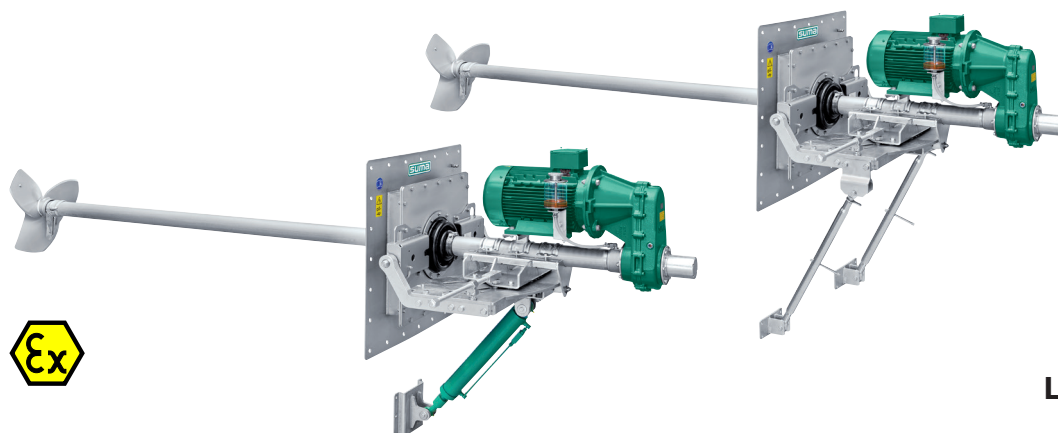


Long-axis agitator Giantmix FR SP



FR1 75-200

FR3 110-275

FR4 150-275

FR4 150-400

FR5 185-400

**Powerful
High efficiency
Low cost maintenance**

Application

Biogas digester
(Fermenter - Post digester - End storage tank)
Dry matter content up to 14 %
Substrate temperature up to 70°C
pH-values 6.5 - 8.2

Technical Data

Tube length 3.0 / 4.0 m
Agitator shaft Ø 101.6 x 4.0 (max. 3 m)
or x 5.7 mm in ss304
Sealing plate/-frame 98x98/120x120/143x143cm ss304,
ss316 on request
Sound pressure 75 dB(A)
Sealing membranes of EPDM60
Installation up to 8 m beneath substrate level
As standard with upper link
Oil equalizing container for monitoring the tightness
Optional PTO with protection for an alternative
tractor operation (max. HD+ 700)
Agitator completely manufactured in modular design

Motor

7.5 kW - 8-poles
11.0 / 15.0 / 18.5 kW : 4-poles
400 V, 50 Hz, special tensions on request
PTC thermistors 160°C (overheat protection)
Ex-Motor  II 3G Ex nA IIA T3 Gc
Special design 13.5 kW:  II 2G Ex e IIA T3 Gb
Optional rain protection hood (ss304)

Gear

Spur gear drive, helical teeth, low noise level
Reduction ratio $i = 3.69$ or 5.31
Own oil chamber, gear oil SAE 85W-140 / API GL-5
Oil change interval all 2,000 operation hours

Bearing

2 tapered roller bearings to absorb the axial forces
Mechanical seal SiC/SiC independent of rotation
direction
Interim bearings for the drive shaft (slide bearings)

Propeller

3-blade high efficiency propeller, dynamically balanced

FR1:	7,5 kW	200 rpm	propeller HD+ 850
FR3:	11,0 kW	275 rpm	propeller HD+ 800
FR4:	15,0 kW	275 rpm	propeller HD+ 850
FR4:	15,0 kW	400 rpm	propeller HD+ 660
FR5:	18,5 kW	400 rpm	propeller HD+ 700

Standard is ss304, optional ss316, or hardend steel

Adjustment range

Horizontal adjustable $\pm 25^\circ$ through spindle
Vertical adjustable through upper link, optional
through hydraulic cylinder up to $\pm 30^\circ$ or through
pinion rack

Tank openings:	700 x 700 mm (Plate 98 cm)
	800 x 800 mm (Plate 120 cm)
	1,000 x 1,000 mm (Plate 143 cm)

