

## OPTIMIX 3G 250-270



### Application

Submersible motor  
Dry matter content up to 12 %  
Substrate temperature up to 55°C  
pH-values 6.5 - 8.2

### Motor

Motor power: 25.0 kW  
400 V, 50 Hz, Special tensions on request  
Protection class IP 68, up to 10 m submergence  
PTC thermistors (for thermal protection)  
High power factor  $\cos \phi$  0.84  
Separat oil chamber, turbine oil

### Gear

Flange mounted planetary gear,  
Reduction ratio  $i = 5.35$   
Longlife gear oil  
Oil change after 8,000 operating hours

### Corrosion protection

Ductile cast iron housing (GGG40)  
Agitator has an two component epoxy coating  
Agitator is galvanically isolated from the guide mast

### Cable

Pressed cable gland, cable standard length 10 m  
Cable  $4 \times 10 + 4 \times 1 \text{ mm}^2$ ,  $\varnothing$  26 mm,  
Resistant against biomass  
Strain relief 800 N

### Propeller

3-blade high efficiency propeller, dynamically balanced  
Optimix 3G | 25 kW | propeller HD+ 900 | 270 rpm  
Hardened steel or ss304

### Guide mast connection

Guide mast support with 4 rollers for smooth height adjustment:  
25 kW: 120 / 150 mm square mast

### Bearing

Bearing flange with mechanical seal SiC/SiC  
2 Tapered roller bearings to absorb the axial thrust  
Shaft  $\varnothing$  45 mm  
Separat oil chamber, Longlife gear oil  
Accessory: POM protection to minimize abrasion

### Ex zone

Authorized for Ex-Zone 2  
ATEX Classification  $\text{CE} \text{ II 3G Ex ec h IIA T3 Gc}$

### Control switch (optional)

Soft start or frequency converter



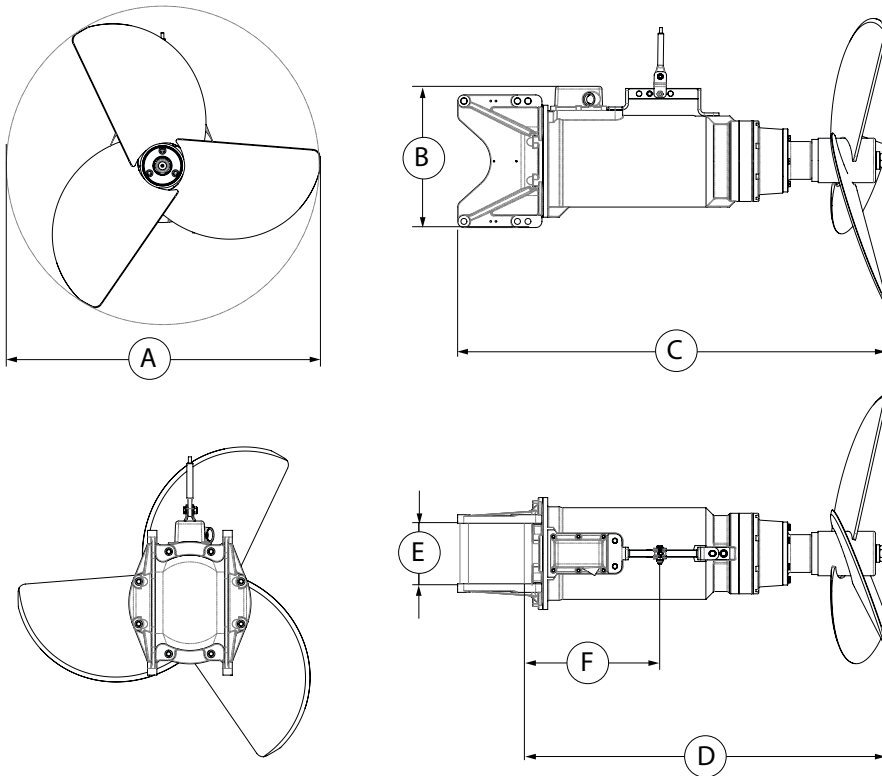
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نمایندگی ایران

تلفن تماس: ۸ و ۸۸۳۲۴۹۳۷ - ۰۲۱

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## OPTIMIX 3G 250-270



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### Dimensions / Weight

Type	A [mm]	B [mm]	C max. [mm]	D [mm]	E [mm]	F [mm]	Weight approx. [kg]
3G 250-270	900	400	1,280	1,100	150 (120)	370	260

