xylem
Let's Solve Water

EN

Technical Specification

90040801_1.0

# 6030.180

## Concertor

FLYGT
a xylem brand

# Table of Contents

# 1 Product Description

EN

## 1.1 Pump design

The pump is submersible and based on the Dirigo platform, that consists of an integrated control system and a permanent-magnet synchronous motor. For motor data, see *Technical Reference* on page 5.

### Impeller material

- Hard-Iron™
- Stainless steel

### Pressure class and outlet size

| | |
|---|---|
| LT/200 mm (8 in) | Low head |
| MT/150 mm (6 in) | Medium head |
| HT/100 mm (4 in) | High head |
| SH/80 mm (3 in) | Super high head |

### Installation types

The pump can be used in the following installations:

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

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

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

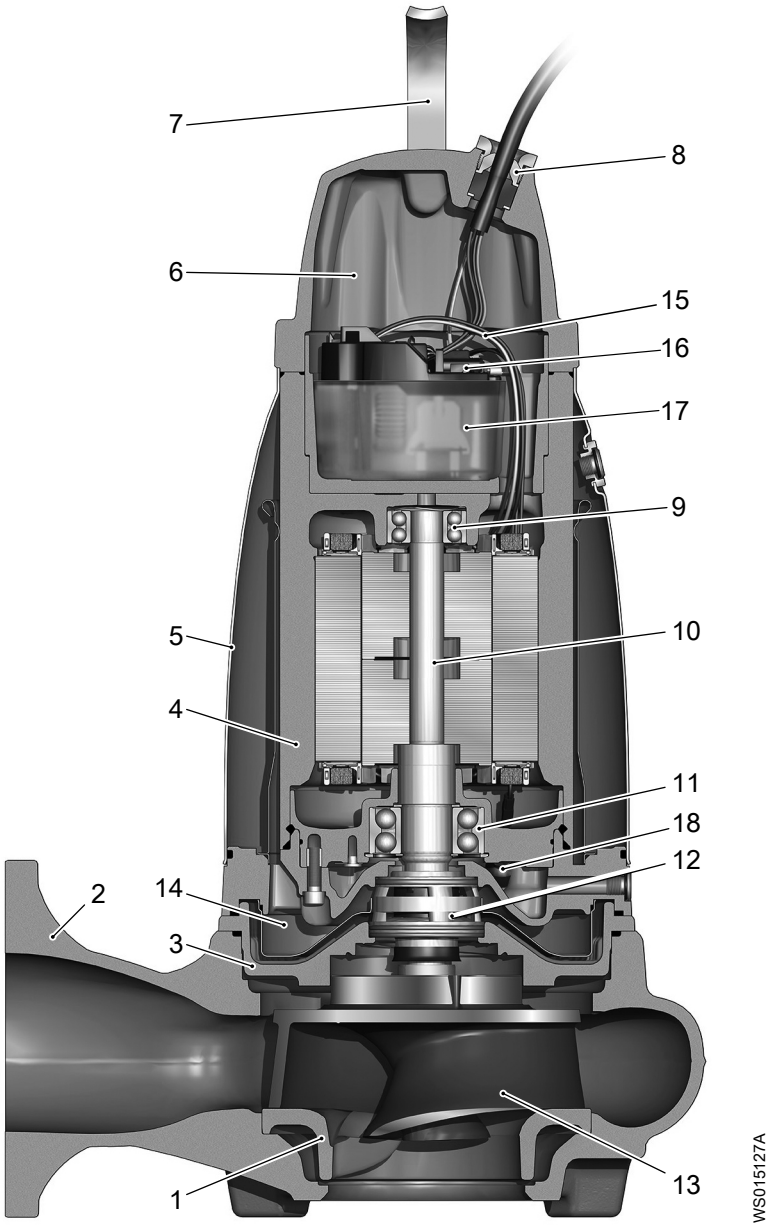
Z Horizontal permanent, dry well arrangement with flange connection to the suction and discharge piping.

### Products included

| Product | Approvals |
|---|---|
| 6030.180 | Standard |

EN

## Illustrations




## Parts

| Position | Part |
|---|---|
| 1 | Insert ring with a guide pin |
| 2 | Pump housing, without flush valve connection |
| 3 | Seal housing cover |
| 4 | Stator housing |
| 5 | Cooling jacket<br>/ outer casing |
| 6 | Entrance cover |
| 7 | Lifting handle |
| 8 | Cable entry |
| 9 | Support bearing |
| 10 | Shaft unit with a permanent magnet rotor |

EN

| Position | Part |
|---|---|
| 11 | Main bearing |
| 12 | Mechanical seal<br>Plug in seal with active seal design. |
| 13 | Adaptive-N impeller |
| 14 | Coolant |
| 15 | Stator leads |
| 16 | I/O unit |
| 17 | Base plate unit, with ICS |
| 18 | Leakage sensor |

## 1.2 Cables

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.

### Cable length

| Meter, m | Foot, ft |
|---|---|
| 10 | 30 |
| 16 | 50 |
| 20 | 65 |
| 31 | 100 |

## 1.3 Sensors

- Leakage sensor in the stator housing (FLS)
- Overtemperature sensors in the integrated control system

Explosion-proof version: The stator incorporates three thermal contacts connected in series.

## 1.4 Options

- Surface treatment (Epoxy)
- Zinc anodes

## 1.5 Accessories

Example of accessories.

| Item | Description |
|---|---|
| Pump controllers | XPC powered by Nexicon, MultiSmart, MyConnect<br>XCU 411 Pump control unit for Concertor DP |
| HMI | FOP 315, FOP 402, FOP 422, FOP 432 |
| Monitoring relays | Supplied locally |
| Level sensors | LTU, ENM 10, Level probe |
| SCADA systems | AquaView, Avensor |
| Flow meters | MagFlux |

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

# 2 Technical Reference

## 2.1 Motor data

EN

The drive unit includes a synchronous motor with IE4 equivalent efficiency.

**NOTICE:**

Do not connect a starter or an external Variable Frequency Drive (VFD) to this unit.

| Feature | Description |
|---|---|
| Input frequency | 50–60 Hz |
| Input supply | 3-phase<br>• 400–480 V |
| Maximum starts for each hour | Pump only: 60<br>Pump with gateway or controller: 240 |
| Design in applicable parts | According to IEC 60034–1 |
| Voltage variation | • Continuously running: Maximum ±5%<br>• Intermittently running: Maximum ±10% |
| Voltage imbalance between the phases | Maximum of 2% |
| Stator insulation class | In accordance with class H (180°C, 356°F) |

### Motor encapsulation

Motor encapsulation is in accordance with IP68.

## 2.2 Application limits

| Data | Description |
|---|---|
| Liquid temperature | Maximum 40°C (104°F) |
| Liquid density | 1100 kg/m³ (9.2 lb for each US gal) maximum |
| pH of the pumped media (liquid) | 5.5–14 |
| Depth of immersion | Maximum 20 m (65 ft) |

## 2.3 Materials

Table 1: Major parts except mechanical seals

| Denomination | Material | ASTM | EN |
|---|---|---|---|
| Major castings | Cast iron, gray | A48 class 35 type B | EN 1561: GJL-250 |
| Cooling jacket | Stainless steel | ASTM A240 316L (AISI 316L) | EN 10088: 1.4404 (X2CrNiMo17-12-2) |
| Pump housing | Cast iron, gray | A48 class 35 type B | EN 1561: GJL-250 |
| Impeller, alternative 1 | Hard-Iron™ | ASTM A532 Class III Type A | EN 12513: GJN-HB555 (XCr23) |
| Impeller, alternative 2 | Stainless steel, Duplex | ASTM A890 grade 1B (ACI-ASTM CD4MCuN) | EN 10283: 1.4474 (GX4CrNiMoN26-5-2) |
| Insert ring | Cast iron, Hard-Iron™ | A532 Class III Type A | EN 12513: GJN-HB555(XCr23) |
| Lifting handle | Stainless steel | ASTM A240 316L (AISI 316L) | EN 10088: 1.4404 (X2CrNiMo17-12-2) |

