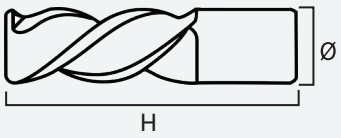
FLXR ENGINEERING

TECHNICAL DATA SHEET

PRODUCT SPECIFICATION — SBE-01

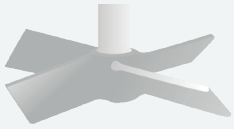
Flow movement	Hybrid axial/radial
Flow direction	Up/Down
Weight	3.60 ± 0.25 g
Viscosity range	1-1188 cP
RPM range	100-1100 RPM
Volume range	100-250 mL
Dimension	Ø 10 x 40 mm



Preferred vessel

HIGH TURNOVER DESIGN

Reference impeller :
Pitched-blade paddle



Application include mixing of:
- Solid catalysts
- Powder in resins, paints, and creams
- Powdered flocculants

MATERIAL TECHNICAL DATA

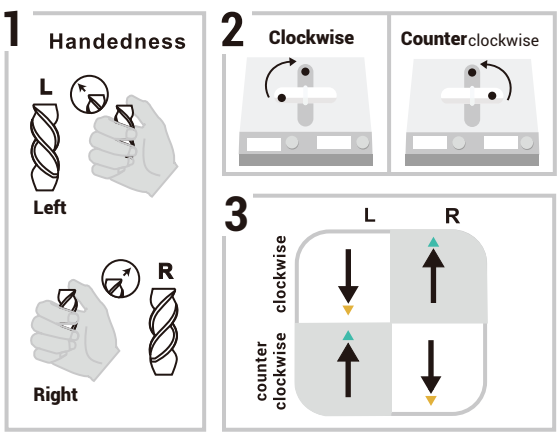
Shell material	polyethylene naphthalate (PEN)
Application temperature	-60 to 155°C
Color	white
Coefficient of friction	0.12
Hydrolysis resistance	200 hours
Compliance	FDA food contact, USP <87>
Magnet material	SmCo permanent
Remanence (Br)	9,800~11,000 Gs
Sterilization	gamma, steam, EtOH

PRODUCT HIGHLIGHT

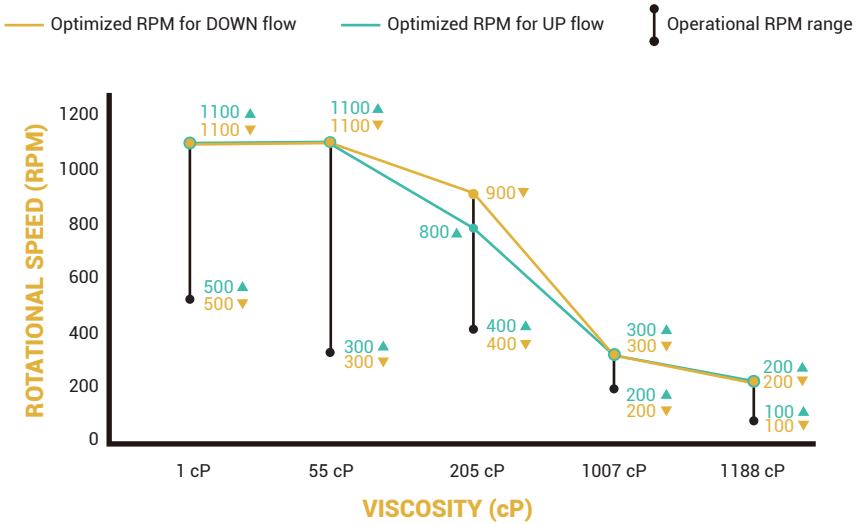
- PFAS FREE — Shell made of PEN to reduce our dependency on PTFE & PFAS
- FDA APPROVED — Food contact safe
- USP <87> — No cell toxicity, bio-inert
- ROHS 2011/65/EU — Non-hazardous materials
- LOW CO_2 — Estimated carbon footprint of PEN is 3.4 kg CO_2 eq/kg
- Recyclable with PET bottle

FLOW DIRECTION SETTING

The up/down flow direction depends on the spin direction of the plate and the handedness of the product.