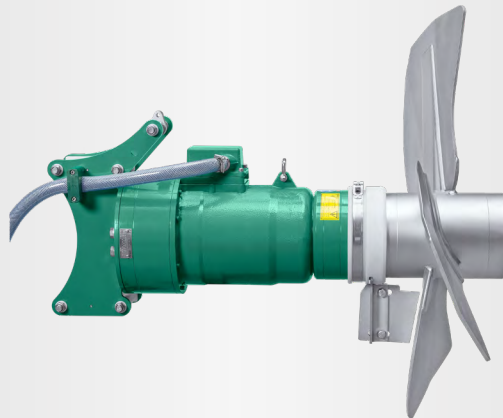
### Technical data

Type	Rated Power [kW]	Rated Voltage [V]	Full load current [A]	Frequency [Hz]	Power factor cos $\phi$	Gear reduction ratio	Propeller speed [rpm]	Propeller diameter [mm]	Axial force [kN]	Flow velocity [m/s] *	Pumping rate [m <sup>3</sup> /min]	Pumping rate [m <sup>3</sup> /h]
3G 250-270	25.0	400	46.1	50	0.86	5.35	270	900	4.5	3.6	135	8.080

Subject to technical changes

\* measured in water and 1.2 m distance

## OPTIMIX 4G 150-135



### Application

Submersible motor  
Dry matter content up to 14 %  
Substrate temperature up to 55 °C  
pH-value 6.5 - 8.2

### Motor

Motor power: 15.0 kW, 2-poles  
400 V, 50 Hz, special voltage on request  
Protection class IP 68, up to 10 m submergence  
PTC thermistors for thermal protection  
High power factor, IE4  
Separate oil chamber, turbine oil

### Gear / Bearing

Robust 2-staged planetary gear  
Reduction ratio  $i = 21.7$   
Separat oil chamber (2.1 liter), Longlife gear oil  
Oil change interval after 8,000 operating hours  
Mechanical seal SiC/SiC  
POM protection to minimize abrasion

### Electric Cable

Pressed cable gland  
Cable  $7 \times 4 + 4 \times 1,5 \text{ mm}^2$ ,  $\varnothing 20 \text{ mm}$ ,  
Resistant against biomass microbes  
Strain relief 800 N

### Ex-Zone

Authorized for Ex-Zone 2  
ATEX Classification  $\text{CE} \text{ II 3G Ex ec h IIA T3 Gc}$

### Propeller

3-blade high efficiency propeller, dynamically balanced  
Optimix 4G | 15 kW | propeller XT 1200-13 | 135 rpm  
Hardened steel, ss304 or galvanized

### Guide mast connection

Guide mast support with 4 rollers for smooth height adjustment:  
Square mast 150 x 150 mm  
Special sizes on request

### Corrosion protection

Ductile cast iron housing (GGG40)  
Two component epoxy coating  
Agitator is galvanically isolated from the guide mast

Recommended accessory:  
Cathodic corrosion protection (ccp) to prevent corrosive damage

### Control box

Start/Stop operation via soft start provided by the customer  
Optional: frequency converter for speed control and increasing energy efficiency



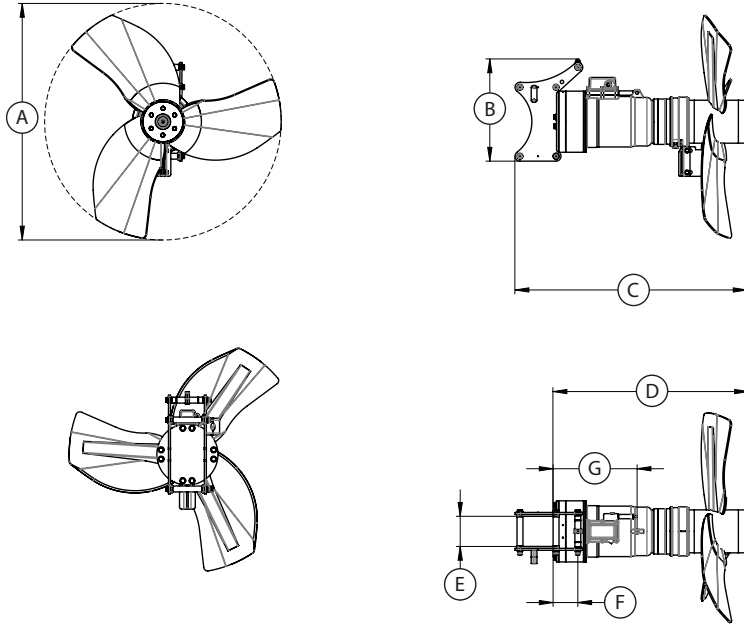
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## OPTIMIX 4G 150-135



