xylem
Let's Solve Water

Technical Specification

90016701_2.0

Flygt 3127

60 Hz

FLYGT
a xylem brand

Table of Contents

1 D-pump

1.1 Product description

Usage

A submersible pump, with vortex hydraulic, for liquids containing solids and abrasive media, or light wastewater.

Denomination

Type	Non-explosion proof version	Explosion proof version	Pressure class	Installation types
Gray iron	3127.182	3127.091	• MT — Medium head • HT — High head	P, S, X

The pump can be used in the following installations:

P Semipermanent, wet well arrangement with the pump installed on two guide bars. The connection to the discharge is automatic.

S Portable semipermanent, wet well arrangement with hose coupling or flange for connection to the discharge pipeline.

X Optional installation, wet or dry well arrangement without predetermined mechanical connection and with drilled flanges. Dry well arrangement requires cooling system or de-rated motor.

Application limits

Feature	Description
Liquid temperature	Maximum 40°C (104°F)
Liquid temperature, warm water version	Maximum 70°C (158°F)
Depth of immersion	Maximum 20 m (65 ft)
pH of the pumped liquid	5.5 – 14
Liquid density	Maximum 1100 kg/m^3

Motor data

Feature	Description
Motor type	Squirrel cage induction motor

Feature	Description
Frequency	60 Hz
Power supply	3-phase
Starting method	• Direct on-line • Star-delta • Soft starter • Variable frequency drive (VFD)
Number of starts for each hour	Maximum 30
Code compliance	IEC 60034-1
Voltage variation	• Continuously running: Maximum ±5% • Intermittent running: Maximum ±10%
Voltage imbalance between phases	Maximum 2%
Stator insulation class	H (180°C, 356°F)

Motor encapsulation

Motor encapsulation is in accordance with IP68.

Cables

Application	Type
Direct-on-line start	Flygt SUBCAB® - a heavy duty 4 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 10 mm^2 with unscreened control cores.
Y/D start	Screened Flygt SUBCAB® - a heavy duty 4 screened cores motor power cable with four twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature.
Variable Frequency drive	Screened Flygt SUBCAB® - a heavy duty 4 screened cores motor power cable with four twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature.

Monitoring equipment

Thermal contacts opening temperature 125°C (257°F)

Materials

Table 1: Major parts, except mechanical seals

Denomination	Material	ASTM	EN
Major castings	Cast iron, gray	35B	GJL-250

Denomination	Material	ASTM	EN
Pump housing, alternative 1	Cast iron, gray	35B	GJL-250
Pump housing, alternative 2	Cast iron, gray	35B	GJL-200
Impeller, alternative 1	Cast iron, gray	35B	GJL-250
Impeller, alternative 2	Cast iron, gray	35B	GJL-250
Impeller, alternative 3	Cast iron, gray	30B	GJL-200
Lifting handle	Stainless steel	AISI 316L	1.4404,1.4432, …
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A4	AISI 316L, 316, 316Ti	1.4401,1.4404, …
O-rings, alternative 1	Nitrile rubber (NBR) 70° IRH	-	-
O-rings, alternative 2	Fluorinated rubber (FPM) 70° IRH	-	-
Oil, part no 901752	Medical white oil of paraffin type. Fulfills FDA 172.878 (a)	-	-

Table 2: Mechanical seals

Alternative	Inner seal	Outer seal
1	Corrosion resistant cemented carbide (WCCR)/ Aluminum oxide (Al_2O_3)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)
2	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Silicon carbide (RSiC)/ Silicon carbide (RSiC)
3	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)

Surface treatment

Priming	Finish
Painted with a primer, see internal standard M0700.00.0002	Navy gray color NCS 5804-B07G. Two-component high-solid top coating, see internal standard M0700.00.0004 for standard painting and M0700.00.0008 for special painting.

Options

- Warm liquid version (non-explosion proof versions)
- Leakage sensor in the stator housing (FLS)
- Leakage sensor in the oil housing (CLS)
- Surface treatment (Epoxy)
- Zinc anodes
- Other cables

Accessories

Discharge connections, adapters, hose connections, and other mechanical accessories

Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables

1.2 Motor rating and performance curves

These are examples of motor rating and curves. For more information, please contact your local sales and service representative.

Star-delta starting current is 1/3 of Direct on-line starting current.

MT

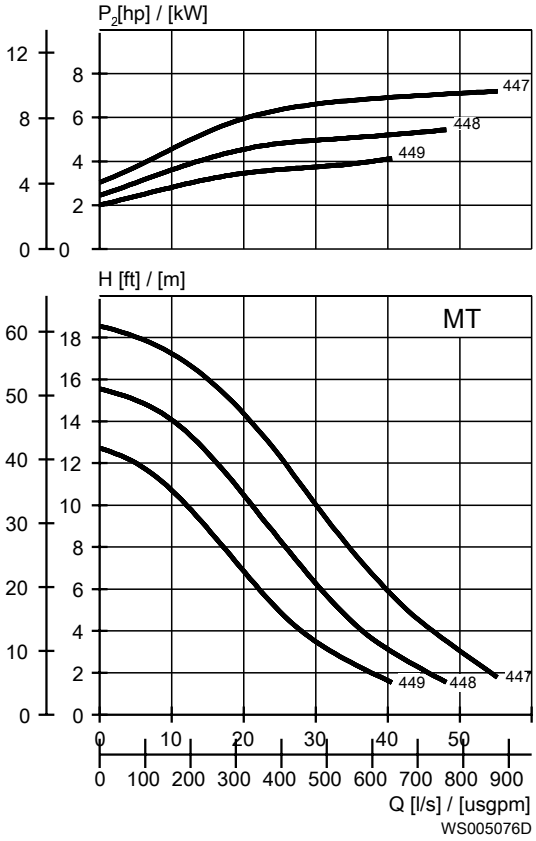


Table 3: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	448	1750	9.9	66	0.85	P,S,X
5.6	7.5	449	1750	9.9	66	0.85	P,S,X
7.5	10	447	1750	13	82	0.82	P,S,X
7.5	10	448	1750	13	82	0.82	P,S,X
7.5	10	449	1750	13	82	0.82	P,S,X

Table 4: 230 V, 60 Hz, 1–phase

Rated power, kW	Rated power, hp	Curve/Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	448	1745	30	66	0.96	P,S,X
5.6	7.5	449	1745	30	66	0.96	P,S,X

HT

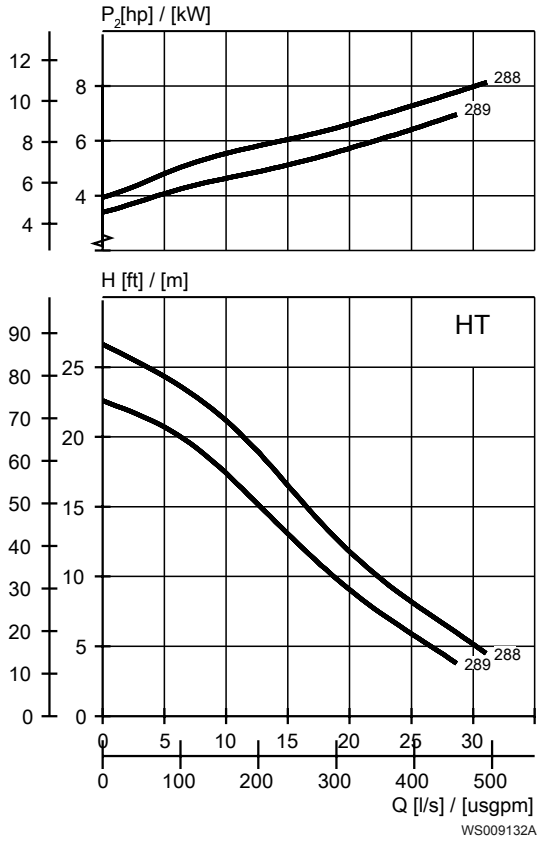


Table 5: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
8.2	11	288	3510	13	130	0.88	P,S,X
8.2	11	289	3510	13	130	0.88	P,S,X

2 F-pump, Standard Motor

2.1 Product description 3127.182/.091

Usage

A submersible pump for liquid manure, or heavily contaminated sewage and sludge. The impeller is S-shaped and has a cutting function. The pump is protected by a break pin.

Denomination

Type	Non-explosion proof version	Explosion proof version	Installation types	Installation types
Chopper Gray iron	3127.182	3127.091	• LT — Low head	J, P, S, X

The pump can be used in the following installations:

J Semipermanent, wet well arrangement with guide bars or wire for a pump with a jet nozzle intended for mixing. For connection to a discharge stool. Jet nozzle can also be used as a hose connection.

P Semipermanent, wet well arrangement with the pump installed on two guide bars. The connection to the discharge is automatic.

S Portable semipermanent, wet well arrangement with hose coupling or flange for connection to the discharge pipeline.

X Optional installation, wet or dry well arrangement without predetermined mechanical connection and with drilled flanges. Dry well arrangement requires cooling system or de-rated motor.

Application limits

Feature	Description
Liquid temperature	Maximum 40°C (104°F)
Liquid temperature, warm water version	Maximum 70°C (158°F)
Depth of immersion	Maximum 20 m (65 ft)
pH of the pumped liquid	5.5 – 14
Liquid density	Maximum 1100 kg/m^3

Motor data

Feature	Description
Motor type	Squirrel cage induction motor
Frequency	60 Hz
Power supply	1-phase or 3-phase
Starting method	• Direct on-line • Star-delta • Soft starter • Variable frequency drive (VFD)
Number of starts for each hour	Maximum 30
Code compliance	IEC 60034-1
Voltage variation	• Continuously running: Maximum ±5% • Intermittent running: Maximum ±10%
Voltage imbalance between phases	Maximum 2%
Stator insulation class	H (180°C, 356°F)

Cables

Application	Type
Direct-on-line start	Flygt SUBCAB® - a heavy duty 4 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 10 mm^2 with unscreened control cores.
Y/D start	Flygt SUBCAB® - a heavy duty 7 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 7G6 mm^2 with unscreened control cores.
Variable Frequency drive	Screened Flygt SUBCAB® - a heavy duty 4 screened cores motor power cable with four twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature.

