

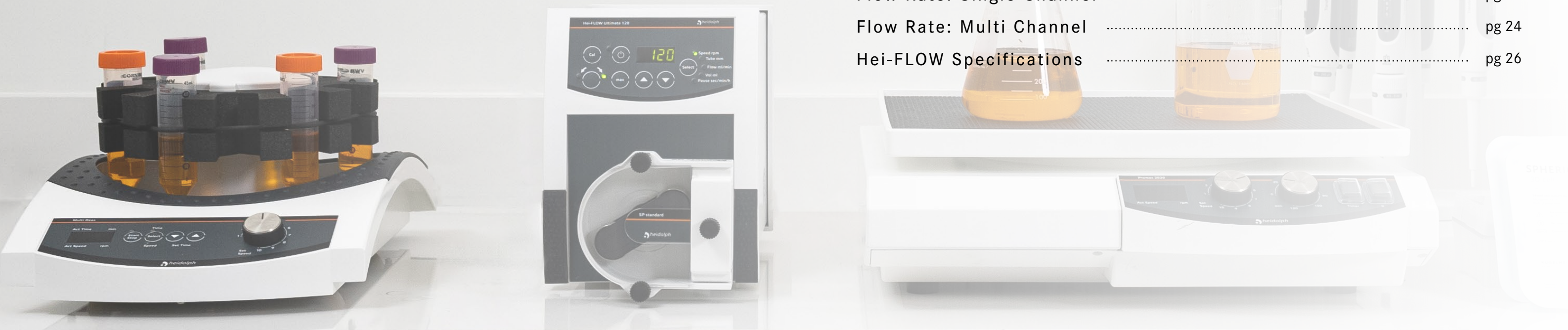
SAMPLE PREPARATION

VORTEXERS, SHAKERS, AND PERISTALTIC PUMPS



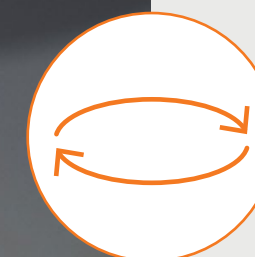
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UNPARALLELED LABORATORY EFFICIENCY



MIXING SPEED AND STRENGTH

The 3 mm shaking orbit in combination with a speed of 150 – 2,000 rpm guarantees the best mixing results



VORTEX MULTIPLE SAMPLES AT ONCE

The Multi Reax is a robust and economical multi-vessel vortexer. Increase your productivity and save your benchtop space.



INTEGRATED TIMER FUNCTIONALITY

The Multi Reax comes with an integrated timer, allowing the process to stop automatically once the timer is up.

VORTEXERS HEI-SHAKE SERIES

The Hei-SHAKE Series has a variety of shakers, mixers, and vortexers. The range of equipment allows Heidolph to accommodate many different motions required in a laboratory setting.






Heidolph offers two lines of vortexers. The first line of vortexers are designed to uniformly vortex multiple vessels at a time. The second line of vortexers are constructed to vortex a single vessel at a time. Our vortexers are ideal for quickly mixing the contents of test tubes, centrifuge tubes, and other similar vessels with various diameters and lengths.



Scan for more
information on
the Hei-SHAKE Series

TECHNICAL PROPERTIES



-  2 foam head attachments included for various sized vessels. Holds up to 12-26 test tubes
-  12 test tubes with 16-32 mm Ø, or 26 test tubes with 10-16 mm Ø
-  Vibration orbit of 3 mm for large liquid samples with suspended solids
-  Process timer up to 999 minutes for automatically ending the shaking function
-  Digital, stepless speed control from 150-2,000 rpm