### Dimensions / Weight

Type	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	Weight approx. [kg]
4G 150-135	1,200	525	1,150	985	150	125	425	300

### Technical data

Type	Rated power [kW]	Rated voltage [V]	Rated current [A]	Frequency [Hz]	Power factor $\cos \phi$	Gear reduction ratio	Propeller speed [rpm]	Propeller diameter [mm]	Axial force [kN]	Flow velocity [m/s] *	Pumping rate water [m <sup>3</sup> /min]	Pumping rate water [m <sup>3</sup> /h]
4G 150-135	15	400	27.7	50	0.83	21.7	135	1,200	6.5	3.4	223	13,390

Subject to technical changes

\* measured in water and 1.2 m distance



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As per: 2023-04

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## OPTIMIX

2G 30-710

2G 40-950



### Application

Submersible motor  
Dry matter content up to 8 %  
Substrate temperature up to 55°C  
pH-value 6.5 - 8.2

### Motor

Motor power: 3.0 kW, 4.0 kW  
400 V, 50 Hz, special tension on request  
Protection class IP 68, up to 10 m submergence  
PTC thermistors for overheat protection  
Own oil circulation, turbine oil

### Electric cable

Standard length 10 m, with pressed-on cable gland  
Microbe resistant cable 4 x 2.5 + 2 x 1 mm<sup>2</sup>, Ø 20 mm  
Strain relief 800 N

### Corrosion protection

Ductile cast iron housing (GGG40)  
Agitator has a two component epoxy coating  
Agitator galvanically isolated from the guide mast

### Propeller

3-blade high efficiency propeller, dynamically balanced

Optimix 2G	3.0 kW	propeller LD 380	710 rpm
Optimix 2G	4.0 kW	propeller LD 310	950 rpm

Galvanized, hardened steel, ss304 or hardened ss304

### Guide mast connection

Guide mast support with 4 rollers for smooth height adjustment:  
80 / 100 / 120 mm square mast  
Special sizes on request

### Bearing

Bearing flange with mechanical seal of SiC/SiC  
2 Tapered roller bearings to absorb the axial forces  
Bearing flange with separate oil chamber  
Oil Longlife

### Ex zone

Authorized for Ex-Zone 2  
ATEX Classification   II 3G Ex ec h IIA T3 Gc

### Control box (optional)

Soft start or frequency converter



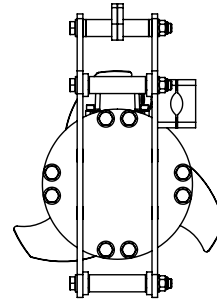
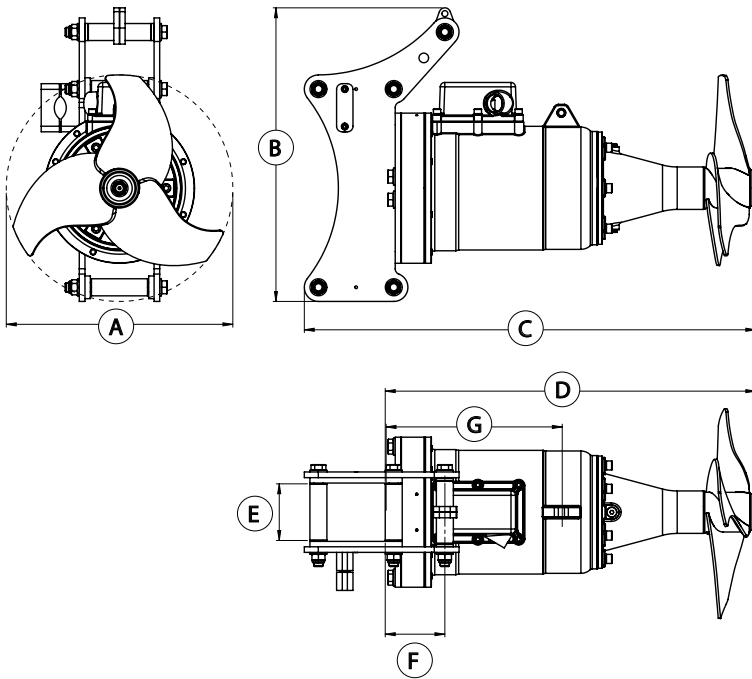
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# OPTIMIX

