



## Flygt 3068, 50Hz

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# B-pump

## Product description



### Usage

A submersible pump for dewatering of construction sites, flood cleaning operations, and other similar applications.

### Denomination

Type	Non explosion proof version	Explosion proof version	Pressure class	Installation types
Cast iron	3068.250	3068.590	HT – High head	P, S

The pump can be used in the following installations:

- P** Semi permanent, wet well arrangement with pump installed on two guide bars with automatic connection to discharge.
- S** Portable semi permanent, wet well arrangement with hose coupling or flange for connection to 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 <sup>3</sup>

### Motor data

Feature	Description
Motor type	Squirrel-cage induction motor
Frequency	50 Hz
Power supply	1-phase or 3-phase

Feature	Description
Starting method	<ul style="list-style-type: none"> <li>• Direct on-line</li> <li>• Star-delta</li> <li>• Soft starter</li> </ul>
Number of starts per hour	Maximum 15
Code compliance	IEC 60034-1
Rated output variation	±10%
Voltage variation	<ul style="list-style-type: none"> <li>• Continuously running: Maximum ±5%</li> <li>• Intermittent running: Maximum ±10%</li> </ul>
Voltage imbalance between phases	Maximum 2%
Stator insulation class	F (+155°C)

### 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 <sup>2</sup> 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 <sup>2</sup> with unscreened control cores.

### 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	30B	GJL-200
Pump housing	Cast iron, gray	35B	GJL-250
Impeller, alternative 1	Steel, quenched and tempered	-	-
Impeller, alternative 2	Stainless steel	A 743 CF-8	1,4308
Lifting handle	Stainless steel	AISI 304	1,4301
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A2	AISI 304	1.4301, 1.4306, 1.4307, 1.4311
O-rings, alternative 1	Nitrile rubber (NBR) 70° IRH	-	-

Denomination	Material	ASTM	EN
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	Carbon/ Aluminum oxide	Aluminum oxide/ Corrosion resistant cemented carbide
2	Carbon/ Aluminum oxide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide
3	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide
4	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	Silicon carbide/ Silicon carbide
5	Carbon/ Aluminum oxide	Silicon carbide/ Silicon carbide

**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)
- Surface treatment (Epoxy)
- Other cables

**Accessories**

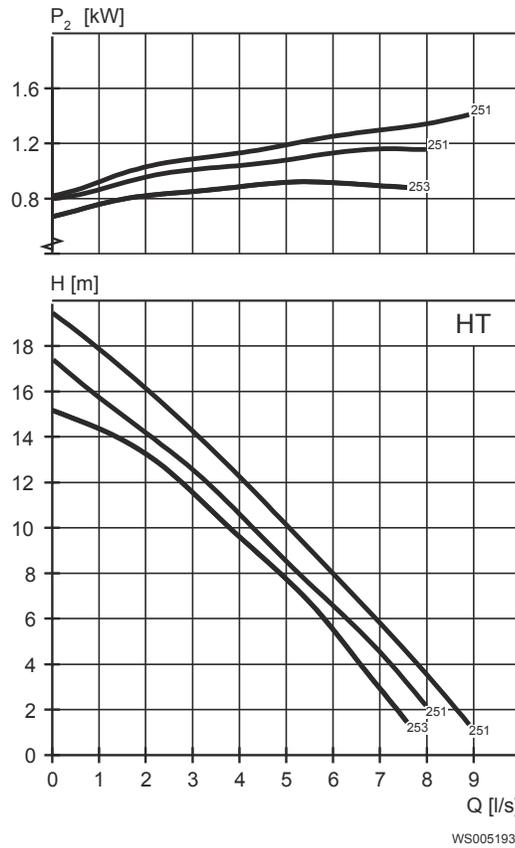
Discharge connections, adapters, hose connections, and other mechanical accessories.  
Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables.

**Motor rating and performance curves**

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

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

HT



**Table 3: 400 V, 50 Hz, 3-phase**

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, $\cos \varphi$	Installation
1.7	2.3	251	2695	3.8	17	.87	P,S
1.7	2.3	253	2695	3.8	17	.87	P,S

**Table 4: 230 V, 50 Hz, 1-phase**

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, $\cos \varphi$	Installation
1.5	2	251	2730	8.9	28	0.99	P,S
1.5	2	253	2730	8.9	28	0.99	P,S

# C-pump

## Product description



### Usage

A submersible pump for wastewater containing solids or fibred material, clean water, or surface water.

### Denomination

Type	Non explosion proof version	Explosion proof version	Pressure class	Installation types
Cast iron	3068.180	3068.090	HT – High head	F, P, S

The pump can be used in the following installations:

- F** Free standing semi permanent, wet well arrangement where the pump is placed on a firm surface.
- P** Semi permanent, wet well arrangement with pump installed on two guide bars with automatic connection to discharge.
- S** Portable semi permanent, wet well arrangement with hose coupling or flange for connection to 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 <sup>3</sup>

### Motor data

Feature	Description
Motor type	Squirrel-cage induction motor

Feature	Description
Frequency	50 Hz
Power supply	1-phase or 3-phase
Starting method	<ul style="list-style-type: none"> <li>• Direct on-line</li> <li>• Star-delta</li> <li>• Soft starter</li> </ul>
Number of starts per hour	Maximum 15
Code compliance	IEC 60034-1
Rated output variation	±10%
Voltage variation	<ul style="list-style-type: none"> <li>• Continuously running: Maximum ±5%</li> <li>• Intermittent running: Maximum ±10%</li> </ul>
Voltage imbalance between phases	Maximum 2%
Stator insulation class	F (+155°C)

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 <sup>2</sup> 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 <sup>2</sup> with unscreened control cores.

Monitoring equipment

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

Materials

**Table 5: Major parts except mechanical seals**

Denomination	Material	ASTM	EN
Major castings	Cast iron, gray	35B	GJL-250
Pump housing	Cast iron, gray	30B	GJL-200
Impeller	Cast iron, gray	35B	GJL-250
Wear ring	Bronze	C924	CC491K, CC492K
Lifting handle	Stainless steel	AISI 304	1,4301
Shaft	Stainless steel	AISI 431	1.4057+QT800

Denomination	Material	ASTM	EN
Screws and nuts	Stainless steel, A2	AISI 304	1.4301, 1.4306, 1.4307, 1.4311
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 6: Mechanical seals**

Alternative	Inner seal	Outer seal
1	Carbon/ Aluminum oxide	Aluminum oxide/ Corrosion resistant cemented carbide
2	Carbon/ Aluminum oxide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide
3	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide
4	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	Silicon carbide/ Silicon carbide
5	Carbon/ Aluminum oxide	Silicon carbide/ Silicon carbide

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

**Accessories**

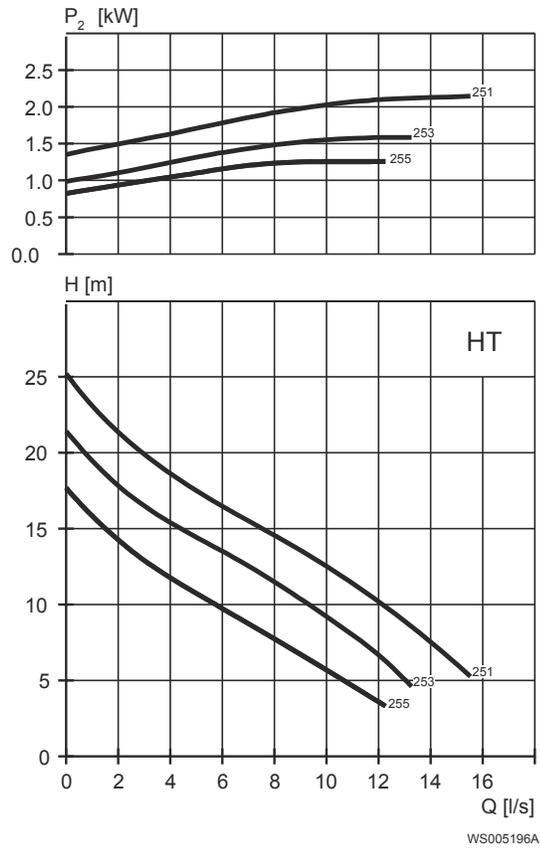
Discharge connections, adapters, hose connections, and other mechanical accessories. Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables.

