Technical
Specification


# Flygt 3202, 50Hz

FLYGT
a xylem brand

# Table of Contents

# F-pump, Standard Motor

## Product description

### Usage

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

### Denomination

| Type | Non explosion proof version | Explosion proof version | Pressure class | Installation types |
|---|---|---|---|---|
| Hard-Iron™ Chopper | 3202.350 | 3202.390 | MT – Medium head<br>HT – High head<br>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$^3$ |

## Motor data

| Feature | Description |
|---|---|
| Motor type | Squirrel-cage induction motor |
| Frequency | 50 Hz |
| Power supply | 3-phase |
| Starting method | • Direct on-line<br>• Star-delta<br>• Variable Frequency Drive (VFD) |
| Number of starts per hour | Maximum 30 |
| Code compliance | IEC 60034-1 |
| Rated output variation | ±10% |
| Voltage variation | • Continuously running: Maximum ±5%<br>• 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 140° C (284° F)
- Leakage sensor in the inspection chamber (FLS 10)

## Materials

**Table 1: 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 | 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 | - | - |
| Glycol, part no 903708 | Heat transfer fluid based on monopropylene glycol. Fulfills FDA 184.1666/182.6285. | - | - |

**Table 2: Mechanical 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)
- Sensors: Thermistor, FLS, Pt 100, VIS 10
- Pump memory
- 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.

MT

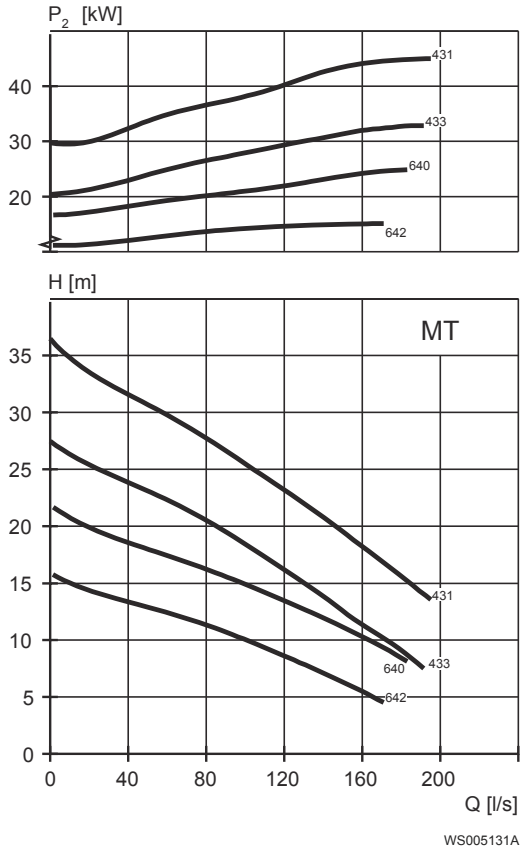


**Table 3: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated current, A | Starting current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 22 | 30 | 641 | 970 | 43 | 238 | 0.84 | P,S,T,Z |
| 22 | 30 | 642 | 970 | 43 | 238 | 0.84 | P,S,T,Z |
| 22 | 30 | 643 | 970 | 43 | 238 | 0.84 | P,S,T,Z |
| 30 | 40 | 434 | 1475 | 54 | 360 | 0.88 | P,S,T,Z |
| 30 | 40 | 435 | 1475 | 54 | 360 | 0.88 | P,S,T,Z |
| 30 | 40 | 640 | 970 | 59 | 320 | 0.83 | P,S,T,Z |
| 30 | 40 | 641 | 970 | 59 | 320 | 0.83 | P,S,T,Z |
| 30 | 40 | 642 | 970 | 59 | 320 | 0.83 | P,S,T,Z |
| 30 | 40 | 643 | 970 | 59 | 320 | 0.83 | P,S,T,Z |
| 37 | 50 | 433 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 37 | 50 | 434 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated current, A | Starting current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 37 | 50 | 435 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 37 | 50 | 640 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 37 | 50 | 641 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 37 | 50 | 642 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 37 | 50 | 643 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 45 | 60 | 431 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 432 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 433 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 434 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 435 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |

HT

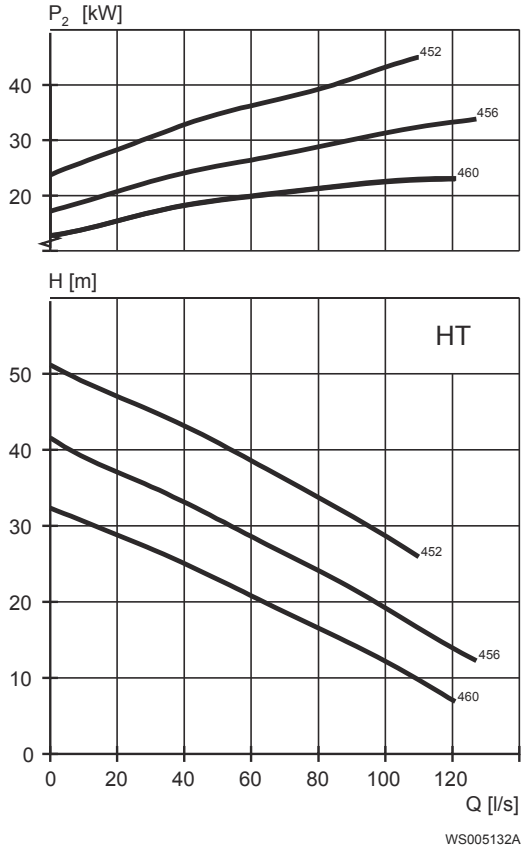


**Table 4: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated current, A | Starting current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 30 | 40 | 456 | 1475 | 54 | 360 | 0.88 | P,S,T,Z |
| 30 | 40 | 458 | 1475 | 54 | 360 | 0.88 | P,S,T,Z |
| 30 | 40 | 460 | 1475 | 54 | 360 | 0.88 | P,S,T,Z |
| 37 | 50 | 456 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 37 | 50 | 458 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated current, A | Starting current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 37 | 50 | 460 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 45 | 60 | 450 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 452 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 454 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 456 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 458 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 460 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |

SH

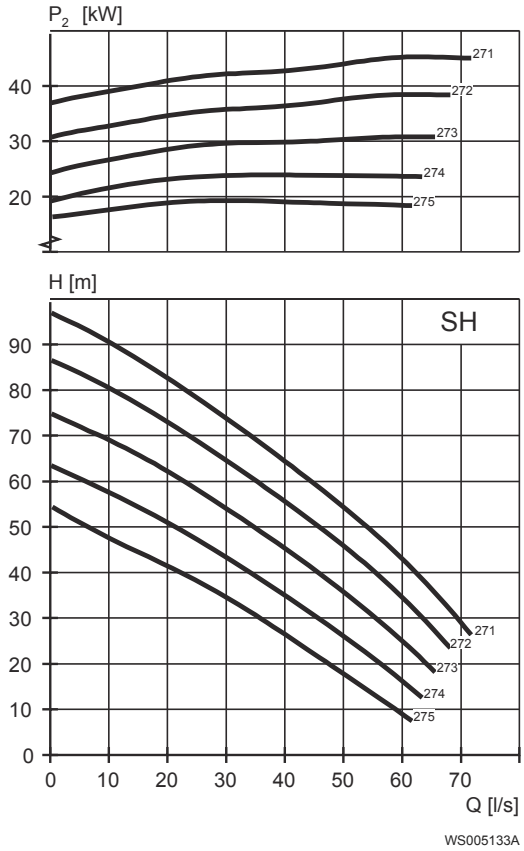


**Table 5: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated current, A | Starting current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 47 | 63 | 271 | 2950 | 79 | 555 | 0.92 | P,S |
| 47 | 63 | 272 | 2950 | 79 | 555 | 0.92 | P,S |
| 47 | 63 | 273 | 2950 | 79 | 555 | 0.92 | P,S |
| 47 | 63 | 274 | 2950 | 79 | 555 | 0.92 | P,S |
| 47 | 63 | 275 | 2950 | 79 | 555 | 0.92 | P,S |

# F-pump, Premium Efficiency Motor (IE3)

## Product description

### Usage

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

### Denomination

| Type | Non explosion proof version | Explosion proof version | Pressure class | Installation types |
|---|---|---|---|---|
| Hard-Iron™ Chopper | 3202.840 | 3202.850 | MT – Medium head<br>HT – High head<br>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$^3$ |

## Motor data

| Feature | Description |
|---|---|
| Motor type | Squirrel-cage induction motor |
| Frequency | 50 Hz |
| Power supply | 3-phase |
| Starting method | • Direct on-line<br>• Star-delta<br>• Variable Frequency Drive (VFD) |
| Number of starts per hour | Maximum 30 |
| Code compliance | IEC 60034-1 |
| Rated output variation | ±10% |
| Voltage variation | • Continuously running: Maximum ±5%<br>• 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 140° C (284° F)
- Leakage sensor in the inspection chamber (FLS 10)

## 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, 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 | - | - |
| Glycol, part no 903708 | Heat transfer fluid based on monopropylene glycol. Fulfills FDA 184.1666/182.6285. | - | - |

**Table 7: Mechanical 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

- Sensors: Thermistor, FLS, Pt 100, VIS 10
- Pump memory
- 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.

MT

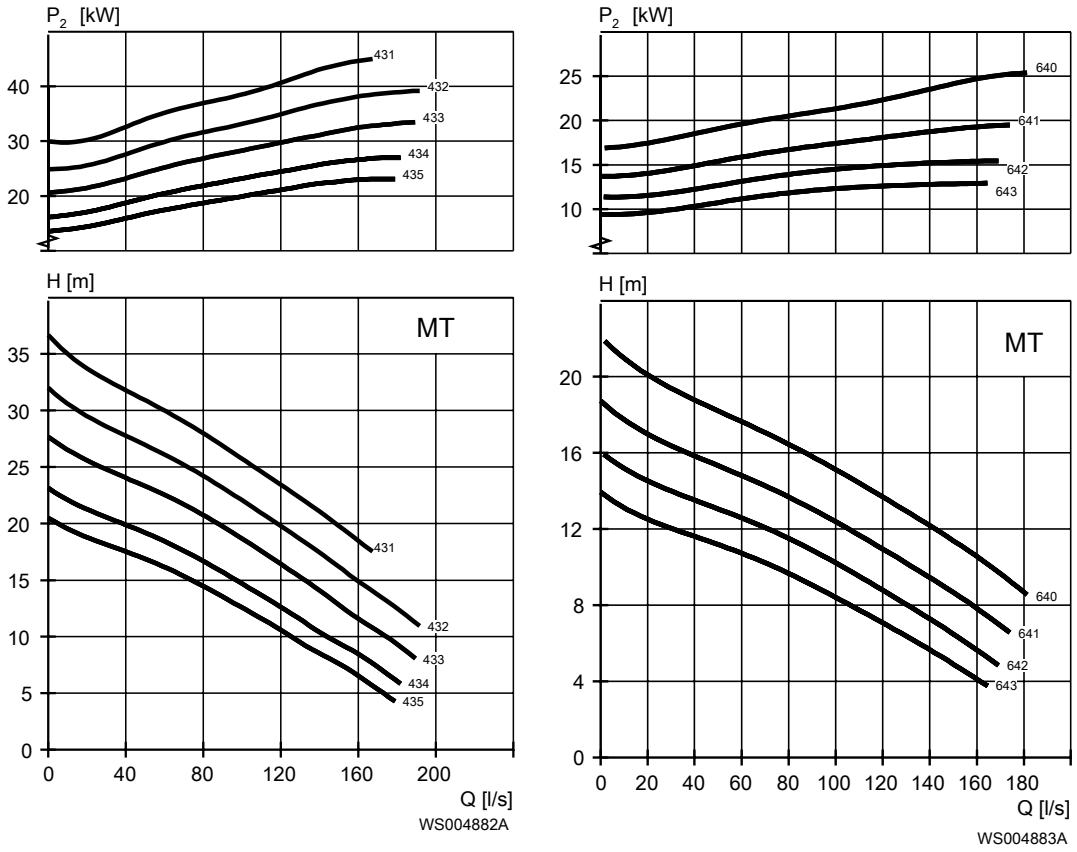


**Table 8: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 23 | 31 | 641 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 23 | 31 | 642 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 23 | 31 | 643 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 30 | 40 | 434 | 1485 | 57 | 425 | 0.82 | P,S,T,Z |
| 30 | 40 | 435 | 1485 | 57 | 425 | 0.82 | P,S,T,Z |
| 31 | 42 | 640 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 641 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 642 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 643 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 37 | 50 | 433 | 1485 | 73 | 540 | 0.78 | P,S,T,Z |
| 37 | 50 | 434 | 1485 | 73 | 540 | 0.78 | P,S,T,Z |
| 37 | 50 | 435 | 1485 | 73 | 540 | 0.78 | P,S,T,Z |

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 38 | 51 | 640 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 641 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 642 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 643 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 45 | 60 | 431 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 432 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 433 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 434 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 435 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |

HT

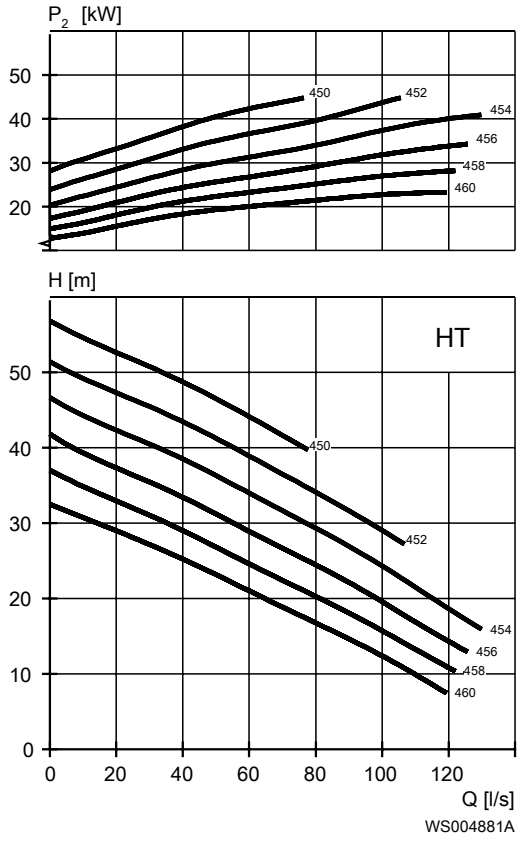


**Table 9: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 30 | 40 | 456 | 1485 | 57 | 425 | 0.82 | P,S,T,Z |
| 30 | 40 | 458 | 1485 | 57 | 425 | 0.82 | P,S,T,Z |
| 30 | 40 | 460 | 1485 | 57 | 425 | 0.82 | P,S,T,Z |
| 37 | 50 | 456 | 1485 | 73 | 540 | 0.78 | P,S,T,Z |
| 37 | 50 | 458 | 1485 | 73 | 540 | 0.78 | P,S,T,Z |

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 37 | 50 | 460 | 1485 | 73 | 540 | 0.78 | P,S,T,Z |
| 45 | 60 | 450 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 452 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 454 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 456 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 458 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 460 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |

SH

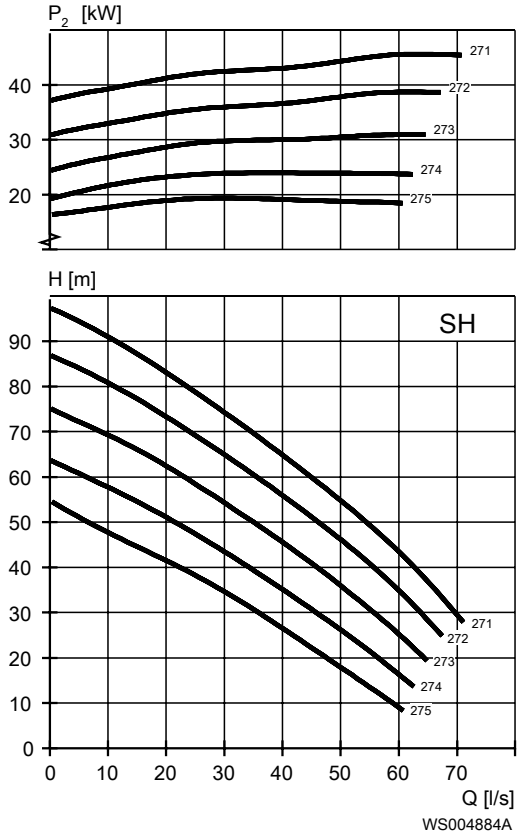


**Table 10: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 47 | 63 | 271 | 2960 | 82 | 660 | 0.88 | P,S,T,Z |
| 47 | 63 | 272 | 2960 | 82 | 660 | 0.88 | P,S |
| 47 | 63 | 273 | 2960 | 82 | 660 | 0.88 | P,S,T,Z |
| 47 | 63 | 274 | 2960 | 82 | 660 | 0.88 | P,S,T,Z |
| 47 | 63 | 275 | 2960 | 82 | 660 | 0.88 | P,S |

# N-pump, Standard Motor

## Product description

### Usage

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.