3 YEAR WARRANTY ON ALL MODELS

			
Model	Multi Reax	Reax Control	Reax Top
Motion	Vibrating	Vibrating	Vibrating
Rotation Speed (rpm)	150 - 2,000	0 - 2,500	200 - 3,200
Rotation Speed Setting	Digital	Analog	Analog
Orbit/Stroke (mm)	3	5	5
Operating Mode	Timer or Continuous	Automatic or Continuous	Automatic or Continuous
Input Power	50	51	51
Weight (kg)	9.8	2.8	2.8
Dimensions (w x h x d) (mm)	270 x 172 x 410	134 x 105 x 172	134 x 105 x 172
Accessories Included	2 Carousel Attachments	-	-
Load Capacity (kg)	1.5	-	-
Overhead Protection	Self-Resetting	Self-Resetting	Self-Resetting
Permissible Ambient Conditions	5 - 31°C at 80% humidity 32 - 40 °C decreasing linearly up to max 50% rel. humidity		
Protection Class (DIN EN 60529)	IP30	IP22	IP22
PN	036130040	036130000	036130020

REAX TOP & REAX CONTROL



Reax Top:
Standard model with 5mm shaking orbit
Fast & Dependable dispersion, even with suspended solid or high viscosity - perfect for any operation

Reax Control:
Precision model with speed scaling
Electronic speed governor keeps speed consistent even at low speeds and changing loads

*Reax control attachment sold separately

 Scan to visit
Reax Top
Web Page

 Scan to visit
Reax Control
Web Page



SHAKERS

HEI-SHAKE SERIES

The Hei-SHAKE Series has the power to complete any shaking or mixing tasks reliably and efficiently. The shakers of the Hei-SHAKE Series covers five different motions: orbital, reciprocating, wave, vibrating and overhead shaking. With a wide range of attachments and extensions, each shake can be configured to your specific application.

Our shakers have been designed with a low center of gravity, which prevents gliding at a high speed even on a damp surface. The series also includes a temperature isolated drive that will stop any heat transfer from the motor to the sample.



Scan for more information on the Hei-SHAKE Series

MOTIONS



OVERHEAD

Reax 20

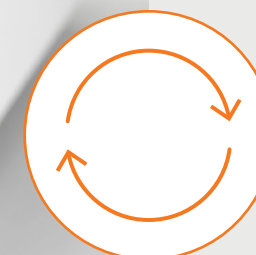
- Homogenizing powdered or liquid samples
- Chemical/environmental analyses: wastewater testing, soil testing, etc.
- Biological samples



VIBRATING

Titramax

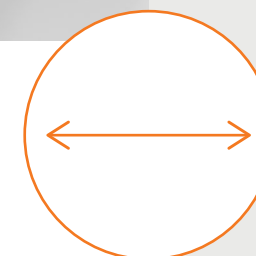
- Microbiology applications
- Cell lysis
- Mixing tissue samples
- Cytogenetic suspensions
- Vortexing cell suspensions



ORBITAL

Unimax

- Aeration of samples
- Prevention of skin formation
- Washing blots
- General Mixing
- RS232 interface



RECIPROCATING

Promax

- Mixing of separatory funnels/flasks
- Solubility studies
- Extraction procedures
- Washing and staining procedures



WAVE

Polymax

- Gentle mixing
- Sensitive incubation procedures: DNA/protein
- Staining, de-staining, washing procedures
- Cultivation of mammalian cells and other microorganisms

TECHNICAL PROPERTIES



Non-skid rubber mats prevent vessels from sliding



Select from a range of secure flask attachments



All Hei-SHAKE shakers are designed to have a low-center of gravity to prevent gliding on the benchtop surface.



Over-temperature sensor shuts off the unit in a dangerous heat-up situation



Insulated drive system prevents heat transfer from the motor to the sample



Wide range of accessories to support many applications



Choose from five different motions



Choose from three different load capacities of 2, 5, or 10 kg

INCUBATOR 1000



SHAKER

Select a compatible 1000-series platform shaker module

Titramax 1000: 036 130 100
Unimax 1010: 036 130 180
Promax 1020: 036 130 220



+ HEAT MODULE

Heating module warms the circulating air up to 65°C

PN 036 130 460



+ HOOD

PETG transparent hood. Stepless adjustment, non-fogging construction.