**Motor rating and performance curves**

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

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

HT



**Table 7: 400 V, 50 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
1.7	2.3	253	2695	3.8	17	.87	F,P,S
1.7	2.3	255	2695	3.8	17	.87	F,P,S
2.4	3.2	251	2775	5.1	27	.86	F,P,S
2.4	3.2	253	2775	5.1	27	.86	F,P,S
2.4	3.2	255	2775	5.1	27	.86	F,P,S

**Table 8: 230 V, 50 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
1.5	2	253	2695	9.4	27	1	F,P,S
1.5	2	255	2695	9.4	27	1	F,P,S

# D-pump

## 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
Cast iron	3068.180	3068.090	<ul style="list-style-type: none"> <li>• MT – Medium head</li> <li>• HT – High head</li> </ul>	F, P, S
Cast iron	3068.250	3068.590	<ul style="list-style-type: none"> <li>• LT – Low head</li> </ul>	P, S

The pump can be used in the following installations:

- F** Free standing semi permanent, wet well arrangement where the pump is placed on a firm surface.
- P** Semi permanent, wet well arrangement with pump installed on two guide bars with automatic connection to discharge.
- S** Portable semi permanent, wet well arrangement with hose coupling or flange for connection to 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 <sup>3</sup>

Motor data

Feature	Description
Motor type	Squirrel-cage induction motor
Frequency	50 Hz
Power supply	1-phase or 3-phase
Starting method	<ul style="list-style-type: none"> <li>• Direct on-line</li> <li>• Star-delta</li> <li>• Soft starter</li> <li>• Variable Frequency Drive (VFD)  , only applicable for pressure class MT with four pole motor</li> </ul>
Number of starts per hour	Maximum 15
Code compliance	IEC 60034-1
Rated output variation	±10%
Voltage variation	<ul style="list-style-type: none"> <li>• Continuously running: Maximum ±5%</li> <li>• Intermittent running: Maximum ±10%</li> </ul>
Voltage imbalance between phases	Maximum 2%
Stator insulation class	F (+155°C)

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 <sup>2</sup> 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 <sup>2</sup> with unscreened control cores.

Monitoring equipment

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

Materials

**Table 9: Major parts except mechanical seals**

Denomination	Material	ASTM	EN
Major castings	Cast iron, gray	35B	GJL-250
Pump housing, alternative 1	Cast iron, gray	30B	GJL-200

Denomination	Material	ASTM	EN
Pump housing, alternative 2	Cast iron, gray	35B	GJL-250
Impeller, alternative 1	Cast iron, gray	35B	GJL-250
Impeller, alternative 2	Cast iron, gray	30B	GJL-200
Impeller, alternative 3	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Impeller, alternative 4	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Lifting handle	Stainless steel	AISI 304	1,4301
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A2	AISI 304	1.4301, 1.4306, 1.4307, 1.4311
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 10: Mechanical seals**

Alternative	Inner seal	Outer seal
1	Carbon/ Aluminum oxide	Aluminum oxide/ Corrosion resistant cemented carbide
2	Carbon/ Aluminum oxide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide
3	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide
4	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	Silicon carbide/ Silicon carbide
5	Carbon/ Aluminum oxide	Silicon carbide/ Silicon carbide

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

**Accessories**

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

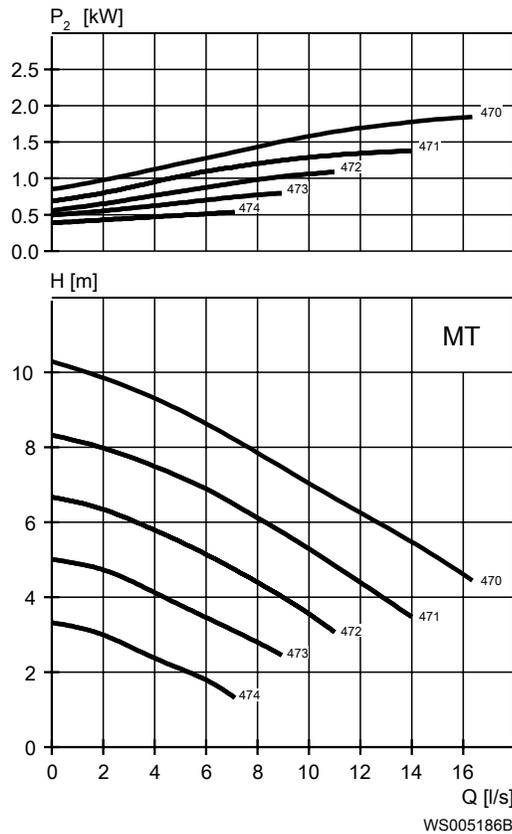
Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables.

## Motor rating and performance curves 3068.180/.090

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

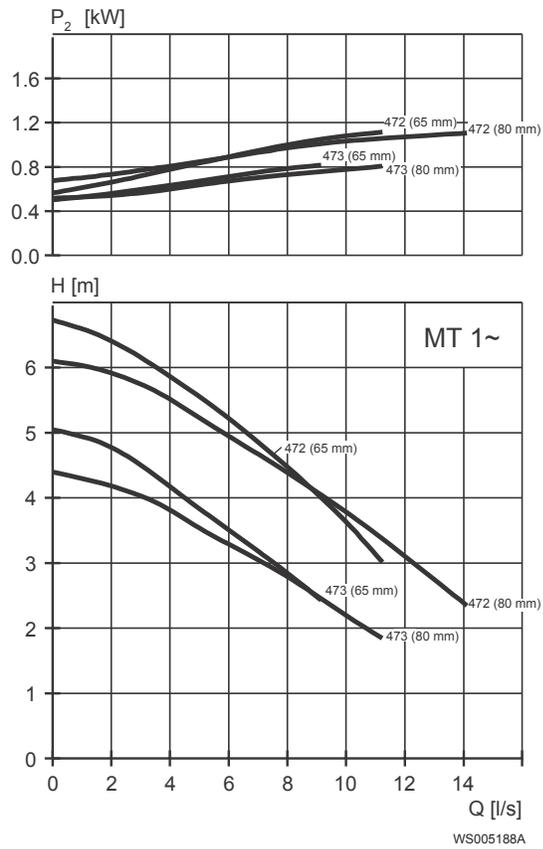
Star-delta starting current is 1/3 of Direct on-line starting current.