### Denomination

| Type | Non explosion proof version | Explosion proof version | Pressure class | Installation types |
|---|---|---|---|---|
| Cast iron | 3202.180 | 3202.090 | LT – Low head<br>MT – Medium head<br>HT – High head | P, S, T, Z |
| Hard-Iron™ | 3202.185 | 3202.095 | LT – Low head<br>MT – Medium head<br>HT – High head<br>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) |

| Feature | Description |
|---|---|
| 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 | 50 Hz |
| Power supply | 3-phase |
| Starting method | • Direct on-line<br>• Star-delta<br>• Variable Frequency Drive (VFD) |
| Number of starts per hour | Maximum 30 |
| Code compliance | IEC 60034-1 |
| Rated output variation | ±10% |
| Voltage variation | • Continuously running: Maximum ±5%<br>• 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 140° C (284° F)
- Leakage sensor in the inspection chamber (FLS 10)

## Materials

**Table 11: 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) |
| 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 | - | - |
| 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 12: Mechanical 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)
- Sensors: Thermistor, FLS, Pt 100, VIS 10

- Pump memory
- 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

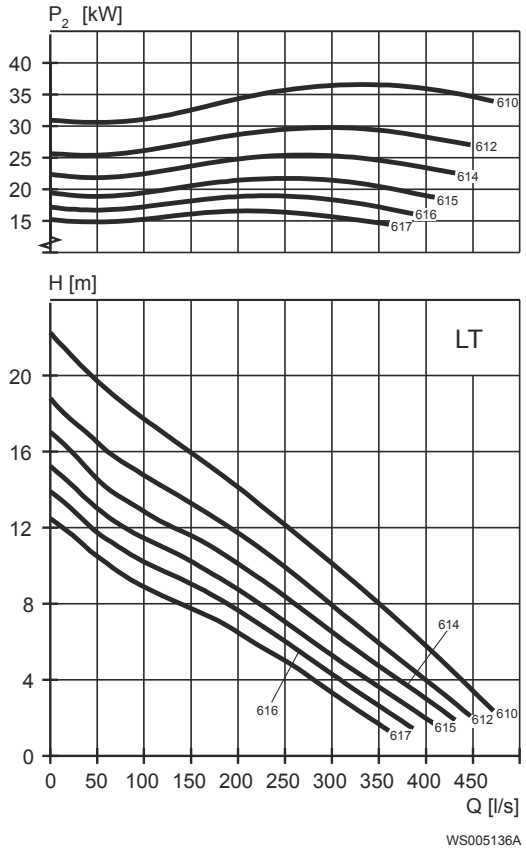


**Table 13: 400 V, 50 Hz, 3-phase**

| 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 | 615 | 970 | 43 | 238 | 0.84 | P,S,T,Z |
| 22 | 30 | 616 | 970 | 43 | 238 | 0.84 | P,S,T,Z |
| 22 | 30 | 617 | 970 | 43 | 238 | 0.84 | P,S,T,Z |
| 30 | 40 | 612 | 970 | 59 | 320 | 0.83 | P,S,T,Z |
| 30 | 40 | 614 | 970 | 59 | 320 | 0.83 | P,S,T,Z |

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated current, A | Starting current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 30 | 40 | 615 | 970 | 59 | 320 | 0.83 | P,S,T,Z |
| 30 | 40 | 616 | 970 | 59 | 320 | 0.83 | P,S,T,Z |
| 30 | 40 | 617 | 970 | 59 | 320 | 0.83 | P,S,T,Z |
| 37 | 50 | 610 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 37 | 50 | 612 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 37 | 50 | 614 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 37 | 50 | 615 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 37 | 50 | 616 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 37 | 50 | 617 | 970 | 71 | 405 | 0.83 | P,S,T,Z |

MT

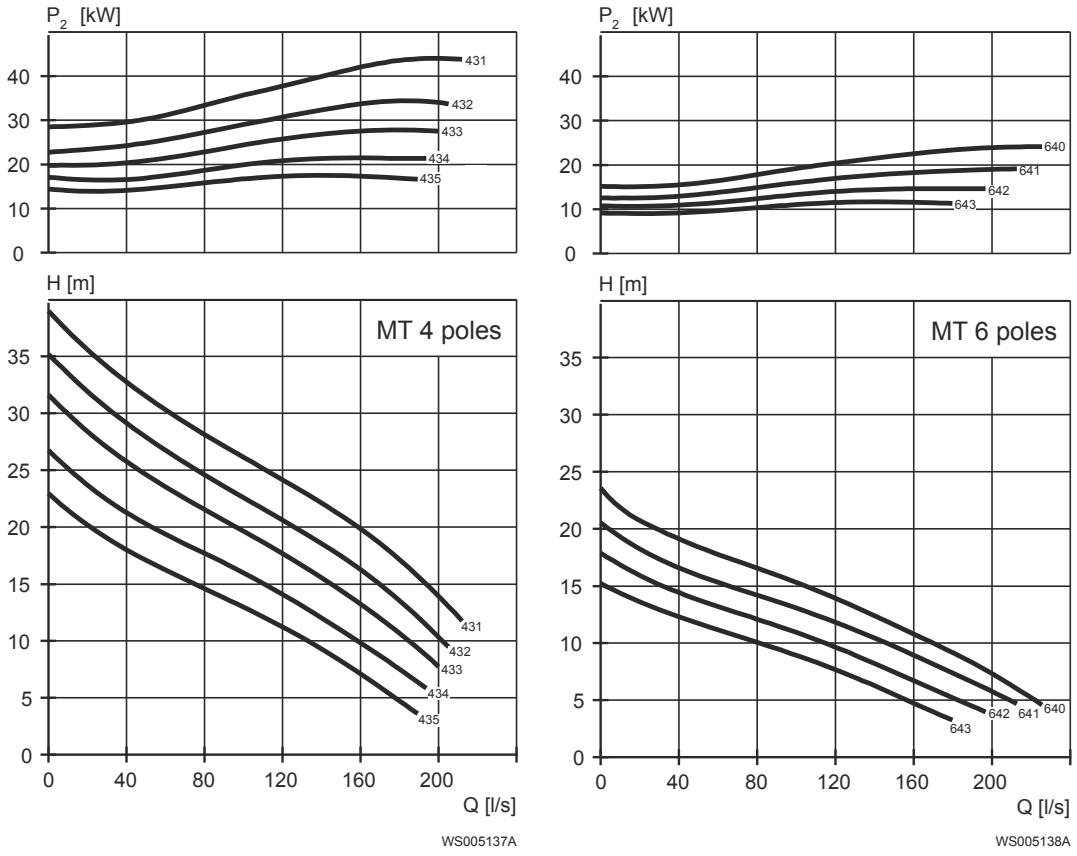


**Table 14: 400 V, 50 Hz, 3-phase**

| 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 | 640 | 970 | 43 | 238 | 0.84 | P,S,T,Z |
| 22 | 30 | 641 | 970 | 43 | 238 | 0.84 | P,S,T,Z |
| 22 | 30 | 642 | 970 | 43 | 238 | 0.84 | P,S,T,Z |
| 22 | 30 | 643 | 970 | 43 | 238 | 0.84 | P,S,T,Z |

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated current, A | Starting current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 30 | 40 | 433 | 1475 | 54 | 360 | 0.88 | P,S,T,Z |
| 30 | 40 | 434 | 1475 | 54 | 360 | 0.88 | P,S,T,Z |
| 30 | 40 | 435 | 1475 | 54 | 360 | 0.88 | P,S,T,Z |
| 30 | 40 | 640 | 970 | 59 | 320 | 0.83 | P,S,T,Z |
| 30 | 40 | 641 | 970 | 59 | 320 | 0.83 | P,S,T,Z |
| 30 | 40 | 642 | 970 | 59 | 320 | 0.83 | P,S,T,Z |
| 30 | 40 | 643 | 970 | 59 | 320 | 0.83 | P,S,T,Z |
| 37 | 50 | 432 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 37 | 50 | 433 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 37 | 50 | 434 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 37 | 50 | 435 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 37 | 50 | 640 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 37 | 50 | 641 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 37 | 50 | 642 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 37 | 50 | 643 | 970 | 71 | 405 | 0.83 | P,S,T,Z |
| 45 | 60 | 431 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 432 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 433 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 434 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 435 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |

HT

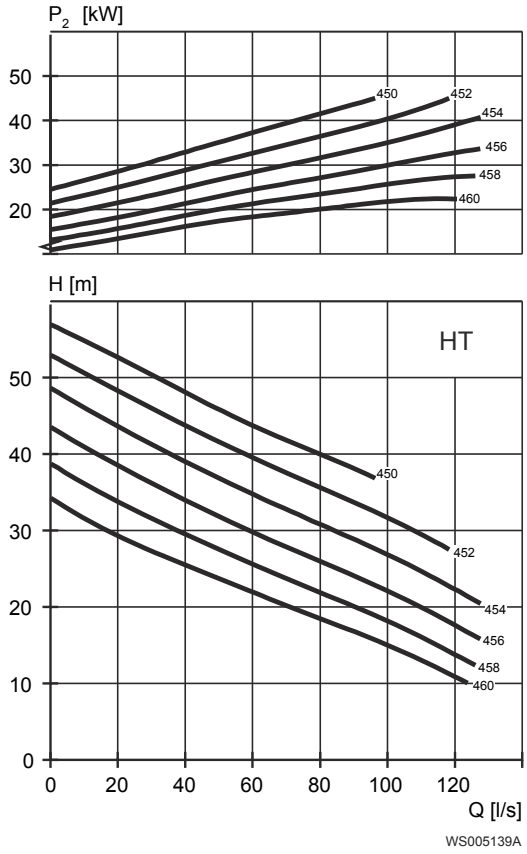


**Table 15: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated current, A | Starting current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 30 | 40 | 454 | 1475 | 54 | 360 | 0.88 | P,S,T,Z |
| 30 | 40 | 456 | 1475 | 54 | 360 | 0.88 | P,S,T,Z |
| 30 | 40 | 458 | 1475 | 54 | 360 | 0.88 | P,S,T,Z |
| 30 | 40 | 460 | 1475 | 54 | 360 | 0.88 | P,S,T,Z |
| 37 | 50 | 450 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 37 | 50 | 452 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 37 | 50 | 454 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 37 | 50 | 456 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 37 | 50 | 458 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 37 | 50 | 460 | 1475 | 65 | 420 | 0.89 | P,S,T,Z |
| 45 | 60 | 450 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 452 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 454 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 456 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 458 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |
| 45 | 60 | 460 | 1475 | 79 | 540 | 0.9 | P,S,T,Z |

SH

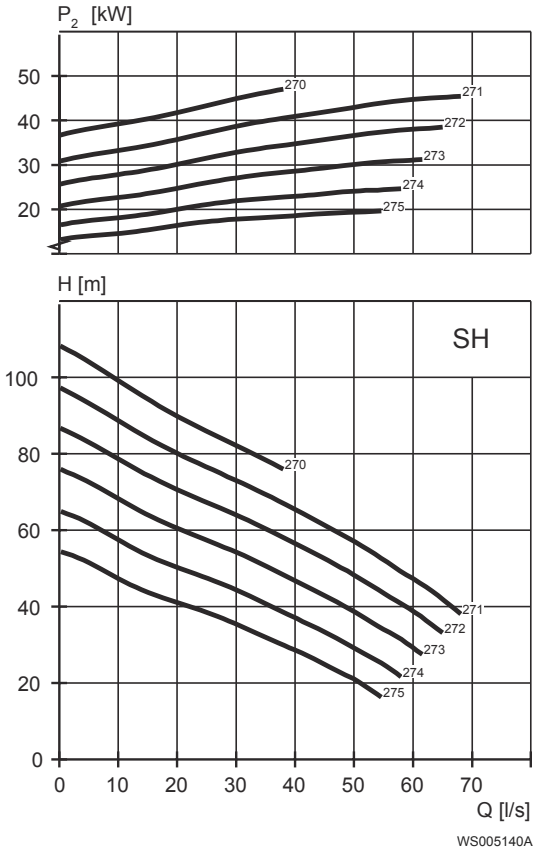


**Table 16: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated current, A | Starting current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 47 | 63 | 270 [1] | 2950 | 79 | 555 | 0.92 | P,S,T,Z |
| 47 | 63 | 271[1] | 2950 | 79 | 555 | 0.92 | P,S,T,Z |
| 47 | 63 | 272[1] | 2950 | 79 | 555 | 0.92 | P,S,T,Z |
| 47 | 63 | 273[1] | 2950 | 79 | 555 | 0.92 | P,S,T,Z |
| 47 | 63 | 274[1] | 2950 | 79 | 555 | 0.92 | P,S,T,Z |
| 47 | 63 | 275[1] | 2950 | 79 | 555 | 0.92 | P,S,T,Z |

[1] Only applicable for 3202.185 and 3202.095

# N-pump, Premium Efficiency Motor (IE3)

## Product description

### Usage

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.

### Denomination

| Type | Non explosion proof version | Explosion proof version | Pressure class | Installation types |
|---|---|---|---|---|
| Cast iron | 3202.800 | 3202.810 | LT – Low head<br>MT – Medium head<br>HT – High head | P, S, T, Z |
| Hard-Iron™ | 3202.820 | 3202.830 | LT – Low head<br>MT – Medium head<br>HT – High head<br>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) |

| Feature | Description |
|---|---|
| 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 | 50 Hz |
| Power supply | 3-phase |
| Starting method | • Direct on-line<br>• Star-delta<br>• Variable Frequency Drive (VFD) |
| Number of starts per hour | Maximum 30 |
| Code compliance | IEC 60034-1 |
| Rated output variation | ±10% |
| Voltage variation | • Continuously running: Maximum ±5%<br>• 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 140° C (284° F)
- Leakage sensor in the inspection chamber (FLS 10)

## 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, 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 | - | - |
| Glycol, part no 903708 | Heat transfer fluid based on monopropylene glycol. Fulfills FDA 184.1666/182.6285. | - | - |

**Table 18: Mechanical 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

- Sensors: Thermistor, FLS, Pt 100, VIS 10
- Pump memory
- 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 N3202.800/.810

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

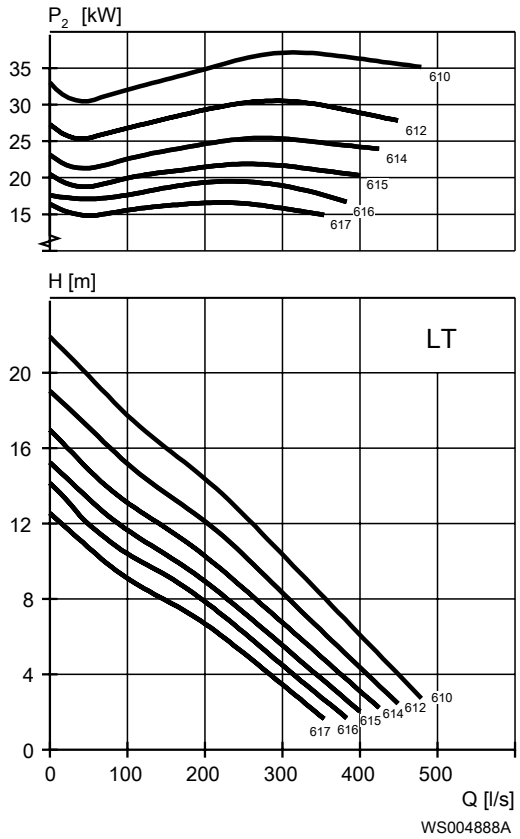


**Table 19: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 23 | 31 | 615 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 23 | 31 | 616 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 23 | 31 | 617 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 31 | 42 | 612 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 614 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 615 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 616 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 617 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 38 | 51 | 610 | 980 | 77 | 495 | 0.77 | P,S,T,Z |

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 38 | 51 | 612 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 614 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 615 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 616 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 617 | 980 | 77 | 495 | 0.77 | P,S,T,Z |

