■Contact Sheet

Company name		Fax address & E-mail	
Tel No.		Sumitomo Heavy Industries Process Equipment Co., Ltd Sales Department	
Installation location and factory		☐Tokyo Office FAX : +81-3-6866-5123	
Manufacturing base		Contact : Tto_Arika@shi.co.jp	

Mixer			
Product Inquiry	☐LvBLEND ☐RfBLEND ☐MAXBLEND ☐Others ( )		
Use of equipment	☐Pre-processing ☐Polymerization & reaction ☐Post-processing ☐Storage tank ☐Others ( )		
Purchase	☐Compacting of mixer ☐Increased shear strength ☐Improved gas absorption and dispersion performance ☐Others ( )		
Tank size	Tank inner diameter ID ____ mm × Shell length T.L ____ mm (jacket inner diameter I.D ____ mm)		
Operating fluid volume	____ m^3	Fluid density Fluid viscosity	____ kg/m^3 ____ mPa・s
Gas flow rate	____ m^3/hr		
Solid particle	Slurry concentration ____ wt% Particle size ____ μm True specific gravity ____ [-]		
Various speed operation	☐Without ☐With ⇒ A) Inverter B)Beier variator C) Others ( )		
RPM	☐As specified (____ rpm - ____ rpm) ☐As recommended by us		
Motor rating	☐As specified (____ kW) ☐As recommended by us		
Power source	____ V ____ Hz	Explosion-proof class	☐Exn ☐Exe ☐Exde ☐Exd ☐Non-explosion proof
Inverter option	☐Not required ☐Required (AC reactor, DC reactor, noise filter)		
Shaft sealing method	☐Double mechanical seal ☐Single mechanical seal ☐Gland seal ☐Magnet seal		
Sliding material		Sealant fluid	Corrosiveness (☐Yes or ☐No)
Shaft sealing and pressurizing method	☐N3 pressure tank ☐OPU (oil pressure unit) ☐Not required		
Shaft blade material	☐SUS304 ☐SUS316 ☐SUS316L ☐Other materials ( )		
Shaft blade surface finishing	☐Acid wash ☐Buffing/# ____ ☐Electrolytic polishing (Ry ____ μm)		
Lower bearing	☐Installation not permitted ☐Installation permitted		

Tank			
	Shell side	Jacket side	Coil side
Applicable regulations and standards	☐ASME ☐PED ☐Others	☐ASME ☐PED ☐Others	☐ASME ☐PED ☐Others
Contents			
Design pressure	____ MPa・G	____ MPa・G	____ MPa・G
Design temperature	____ °C	____ °C	____ °C
Main materials			
Upper mirror plate form	☐2:1 ellipse ☐10% dish ☐Roof plate ☐Others ( )		
Lower mirror plate form	☐2:1 ellipse ☐10% dish ☐Conical (vertical angle: °) ☐Others ( )		
Coil specifications	Size: ____ B Reel diameter: ____ mm Pitch: ____ mm No. of steps: ____ steps		
Tank interior surface finishing	☐Acid wash ☐Buffing/# ____ ☐Electrolytic polishing (Ry ____ μm)		
Main unit support legs	☐Lug ☐Leg ☐Skirt	Shell flange	☐Without ☐With
Spare			
Seal-related	Seal unit × ____ % Consumable parts × ____ % Gland packing × ____ %		
Lower bearing	Bush ____ % Sleeve × ____ %		
Gasket	For shell flange × ____ % For man-hole × ____ % For sight glass × ____ %		
Others	Shell ( ) × ____ %		
Remarks			

