



## Flygt 3171, 50Hz



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# Table of Contents

<b>F-pump, Standard Motor</b> .....	2
Product description.....	2
Motor rating and performance curves.....	4
<b>F-pump, Premium Efficiency Motor (IE3)</b> .....	8
Product description.....	8
Motor rating and performance curves.....	10
<b>N-pump, Standard Motor</b> .....	14
Product description.....	14
Motor rating and performance curves.....	16
<b>N-pump, Premium Efficiency Motor (IE3)</b> .....	21
Product description.....	21
Motor rating and performance curves.....	23
<b>Dimensions and Weight, Standard Motor</b> .....	28
Drawings.....	28
<b>Dimensions and Weight, Premium Efficiency Motor (IE3)</b> .....	34
Drawings.....	34

# F-pump, Standard Motor

## Product description

### Usage

Submersible chopper pump designed for pumping liquid manure, fish waste or heavily contaminated sewage and sludge. The N-impeller is fitted with a cutting Hard-Iron™ insert ring.

### Denomination

Type	Non explosion proof version	Explosion proof version	Pressure class	Installation types
Chopper	3171.350	3171.390	MT – Medium head HT – High head SH – Super head	P, S, T, Z

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.
- T** Vertical permanent, dry well arrangement with flange connection to suction and discharge piping.
- Z** Horizontal permanent, dry well arrangement with flange connection to suction and discharge piping.

### 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	3-phase
Starting method	<ul style="list-style-type: none"> <li>• Direct on-line</li> <li>• Star-delta</li> <li>• Variable Frequency Drive (VFD)</li> </ul>
Number of starts per hour	Maximum 30
Code compliance	IEC 60034-1

Feature	Description
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%
Insulation class	H (180°C, 356°F)

### Cables

Application	Type	Denomination
Direct-on-line start	SUBCAB® heavy-duty submersible cable	4G4+2×1.5 mm <sup>2</sup> 4G6+2×1.5 mm <sup>2</sup> 4G10+2×1.5 mm <sup>2</sup> 4G16+2×1.5 mm <sup>2</sup>
Y/D start	SUBCAB® heavy-duty submersible cable	7G4+2×1.5 mm <sup>2</sup> 7G6+2×1.5 mm <sup>2</sup>
VFD application	Screened SUBCAB® heavy-duty submersible cable	S3×2.5+3×2.5/3+4×1.5 mm <sup>2</sup> S3×6+3×6/3+4×1.5 mm <sup>2</sup> S3×16+3×16/3+4×1.5 mm <sup>2</sup>

### Monitoring Equipment

- Thermal contacts opening temperature 140° C (284° F)
- Leakage sensor in the inspection chamber (FLS)

### Materials

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	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Cooling jacket, inner	Aluminum	AA 1050A	AW-1050A
Cooling jacket, outer, alternative 1	Steel	GR65	S235JRG2
Cooling jacket, outer, alternative 2	Stainless steel	AISI 316L	1.4404,1.4432, ...
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	-	-

Denomination	Material	ASTM	EN
Glycol, part no 903708	Heat transfer fluid based on monopropylene glycol. Fulfills FDA 184.1666/182.6285.	-	-

**Table 1: Mechanical face seals**

Alternative	Inner seal	Outer seal
1	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide
2	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	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)
- Surface treatment (Epoxy)
- Zinc anodes
- Feed control (chopper)
- Aqua cutting knife (chopper)

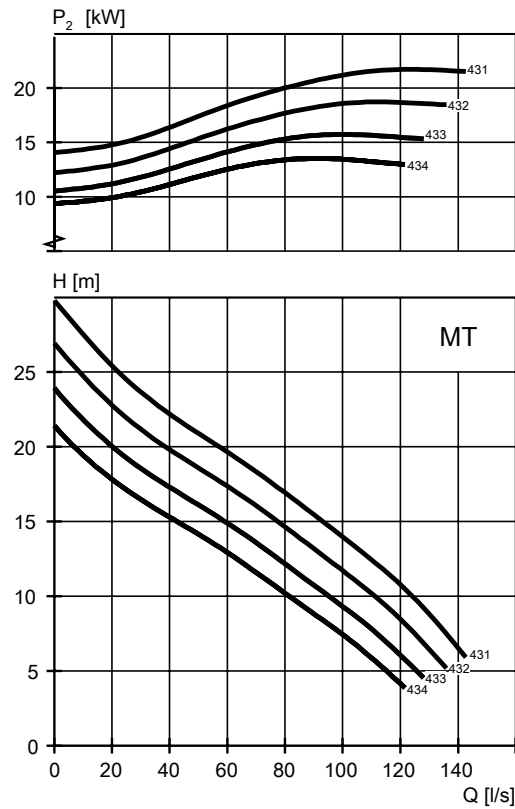
**Accessories**

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

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

MT

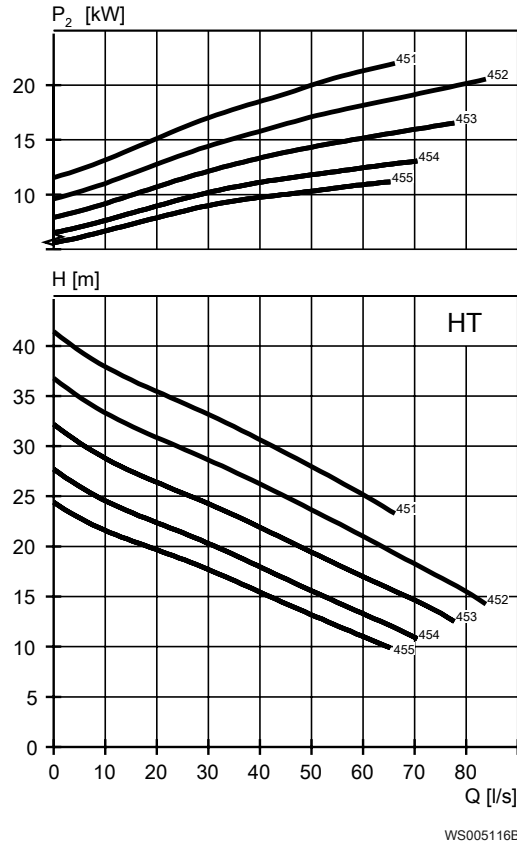


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**Table 2: 400 V, 50 Hz, 3-phase**

Rated power kW	Rated power hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, $\cos \varphi$	Installation
15	20	434	1460	29	177	0.87	P,S,T,Z
18.5	25	433	1460	36	223	0.84	P,S,T,Z
18.5	25	434	1460	36	223	0.84	P,S,T,Z
22	30	431	1460	41	248	0.88	P,S,T,Z
22	30	432	1460	41	248	0.88	P,S,T,Z
22	30	433	1460	41	248	0.88	P,S,T,Z
22	30	434	1460	41	248	0.88	P,S,T,Z

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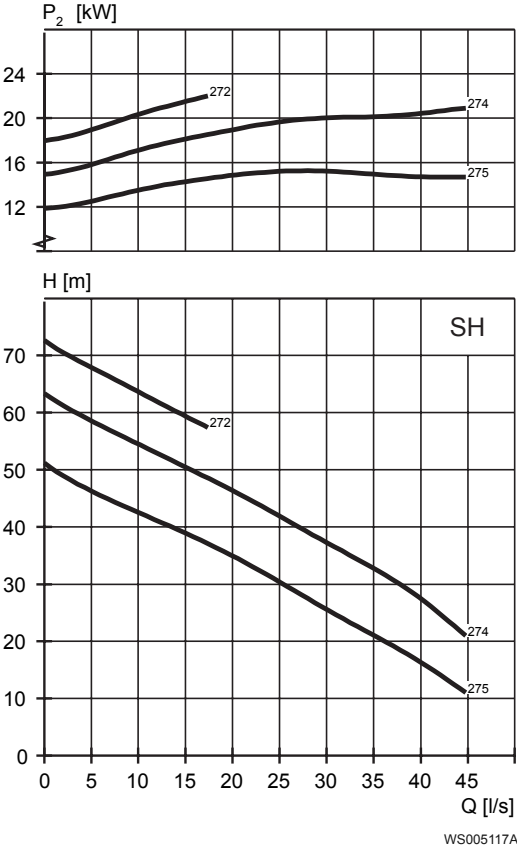


**Table 3: 400 V, 50 Hz, 3-phase**

Rated power kW	Rated power hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
15	20	454	1460	29	177	0.87	P,S,T,Z
15	20	455	1460	29	177	0.87	P,S,T,Z
18.5	25	453	1460	36	223	0.84	P,S,T,Z
18.5	25	454	1460	36	223	0.84	P,S,T,Z
18.5	25	455	1460	36	223	0.84	P,S,T,Z
22	30	451	1460	41	248	0.88	P,S,T,Z
22	30	452	1460	41	248	0.88	P,S,T,Z
22	30	453	1460	41	248	0.88	P,S,T,Z
22	30	454	1460	41	248	0.88	P,S,T,Z
22	30	455	1460	41	248	0.88	P,S,T,Z



SH



**Table 4: 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
22	30	272	2925	38	269	0.93	P,S,T,Z
22	30	274	2925	38	269	0.93	P,S,T,Z
22	30	275	2925	38	269	0.93	P,S,T,Z

# F-pump, Premium Efficiency Motor (IE3)

## Product description

### Usage

Submersible chopper pump designed for pumping liquid manure, fish waste or heavily contaminated sewage and sludge. The N-impeller is fitted with a cutting Hard-Iron™ insert ring.

