmed for accurate flow rate numbers
- Digital read-out of:
Speed (rpm), Tubing diameter, Flow rate in ml/min, Dosing volume, Interval dosing, Pause function
- Easily change all process parameters via these buttons
- This model connects to an optional foot pedal remote control via cable to start and stop your pump drive outside a closed fume hood increasing your personal safety or easy use in multiple sample fills
- This model feature electronic speed control and an accuracy of $\pm 0,5\%$
- A press of the max button accelerates the filling and draining of your tube
- At the press of a button the pump operates clockwise or counterclockwise
- Calibrate your flow volume and flow rate individually

Pumpdrive PD 5201

- Flow rates of 0,3 – 790 ml/min with single-channel pump heads
- Low speed range from 5 – 120 rpm
- This pump drive is suitable for multi-channel operation
- Multi-channel flow rates from 0,005 – 320 ml/min
- Upgrade your PD 5201 for multi-channel operation in just minutes with a pump head adaptor: P/N 523-52013-00

Pump drive PD 5206

- Flow rates of 1,3 – 3,900 ml/min with single-channel pump heads
- High speed range from 24 – 600 rpm
- This pump drive is not suitable for multi-channel operation

Type	Flow rate single channel pump ml/min	Flow rate multi-channel pump ml/min	Order No.
③ PD 5201	0.3-790	0.005-320	58 41 52010
PD 5206	1.3-3900	not recommended	58 41 52060

Single channel pump heads

SP quick

- Fast and convenient tube changes
- Low pulsation due to 5 roller system
- Pump head feature ball gearings
- Rollers made of stainless steel
- For tubes with a 1,6 mm or 2,5 mm wall thickness (wt)
- Depending on drive and tubing, the flow rate ranges from 0,4 to 3.300 ml per minute

SP quick d

- Choose SP quick in combination with SP quick d to attach two pump heads to one drive
- This combination is suitable for pump drives PD 5001 / 5101 / 5201 only

SP standard

- Recommended for standard applications
- Convex rollers do not squeeze or crush organic cell cultures
- Pump heads features ball bearings
- Rollers made of stainless steel and polyamide
- For tubes with a 1.6 mm or 2.5 mm wall thickness (wt)
- Depending on drive and tubing, the flow rate ranges from 0.3 to 3,900 ml per minute

SP vario

- Suitable for most Heidolph tubing due to adjustable roller spacing
- Convex rollers do not squeeze or crush organic cell cultures
- Pump head features ball bearings
- Rollers made of stainless steel and aluminium
- Depending on drive and tubing, the flow rate ranges from 0.3 to 3,900 ml per minute

Type	Qty rollers	Flow rate ml/min	Order No.
④ SP quick 1.6	5 (low-pulsations)	0.3-2217	58 41 11100
SP quick 2.5	5 (low-pulsations)	11.2-3300	58 41 11300
SP quick d 1.6	5 (low-pulsations)	0.3-2217	58 41 11120
SP quick d 2.5	5 (low-pulsations)	11.2-3300	58 41 11320
⑤ SP standard 1.6	2	0.5-3644	58 41 43010
SP standard 2.5	2	17.3-3644	58 41 43030
⑥ SP vario	2	0.5-3644	58 41 45110



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⑦ Multi-channel pump heads

Multi-channel pump heads C4 / C8 / C12

- These pump drivers are able to be configured for multi-channel use: PD 5001, PD 5101 and PD 5201
- Increase your throughput by running up to 12 individual cassettes on one single pump drive and pump head system
- Separate metering into multiple vessels with different feed rates at the same time by using different tubing dimensions to adjust flow rates
- Save time: Tubing change is done in just seconds
- In addition to standard pump heads which feature a 4 roller system you can choose 8 roller pump heads for low pulsation
- Change your cassettes easily, even during operation – there are no restrictions
- Cassettes adjustments and changes are simple, just click in place
- No additional pump drive purchase needed: Upgrade your single channel pump drive with just an adaptor for multi-channel use and pick the head/cassette configuration that matches your application needs

Multi-channel pump head Masterflex

Each pump head is constructed with rugged anodized aluminum frames, stainless steel rotor assemblies, and either one or two precision machined aluminum occlusion beds. These occlusion beds are designed to compress the tubing for optimum performance – no occlusion adjustment is required.