■Contacts

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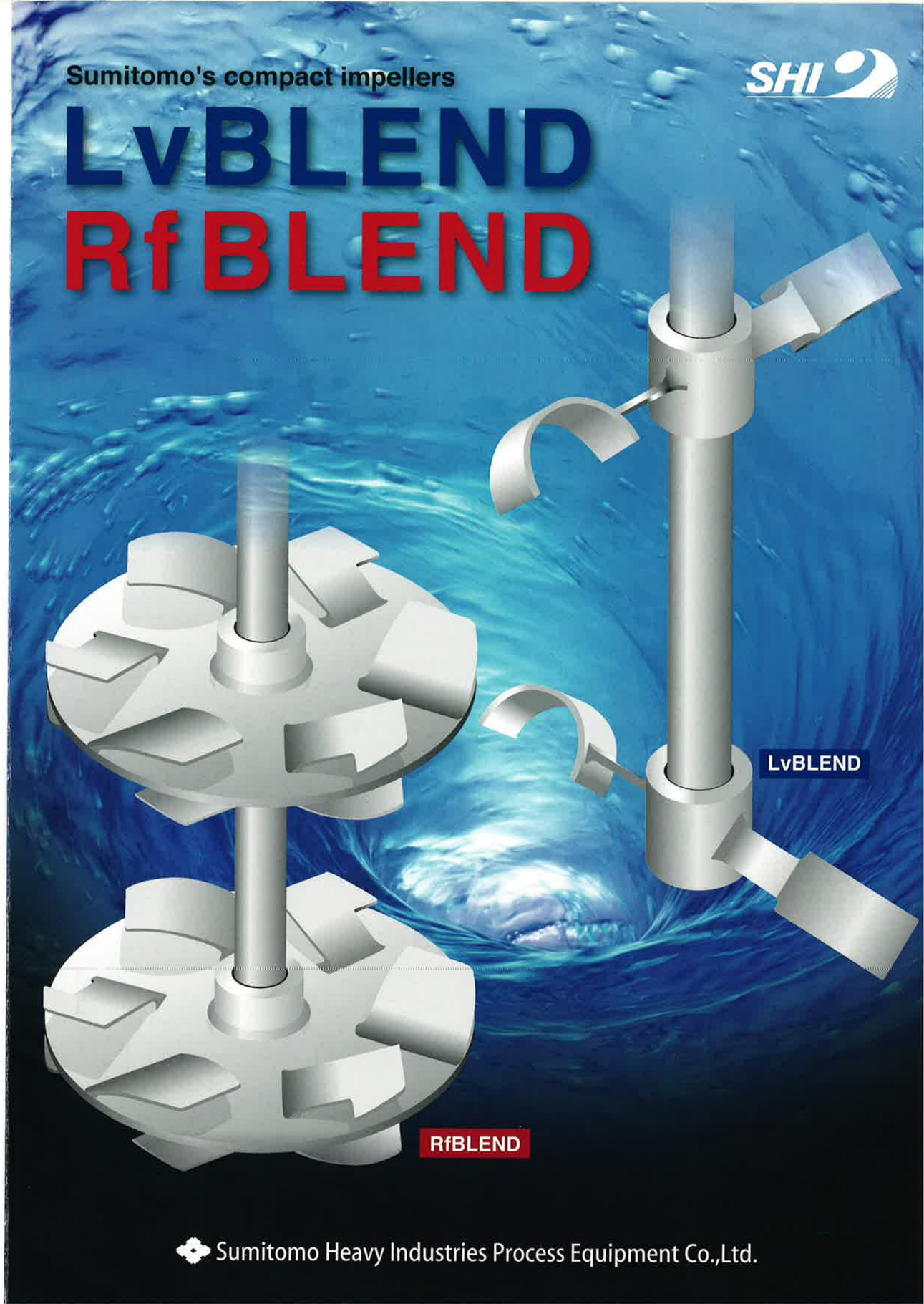
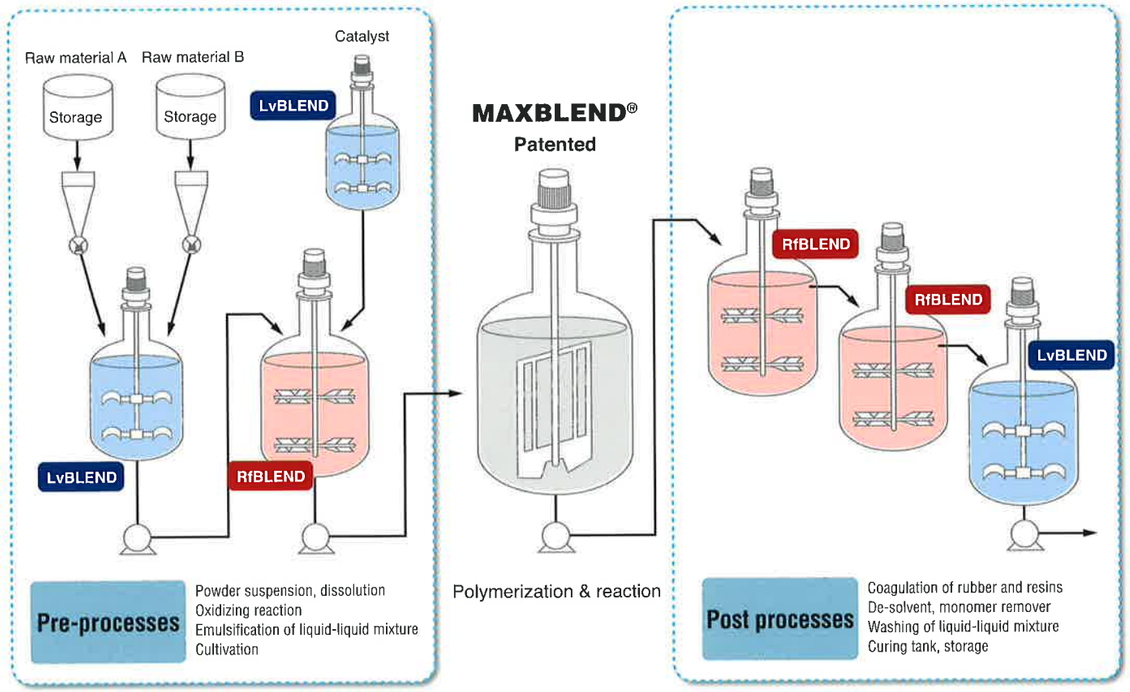


Sumitomo's comprehensive line-up of mixing equipments, from the main reactor to the peripheral devices!

