

# Scale-Up Series

100mL to 6000mL Reactors

modular | universal | scalable | flexible

Ace Glass Scale-Up series reactors were born from the idea that a simple, yet versatile, mixing platform could assist in the scale-up process across multiple laboratory disciplines. Simply select the base system below which contains support stand, flask, and circulator adapters. Then, select the optional components; heads, bearings, shafts, agitators, motors and accessories to complete the system.

Working Temp Range (°C):	-60 to 200
Working Pressure Range (Torr):	Atm to 0
Max Jacket Pressure (Psig):	8
Stand Dimensions (DxWxH):	(100-2000mL) 19.5 x 24.75 x 38in (3000-6000mL) 19.5 x 24.75 x 48in
Wetted Surfaces:	Borosilicate glass, PTFE
Motor Mounts:	Rod

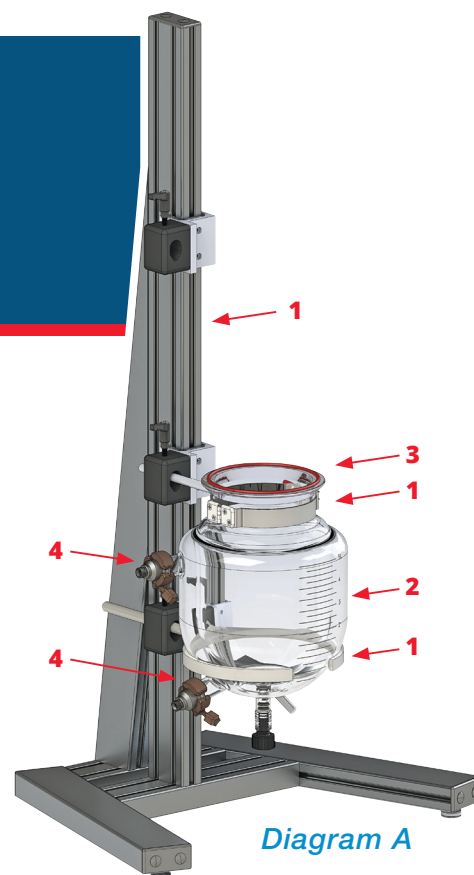


Diagram A

## 100mL to 500mL Base Systems

Capacity (mL)	Stand Height in.	Order Code
100	38"	6440-02 ★
250	38"	6440-03 ★
500	38"	6440-04 ★

No.	Description	Qty.	Order Code
<b>Base System Components</b>			
	Reactor Stand	1	12841-02
1	60mm Swing Latch Clamp	1	6442-02 ★
	Small Support Ring	1	11177-13 ★
	100mL Jacketed Flask		6441-02 ♣
2	250mL Jacketed Flask	1	6441-04 ♣
	500mL Jacketed Flask		6441-06 ♣
3	60mm CAPFE O-Ring	1	7855-878 ♣
	60mm Quick-release Clamp	1	6517-22 ★
4	NW10 Flange Clamp	2	12189-02 ★
	NW10 Flange Gasket, Viton	2	12192-02 ★

### Accessories

	60mm, 5 Neck Head	1	6443-02 ♣
	10 x 440mm Stirring Shaft	1	8075-32 ♣
	38mm 45° Agitator	1	8097-02 ★
	50mm Anchor Style Agitator	1	8091-02
	Debris Free, PTFE Bearing	1	13445-30 ★
	10mm Shaft Coupling	1	8126-24 ★

## 1000mL to 2000mL Base Systems

Capacity (mL)	Stand Height in.	Order Code
1000	38"	6440-05 ★
2000	38"	6440-06 ★

No.	Description	Qty.	Order Code
<b>Base System Components</b>			
	Reactor Stand	1	12841-02
1	100mm Swing Latch Clamp	1	6442-04 ★
	Medium Support Ring	1	11177-17 ★
	1000mL Jacketed Flask	1	6441-08 ♣
2	2000mL Jacketed Flask	1	6441-10 ♣
	100mm CAPFE O-Ring	1	7855-880 ♣
3	100mm Quick-release Clamp	1	6517-25 ★
4	NW16 Flange Clamp	2	12189-02 ★
	NW16 Flange Gasket, Viton	2	12192-02 ★

### Accessories

	100mm, 5 Neck Head	1	6443-06 ♣
	10x440mm Shaft (1000mL)	1	8075-32 ♣
	10x500mm Shaft (2000mL)	1	8075-33 ♣
	64mm 45° Agitator	1	8097-04 ★
	90mm Anchor Style Agitator	1	8091-04
	Debris Free, PTFE Bearing	1	13445-30 ★
	10mm Shaft Coupling	1	8126-24 ★