EN

| Denomination | Material | ASTM | EN |
|---|---|---|---|
| Shaft | Stainless steel | ASTM A276 431 (AISI 431) | EN 10088: 1.4057 - QT800 |
| Screws and nuts | Stainless steel, A4 | ASTM A240 316L (AISI 316L) | EN 10088: 1.4404 (X2CrNiMo17-12-2) |
| O-rings | Nitrile rubber (NBR), 70 IRHD | - | - |
| Coolant | Deionized water 70%, and glycol 30%, mixture DOWCAL 200E | - | - |

Table 2: Mechanical seals

| Inner seal | Outer seal |
|---|---|
| Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR) | Corrosion resistant cemented carbide (WCCR)/ Corrosion resistant cemented carbide (WCCR) |

## 2.4 Surface treatment

| Priming | Finish |
|---|---|
| Painted with a primer, see internal standard M0700.00.0003 | 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. |

# 3 Motor Rating and Performance Curves

EN

## 3.1 Motor rating

Table 3: Motor rating, 400-480 V - HT

| Rated power (kW) | Rated power (Hp) | Voltage (V) / Rated current (A) | Voltage (V) / Starting current (A) | Power factor | Installation |
|---|---|---|---|---|---|
| 10.6 | 14 | 400/17.7 - 480/15.0 | 400/17.7 - 480/15.0 | 0.95 | P, S |
| 8.2 | 11 | 400/13.7 - 480/11.6 | 400/13.7 - 480/11.6 | 0.95 | P, S |
| 9.4 | 12.5 | 400/15.8 - 480/13.2 | 400/15.8 - 480/13.2 | 0.95 | T, Z |
| 8.2 | 11 | 400/13.7 - 480/11.6 | 400/13.7 - 480/11.6 | 0.95 | T, Z |

Table 4: Motor rating, 400-480 V - MT

| Rated power (kW) | Rated power (Hp) | Voltage (V) / Rated current (A) | Voltage (V) / Starting current (A) | Power factor | Installation |
|---|---|---|---|---|---|
| 10.6 | 14 | 400/17.7 - 480/14.8 | 400/17.7 - 480/14.8 | 0.95 | P, S |
| 8.2 | 11 | 400/13.9 - 480/11.7 | 400/13.9 - 480/11.7 | 0.95 | P, S |
| 9.4 | 12.5 | 400/15.7 - 480/13.2 | 400/15.7 - 480/13.2 | 0.95 | T, Z |
| 8.2 | 11 | 400/13.9 - 480/11.7 | 400/13.9 - 480/11.7 | 0.95 | T, Z |

Table 5: Motor rating, 400-480 V - LT

| Rated power (kW) | Rated power (Hp) | Voltage (V) / Rated current (A) | Voltage (V) / Starting current (A) | Power factor | Installation |
|---|---|---|---|---|---|
| 10.6 | 14 | 400/17.8 - 480/15.0 | 400/17.8 - 480/15.0 | 0.95 | P, S |
| 8.2 | 11 | 400/13.8 - 480/11.7 | 400/13.8 - 480/11.7 | 0.95 | P, S |
| 9.4 | 12.5 | 400/15.6 - 480/13.5 | 400/15.6 - 480/13.5 | 0.95 | T, Z |
| 8.2 | 11 | 400/13.8 - 480/11.7 | 400/13.8 - 480/11.7 | 0.95 | T, Z |

Table 6: Motor rating, 400-480 V - SH

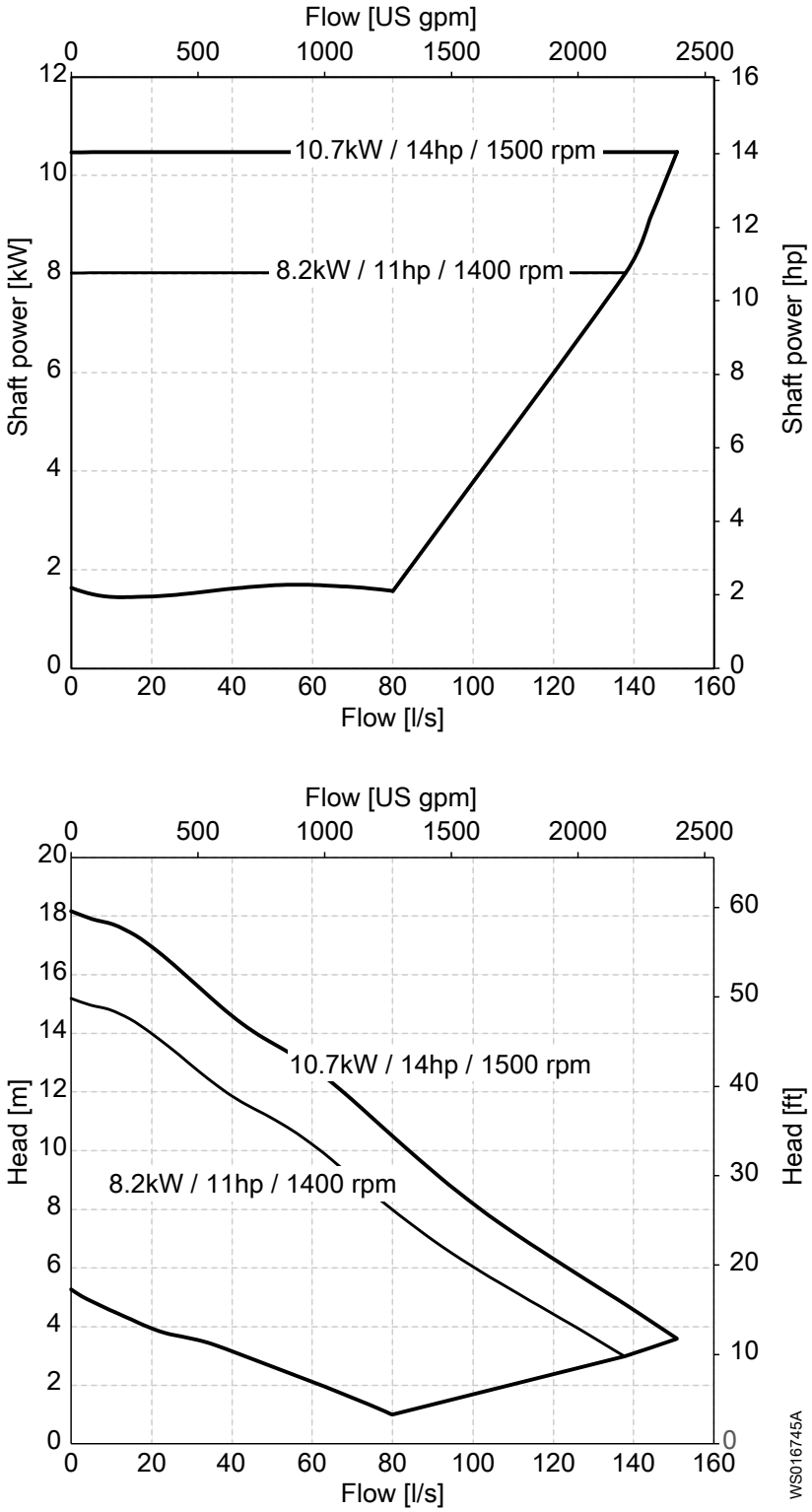
| Rated power (kW) | Rated power (Hp) | Voltage (V) / Rated current (A) | Voltage (V) / Starting current (A) | Power factor | Installation |
|---|---|---|---|---|---|
| 13.4 | 18 | 400/22.5 - 480/18.2 | 400/22.5 - 480/18.2 | 0.95 | P, S |
| 10.6 | 14 | 400/17.7 - 480/14.4 | 400/17.7 - 480/14.4 | 0.95 | P, S |
| 8.2 | 11 | 400/13.6 - 480/11.4 | 400/13.6 - 480/11.4 | 0.95 | P, S |
| 12.0 | 16 | 400/20.2 - 480/16.4 | 400/20.2 - 480/16.4 | 0.95 | T, Z |
| 9.4 | 12.5 | 400/15.6 - 480/12.8 | 400/15.6 - 480/12.8 | 0.95 | T, Z |
| 8.2 | 11 | 400/13.5 - 480/11.2 | 400/13.5 - 480/11.2 | 0.95 | T, Z |