MT

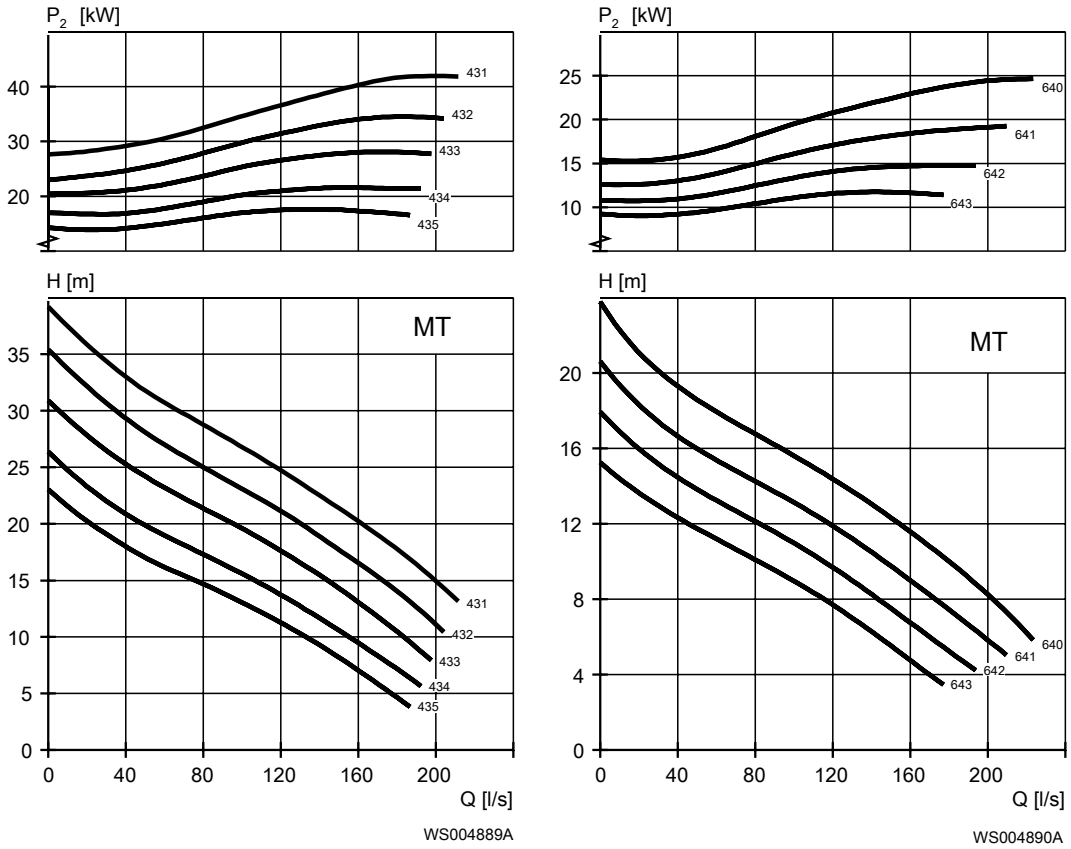


**Table 20: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 23 | 31 | 640 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 23 | 31 | 641 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 23 | 31 | 642 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 23 | 31 | 643 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 30 | 40 | 433 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 30 | 40 | 434 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 30 | 40 | 435 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 31 | 42 | 640 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 641 | 980 | 60 | 360 | 0.81 | P,S,T,Z |

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 31 | 42 | 642 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 643 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 37 | 50 | 432 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 433 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 434 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 435 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 38 | 51 | 640 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 641 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 642 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 643 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 45 | 60 | 431 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 432 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 433 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 434 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 435 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |

HT

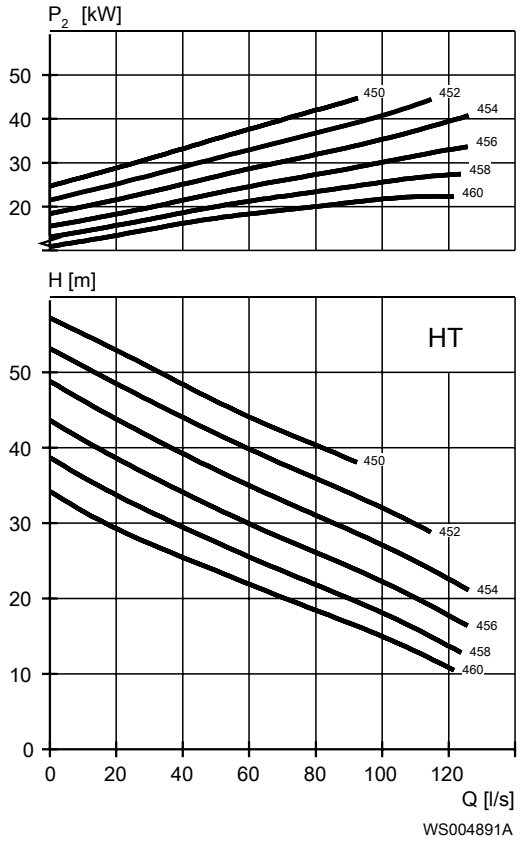


**Table 21: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 30 | 40 | 454 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 30 | 40 | 456 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 30 | 40 | 458 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 30 | 40 | 460 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 37 | 50 | 450 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 452 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 454 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 456 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 458 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 460 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 45 | 60 | 450 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 452 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 454 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 456 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 458 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 460 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |

# Motor rating and performance curves N3202.820/.830

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

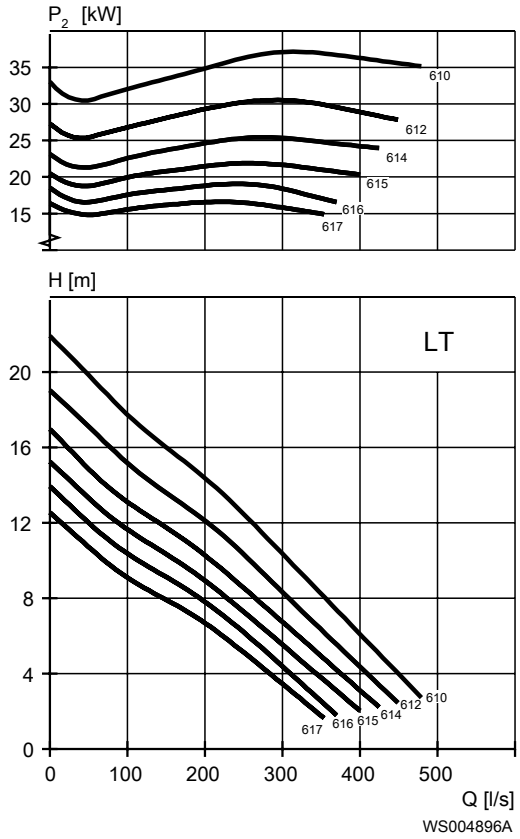


**Table 22: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 23 | 31 | 615 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 23 | 31 | 616 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 23 | 31 | 617 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 31 | 42 | 612 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 614 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 615 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 616 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 617 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 38 | 51 | 610 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 612 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 614 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 615 | 980 | 77 | 495 | 0.77 | P,S,T,Z |

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 38 | 51 | 616 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 617 | 980 | 77 | 495 | 0.77 | P,S,T,Z |

MT

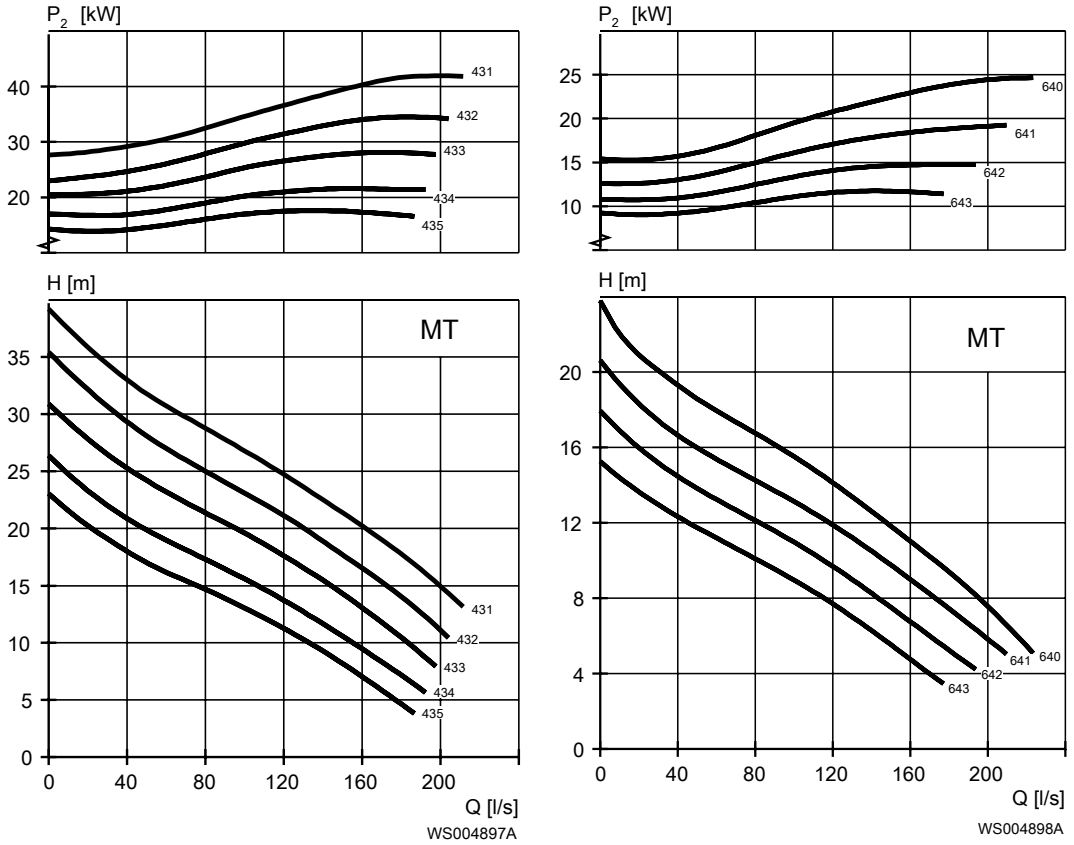


**Table 23: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 23 | 31 | 640 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 23 | 31 | 641 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 23 | 31 | 642 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 23 | 31 | 643 | 980 | 45 | 270 | 0.79 | P,S,T,Z |
| 30 | 40 | 433 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 30 | 40 | 434 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 30 | 40 | 435 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 31 | 42 | 640 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 641 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 642 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 31 | 42 | 643 | 980 | 60 | 360 | 0.81 | P,S,T,Z |
| 37 | 50 | 432 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 37 | 50 | 433 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 434 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 435 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 38 | 51 | 640 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 641 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 642 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 38 | 51 | 643 | 980 | 77 | 495 | 0.77 | P,S,T,Z |
| 45 | 60 | 431 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 432 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 433 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 434 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 435 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |

HT

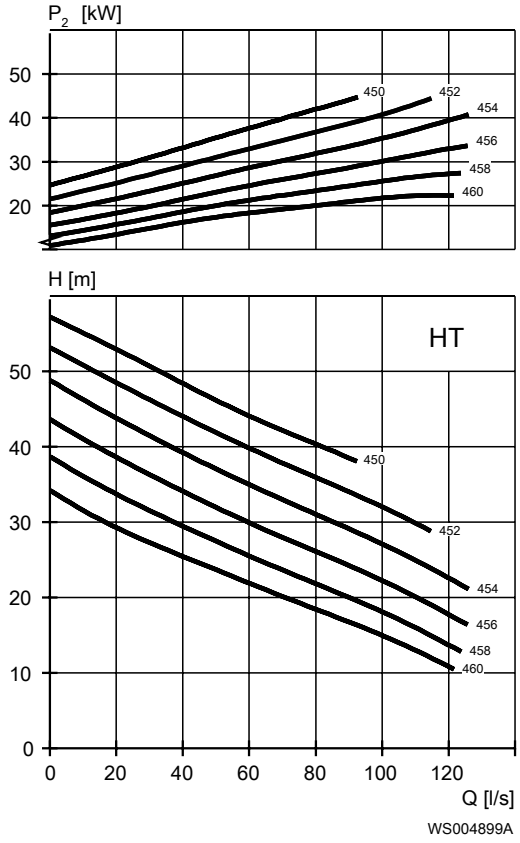


**Table 24: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 30 | 40 | 454 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 30 | 40 | 456 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 30 | 40 | 458 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 30 | 40 | 460 | 1480 | 52 | 385 | 0.89 | P,S,T,Z |
| 37 | 50 | 450 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 452 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 454 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 456 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 458 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 37 | 50 | 460 | 1485 | 65 | 535 | 0.87 | P,S,T,Z |
| 45 | 60 | 450 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 452 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 454 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 456 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 458 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |
| 45 | 60 | 460 | 1480 | 81 | 585 | 0.85 | P,S,T,Z |

SH

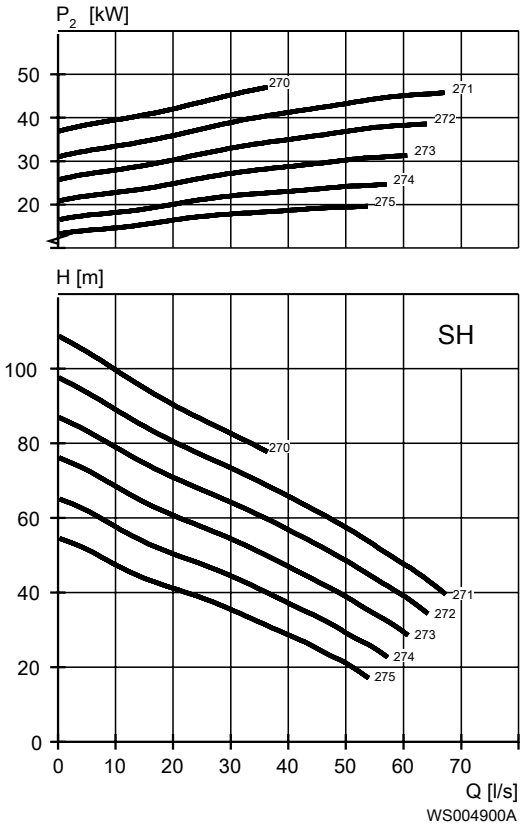


**Table 25: 400 V, 50 Hz, 3-phase**

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 47 | 63 | 270 | 2960 | 82 | 660 | 0.88 | P,S,T,Z |

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated Current, A | Start current, A | Power factor, cos φ | Installation |
|---|---|---|---|---|---|---|---|
| 47 | 63 | 271 | 2960 | 82 | 660 | 0.88 | P,S,T,Z |
| 47 | 63 | 272 | 2960 | 82 | 660 | 0.88 | P,S,T,Z |
| 47 | 63 | 273 | 2960 | 82 | 660 | 0.88 | P,S,T,Z |
| 47 | 63 | 274 | 2960 | 82 | 660 | 0.88 | P,S,T,Z |
| 47 | 63 | 275 | 2960 | 82 | 660 | 0.88 | 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.