MT



**Table 11: 400 V, 50 Hz, 3-phase**

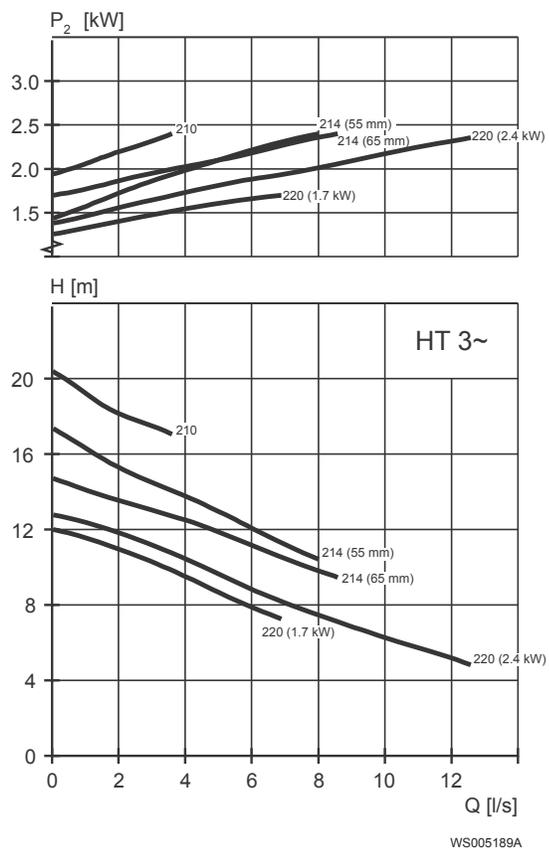
Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
1.5	2	471	1370	4.4	16	.76	F,P,S
1.5	2	472	1370	4.4	16	.76	F,P,S
1.5	2	473	1370	4.4	16	.76	F,P,S
1.5	2	474	1370	4.4	16	.76	F,P,S
2	2.7	470	1360	5.0	20	.83	F,P,S
2	2.7	471	1360	5.0	20	.83	F,P,S
2	2.7	472	1360	5.0	20	.83	F,P,S
2	2.7	473	1360	5.0	20	.83	F,P,S
2	2.7	474	1360	5.0	20	.83	F,P,S



**Table 12: 230 V, 50 Hz, 1-phase**

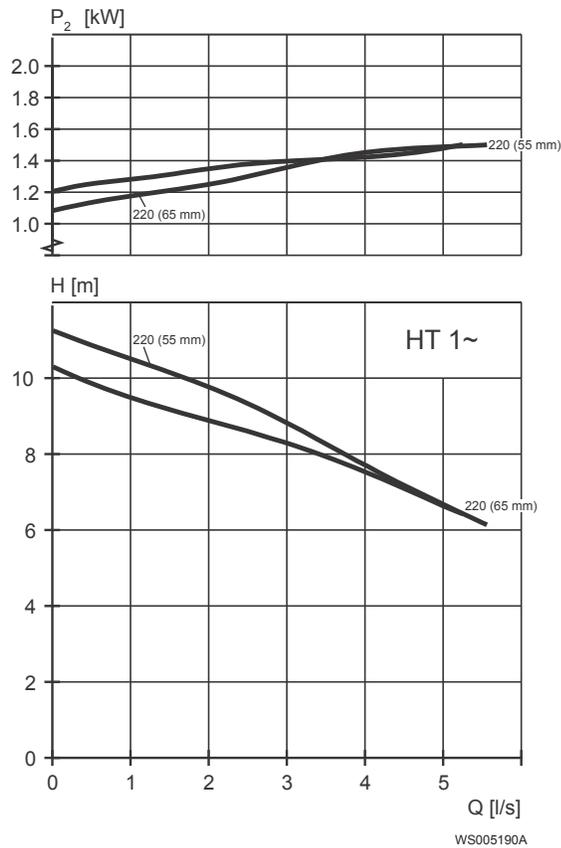
Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, $\cos \varphi$	Installation
1.3	1.7	472	1400	8.4	28	1	F,P,S
1.3	1.7	473	1400	8.4	28	1	F,P,S

HT



**Table 13: 400 V, 50 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
1.7	2.3	220	2695	3.8	17	.87	F,P,S
2.4	3.2	210	2775	5.1	27	.86	F,P,S
2.4	3.2	214	2775	5.1	27	.86	F,P,S
2.4	3.2	220	2775	5.1	27	.86	F,P,S



**Table 14: 230 V, 50 Hz, 1-phase**

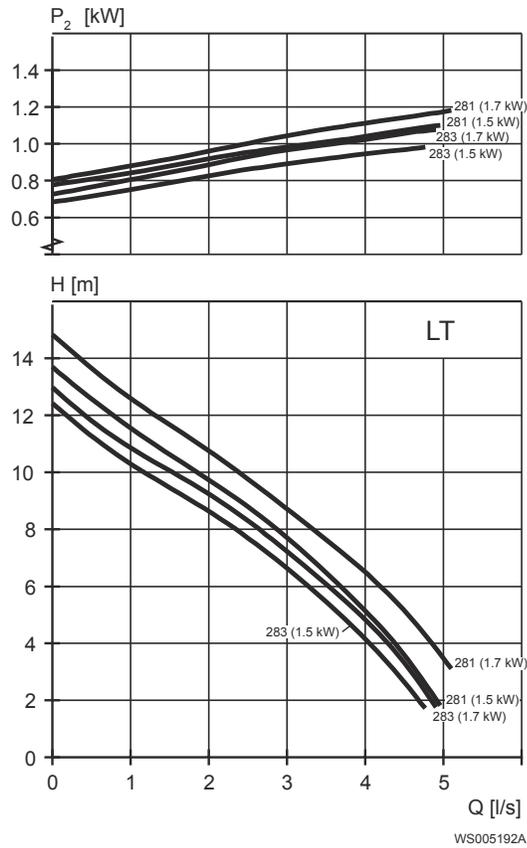
Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
1.5	2.0	220	2760	8.7	30	0.98	F,P,S

## Motor rating and performance curves 3068.250/.590

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

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

LT



**Table 15: 400 V, 50 Hz, 3-phase**

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, $\cos \varphi$	Installation
1.7	2.3	281	2700	3.8	17	.87	P, S
1.7	2.3	283	2700	3.8	17	.87	P, S

**Table 16: 230 V, 50 Hz, 1-phase**

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, $\cos \varphi$	Installation
1.5	2	281	2730	8.9	28	.99	P, S
1.5	2	283	2730	8.9	28	.99	P, S

# F-pump

## Product description



### Usage

A submersible pump for light liquid manure, or contaminated sewage and sludge. The impeller is S-shaped and fitted with a cutting device.