Flat Hood: 036 130 480
163mm height for small vessels ranging 25ml -100ml
High Hood: 036 130 490
267mm height for medium vessels and 500ml Erlenmeyer flasks
High Hood XL: 036 130 540
428mm height for large vessels, and 2,000ml Erlenmeyer flasks









Mix, shake, temper
No need for an additional incubator
Compatible with: Titramax 1000, Unimax 1010, and Promax 1020



Scan to visit Incubator 1000 web page

SHAKER SPECIFICATIONS

						
MODEL	TITRAMAX 1000	UNIMAX 1010	UNIMAX 2010	PROMAX 1020	PROMAX 2020	POLYMAX 2040
MOTION	Vibrating	Orbital	Orbital	Reciprocating	Reciprocating	Orbital
ROTATION SPEED (RPM)	150 - 1,350	30 - 500	20 - 400	30 - 250	20 - 400	20-400
ROTATION SPEED SETTING	Electric Control	Digital	Digital	Digital	Digital	Digital
ORBIT/STROKE (MM)	1.5mm	10mm	20mm	32mm	20mm	20mm
OPERATING MODE	Timer or Continuous	Timer or Continuous	Timer or Continuous	Timer or Continuous	Timer or Continuous	Timer or Continuous
INPUT POWER (W)	31	50	115	50	115	115
WEIGHT (KG)	5.0	8.0	16	8.0	16.0	16
DIMENSIONS (W X H X D) (MM)	320 x 125 x 375	320 x 125 x 375	426 x 135 x 435	320 x 125 x 375	426 x 135 x 435	426 x 135 x 435
PLATFORM SIZE (MM)	290 x 258	290 x 258	390 x 340	290 x 258	390 x 340	390 x 340
ACCESSORIES INCLUDED	Space for 6 Microtiter Plates	Non-skid Rubber Mat	Non-skid Rubber Mat	Non-skid Rubber Mat	Non-skid Rubber Mat	Non-skid Rubber Mat
LOAD CAPACITY (KG)	5	5	10	5	10	10
OVERHEAD PROTECTION	Self-Resetting	Self-Resetting	Self-Resetting	Self-Resetting	Self-Resetting	Self-Resetting
PERMISSIBLE AMBIENT CONDITIONS	5 -31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% relative humidity			5 -31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% relative humidity		
PROTECTION CLASS (DIN EN 60529)	IP 30	IP 40	IP 20	IP 40	IP 20	IP 20
PN	036130100	036130180	036130200	036130220	036130240	-
5° PN	-	-	-	-	-	036130340

3 YEAR WARRANTY ON ALL MODELS

*Standard supply voltage 115V



SHAKER MODEL ACCESSORIES	
A- Reax Top & Control	D- Reax 20/4, 20/8, 20/12
B- Unimax 1010, Promax 1020	S- Accessories compatible to the Perforated Platform 1000 or 2000
C- Unimax 2010, Promax 2020 & Polymax 2040	



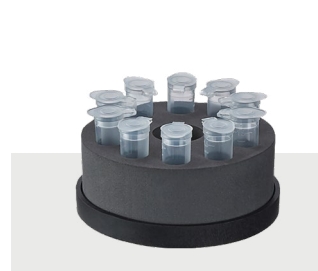
A- TEST TUBE TRAY
For test tube trays and flasks up to 50ml

PN 036303160



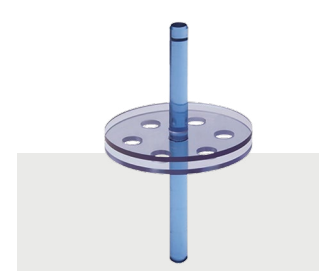
A- TEST TUBE HOLDING DEVICE
Hold one test tube safely for continuous shaking

PN 036303190



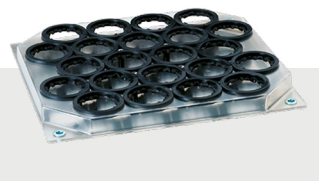
A- ATTACHMENT FOR 10 TEST TUBES
For up to 10 test tubes with Ø10mm, length up to 60mm

PN 036303180



A- TEST TUBE STAND
For up to 6 micro centrifuge tubes (1.5ml)