1. With our unique, compact impellers, expanding the domains that we can support



Sumitomo's compact impellers are recommended for both pre and post processes in the polymerization & reaction

2. Characteristics of Sumitomo's compact impellers

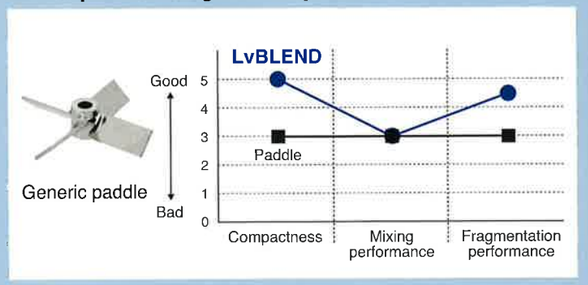
More compact mixing impellers with superior fragmentation and gas absorption performance while maintaining the same level of mixing performance as generic impellers.

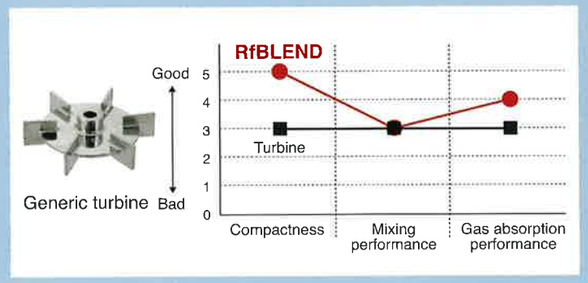
■ Sumitomo's new line-up

Patent application submitted

Patent application submitted

■ Comparison with generic impeller

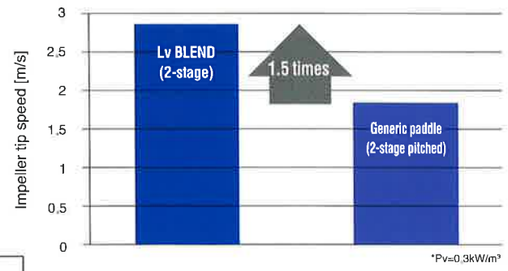




3. LvBLEND – Sumitomo's high shear impellers –

- **High performance and more compact (low torque) ! (reduction in initial cost and running cost)**
- **Shortening in operating time thanks to the high shearing effect ! (improved productivity and yield)**
- **Contributes to an improvement in product quality! (high quarity product finishing with no lumps)**

■ Impeller tip speed



■ Comparison of droplet separation performance with a generic paddle

Impeller type	Droplet separation condition after mixing is stopped				
	Stopped state	Mixer stopped state	50sec	100sec	150sec
LvBLEND 2-stage Pv=0.3kW/m³					
Thickness of clear layer	215mm	0mm	0mm	46mm	108mm
Generic paddle (2-stage pitched) Pv=0.3kW/m³					
Thickness of clear layer	215mm	0mm	17mm	112mm	194mm

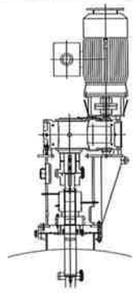
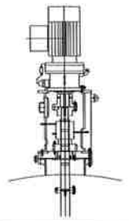
Due to the high shearing effect of LvBLEND, the droplets are fragmented and remains in a highly dispersed state even after the mixer is stopped

(Test conditions) Prepare a water and kerosene mixture with a ratio of 1:1, keep the Pv value constant and mix for 20 minutes

4. RfBLEND – Sumitomo's high gas absorption impellers –

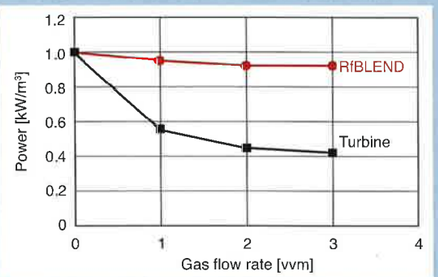
- **High performance and more compact (low torque) ! (reduction in initial cost and running cost)**
- **High gas absorption performance! (productivity can be improved with increasing the gas flow rate)**
- **Stable performance against changes in the gas flow rare ! (reduction in the vibration of the mixer and risk of the motor tripping)**

■ Compacting example of drive unit

	Generic turbin	RfBLEND
Drive unit external view		
Motor capacity	75kW	37kW
Weight of drive unit	2800kg	1600kg
Height of drive unit	2.85m	2.15m

*Compared at a fluid volume of 30m³ and a PV value of 0.7kw/m³ (ventilated state)

■ Power reduction characteristics when ventilated



■ Gas absorption performance characteristics