# 3.2 Performance curves

### 200 (LT), P and S installation

EN

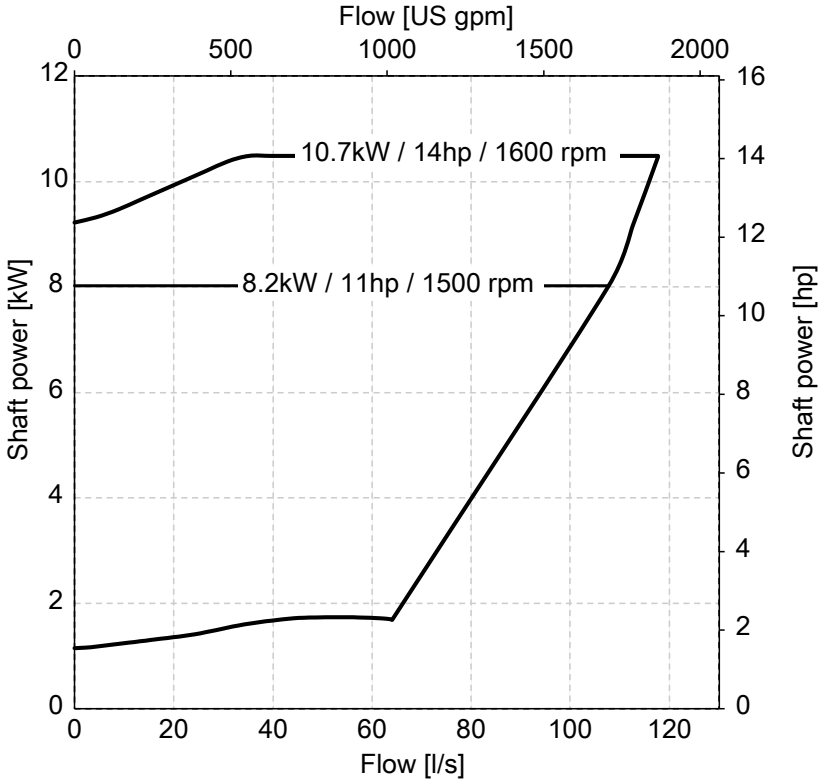
The image shows the available field of operation, and maximum revolutions per minute (rpm) for each rated power value.

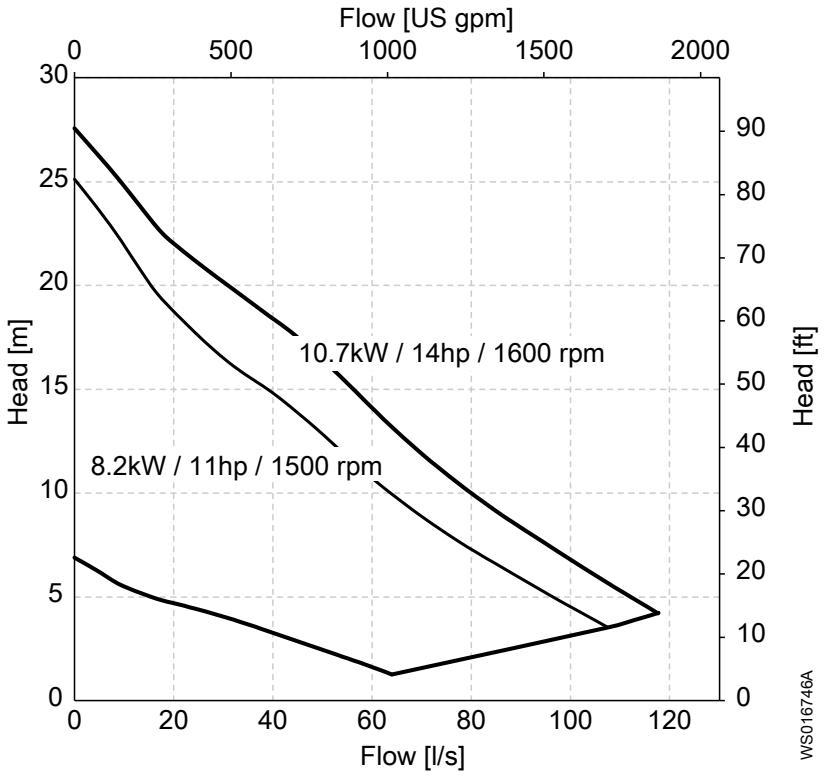


EN

### 150 (MT), P and S installation

The image shows the available field of operation, and maximum revolutions per minute (rpm) for each rated power value.