PN 036303200



B- 25ML Erlenmeyer Attachment
Attachment for up to 22 Erlenmeyer flasks

PN 036303260



B- 50ML Erlenmeyer Attachment
Attachment for up to 14 Erlenmeyer flasks

PN 036303270



B- 100ML Erlenmeyer Attachment
Attachment for up to 9 Erlenmeyer flasks

PN 036303280



B- 250ML Erlenmeyer Attachment
Attachment for up to 5 Erlenmeyer flasks

PN 036303290



B- 500ML Erlenmeyer Attachment
Attachment for up to 4 Erlenmeyer flasks

PN 036303300



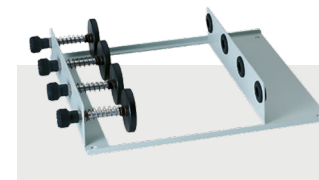
B- 1000ML Erlenmeyer Attachment
Attachment for up to 2 Erlenmeyer flasks

PN 036303310



B- PERFORATED PLATFORM 1000
Universal perforated platform allows individual vessel arrangement

PN 036303350



B- SEPARATORY FUNNEL ATTACHMENT
Attachment for 4 separatoryfunnels

PN 036303340



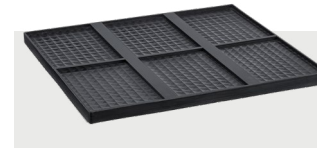
B- FRAME WITH TENSION ROLLER
Attachment with 2 tension rollers

PN 036303320



B- SPARE TENSION ROLLER
1 tension roller as accessory for attachment

PN 036303330



B- MICROTITER PLATE GROOVED RUBBER MAT
Allows for 6 microtiter plates to be securely fitted on top of 1000-series shakers

PN 036303070



B- MULTI-TIER ATTACHMENT
Includes perforated platform 2000 and 4 supporting rods

PN 036303446



C- PERFORATED PLATFORM 2000
Universal perforated platform allows for individual vessel arrangement

PN 036303380



C- FRAME TENSION ROLLER
Frame without tension roller

PN 036303360



C- TENSION ROLLER
1 tension roller for the frame

PN 036303370



C- MULTI-TIER ATTACHMENT
Includes perforated platform 2000 and 4 supporting rods

PN 036303470



D- TENSION PLATE FOR CAPS
Allows for the use of common bottles with Ø 94 cm

PN 036303520



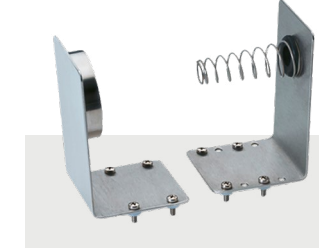
D- ATTACHMENT FOR 0.5 LITER BOTTLES
(Set of 4) Allows for the use of four bottles

PN 036303510



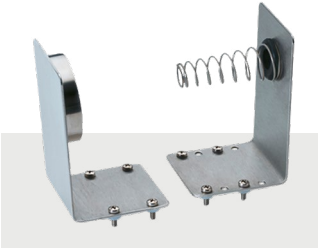
D- ATTACHMENT FOR 1 LITER BOTTLES
(Set of 4) Allows for the use of four bottles

PN 036303500



S- SEPARATORY FUNNEL CLAMP
(250ml, 500ml, 1000ml) For perforated platform 2000. Space for 3 or 4 clamps

PN 036303450



S- SEPARATORY FUNNEL CLAMP (2000ML)
For perforated platform 2000. Space for 2 clamps

PN 036303460



S- CLAMPS FOR THE PERFORATED PLATFORM 1000 AD 2000							
CLAMP SIZE	SIZE 1 25ML	SIZE 2 50ML	SIZE 3 100ML	SIZE 4 250ML	SIZE 5 500ML	SIZE 6 1000ML	SIZE 7 2000ML
1000 SERIES	Max. 20	Max. 20	Max. 14	Max. 8	Max. 4	Max. 4	Max. 2
2000 SERIES	Max. 36	Max. 36	Max. 23	Max. 12	Max. 9	Max. 5	Max. 3
PN	036303390	036303400	036303410	036303420	036303430	036303440	036303445