### Denomination

Type	Non explosion proof version	Explosion proof version	Pressure class	Installation types
Chopper	3171.840	3171.850	MT – Medium head HT – High head SH – Super head	P, S, T, Z

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.
- T** Vertical permanent, dry well arrangement with flange connection to suction and discharge piping.
- Z** Horizontal permanent, dry well arrangement with flange connection to suction and discharge piping.

### 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 <sup>3</sup>

### Motor data

Feature	Description
Motor type	Squirrel-cage induction motor
Frequency	50 Hz
Power supply	3-phase
Starting method	<ul style="list-style-type: none"> <li>• Direct on-line</li> <li>• Star-delta</li> <li>• Variable Frequency Drive (VFD)</li> </ul>
Number of starts per hour	Maximum 30

Feature	Description
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%
Insulation class	H (180°C, 356°F)

### Cables

Application	Type	Denomination
Direct-on-line start	SUBCAB® heavy-duty submersible cable	4G4+2×1.5 mm <sup>2</sup> 4G6+2×1.5 mm <sup>2</sup> 4G10+2×1.5 mm <sup>2</sup> 4G16+2×1.5 mm <sup>2</sup>
Y/D start	SUBCAB® heavy-duty submersible cable	7G4+2×1.5 mm <sup>2</sup> 7G6+2×1.5 mm <sup>2</sup>
VFD application	Screened SUBCAB® heavy-duty submersible cable	S3×2.5+3×2.5/3+4×1.5 mm <sup>2</sup> S3×6+3×6/3+4×1.5 mm <sup>2</sup> S3×16+3×16/3+4×1.5 mm <sup>2</sup>

### Monitoring Equipment

- Thermal contacts opening temperature 140° C (284° F)
- Leakage sensor in the inspection chamber (FLS)

### Materials

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	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Cooling jacket, inner	Aluminum	AA 1050A	AW-1050A
Cooling jacket, outer	Stainless steel	AISI 316L	1.4404, 1.4432, ...
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	-	-

Denomination	Material	ASTM	EN
Glycol, part no 903708	Heat transfer fluid based on monopropylene glycol. Fulfills FDA 184.1666/182.6285.	-	-

**Table 5: Mechanical face seals**

Alternative	Inner seal	Outer seal
1	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide
2	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	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**

- Surface treatment (Epoxy)
- Zinc anodes
- Feed control (chopper)
- Aqua cutting knife (chopper)

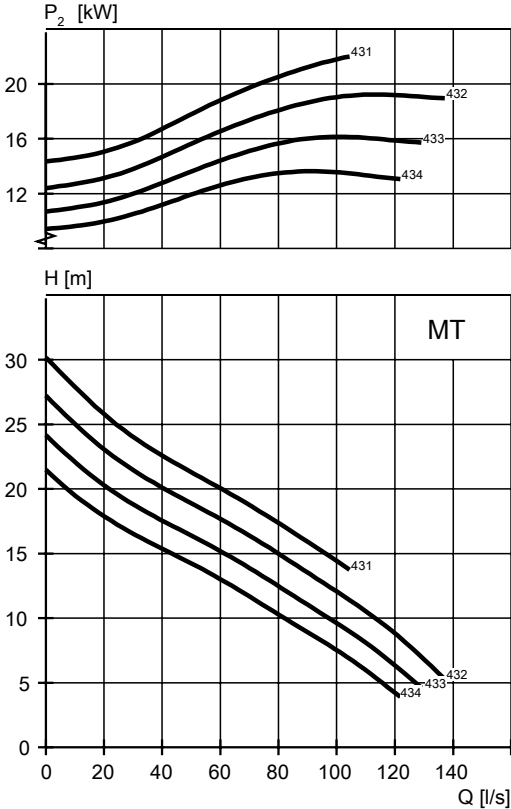
**Accessories**

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

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

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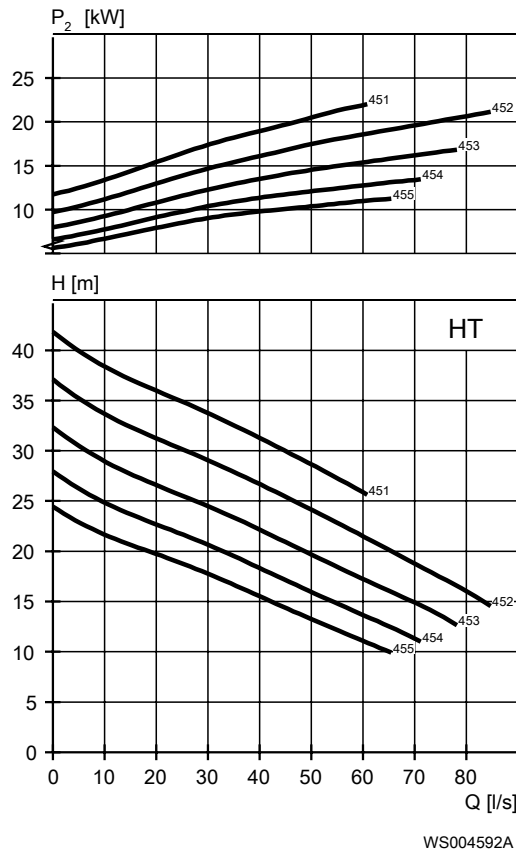


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**Table 6: 400 V, 50 Hz, 3-phase**

Rated power, kW	Rated power, hp	Curve/Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
15	20	433	1475	26	214	0.89	P,S,T,Z
15	20	434	1475	26	214	0.89	P,S,T,Z
18.5	25	432	1475	32	246	0.9	P,S,T,Z
18.5	25	433	1475	32	246	0.9	P,S,T,Z
18.5	25	434	1475	32	246	0.9	P,S,T,Z
22	30	431	1475	40	295	0.86	P,S,T,Z
22	30	432	1475	40	295	0.86	P,S,T,Z
22	30	433	1475	40	295	0.86	P,S,T,Z
22	30	434	1475	40	295	0.86	P,S,T,Z

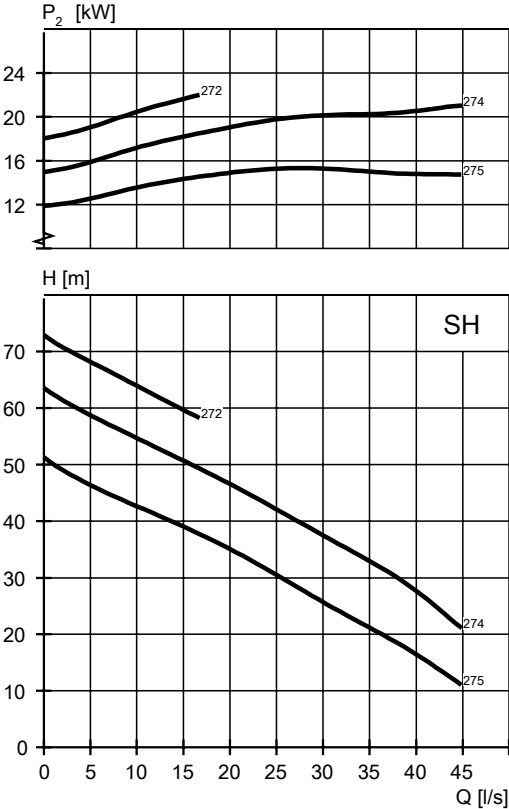
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**Table 7: 400 V, 50 Hz, 3-phase**

Rated power, kW	Rated power, hp	Curve/Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
15	20	453	1475	26	214	0.89	P,S,T,Z
15	20	454	1475	26	214	0.89	P,S,T,Z
15	20	455	1475	26	214	0.89	P,S,T,Z
18.5	25	452	1475	32	246	0.9	P,S,T,Z
18.5	25	453	1475	32	246	0.9	P,S,T,Z
18.5	25	454	1475	32	246	0.9	P,S,T,Z
18.5	25	455	1475	32	246	0.9	P,S,T,Z
22	30	451	1475	40	295	0.86	P,S,T,Z
22	30	452	1475	40	295	0.86	P,S,T,Z
22	30	453	1475	40	295	0.86	P,S,T,Z
22	30	454	1475	40	295	0.86	P,S,T,Z
22	30	455	1475	40	295	0.86	P,S,T,Z

SH



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Table 8: 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
22	30	272	2935	37	297	0.93	P,S,T,Z
22	30	274	2935	37	297	0.93	P,S,T,Z
22	30	275	2935	37	297	0.93	P,S,T,Z

# N-pump, Standard Motor

## Product description

### Usage

The submersible pump is designed for pumping clean water, surface water, and wastewater containing solids or long-fibred material.

### Denomination

Type	Non explosion proof version	Explosion proof version	Pressure class	Installation types
Cast iron	3171.181	3171.091	LT – Low head	P, S, T, Z
Hard-Iron™	3171.185	3171.095	MT – Medium head HT – High head SH – Super head	

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.
- T** Vertical permanent, dry well arrangement with flange connection to suction and discharge piping.
- Z** Horizontal permanent, dry well arrangement with flange connection to suction and discharge piping.