Monitoring equipment

Thermal contacts opening temperature 125°C (257°F)

Materials

Table 6: Major parts, except mechanical seals

Denomination	Material	ASTM	EN
Major castings	Cast iron, gray	35B	GJL-250
Pump housing	Cast iron, gray	35B	GJL-250
Impeller	Cast iron, nodular	-	GJS-400-18-LT
Suction cover, alternative 1	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Suction cover, alternative 2	Steel	A 572 GR50	S355
Suction cover, alternative 3	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Lifting handle	Stainless steel	AISI 316L	1.4404,1.4432, …
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A4	AISI 316L, 316, 316Ti	1.4401,1.4404, …
O-rings, alternative 1	Nitrile rubber (NBR) 70° IRH	-	-
O-rings, alternative 2	Fluorinated rubber (FPM) 70° IRH	-	-
Oil, part no 901752	Medical white oil of paraffin type. Fulfills FDA 172.878 (a)	-	-

Table 7: Mechanical seals

Alternative	Inner seal	Outer seal
1	Corrosion resistant cemented carbide (WCCR)/ Aluminum oxide (Al_2O_3)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)
2	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Silicon carbide (RSiC)/ Silicon carbide (RSiC)
3	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)

Surface treatment

Priming	Finish
Painted with a primer, see internal standard M0700.00.0002	Navy gray color NCS 5804-B07G. Two-component high-solid top coating, see internal standard M0700.00.0004 for standard painting and M0700.00.0008 for special painting.

Options

- Warm liquid version (non-explosion proof versions)
- Leakage sensor in the stator housing (FLS)
- Leakage sensor in the oil housing (CLS)
- Aqua cutting knife (chopper)

  pressure class LT

- Surface treatment (Epoxy)
- Zinc anodes
- Other cables

Accessories

Discharge connections, adapters, hose connections, and other mechanical accessories

Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables

2.2 Product description 3127.350/.390

Usage

A submersible chopper pump for liquid manure, fish waste, or heavily contaminated sewage and sludge. The N-hydraulic is fitted with a cutting insert ring. Both impeller and insert ring are manufactured in Hard-Iron™.

Denomination

Type	Non-explosion proof version	Explosion proof version	Pressure class	Installation types
Chopper Hard-Iron™	3127.350	3127.390	MT — Medium head HT — High head SH — Super head	P, S, T, Z, X

The pump can be used in the following installations:

P Semipermanent, wet well arrangement with the pump installed on two guide bars. The connection to the discharge is automatic.

S Portable semipermanent, wet well arrangement with hose coupling or flange for connection to the discharge pipeline.

T Vertical permanent, dry well arrangement with flange connection to the suction and discharge piping.

Z Horizontal permanent, dry well arrangement with flange connection to the suction and discharge piping.

X Optional installation, wet or dry well arrangement without predetermined mechanical connection and with drilled flanges. Dry well arrangement requires cooling system or de-rated motor.

Application limits

Feature	Description
Liquid temperature	Maximum 40°C (104°F)

Feature	Description
Liquid temperature, warm water version	Maximum 70°C (158°F)
Depth of immersion	Maximum 20 m (65 ft)
pH of the pumped liquid	5.5 – 14
Liquid density	Maximum 1100 kg/m^3

Motor data

Feature	Description
Motor type	Squirrel cage induction motor
Frequency	60 Hz
Power supply	1-phase or 3-phase
Starting method	• Direct on-line • Star-delta • Soft starter • Variable frequency drive (VFD)
Number of starts for each hour	Maximum 30
Code compliance	IEC 60034-1
Voltage variation	• Continuously running: Maximum ±5% • Intermittent running: Maximum ±10%
Voltage imbalance between phases	Maximum 2%
Stator insulation class	H (180°C, 356°F)

Cables

Application	Type
Direct-on-line start	Flygt SUBCAB® - a heavy duty 4 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 10 mm^2 with unscreened control cores.
Y/D start	Flygt SUBCAB® - a heavy duty 7 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 7G6 mm^2 with unscreened control cores.
Variable Frequency drive	Screened Flygt SUBCAB® - a heavy duty 4 screened cores motor power cable with four twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature.

Monitoring equipment

Thermal contacts opening temperature 125°C (257°F)

Materials

Table 8: Major parts, except mechanical seals

Denomination	Material	ASTM	EN
Major castings	Cast iron, gray	35B	GJL-250
Pump housing	Cast iron, gray	35B	GJL-250
Impeller	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Insert ring, alternative 1	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Insert ring, alternative 2	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Lifting handle	Stainless steel	AISI 316L	1.4404,1.4432, …
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A4	AISI 316L, 316, 316Ti	1.4401,1.4404, …
O-rings, alternative 1	Nitrile rubber (NBR) 70° IRH	-	-
O-rings, alternative 2	Fluorinated rubber (FPM) 70° IRH	-	-
Oil, part no 901752	Medical white oil of paraffin type. Fulfills FDA 172.878 (a)	-	-

Table 9: Mechanical seals

Alternative	Inner seal	Outer seal
1	Corrosion resistant cemented carbide (WCCR)/ Aluminum oxide (Al_2O_3)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)
2	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Silicon carbide (RSiC)/ Silicon carbide (RSiC)
3	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)

Surface treatment

Priming	Finish
Painted with a primer, see internal standard M0700.00.0002	Navy gray color NCS 5804-B07G. Two-component high-solid top coating, see internal standard M0700.00.0004 for standard painting and M0700.00.0008 for special painting.

Options

- Warm liquid version (non-explosion proof versions)
- Leakage sensor in the stator housing (FLS)
- Leakage sensor in the oil housing (CLS)
- Aqua cutting knife (chopper)

  pressure class MT
- Surface treatment (Epoxy)

- Zinc anodes
- Other cables

Accessories

Discharge connections, adapters, hose connections, and other mechanical accessories

Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables

2.3 Motor rating and performance curves 3127.182/.091

These are examples of motor rating and curves. For more information, please contact your local sales and service representative.

Star-delta starting current is 1/3 of Direct on-line starting current.

LT

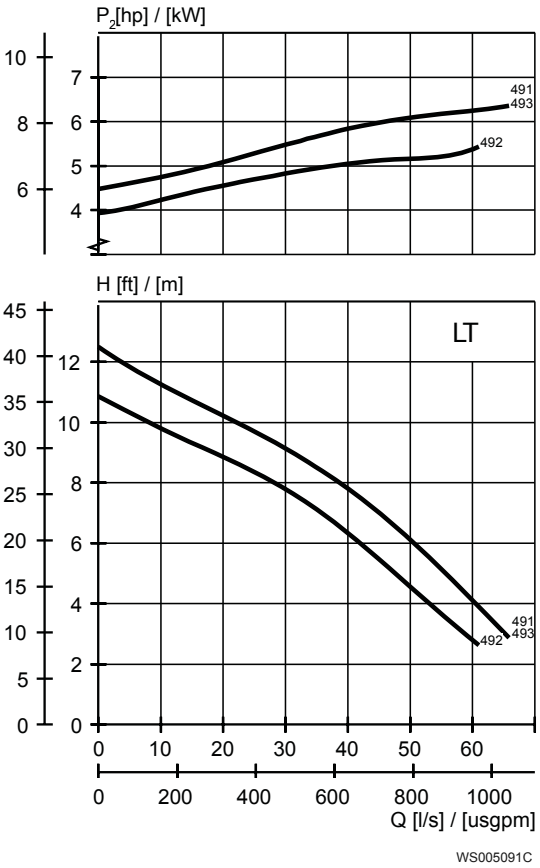


Table 10: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	492	1750	9.9	62	0.85	J,P,S,X
7.5	10	491	1735	13	80	0.85	J,P,S,X
7.5	10	492	1735	13	80	0.85	J,P,S,X
7.5	10	493	1735	13	80	0.85	J,P,S,X

Table 11: 230 V, 60 Hz, 1–phase

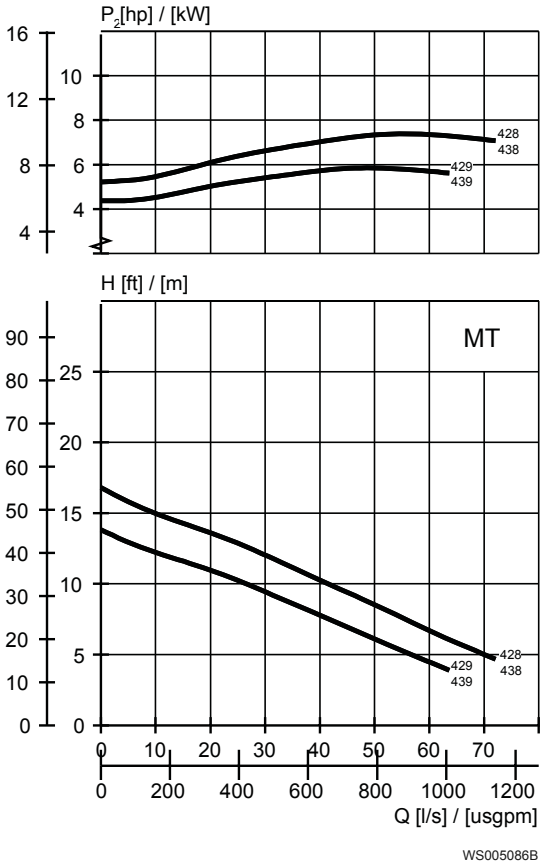
Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	492	1745	30	66	0.96	J,P,S,X

2.4 Motor rating and performance curves 3127.350/.390

These are examples of motor rating and curves. For more information, please contact your local sales and service representative.

Star-delta starting current is 1/3 of Direct on-line starting current.

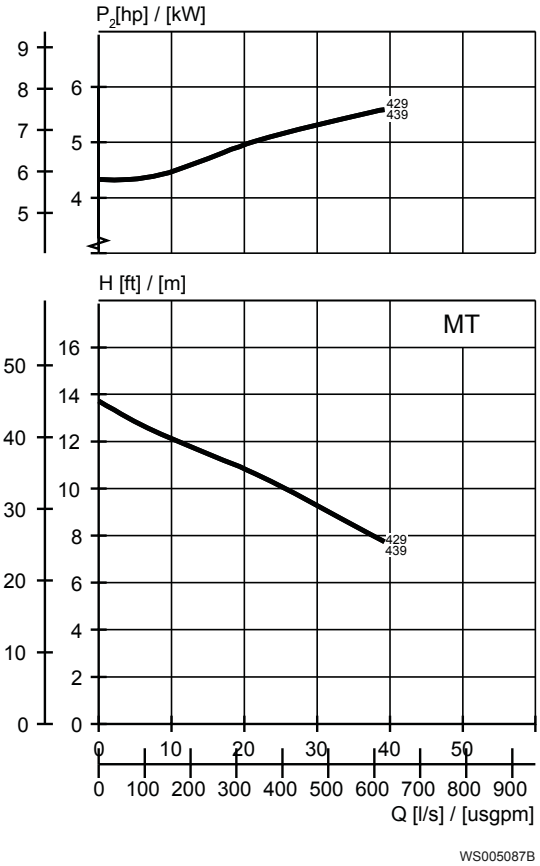
MT



Curves for long fibrous manure: 428, 429

Table 12: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
7.5	10	428	1735	13	80	0.85	P,S,T,X,Z
7.5	10	429	1735	13	80	0.85	P,S,T,X,Z
7.5	10	438	1735	13	80	0.85	P,S,T,X,Z
7.5	10	439	1735	13	80	0.85	P,S,T,X,Z

