

3 Hot Plates / Stirrers Dry Bath / Heating Mantles

Heating Mantles Multi-Position Heating mantles

WIGGENS combination mantles have always been the mantles of choice for repetitive extracting, refluxing, and distilling procedures in labs of the food, textile fiber, water and waste-water, petroleum, and many other industries. WIGGENS latest version offers safety and convenience never before available in a multi-place heating mantle.

- > Lower profile for space-saving convenience
- > Revolutionary heating element container system makes replacing burned-out elements a simple task
- > Clear anodized aluminum cabinet with black PTFE resin coated top for chemical resistance.
- > Offered in two space-saving configurations; six-place for 100 - 300 mL flasks and three-place for 500 - 1,000 mL flasks
- > Available in low-temperature (400°C RX version) and high-temperature (600°C RJ version) for greater versatility
- > The ideal mantle for Kjeldahl, Soxhlet, and other extraction procedures.

Each six-place Combo is furnished with six spring-type glassware clamps, and each three-place unit contains three. The clamps hold glassware from 1 5/8" - 2" in diameter. The clamps attach to one of the horizontal support rod (included). Two Series RL control choices are available percentage timer or proportional voltage. The percentage-timer version pulses full-line voltage to each heating position according to the dial setting. The proportional-voltage version supplies a constant, steady-state voltage to each position. The six-place controls are actually two units that can be mounted together or separately. The cord-connected controls allow placement at a convenient location for the operator.

Power Controls

- > 3 place w/one quick attach open face bracket for 1/2" diameter rod
- > 6 place w/two quick attach open face bracket for 1/2" diameter rod.

Dimensions

3-place: 610 x 286 x 159 (WxDxH mm)

6-place: 743 x 241 x 133 (WxDxH mm)



3-Place heating mantle with digital display controller



6-Place heating mantle with digital display controller

Table A

Flask Size ml	Maximum Diameter mm	Bottom	Rating Per Position	Mantle Weight kg	Replacement Element Order No.	Order No.
Three-Place - low temperature						
500	103	Flat	180W	9.1	RX50024E	RX50024
500	101	Round	180W	9.1	RX50224E	RX50224
650	108	Round	200W	9.1	RX65024E	RX65024
800	116	Round	225W	9.1	RX80024E	RX80024
1000	130	Round	290W	9.1	RX100024E	RX100024
Three-Place - high temperature						
500	103	Flat	300W	9.1	RJ50024E	RJ50024
500	101	Round	300W	9.1	RJ50224E	RJ50224
650	108	Round	325W	9.1	RJ65024E	RJ65024
800	116	Round	375W	9.1	RJ80024E	RJ80024
1000	130	Round	450W	9.1	RJ100024E	RJ100024
Six-Place - low temperature						
250/300	87	Flat	125W	8.6	RX30024E	RX30024
250/300	87	Round	125W	8.6	RX30424E	RX30424
Six-Place - high temperature						
100/125	70	Flat	140W	8.6	RJ12524E	RJ12524
100/125	70	Round	140W	8.6	RJ12724E	RJ12724
250/300	87	Flat	210W	8.6	RJ30024E	RJ30024
250/300	87	Round	210W	8.6	RJ30424E	RJ30424

The glassware is not included, please order separately.

Table B

Control Type	For Use With	Amps	Voltage(V)	Weight (kg)	Order No.
Digital display control	3-place RJ or RX	12	240	2.3	RL5324
Digital display control	6-place RJ or RX	15	240	5.0	RL5624
Percentage timer	3-place RJ or RX	12	240	2.3	RL3324
Percentage timer	6-place RJ or RX	15	240	5.0	RL3624
Proportional voltage	3-place RJ or RX	12	240	2.3	RL4324
Proportional voltage	6-place RJ or RX	15	240	5.0	RL4624



The replaceable element containers provide spill containment and can be replaced in a matter of a few minutes.

How to order

Select the heating mantle from Table A based on the flask being used, the power needed for the application, and the operating voltage. Generally, the RX units are used with solvents common to Soxhlet extractions, and the RJ units are for refluxing aqueous solutions. Select the required power control from Table B based on mantle configuration (3-place or 6-place) and whether pulsing on-off or constant-input voltage is desired.



Recommend

Order the Combo control to match your application from the chart on the left.