### 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	3-phase
Starting method	<ul style="list-style-type: none"> <li>• Direct on-line</li> <li>• Star-delta</li> <li>• Variable Frequency Drive (VFD)</li> </ul>
Number of starts per hour	Maximum 30



Feature	Description
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%
Insulation class	H (180°C, 356°F)

## Cables

Application	Type	Denomination
Direct-on-line start	SUBCAB® heavy-duty submersible cable	4G2.5+2×1.5 mm <sup>2</sup> 4G4+2×1.5 mm <sup>2</sup> 4G6+2×1.5 mm <sup>2</sup> 4G10+2×1.5 mm <sup>2</sup> 4G16+2×1.5 mm <sup>2</sup>
Y/D start	SUBCAB® heavy-duty submersible cable	7G2.5+2×1.5 mm <sup>2</sup> 7G4+2×1.5 mm <sup>2</sup> 7G6+2×1.5 mm <sup>2</sup>
VFD application	Screened SUBCAB® heavy-duty submersible cable	S3×2.5+3×2.5/3+4×1.5 mm <sup>2</sup> S3×6+3×6/3+4×1.5 mm <sup>2</sup> S3×16+3×16/3+4×1.5 mm <sup>2</sup>

## Monitoring Equipment

- Thermal contacts opening temperature 140° C (284° F)
- Leakage sensor in the inspection chamber (FLS)

## Materials

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)
Insert ring, alternative 1	Cast iron, gray	35B	GJL-250
Insert ring, alternative 2	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Cooling jacket, inner	Aluminum	AA 1050A	AW-1050A
Cooling jacket, outer, alternative 1	Steel	GR65	S235JRG2
Cooling jacket, outer, alternative 2	Stainless steel	AISI 316L	1.4404, 1.4432, ...
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	-	-

Denomination	Material	ASTM	EN
O-rings, alternative 2	Fluorinated rubber (FPM) 70° IRH	-	-
Glycol, part no 903708	Heat transfer fluid based on monopropylene glycol. Fulfills FDA 184.1666/182.6285.	-	-

**Table 9: Mechanical face seals**

Alternative	Inner seal	Outer seal
1	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide
2	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	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)

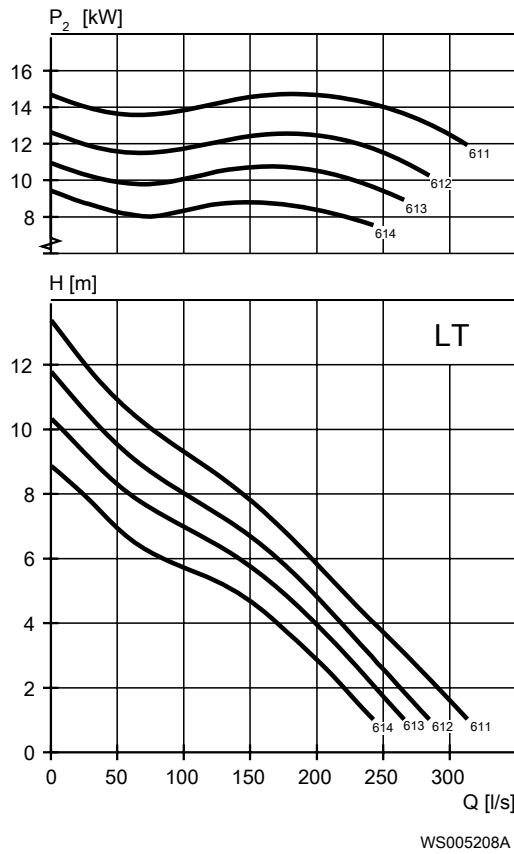
**Accessories**

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**

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

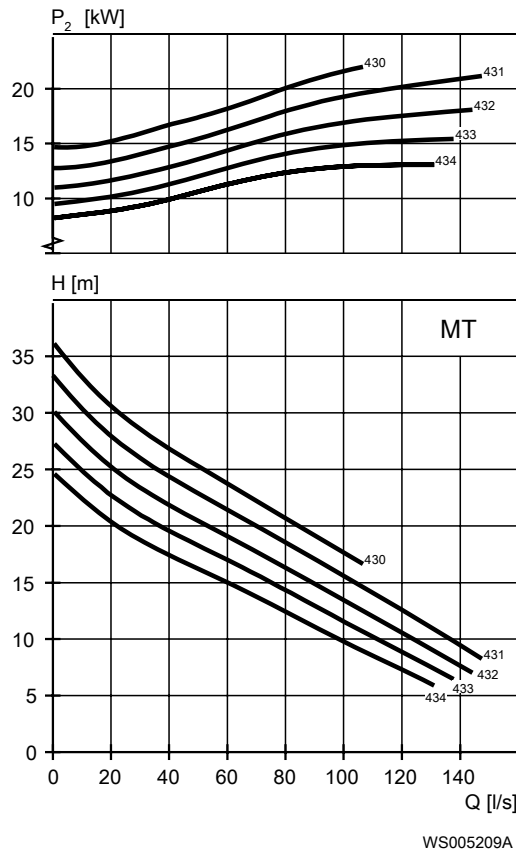
LT



**Table 10: 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
15	20	611	965	30	167	0.84	P,S,T,Z
15	20	612	965	30	167	0.84	P,S,T,Z
15	20	613	965	30	167	0.84	P,S,T,Z
15	20	614	965	30	167	0.84	P,S,T,Z

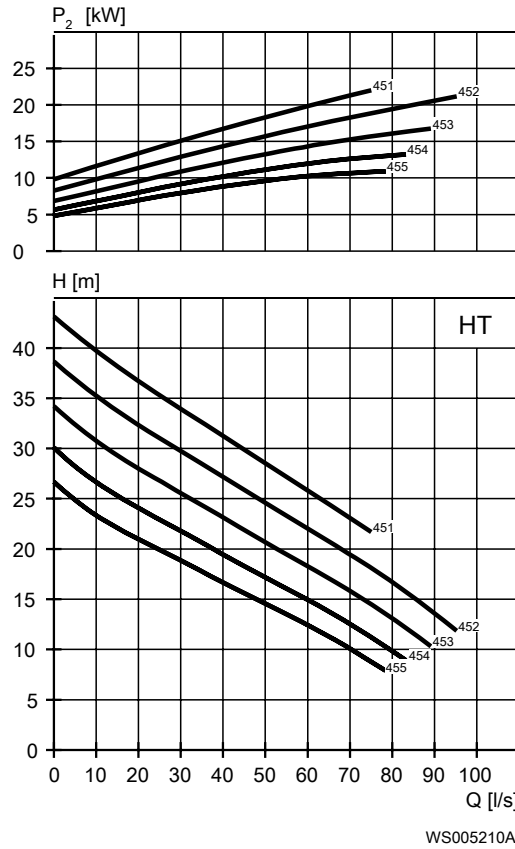
MT



**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
15	20	433	1460	29	177	0.87	P,S,T,Z
15	20	434	1460	29	177	0.87	P,S,T,Z
18.5	25	432	1460	36	223	0.84	P,S,T,Z
18.5	25	433	1460	36	223	0.84	P,S,T,Z
18.5	25	434	1460	36	223	0.84	P,S,T,Z
22	30	430	1460	41	248	0.88	P,S,T,Z
22	30	431	1460	41	248	0.88	P,S,T,Z
22	30	432	1460	41	248	0.88	P,S,T,Z
22	30	433	1460	41	248	0.88	P,S,T,Z
22	30	434	1460	41	248	0.88	P,S,T,Z

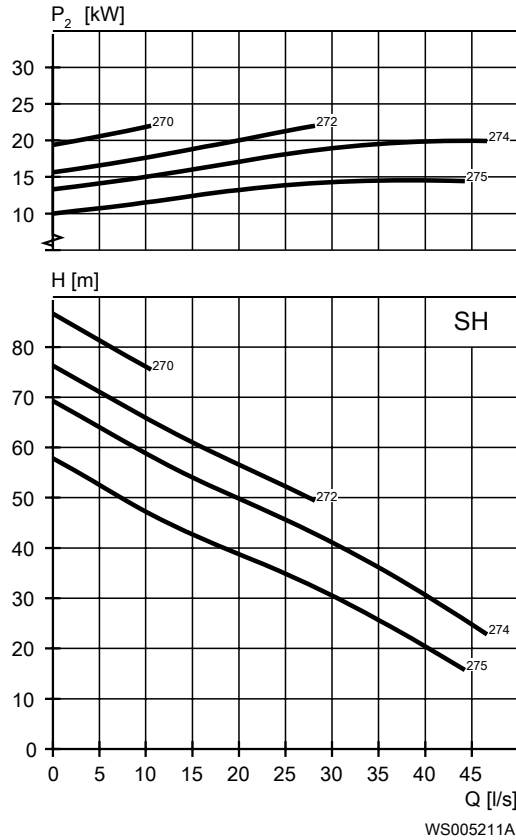
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**Table 12: 400 V, 50 Hz, 3-phase**

Rated power kW	Rated power hp	Curve/ Impeller No	Revolutions per minute, rpm	Rated current, A	Starting current, A	Power factor, cos φ	Installation
15	20	451	1460	29	177	0.87	P,S,T,Z
15	20	452	1460	29	177	0.87	P,S,T,Z
15	20	453	1460	29	177	0.87	P,S,T,Z
15	20	454	1460	29	177	0.87	P,S,T,Z
15	20	455	1460	29	177	0.87	P,S,T,Z
18.5	25	451	1460	36	223	0.84	P,S,T,Z
18.5	25	452	1460	36	223	0.84	P,S,T,Z
18.5	25	453	1460	36	223	0.84	P,S,T,Z
18.5	25	454	1460	36	223	0.84	P,S,T,Z
18.5	25	455	1460	36	223	0.84	P,S,T,Z
22	30	451	1460	41	248	0.88	P,S,T,Z
22	30	452	1460	41	248	0.88	P,S,T,Z
22	30	453	1460	41	248	0.88	P,S,T,Z
22	30	454	1460	41	248	0.88	P,S,T,Z
22	30	455	1460	41	248	0.88	P,S,T,Z

SH



**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
22	30	270	2925	38	269	0.93	P,S,T,Z
22	30	272	2925	38	269	0.93	P,S,T,Z
22	30	274	2925	38	269	0.93	P,S,T,Z
22	30	275	2925	38	269	0.93	P,S,T,Z

# N-pump, Premium Efficiency Motor (IE3)

## Product description

### Usage

The submersible pump is designed for pumping clean water, surface water, and wastewater containing solids or long-fibred material.