### Denomination

Type	Non explosion proof version	Explosion proof version	Pressure class	Installation types
Chopper Cast iron	3068.180	3068.090	LT – Low head	P, S

The pump can be used in the following installations:

- P** Semi permanent, wet well arrangement with pump installed on two guide bars with automatic connection to discharge.
- S** Portable semi permanent, wet well arrangement with hose coupling or flange for connection to 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 <sup>3</sup>

### Motor data

Feature	Description
Motor type	Squirrel-cage induction motor
Frequency	50 Hz

Feature	Description
Power supply	3-phase
Starting method	<ul style="list-style-type: none"> <li>• Direct on-line</li> <li>• Star-delta</li> <li>• Soft starter</li> </ul>
Number of starts per hour	Maximum 15
Code compliance	IEC 60034-1
Rated output variation	±10%
Voltage variation	<ul style="list-style-type: none"> <li>• Continuously running: Maximum ±5%</li> <li>• Intermittent running: Maximum ±10%</li> </ul>
Voltage imbalance between phases	Maximum 2%
Stator insulation class	F (+155°C)

### 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 <sup>2</sup> 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 <sup>2</sup> 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	30B	GJL-200
Pump housing	Cast iron, gray	35B	GJL-250
Impeller	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)

Denomination	Material	ASTM	EN
Suction cover	Cast iron, gray	30B	GJL-200
Lifting handle	Stainless steel	AISI 304	1,4301
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A2	AISI 304	1.4301, 1.4306, 1.4307, 1.4311
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	Carbon/ Aluminum oxide	Aluminum oxide/ Corrosion resistant cemented carbide
2	Carbon/ Aluminum oxide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide
3	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide
4	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	Silicon carbide/ Silicon carbide
5	Carbon/ Aluminum oxide	Silicon carbide/ Silicon carbide

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

**Accessories**

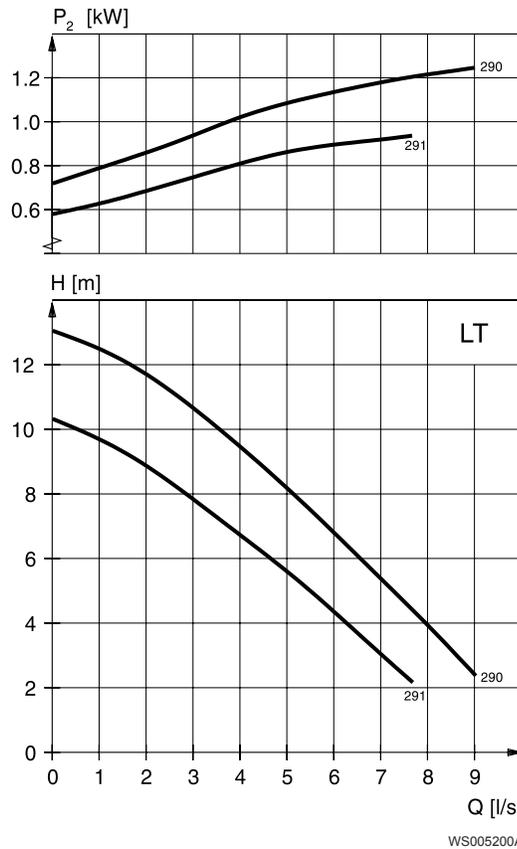
Discharge connections, adapters, hose connections, and other mechanical accessories. Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables.

## Motor rating and performance curves

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

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

LT



**Table 19: 400 V, 50 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
1.7	2.3	290	2695	3.8	17	.87	S
1.7	2.3	291	2695	3.8	17	.87	P
2.4	3.2	290	2775	5.1	27	.86	S
2.4	3.2	291	2775	5.1	27	.86	P

# M-pump, 3068.170/.890

## 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
Cast iron Grinder	3068.170	3068.890	HT – High head	F, P

The pump can be used in the following installations:

- F** Free standing semi permanent, wet well arrangement where the pump is placed on a firm surface.
- P** Semi permanent, wet well arrangement with pump installed on two guide bars with automatic connection to discharge.

### 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 <sup>3</sup>

### Motor data

Feature	Description
Motor type	Squirrel-cage induction motor
Frequency	50 Hz

Feature	Description
Power supply	1-phase or 3-phase
Starting method	<ul style="list-style-type: none"> <li>• Direct on-line</li> <li>• Star-delta</li> <li>• Soft starter</li> </ul>
Number of starts per hour	Maximum 15
Code compliance	IEC 60034-1
Rated output variation	±10%
Voltage variation	<ul style="list-style-type: none"> <li>• Continuously running: Maximum ±5%</li> <li>• Intermittent running: Maximum ±10%</li> </ul>
Voltage imbalance between phases	Maximum 2%
Stator insulation class	F (+155°C)

**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 <sup>2</sup> 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 < 76 mm <sup>2</sup> with unscreened control cores.

**Monitoring equipment**

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

**Materials**

**Table 20: Major parts except mechanical seals**

Denomination	Material	ASTM	EN
Major castings, alternative 1	Cast iron, gray	30B	GJL-200
Major castings, alternative 2	Cast iron, gray	35B	GJL-250
Pump housing	Cast iron, gray	30B	GJL-200
Impeller	Cast iron, gray	30B	GJL-200
Suction cover	Cast iron, gray	30B	GJL-200
Cutter wheel	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Cutter plate	Stainless steel	-	-

Denomination	Material	ASTM	EN
Lifting handle	Stainless steel	AISI 304	1,4301
Shaft	Stainless steel	AISI 431	1.4057+QT800
Screws and nuts	Stainless steel, A2	AISI 304	1.4301, 1.4306, 1.4307, 1.4311
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 21: Mechanical seals**

Alternative	Inner seal	Outer seal
1	Carbon/ Aluminum oxide	Aluminum oxide/ Corrosion resistant cemented carbide
2	Carbon/ Aluminum oxide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide

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

**Accessories**

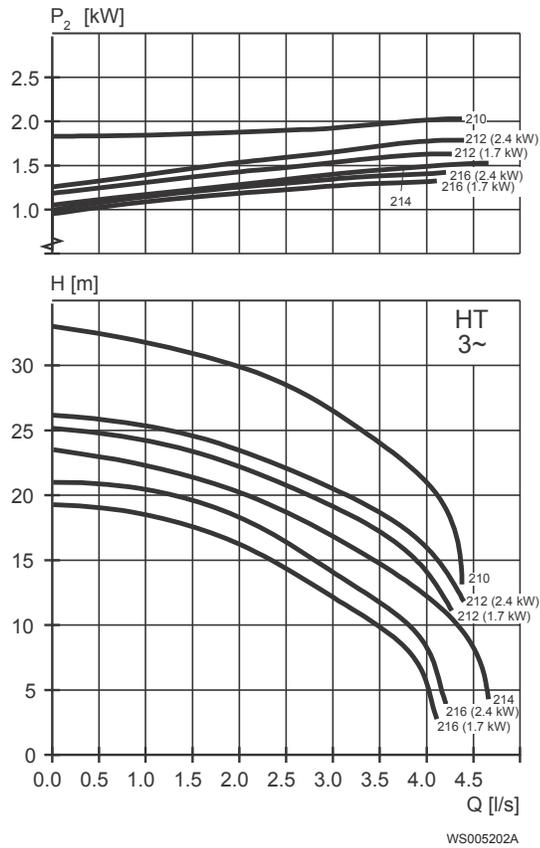
Discharge connections, adapters, hose connections, and other mechanical accessories. Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables.