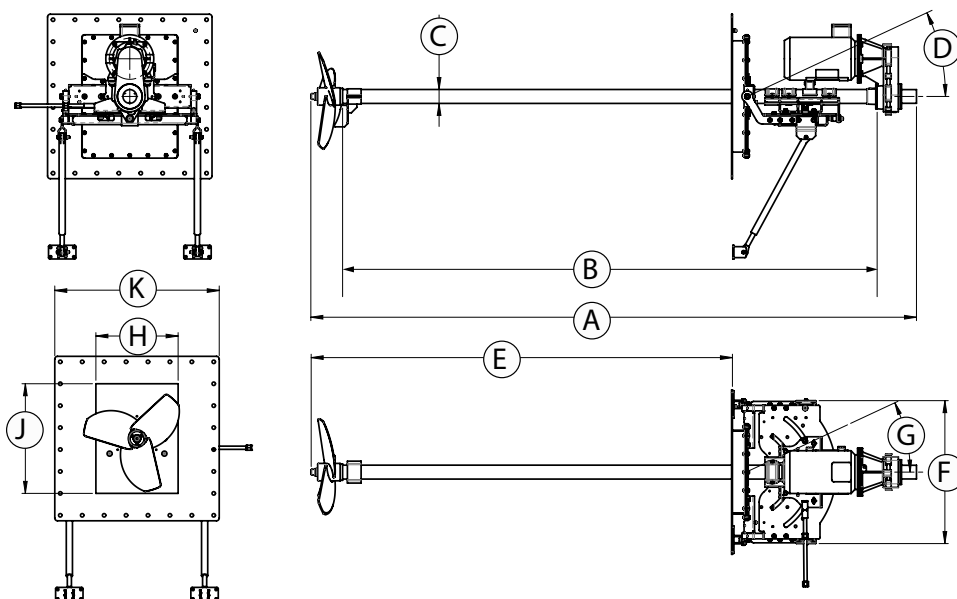
Ex-Zone

Ex-zone 2 (outside the tank)
and zone 1 (inside the tank)
Special system FR with 13.5 kW für Zone 1 (outside)
Classification mechanical components
 II 2G ck IIA T3

Control switch (optional)

Star-delta-switch (max. 15 kW), soft start or frequen-
cy converter
Delivery without connection cable

Long-axis agitator Giantmix FR SP

FR1 75-200
FR3 110-275
FR4 150-275
FR4 150-400
FR5 185-400


Dimensions

Type	A [m]	B [m]	C [mm]	D	E [m]	F [m]	G	H [m]	J [m]	
FR4 / FR5 FR1 / FR3 / FR4 (275 rpm)	3.5 / 4.5	2.9 / 3.9	101.6	max. ± 30°	2.2 / 3.2	1.1	max. ± 25°	0.7	0.6	0.98
									0.8	1.2

Technical Data

Type	Rated Power [kW]	Propeller speed [rpm]	Rated Voltage [V]	Rated Current [A]	Frequency [Hz]	Power factor cos ϕ	Gear reduction	Propeller diameter [mm]	Axial force [kN]	Flow velocity [m/s] *	Pumping rate water [m ³ /min]	Weight approximate [kg]
FR1	7.5	200	400	18.0	50	0.70	3.69	850	2.0	2.6	85	650
FR3	11.0	275	400	21.0	50	0.87	5.31	800	3.0	3.2	95	650
FR4	15.0	275	400	27.3	50	0.86	5.31	850	4.1	3.6	119	650
FR4	15.0	400	400	27.3	50	0.86	3.69	660	3.3	4.3	84	650
FR5	18.5	400	400	34.0	50	0.85	3.69	700	3.9	4.3	94	650

Subject to technical changes

* measured in water and 1.2 m distance

© SUMA Rührtechnik GmbH | Martinszeller Str. 21 | DE-87477 Sulzberg

Phone: +49 8376 / 92131 - 0 | Fax: - 19 | Mail: info@suma.de

www.suma.de/en | www.facebook.com/SUMA.Ruehrwerke