### Denomination

Type	Non explosion proof version	Explosion proof version	Pressure class	Installation types
Cast iron	3171.800	3171.810	LT – Low head	P, S, T, Z
Hard-Iron™	3171.820	3171.830	MT – Medium head	
			HT – High head SH – Super head	

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.
- T** Vertical permanent, dry well arrangement with flange connection to suction and discharge piping.
- Z** Horizontal permanent, dry well arrangement with flange connection to suction and discharge piping.

### 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 <sup>3</sup>

### Motor data

Feature	Description
Motor type	Squirrel-cage induction motor
Frequency	50 Hz
Power supply	3-phase
Starting method	<ul style="list-style-type: none"> <li>• Direct on-line</li> <li>• Star-delta</li> <li>• Variable Frequency Drive (VFD)</li> </ul>
Number of starts per hour	Maximum 30

Feature	Description
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%
Insulation class	H (180°C, 356°F)

**Cables**

Application	Type	Denomination
Direct-on-line start	SUBCAB® heavy-duty submersible cable	4G2.5+2×1.5 mm <sup>2</sup> 4G4+2×1.5 mm <sup>2</sup> 4G6+2×1.5 mm <sup>2</sup> 4G10+2×1.5 mm <sup>2</sup> 4G16+2×1.5 mm <sup>2</sup>
Y/D start	SUBCAB® heavy-duty submersible cable	7G2.5+2×1.5 mm <sup>2</sup> 7G4+2×1.5 mm <sup>2</sup> 7G6+2×1.5 mm <sup>2</sup>
VFD application	Screened SUBCAB® heavy-duty submersible cable	S3×2.5+3×2.5/3+4×1.5 mm <sup>2</sup> S3×6+3×6/3+4×1.5 mm <sup>2</sup> S3×16+3×16/3+4×1.5 mm <sup>2</sup>

**Monitoring Equipment**

- Thermal contacts opening temperature 140° C (284° F)
- Leakage sensor in the inspection chamber (FLS)

**Materials**

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)
Insert ring, alternative 1	Cast iron, gray	35B	GJL-250
Insert ring, alternative 2	Cast iron, Hard-Iron™	A 532 IIIA	GJN-HB555(XCR23)
Cooling jacket, inner	Aluminum	AA 1050A	AW-1050A
Cooling jacket, outer	Stainless steel	AISI 316L	1.4404,1.4432, ...
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	-	-



Denomination	Material	ASTM	EN
Glycol, part no 903708	Heat transfer fluid based on monopropylene glycol. Fulfills FDA 184.1666/182.6285.	-	-

**Table 14: Mechanical face seals**

Alternative	Inner seal	Outer seal
1	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide
2	Corrosion resistant cemented carbide/ Corrosion resistant cemented carbide	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)

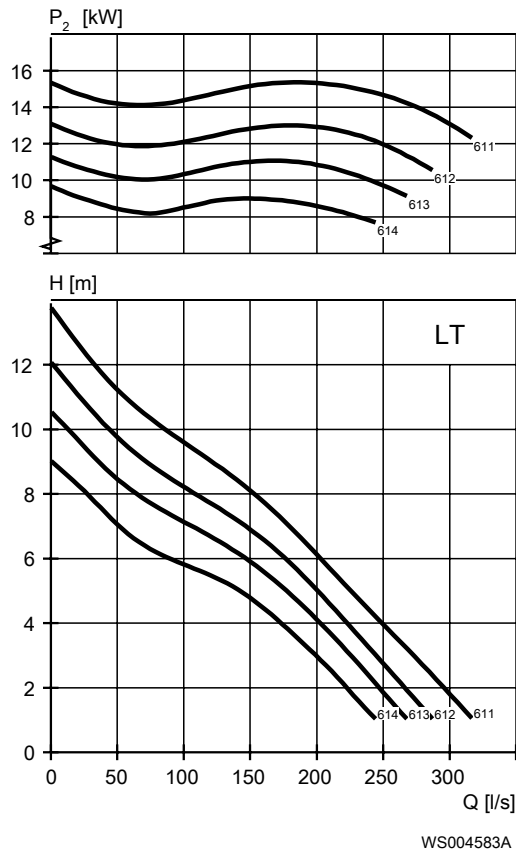
**Accessories**

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**

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

LT

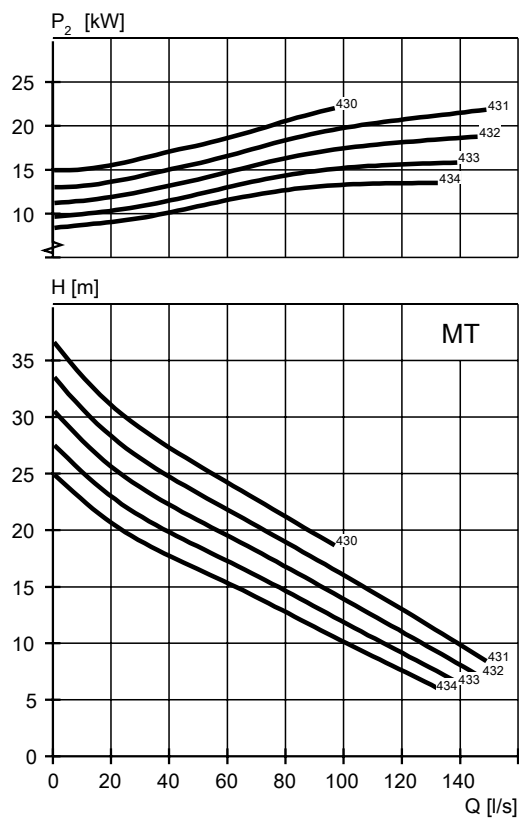


WS004583A

**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
15.5	21	611	980	30	204	0.81	P,S,T,Z
15.5	21	612	980	30	204	0.81	P,S,T,Z
15.5	21	613	980	30	204	0.81	P,S,T,Z
15.5	21	614	980	30	204	0.81	P,S,T,Z

MT

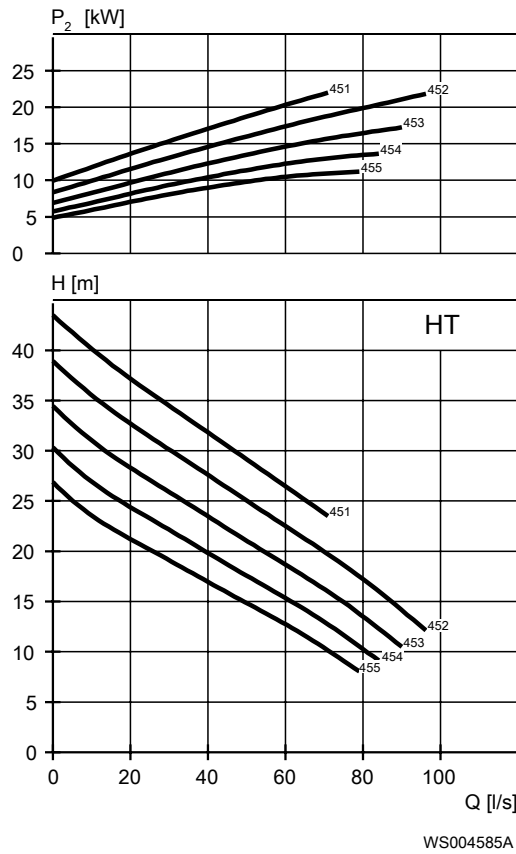


WS004584A

**Table 16: 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
15	20	432	1475	26	214	0.89	P,S,T,Z
15	20	433	1475	26	214	0.89	P,S,T,Z
15	20	434	1475	26	214	0.89	P,S,T,Z
18.5	25	431	1475	32	246	0.9	P,S,T,Z
18.5	25	432	1475	32	246	0.9	P,S,T,Z
18.5	25	433	1475	32	246	0.9	P,S,T,Z
18.5	25	434	1475	32	246	0.9	P,S,T,Z
22	30	430	1475	40	295	0.86	P,S,T,Z
22	30	431	1475	40	295	0.86	P,S,T,Z
22	30	432	1475	40	295	0.86	P,S,T,Z
22	30	433	1475	40	295	0.86	P,S,T,Z
22	30	434	1475	40	295	0.86	P,S,T,Z