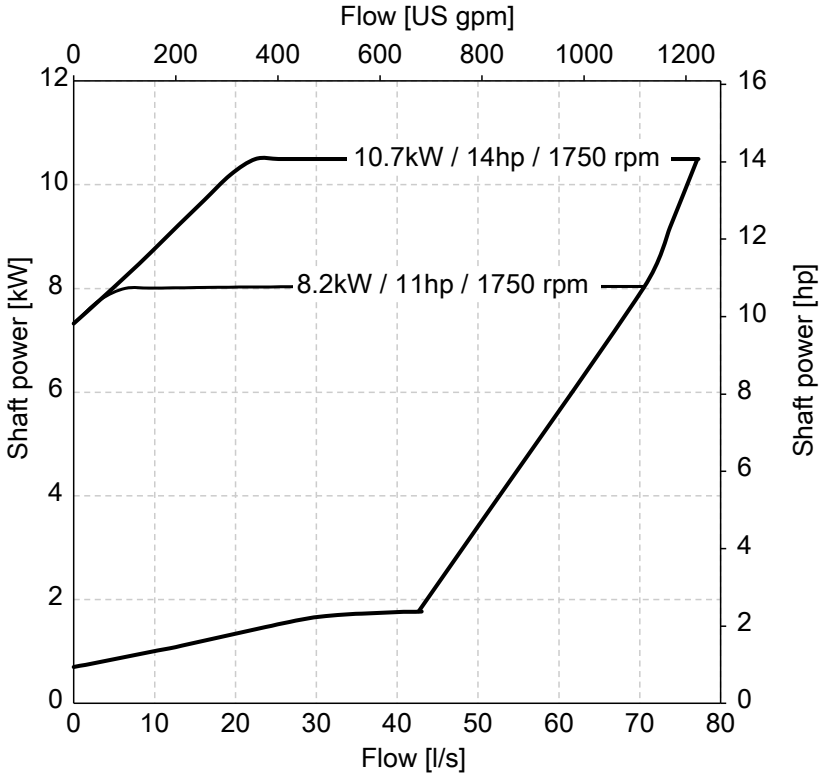


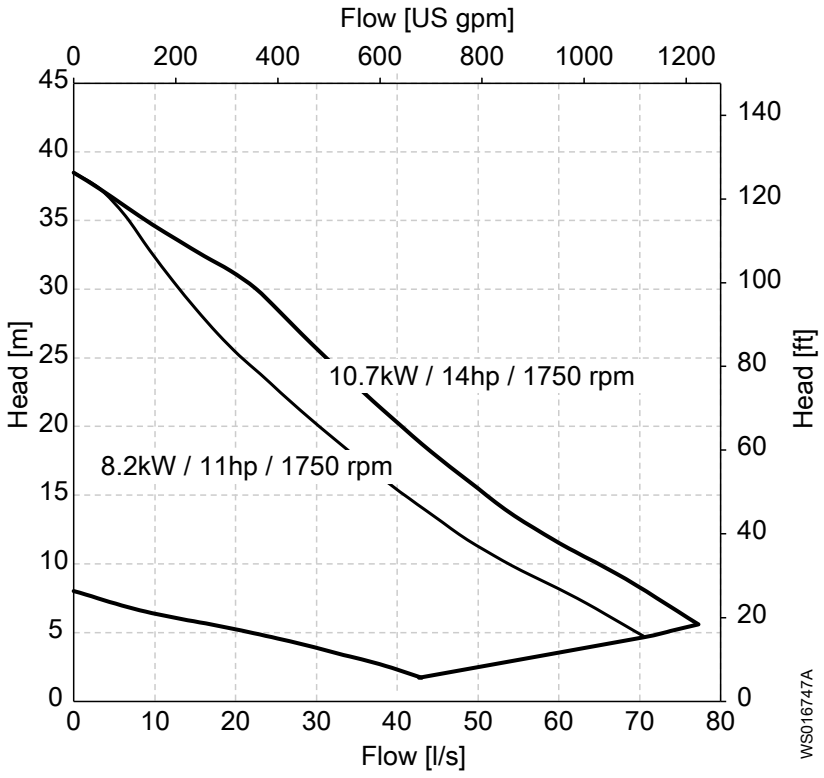



EN

### 100 (HT), P and S installation

The image shows the available field of operation, and maximum revolutions per minute (rpm) for each rated power value.

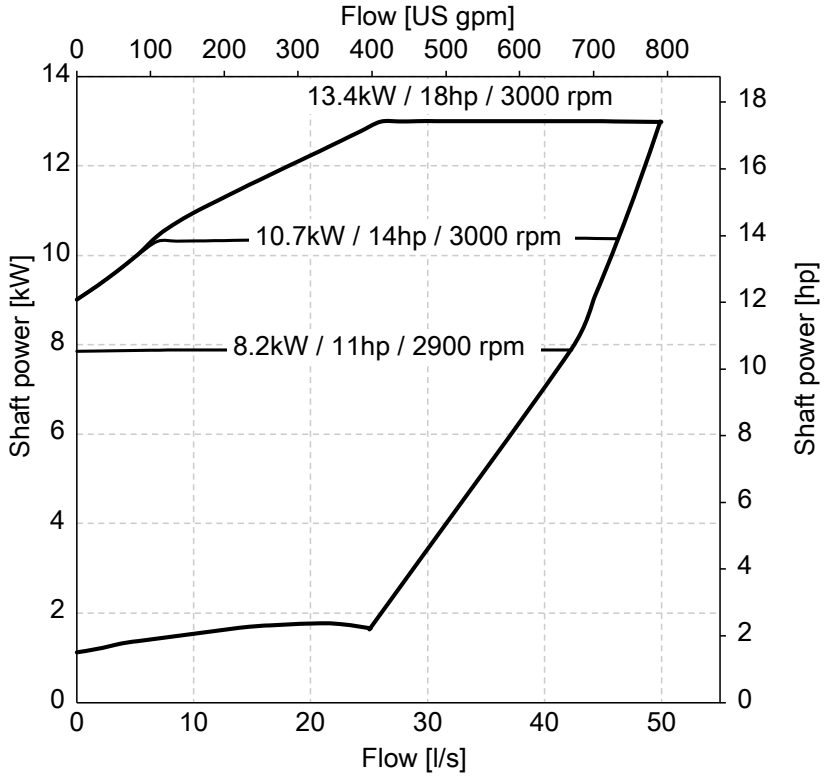


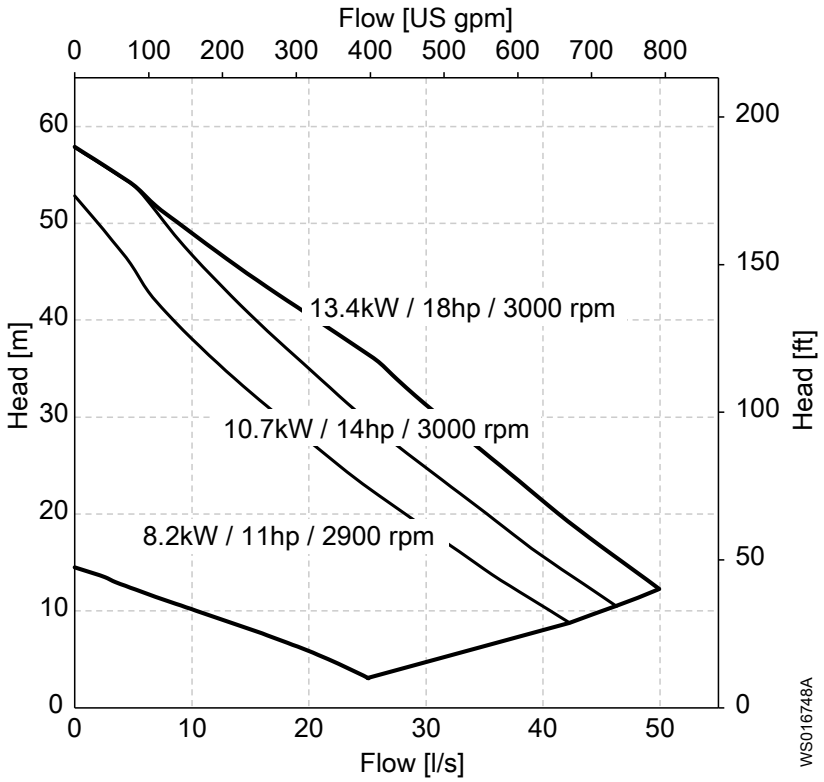



EN

### 80 (SH), P and S installation

The image shows the available field of operation, and maximum revolutions per minute (rpm) for each rated power value.