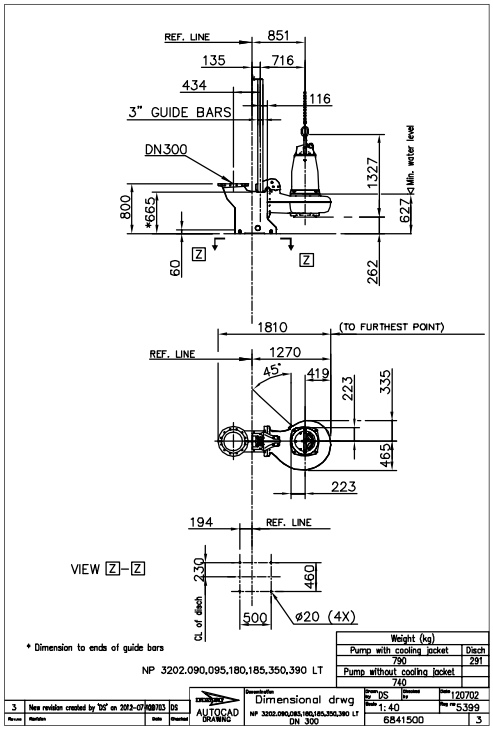


Figure 1: LT, P-installation

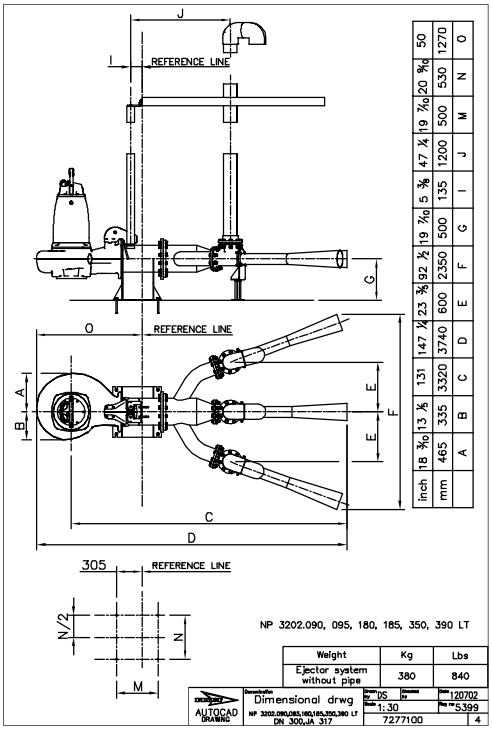


Figure 2: LT, P-installation

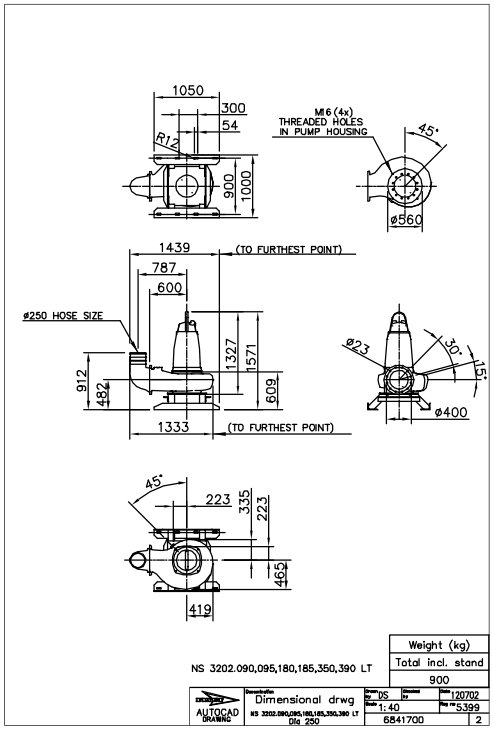


Figure 3: LT, S-installation

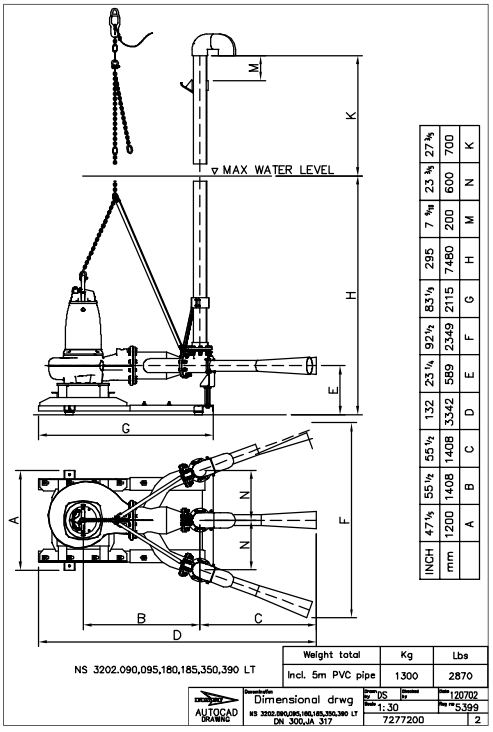


Figure 4: LT, S-installation

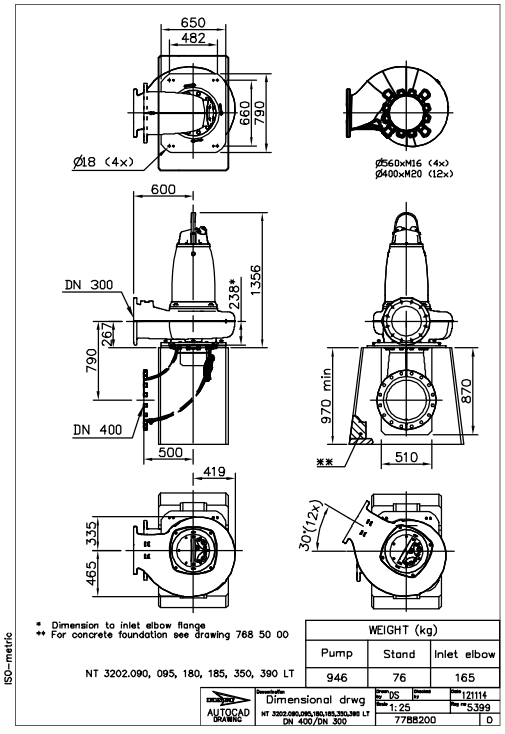


Figure 5: LT, T-installation

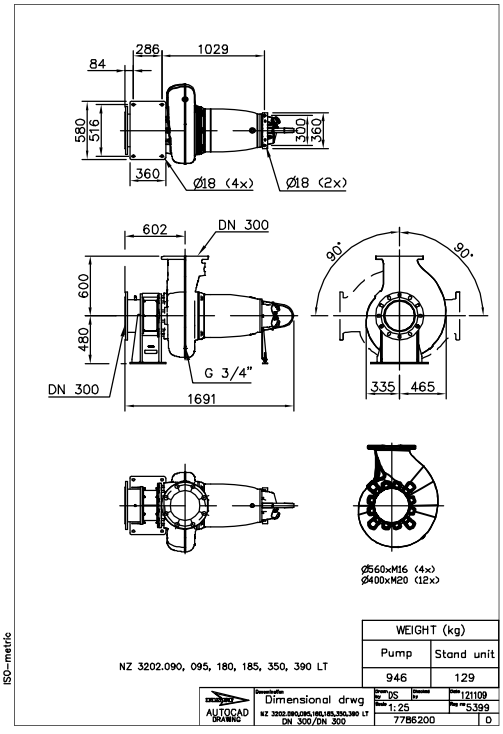


Figure 6: LT, Z-installation

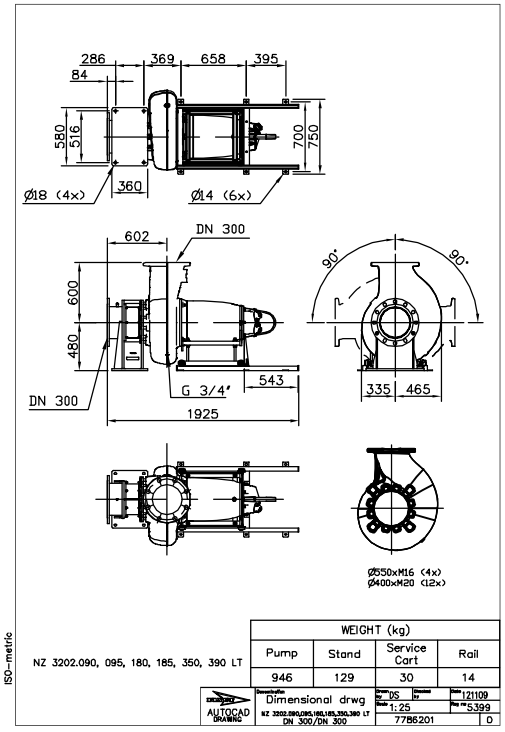


Figure 7: LT, Z-installation

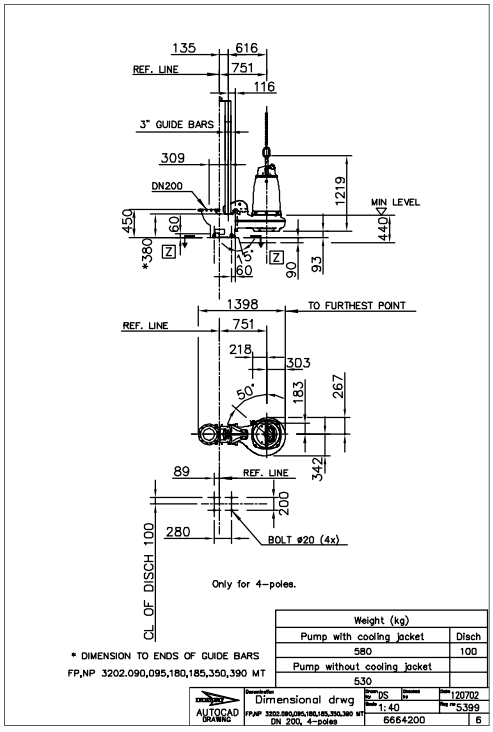


Figure 8: MT, P-installation

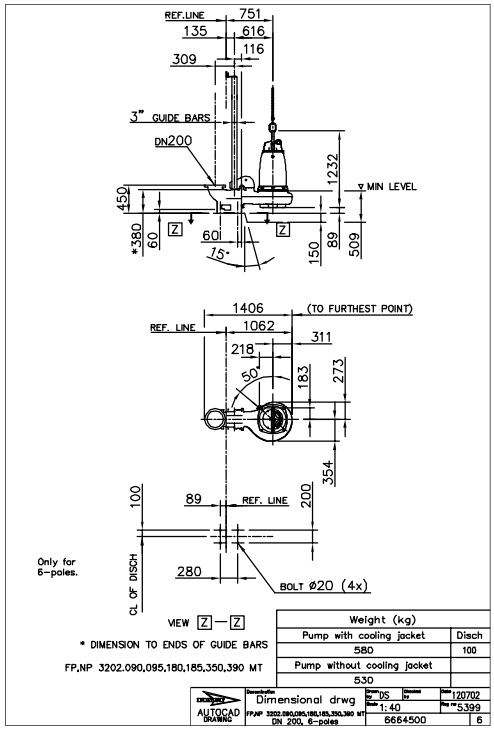


Figure 9: MT, P-installation

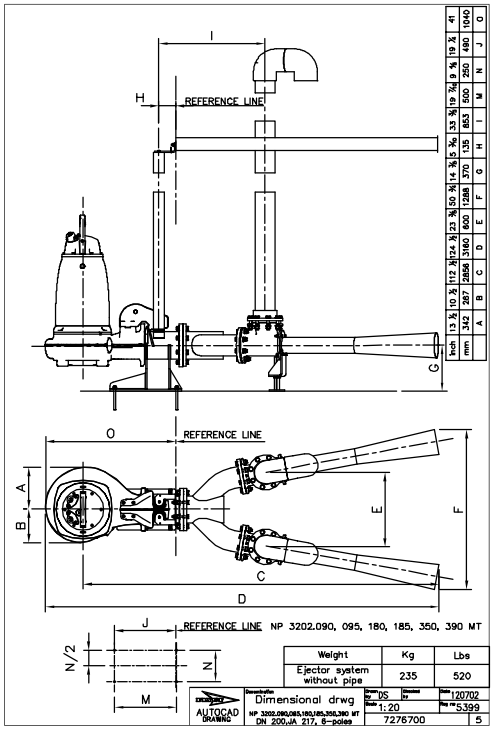


Figure 10: MT, P-installation

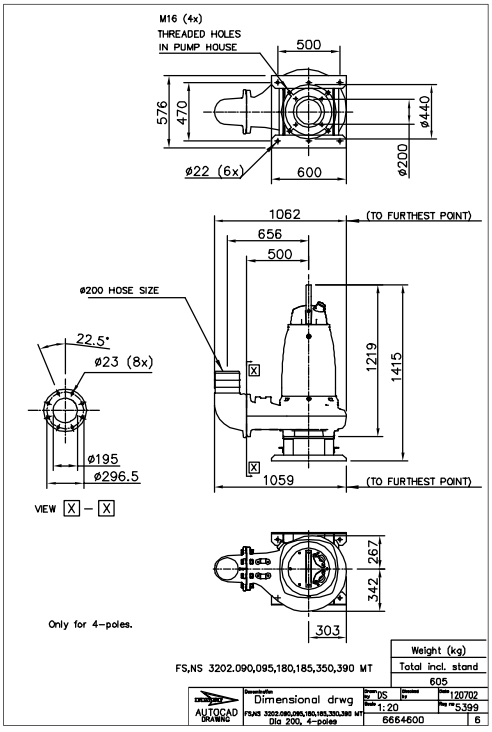


Figure 11: MT, S-installation

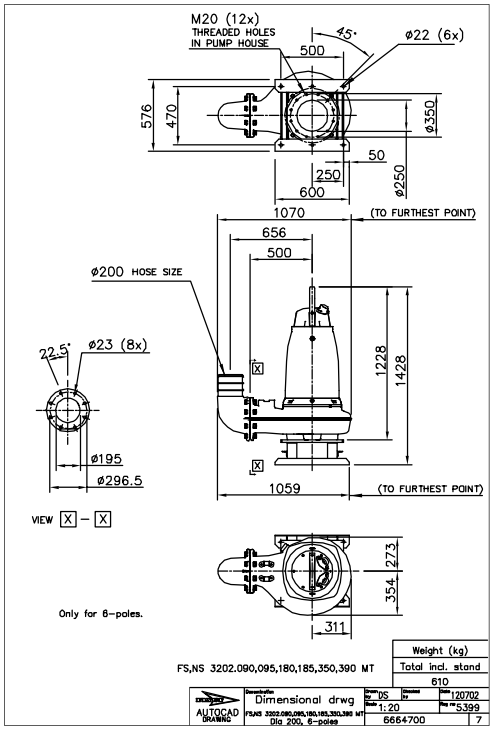


Figure 12: MT, S-installation

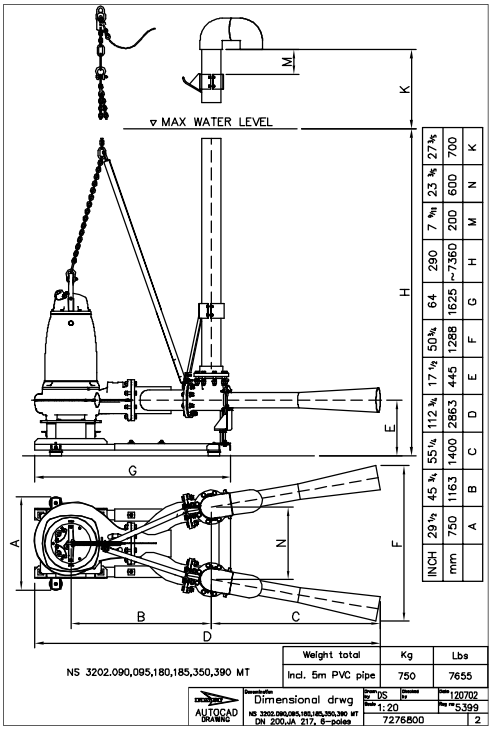


Figure 13: MT, S-installation

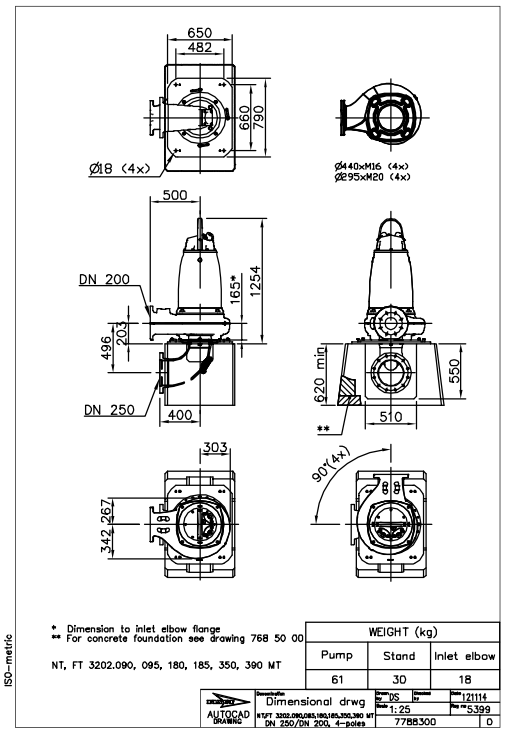


Figure 14: MT, T-installation

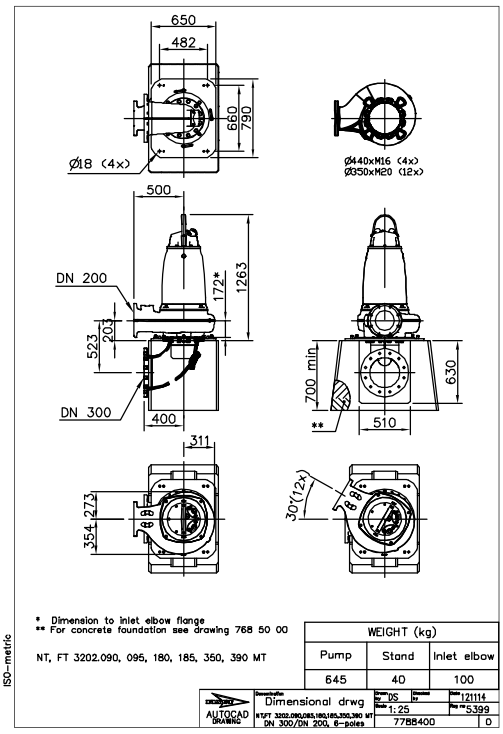


Figure 15: MT, T-installation

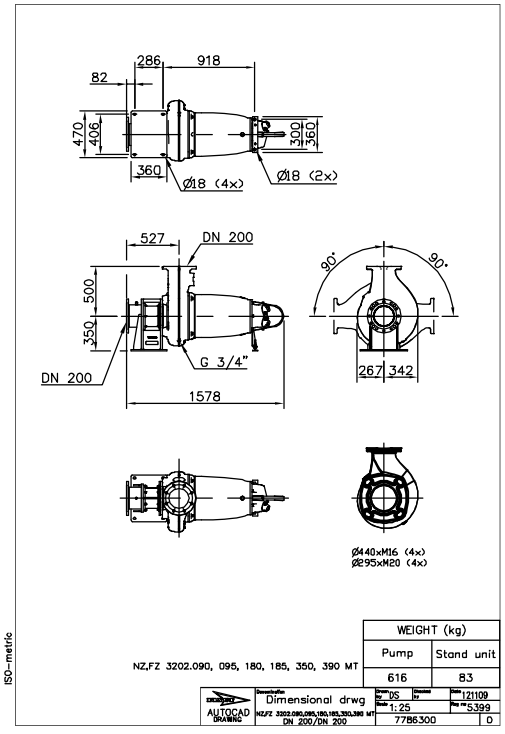