## 2G 30-710

## 2G 40-950



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### Dimensions / Weight

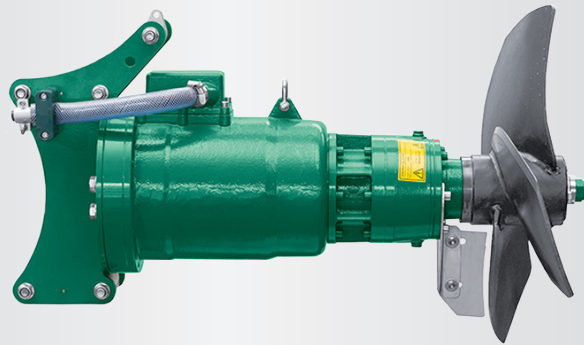
Type	A [Ø in mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	Weight approx. [kg]
2G 30-710	380	520	800	650	80 / 100 / 120	105	310	150
2G 40-950	310	520	800	650	80 / 100 / 120	105	310	150

### Technical data

Type	Rated Power [kW]	Rated Voltage [V]	Full load current [A]	Frequency [Hz]	Power factor cos φ	Propeller speed [rpm]	Propeller diameter [mm]	Axial force [kN]	Flow velocity [m/s] *	Pumping rate [m <sup>3</sup> /min]	Pumping rate [m <sup>3</sup> /h]
2G 30-710	3.0	400	7.8	50	0.68	710	380	0.7	3.6	24	1.420
2G 40-950	4.0	400	8.6	50	0.79	950	310	0.7	3.0	13	770

Subject to technical changes

\* measured in water and 1.2 m distance



## OPTIMIX

2G 40-180  
2G 40-250  
2G 90-280  
2G 90-380  
2G 110-280  
2G 110-380  
2G 150-380

### Application

Submersible motor  
Dry matter content up to 12 %  
Substrate temperature up to 55°C  
pH-value 6.5 - 8.2

### Motor

Motor power: 4.0 / 9.0 / 11.0 / 15.0 kW  
400 V, 50 Hz, special tension on request  
Protection class IP 68, up to 10 m submergence  
PTC thermistors for thermal protection  
High efficiency  
Own oil circulation, turbine oil

### Gear

Flange mounted planetary gear,  
reduction ratio  $i = 3.83 / 5.25$   
Own oil circulation, longlife gear oil  
Change oil after 10,000 operating hours  
or 4,000 operating hours for 2G 150 - 380

### Corrosion protection

Ductile cast iron housing (GGG40)  
Agitator has a two component epoxy coating  
Agitator is galvanically isolated from the guide mast

### Electric Cable

Pressed-on cable gland  
Standard length 10 m  
 $7 \times 4 + 4 \times 1.5 \text{ mm}^2$ ,  $\varnothing 20 \text{ mm}$   
Resistant against biomass  
Strain relief 800 N



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### Propeller

3-blade high efficiency propeller, dynamically balanced

Optimix 2G	4 kW	propeller HD+ 700	180 rpm
Optimix 2G	4 kW	propeller HD+ 620	250 rpm
Optimix 2G	9 kW	propeller HD+ 800	280 rpm
Optimix 2G	9 kW	propeller HD+ 580	380 rpm
Optimix 2G	11 kW	propeller HD+ 820	280 rpm
Optimix 2G	11 kW	propeller Hd+ 620	380 rpm
Optimix 2G	15 kW	propeller HD+ 660	380 rpm

Hardened steel, ss304 or galvanized

### Guide mast connection

Guide mast support with 4 rollers for smooth height adjustment:

for 4 / 9 kW: 80 / 100 / 120 mm square mast  
for 11 / 15 kW: 100 / 120 / 150 mm square mast