## Motor rating and performance curves

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

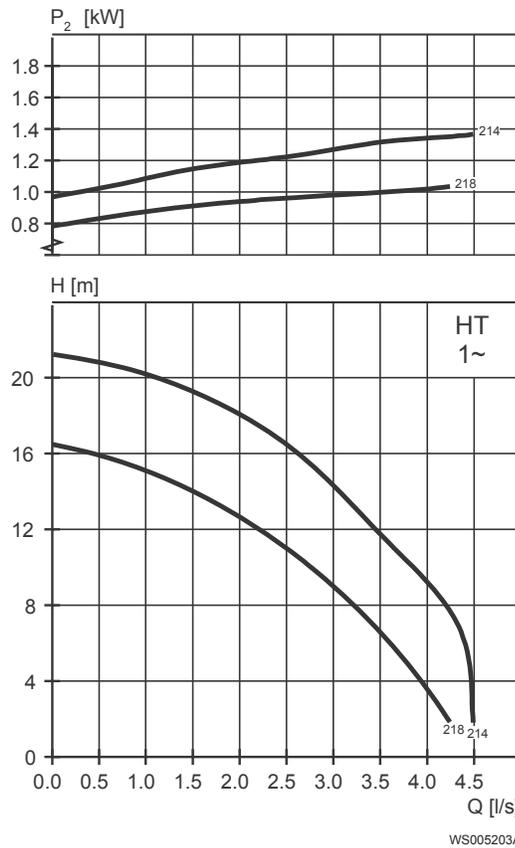
Star-delta starting current is 1/3 of Direct on-line starting current.

HT



**Table 22: 400 V, 50 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
1.7	2.3	212	2695	3.8	17	.87	F,P
1.7	2.3	214	2695	3.8	17	.87	F,P
1.7	2.3	216	2695	3.8	17	.87	F,P
2.4	3.2	210	2700	5.3	24	.87	F,P
2.4	3.2	212	2700	5.3	24	.87	F,P
2.4	3.2	214	2700	5.3	24	.87	F,P
2.4	3.2	216	2700	5.3	24	.87	F,P



**Table 23: 230 V, 50 Hz, 1-phase**

Rated power, kW	Rated power, hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, $\cos \varphi$	Installation
1.5	2	214	2695	9.4	31	1	F, P
1.5	2	218	2695	9.4	31	1	F, P

# M-pump, 3068.175

## Product description



### Usage

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

### Denomination

Type	Non explosion proof version	Explosion proof version	Pressure class	Installation types
Cast iron Grinder	3068.175	-	HT – High head	F, H

The pump can be used in the following installations:

- F** Free standing semi permanent, wet well arrangement where the pump is placed on a firm surface.
- H** Semi permanent, wet well quick connection suspended arrangement, incorporating integral non-return valve.

### Application limits

Feature	Description
Liquid temperature	Maximum 40°C, (104°F)
Depth of immersion	Maximum 20 m (65 ft)
pH of the pumped liquid	6 - 11
Liquid density	Maximum 1100 kg/m <sup>3</sup>

### Motor data

Feature	Description
Motor type	Squirrel-cage induction motor
Frequency	50 Hz
Power supply	1-phase or 3-phase

Feature	Description
Starting method	<ul style="list-style-type: none"> <li>• Direct on-line</li> <li>• Star-delta</li> <li>• Soft starter</li> <li>• Variable Frequency Drive (VFD)</li> </ul>
Number of starts per hour	Maximum 15
Code compliance	IEC 60034-1
Rated output variation	±10%
Voltage variation	<ul style="list-style-type: none"> <li>• Continuously running: Maximum ±5%</li> <li>• Intermittent running: Maximum ±10%</li> </ul>
Voltage imbalance between phases	Maximum 2%
Stator insulation class	F (+155°C)

### 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 <sup>2</sup> 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 < 766 mm <sup>2</sup> with unscreened control cores.

### Monitoring equipment

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

### Materials

**Table 24: Major parts except mechanical seals**

Denomination	Material	AISI/ASTM	EN
Stator housing	Cast iron, gray	35B	GJL-250
Pump housing	Cast iron, gray	ASTM A 48 NO 30B	1561:1997-GJL-200
Rubber stator	Nitrile rubber (NBR) 75° IRH	-	-
Spiral rotor	Stainless steel	AISI 304	1.4301 and 1.4541
Shaft	Stainless steel	AISI 431	1.4057+QT800
Studs, screws & nuts	Stainless steel, A2	AISI 304	1.4301 and 1.4541

Denomination	Material	AISI/ASTM	EN
O-rings	Nitrile rubber (NBR) 70° IRH	-	-

**Table 25: Mechanical seals**

Alternative	Inner seal	Outer seal
1	Carbon/ Aluminum oxide	Aluminum oxide/ Corrosion resistant cemented carbide
2	Carbon/ Aluminum oxide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide

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

**Accessories**

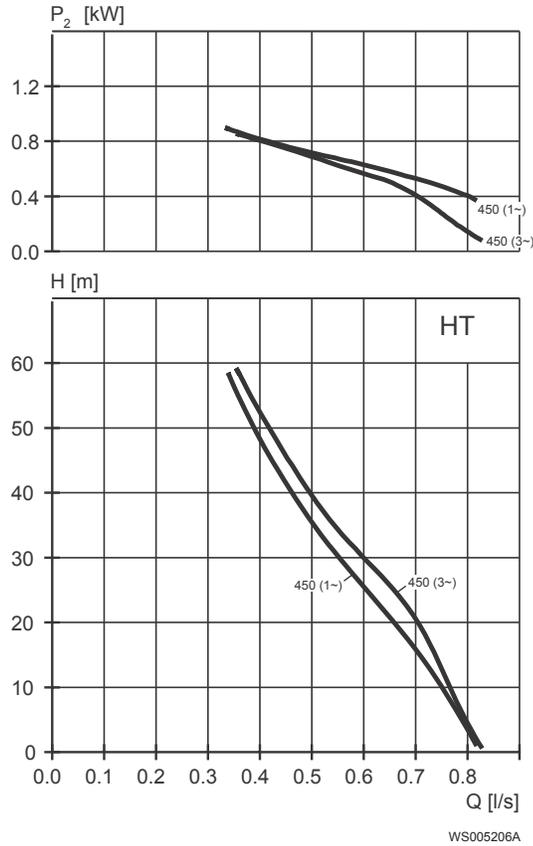
Discharge connections, adapters, hose connections, and other mechanical accessories. Electrical accessories such as pump controller, control panels, starters, monitoring relays, cables.

## Motor rating and performance curves

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

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

HT



**Table 26: 400 V, 50 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
.9	1.2	450	1430	3.5	16	.58	F,H

**Table 27: 230 V, 50 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
.9	1.2	450	1435	6.1	26	1	F,H

# Dimensions and Weight, B-pump

## Drawings

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

All dimensions are in mm.