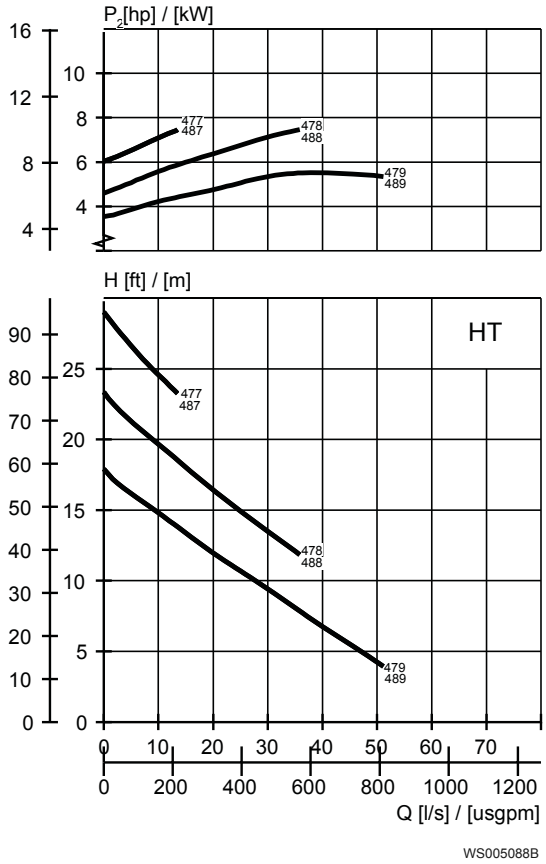


Curves for long fibrous manure: 429

Table 13: 230 V, 60 Hz, 1–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	429	1745	30	66	0.96	P,S,X
5.6	7.5	439	1745	30	66	0.96	P,S,X

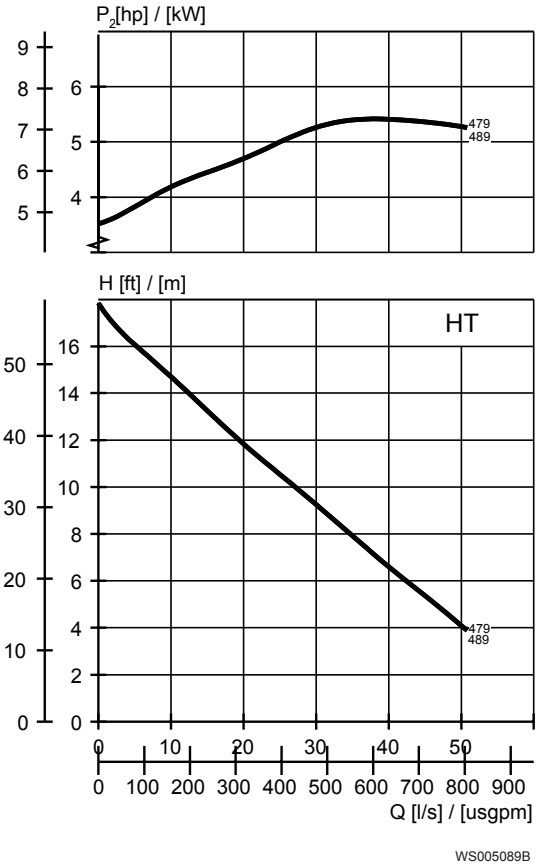
HT



Curves for long fibrous manure: 477, 478, 479

Table 14: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	479	1750	9.9	62	0.85	P,S,T,X,Z
5.6	7.5	489	1750	9.9	62	0.85	P,S,T,X,Z
7.5	10	477	1735	13	80	0.85	P,S,T,X,Z
7.5	10	478	1735	13	80	0.85	P,S,T,X,Z
7.5	10	487	1735	13	80	0.85	P,S,T,X,Z
7.5	10	488	1735	13	80	0.85	P,S,T,X,Z



Curve for long fibrous manure: 479

Table 15: 230 V, 60 Hz, 1–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	479	1745	30	66	0.96	P,S,X

SH

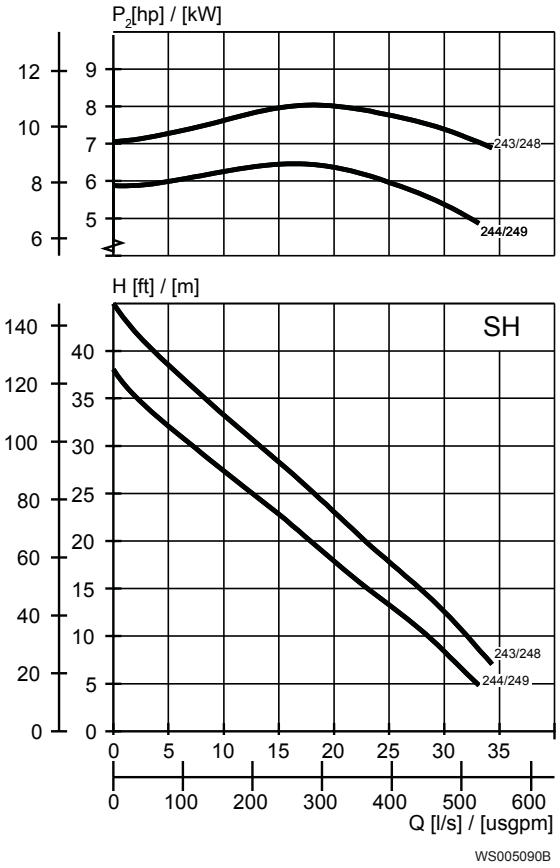


Figure 1: 3–phase

Curves for long fibrous manure: 243, 244

Table 16: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
8.2	11	243	3510	13	120	0.88	P,S,T,X,Z
8.2	11	244	3510	13	120	0.88	P,S,T,X,Z
8.2	11	248	3510	13	120	0.88	P,S,T,X,Z
8.2	11	249	3510	13	120	0.88	P,S,T,X,Z

3 F-pump, Premium Efficiency Motor (IE3)

3.1 Product description

Usage

A submersible chopper pump for liquid manure, fish waste, or heavily contaminated sewage and sludge. The N-hydraulic is fitted with a cutting insert ring. Both impeller and insert ring are manufactured in Hard-Iron™.

Denomination

Type	Non-explosion proof version	Explosion proof version	Pressure class	Installation types
Chopper Hard-Iron™	3127.840	3127.850	MT — Medium head HT — High head SH — Super head	P, S, T, Z, X

The pump can be used in the following installations:

P Semipermanent, wet well arrangement with the pump installed on two guide bars. The connection to the discharge is automatic.

S Portable semipermanent, wet well arrangement with hose coupling or flange for connection to the discharge pipeline.

T Vertical permanent, dry well arrangement with flange connection to the suction and discharge piping.

Z Horizontal permanent, dry well arrangement with flange connection to the suction and discharge piping.

X Optional installation, wet or dry well arrangement without predetermined mechanical connection and with drilled flanges. Dry well arrangement requires cooling system or de-rated motor.

Application limits

Feature	Description
Liquid temperature	Maximum 40°C (104°F)
Depth of immersion	Maximum 20 m (65 ft)

Feature	Description
pH of the pumped liquid	5.5 – 14
Liquid density	Maximum 1100 kg/m^3

Motor data

Feature	Description
Motor type	Line started permanent magnet synchronous motor (LSPM)
Frequency	60 Hz
Power supply	3-phase
Starting method	• Direct on-line • Star-delta • Soft starter • Variable frequency drive (VFD)
Number of starts for each hour	Maximum 30
Code compliance	IEC 60034-1
Voltage variation	• Continuously running: Maximum ±5% • Intermittent running: Maximum ±10%
Voltage imbalance between phases	Maximum 2%
Stator insulation class	H (180°C, 356°F)

Cables

Application	Type
Direct-on-line start	Flygt SUBCAB® - a heavy duty 4 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 10 mm^2 with unscreened control cores.
Y/D start	Flygt SUBCAB® - a heavy duty 7 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 7G6 mm^2 with unscreened control cores.
Variable Frequency drive	Screened Flygt SUBCAB® - a heavy duty 4 screened cores motor power cable with four twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature.

Monitoring equipment

- Thermal contacts opening temperature 125°C (257°F)

Materials

Table 17: Major parts, except mechanical seals

Denomination	Material	ASTM	EN
Major castings	Cast iron, gray	35B	GJL-250
Pump housing	Cast iron, gray	35B	GJL-250
Impeller	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Insert ring, alternative 1	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Insert ring, alternative 2	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Lifting handle	Stainless steel	AISI 316L	1.4404,1.4432, …
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A4	AISI 316L, 316, 316Ti	1.4401,1.4404, …
O-rings, alternative 1	Nitrile rubber (NBR) 70° IRH	-	-
O-rings, alternative 2	Fluorinated rubber (FPM) 70° IRH	-	-
Oil, part no 901752	Medical white oil of paraffin type. Fulfills FDA 172.878 (a)	-	-

Table 18: Mechanical seals

Alternative	Inner seal	Outer seal
1	Corrosion resistant cemented carbide (WCCR)/ Aluminum oxide (Al_2O_3)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)
2	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Silicon carbide (RSiC)/ Silicon carbide (RSiC)
3	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)

Surface treatment

Priming	Finish
Painted with a primer, see internal standard M0700.00.0002	Navy gray color NCS 5804-B07G. Two-component high-solid top coating, see internal standard M0700.00.0004 for standard painting and M0700.00.0008 for special painting.

Options

- Leakage sensor in the stator housing (FLS)
- Leakage sensor in the oil housing (CLS)
- Aqua cutting knife (chopper)
  pressure class MT
- Surface treatment (Epoxy)
- Zinc anodes
- Other cables

Accessories

Discharge connections, adapters, hose connections, and other mechanical accessories

Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables

3.2 Motor rating and performance curves

These are examples of motor rating and curves. For more information, please contact your local sales and service representative.

Star-delta starting current is 1/3 of Direct on-line starting current.

