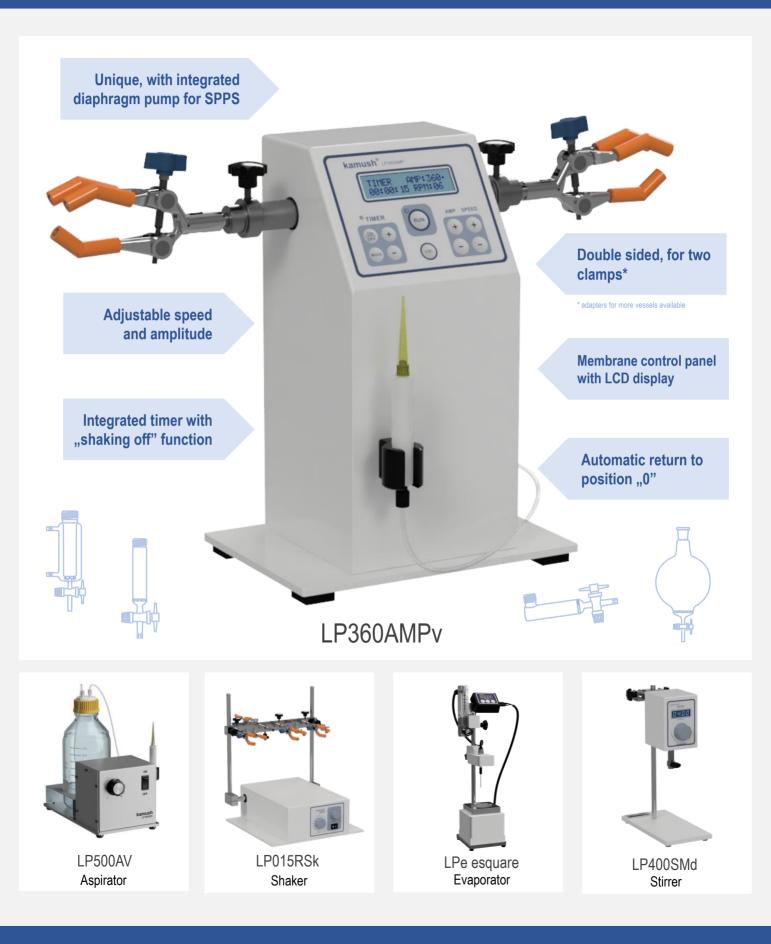
Peptide Synthesis Equipment Catalogue 2023/2024

Kamush[®]

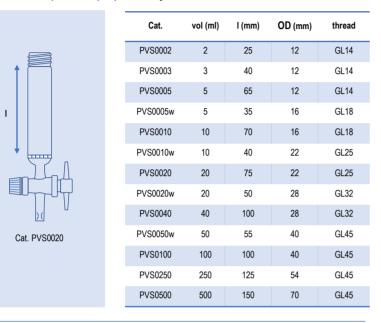


See more products on: www.kamush.com

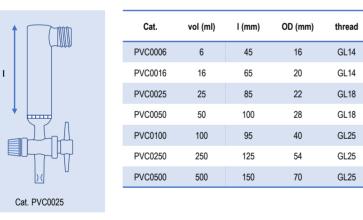
Glass vessels for peptide synthesis

All glass reactors are made from high-quality borosilicate glass 3.3. They are equipped with a glass valves with a teflon (PTFE) stopcocks and porous glass filters (G2 porosity). We also produce other vessels in accordance with the customer's outlines.

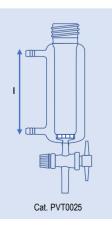
Solid-phase peptide synthesis vessel



Solid-phase peptide synthesis vessel, side thread

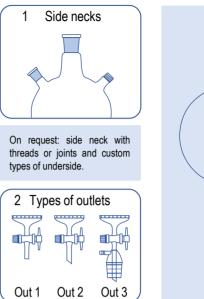


Solid-phase peptide synthesis vessel (jacketed vessels)



5	65	12	0 144
			GL14
10	70	16	GL18
25	100	20	GL25
50	100	28	GL32
100	100	40	GL45
150	150	40	GL45
	50 100	50 100 100 100	50 100 28 100 100 40

Note: Sizes may vary among different production lots of the same item. For exact sizes please contact us.