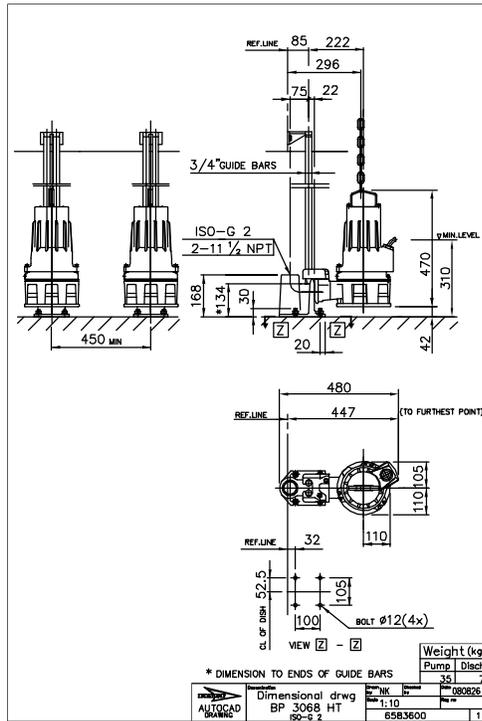


Figure 1: HT, P-installation

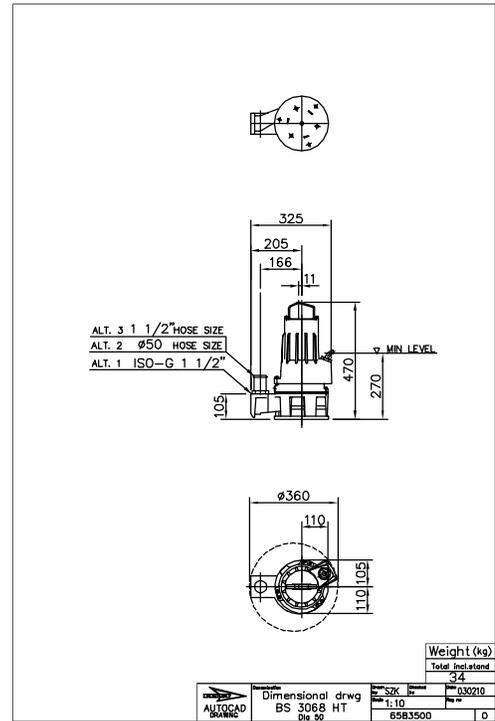


Figure 2: HT, S-installation



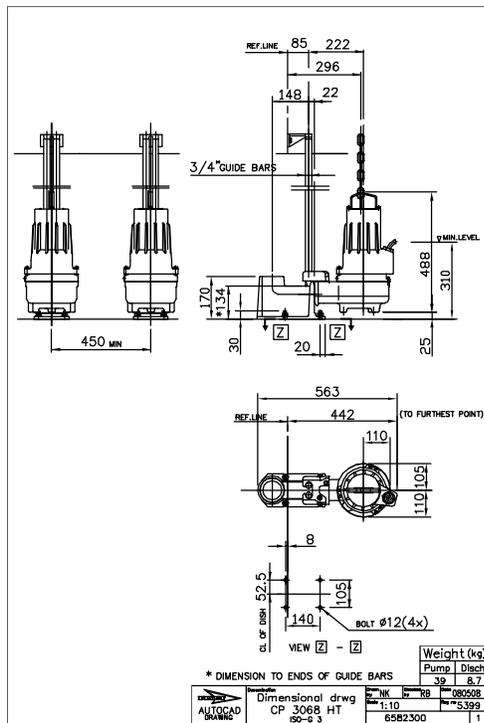


Figure 5: HT, P-installation

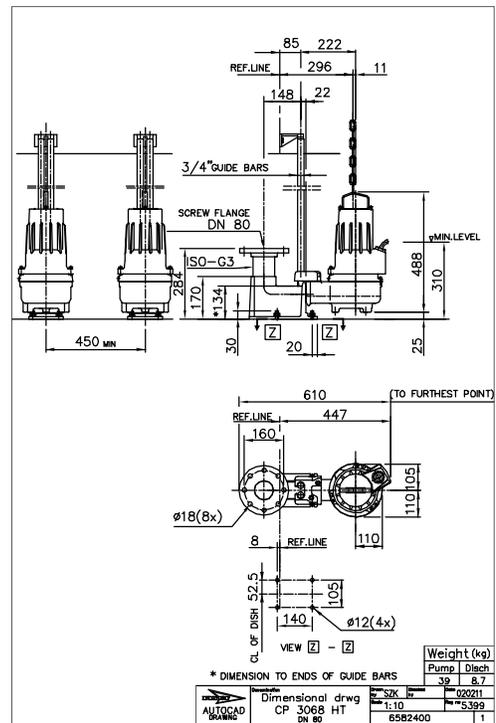


Figure 6: HT, P-installation

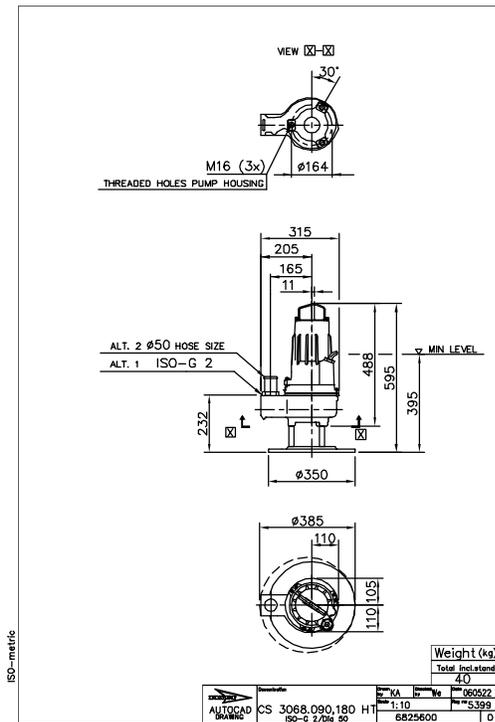


Figure 7: HT, S-installation



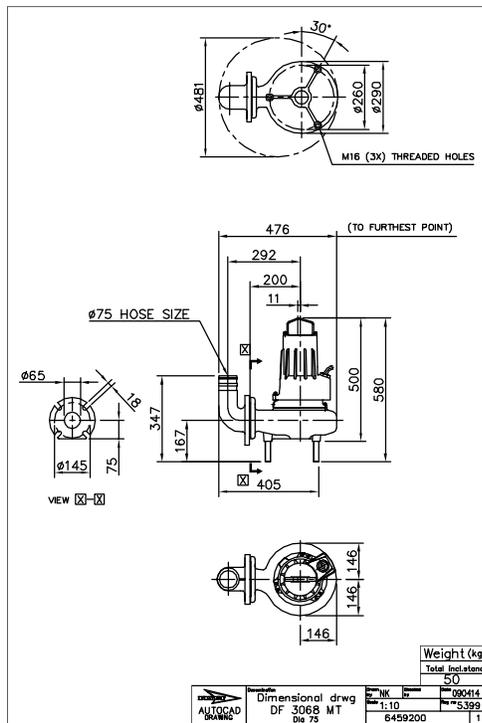


Figure 10: MT, F-installation

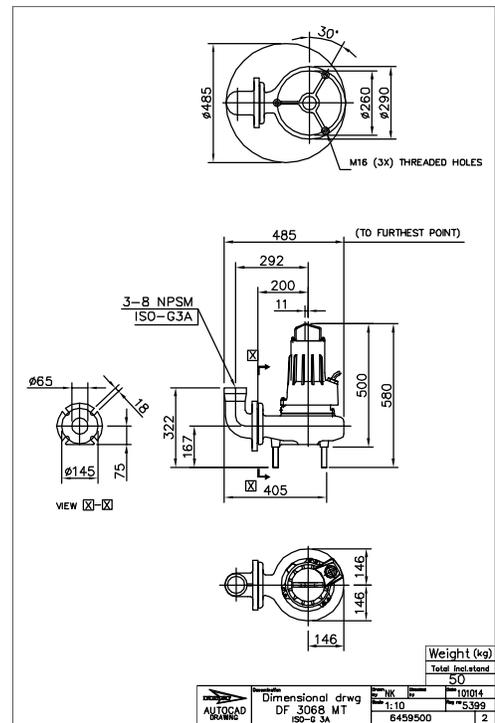


Figure 11: MT, F-installation

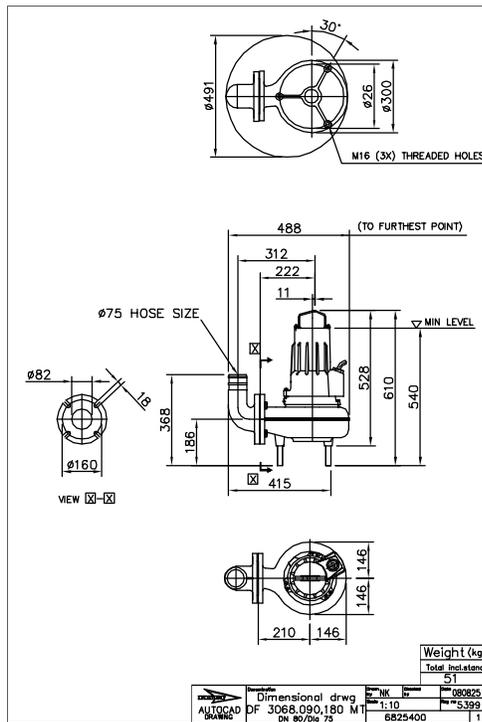