### Bearing

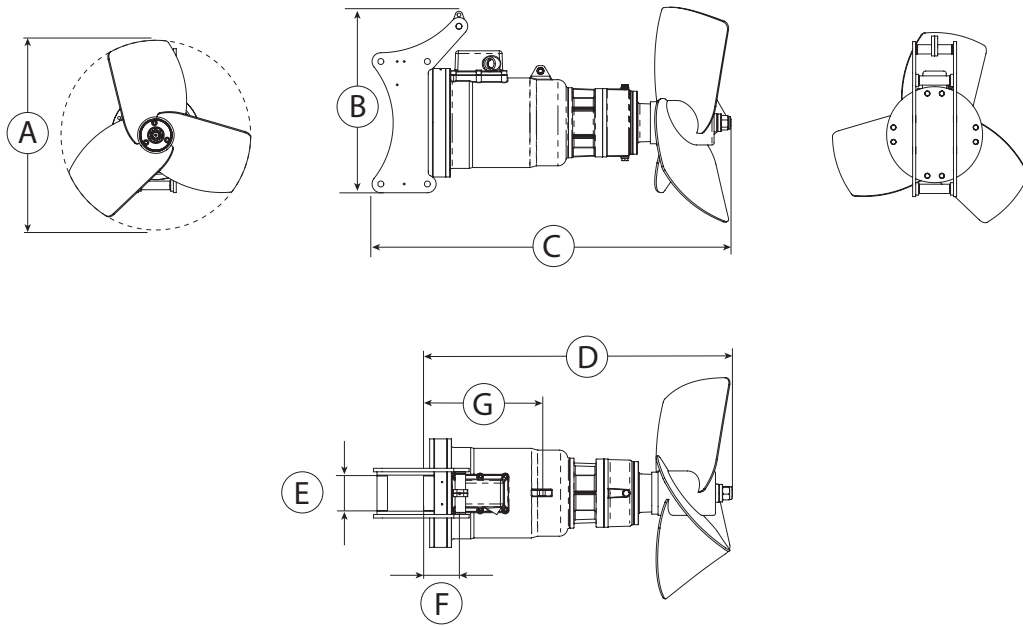
Bearing flange with mechanical seal SiC/SiC  
2 tapered roller bearings to absorb the axial forces  
Shaft of hardened steel  
Bearing flange with separate oil chamber filled with longlife gear oil  
Accessory: POM protection to minimize abrasion

### Ex-Zone

Authorized for Ex-Zone 2  
ATEX Classification  $\text{CE Ex II 3G Ex ec h IIA T3 Gc}$

### Control box (optional)

Star-delta switch for 9, 11 and 15 kW, soft start or frequency converter



## OPTIMIX

2G 40-180  
2G 40-250  
2G 90-280  
2G 90-380  
2G 110-280  
2G 110-380



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### Dimensions / Weight

Type	A [∅ in mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	Weight approx. [kg]
2G 40-180	700	520	1,085	890	80 / 100 / 120	105	305	170
2G 40-250	620	520	1,050	855	80 / 100 / 120	105	305	170
2G 90-280	800	520	1,085	885	80 / 100 / 120	105	300	170
2G 90-380	580	520	1,050	850	80 / 100 / 120	105	300	170
2G 110-280	820	520	1,100	900	100 / 120 / 150	105	335	180
2G 110-380	620	520	1,100	900	100 / 120 / 150	105	335	180
2G 150-380	660	520	1,100	900	100 / 120 / 150	105	335	180

### Technical data

Type	Rated Power [kW]	Rated Voltage [V]	Full load current [A]	Frequency [Hz]	Power factor cos φ	Gear reduction ratio	Propeller speed [rpm]	Propeller diameter [mm]	Axial force [kN]	Flow velocity [m/s] *	Pumping rate [m <sup>3</sup> /min]	Pumping rate [m <sup>3</sup> /h]
2G 40-180	4.0	400	8.8	50	0.77	5.25	180	700	0.85	2.0	44	2,680
2G 40-250	4.0	400	8.8	50	0.77	3.83	250	620	0.95	2.2	38	2,290
2G 90-280	9.0	400	17.7	50	0.83	5.25	280	800	2.8	3.2	93	5,640
2G 90-380	9.0	400	17.7	50	0.83	3.83	380	580	1.9	3.4	52	3,080
2G 110-280	11.0	400	22.5	50	0.77	5.25	280	820	3.6	4.1	128	7,680
2G 110-380	11.0	400	22.5	50	0.77	3.83	380	620	2.55	3.7	64	3,850
2G 150-380	15.0	400	29.1	50	0.83	3.83	380	660	3.1	4.1	80	4,860