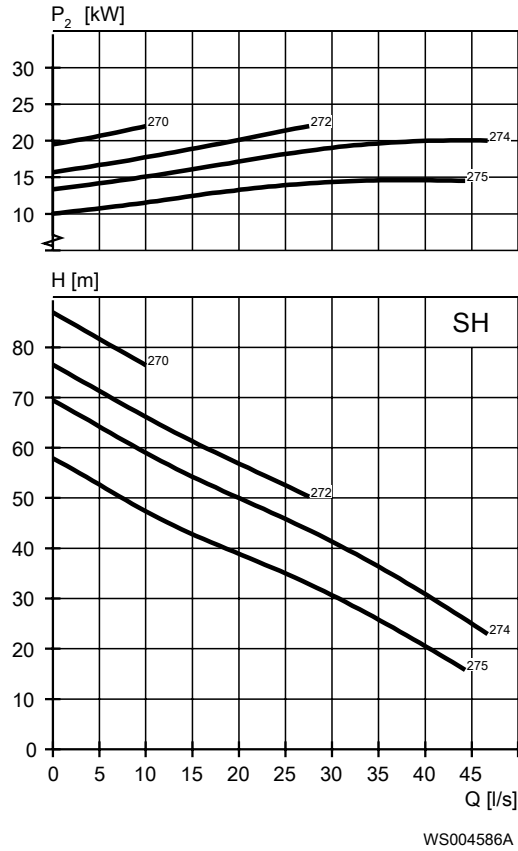
HT



**Table 17: 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
15	20	451	1475	26	214	0.89	P,S,T,Z
15	20	452	1475	26	214	0.89	P,S,T,Z
15	20	453	1475	26	214	0.89	P,S,T,Z
15	20	454	1475	26	214	0.89	P,S,T,Z
15	20	455	1475	26	214	0.89	P,S,T,Z
18.5	25	451	1475	32	246	0.9	P,S,T,Z
18.5	25	452	1475	32	246	0.9	P,S,T,Z
18.5	25	453	1475	32	246	0.9	P,S,T,Z
18.5	25	454	1475	32	246	0.9	P,S,T,Z
18.5	25	455	1475	32	246	0.9	P,S,T,Z
22	30	451	1475	40	295	0.86	P,S,T,Z
22	30	452	1475	40	295	0.86	P,S,T,Z
22	30	453	1475	40	295	0.86	P,S,T,Z
22	30	454	1475	40	295	0.86	P,S,T,Z
22	30	455	1475	40	295	0.86	P,S,T,Z

SH



**Table 18: 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
22	30	270	2935	37	297	0.93	P,S,T,Z
22	30	272	2935	37	297	0.93	P,S,T,Z
22	30	274	2935	37	297	0.93	P,S,T,Z
22	30	275	2935	37	297	0.93	P,S,T,Z