CUSTOMIZABILITY THAT FITS ANY LABORATORY NEED

SELECT THE MODEL FOR YOUR EXPERIMENTS

- Whether you are utilizing simple dispensing or have more advanced needs, Heidolph's three models provide solutions for your lab's unique needs



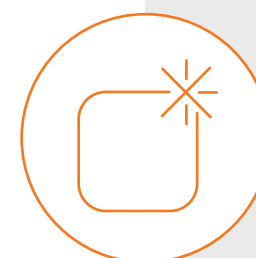
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IDENTIFY THE NUMBER OF PUMPING CHANNELS REQUIRED

- Choose from an array of options ranging from Single-Channel pump heads to Multi-Channel pump heads with up to 12 channels.

IDENTIFY THE MATERIAL

- To accommodate for a wide range of applications, Heidolph offers 5 different types of tubing based on the chemical composition of the solution being pumped



HEI-FLOW PERISTALTIC PUMPS

The Hei-FLOW Series is perfectly designed for precise dosing and dispensing of aggressive, corrosive, or even sterile media. With our high precision peristaltic pumps, hit accurate flow rates starting from 0.005 ml/min all the way up to 4,151 ml/min

Our peristaltic pumps guarantee a high degree of safety, convenience and cost savings. The motor will be switched off if a high thermal load situation occurs to avoid accidents. The sealed housing protects your peristaltic pump from aggressive fumes, liquids, and vapors. This prevents internal corrosion and reduces maintenance costs.



Scan for more information
on the Hei-FLOW Series

TECHNICAL PROPERTIES



Flowrates ranging from 0.005 to 4.151ml/min depending on configuration



Pump heads have convex rollers and does not squeeze tubing



Pumped media stays in the tubing so it is isolated from the user



Pumped media never comes in contact with the pump head, eliminating the chance of cross contamination



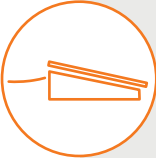
Smooth start operation which prevents spilling and splashing



Motor automatically switches off if a high thermal load situation occurs



Sparkless motors to prevent fires and provide another layer of safety



Optional foot panel attachment to operate the pump outside a closed fume hood, increasing personal safety



Accurate liquid delivery starting from 0.005 ml/min



CORE
Standard applications



EXPERT
Reproducible Results



ULTIMATE
Reproducibility for pumping and dosing

Clockwise/Counter
Clockwise Rotation
Selection



Digital Display

-

-



Foot Pedal Attachment

-



Calculation of Flow Rate

-

-



Connectivity Interface

-

For speed 0 - 10 / 4 - 20
mA direction of rotation
start/stop

RS232/for speed 0 - 10
V / 4- 10 mA direction of
rotation start/stop

Volumetric Dosing

-

-

0.001 - 9,999 ml

Interval Dosing

-

-

0.001 - 9,999 ml in breaks
0.1 sec - 750 h

PN

Core 120: PN 036 150010
Core 600: PN 036 150030

Expert 120: PN 036 150050
Expert 600: PN 036 150070

Ultimate 120: PN 036 150090
Ultimate 600: PN 036 150010

Type of Experiment:

Simple Dispensing

Advanced Dispensing



CHANNELS OF PUMPING

Single-Channel Convex rollers

Heidolph's single channel pump heads are purpose-built to have convex rollers. Convex rolls facilitate maintaining your cell culture integrity by preventing squeezing of the tubing.