Figure 12: MT, F-installation

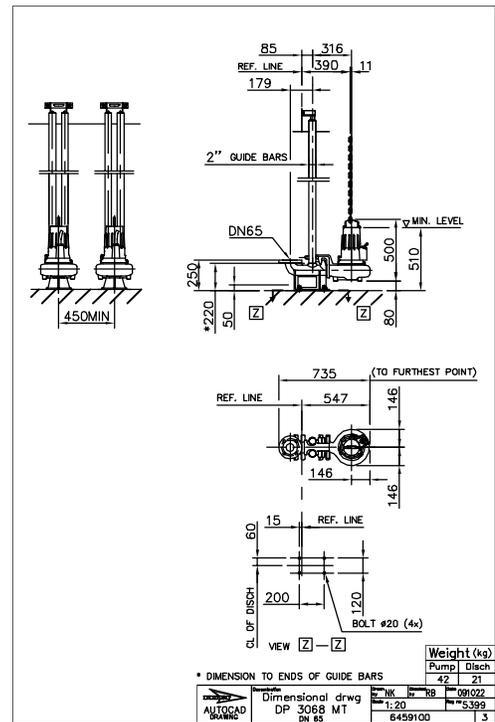


Figure 13: MT, P-installation



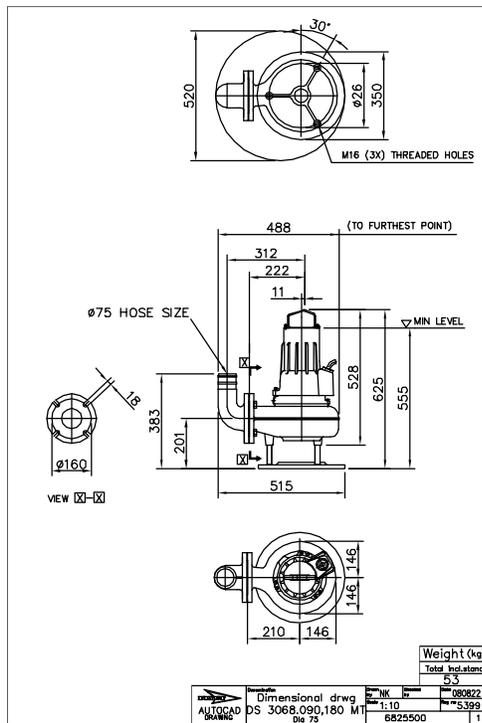


Figure 18: MT, S-installation

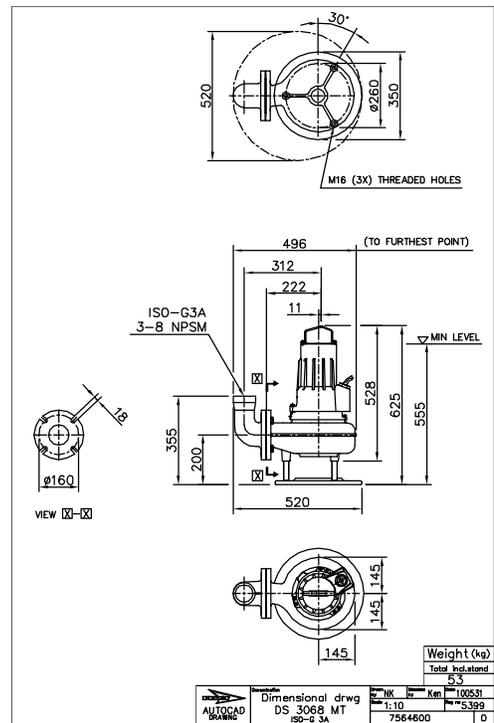


Figure 19: MT, S-installation

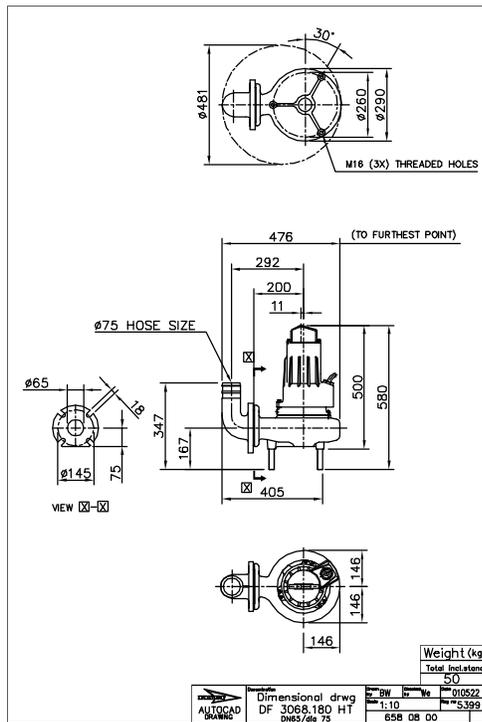


Figure 20: HT, F-installation

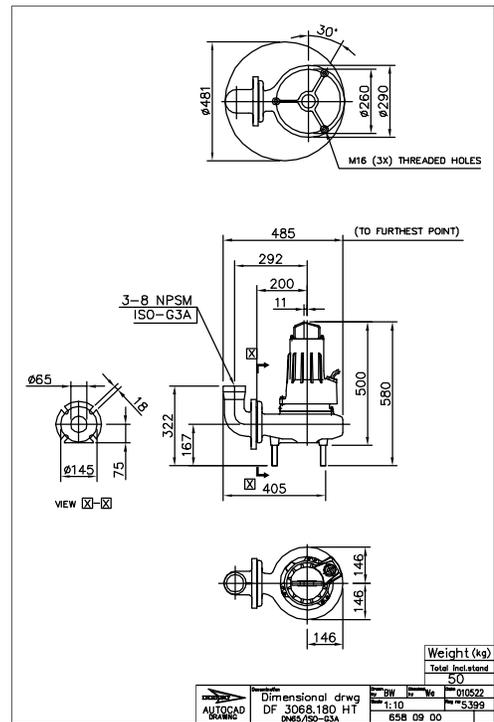


Figure 21: HT, F-installation



# Dimensions and Weight, F-pump

## Drawings

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

All dimensions are in mm.