Table C - Soxhlet Lipid Extraction Apparatus (for Combo Mantles)

Size	Flask volume (mL)	Extractor Top Joint	Extractor Bottom Joint	Package Order No.	Condenser Order No.	Extractor Order No.	Extraction Thimbles Order No.	Flask volume Order No.
Suitable for Wiggens Combo Mantles (Six positions Flat Bottom)								
A	100	34 / 45	24 / 40	189100-11	189102-01	189101-01	189103-01	189105-01
A	100	34 / 45	24 / 40	189100-12	189102-01	189101-01	189103-02	189105-01
A	125	34 / 45	24 / 40	189100-13	189102-01	189101-01	189103-01	189105-02
A	125	34 / 45	24 / 40	189100-14	189102-01	189101-01	189103-02	189105-02
B	250	45 / 50	24 / 40	189100-15	189102-02	189101-02	189103-03	189105-03
B	250	45 / 50	24 / 40	189100-16	189102-02	189101-02	189103-04	189105-03
D	300	55 / 50	24 / 40	189100-17	189102-03	189101-04	189103-05	189105-04
D	300	55 / 50	24 / 40	189100-18	189102-03	189101-04	189103-06	189105-04
Suitable for Wiggens Combo Mantles (Six positions Round Bottom)								
A	100	34 / 45	24 / 40	189100-21	189102-01	189101-01	189103-01	189104-01
A	100	34 / 45	24 / 40	189100-22	189102-01	189101-01	189103-02	189104-01
A	125	34 / 45	24 / 40	189100-23	189102-01	189101-01	189103-01	189104-02
A	125	34 / 45	24 / 40	189100-24	189102-01	189101-01	189103-02	189104-02
B	250	45 / 50	24 / 40	189100-25	189102-02	189101-02	189103-03	189104-03
B	250	45 / 50	24 / 40	189100-26	189102-02	189101-02	189103-04	189104-03
D	300	55 / 50	24 / 40	189100-27	189102-03	189101-04	189103-05	189104-04
D	300	55 / 50	24 / 40	189100-28	189102-03	189101-04	189103-06	189104-04
Suitable for Wiggens Combo Mantles (Three positions Flat Bottom)								
D	500	55 / 50	24 / 40	189100-31	189102-03	189101-04	189103-05	189105-05
D	500	55 / 50	24 / 40	189100-32	189102-03	189101-04	189103-06	189105-05
Suitable for Wiggens Combo Mantles (Three positions Round Bottom)								
D	500	55 / 50	24 / 40	189100-41	189102-03	189101-04	189103-05	189104-05
D	500	55 / 50	24 / 40	189100-42	189102-03	189101-04	189103-06	189104-05
D	1000	55 / 50	24 / 40	189100-43	189102-03	189101-04	189103-05	189104-06
D	1000	55 / 50	24 / 40	189100-44	189102-03	189101-04	189103-06	189104-06

Soxhlet 6-Plate Heater

The design concept of WH-106 is compactness, safety and efficiency. For compactness, the layout of hotplates has been changed from traditional 6 holes in one row to 3 each in 2 rows. So that we can save 50% operating space.

The distance between each hole is 55mm which is according to DIN 44548 and wide enough for users to handle the samples in back row conveniently. WH-106 contains six embedded heating plates with 85mm diameter, and its heating components are made in Germany, rugged and easy to maintain. Each plate with a heating indicator is controlled independently, and the temperature can reach 425°C. For safety reason, each plate is surrounded by a rim for keeping electronics from spilling. The whole housing is made of stainless steel with paint coating.

Applications

- > COD digestion
- > Lipid extraction
- > Kinds of heating

Specification

Model	WH-106
Heating plate	6 × Ø85mm diameter cast-iron with embedded heating resistor
Safety	Each top plate is surrounded by a rim that protect electronics from spills. Spacing of 55mm between the heating plate which is according to DIN 44548.
Max. Temperature	425°C
Control	Each heating plate is controlled independently
Power supply	6 × 450W
Order No.	178106



Parallel reaction for Soxhlet extraction

Soxhlet Lipid Extraction Apparatus (Suitable for WH-106)

Size	Flask volume (mL)	Extractor Top Joint	Extractor Bottom Joint	Package Order No.	Condenser Order No.	Extractor Order No.	Extraction Thimbles Order No.	Flask volume Order No.
A	125	34 / 45	24 / 40	189100-01	189102-01	189101-01	189103-01	189105-02
A	125	34 / 45	24 / 40	189100-02	189102-01	189101-01	189103-02	189105-02
B	250	45 / 50	24 / 40	189100-03	189102-02	189101-02	189103-03	189105-03
B	250	45 / 50	24 / 40	189100-04	189102-02	189101-02	189103-04	189105-03
B	300	45 / 50	24 / 40	189100-05	189102-02	189101-02	189103-03	189105-04
B	300	45 / 50	24 / 40	189100-06	189102-02	189101-02	189103-04	189105-04
D	500	55 / 50	24 / 40	189100-07	189102-03	189101-04	189103-05	189105-05
D	500	55 / 50	24 / 40	189100-08	189102-03	189101-04	189103-06	189105-05