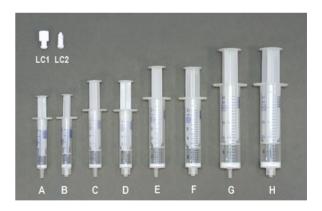


Round flask vessel

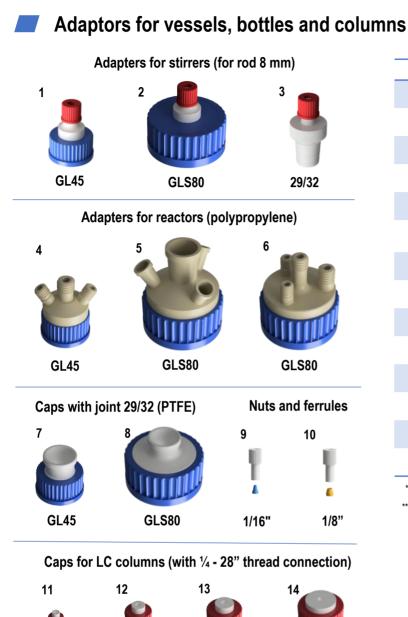


Cat.	volume (ml)	OD (mm)	ground
PVF0250	250	85	29/32
PVF0500	500	100	29/32
PVF1000	1000	130	29/32
PVF2000	2000	160	29/32

Polypropylene vessels with filter



	Cat.	Volume (ml)	Luer
А	PPV003	3	Luer
В	PPV003L	3	Luer lock
С	PPV006	6	Luer
D	PPV006L	6	Luer lock
E	PPV012	12	Luer
F	PPV012L	12	Luer lock
G	PPV024	24	Luer
Н	PPV024L	24	Luer lock
LC1	PPVLC1	Cap for luer and	luer lock (10 pcs)
LC2	PPVLC2	Cap for luer and	luer lock (10 pcs)



	Cat.	Adapter type
1	ADA001	GL45, 8 mm inlet GL18 PTFE thread *
2	ADA002	GLS80, 8 mm inlet GL18 PTFE thread *
3	ADA003	29/32 PTFE joint, 8 mm inlet, GL18 thread *
4	ADA004	GL45, 8 mm inlet GL18, side 2 x GL14 (loop 6,4 mm) **
5	ADA005	GLS80, inlet joint 29/32, 3 x 14/23 joint
6	ADA006	GLS80, 8 mm inlet GL18 (central hole) **, 2 x GL14 (loop 6,4 mm) +1 x GL18 (loop 10 mm)
7	ADA007	GL45 with PTFE hole for 29/32 joint
8	ADA008	GLS80 with PTFE hole for 29/32 joint
9	NUF016	Nut/ferrule for 1/16" tube (1/4 - 28" threated nut)
10	NUF008	Nut/ferrule for 1/8" tube (1/4 - 28" threated nut)
11	CLC018	Cap with GL18 and ¼" – 28 thread (PTFE)
12	CLC025	Cap with GL25 and ¼" – 28 thread (PTFE)
13	CLC032	Cap with GL32 and ¼" – 28 thread (PTFE)
14	CLC045	Cap with GL45 and ¼" – 28 thread (PTFE)

* Adapters equiped with screw with hole (GL18) and PTFE coated o-rings inside.

** A cap with a hole and an o-ring in teflon are needed for stirring purposes.

If you need other teflon (PTFE), poliacetale (POM) or polypropylene (PP) adapters, please contact us.

Large scale synthesis vessels

GL32

GL45

GL25

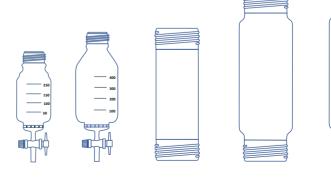
GL 18

Cat.	Volume (ml)	OD (mm)	Thread
PVR0250	250	70	GL45
PVR0500	500	88	GL45
PVR1000	1000	80	GLS80
PVR2000	2000	100	GLS80
PVR3000	3000	130	GLS80

Contact us for GLS80 mixing adapter. We can deliver adapter with 2 leaves (20 to 120 mm padle diameter) PTFE stirrer with PTFE stainless steel coated rod (diam. 8 mm) and GL type ports. For other adapter send a question.