Figure 16: MT, Z-installation

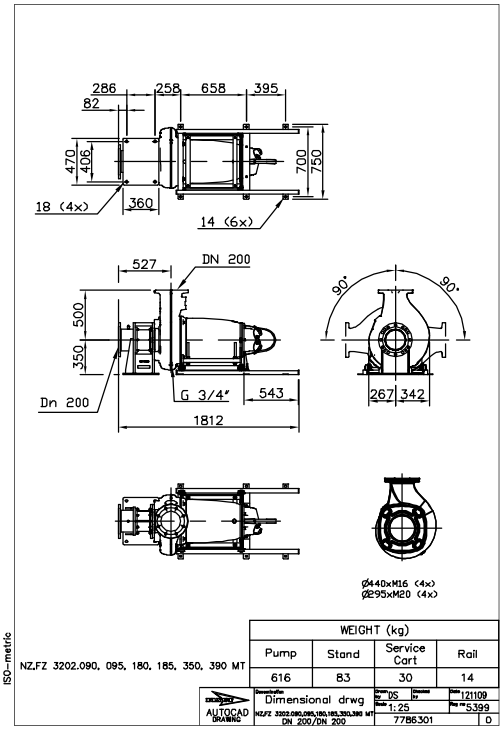


Figure 17: MT, Z-installation

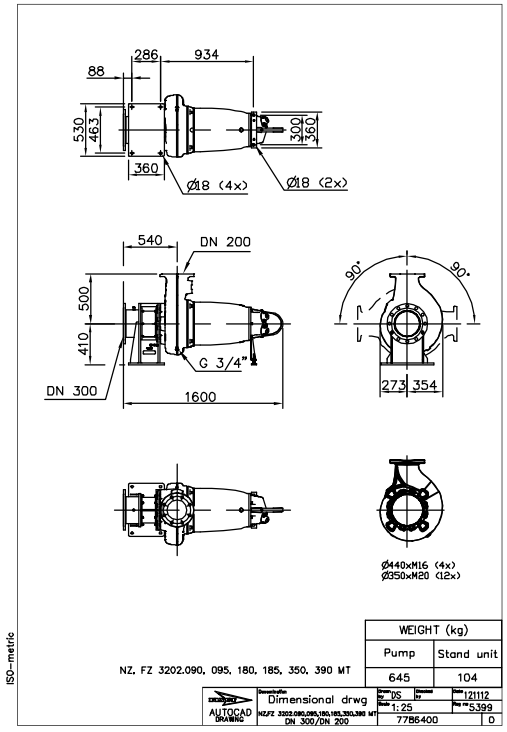


Figure 18: MT, Z-installation

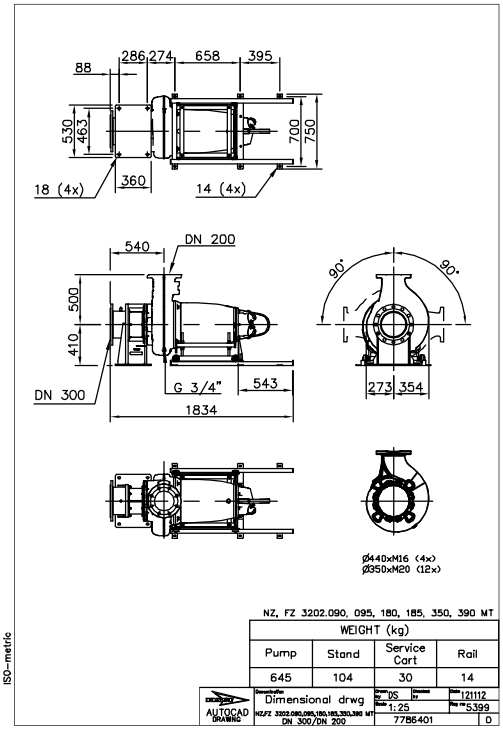


Figure 19: MT, Z-installation

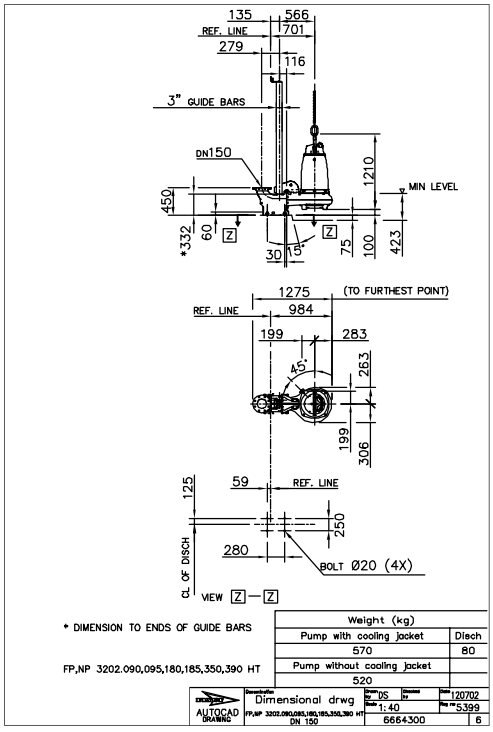


Figure 20: HT, P-installation

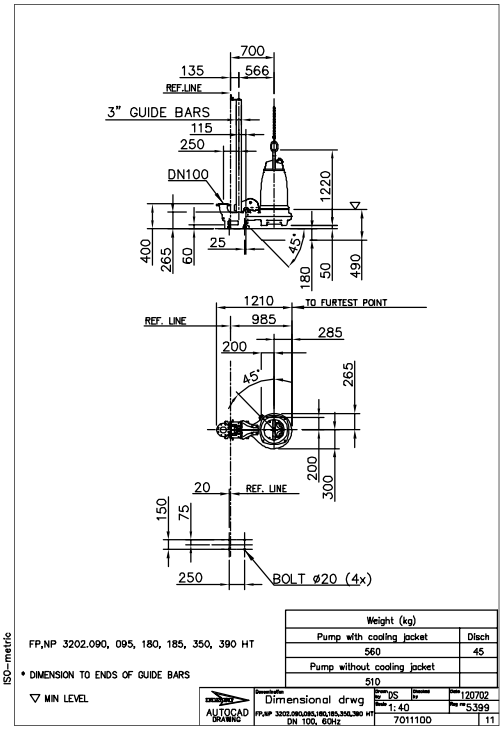


Figure 21: HT, P-installation

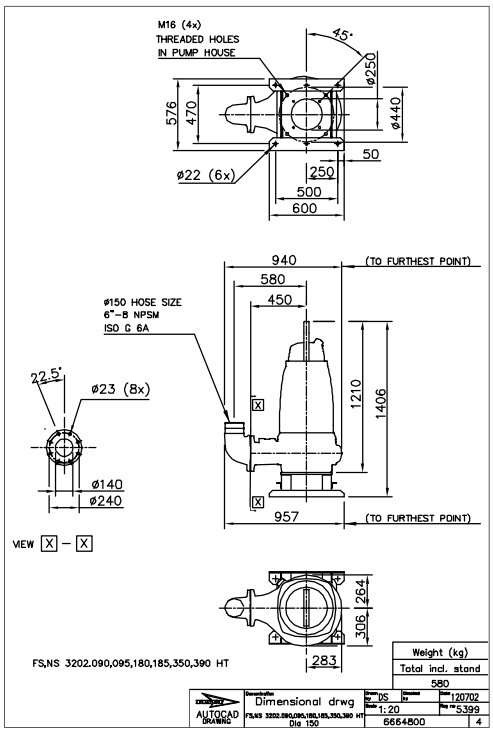


Figure 22: HT, S-installation

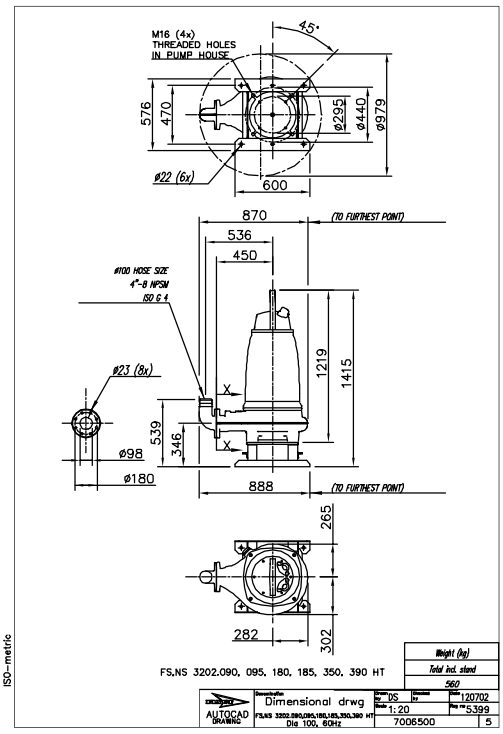


Figure 23: HT, S-installation

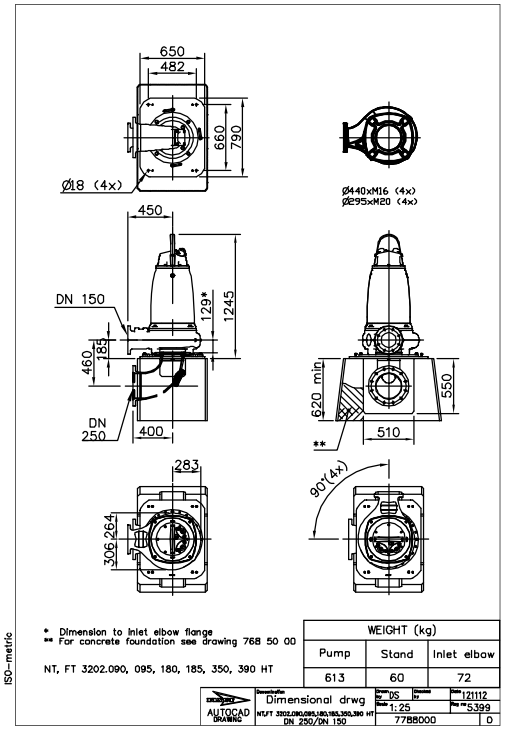


Figure 24: HT, T-installation

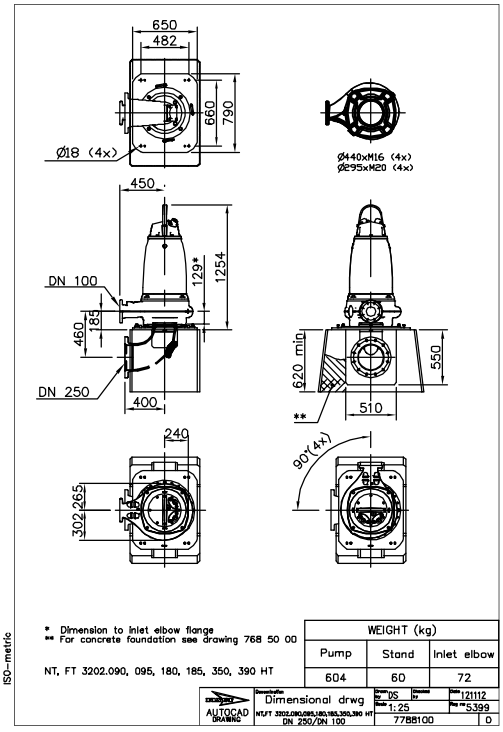


Figure 25: HT, T-installation

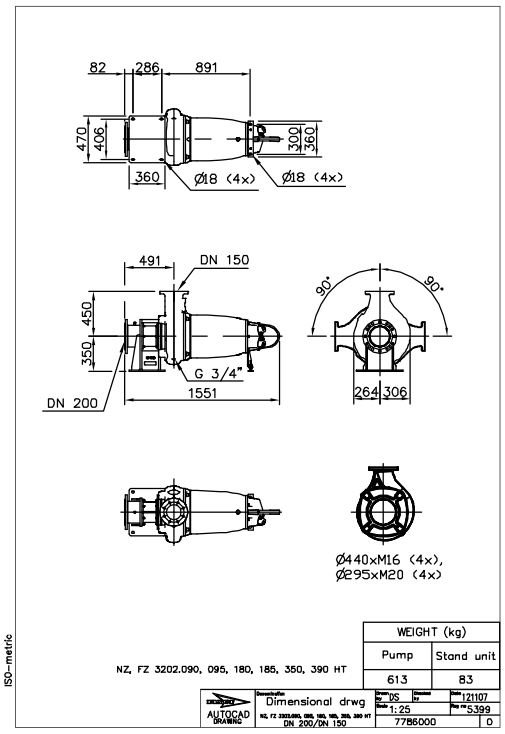


Figure 26: HT, Z-installation

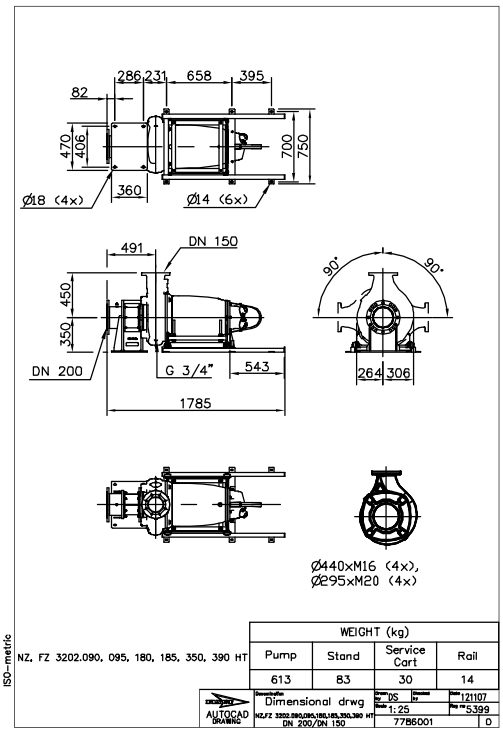


Figure 27: HT, Z-installation

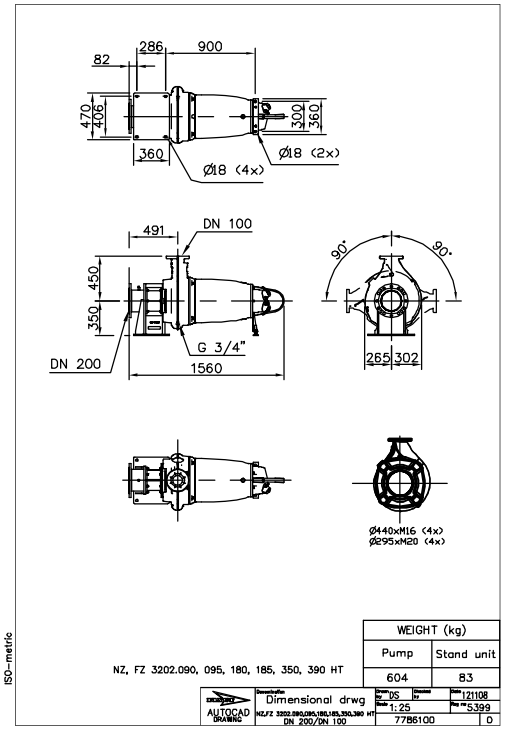


Figure 28: HT, Z-installation

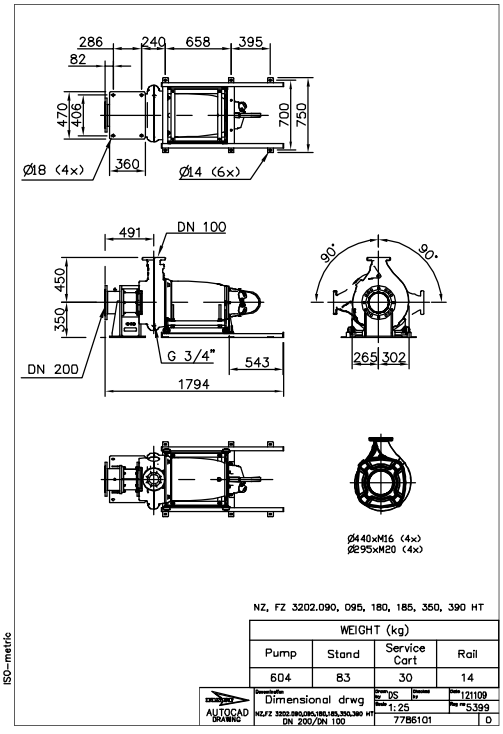


Figure 29: HT, Z-installation

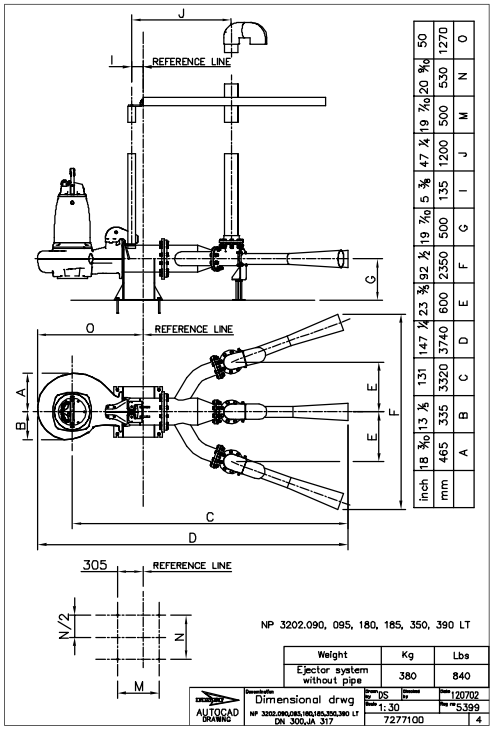


Figure 30: SH, P-installation

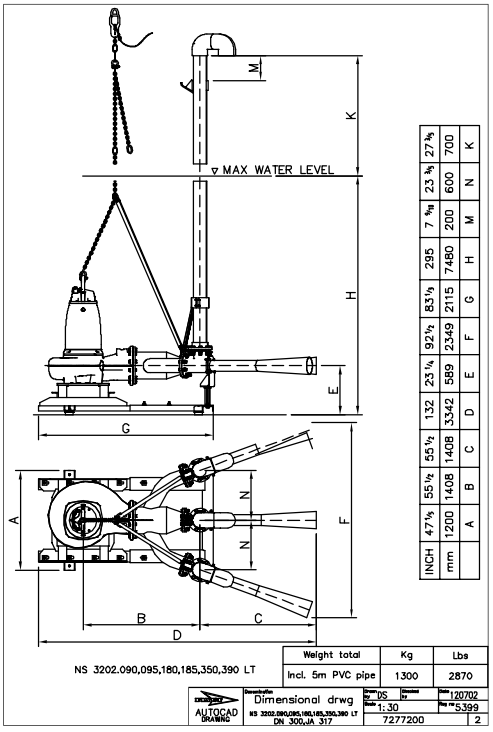


Figure 31: SH, S-installation