## 3000mL to 6000mL Base Systems

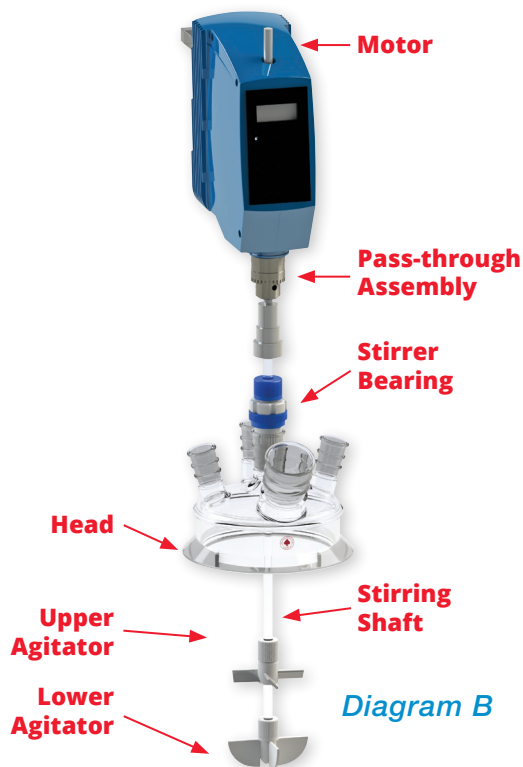
Capacity (mL)	Stand Height in.	Order Code
3000	48"	6440-07 ★
4000	48"	6440-08 ★
5000	48"	6440-09 ★
6000	48"	6440-10 ★

No.	Description	Qty.	Order Code
<b>Base System Components</b>			
	Reactor Stand	1	12841-01
	150mm Swing Latch Clamp	1	6442-06 ★
1	Large Support Ring		11177-19 ★
	Extra-Large Support Ring (5000 & 6000mL)	1	11177-21 ★
	3000mL Jacketed Flask		6441-12 ♣
2	4000mL Jacketed Flask	1	6441-14 ★
	5000mL Jacketed Flask		6441-16 ★
	6000mL Jacketed Flask		6441-18 ★
	150mm CAPFE O-Ring	1	7855-881 ♣
3	150mm Quick-release Clamp		6517-27 ★
4	NW25 Flange Clamp	2	12189-04 ★
	NW25 Flange Gasket, Viton	2	12192-04 ★

### Accessories

	150mm, 5 Neck Head	1	6443-12 ♣
	10 x 560mm Stirring Shaft	1	8075-38 ♣
	76mm 45° Agitator	1	8097-06 ★
	90mm Anchor Style Agitator	1	8091-04 ♣
	Debris Free, PTFE Bearing	1	13445-30 ★
	10mm Shaft Coupling	1	8126-24 ★

## Select the Custom Components to fit your needs

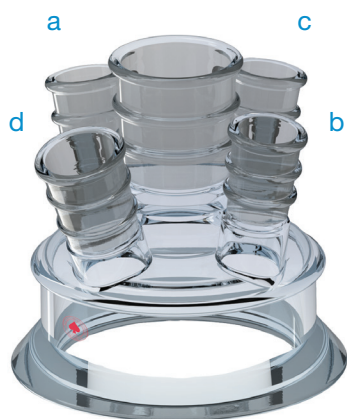


### Customize Your Own Reactor

1. Select a Base System, which includes everything shown in *Diagram A, (front)*.
2. Select the Accessories to complete system using *Diagram B, (left)*.
3. Select Optional and Spare Parts using [www.aceglass.com](http://www.aceglass.com).

- Adapters
- Circulators
- Condensers
- Fittings/Connectors
- Funnel
- Peristaltic Pumps
- Stoppers
- Syringe Pumps
- Thermocouples & RTD's
- Vacuum Pumps

Please contact your local sales representative or the Ace Glass technical service department for assistance.



### HEAD Duran® Flange, 5 Ports, Glass

5 neck head with flat ground Duran® flange. (1) 90° center neck, (1) 90° side neck, (2) 10° side necks, and (1) 45° side neck.