Subject to technical changes

\* measured in water and 1.2 m distance



## OPTIMIX 3G 100-135



### Application

Submersible motor  
Dry matter content up to 12 %  
Substrate temperature up to 55°C  
pH-value 6.5 - 8.2

### Motor

Motor power: 10.0 kW, 8-poles  
400 V, 50 Hz, Special voltages on request  
Protection class IP 68, up to 10 m submergence  
PTC 130°C thermistors (for thermal protection)  
Separate oil chamber, turbine oil

### Gear

Flange mounted planetary gear  
Reduction ratio  $i = 5.35$   
Longlife gear oil  
Oil change after 8,000 operating hours

### Corrosion protection

Ductile cast iron housing (GGG40)  
Agitator has an two component epoxy coating  
Agitator is galvanically isolated from the guide mast

### Cable

Pressed cable gland, cable standard length 10 m  
Cable 4 x 10 + 4 x 1 mm<sup>2</sup>, Ø 26 mm,  
Resistant against biomass  
Strain relief 800 N

### Propeller

3-blade high efficiency propeller, dynamically balanced  
Optimix 3G | 10 kW | propeller XT 1200-12 | 135 rpm  
Hardened steel or ss304

### Guide mast connection

Guide mast support with 4 rollers for smooth height adjustment: 10 kW: 120 / 150 mm square mast

### Bearing

Bearing flange with mechanical seal SiC/SiC  
2 Tapered roller bearings to absorb the axial thrust  
Shaft Ø 45 mm  
Separate oil chamber, Longlife gear oil  
POM protection to minimize abrasion

### Ex zone

Authorized for Ex-Zone 2  
ATEX Classification **CE** **Ex** II 3G Ex ec h IIA T3 Gc

### Control switch

Requirement on site: Frequency converter is absolutely necessary  
Soft start only after consulting SUMA Rührtechnik GmbH

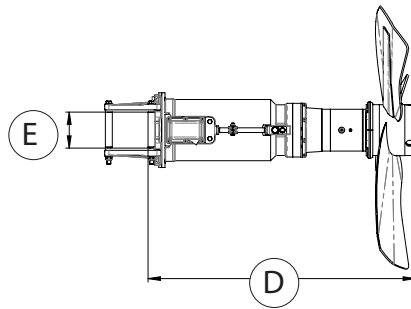
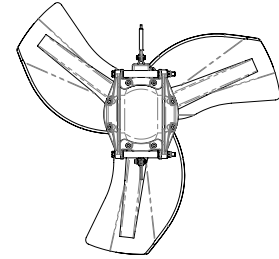
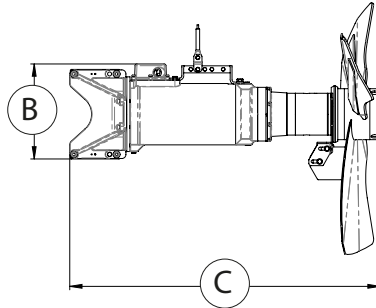
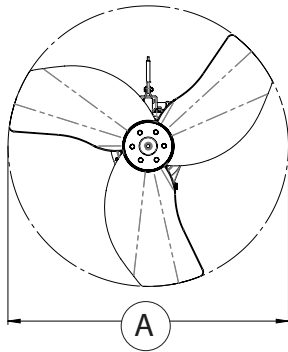


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# OPTIMIX 3G 100-135



## Dimensions / Weight

Type	A [mm]	B [mm]	C max. [mm]	D [mm]	E [mm]	Weight approx. [kg]
3G 100-135	1,200	407	1,328	1,144	150	310

## Technical data

Type	Rated Power [kW]	Rated Voltage [V]	Full load current [A]	Frequency [Hz]	Power factor cos $\phi$	Gear reduction ratio	Propeller speed [rpm]	Propeller diameter [mm]	Axial force [kN]	Flow velocity [m/s] *	Pumping rate [m <sup>3</sup> /min]	Pumping rate [m <sup>3</sup> /h]
3G 100-135	10.0	400	30.2	50	0.58	5.35	135	1,200	4.8	3.5	230	13.780

Subject to technical changes

\* measured in water and 1.2 m distance



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As per: 2021-03

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