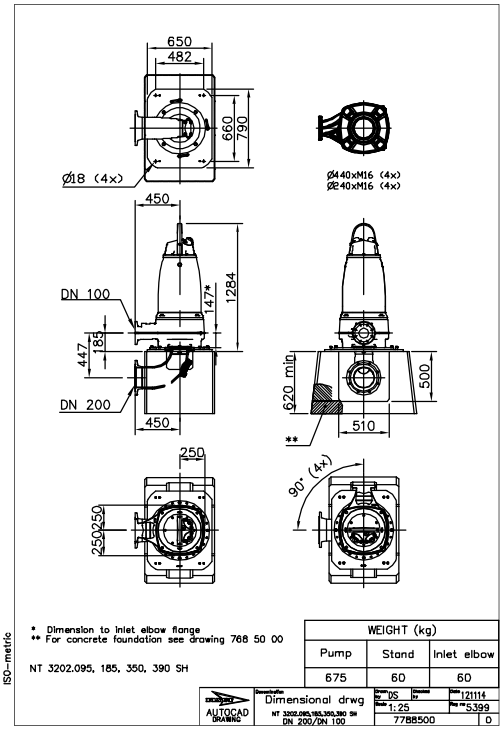


Figure 32: SH, T-installation

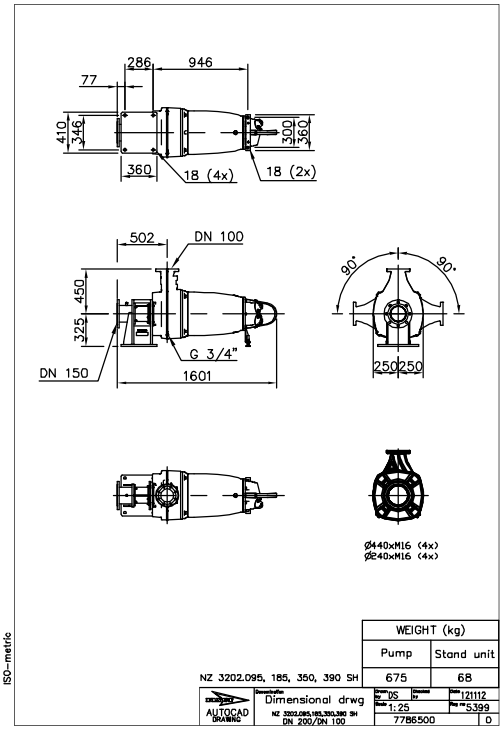


Figure 33: SH, Z-installation

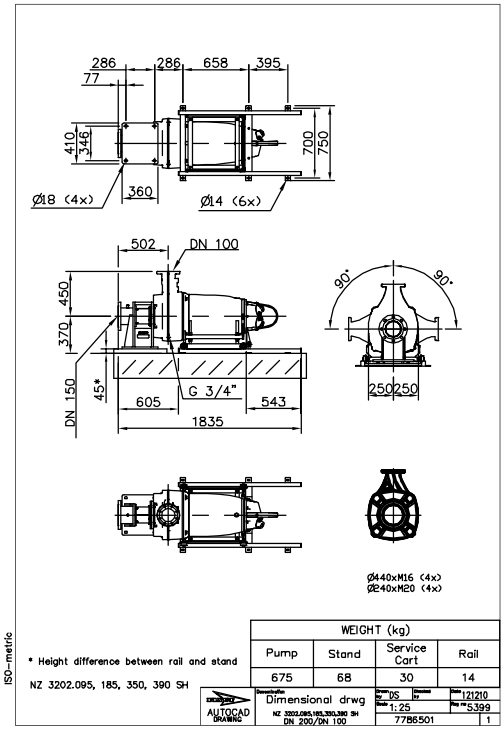


Figure 34: SH, Z-installation

# 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.

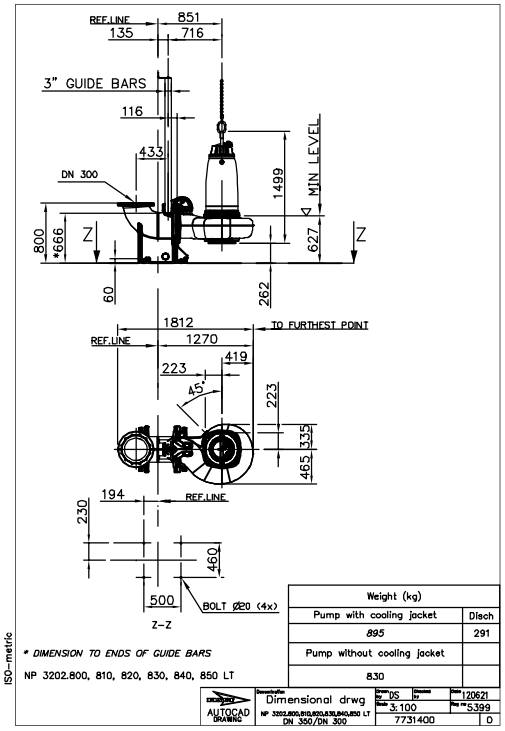


Figure 35: LT, P-installation

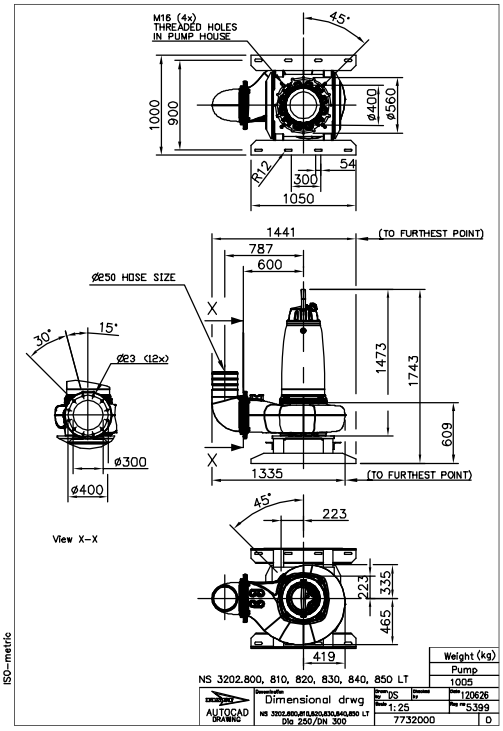


Figure 36: LT, S-installation

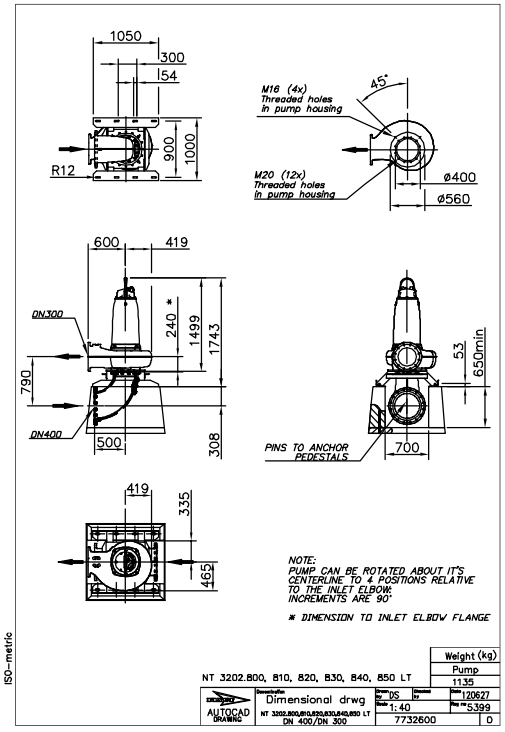


Figure 37: LT, T-installation

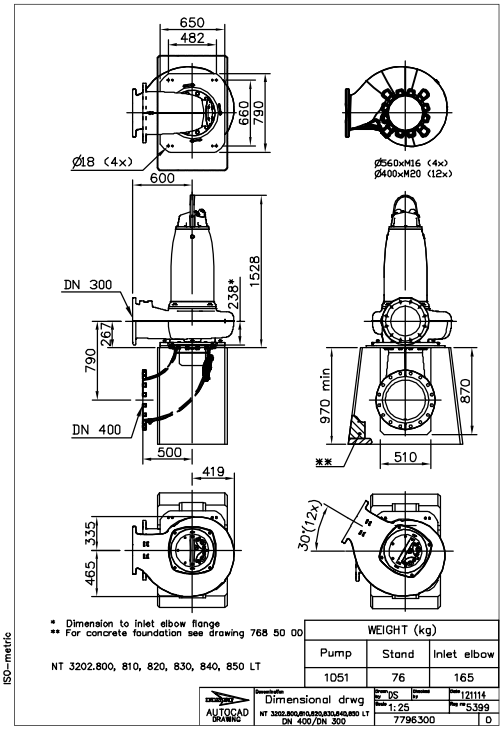


Figure 38: LT, T-installation

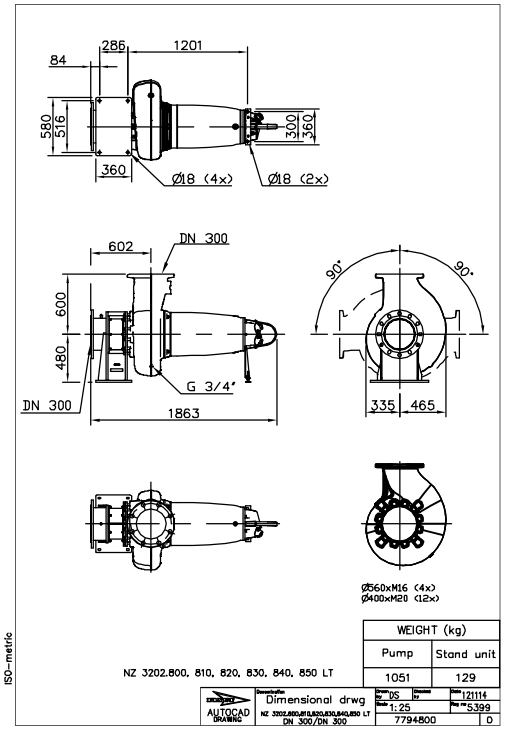


Figure 39: LT, Z-installation

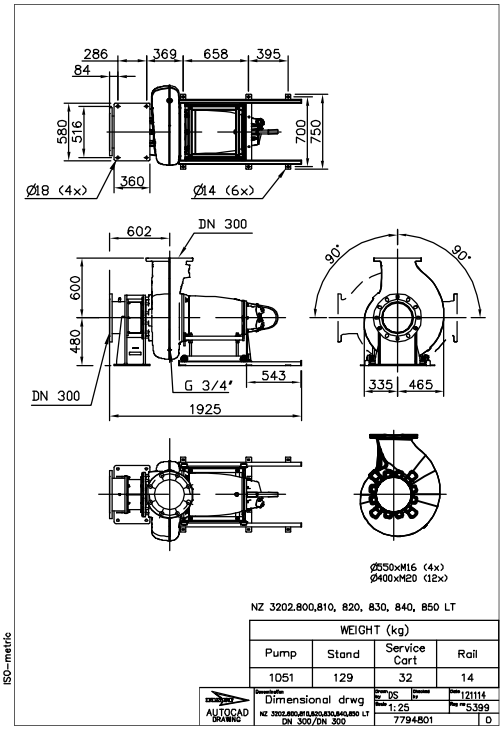


Figure 40: LT, Z-installation

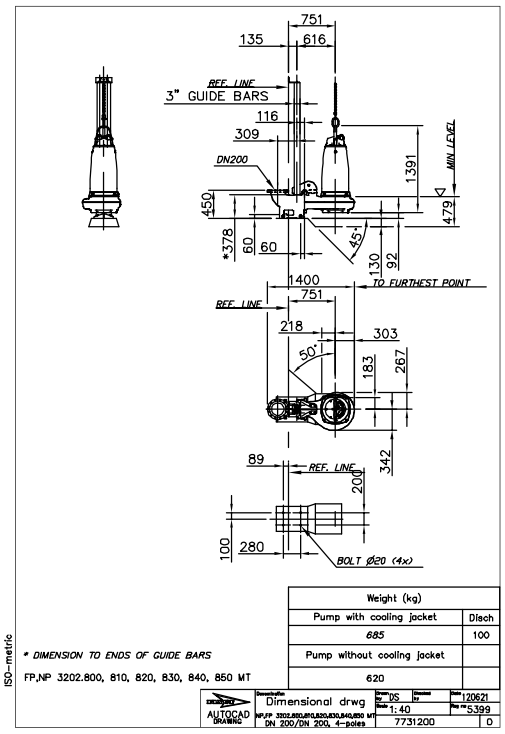


Figure 41: MT, P-installation

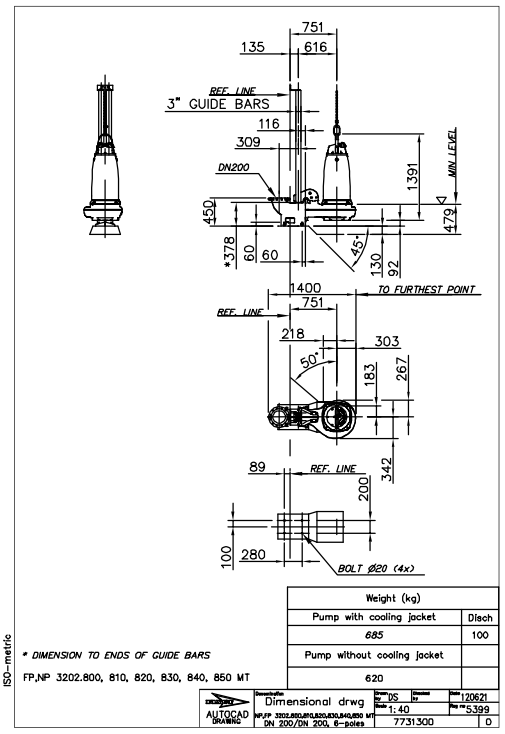


Figure 42: MT, P-installation

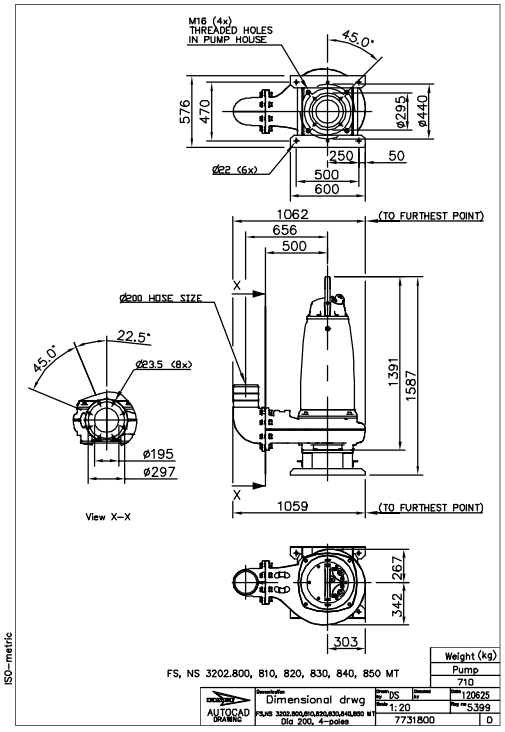


Figure 43: MT, S-installation

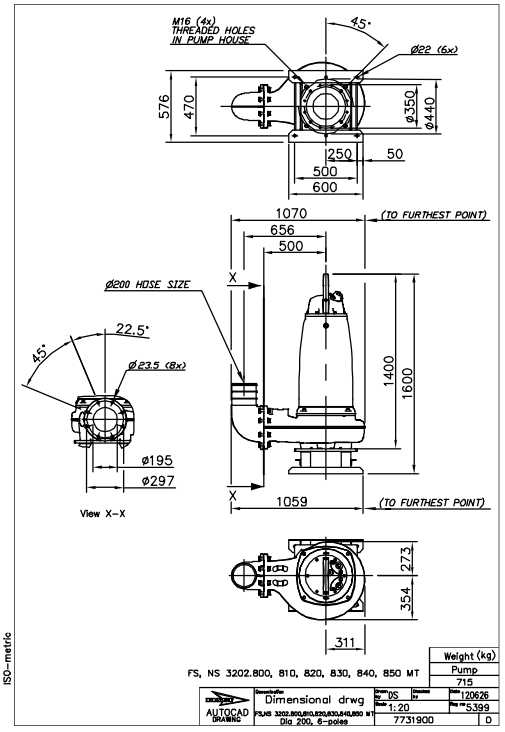


Figure 44: MT, S-installation

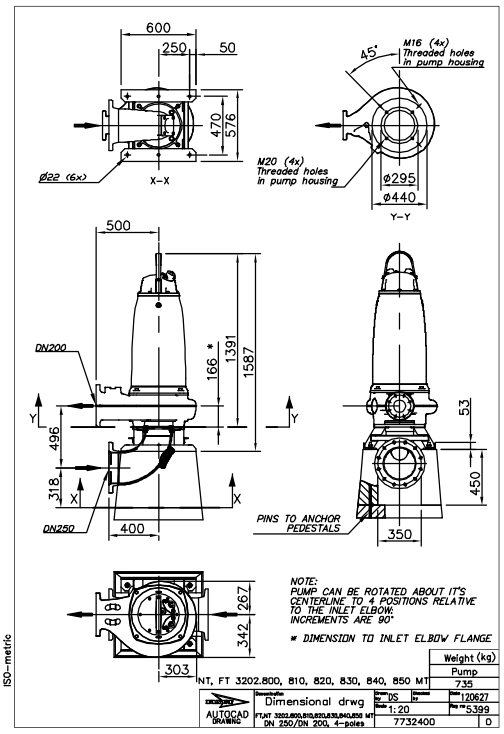


Figure 45: MT, T-installation

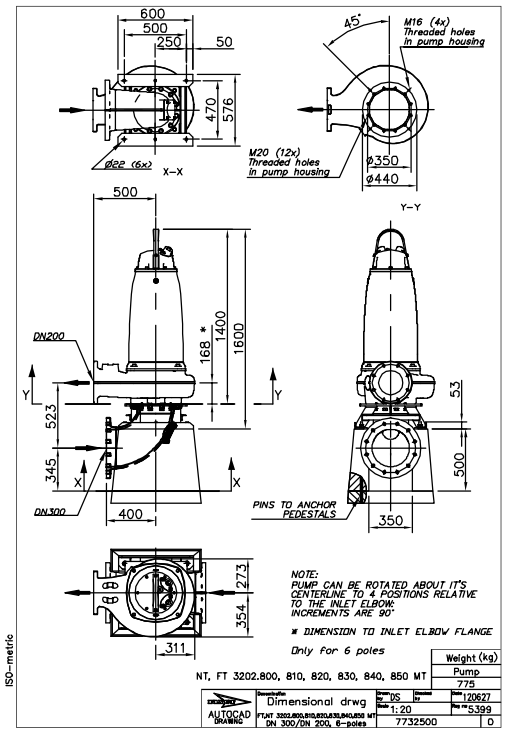


Figure 46: MT, T-installation