RECOMMENDED OPERATING RANGE



CHEMICAL RESISTANCE CHART

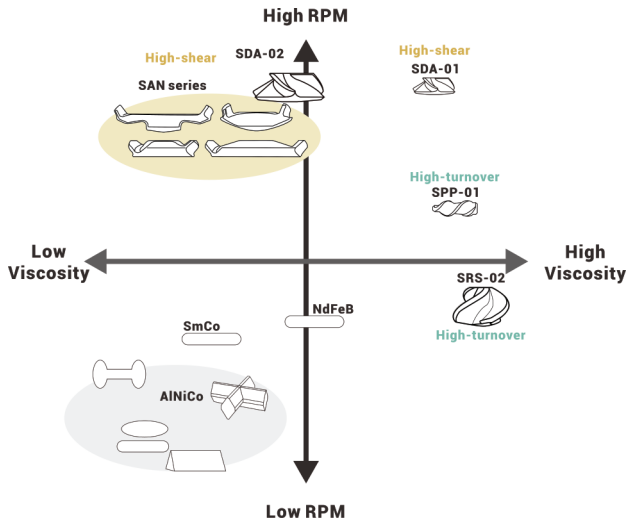
	PEN	PVDF	PTFE
Acetic acid (10%)	A	A	A
Acetic acid (40%)	A	A	A
Acetone	B	D	A
Ammonium chloride (25%)	A	A	A
Benzene	B	A	A
Chloroform	C	A	A
Cyclohexane	A	A	A
Cyclohexanol	A	A	A
Calcium chloride (10%)	A	A	A
Chromic acid (10%)	A	A	A
Citric acid	A	A	A
Diethyl ether	A	A	A
Dimethyl sulfoxide (DMSO)	C	C	A
Dimethyl formamide (DMF)	C	D	A
Ethanol	A	A	A
Ethyl acetate	A	D	A
Ethylene diamine	C	B	A
Ethylene glycol	A	A	A
Formaldehyde (40%)	A	A	A
Formic acid (10%)	A	A	A
Formic acid (30%)	C	B	A
Gasoline	A	A	A
Glycerol	A	A	A
Heptane	A	A	A
Hexane	A	A	A
Hydrobromic acid (10%)	A	A	A
Hydrobromic acid (47%)	A	A	A
Hydrochloric acid (10%)	A	A	A
Hydrochloric acid (37%)	A	A	A
Hydrofluoric acid (5%)	A	A	A
Hydrofluoric acid (50%)	D	B	A

	PEN	PVDF	PTFE
Hydrogen peroxide (30%)	A	A	A
Isopropyl alcohol (IPA)	A	A	A
Methanol	A	A	A
Methyl ethyl ketone (MEK)	A	D	A
Nitric acid (10%)	A	A	A
Nitric acid (20%)	A	A	A
Nitric acid (67%)	D	A	A
Phosporic acid (10%)	A	B	A
Phosphoric acid (85%)	D	B	A
Potassium hydroxide (10%)	A	A	A
Potassium hydroxide (30%)	B	A	A
Sulfuric acid (10%)	A	A	A
Sulfuric acid (30%)	C	A	A
Sulfuric acid (>80%)	D	A	A
Sodium acetate (40%) sol.	A	A	A
Sodium chloride (sat.) (32%)	A	A	A
Sodium bicarbonate (sat.)	A	A	A
Sodium hydroxide (10%) sol.	A	A	A
Sodium hydroxide (30%) sol.	A	C	A
Sodium hypochlorite	A	A	A
Styrene (monomer)	A	A	A
Tetrahydrofuran (THF)	B	B	A
Toluene	A	A	A
Triethanolamine	C	A	A
Vinyl chloride (monomer)	A	A	A
Xylene	A	A	A

Resistance at 23°C, immersed for 30 days
Ranking definition:
A: weight change <1%, tensile > 95%
B: weight change between 1~10%, tensile > 75%
C: weight change >10%, tensile <75%
D: dissolved or swelled

SELECTION MATRIX

type of magnetic stir bars categorized by performance toward various speeds and viscosities.



PRECAUTION

Hazard Identification:

Not classified as hazardous according to OSHA or GHS regulations. Avoid exposure to DMSO, DMF, $CHCl_3$, CCl_4, and HF.

Check compatibility:

Use chemical resistance chart as a reference.

Conditions to Avoid:

Temperatures above 160°C.

Storage:

Magnetic stir bars should be stored in pairs to maintain their magnetic strength, away from steel or iron surfaces and other magnetic fields. Keep them at ambient temperatures to avoid thermal stress, and handle carefully to prevent mechanical damage.

Disposal Considerations:

PEN (Polyethylene Naphthalate) can be recycled alongside PET (Polyethylene Terephthalate). Recycled as much as possible with PET or through incineration.

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