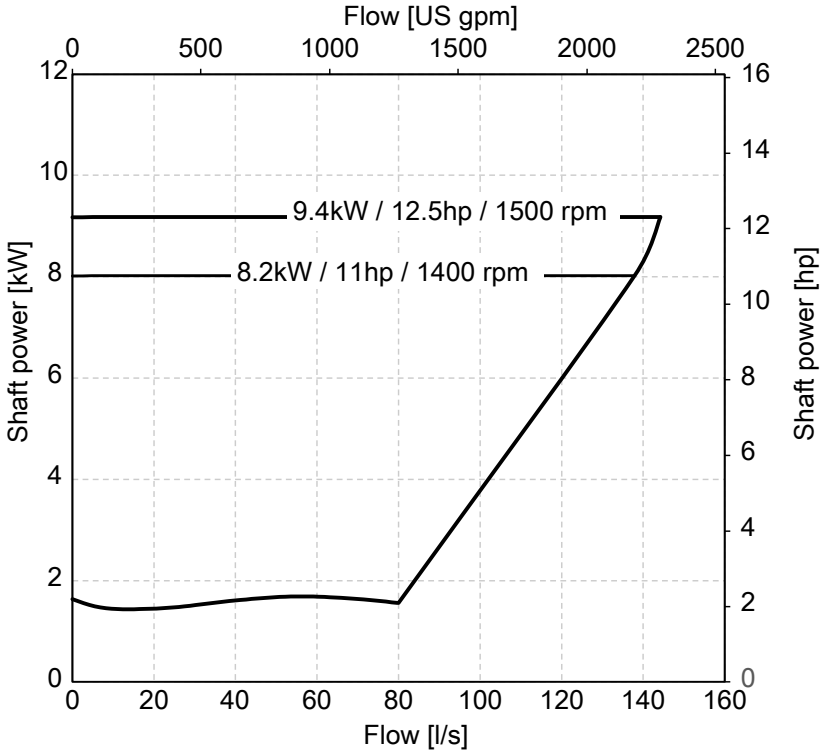


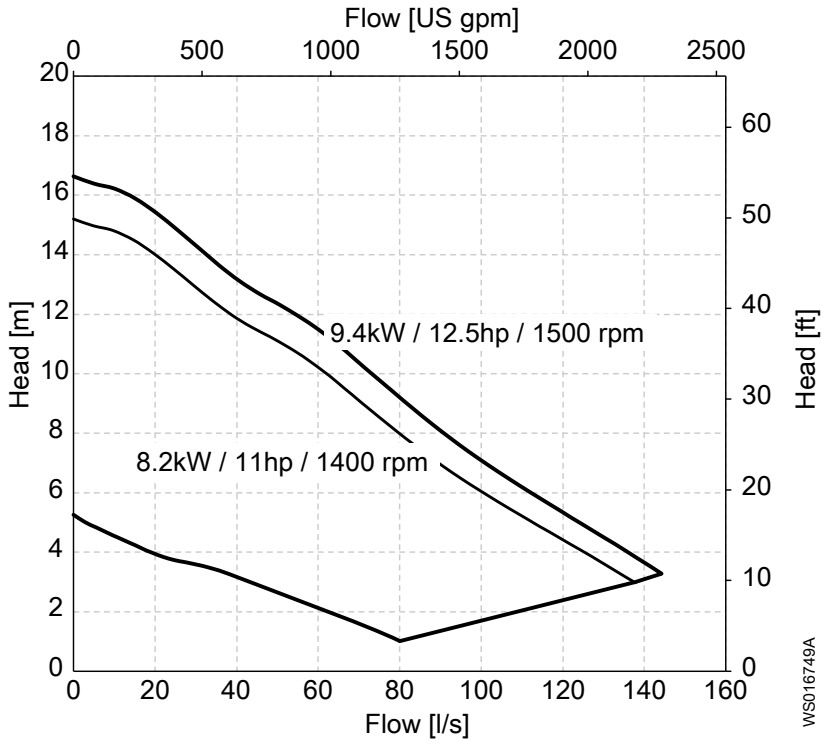



EN

### 200 (LT), T and Z installation

The image shows the available field of operation, and maximum revolutions per minute (rpm) for each rated power value.

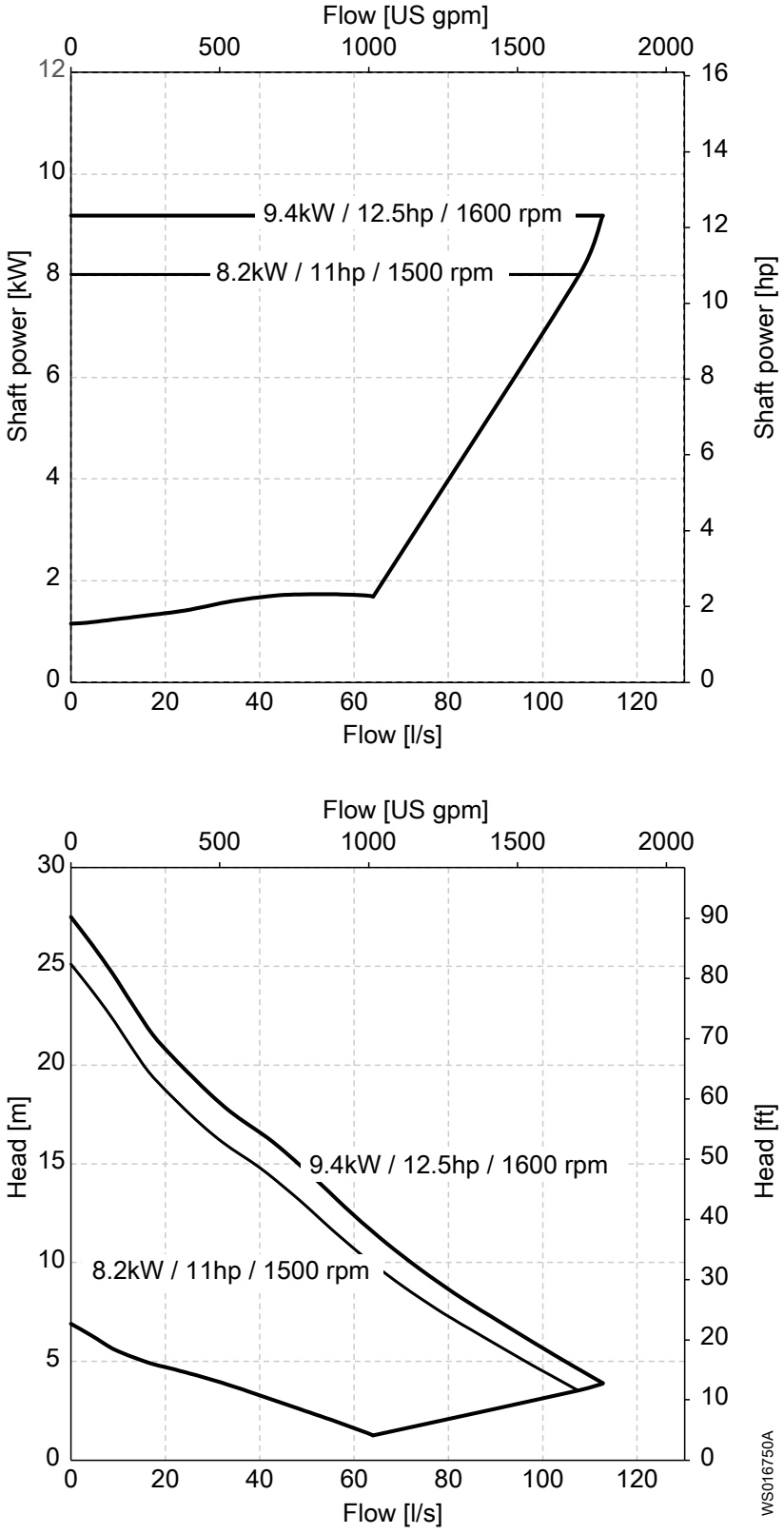


EN

### 150 (MT), T and Z installation

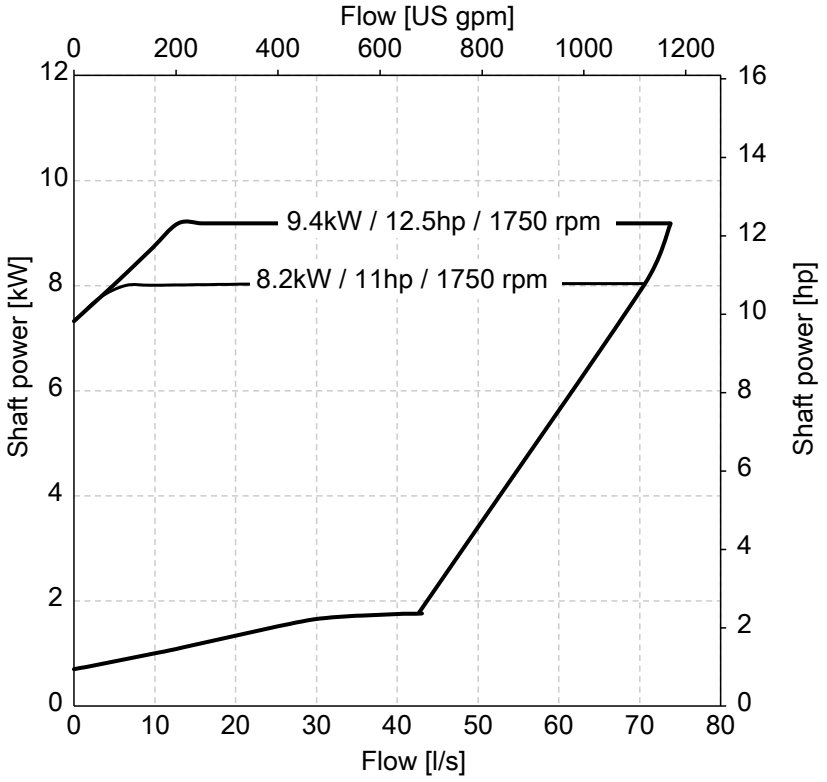
The image shows the available field of operation, and maximum revolutions per minute (rpm) for each rated power value.