MT

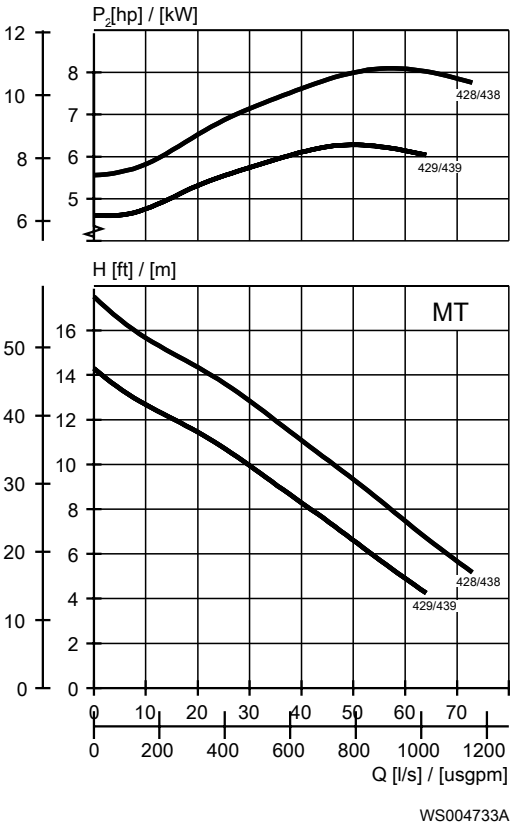


Figure 2: 3–phase

Curves for long fibrous manure: 428, 429

Table 19: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
6.5	8.7	429	1800	9.5	80	0.93	T,Z
6.5	8.7	439	1800	9.5	80	0.93	T,Z
8.2	11	428	1800	12	80	0.93	P,S,X
8.2	11	428	1800	12	80	0.93	T,Z
8.2	11	429	1800	12	80	0.93	P,S,X
8.2	11	438	1800	12	80	0.93	P,S,X
8.2	11	438	1800	12	80	0.93	T,Z
8.2	11	439	1800	12	80	0.93	P,S,X

HT

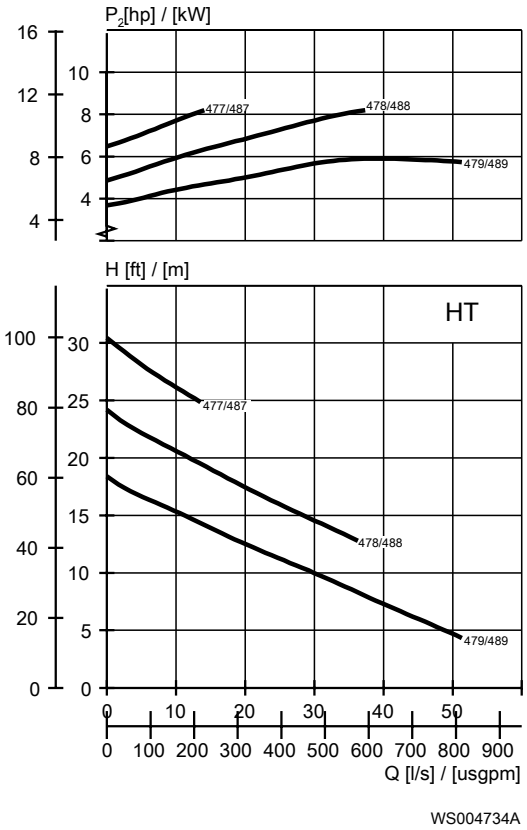


Figure 3: 3–phase

Curves for long fibrous manure: 477, 478, 479

Table 20: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
6.3	8.5	479	1800	9.3	80	0.92	P,S,X
6.3	8.5	489	1800	9.3	80	0.92	P,S,X
6.5	8.7	479	1800	9.5	80	0.93	T,Z
6.5	8.7	489	1800	9.5	80	0.93	T,Z
8.2	11	477	1800	12	80	0.93	T,Z
8.2	11	477	1800	12	80	0.93	P,S,X
8.2	11	478	1800	12	80	0.93	T,Z
8.2	11	478	1800	12	80	0.93	P,S,X
8.2	11	479	1800	12	80	0.93	P,S,X
8.2	11	487	1800	12	80	0.93	T,Z
8.2	11	487	1800	12	80	0.93	P,S,X
8.2	11	488	1800	12	80	0.93	P,S,X
8.2	11	488	1800	12	80	0.93	T,Z
8.2	11	489	1800	12	80	0.93	P,S,X

SH

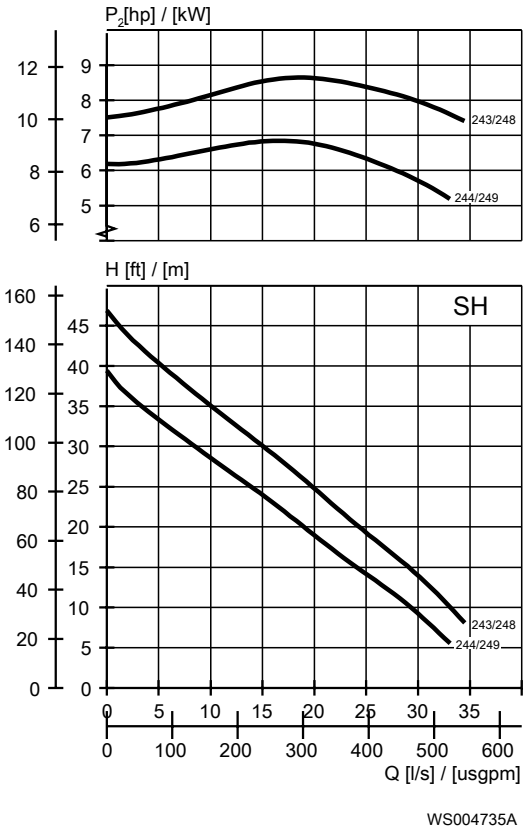


Figure 4: 3–phase

Curves for long fibrous manure: 243, 244

Table 21: 460 V, 60 Hz, 3–phase

IE3 compliance is based on Y-connected stator.

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
8.9	12	243	3600	14	113	0.87	T,Z
8.9	12	243	3600	14	113	0.87	P,S,X
8.9	12	244	3600	14	113	0.87	P,S,X
8.9	12	244	3600	14	113	0.87	T,Z
8.9	12	248	3600	14	113	0.87	P,S,X
8.9	12	248	3600	14	113	0.87	T,Z
8.9	12	249	3600	14	113	0.87	T,Z
8.9	12	249	3600	14	113	0.87	P,S,X

4 H-pump

4.1 Product description

Usage

A submersible pump for water containing abrasive particles, sludge, ground water, or slurries.

Denomination

Type	Non-explosion proof version	Explosion proof version	Pressure class	Installation types
Gray iron	3127.182	3127.091	HT — High head	S

The pump can be used in the following installations:

S Portable semipermanent, wet well arrangement with hose coupling or flange for connection to the discharge pipeline.

Application limits

Feature	Description
Liquid temperature	Maximum 40°C (104°F)
Liquid temperature, warm water version	Maximum 70°C (158°F)
Depth of immersion	Maximum 20 m (65 ft)
pH of the pumped liquid	5.5 – 14
Liquid density	Maximum 1100 kg/m^3

Motor data

Feature	Description
Motor type	Squirrel cage induction motor
Frequency	60 Hz
Power supply	3-phase
Starting method	• Direct on-line • Star-delta • Soft starter • Variable frequency drive (VFD)

Feature	Description
Number of starts for each hour	Maximum 30
Code compliance	IEC 60034-1
Voltage variation	• Continuously running: Maximum ±5% • Intermittent running: Maximum ±10%
Voltage imbalance between phases	Maximum 2%
Stator insulation class	H (180°C, 356°F)

Cables

Application	Type
Direct-on-line start or Y/D start with two cables	Flygt SUBCAB® - a heavy duty 4 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 10 mm^2 with unscreened control cores.
Y/D start	Flygt SUBCAB® - a heavy duty 7 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 7G6 mm^2 with unscreened control cores.
Variable Frequency drive	Screened Flygt SUBCAB® - a heavy duty 4 screened cores motor power cable with four twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature.

Monitoring equipment

- Thermal contacts opening temperature 125°C (257°F)

Materials

Table 22: Major parts, except mechanical seals

Denomination	Material	ASTM	EN
Major castings	Cast iron, gray	35B	GJL-250
Pump housing	Cast iron, gray	35B	GJL-250
Impeller	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Suction cover	Nitrile rubber (NBR)	-	-
Wear ring	Nitrile rubber (NBR)	-	-
Lifting handle	Stainless steel	AISI 316L	1.4404,1.4432, …
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A4	AISI 316L, 316, 316Ti	1.4401,1.4404, …

Denomination	Material	ASTM	EN
O-rings, alternative 1	Nitrile rubber (NBR) 70° IRH	-	-
O-rings, alternative 2	Fluorinated rubber (FPM) 70° IRH	-	-
Oil Part No 901752	Medical white oil of paraffin type. Fulfills FDA 172.878 (a)	-	-

Table 23: Mechanical seals

Alternative	Inner seal	Outer seal
1	Aluminum oxide (Al_2O_3)/ Corrosion resistant cemented carbide (WCCR)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)
2	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)
3	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Silicon carbide (RSiC)/ Silicon carbide (RSiC)

Surface treatment

Priming	Finish
Painted with a primer, see internal standard M0700.00.0002	Navy gray color NCS 5804-B07G. Two-component high-solid top coating, see internal standard M0700.00.0004 for standard painting and M0700.00.0008 for special painting.

Options

- Warm liquid version (non-explosion proof versions)
- Leakage sensor in the stator housing (FLS)
- Leakage sensor in the oil housing (CLS)
- Surface treatment (Epoxy)
- Zinc anodes
- Other cables

Accessories

Discharge connections, adapters, hose connections, and other mechanical accessories

Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables

4.2 Motor rating and performance curves

These are examples of motor rating and curves. For more information, please contact your local sales and service representative.

Star-delta starting current is 1/3 of Direct on-line starting current.

HT

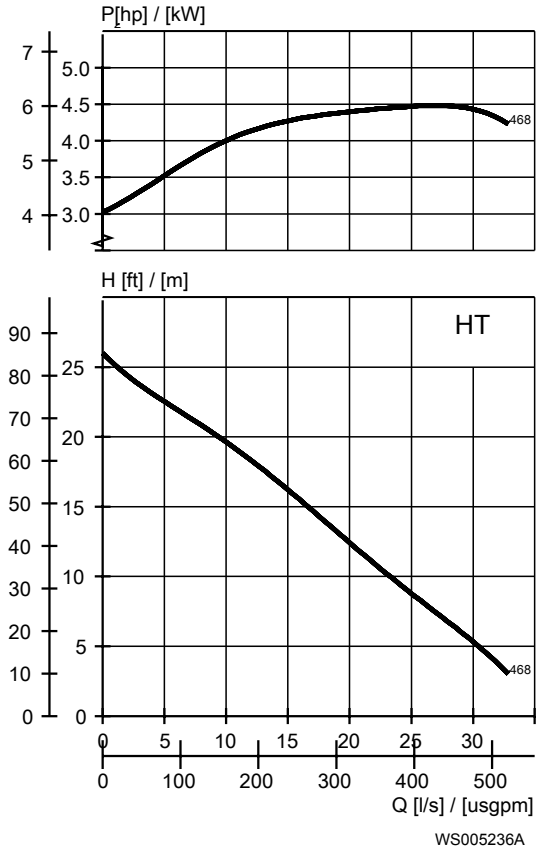


Table 24: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	468	1750	9.9	62	0.85	S
7.5	10	468	1735	13	80	0.85	S

5 M-pump

5.1 Product description

Usage

A submersible pump for wastewater containing solids that need to be macerated. The impeller is equipped with a grinder device.