Note: Sizes may vary among different production lots of the same item.

With GL45 or GLS80 cap

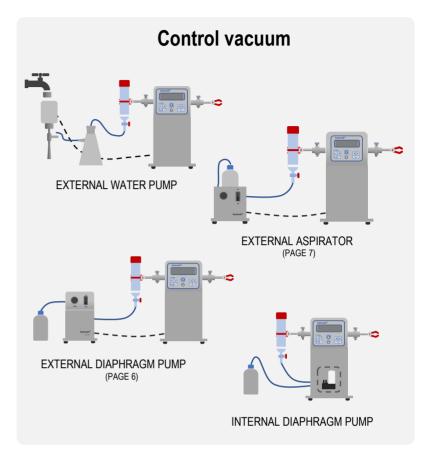


- Filter diameters: 250 ml GL45: 40 mm, 500 ml GL45: 50 mm
- Double threated glass reactors need filter/valve adapter (see page 11)

Advanced Peptide Shakers LP360AMP and LP360AMPv



Movement Adjustable rocking angle (15, 30, 45 and 180°) and full rotatio	
	21
Speed 9 speed levels from 4 to 120 rpm (amplitude)	depends on
Timer Up to 24 h	
Control Keyboard panel	
Voltage 100 - 240 V AC (24 V DC	C)
Weight 4.4 / 4.6 kg	
Dimensions (h x w x d) 275 x 220 x 140 mm	
Cat. LPS360AMP / LPS360AM	PV



* with vacuum pump, 250 ml / min, for high-boiling solvents, e.g. DMF. Both are self-levelling (can be turned off) and contain socket for external pumps.

Solid phase synthesis shakers



LP360AMPk	LP360PRO	LP180Fk / LP180Ak	LP180F / LP180A
Two-sided shaking	Two-sided shaking	One-sided shaking	One-sided shaking
Adjustable angle (15, 30, 45, 60, 90, 120 and 180°) and full rotation (360°)	Adjustable angle (15, 30, 45, 60, 90, 120 and 180°) or full rotation (360°)	Fixed 180° or adjustable angle (15° - 360° - LP180Ak)	Fixed 180° or adjustable angle (15° - 360° - LP180A)
Digital speed control by knob	Adjustable speed and work direction (9 speed levels)	Digital speed control by knob	Speed control by button
Built-in timer	-	-	
Voltage: 100 - 240 V AC (24 V DC)	Voltage: 100 - 240 V AC (24 V DC)	Voltage: 100 - 240 V AC (24 V DC)	Voltage: 100 - 240 V AC (24 V DC)
Weight: 4.3 kg	Weight: 2.1 kg	Weight: 2.5 kg	Weight: 2.5 kg
Dimensions (h x w x d): 275 x 220 x 140 mm	Dimensions (h x w x d): 195 x 155 x 140 mm	Dimensions (h x w x d): 210 x 180 x 100 mm	Dimensions (h x w x d): 210 x 180 x 100 mm
Cat. LPS360AMPK	Cat. LPS360PRO	Cat. LPS180FK / LPS180AK	Cat. LPS180F / LP180A

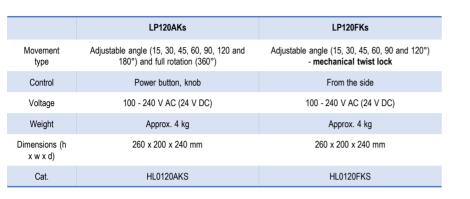
* All shaker are supplied with clamps.

www.kamush.com

Kamush shakers LP120AKs nad LP120FKs

• Optimum operation with our waste vacuum aspirator (page 7)

Works with high loads (up to 0.5 kg)