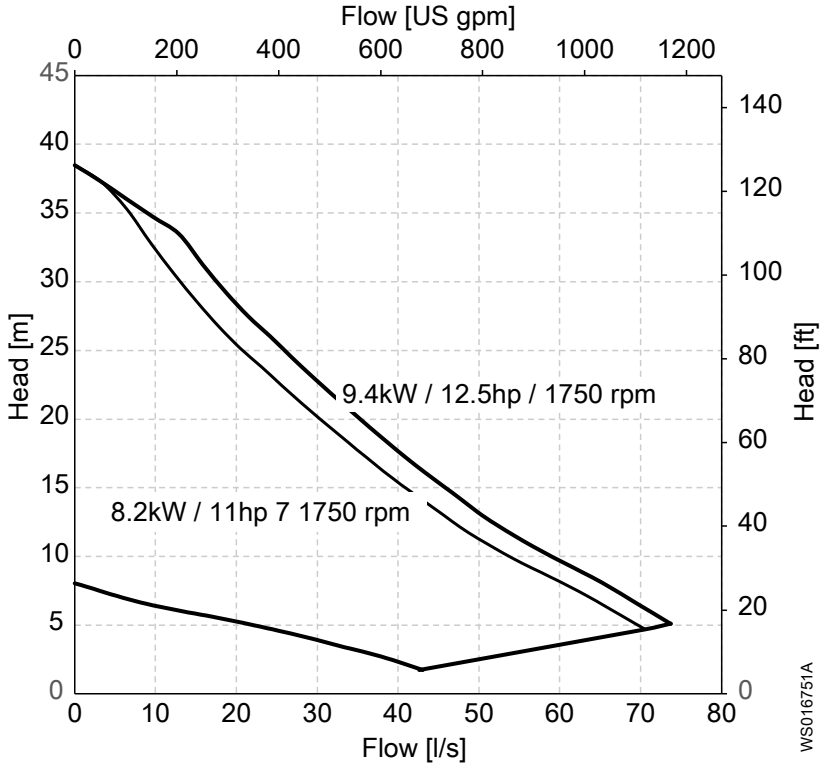


EN

### 100 (HT), T and Z installation

The image shows the available field of operation, and maximum revolutions per minute (rpm) for each rated power value.

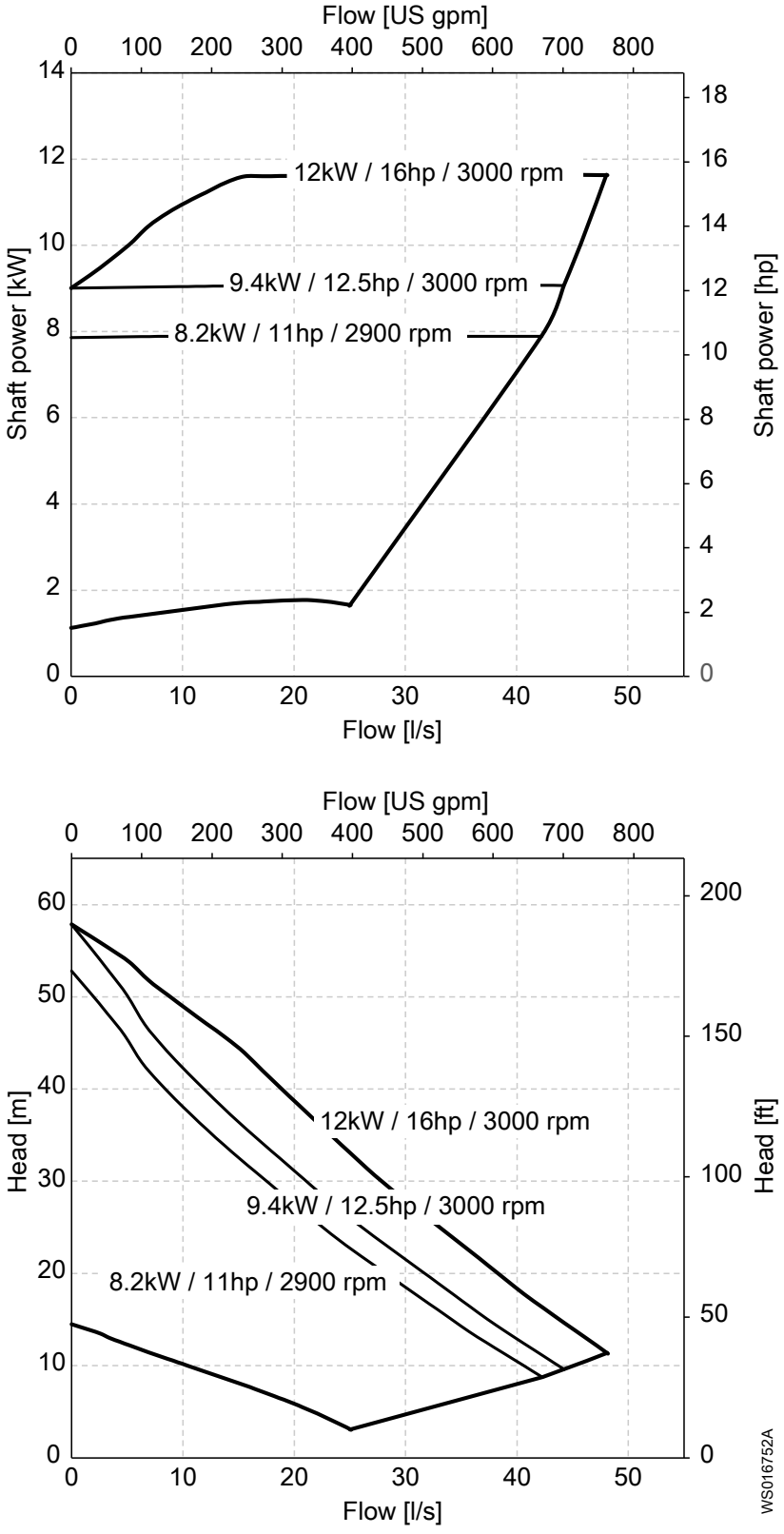


EN

### 80 (SH), T and Z installation

The image shows the available field of operation, and maximum revolutions per minute (rpm) for each rated power value.



# 4 Dimensions and Weight

EN

## 4.1 Drawings

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

Drawings are found on Xylect or on TPI.

All dimensions are in mm.

| Drawing number | Discharge connection | Installation |
|---|---|---|
| 871 91 00 | 200 (LT) | P |
| 871 92 00 | 150 (MT) | P |
| 871 93 00 | 100 (HT) | P |
| 871 94 00 | 80 (SH) | P |
| 871 95 00 | 200 (LT) | S |
| 871 96 00 | 150 (MT), threaded | S |
| 871 97 00 | 100 (HT), threaded | S |
| 871 98 00 | 80 (SH), threaded | S |
| 871 99 00 | 200 (LT), inlet 250 | T |
| 872 00 00 | 150 (MT), inlet 200 | T |
| 872 01 00 | 100 (HT), inlet 150 | T |
| 872 02 00 | 80 (SH), inlet 150 | T |
| 872 03 00 | 200 (LT), inlet 250 | T-stand |
| 872 04 00 | 150 (MT), inlet 200 | T-stand |
| 872 05 00 | 100 (HT), inlet 150 | T-stand |
| 872 06 00 | 80 (SH), inlet 150 | T-stand |
| 872 07 00 | 200 (LT) | Z |
| 872 07 01 | 200 (LT), with service cart | Z |
| 872 08 00 | 150 (MT) | Z |
| 872 08 01 | 150 (MT) | Z |
| 872 09 00 | 100 (HT), inlet 150 | Z |
| 872 09 01 | 100 (HT), inlet 150, with service cart | Z |
| 872 10 00 | 80 (SH), inlet 150 | Z |
| 872 10 01 | 80 (SH), inlet 150, with service cart | Z |
| 872 11 00 | 200 (LT) | X |
| 872 12 00 | 150 (MT) | X |
| 872 13 00 | 100 (HT) | X |
| 872 14 00 | 80 (SH) | X |