# Dimensions and Weight, Standard Motor

## 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.

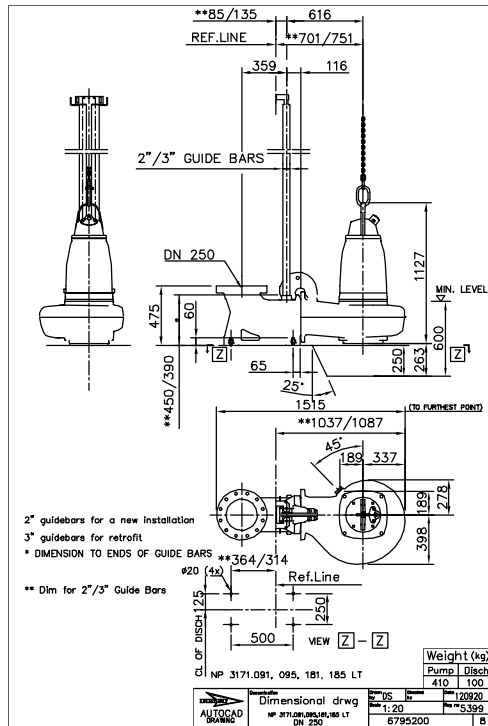


Figure 1: LT, P-installation

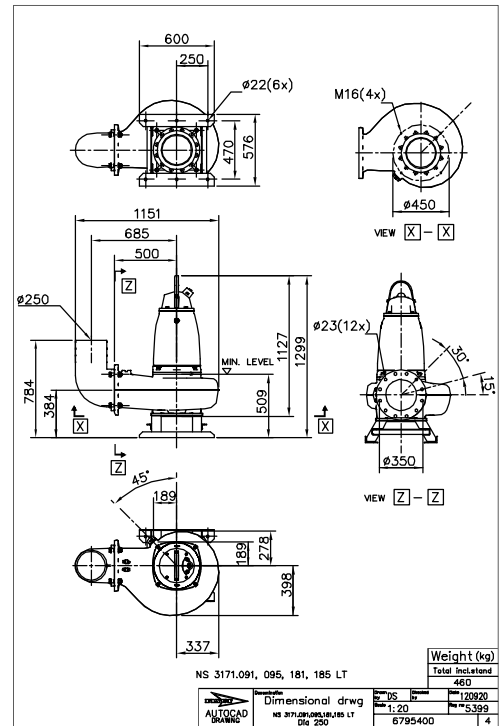


Figure 2: LT, S-installation



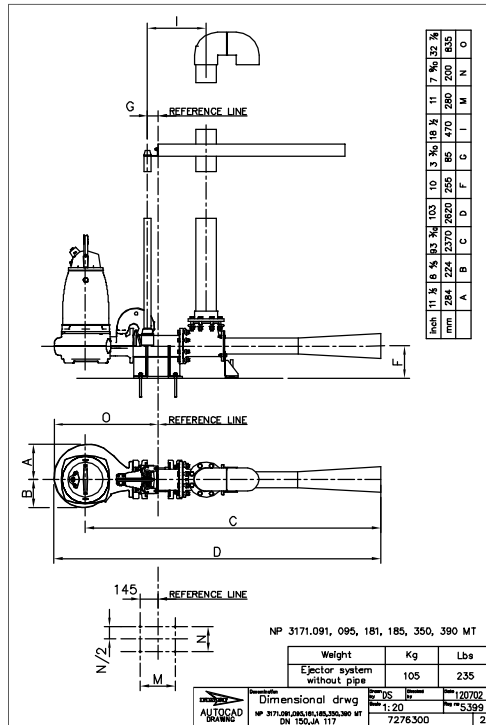


Figure 7: MT, P-installation

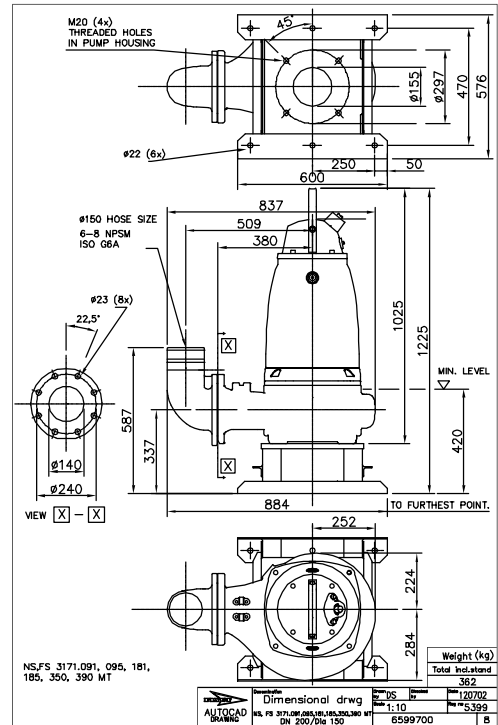


Figure 8: MT, S-installation

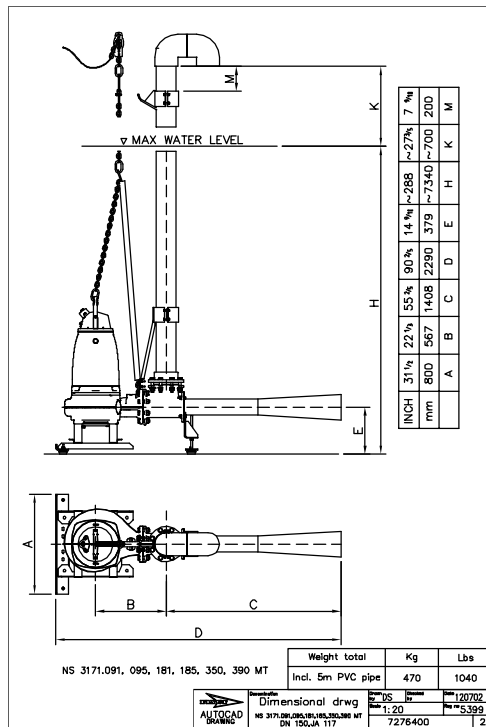


Figure 9: MT, S-installation

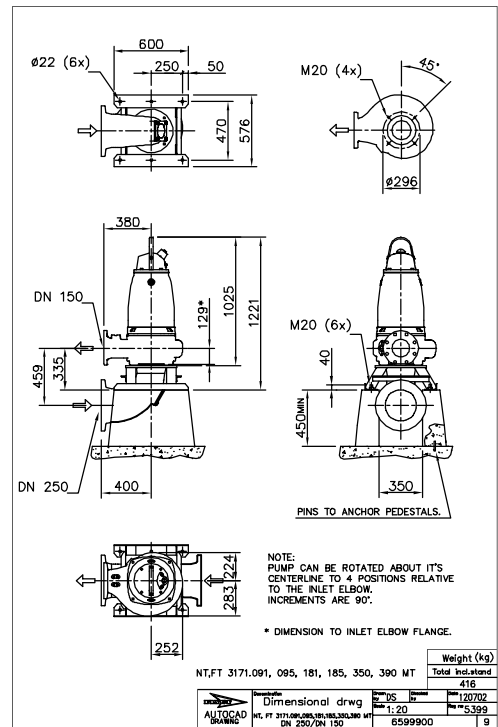


Figure 10: MT, T-installation



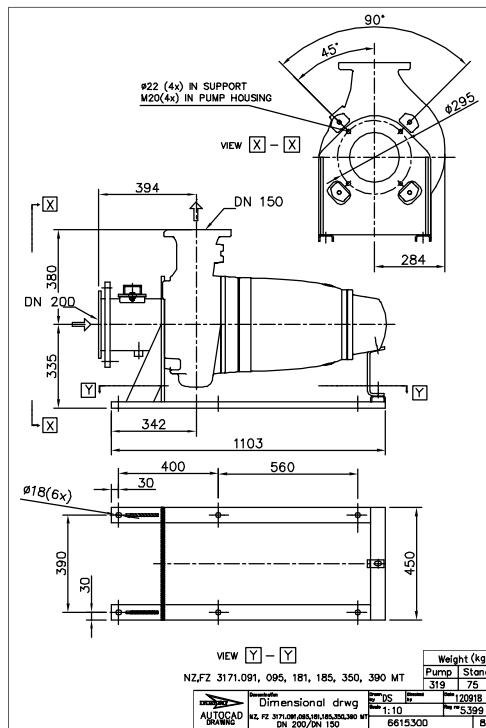


Figure 11: MT, Z-installation

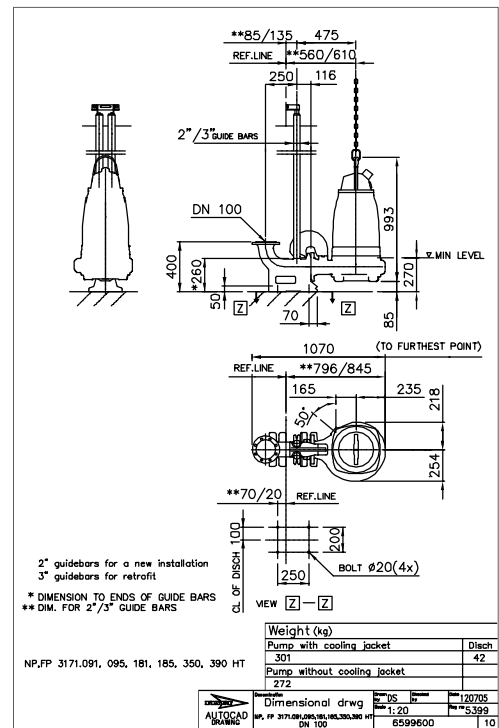


Figure 12: HT, P-installation

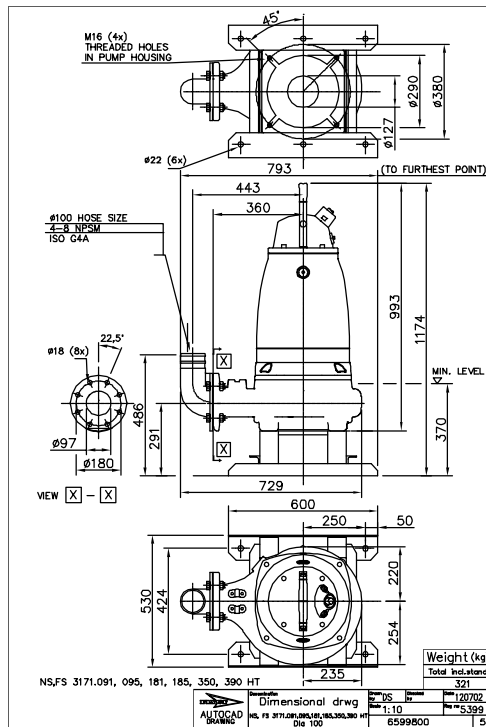


Figure 13: HT, S-installation

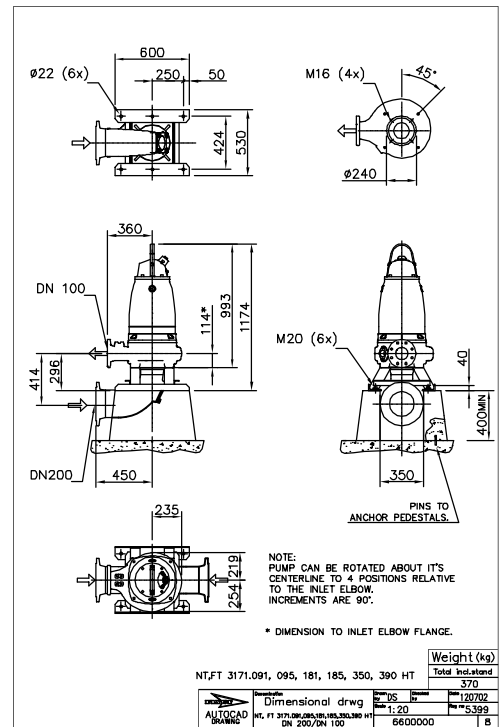


Figure 14: HT, T-installation

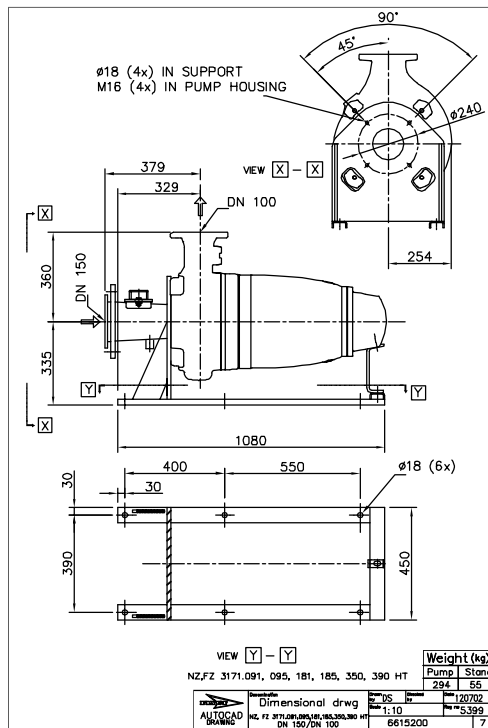


Figure 15: HT, Z-installation

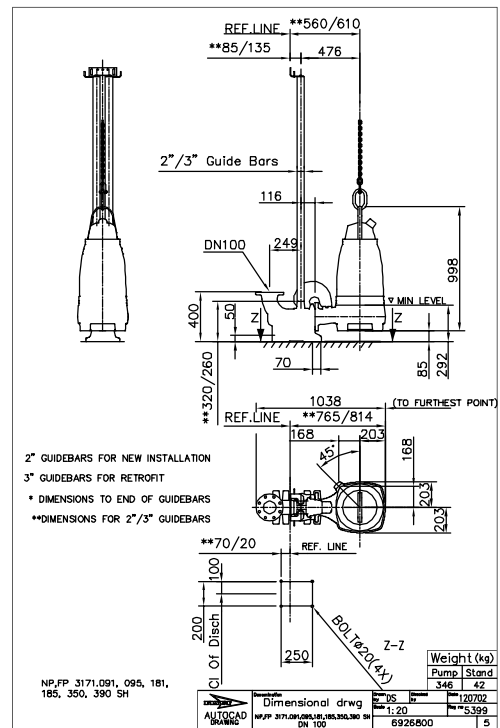