Suitable for use with valve washer (page 12) or high loads

Kamush Twin Shaker with two independent motors LP180TW and LP180TWv



controlled separately

by knobs



With membrane PTFE coated

	LP180TW	LP180TWv	
Movement type	Adjustable angle (15, 30, 45, 60, 90, 120 and 180 $^\circ)$ and full rotation (360 $^\circ)$ (Switch at the back)		
Speed	Adjustable	Adjustable	
Control	Power button, digital knobs	Power button, digital knobs	
Pump control	-	Automatic (magnetic sensor)	
Voltage	100 - 240 V AC (24 V DC)	100 - 240 V AC (24 V DC)	
Weight	Weight 3.0 kg 3.2 kg		
Dimenions (h x w x d)	170 x 210 x 130 mm	170 x 210 x 130 mm	
Cat.	TW0180	TW0180V	

Devices designed for shaking small vessels, falcons or syringes. Available handles page 8. Pumps are not suitable for low-boiling liquids (risk of cavitation).

Viniversal laboratory shaker with rods LP015RSk and LP015RSks



Available also with stainless steel cover (LP015RSks)

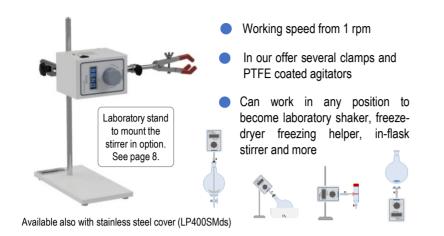
The vessels can be mounted to the rods directly or by a dedicated aluminium bar *

Synthesis in many vessels simultaneously

	LP015RSk/LP015RSks		
Movement	Shaking at 15 °		
Speed	Adjustable, max. 120 rpm		
Timer	Built-in		
Capacity	Max. 2 kg		
Voltage	100 - 240 V AC (24 V DC)		
Weight	Approx. 9 kg		
Dimensions (h x w x d)	120 x 300 x 300 mm		
Cat.	LPS015RSK / LPS015RSKS		

* optional bar (cat. LP015BAR) allows mounting up to 11 clamps (rod max. 10 mm). Clamps sold separately (page 8).

Multifunctional 2-in-1 shaker and low-speed stirrer LP400SMd and LP400SMds



	LP400SMd / LP400SMds
Movement	Adjustable angle (15, 30, 45, 60, 90, 120 and 180°) and full rotation (360°)
Max. cycl./min	15°- 360, 60°- 120, 180°- 40
Speed	max. 400 rpm at 360°
Max. vessel capacity	approx. 100 mL
Voltage	100 - 240 V AC (24 V DC)
Weight	1.4 kg (excluding stand)
Dimensions (h x w x d)	70 x 250 x 140 mm
Cat.	LSS400SMd / LSS400SMds

Platform rocking shaker LP20PR for syringes



- Full size and half size platforms are available. It is possible to use two half-size platforms at the same time.
- In standard, rocker is delivered with white POM platform with 16 clips for 3, 6, 12 and 24 ml PP syringe vessels. Please, choose preferable clip sizes when ordering.

-					
Compac	t size i	with r	emova	hle r	olatforms

Stainless steel or POM platform available

Movement	Rocking, angle: 30°
Speed	max. 200 rpm
Timer	Built-in (max 2 h)
Weight	3.0 kg
Dimensions (h x w x d)	140 x 220 x 200 mm
Cat.	PP20PR