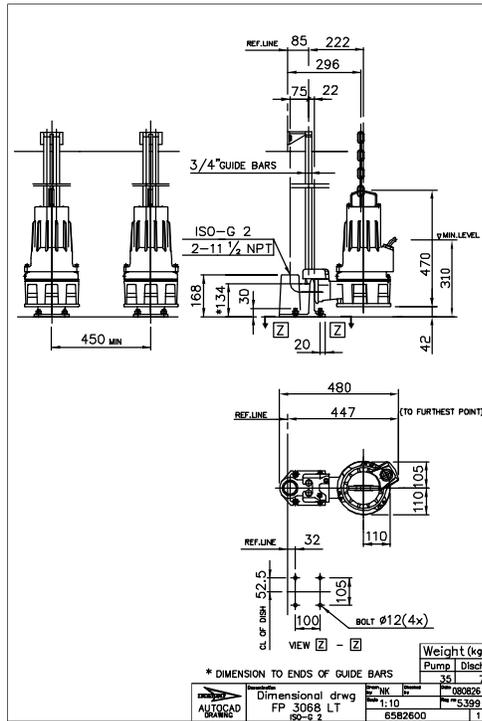


Figure 25: LT, P-installation

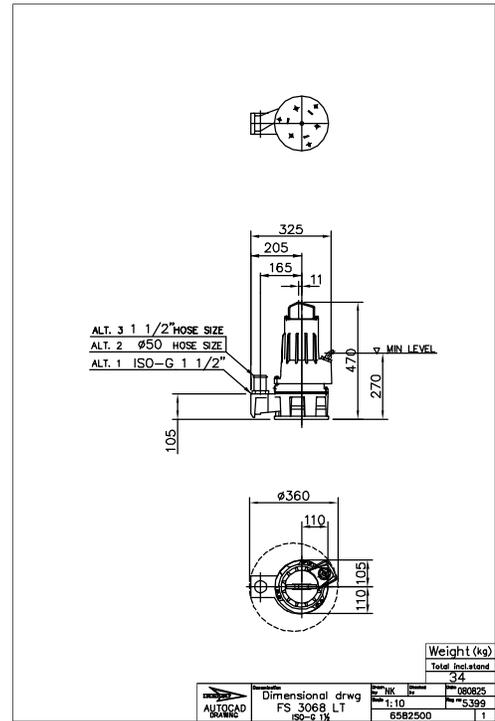


Figure 26: LT, S-installation

# Dimensions and Weight, M-pump, 3068.170/.890

## Drawings

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

All dimensions are in mm.

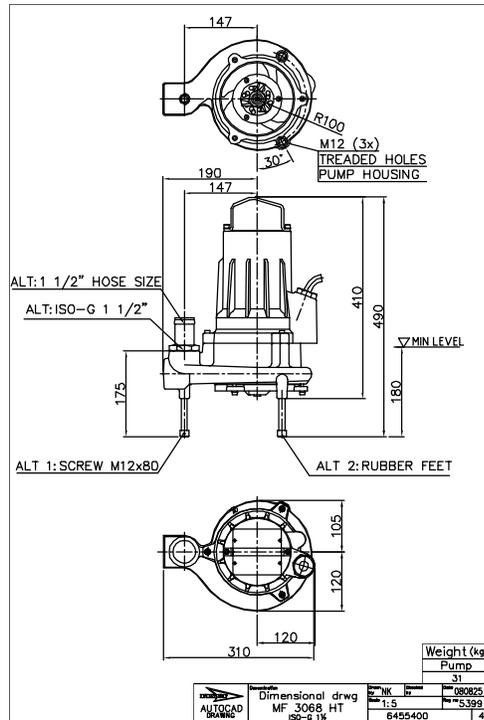


Figure 27: HT, F-installation

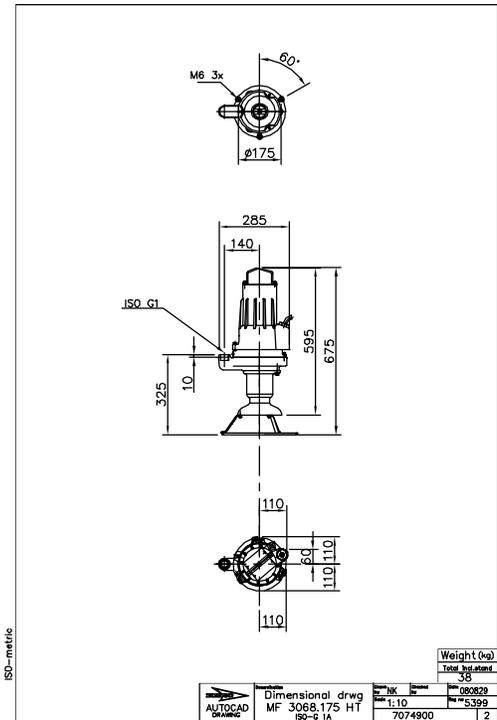


Figure 28: HT, F-installation

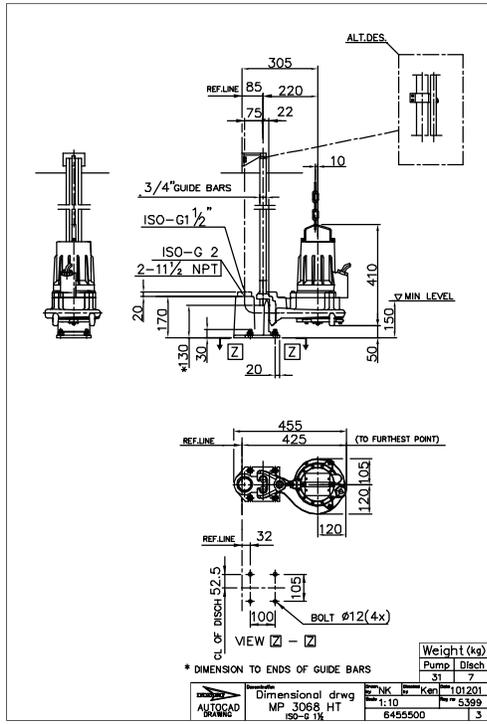


Figure 29: HT, P-installation

# Dimensions and Weight, M-pump, 3068.175

## Drawings

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

All dimensions are in mm.

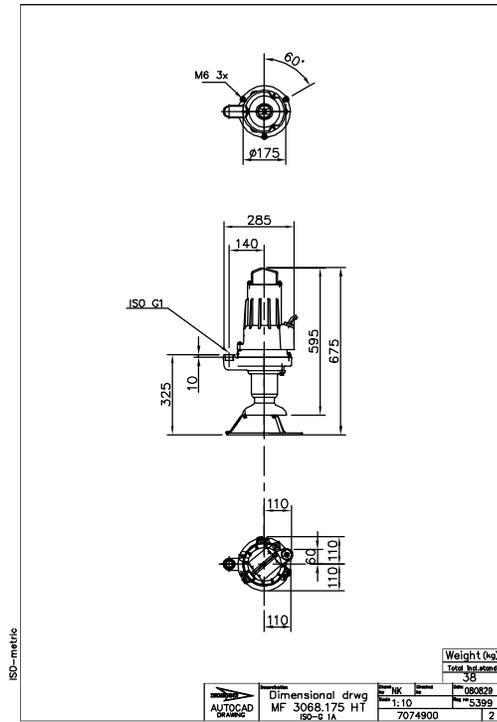


Figure 30: HT, F-installation