EN

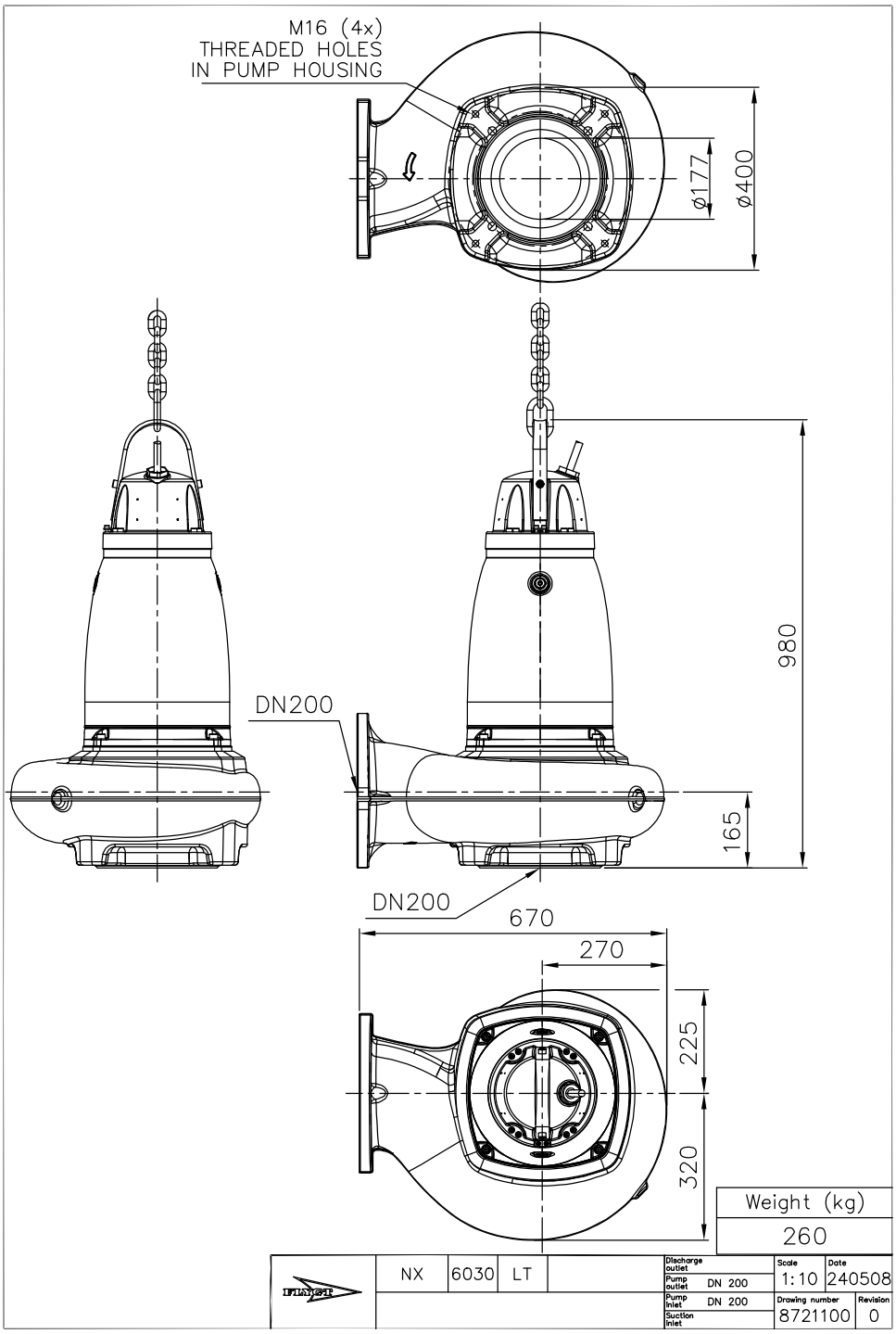



Figure 1: 200 (LT)

EN

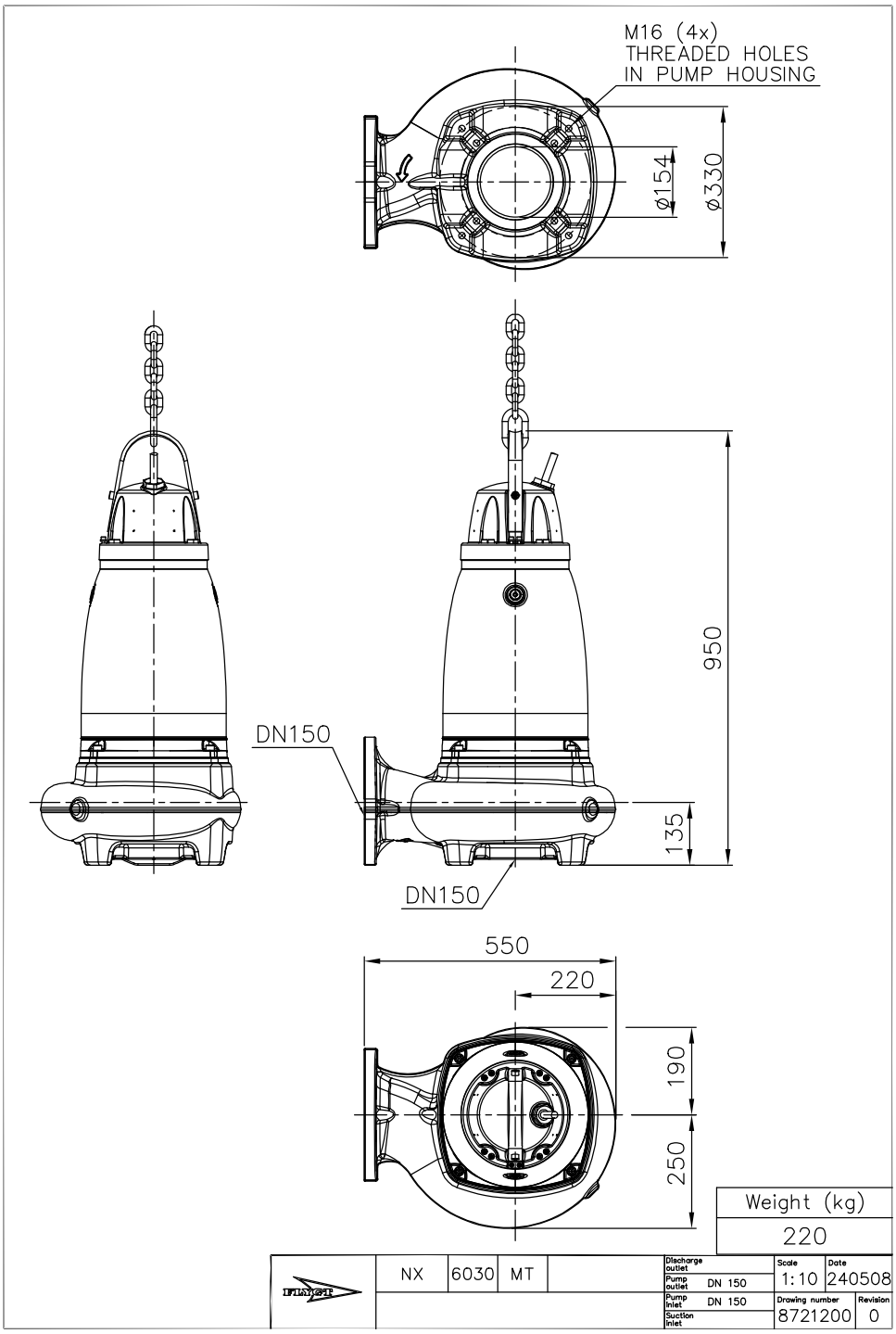



Figure 2: 150 (MT)