Diaphragm pumps and dosing pump

Pum	р	m	ot	or
speed	С	0	ntr	ol

Automatic start sensor



For more options and adapters, please visit www.kamush.com

All pumps are designed for DMF-based solutions for peptide synthesis**

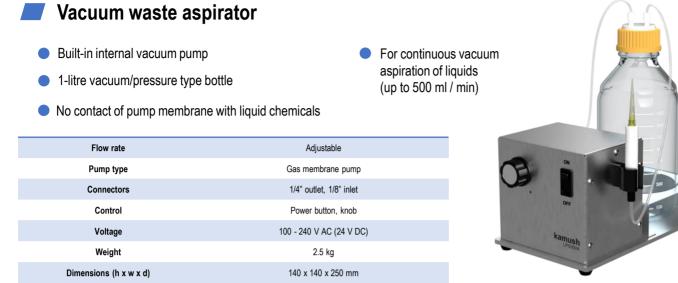


	LP500MP	LP250MP	LP400MP
Destiny	For solvent removal	For solvent removal	For liquids dosing
Flow rate	250 to 400 ml / min*	250 or 400 ml / min*	400 ml / min*
Pump type	PTFE coated membrane	PTFE coated membrane	PTFE coated membrane
Connectors	1/8" inlet, 1/4" outlet	1/8" inlet, 1/4" outlet	1/8" inlet and outlet
Control	Power button, knob	Power button	Power button
Weight	1.8 kg	1.2 kg	0.8 kg
Dimensions (h x w x d)	180 x 110 x 170 mm	140 x 85 x 130 mm	65 x 90 x 140 mm
Cat.	PP500MP	PP250MP	PP400MP

* depends on the type of fluid and drain tube length.

** pump not suitable for liquids with a low boiling point (cavitation causes boiling of low-boiling liquids, e.g. DCM, MeOH).

www.kamush.com



ASP500VW

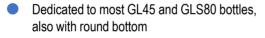
Automatic start when the tip is lifted (possibility to deactivate the function on the back of the device)

Stand holders for GL bottles

Cat.

PAD0808

PAD0808s



Stable stainless steel base 304



Hole for rod (thread M8) in all stands*

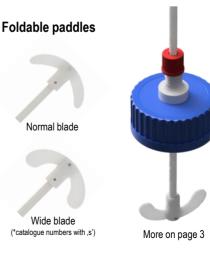
Cat.	Art.
LP1.1BH0250	Single stand for 250 ml bottle
LP1.1BH0500	Single stand for 500 ml bottle
LP1.1BH1000	Single stand for 1000 mlL bottle
LP1.1BH2000	Single stand for 2000 ml bottle
LP2.1BH0250	Double stand for 250 ml bottle
LP2.1BH0500	Double stand for 500 ml bottle
LP2.1BH1000	Double stand for 1000 ml bottle
LP2.1BH2000	Double stand for 2000 ml bottle

* all bottle racks have a threaded hole for attaching a stand rod

PTFE stirrer shafts with fixed and foldable paddles

Cat.	Opening dia. of stirrer blade	Rod length	Dia. of rod **
PAD0408/PAD0408s	40	300	8
PAD0508/PAD0508s	50	300	8
PAD0608/PAD0608s	60	400	8
PAD0708/PAD0708s	70	400	8
PAD0808/PAD0808s	80	400	8
PAD0908/PAD0908s	90	400	8
PAD1008/PAD1008s	100	400	8
PAD1202/PAD1202s	120	400	8

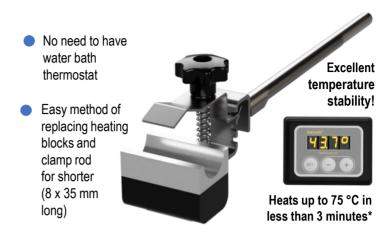
** diameter with PTFE coated stainless steel stirring rod 6 mm, for other diameter or length of rod contact us.



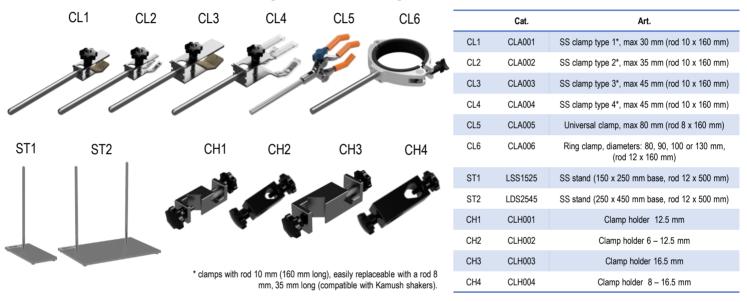
Kamush heating clamp

Modular heating clamp (utility model no. W.127550) is an alternative to jacketed synthesis vessel. Equipped with an aluminum heating block. Enables thermostating or heating laboratory vessels.