Denomination

Type	Non-explosion proof version	Explosion proof version	Pressure class	Installation types
Gray iron Grinder	3127.170	3127.890	LT — Low head HT — High head	F, P

The pump can be used in the following installations:

F Free standing semipermanent, wet well arrangement where the pump is placed on a firm surface.

P Semipermanent, wet well arrangement with the pump installed on two guide bars. The connection to the discharge is automatic.

Application limits

Feature	Description
Liquid temperature	Maximum 40°C (104°F)
Depth of immersion	Maximum 20 m (65 ft)
pH of the pumped liquid	5.5 – 14
Liquid density	Maximum 1100 kg/m^3

Motor data

Feature	Description
Motor type	Squirrel cage induction motor
Frequency	60 Hz
Power supply	1-phase or 3-phase
Starting method	• Direct on-line • Star-delta • Soft starter

Feature	Description
Number of starts for each hour	Maximum 30
Code compliance	IEC 60034-1
Voltage variation	• Continuously running: Maximum ±5% • Intermittent running: Maximum ±10%
Voltage imbalance between phases	Maximum 2%
Stator insulation class	H (180°C, 356°F)

Cables

Application	Type
Direct-on-line start	Flygt SUBCAB® - a heavy duty 4 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 10 mm^2 with unscreened control cores.
Y/D start	Flygt SUBCAB® - a heavy duty 7 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 7G6 mm^2 with unscreened control cores.

Monitoring equipment

Thermal contacts opening temperature 125°C (257°F)

Materials

Table 25: Major parts, except mechanical seals

Denomination	Material	ASTM	EN
Major castings	Cast iron, gray	35B	GJL-250
Pump housing	Cast iron, gray	35B	GJL-250
Impeller, alternative 1	Cast iron, gray	30B	GJL-200
Impeller, alternative 2	Cast iron, gray	35B	GJL-250
Cutter wheel	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Cutter plate	Stainless steel	-	-
Lifting handle	Stainless steel	AISI 316L	1.4404,1.4432, …
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A4	AISI 316L, 316, 316Ti	1.4401,1.4404, …
O-rings	Nitrile rubber (NBR) 70° IRH	-	-
Oil, part no 901752	Medical white oil of paraffin type. Fulfills FDA 172.878 (a)	-	-

Table 26: Mechanical seals

Inner seal	Outer seal
Aluminum oxide (Al_2O_3)/ Corrosion resistant cemented carbide (WCCR)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)

Surface treatment

Priming	Finish
Painted with a primer, see internal standard M0700.00.0002	Navy gray color NCS 5804-B07G. Two-component high-solid top coating, see internal standard M0700.00.0004 for standard painting and M0700.00.0008 for special painting.

Options

- Leakage sensor in the stator housing (FLS)
- Leakage sensor in the oil housing (CLS)
- Surface treatment (Epoxy)
- Zinc anodes
- Other cables

Accessories

Discharge connections, adapters, hose connections, and other mechanical accessories

Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables

5.2 Motor rating and performance curves

These are examples of motor rating and curves. For more information, please contact your local sales and service representative.

Star-delta starting current is 1/3 of Direct on-line starting current.

LT

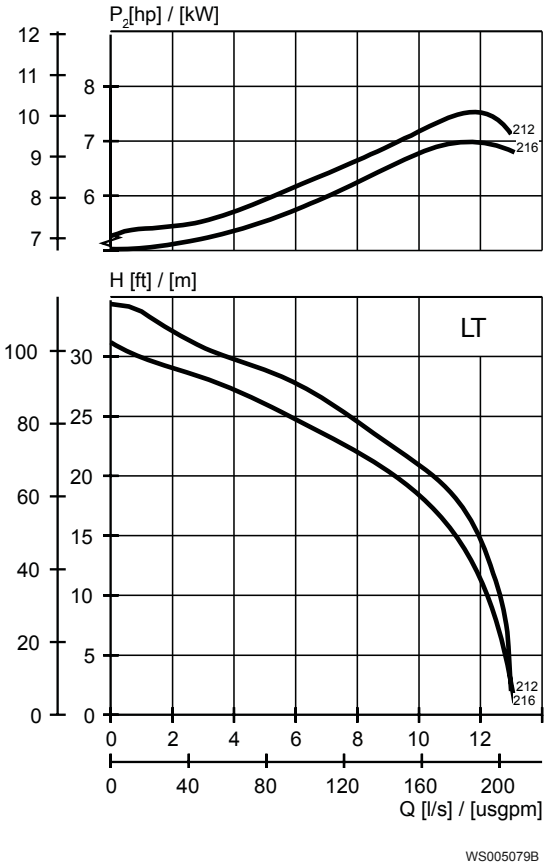


Table 27: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
8.2	11	212	3510	13	120	0.88	F,P
8.2	11	216	3510	13	120	0.88	F,P

Table 28: 230 V, 60 Hz, 1–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
7	9.4	216	3430	38	134	1	F,P

HT

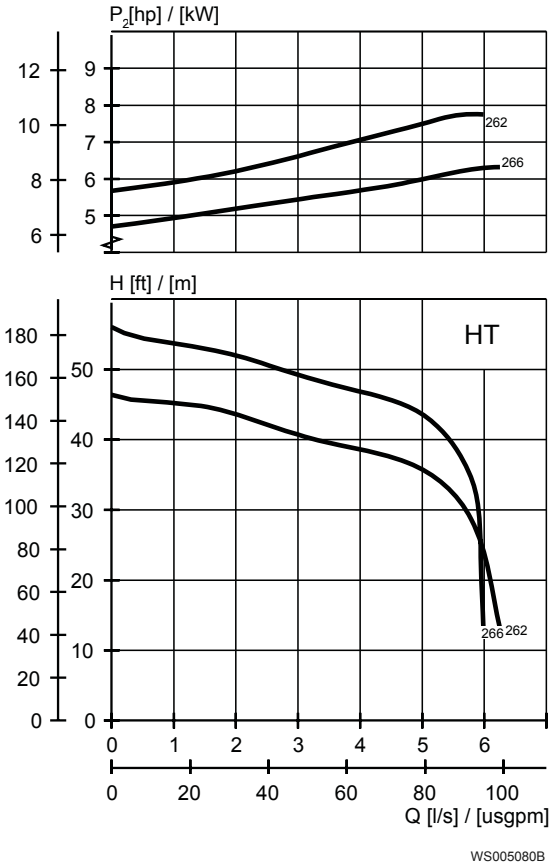


Table 29: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
8.2	11	262	3510	13	120	0.88	F,P
8.2	11	266	3510	13	120	0.88	F,P

Table 30: 230 V, 60 Hz, 1–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
7	9.4	266	3430	38	134	1	F,P

6 N-pump, Standard Motor

6.1 Product description

Usage

Installation type P, S, T, Z	A submersible pump for efficient pumping of clean water, surface water, and wastewater containing solids or long-fibered material. The pump is designed for sustained high efficiency. For abrasive media, Hard-Iron™ is required. Stainless steel N-impeller is available as an option.
Installation type L	A submersible pump for a mixed flow of clean water, surface water, or storm water. Intended for high flow and low head applications, in column installation. The pump is designed for sustained high efficiency.

Denomination

Table 31: Adaptive N-hydraulic

Impeller material	Non-explosion proof version	Explosion proof version	Pressure class	Installation types
Hard-Iron™	3127.060	3127.070	LT — Low head MT — Medium head HT — High head SH — Super head	L, P, S, T, Z, X
Cast iron, gray	3127.161	3127.191	LT — Low head MT — Medium head HT — High head SH — Super head	L, P, S, T, Z, X
Stainless steel	3127.761	3127.771	LT — Low head MT — Medium head HT — High head SH — Super head	L, P, S, T, Z, X

The pump can be used in the following installations:

L Vertical semipermanent, wet well column pipe arrangement where the well is divided into a suction part and a discharge part. Pump end equipped with guide vanes.

P Semipermanent, wet well arrangement with the pump installed on two guide bars. The connection to the discharge is automatic.

S Portable semipermanent, wet well arrangement with hose coupling or flange for connection to the discharge pipeline.

T Vertical permanent, dry well arrangement with flange connection to the suction and discharge piping.

Z Horizontal permanent, dry well arrangement with flange connection to the suction and discharge piping.

X Optional installation, wet or dry well arrangement without predetermined mechanical connection and with drilled flanges. Dry well arrangement requires cooling system or de-rated motor.

Application limits

Feature	Description
Liquid temperature	Maximum 40°C (104°F)
Liquid temperature, warm water version	Maximum 70°C (158°F)
Depth of immersion	Maximum 20 m (65 ft)
pH of the pumped liquid	5.5 – 14
Liquid density	Maximum 1100 kg/m^3

Motor data

Feature	Description
Motor type	Squirrel cage induction motor
Frequency	60 Hz
Power supply	1-phase or 3-phase
Starting method	• Direct on-line • Star-delta • Soft starter • Variable frequency drive (VFD)
Number of starts for each hour	Maximum 30
Code compliance	IEC 60034-1
Voltage variation	• Continuously running: Maximum ±5% • Intermittent running: Maximum ±10%
Voltage imbalance between phases	Maximum 2%
Stator insulation class	H (180°C, 356°F)

Motor encapsulation

Motor encapsulation is in accordance with IP68.

Cables

Application	Type
Direct-on-line start	Flygt SUBCAB® - a heavy duty 4 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 10 mm^2 with unscreened control cores.
Y/D start	Flygt SUBCAB® - a heavy duty 7 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 7G6 mm^2 with unscreened control cores.
Variable Frequency drive	Screened Flygt SUBCAB® - a heavy duty 4 screened cores motor power cable with four twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature.

Monitoring equipment

Thermal contacts opening temperature 125°C (257°F)

Materials

Table 32: Major parts, except mechanical seals

Denomination	Material	ASTM	EN
Major castings	Cast iron, gray	35B	GJL-250
Pump housing	Cast iron, gray	35B	GJL-250
Impeller, alternative 1	Cast iron, gray	35B	GJL-250
Impeller, alternative 2	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Impeller, alternative 3	Stainless steel, Duplex	CD-4MCuN	10283:2010 -1.4474
Insert ring, alternative 1	Cast iron, gray	35B	GJL-250
Insert ring, alternative 2	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Lifting handle	Stainless steel	AISI 316L	1.4404,1.4432, …
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A4	AISI 316L, 316, 316Ti	1.4401,1.4404, …
O-rings, alternative 1	Nitrile rubber (NBR) 70° IRH	-	-
O-rings, alternative 2	Fluorinated rubber (FPM) 70° IRH	-	-
Oil, part no 901752	Medical white oil of paraffin type. Fulfills FDA 172.878 (a)	-	-

Table 33: Mechanical seals

Alternative	Inner seal	Outer seal
1	Corrosion resistant cemented carbide (WCCR)/ Aluminum oxide (Al_2O_3)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)
2	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Silicon carbide (RSiC)/ Silicon carbide (RSiC)
3	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)

Surface treatment

Priming	Finish
Painted with a primer, see internal standard M0700.00.0002	Navy gray color NCS 5804-B07G. Two-component high-solid top coating, see internal standard M0700.00.0004 for standard painting and M0700.00.0008 for special painting.