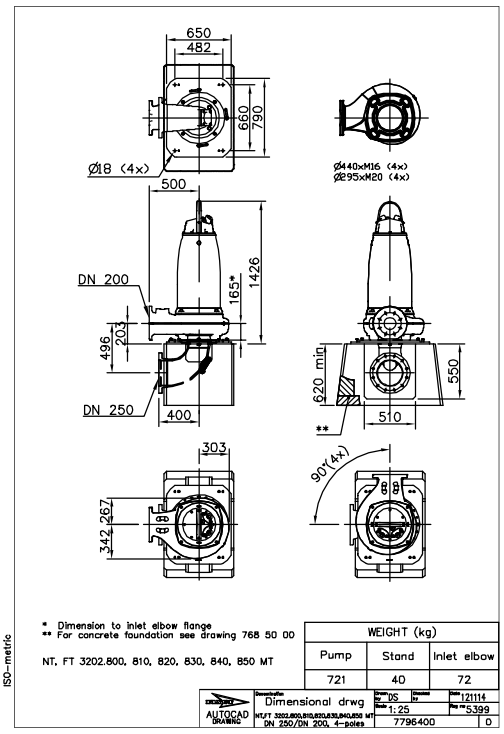


Figure 47: MT, T-installation

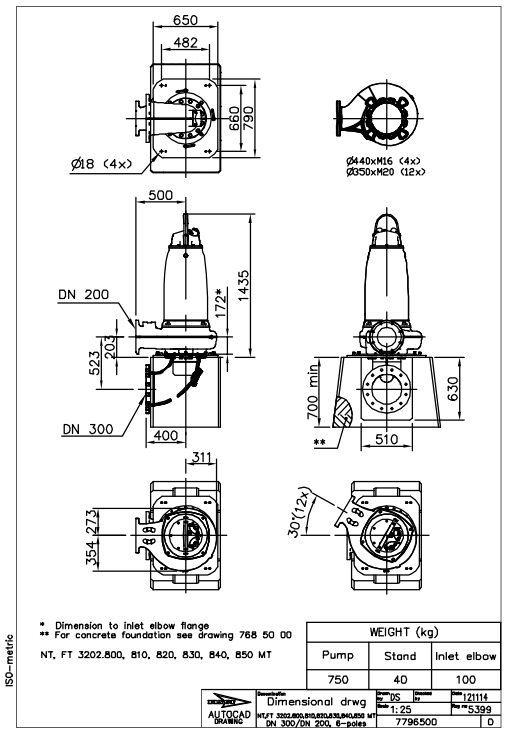


Figure 48: MT, T-installation

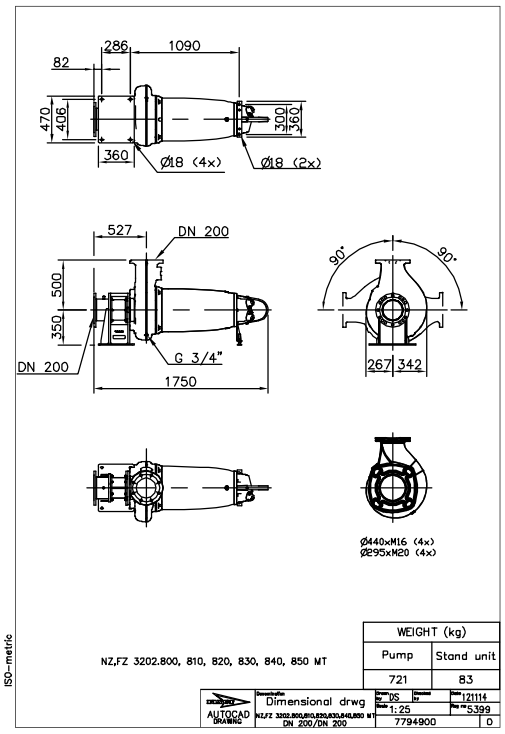


Figure 49: MT, Z-installation

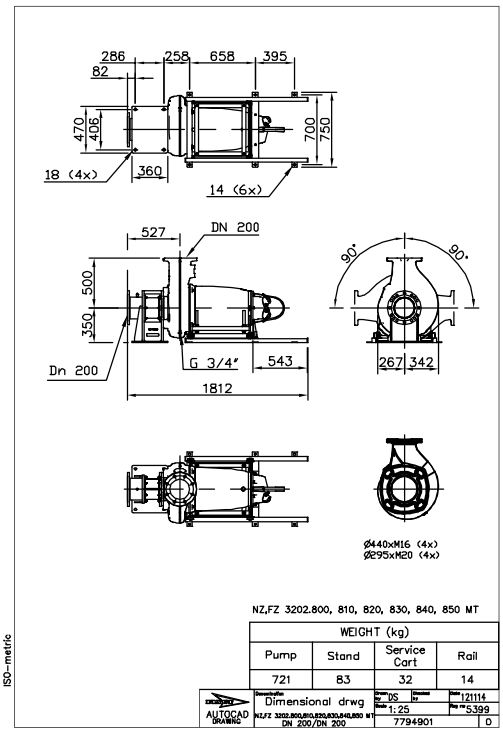


Figure 50: MT, Z-installation

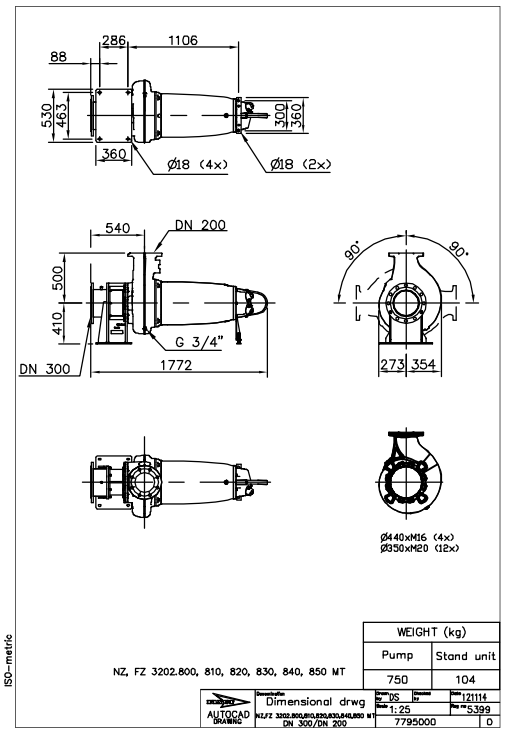


Figure 51: MT, Z-installation

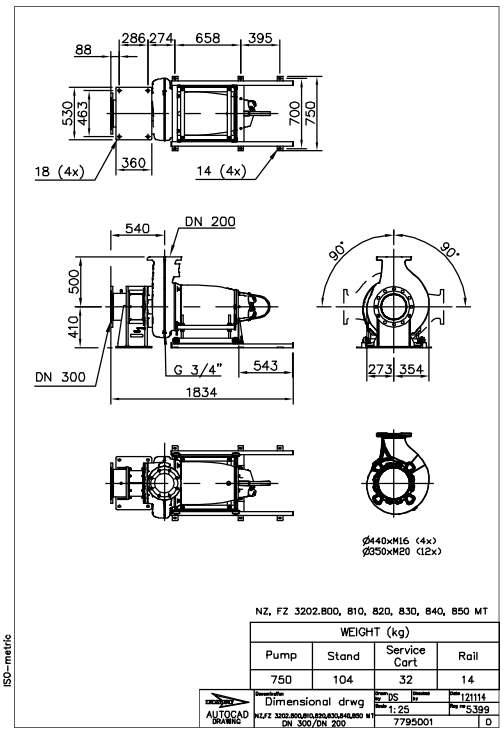


Figure 52: MT, Z-installation

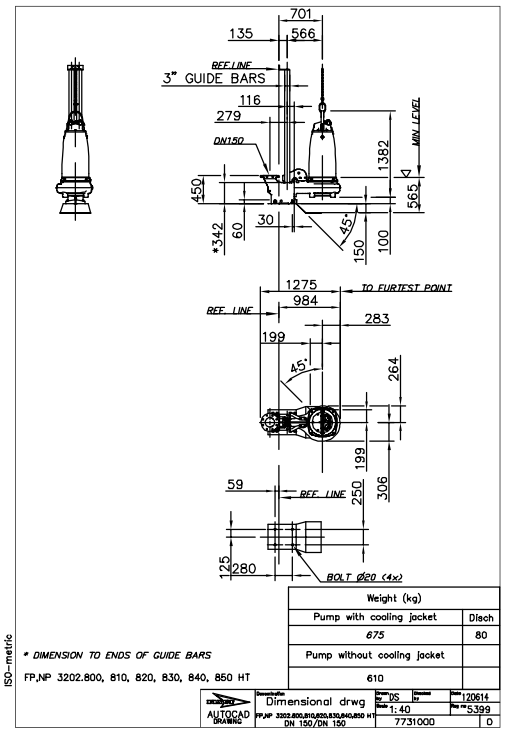


Figure 53: HT, P-installation

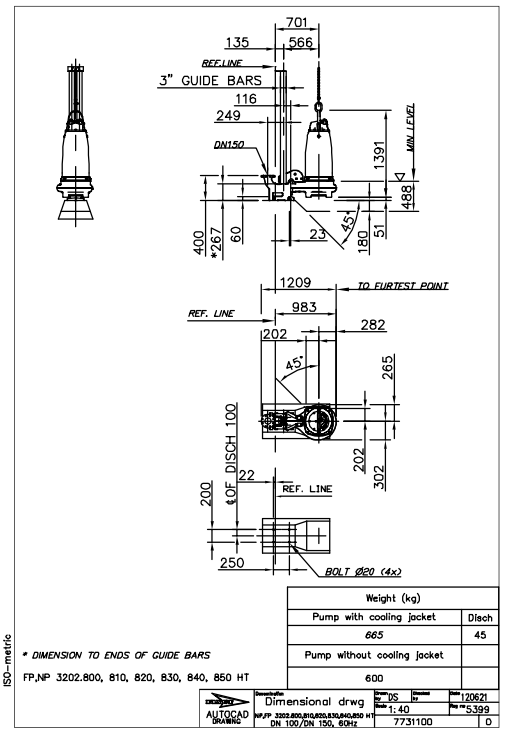


Figure 54: HT, P-installation

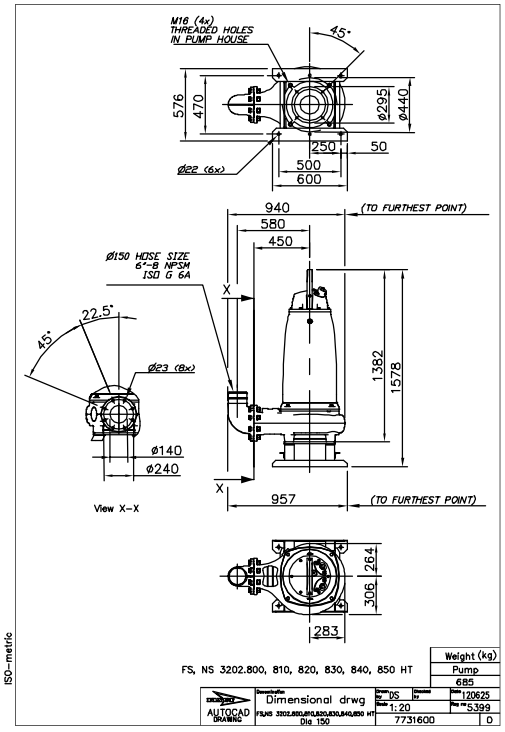


Figure 55: HT, S-installation

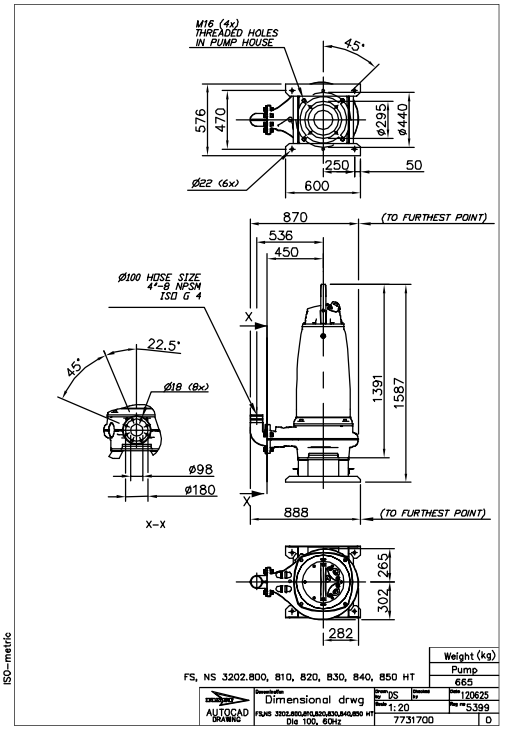


Figure 56: HT, S-installation

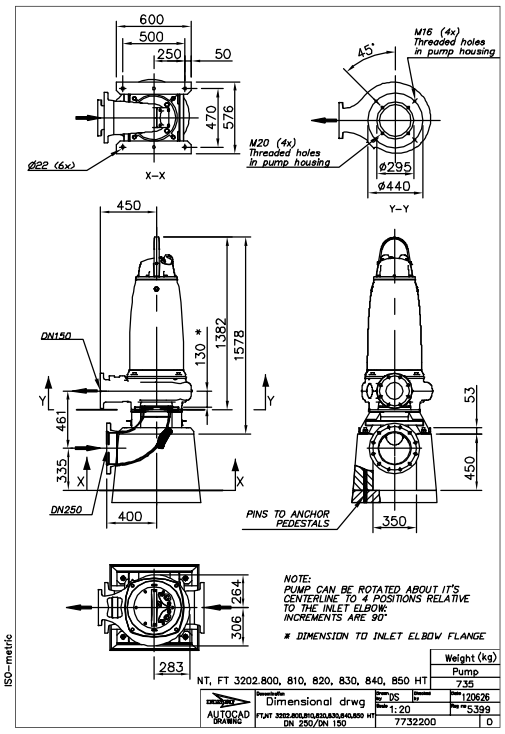


Figure 57: HT, T-installation

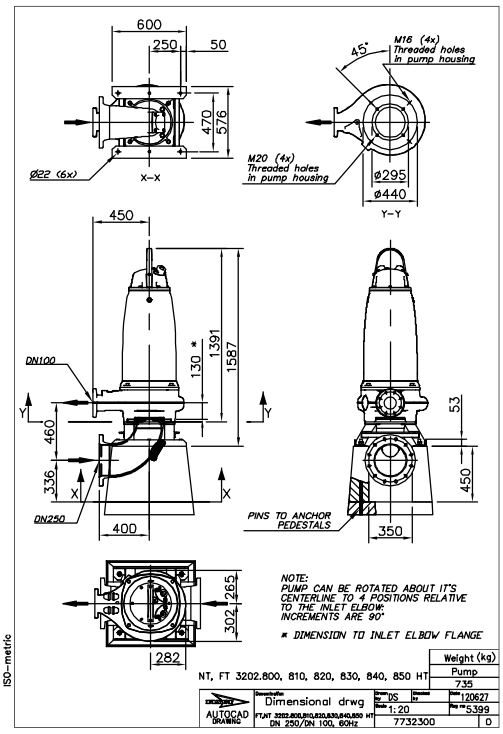


Figure 58: HT, T-installation

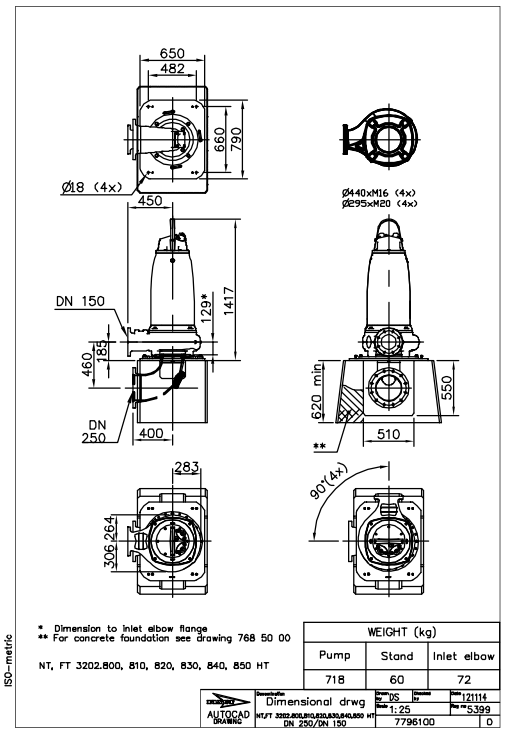


Figure 59: HT, T-installation

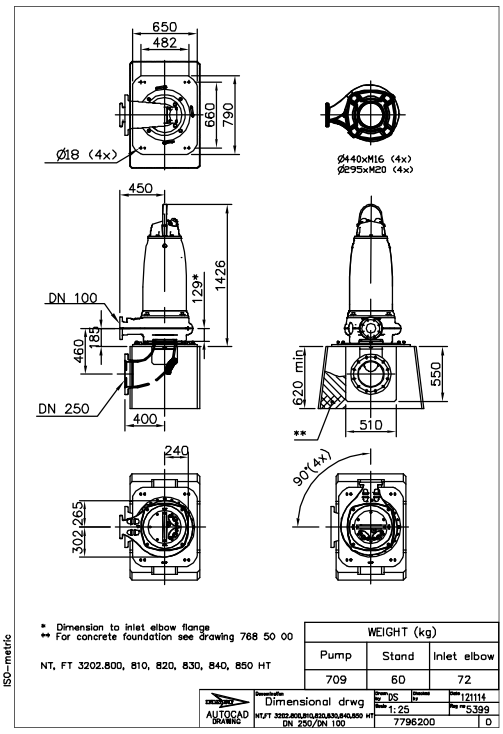


Figure 60: HT, T-installation

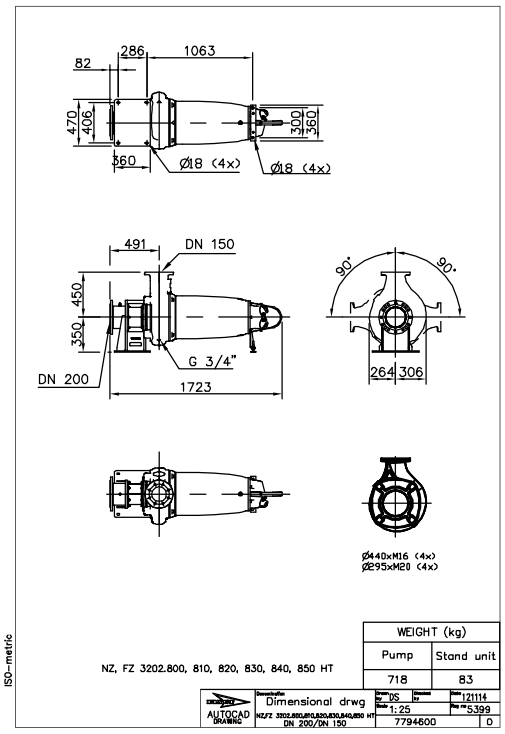


Figure 61: HT, Z-installation

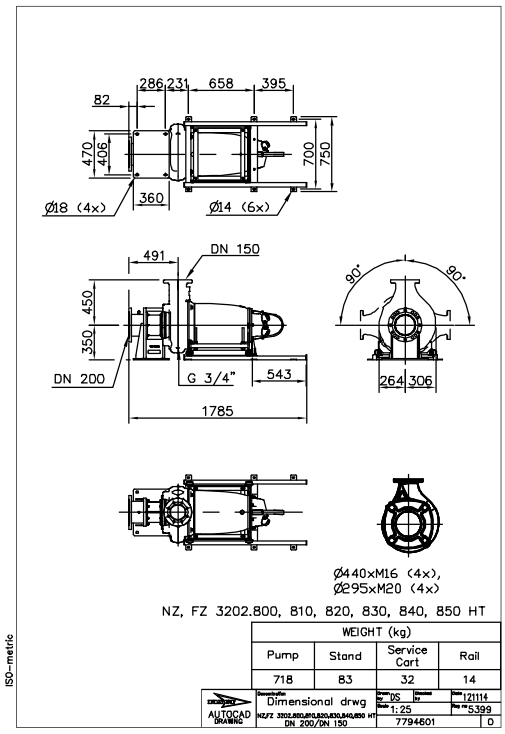