Specifications for Wiggins Extractor Bodies

Specification	A	B	C	D
Size	A	B	C	D
Use Thimble Size (mm)	25 x 85	35 x 90	35 x 90	45 x 130
Extractor Top Joint	34 / 45	45 / 50	45 / 50	55 / 50
Extractor Bottom Joint	24 / 40	24 / 40	29 / 42	24 / 40
Condenser Bottom Joint	34 / 45	45 / 50	45 / 50	55 / 50
Length of Siphon (mm)	190	260	260	300

Extraction Thimbles - Glass

With an Wiggins fritted disc sealed in. Can be used in any standard Soxhlet extraction apparatus. The sizes below correspond to the size specifications of extraction bodies and will fit those units.

Size	A	A	B/C	B/C	D	D
ID x H (mm)	25 x 85	25 x 85	35 x 90	35 x 90	45 x 130	45 x 130
Sintered glass	20-35um	100-200 um	20-35um	100-200 um	20-35um	100-200 um
Order No.	189103-01	189103-02	189103-03	189103-04	189103-05	189103-06

Extractor Body

Size	A	B	C	D
Extractor Top Joint	34 / 45	45 / 50	45 / 50	55 / 50
Extractor Bottom Joint	24 / 40	24 / 40	29 / 42	24 / 40
Order No.	189101-01	189101-02	189101-03	189101-04

Extraction Apparatus

Bulb type for use with regular extraction apparatus. Improved design permits greater condensing capacity.

Size	A	B/C	D
Extractor Top Joint	34/45	45/50	55/50
Tubing Size (mm)	190	260	300
Height (mm)	275	365	405
Order No.	189102-01	189102-02	189102-03

Extraction Thimbles

CELLULOSE FIBER. Good retention. Seamless, high quality extraction thimbles, single thickness.

Readily permeable to the flow of ether and other organic solvents. Packed 25 per box.

Size (Ø x H)	27 x 80	27 x 60	30 x 80	33 x 94	40 x 123
Order No.	6811-08	6811-14	6811-20	6811-22	6811-24



Flask

Round bottom with short neck and outer joint.

24/40 Joint

Capacity(mL)	100	125	250	300	500	1000
Order No.	189104-01	189104-02	189104-03	189104-04	189104-05	189104-06

29/42 Joint

Capacity(mL)	100	250	500	1000
Order No.	189104-11	189104-13	189104-15	189104-16

Flask

Single Neck, Flat Bottom

24/40 Joint

Capacity(mL)	100	125	250	300	500	1000
Order No.	189105-01	189105-02	189105-03	189105-04	189105-05	189105-06

29/42 Joint

Capacity(mL)	250	300	500	1000
Order No.	189105-13	189105-14	189105-15	189105-16



Temperature and stirring controller

for measuring, control and monitoring

WIGGENS temperature controllers measure, control and monitor applications in laboratories such as heating mantle and chemical reactors.



Ordering Information

Models / Specifications		TCSS	PL524 Pre	PL524 Pro-Stir	PL524 Pro	PC524
Name		Program controller for temperature and stirring	Program controller for temperature	Temperature and stirring controller	Temperature controller	Safety temperature protector
Screen	5" TFT touch screen	●	●			
	LED			●	●	●
Function	Heating	●	●	●	●	
	Cooling	●	●			
	Programming	●	●			
	Stirring	●		●		
	Safety temperature	●	●	●	●	●
Interface	RS485	●	●			
	RS232	●	●	●	●	
	Ethernet	●	●	●		
	USB-A	●	●			
	Alarm	●	●	●	●	
Options	Pt100	○	○	○	○	○
	Thermocouple	○	○	○	○	○
	heating mantle matching unit	○ please reference Note 3	○	○ please reference Note 3	○	
	Solenoid valve for cooling WH260 series	○				



Temperature,Stirring Speed,Cooling Valve Controller



Program temp. Control and security protection



Temp. and Stir. Controller



Temp. Control and security protection



Overheated security protection

Note 1: ● Standard configuration ○ Options

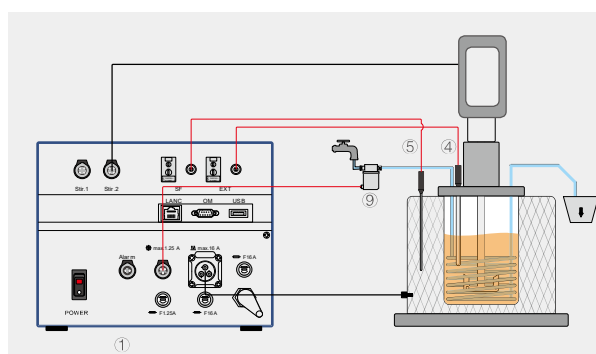
Note 2: TCSS, PL524 Pre, PL524 Pro-Stir, PL524 Pro working with two temperature sensors; PC524 just need one temperature sensor