Options

- Warm liquid version (non-explosion proof versions)
- Leakage sensor in the stator housing (FLS)
- Leakage sensor in the oil housing (CLS)
- Surface treatment (Epoxy)
- Zinc anodes
- Other cables

Accessories

Discharge connections, adapters, hose connections, and other mechanical accessories

Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables

6.2 Motor rating and performance curves

These are examples of motor rating and curves. For more information, please contact your local sales and service representative.

Star-delta starting current is 1/3 of Direct on-line starting current.

LT

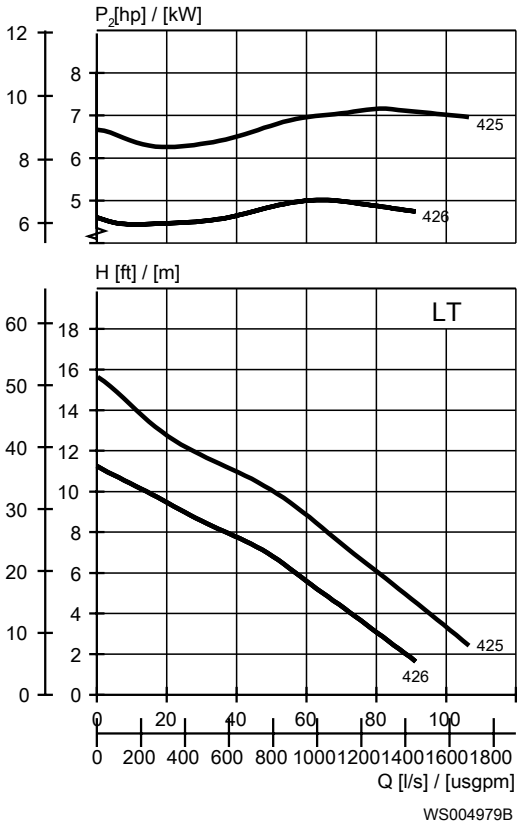


Table 34: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	426	1750	9.9	62	0.85	L
5.6	7.5	426	1750	9.9	62	0.85	P,S,X
5.6	7.5	426	1750	10	80	0.81	T,Z
7.5	10	425	1735	13	80	0.85	P,S,X
7.5	10	425	1735	13	80	0.85	T,Z
7.5	10	426	1735	13	80	0.85	L
7.5	10	426	1735	13	80	0.85	P,S,X

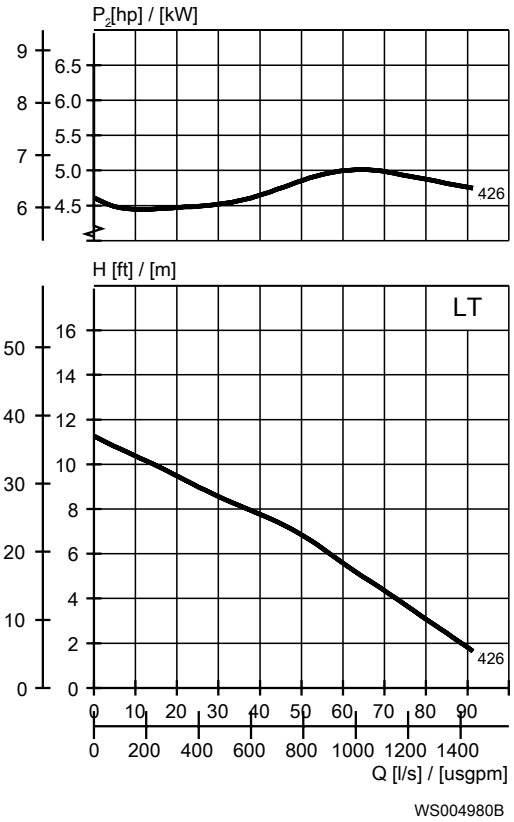


Table 35: 230 V, 60 Hz, 1–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	426	1745	30	66	0.96	P,S,X

MT

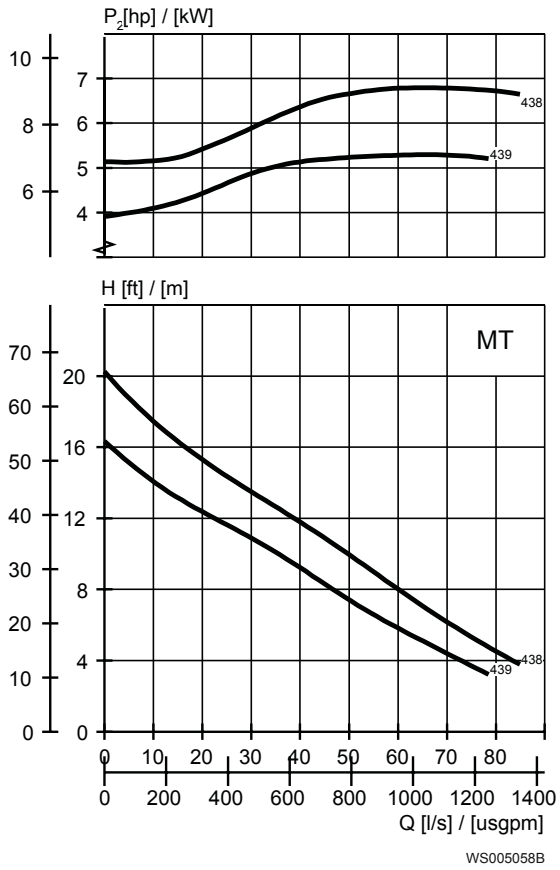


Table 36: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	439	1750	9.9	62	0.85	P,S,X
5.6	7.5	439	1750	10	80	0.81	T,Z
7.5	10	438	1735	13	80	0.85	T,Z
7.5	10	438	1735	13	80	0.85	P,S,X
7.5	10	439	1735	13	80	0.85	P,S,X

Table 37: 230 V, 60 Hz, 1–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	439	1745	30	66	0.96	P,S,X

HT

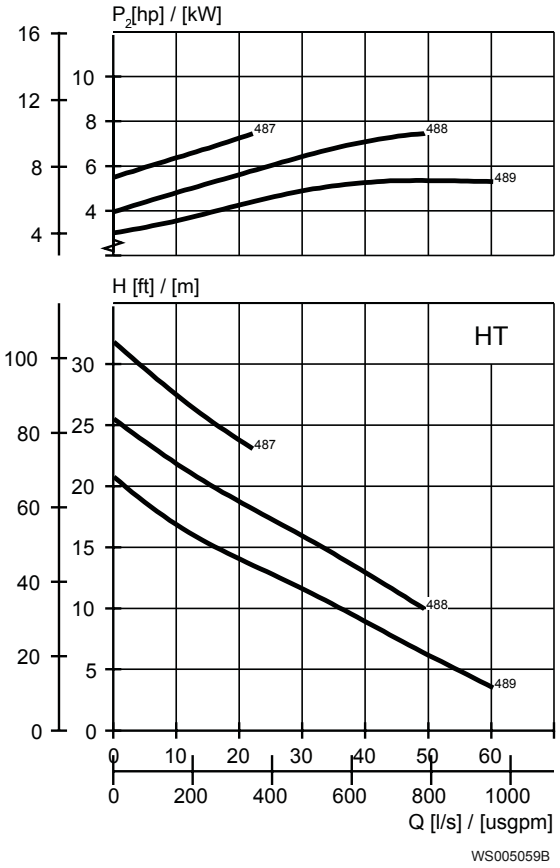


Table 38: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	489	1750	9.9	62	0.85	P,S,X
5.6	7.5	489	1750	10	80	0.81	T,Z
7.5	10	487	1735	13	80	0.85	T,Z
7.5	10	487	1735	13	80	0.85	P,S,X
7.5	10	488	1735	13	80	0.85	T,Z
7.5	10	488	1735	13	80	0.85	P,S,X
7.5	10	489	1735	13	80	0.85	P,S,X

Table 39: 230 V, 60 Hz, 1–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.6	7.5	489	1745	30	66	0.96	P,S,X

SH

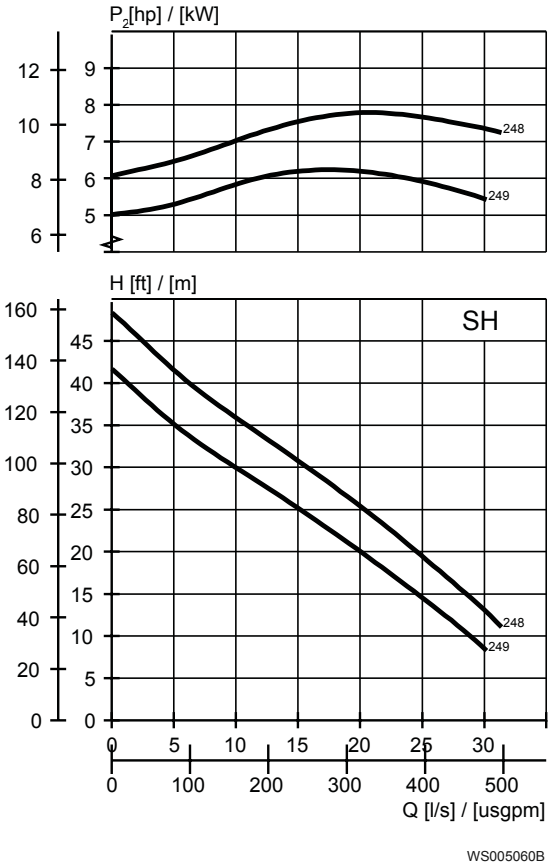


Table 40: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
4.8	6.4	445	1760	8.6	62	0.82	T,Z
4.8	6.4	446	1760	8.6	62	0.82	T,Z
5.6	7.5	445	1750	9.9	62	0.85	P,S,X
5.6	7.5	445	1750	10	80	0.81	T,Z
5.6	7.5	446	1750	9.9	62	0.85	P,S,X
5.6	7.5	446	1750	10	80	0.81	T,Z
7.5	10	445	1735	13	80	0.85	P,S,X
7.5	10	446	1735	13	80	0.85	P,S,X
8.2	11	247	3510	13	120	0.88	T,Z
8.2	11	247	3510	13	120	0.88	P,S,X
8.2	11	248	3510	13	120	0.88	T,Z
8.2	11	248	3510	13	120	0.88	P,S,X
8.2	11	249	3510	13	120	0.88	P,S,X
8.2	11	249	3510	13	120	0.88	T,Z

7 N-pump, Premium Efficiency Motor (IE3)

7.1 Product description

Usage

Installation type P, S, T, Z	A submersible pump for efficient pumping of clean water, surface water, and wastewater containing solids or long-fibered material. The pump is designed for sustained high efficiency. For abrasive media, Hard-Iron™ is required. Stainless steel N-impeller is available as an option.
Installation type L	A submersible pump for a mixed flow of clean water, surface water, or storm water. Intended for high flow and low head applications, in column installation. The pump is designed for sustained high efficiency.