LP60HC	LP75HC
For vessels / tubes of 16, 22, 28 or 40 mm diameter	For vessels / tubes of 16, 22, 28 or 40 mm diameter
Max. Temp. 60 °C	Max. Temp. 75 °C
Voltage: 100 - 240 V AC (24 V DC)	Voltage: 100 - 240 V AC (24 V DC)
Cat. LHC60HC	Cat. LHC75HC



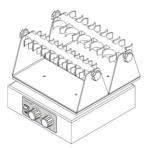
Kamush stands, clamps and clamp holders



Easy clip-on and clip-off syringe and Falcon holders



- For 2, 4 or 8 syringes (3 ml or 6 ml or 12 ml or 24 ml)
- Holders can be equiped with threads to make them compatible with Kamush platform shakers



Suitable for QuEChERS extraction

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Clip holders with rods 8 mm

Cat.	Art.		
CLH0202	For 2 Eppendorf Tubes®		
CLH0204	For 4 Eppendorf Tubes®		
CLH0208	For 8 Eppendorf Tubes®		
CLH1502	For 2 slim Falcon tubes 15 ml		
CLH1504	For 4 slim Falcon tubes 15 ml		
CLH1408	For 8 slim Falcon tubes 15 ml		
CLH5002	For 2 Falcon tubes 50 ml		
CLH5004	For 4 Falcon tubes 50 ml		
CLH5008	For 8 Falcon tubes 50 ml		

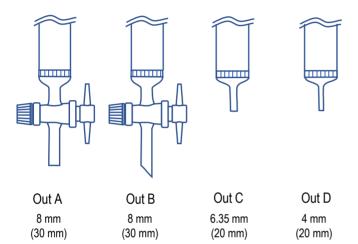
Syringe ho	Syringe holders with rods 8 mm			
Cat.	Art.			
CLH0302	For 2 syringes 3 ml			
CLH0304	For 4 syringes 3 ml			
CLH0308	For 8 syringes 3 ml			
CLH0602	For 2 syringes 6 ml			
CLH0604	For 4 syringes 6 ml			
CLH0608	For 8 syringes 6 ml			
CLH1202	For 2 syringes 12 ml			
CLH1204	For 4 syringes 12 ml			
CLH1208	For 8 syringes 12 ml			
CLH2402	For 2 syringes 24 ml			
CLH2404	For 4 syringes 24 ml			
CLH2408	For 8 syringes 24 ml			

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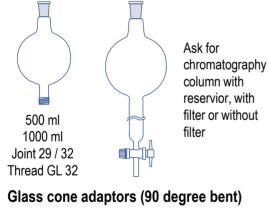
Glass chromatography columns

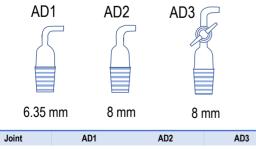
- 3.3 borosilicate glass with GL threads and glass G2 porous filter plate/disc PTFE valve (stopcock)
- Column volume from 10 to 5000 ml (custom production)
- Dedicated stand, clamps and different sizes of columns are available
- For customized vessels the delivery within 5-10 working days

Types of column outlet



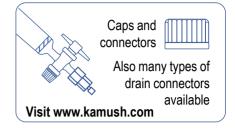
Reservoir flask for chromatography column with ground joint bottom



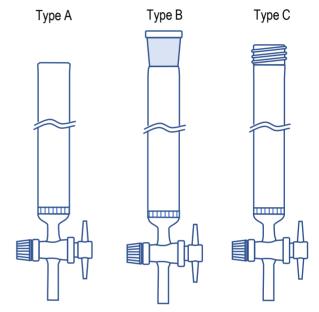


30111	AUT	ADZ	ADJ
14/23	GCA6.1423	-	-
16/26	GCA6.1626	GCA8.1626	GCA8.1626v
24/29	GCA6.2429	GCA8.2429	GCA8.2429v
29/32	GCA6.2932	GCA8.2932	GCA8.2932v