SINGLE-CHANNEL PUMP HEADS

Accepted on 120 & 600 models



Standard

Standard applications, everyday use

Stainless steel & polyamide convex rollers prevent damage to organic cell cultures

1.6 mm head:
036150430
2.5 mm head:
036150440

SP Vario

For irregular tubing

Stainless steel & coated aluminum
Convex rollers prevent damage to organic cell cultures

036150450

SP Quick

For quick swapping of tubing

Even pumping:
Five stainless steel rollers to ensure low pulsation of media

1.6 mm head:
036150390
2.5 mm head:
036150400

MULTI-CHANNEL PUMP HEADS

Accepted only on 120 models



C4

4 channels of pumping

Accepts up to 4 small cassettes

8 rollers for low pulsation

036150480

C8

8 channels of pumping

Accepts up to 8 medium cassettes, 4 large cassettes

4 roller design

036150470

C12

12 channels of pumping

Accepts up to 12 small cassettes

8 rollers for low pulsation

036150460

MULTI-CHANNEL CASSETTES

Cassettes for multi-channel tubing



Small

Flow rate:
0.005 - 37 ml/min

036150490

Medium

Flow rate:
0.24 - 27 ml/min

036150500

Large

Flow rate:
1 - 364 ml/min

036150510

ADAPTER FOR MULTI-CHANNEL PUMP HEAD



Required to connect pump drive to multi-channel pump head
036304400



TUBING APPLICATIONS



STANDARD

For standard laboratory applications

- Temperature range: -50 to +75 °C
- Resistance to acids, bases and inorganic media
- Low gas permeability, performance life



HYDROCARBONS

For hydrocarbons, mineral oil products and distillates

- Temperature range: -40 to +75 °C
- Ideal for: petrol, kerosene, heating oil, cutting solutions, and coolants on a glycol base



FOOD

For food products. Ideal for high-fat content. No plasticizers or oils

- Temperature range: -50 to +75 °C
- Resistance to acids, bases, and inorganic media
- Low gas permeability, performance life



VITON®

Excellent acid resistance at high temperatures

- Temperature range: -30 to +205 °C
- Low gas permeability
- Resistant to solvents and corrosives at high temperatures



SILICONE

Platinum-coated silicone hose for use in pharmaceuticals and biology

- Temperature range: -80 to +200 °C
- Extremely smooth interior prevents bacterial growth
- Biocompatible, minimal adsorption and absorption
- Absolutely inert, softener-free



PHARMED®

Ideal for medical, lab, and research uses

- Temperature range: -50 to +135 °C
- High resistance to bending stresses
- Non-toxic, biocompatible
- Very low gas permeability
- Well suited to acids and bases



ACCESSORIES



FOOT PEDAL
Only for Expert 120 & 600
and Ultimate 120 & 600
Start and Stop Peristaltic
Pump applications
PN 036303550



TUBING
Select from Silicone,
Viton, PharMed, and Tygon
Standard composition two
stop tubing



**FITTING FOR
EXTENSION TUBES**
Extend or link different
sized tubing
For tubing diameter 0.2 - 2.8
PN 036304360



RS232 CABLE
Access the digital interface
of the Hei-FLOW Ultimate
using RS232 cords
Connect to an automation
workflow through
Hei-Process
PN 036306014






FLOW RATE: SINGLE CHANNEL






Average flow rates in combination with pump head and pump drive:

TUBING SIZE								
Inner diameter (mm)	0.8	1.7	3.1	4.8	6.4	4.8	6.4	7.9
Outer diameter (mm)	4.0	4.9	6.3	8.0	9.5	9.8	11.3	12.9
Wall thickness (wt) (mm)	1.6	1.6	1.6	1.6	1.6	2.5	2.5	2.5
Max. pressure (continuous / short time) (bar)	0.7 / 1.7	0.7 / 1.7	0.7 / 1.7	0.5 / 1.5	0.5 / 1.5	0.8 / 1.8	0.8 / 1.8	0.8 / 1.8
Suction (mH ₂ O)	8.8	8.8	8.8	8.8	6.7	8.8	8.8	8.8
TUBING P/N (PER METER)								
Silicone	036303620	036303630	036303640	036303650	036303660	036303670	036303680	036303690
Viton®	036303760	036303770	036303780	036303790	036303800	036303810	036303820	036303830
PharMed®	036303940	036303950	036303960	036303970	036303980	036303990	036304000	036304010
Tygon® (standard)	036304200	036304130	036304140	036304150	036304160	036304170	036304180	036304190
Tygon® (hydrocarbon)	036303620	036304210	036304220	036304230	036304240	036304250	036304260	036304270
Tygon® (food)	036304280	036304290	036304300	036304310	036304320	036304330	036304340	
SP QUICK								
Expert 600 / Ultimate 600 (ml/min)	2 - 33	8 - 186	26 - 653	59 - 1,529	89 - 2,072	58 - 1,527	85 - 2,248	113 - 3,171
Core 600 (ml/min)	4 - 35	17 - 197	57 - 695	123 - 1,494	186 - 1,765	123 - 1,580	180 - 2,411	257 - 3,436
Expert 120 / Ultimate 120 (ml/min)	0.38 - 9	2 - 40	56 - 126	12 - 233	17 - 409	12 - 299	18 - 435	25 - 630
Core 120	0.83 - 9	3 - 41	11 - 134	25 - 292	36 - 413	26 - 299	38 - 454	50 - 636
SP STANDARD / SP VARLO								
Expert 600 / Ultimate 600 (ml/min)		11 - 257	43 - 1,017	105 - 2,549	167 - 4,056	92 - 2,390	139 - 3,821	
Core 600 (ml/min)		22 - 249	93 - 1,037	228 - 2,613	364 - 4,151	203 - 2,426	313 - 3,782	
Expert 120 / Ultimate 120 (ml/min)		2 - 55	9 - 221	21 - 530	33 - 813	15 - 491	28 - 769	
Core 120 (ml/min)		5 - 61	19 - 223	44 - 519	75 - 861	42 - 493	68 - 773	

FLOW RATE: MULTI- CHANNEL

Average flow rates in combination with cassette, pump head and pump drive:

TUBING SIZE					
Inner diameter (mm)	0.25	0.51	0.89	1.42	2.79
Outer diameter (mm)	2.05	2.31	2.69	3.22	4.59
Wall thickness (wt) (mm)	0.9	0.9	0.9	0.9	0.9
Max. pressure (continuous / short time) (bar)	0.5/1.5	0.5/1.5	0.5/1.5	0.5/1.5	0.5/1.5
Suction (mH ₂ O)	7.0	7.0	7.0	7.0	7.0
TUBING PN (PER METER)					
Silicone			036303560	036303570	036303580
Extension tube (per meter)			036303590	036303600	036303610
Viton®			036303700	036303710	036303720
Extension tube (per meter)			036303730	036303740	036303750
PharMed®	036303840	036303850	036303860	036303870	036303880
Extension tube (per meter)	036303890	036303900	036303910	036303920	036303930
Tygon® (standard)	036304020	036304030	036304040	036304050	036304060
Extension tube (per meter)	036304070	036304080	036304090	036304100	036304110
Fittings for extension tubes (PTFE)	036304360	036304360	036304360	036304360	036304360
CORE 120					
Cassette small/pump head C12 (ml/min)	0.005 - 0.11	0.02 - 0.42	0.10 - 1	0.22 - 3	0.69 - 8
Cassette small/pump head C4 (ml/min)	0.04 - 0.53	0.17 - 2	0.57 - 6	1 - 15	4 - 37
EXPERT 120/ULTIMATE 120					
Cassette small/pump head C12 (ml/min)	0.005 - 0.11	0.01 - 0.54	0.03 - 1	0.10 - 3	0.29 - 9
Cassette small/pump head C4 (ml/min)	0.02 - 0.49	0.08 - 2	0.24 - 6	0.60 - 14	2 - 36