Denomination

Table 41: Adaptive N-hydraulic

Impeller material	Non-explosion proof version	Explosion proof version	Pressure class	Installation types
Hard-Iron™	3127.920	3127.930	LT — Low head MT — Medium head HT — High head SH — Super head	L, P, S, T, Z, X
Cast iron, gray	3127.901	3127.911	LT — Low head MT — Medium head HT — High head SH — Super head	L, P, S, T, Z, X
Stainless steel	3127.961	3127.971	LT — Low head MT — Medium head HT — High head SH — Super head	L, P, S, T, Z, X

The pump can be used in the following installations:

L Vertical semipermanent, wet well column pipe arrangement where the well is divided into a suction part and a discharge part. Pump end equipped with guide vanes.

P Semipermanent, wet well arrangement with the pump installed on two guide bars. The connection to the discharge is automatic.

S Portable semipermanent, wet well arrangement with hose coupling or flange for connection to the discharge pipeline.

T Vertical permanent, dry well arrangement with flange connection to the suction and discharge piping.

Z Horizontal permanent, dry well arrangement with flange connection to the suction and discharge piping.

X Optional installation, wet or dry well arrangement without predetermined mechanical connection and with drilled flanges. Dry well arrangement requires cooling system or de-rated motor.

Application limits

Feature	Description
Liquid temperature	Maximum 40°C (104°F)
Depth of immersion	Maximum 20 m (65 ft)
pH of the pumped liquid	5.5 – 14
Liquid density	Maximum 1100 kg/m^3

Motor data

Feature	Description
Motor type	Line started permanent magnet synchronous motor (LSPM)
Frequency	60 Hz
Power supply	3-phase
Starting method	• Direct on-line • Star-delta • Soft starter • Variable frequency drive (VFD)
Number of starts for each hour	Maximum 30
Code compliance	IEC 60034-1
Voltage variation	• Continuously running: Maximum ±5% • Intermittent running: Maximum ±10%
Voltage imbalance between phases	Maximum 2%
Stator insulation class	H (180°C, 356°F)

Motor encapsulation

Motor encapsulation is in accordance with IP68.

Cables

Application	Type
Direct-on-line start	Flygt SUBCAB® - a heavy duty 4 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 10 mm^2 with unscreened control cores.
Y/D start	Flygt SUBCAB® - a heavy duty 7 cores motor power cable with two twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature. Cables < 7G6 mm^2 with unscreened control cores.
Variable Frequency drive	Screened Flygt SUBCAB® - a heavy duty 4 screened cores motor power cable with four twisted pair screened control cores. Conductor insulation rating of 90°C, which allows for increased current. Superior mechanical strength and high abrasion and tear resistant. Chemical resistant within pH 3-10 and ozone, oil, and flame resistant. Used up to 70°C water temperature.

Monitoring equipment

- Thermal contacts opening temperature 125°C (257°F)

Materials

Table 42: Major parts, except mechanical seals

Denomination	Material	ASTM	EN
Major castings	Cast iron, gray	35B	GJL-250
Pump housing	Cast iron, gray	35B	GJL-250
Impeller, alternative 1	Cast iron, gray	35B	GJL-250
Impeller, alternative 2	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Impeller, alternative 3	Stainless steel, Duplex	CD-4MCuN	10283:2010 -1.4474
Insert ring, alternative 1	Cast iron, gray	35B	GJL-250
Insert ring, alternative 2	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Lifting handle	Stainless steel	AISI 316L	1.4404,1.4432, …
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A4	AISI 316L, 316, 316Ti	1.4401,1.4404, …
O-rings, alternative 1	Nitrile rubber (NBR) 70° IRH	-	-
O-rings, alternative 2	Fluorinated rubber (FPM) 70° IRH	-	-
Oil, part no 901752	Medical white oil of paraffin type. Fulfills FDA 172.878 (a)	-	-

Table 43: Mechanical seals

Alternative	Inner seal	Outer seal
1	Corrosion resistant cemented carbide (WCCR)/ Aluminum oxide (Al_2O_3)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)
2	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Silicon carbide (RSiC)/ Silicon carbide (RSiC)
3	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)	Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR)

Surface treatment

All cast parts are primed with a water-borne primer. The finishing coat is a high-solid two pack paint.

Priming	Finish
Painted with a primer, see internal standard M0700.00.0002	Navy gray color NCS 5804-B07G. Two-component high-solid top coating, see internal standard M0700.00.0004 for standard painting and M0700.00.0008 for special painting.

Options

- Leakage sensor in the stator housing (FLS)
- Leakage sensor in the oil housing (CLS)
- Surface treatment (Epoxy)
- Zinc anodes
- Other cables

Accessories

Discharge connections, adapters, hose connections, and other mechanical accessories

Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables

7.2 Motor rating and performance curves

These are examples of motor rating and curves. For more information, please contact your local sales and service representative.

Star-delta starting current is 1/3 of Direct on-line starting current.

LT

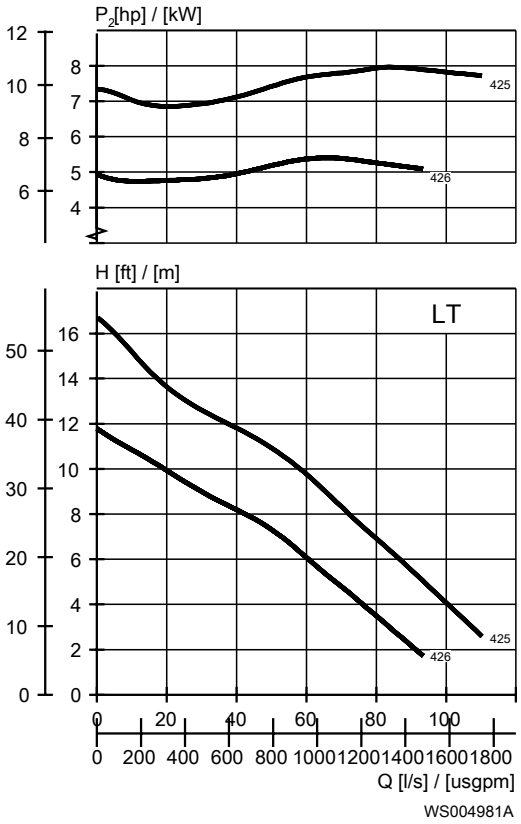


Table 44: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
6.3	8.5	426	1800	9.3	80	0.92	L
6.3	8.5	426	1800	9.3	80	0.92	P,S,X
6.5	8.7	426	1800	9.5	80	0.93	T,Z
8.2	11	425	1800	12	80	0.93	P,S,X
8.2	11	425	1800	12	80	0.93	T,Z
8.2	11	426	1800	12	80	0.93	L
8.2	11	426	1800	12	80	0.93	P,S,X

MT

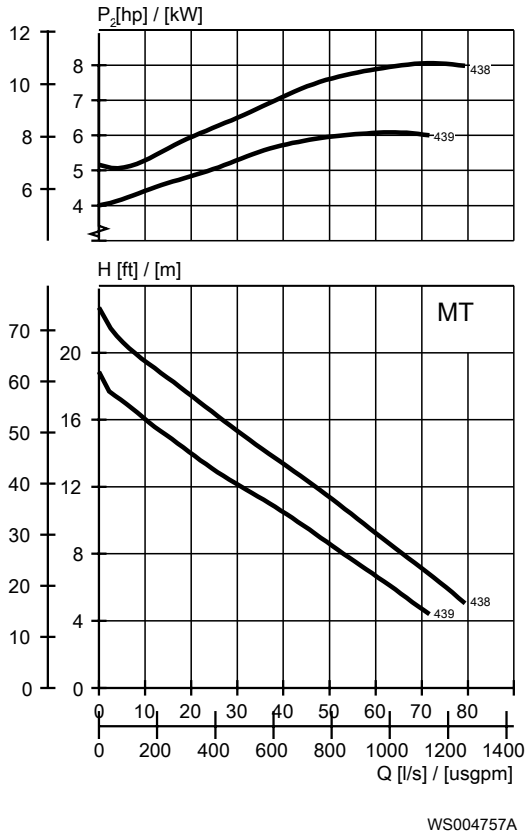


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Table 45: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5.5	7.4	439	1500	9.6	76	0.9	T,Z
6.3	8.5	439	1800	9.3	80	0.92	P,S,X
6.5	8.7	439	1800	9.5	80	0.93	T,Z
6.5	8.7	439	1500	11	76	0.91	P,S,X
8.2	11	438	1800	12	80	0.93	T,Z
8.2	11	438	1800	12	80	0.93	P,S,X
8.2	11	439	1800	12	80	0.93	P,S,X

HT

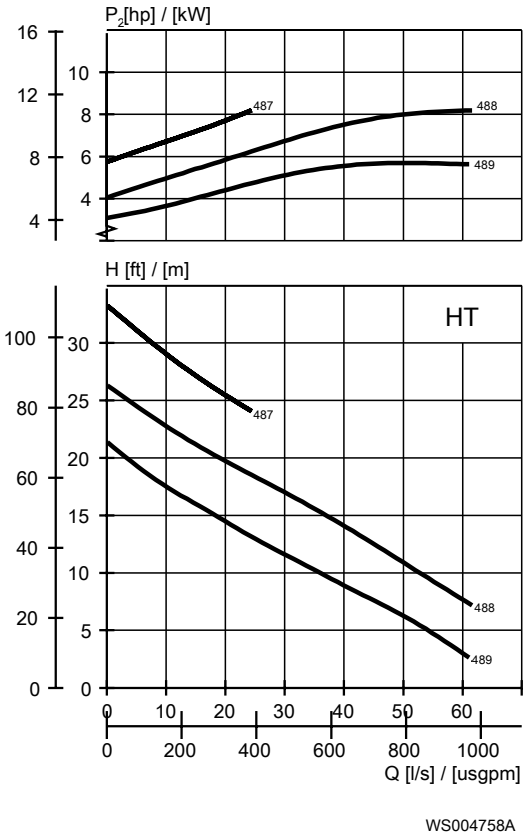


Table 46: 460 V, 60 Hz, 3–phase

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
5	6.7	488	1500	8.9	76	0.89	P,S,X
5	6.7	489	1500	8.9	76	0.89	P,S,X
5.5	7.4	488	1500	9.6	76	0.9	T,Z
5.5	7.4	489	1500	9.6	76	0.9	T,Z
6.3	8.5	489	1800	9.3	80	0.92	P,S,X
6.5	8.7	486	1500	11	76	0.91	P,S,X
6.5	8.7	486	1500	11	76	0.91	T,Z
6.5	8.7	487	1500	11	76	0.91	P,S,X
6.5	8.7	487	1500	11	76	0.91	T,Z
6.5	8.7	488	1500	11	76	0.91	P,S,X
6.5	8.7	489	1800	9.5	80	0.93	T,Z
6.5	8.7	489	1500	11	76	0.91	P,S,X
8.2	11	487	1800	12	80	0.93	T,Z
8.2	11	487	1800	12	80	0.93	P,S,X
8.2	11	488	1800	12	80	0.93	T,Z
8.2	11	488	1800	12	80	0.93	P,S,X
8.2	11	489	1800	12	80	0.93	P,S,X