Note 3: TCSS-1 matching with heating-stirring mantle, PL524pro-Stir matching with heating-stirring mantle

TCSS-2 matching with WB201C motor (It is the same motor as WB2000-C)

TCSS-3 matching with WB181D motor (It is the same motor as WB1800-D)

TCSS-4 matching with WB181C motor (It is the same motor as WB1800-C)



Application of TCSS

The external system (e.g. Heating mantle, Motor, Solenoid valve) is connected via socket at the back, Different sensors for working and safety temperatures control the application.

① TCSS-2 / 3 / 4

② Motor

③ Magnetic Clutch

④ Working sensor

⑤ Safety sensor

⑥ Heating mantle

⑦ Stirrer

⑧ Cooling coil

⑨ Solenoid valve

Heating Mantles

Aluminum Housed Mantles

- > Rigid housing provides strength and durability while supporting the weight of the vessel
- > Fabric interior to softly nest glass vessels and reduce the chance of thermal shock
- > Adaptable to most vessels including larger sizes
- > Withstands 450°C internal operating temperature (650°C for Series STM), enough power for most applications
- > Can be adapted to special applications with custom sizes, bottom holes, and special electrical devices
- > Feet on smaller sizes designed to provide stability and promote cooler exterior temperatures

Spherical Flask Mantles

- > The Series TM spherical flask mantle covers only the flask's bottom half, letting you see its full contents. Larger sizes have multiple circuits for ease of temperature control when a flask is less than half full. Splash Guards can be used with TM102 through TM117.
- > Poncho Safety Shields can be used with sizes 500 ml (TM107) and larger.

Specifications

Complete System Order No.	Order No.	Flask Capacity mL	Max. Flask Diameter mm	Watts W	Depth mm	Outside Dia. mm	Height mm	Weight kg
WTM95	TM95	50	48	60	24	159	121	1.0
WTM97	TM97	100	60	80	30	159	121	1.0
WTM99	TM99	125	70	80	35	159	121	1.0
WTM101	TM101	200	76	100	38	159	121	1.0
WTM103	TM103	250	83	180	41	159	121	1.1
WTM105	TM105	300	86	180	43	159	121	1.1
WTM107	TM107	500	101	270	51	159	127	1.1
WTM109	TM109	1000	130	380	65	191	127	1.4
WTM111	TM111	2000	170	500	86	254	152	2.1
WTM113	TM113	3000	183	500	91	254	152	2.1
WTM115	TM115	5000	220	600	109	305	178	2.8
WTM117	TM117	12000	293	2@650	147	419	229	6.8
WTM119	TM119	22000	347	2@770	173	483	254	8.5
WTM121	TM121	50000	456	3@1000	228	610	330	18.6
WTM122	TM122	72000	522	3@2000	259	660	356	20.0



WTM seires

Spherical flask mantle with temp. control and security protection, the flask is not included



TM seires

Spherical flask mantle only, the flask is not included

Stir Mantles

- > The StirMantle adds electromagnetic stirring capability (50-750 rpm) to the Series TM heating mantle for spherical flasks. Heating and stirring are independent, choose either or both. Speed is easily adjusted by a single dial on the PL524pro-Stir.
- > The PL524pro-Stir creates and synchronizes the magnetic field. When restarting (as for removal and reinsertion of the flask), Wiggins exclusive "Synchrostart" feature maintains linkage between the field and the bar. The PL524pro-Stir connects to the StirMantle by cord, so it may be placed outside corrosive hood atmospheres and is easily accessible.
- > PL524pro-Stir connecting cords, and stir bar. Completely grounded and fused.

Specifications

Complete System Order No.	Order No.	Flask Capacity mL	Depth mm	Watts W	Outside Dia. mm	Height mm	Weight kg
EMS103P	EMS103	250	42	180	159	121	2.0
EMS105P	EMS105	300	43	180	159	121	2.0
EMS107P	EMS107	500	51	270	159	133	2.0
EMS109P	EMS109	1000	65	380	191	140	2.4
EMS111P	EMS111	2000	85	500	254	165	2.5
EMS113P	EMS113	3000	91	500	254	165	2.9



Complete system of stir mantle (EMS1XXP)