Figure 16: SH, P-installation

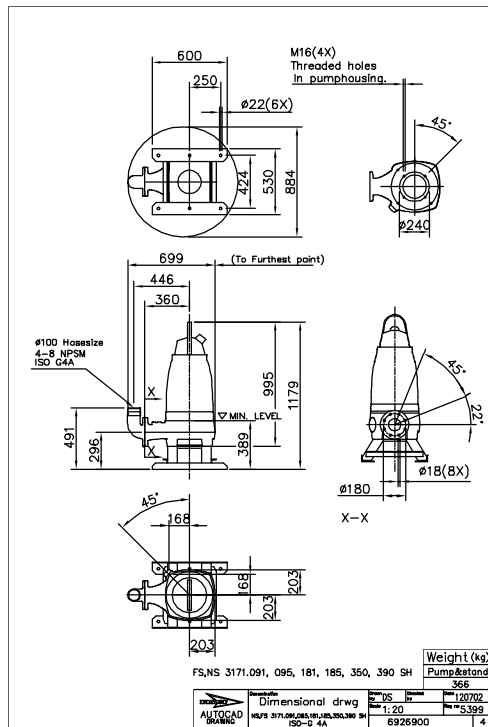


Figure 17: SH, S-installation

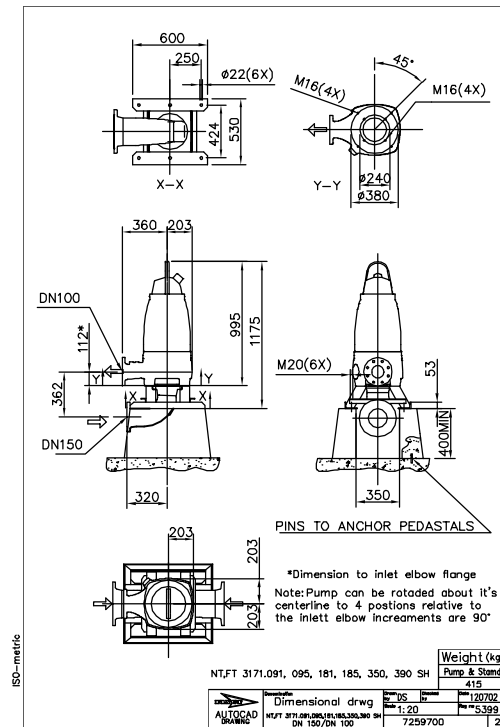


Figure 18: SH, T-installation

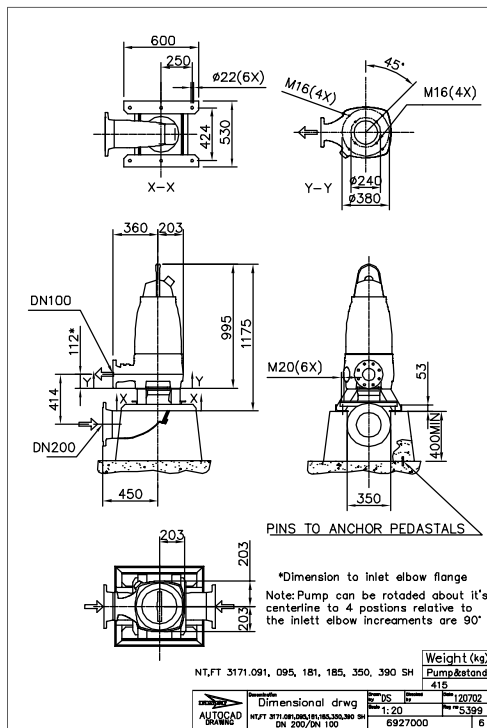


Figure 19: SH, T-installation

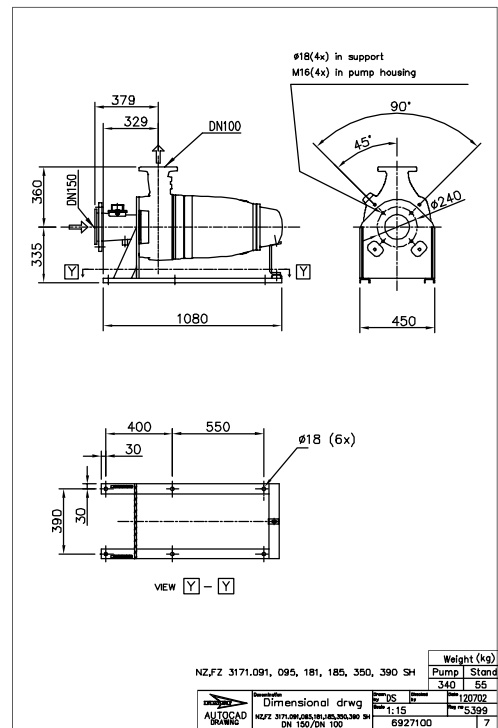


Figure 20: SH, Z-installation

# Dimensions and Weight, Premium Efficiency Motor (IE3)

## 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.

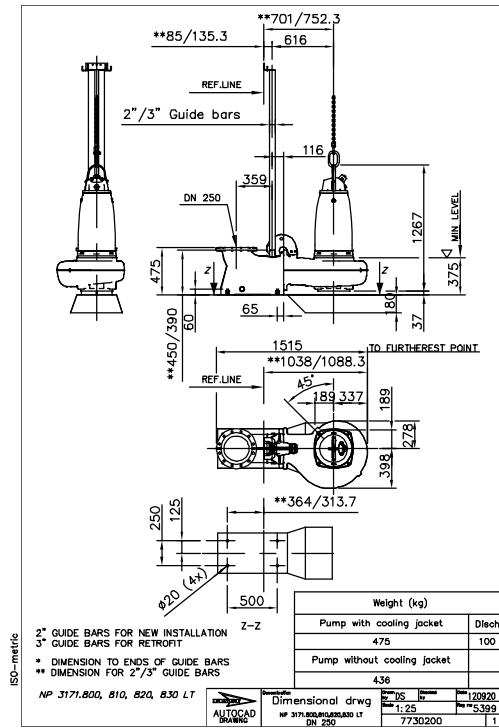


Figure 21: LT, P-installation

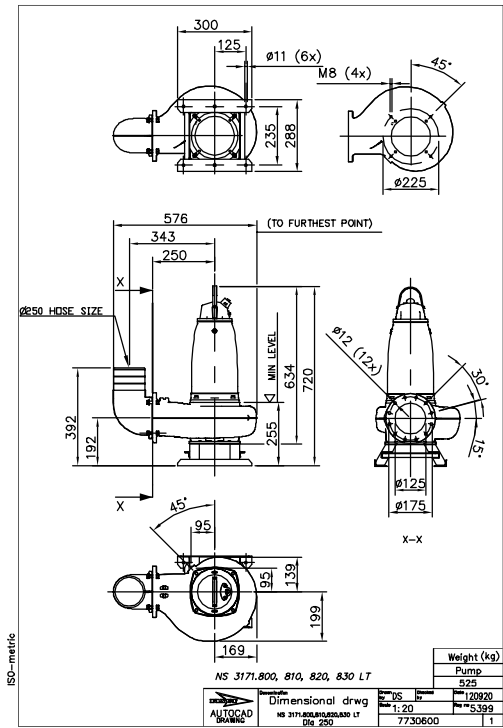


Figure 22: LT, S-installation

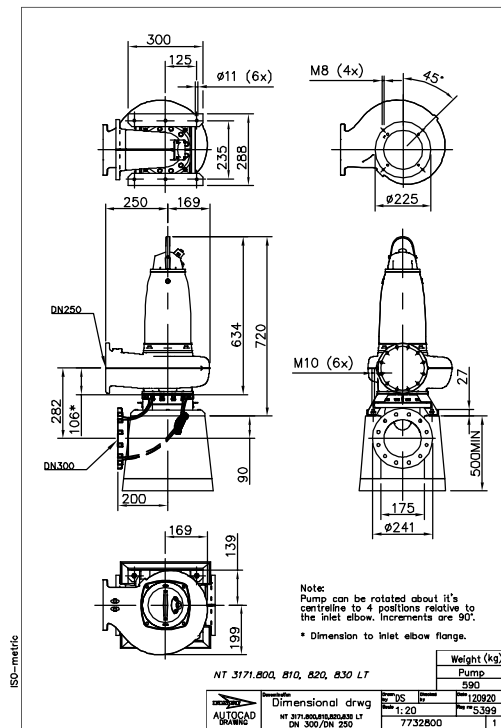


Figure 23: LT, T-installation

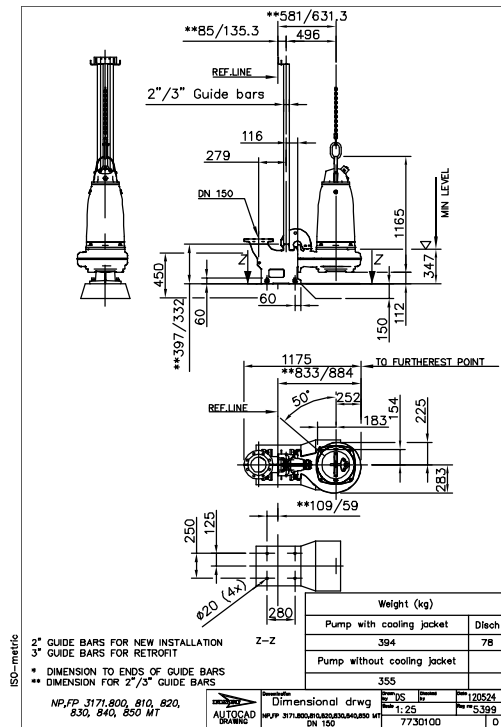


Figure 24: MT, P-installation

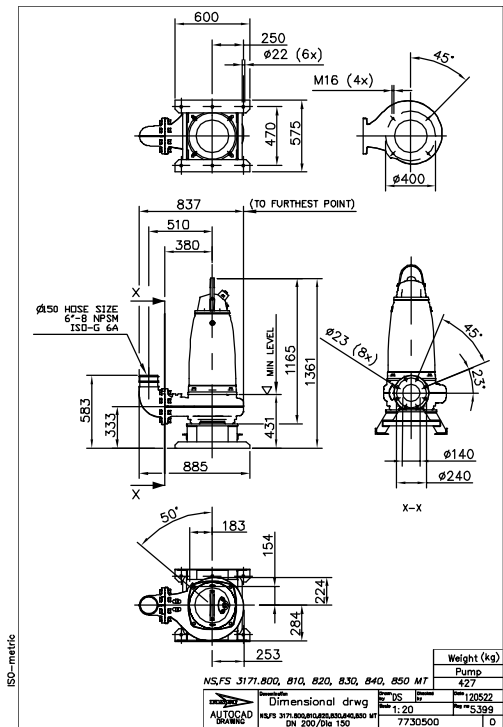


Figure 25: MT, S-installation

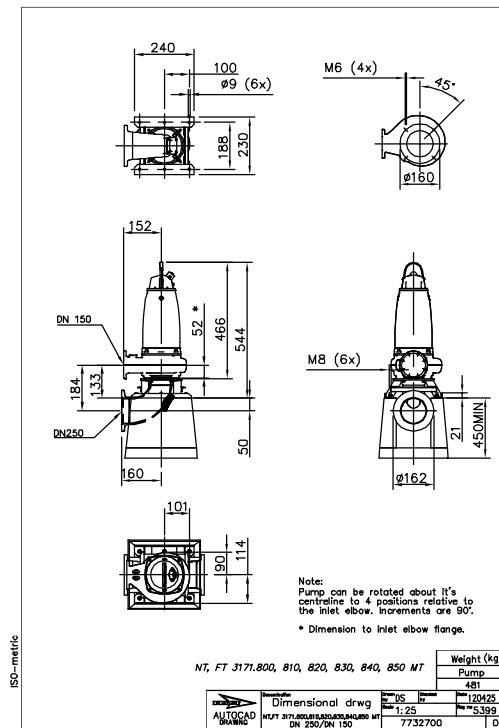


Figure 26: MT, T-installation

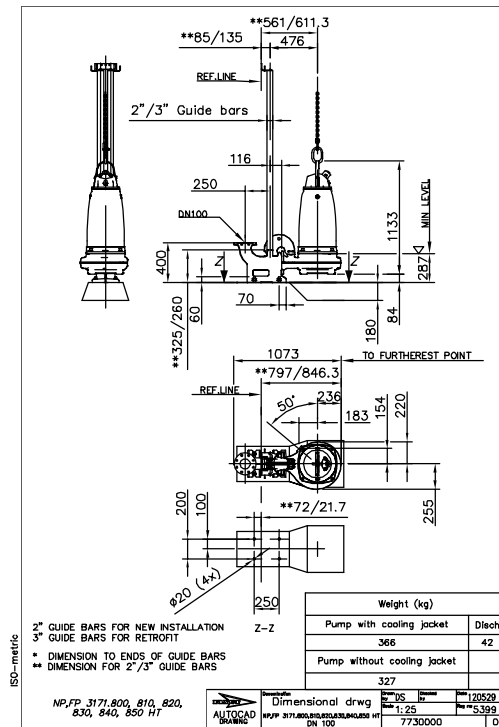