Note: sizes may vary among different production lots of the same item

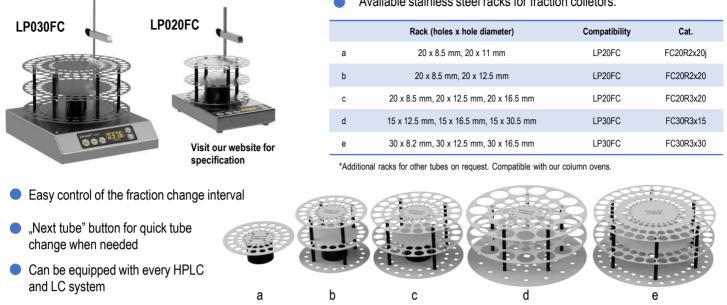


Types of column inlet



Size		Types of column inlet			
Diam. (mm)	Lenght (mm)	Vol (ml)	А	В	С
				joint 14/23	thread GL18
	100	12	GCC16.100	GCC16.100j	GCC16.100t
16	200	24	GCC16.200	GCC16.200j	GCC16.200t
	300	36	GCC16.300	GCC16.300j	GCC16.300t
	500	60	GCC16.500	GCC16.500j	GCC16.500t
				joint 19/26	thread GL25
	100	25	GCC22.100	GCC22.100j	GCC22.100t
22	200	50	GCC22.200	GCC22.200j	GCC22.200t
	300	75	GCC22.300	GCC22.300j	GCC22.300t
	500	125	GCC22.500	GCC22.500j	GCC22.500t
				joint 24/29	thread GL32
	100	45	GCC28.100	GCC28.100j	GCC28.100t
28	200	90	GCC28.200	GCC28.200j	GCC28.200t
	300	135	GCC28.300	GCC28.300j	GCC28.300t
	500	225	GCC28.500	GCC28.500j	GCC28.500t
				joint 29/32	thread GL45
	100	100	GCC40.100	GCC40.100j	GCC40.100t
40	200	200	GCC40.200	GCC40.200j	GCC40.200t
	300	300	GCC40.300	GCC40.300j	GCC40.300t
	500	500	GCC40.500	GCC40.500j	GCC40.500t



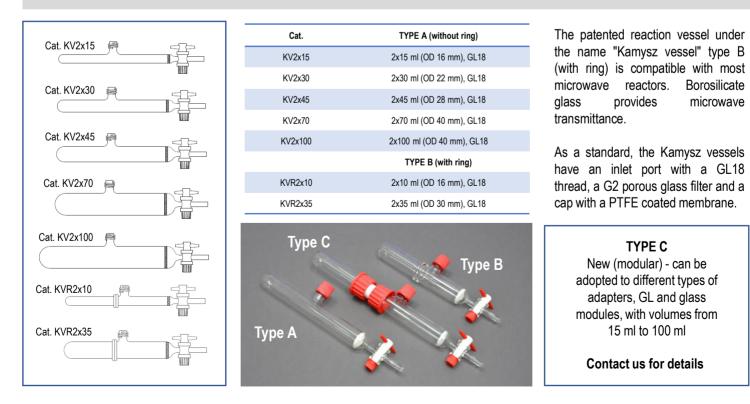


Kamysz vessel[®] for solid-phase peptide synthesis

The **Kamysz vessel** is a modification of the **Merrifield solid-phase reactor**, designed for temperature-supported solid phase synthesis. The shape of the vessel allows to use it in a classic heating block (or devices of the **Kamush Skiller series**) without the need of transfering the content of the reaction time at an elevated temperature.

Placing the filling in the central part of the **Kamysz vessel** enables to work like in the classic Merrifeld vessel (acylation, washing and draining reactions), while allowing the contents of the vessel to be heated in a conventional way (e.g. water bath, heating block) and **microwave**.

Kamysz vessel (EUIPO nr 002753277-0001) and a procedure of its use in the synthesis with the device Skiller



Available stainless steel racks for fraction colletors:

Modular peptide vessels

Easy to build complete solid-phase reactor made of a doublethreaded glass tube and an adapter containing porous filter G2 and a valve with a PTFE stopcock. The adapter includes a PTFE insert and an O-ring seal.



