

BioSurface Technologies Corp

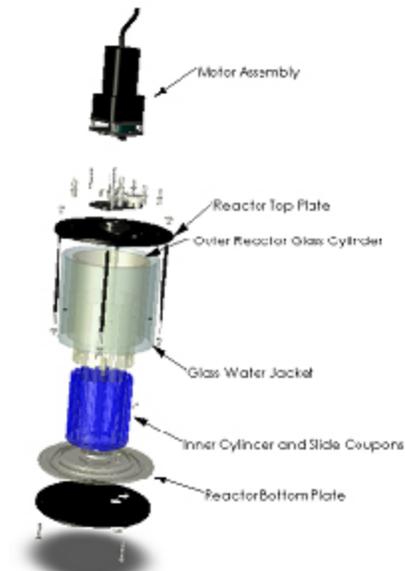
Providing innovative products for biofilm investigations

Model 1320 Biofilm Annular Reactor

Evaluation of surface associated biological reactions require surface specific evaluations. By matching surface shear and transport conditions within the BST Monitor to your process conditions, relevant evaluations of your water treatment processes are possible.

The BST Model 1320 Biofilm Annular Reactor consists of a stationary outer cylinder and a rotating inner cylinder. Process fluid is circulated in the annulus between the two cylinders. The current lab and field models operate with a variable speed motor. The rotational speed of the inner cylinder is set to provide liquid/surface shear similar to the pipe flow shear of the process water system you are evaluating.

The Laboratory Annular Reactor (Model 1320 LS) is manufactured using an inner, slotted polycarbonate cylinder and a glass outer cylinder. Twenty(20) slides are flush mounted on the rotating inner cylinder. The slides are commonly available in stainless steels, carbon steel, polycarbonate, and copper, but can be fabricated from most common manufacturing materials. The reactor unit is fully autoclavable to 121 C. A jacketed version of the laboratory unit described above is also available (Model 1320 LJ) for evaluations which require temperature control. The Model 1320 Biofilm Annular Reactors are fully CE certified and available in 115 or 230 VAC.



Model 1320 LS Laboratory Annular Reactor

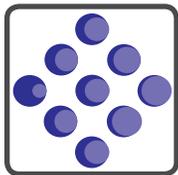
(schedule B : 8479820040; ECCN:EAR99; origin: USA; wt: 20 kg)

Includes Standard reactor vessel, motor(max. speed 350 rpm; RPM readout 30-350 RPM), motor controller (115 or 230 VAC), 20 polycarbonate slides, effluent tubing, bacterial air vent, flow break, operations manual, slide removal tool. 6 month limited warranty

Model 1320 LJ Jacketed Laboratory Annular Reactor

(schedule B : 8479820040; ECCN:EAR99; origin: USA; wt: 21 kg)

Includes: jacketed reactor vessel, motor(max. speed 350 rpm; RPM readout 30-350 RPM), motor controller (115 or 230 VAC), 20 polycarbonate slides, effluent tubing, bacterial air vent, flow break, operations manual, slide removal tool. 6 month limited warranty



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Biofilm Annular Reactors (CE Compliant: 115 or 230 VAC)

Unit Price(USD)*

Model 1320 LS Standard Laboratory Annular Reactor **\$6,300.00**

Includes Standard reactor vessel, motor (max. speed 350 rpm), motor controller (115 or 230 VAC, 50/60 hz), 20 polycarbonate slides, effluent tubing, bacterial air vent, flow break, spare fuses, spare pivot bearings, tubing support rod, operations manual and slide removal tool, 6 month limited warranty.

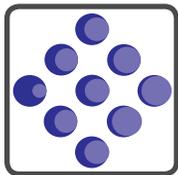
Model 1320 LJ Standard Jacketed Annular Reactor **\$7,000.00**

Includes Jacketed reactor vessel, motor (max. speed 350 rpm), motor controller (115 or 230 VAC, 50/60 hz), 20 polycarbonate slides, effluent tubing, bacterial air vent, flow break, spare fuses, spare pivot bearings, tubing support rod, operations manual and slide removal tool, 6 month limited warranty.

Biofilm Annular Reactor Spare Parts

<u>Description</u>	<u>Part Number</u>	<u>Unit</u>	<u>Price*</u>
Ball Tower (replacement: polycarbonate)	BST 1107B	each	\$42.00
Kevlar Nylon Bushing	BST 1111	set 2	\$14.00
Glass Cylinder	BST 511-2	each	\$440.00
Glass Water Jacket	BST 521	each	\$600.00
O-rings	BST 2-362N70	set 2	\$12.00
O-rings	BST 2-369N70	set 2	\$18.00
Hole Plug with o-ring	BST 115	each	\$36.00
Polycarbonate Slides	BST 503-1	each	\$7.50
Seals	BST 4935/2	set 2	\$80.00
Bearing	BST R8ZZST	each	\$26.00
Brass Finger Nuts	BST 92741	set 2	\$3.00
Ball Bearing 1/4" 440 SS	BST 9529	set 2	\$1.50
Slide Removal Hook	BST 3842	each	\$10.00
Bacterial Vents	BST 02915	each	\$16.00
Zinc Hub-3/8" shaft	BST 6428K41	each	\$9.00
Neoprene Sleeve	BST 6428K51	each	\$8.50
Fuse Armature: 0.5 amp	BST 6978	set 2	\$7.00
Fuse Line : 5 amp	BST 6978	set 2	\$7.00

*Pricing shown is for domestic US Market. Please Contact BioSurface Technologies Corporation, or one of our international distributors for international pricing. International customers will incur additional charges associated with shipping, insurance, import duties, taxes, and fees that are not covered by BioSurface Technologies Corporation.



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Biofilm Annular Reactor Slide Materials Pricing

(fits 920, 1120, and 1320 Biofilm Annular Reactors)

Part number	Description	Price per slide*
BST-503-PC	Polycarbonate Slides	\$7.50 (US)
BST-503-CS	Mild (carbon) Steel Slides (A366)	\$12.50 (US)
BST-503-303	Stainless Steel Slides (A303)	\$12.50 (US)
BST-503-304	Stainless Steel Slides (A304)	\$16.30 (US)
BST-503-316	Stainless Steel Slides (A316)	\$16.30 (US)
BST-503-Cu	Copper Slides	\$20.00 (US)
BST-503-Br	Admiralty Brass Slides	\$25.80 (US)
BST-503-CuNi	90-10 Copper Nickel Slides	\$25.80 (US)
BST 503-PVC	PVC Slides	\$7.50 (US)
BST-503-CC	Concrete Coated Slides	\$18.60 (US)
BST-503-CI	Cast Iron Slides	\$37.50 (US) **
BST-503-GL	Borosilicate Glass Slide	\$28.00 (US)
BST-503-ABS	ABS Plastic Slide	\$7.50 (US)
BST-503-PE	HDPE Plastic Slide	\$7.50 (US)
BST-503-PP	Polypropylene Slide	\$7.50 (US)

Other materials are available upon request.

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**Note: Requires modification of the inner cylinder (rotating cylinder) to permit a thicker slide. A thicker slide material is required to prevent breakage as the cast iron material is quite brittle. In order to implement the cast iron slides, an additional cost is required for the machining of the reactor inner cylinder above and beyond the standard price (additional cost of \$702 per unit). Once this modification has been accomplished, the standard slides (all other materials) can still be used in the reactor.