Figure 27: HT, P-installation

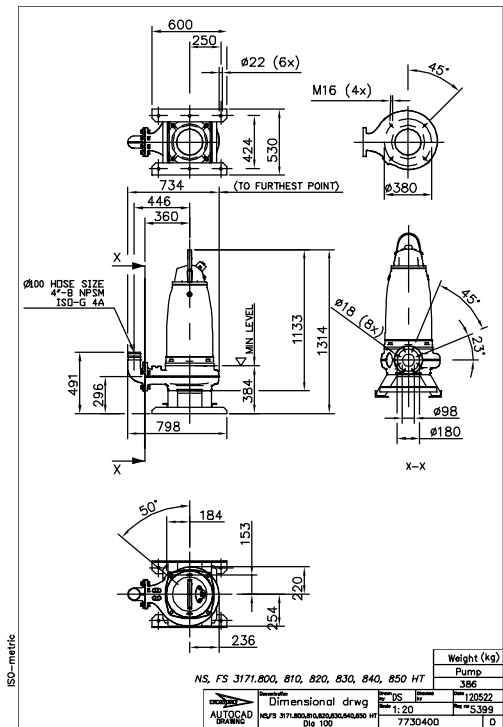


Figure 28: HT, S-installation

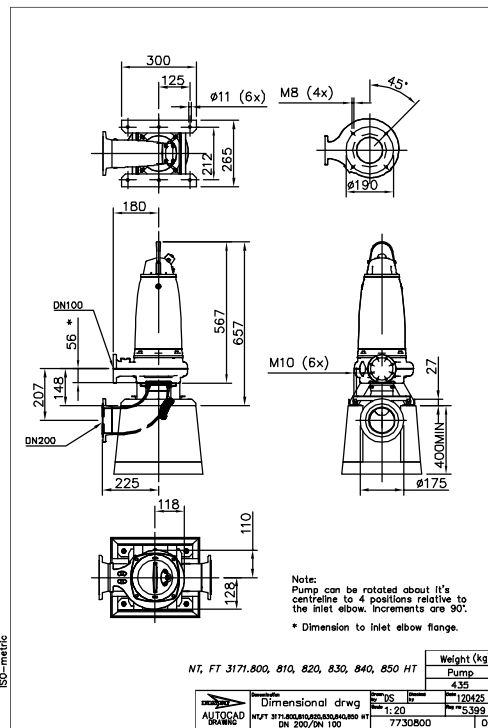


Figure 29: HT, T-installation

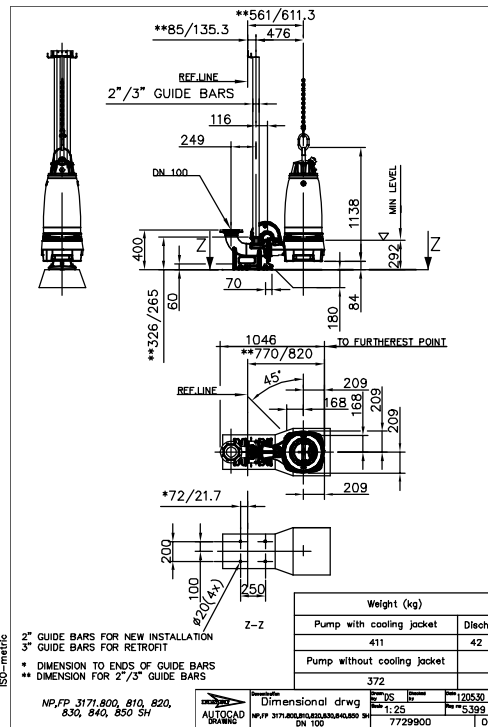


Figure 30: SH, P-installation

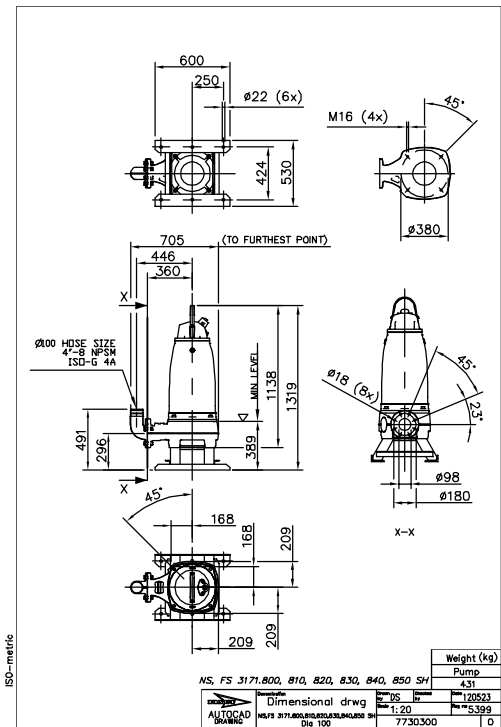


Figure 31: SH, S-installation

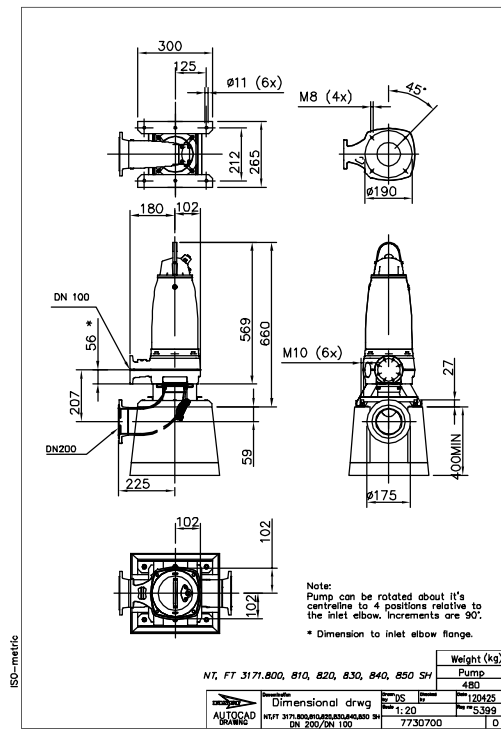


Figure 32: SH, T-installation





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- 2) A leading global water technology company

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Xylem Water Solutions AB  
Gesällvägen 33  
174 87 Sundbyberg  
Sweden  
Tel. +46-8-475 60 00  
Fax +46-8-475 69 00  
<http://tpi.xylem.com>

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The original instruction is in English. All non-English instructions are translations of the original instruction.

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