Threated glass tubes

Clear glass



Vol (ml)	l (mm)	OD (mm)	Thread
10	80	16	2 x GL18
25	100	22	2 x GL25
50	115	28	2 x GL32
100	115	40	2 x GL45
150	170	40	2 x GL45
400	150	60	2 x GL45
1000	250	80	2 x GLS80
2000	320	100	2 x GLS80
3000	330	130	2 x GLS80
10	100	16	2 x GL18
25	115	22	2 x GL25
100	130	40	2 x GL45
	10 25 50 100 150 400 1000 2000 3000 3000	10 80 25 100 50 115 100 115 150 170 400 150 1000 250 2000 320 3000 330 10 100 25 115	10 80 16 25 100 22 50 115 28 100 115 40 150 170 40 400 150 60 1000 250 80 2000 320 100 3000 330 130 10 100 16 25 115 22

Glass tubes may vary in diameters (max 10%). If you need exact sizes/volumes please contact us.

Threated caps and filter/valve adapters*

Thread	Сар	Filter/valve
GL18	PVM18C	PVM18FV
GL25	PVM25C	PVM25FV
GL32	PVM32C	PVM32FV
GL45	PVM45C	PVM45FV
GLS80	PVM80C	PVM80FV



* adapters are equipped with G2 filter and glass valve (tube 8mm) with PTFE stopcock.

Note: Sizes of glass may vary among different production lots of the same item.

Double-wave UV lamp LP254/366UV



- Compact lamp, 254 and 366 nm with separated switch for each wavelength (2 x 6 W lamps)
- Two optional stands available. Lamp may be also hold by typical laboratory stand with clamp.









Anti-UV



Chamber LPL004UV

NEW - Protect your skin and eyes! Optional safety chamber with openable polycarbonate lid (LP003UV) and plexiglass chamber (LP-004UV) block UV radiation.

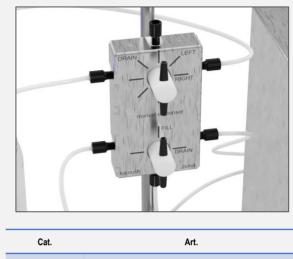


Kamush Valve Washer – mini manual washer/peptide synthesizer

- In cooperation with vaccum pump (water, membrane) enables washing of the resin
- The Washer can be used with our shakers (max. amplitude 120 °)

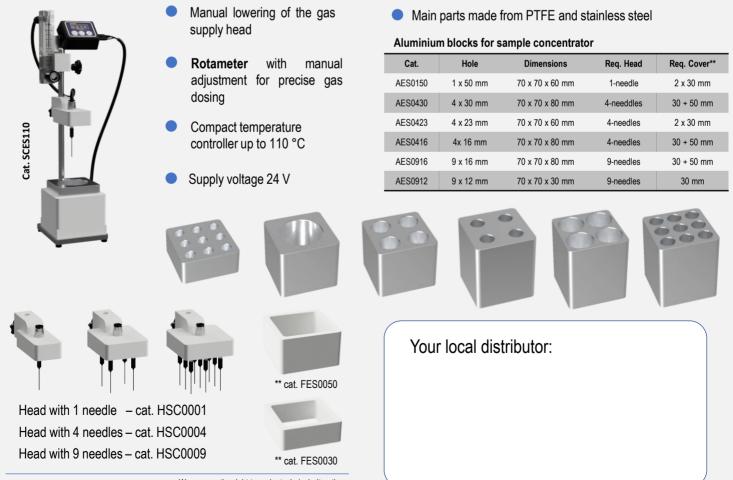


- Works also with Kamush bottle stands (page 7) equiped with stand rod
- Kamush Valve Washer can be mounted on a laboratory stand or on a rod on a tripod on a bottle stand



Cat.	Art.
KVW001	Kamush Valve Washer 2vmd
KVW002	Stand for Kamush Valve Washer

Sample concentrator (evaporator) under gas atmosphere LPe esquare



We reserve the right to make technical alterations