EN

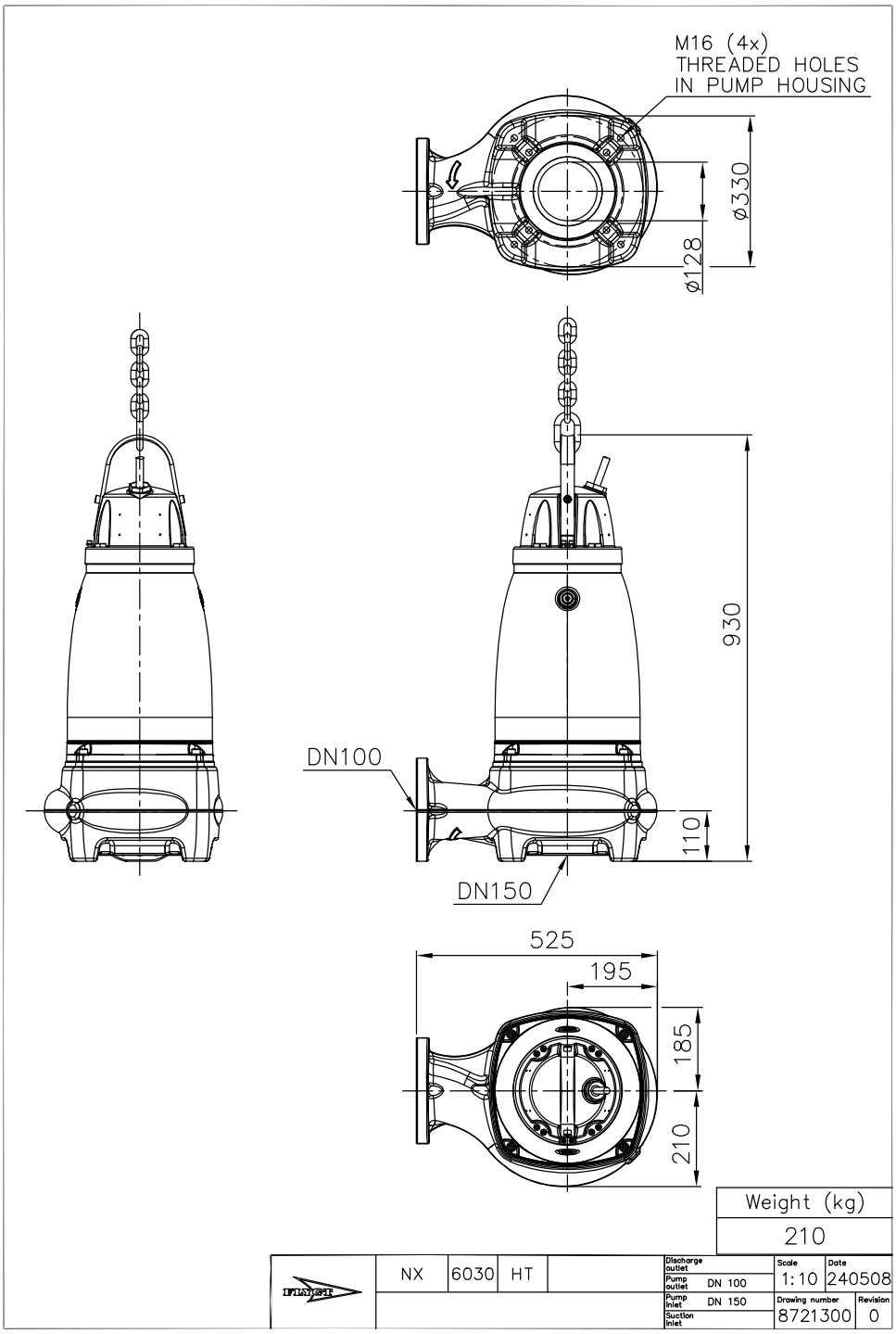



Figure 3: 100 (HT)

EN

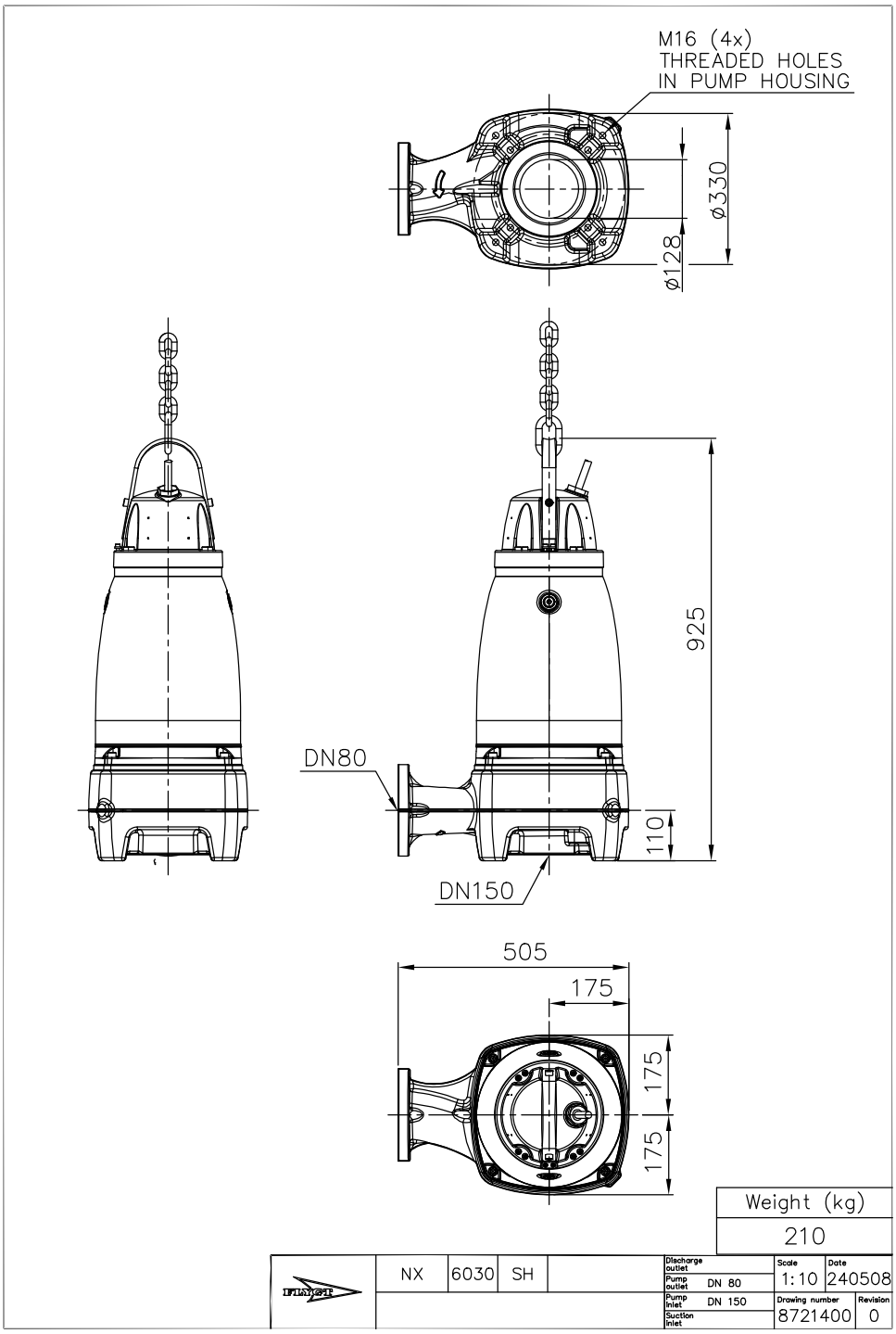



Figure 4: 80 (SH)

# Xylem |’zīləm|

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

We’re a global team unified in a common purpose: creating advanced technology solutions to the world’s water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. 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 with a strong focus on developing comprehensive, sustainable solutions.

**For more information on how Xylem can help you, go to www.xylem.com**

xylem
Let’s Solve Water

Xylem Water Solutions Global
Services AB 556782-9253
361 80 Emmaboda
Sweden
Tel: +46-471-24 70 00
Fax: +46-471-24 74 01
https://tpi.xylem.com



90040801_1.0_en-US_2024-09_TS_6030.180