Figure 62: HT, Z-installation

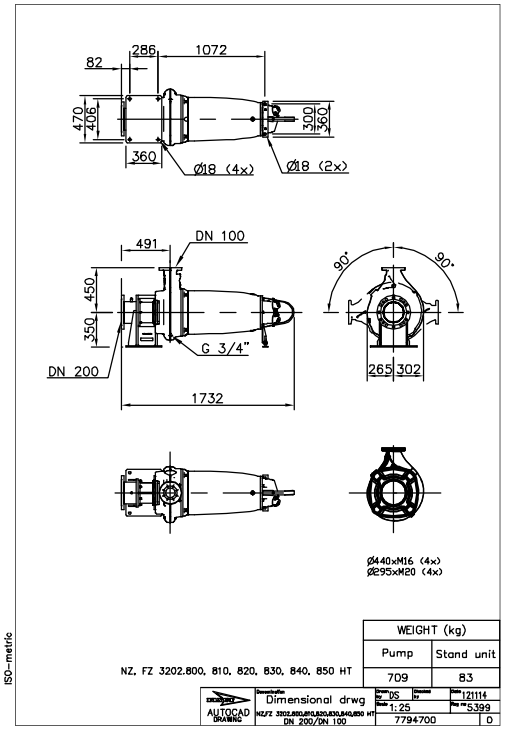


Figure 63: HT, Z-installation

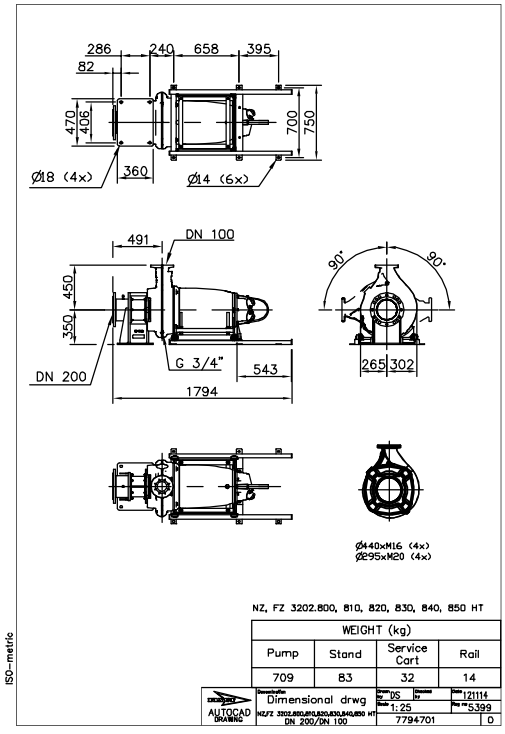


Figure 64: HT, Z-installation

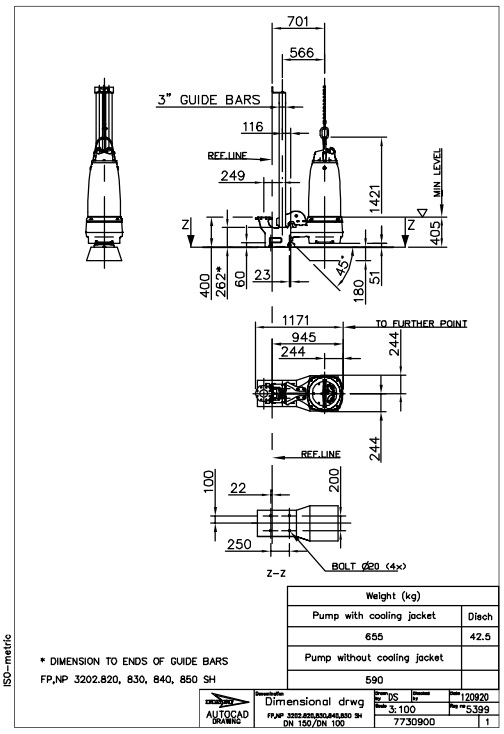


Figure 65: SH, P-installation

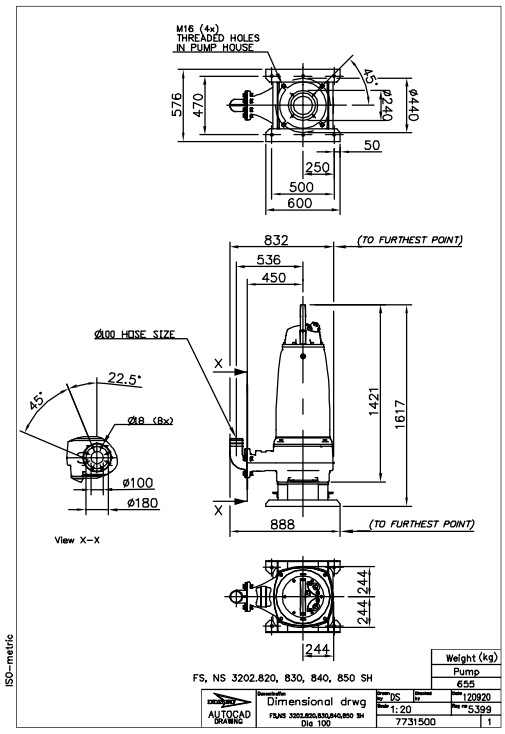


Figure 66: SH, S-installation

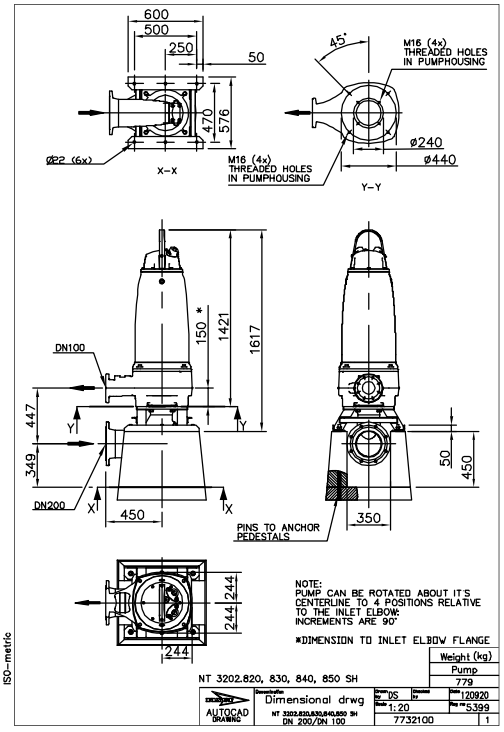


Figure 67: SH, T-installation

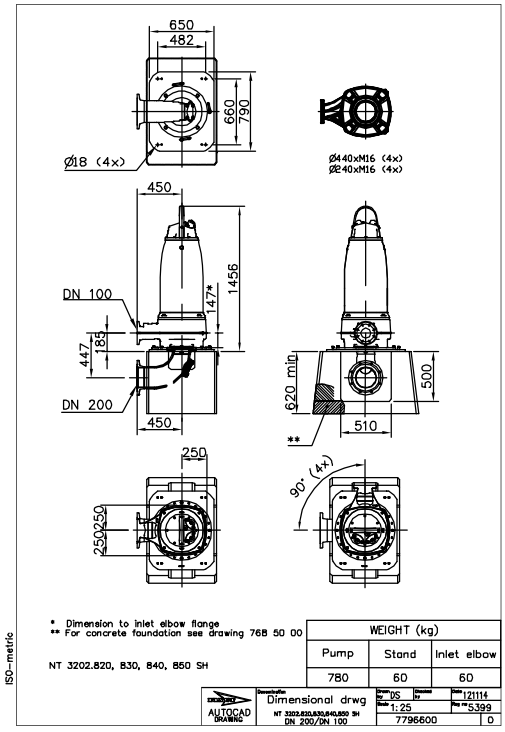


Figure 68: SH, T-installation

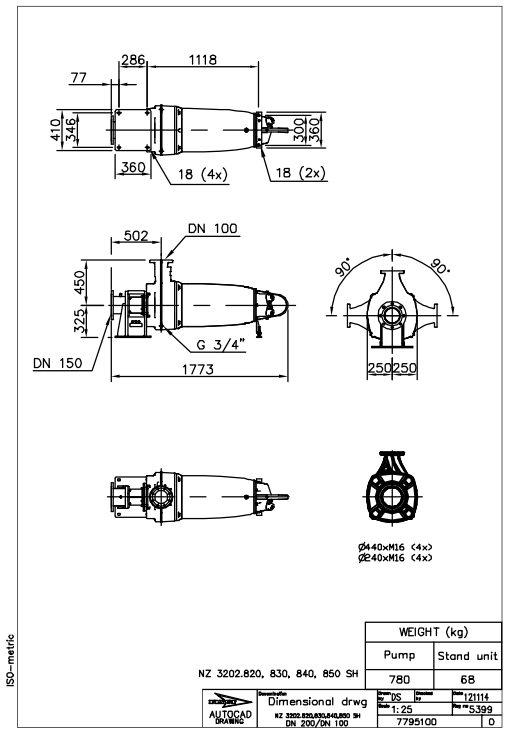


Figure 69: SH, Z-installation

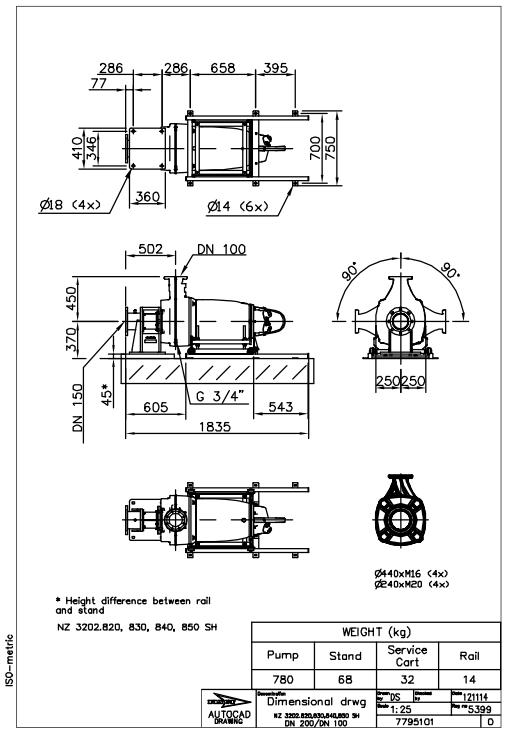


Figure 70: SH, Z-installation

# Xylem |ˈzīləm|

1) The tissue in plants that brings water upward from the roots
2) A leading global water technology company

We're 12,500 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

For more information on how Xylem can help you, go to xyleminc.com

xylem
Let's Solve Water

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

Visit our Web site for the latest version of this document and more information

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

© 2012 Xylem Inc.

883455_2.0_en.US_2012-12_TS.3202_50Hz