Reactor Size, mL	Flange Size, mm	Center Neck	Size Neck (a) 10°	Size Neck (b) 10°	Size Neck (c) 90°	Size Neck (d) 45°	Order Code	
100-500	60	24/40	14/20	14/20	14/20	24/40	6443-02	♠
	60	29/42	14/20	14/20	14/20	24/40	6443-04	♠
1000-2000	100	24/40	24/40	24/40	24/40	29/42	6443-06	♠
	100	29/42	24/40	24/40	24/40	29/42	6443-08	♠
3000-6000	100	45/50	24/40	24/40	24/40	29/42	6433-10	♠
	150	24/40	24/40	24/40	24/40	45/50	6443-12	♠
	150	29/42	24/40	24/40	24/40	45/50	6443-14	♠
	150	45/50	24/40	24/40	24/40	45/50	6443-16	♠



### BEARING Debris-Free, PTFE

Vacuum tight (~5 Torr), flake-free, chemically-resistant stirrer bearing makes a vacuum seal against a polished glass shaft. Debris trap section consists of a PTFE sleeve for a wide range of joint and shaft diameter sizes. Bearing consists of a PTFE standard taper body with added PEEK for better stability, glass-filled polypropylene screw cap, PEEK compression spring, PTFE/PEEK sleeve and a glass-filled polypropylene loosening nut. For use up to 500 rpm.

Joint Size	For Reactor Size, mL	Replacement PTFE/PEEK Sleeve Seal	Replacement PEEK Compression Spring	Order Code
<b>10mm Shaft Size</b>				
§ 24/40	100-6000	13445-420	13445-426	13445-30 ★
§ 29/42	100-6000	13445-420	13445-426	13445-32 ★
§ 45/50	3000-6000	13445-420	13445-426	13445-36 ★
<b>19mm Shaft Size</b>				
§ 45/50	3000-6000	13445-504	13445-506	13445-46 ★

**Note:**

More bearing options available. Visit the Ace Glass Website or contact your local sales representative.

## STIRRING SHAFT *Knob Style, Polished Glass*

High tolerance polished borosilicate glass stirrer shaft.

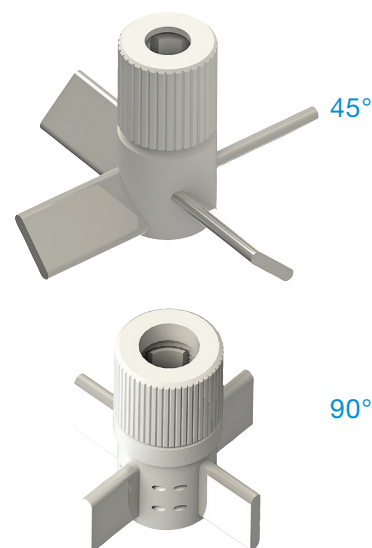
Shaft Size, mm	For Reactor Size, mL	Length, mm	Shaft Type	Qty.	Order Code	
10	100-1000	440	Knob	1	8075-32	♣
	2000	560	Knob	1	8075-33	♣
	3000-6000	560	Knob	1	8075-38	♣
19	3000-6000	560	Drilled	1	8076-03	♣



## AGITATOR *Upper, Vertical and Pitched Blades*

Vertical and pitched blade style agitator for use on knob or drilled hole style shafts.

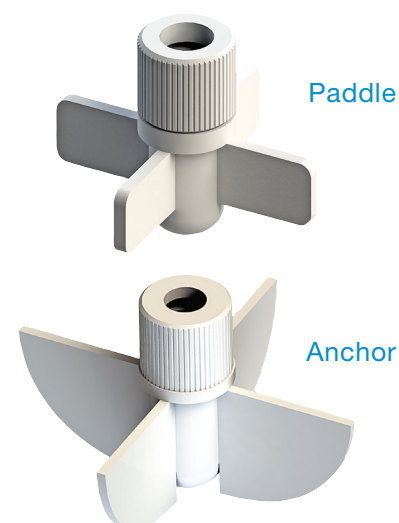
Shaft Size, mm	For Reactor Size, mL	Blade Length, mm	Blade Angle	Qty.	Order Code	
<b>PTFE, 45°</b>						
10	100-500	38	45	1	8097-02	★
	1000-6000	64	45	1	8097-04	★
	1000-6000	76	45	1	8097-06	★
19	1000-6000	64	45	1	8097-08	★
	1000-6000	76	45	1	8097-10	★
<b>PTFE, 90°</b>						
10	100-500	38	90	1	8097-22	★
	1000-6000	64	90	1	8097-24	★
	1000-6000	76	90	1	8097-26	★
19	1000-6000	64	90	1	8097-28	★
	1000-6000	76	90	1	8097-30	★



## AGITATOR *Lower, Multi-Blade, PTFE*

PTFE multi-blade agitator for drilled or knob-type shafts. Paddles are replaceable.