TUBING SIZE					
Inner diameter (mm)	0.8	1.7	3.1	4.8	6.4
Outer diameter (mm)	4.0	4.9	6.3	8.0	9.5
Wall thickness (wt) (mm)	1.6	1.6	1.6	1.6	1.6
Max. pressure (continuous / short time) (bar)	0.7 / 1.7	0.7 / 1.7	0.7 / 1.7	0.7 / 1.7	0.5/1.5
Suction (mH ₂ O)	8.8	8.8	8.8	8.8	6.7
TUBING PN (PER METER)					
Silicone	036303620	036303630	036303640	036303650	036303660
Viton®	036303760	036303770	036303780	036303790	036303800
PharMed®	036303940	036303950	036303960	036303970	036303980
Tygon® (standard)	036304120	036304130	036304140	036304150	036304160
Tygon® (hydrocarbon)	036304200	036304210	036304220	036304230	036304240
Tygon® (food)	036304280	036304290	036304300	036304310	036304320
CORE 120					
Cassette medium/pump head C8 (ml/min)	0.55 - 6.97	2.17 - 27			
Cassette large/pump head C8 (ml/min)		2 - 27	7 - 85	18 - 246	26 - 364
EXPERT 120/ULTIMATE 120					
Cassette medium/pump head C8 (ml/min)	0.24 - 7	1 - 26			
Cassette large/pump head C8 (ml/min)		1 - 27	4 - 90	8 - 192	11 - 329



HEI-FLOW SPECIFICATIONS



MODEL	CORE 120	CORE 600	EXPERT 120	EXPERT 600	ULTIMATE 120	ULTIMATE 600
PN INCLUDING MULTI-CHANNEL ADAPTOR	036150130	-	036150150	-	036150170	-
FLOW RATES - SINGLE CHANNEL PUMPS (ML/MIN)	150 - 1,350	4.0 - 4151 ml/min	0.38 - 813	2.0 - 4,056	0.38 - 813	2.0 - 4,056
FLOW RATES - MULTI-CHANNEL PUMPS (ML/MIN)	0.83 - 861 ml/min	0.005 - 364 ml/min	0.005 - 329	-	0.005 - 364	-
FLOW RATE ACCURACY* (%)	±5	±5	±3.5	±3.5	±1	±2
SPEED RANGE (RPM)	Timer or Continuous	Timer or Continuous	5 - 120	24 - 600	5 - 120	24 - 600
SPEED SETTING	Scale	Scale	Scale	Scale	Digital	Digital
ELECTRONIC SPEED CONTROL	Analog	Analog	Digital	Digital	Digital	Digital
CONTROL ACCURACY MOTOR (%)	±2	±2	±0.5	±0.5	±0.5	±0.5
SELECT DIRECTION OF ROTATION	CW/CCW	CW/CCW	CW/CCW	CW/CCW	CW/CCW	CW/CCW
MOTOR POWER (W)	100	100	100	100	100	100
SUPPLY POWER (W)	100	100	100	100	100	100
ANALOG INTERFACE	-	-	For Speed 0 - 10V/4 - 20 mA Direction of Rotation Start/Stop			
DIGITAL INTERFACE	-	-	-	-	RS 232	RS 232
VOLUME DOSING (ML)	-	-	-	-	0.001 - 9,999	0.001 - 9,999
INTERVAL DOSING (ML)	-	-	-	-	0.001 - 9,999 in breaks 0.1 sec - 750 h	0.001 - 9,999 in breaks 0.1 sec - 750 h
SMOOTH START	-	-	-	-	✓	✓
ELECTRONIC BRAKE	-	-	-	-	✓	✓
FOOT-PEDAL CONNECTION	-	-	✓	✓	✓	✓
CONTINUOUS OPERATION (HOURS/DAYS)	24/7	24/7	24/7	24/7	24/7	24/7
SAFETY FEATURE	Overheat Protection			Electronic Current Limiter and Overheat Protection		
WEIGHT (KG)	7.6	7.1	7.6	7.3	7.7	7.3
PROTECTION CLASS (DIN EN 60529)	IP55	IP55	IP55	IP55	IP55	IP55
PERMISSIBLE AMBIENT CONDITIONS	5 - 31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity			5 - 31°C at 80% humidity 32 - 40°C decreasing linearly up to max 50% rel. humidity		
DIMENSIONS (W X D X H)(MM)	166 x 256 x 225	166 x 256 x 225	166 x 256 x 225	166 x 256 x 225	166 x 256 x 225	166 x 256 x 225
PN	036150010	036150030	036150050	036150070	036150090	036150110

3 YEAR WARRANTY ON ALL MODELS

*Standard supply voltage 115V



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