Multi-channel cassettes

Cassette small

- Flow rates from 0.005 to 37 ml/min
- Suitable for tubes with 0.9 mm wall thickness (wt)
- Tube diameters available: 0.2/0.5/0.9/1.4 and 2.8 mm
- Two-Stop-Tubing (40 cm) required to operate cassette small
- Stoppers secure tube in place
- Couplings and tube extensions allow extra hose length in 1 m increments

Cassette medium

- Flow rates from 0.3 to 25 ml/min
- Suitable for tubes with 1.6 mm wall thickness (wt)
- Tube diameters available: 0.8 and 1.7 mm
- Tube available in requested sizes

Cassette large

- Flow rates from 1 to 320 ml/min
- Suitable for tubes with 1.6 mm wall thickness (wt)
- Tube diameters available: 1.7/3.1/4.8 and 6.4 mm
- Tube available in requested sizes

Article	Order No.
Multichannel pump head C4	58 41 24804
Multichannel pump head C8	58 41 24408
Multichannel pump head C12	58 41 24812
Multichannel pump head Masterflex	10 41 24604
Cassette small	58 41 90022
Cassette large	58 41 90010
Cassette medium	58 41 90021
Multichannel adapter	58 41 26160

Complete package at a set price

Complete packages for standard requirements

Package PD 5001 SP quick for delivery rates from 10.7 – 129 ml/min

- Pump drive PD 5001, pump head SP quick 1.6
- Tube material, 1 m each of Tygon- and silicone tube (inner Ø 3.1 mm)

Package PD 5006 SP quick for delivery rates from 53.6 – 643 ml/min

- Pump drive PD 5006, pump head SP quick 1.6
- Tube material, 1 m each of Tygon- and silicone tube (inner Ø 3.1 mm)

Package PD 5006 SP standard for delivery rates from 304 – 3644 ml/min

- Pump drive PD 5006, pump head SP standard 2.5
- Tube material, 1 m each of Tygon- and silicone tube (inner Ø 6.3 mm)

Article	Order No.
PD 5001 / SP quick 1.6 / tubing material	58 41 35001
PD 5006 / SP quick 1.6 / tubing material	58 41 35006
PD 5006 / SP standard 2.5 / tubing material	10 41 35007

Complete packages for high requirements

Package PD 5101 SP quick for delivery rates from 0.3 – 8.0 ml/min

- Pump drive PD 5101, pump head SP quick 1.6
- Tube material, 1 m each of Tygon- and silicone tube (inner Ø 0.8 mm)

Package PD 5106 SP quick for delivery rates from 5.7 – 643 ml/min

- Pump drive PD 5106, pump head SP quick 1.6
- Tube material, 1 m each of Tygon- and silicone tube (inner Ø 3.1 mm)

Package PD 5106 SP standard for delivery rates from 146 – 3644 ml/min

- Pump drive PD 5106, pump head SP standard 2.5
- Tube material, 1 m each of Tygon- and silicone tube (inner Ø 6.3 mm)



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Article	Order No.
PD 5101 / SP quick 1.6 / tubing material	10 41 35101
PD 5106 / SP quick 1.6 / tubing material	10 41 35106
PD 5106 / SP standard 2.5 / tubing material	10 41 35107

Complete packages for highest requirements

Package PD 5201 SP quick for delivery rates from 0.3 – 8.0 ml/min

- Pump drive PD 5201, pump head SP quick 1.6
- Tube material, 1 m each Tygon- and silicone tube (inner Ø 0.8 mm)

Package PD 5206 SP quick for delivery rates from 25.7 – 643 ml/min

- Pump drive PD 5206, pump head SP quick 1.6
- Tube material, 1 m each of Tygon- silicone tube (inner Ø 3.1 mm)

Package PD 5206 SP standard for delivery rates from 146 – 3644 ml/min

- Pump drive PD 5206, pump head SP standard 2.5
- Tube material, 1 m each of Tygon- silicone hose (inner Ø 6.3 mm)

Article	Order No.
⑨ PD 5201 / SP quick 1.6 / tubing material	10 41 35201
PD 5206 / SP quick 1.6 / tubing material	10 41 35206
⑩ PD 5206 / SP standard 2.5 / tubing material	10 41 35207

Complete packages for multi-channel applications

Package PD 5201 MK C4 for delivery rates from 0.11 – 2.5 ml/min

- Pump drive PD 5201 incl. multi-channel adapter
- Multi-channel pump head C 4
- 4 Cassettes small
- Tube material:
 - 4 piece 2-stopper-tubes Tygon (inner Ø 0.5 mm)
 - 2 m extension tube Tygon (inner Ø 0.5 mm)
 - 8 piece tube connector

Article	Order No.
PD 5201 MK with C4 / 4 Cassettes small / tubing material	10 41 35202



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