Shaft Size, mm	For Reactor Size, mL	Blade Length, mm	Blade Angle	Qty.	Order Code	
<b>Paddle Blades</b>						
10	100-500	38	90	1	8089-04	♣
	1000-6000	64	90	1	8089-06	♣
	1000-6000	76	90	1	8089-08	♣
19	3000-6000	102	90	1	8091-10	♣
<b>Anchor Blades</b>						
10	100-500	50	90	1	8091-02	♣
	1000-6000	90	90	1	8091-04	♣
	1000-6000	90	90	1	8091-06	♣
19	3000-6000	102	90	1	8091-10	♣
	3000-6000	140	90	1	8091-26	★



## PASS-THROUGH ASSEMBLY *Stainless Steel*

Item includes the stir shaft coupling with pin that is attached to 7mm O.D. stainless steel drive shaft. Shaft is 305mm long and fits up through the chuck and opening in the Heidolph® RZR model, IKA and Caframo® overhead stir motors, and allows for adjusting the height of the entire stir shaft assembly.

Shaft Size, mm	For Reactor Size, mL	Shaft Length, mm	Qty.	Order Code	
10	100-6000	305	1	8126-24	★
19	3000-6000	305	1	8126-22	★



CE



CE CB



CE CB UL



## Eurostar 60 / 100 IKA

Designed with a removable wireless controller and a digital TFT display. It automatically adjusts the speed through microprocessor controlled technology with the speed range of 0/30 to 2000 RPM. The stirrer comes equipped with RS232 and USB interfaces to control and document all parameters. An integrated torque trend display is provided for measurement of viscosity changes. Safety circuits installed to ensure automatic cut-off in an anti-stall or overload conditions. Two year manufacturers warranty.

## BDC3030 / BDC1850 Caframo

A powerful, reliable stirrer for precision research or high viscosity pilot plant applications. Microprocessor controlled brushless DC Motor with automatic overload protection. Digital display of RPM and torque. Maintains set speed as viscosity changes. Two-speed transmission selects hi-torque or hi-speed range. Adjustable chuck with chuck guard. 3 year manufacturers warranty. (220V is CE Rated)

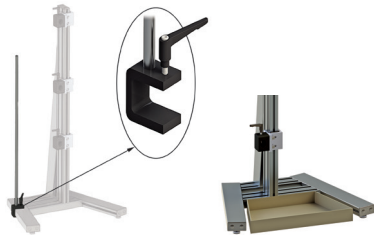
## BDC2010 Caframo, Reversing

The BDC2010 has a rugged DC brushless motor that delivers the same RPM range in forward and reverse. This model has a small footprint and is loaded with features such as "Stirlight" which lights a downward beam of light into the mixture, timer, reverse feature, xRx agitation for a controllable vortex effect, automatic overload protection, and maintains speed at all viscosities. The BDC2010 is the only stirrer of its kind, and can be set up for automatic time and auto-reverse for better mixing. Three year warranty.

Description	Speed Range (RPM)	Max Torque (in-lbs)	Max Viscosity (cps)	120 VAC Version	220 VAC Version
<b>Caframo</b>					
BDC3030	20-600	30	50000	13565-10	13565-11
	600-3000	6			
BDC1850	12-360	50	90000	13565-20	13565-21
	360-1800	10			
BDC2010	40-2010	8.8	20000	13566-05	—
<b>IKA</b>					
Eurostar 60	0/30-2000	5.3	50000	13517-30	—
Eurostar 100	0/30-2000	8.8	70000	13518-02	—

### Note:

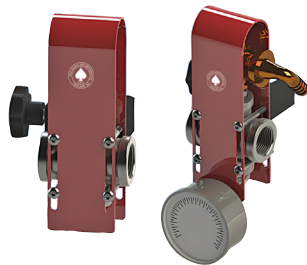
More motor options available. Visit the Ace Glass Website or contact your local sales representative.



## SUPPORT STAND ACCESSORIES Scale-Up, Bench Top

Clamps onto the base of the Scale-Up Stand to allow mounting of additional accessories.

Description	Rod Height, in.	For Reactor Size, mL	Order Code
Vertical Mounting Rod Assembly	36	100-6000	12841-12
Polyethylene Spill Tray, 4.5L Capacity	—	100-6000	12841-50



## PRESSURE RELIEF MANIFOLD 100ml to 6000ml Jacketed Reactors

Designed to protect the vessel from breakage while isolated or disconnected from the circulator. Installed on the outlet side of the vessel, the manifold will reduce the likelihood of breakage cause by an excessive pressure differential exerted by expansion of the heat transfer fluid. Relief pressure factory set to 10psig. Includes hoses and 90° elbows to connect from manifold to vessel.

Description	For Reactor Size, mL	Order Code
Inlet and Outlet Complete Set (M16x1 Male)	100-6000	12194-20
Inlet and Outlet Complete Set (M24x1 Male)	100-6000	12194-22



# ACE GLASS INCORPORATED

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To find out more about our Scale-Up line of reactors scan the code below.