SH

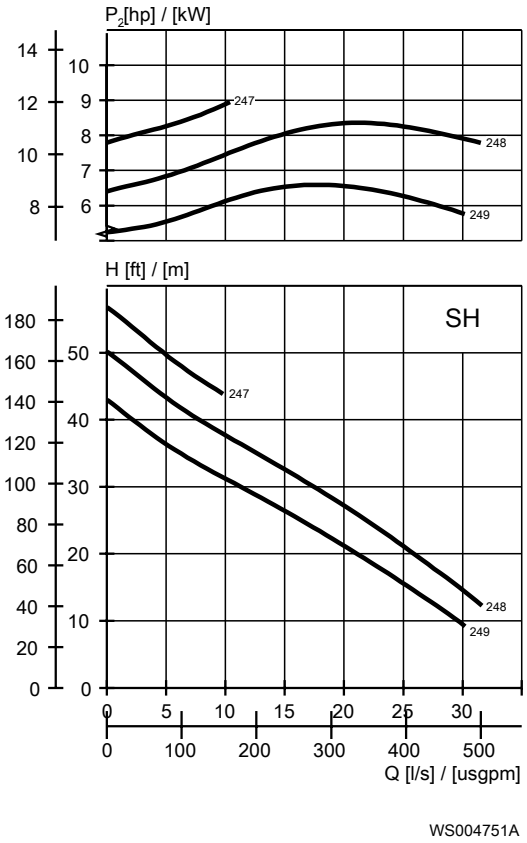


Table 47: 460 V, 60 Hz, 3–phase

IE3 compliance is based on Y-connected stator.

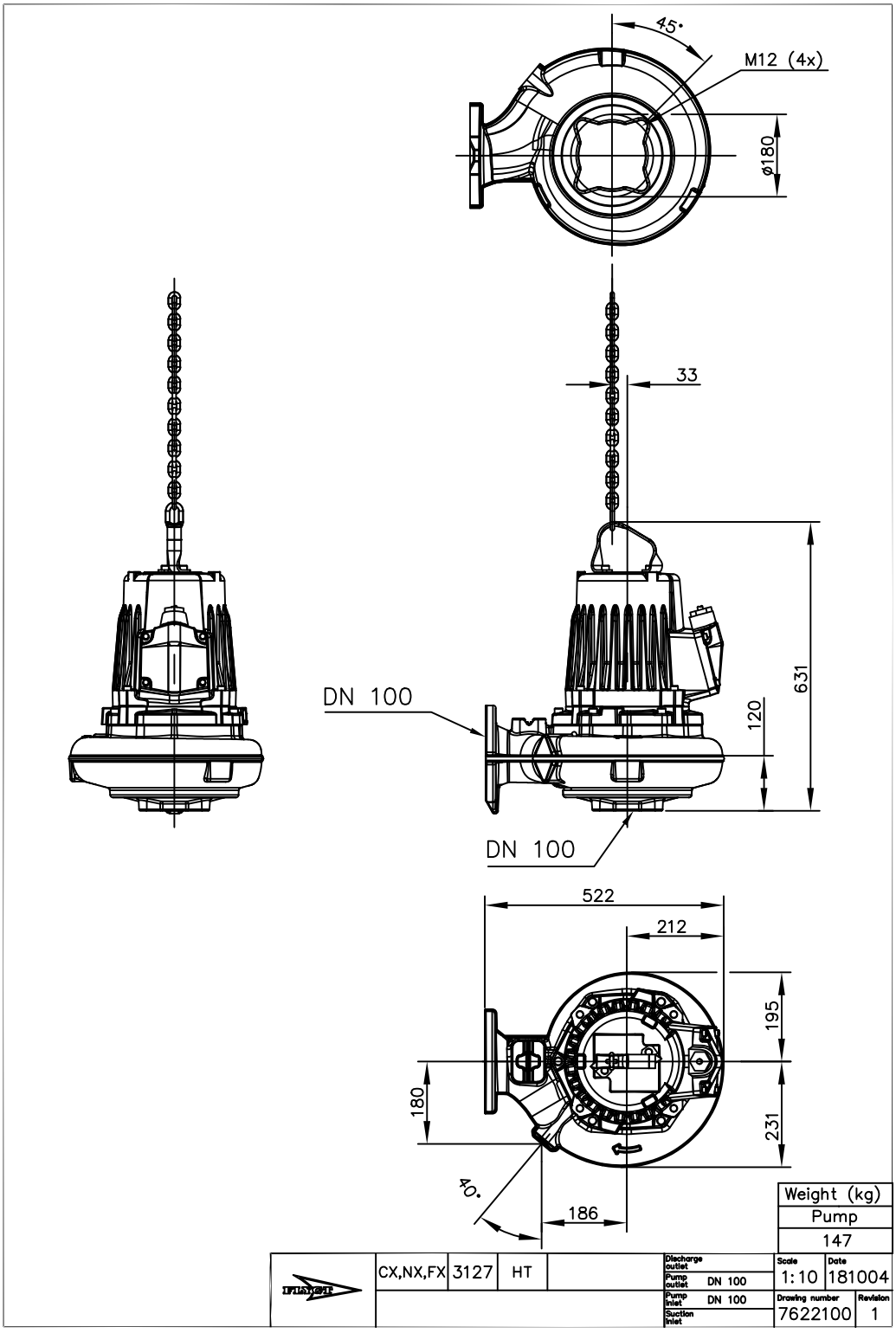
Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
8.9	12	247	3600	14	113	0.87	T,Z
8.9	12	247	3600	14	113	0.87	P,S,X
8.9	12	248	3600	14	113	0.87	T,Z
8.9	12	248	3600	14	113	0.87	P,S,X
8.9	12	249	3600	14	113	0.87	P,S,X
8.9	12	249	3600	14	113	0.87	T,Z

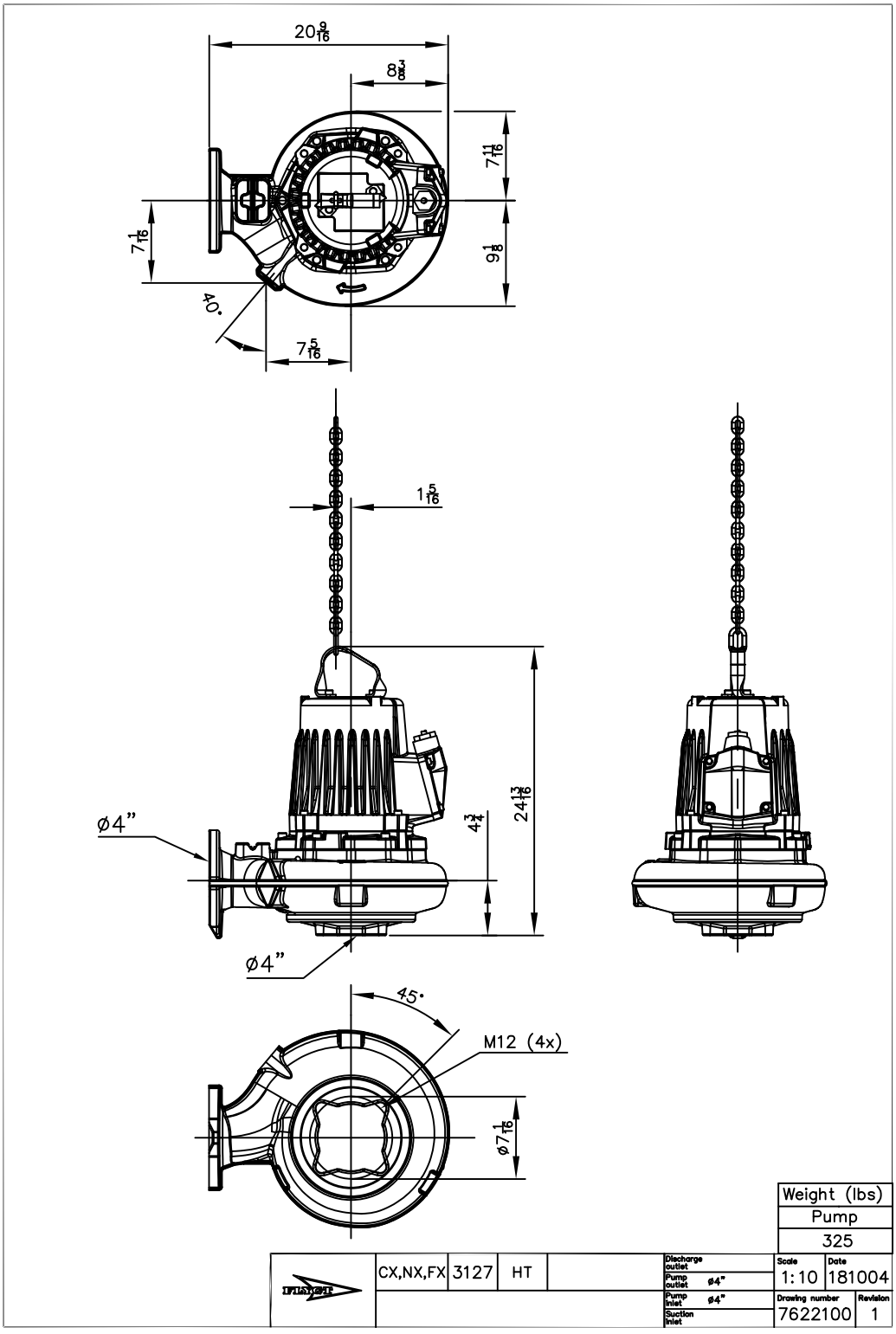
8 Dimensions and Weight

8.1 Drawings

These drawings are included as examples.

All drawings are available as Acrobat documents (.pdf) and AutoCad drawings (.dwg). Contact a local sales and service representative for more information.




20 9/16
8 7/8
7 11/16
7 1/16
9 1/8
40°
7 5/16
1 5/16
24 13/16
4 3/4
ø4”
ø4”
45°
M12 (4x)
ø7 1/16
Weight (lbs)
Pump
325
CX,NX,FX
3127
HT
Discharge outlet
Pump outlet ø4”
Pump inlet ø4”
Suction inlet
Scale
1:10
Date
181004
Drawing number
7622100
Revision
1

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2) a leading global water technology company.

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