



# Flygt D 8050, 50 Hz

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# Technical Specification

## Product description

### Usage

A submersible pump for corrosive wastewater containing solids or fibered material.

### Denomination

| Type            | Non-explosion proof version | Explosion proof version | Pressure class  | Installation types |
|-----------------|-----------------------------|-------------------------|---|--------------------|
| Stainless steel | 8050.280                    |                         | <ul style="list-style-type: none"> <li>• LT – Low head</li> <li>• MT – Medium head</li> <li>• HT – High head</li> </ul> | P, S               |

The pump can be used in the following installations:

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

### Application limits

| Feature                 | Description                    |
|-------------------------|--------------------------------|
| Liquid temperature      | Maximum 40°C (104°F)           |
| Depth of immersion      | Maximum 20 m (65 ft)           |
| pH of the pumped liquid | 2 - 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> </ul>  |
| Number of starts per hour        | Maximum 30  |
| Code compliance                  | IEC 60034-1   |
| Voltage variation                | <ul style="list-style-type: none"> <li>• Continuously running: Maximum ±5%</li> <li>• Intermittent running: Maximum ±10%</li> </ul> |
| Voltage imbalance between phases | Maximum 2%  |
| Stator insulation class          | H (180°C, 356°F)  |

Cables

| Application          | Type   |
|----------------------|--|
| Direct-on-line start | <p>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 &lt; 10 mm<sup>2</sup> with unscreened control cores.</p> <p>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 &lt; 7G6 mm<sup>2</sup> with unscreened control cores.</p> <p>Flygt HCR (Heat and Chemical Resistant) cable - a heavy duty 7 cores motor power cable. Conductor insulation rating of 150°C, which allows for increased current. Made of FEP and ETFE and resistant to chemicals and solvents, high temperature, and mechanical stress. Used up to 90°C water temperature and where high chemical resistance is required.</p> |
| Y/D start            | <p>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 &lt; 7G6 mm<sup>2</sup> with unscreened control cores.</p> <p>Flygt HCR (Heat and Chemical Resistant) cable - a heavy duty 7 cores motor power cable. Conductor insulation rating of 150°C, which allows for increased current. Made of FEP and ETFE and resistant to chemicals and solvents, high temperature, and mechanical stress. Used up to 90°C water temperature and where high chemical resistance is required.</p>  |

Monitoring equipment

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

Materials

Table 1: Major parts except mechanical seals

| Denomination            | Material                         | ASTM                       | EN                   |
|-------------------------|----------------------------------|----------------------------|----------------------|
| Major castings          | Stainless steel                  | ASTM A 743 CF-8M           | 1.4408,1.4412,1.4581 |
| Pump housing            | Stainless steel                  | ASTM A 743 CF-8M           | 1.4408,1.4412,1.4581 |
| Impeller                | Stainless steel                  | ASTM A 743 CF-8M           | 1.4408,1.4412,1.4581 |
| Lifting handle/schackle | Stainless steel                  | ASTM/AISI 316L             | 1.4404,1.4432, ...   |
| Shaft                   | Stainless steel                  | ASTM/AISI 316L             | 1.4404,1.4432, ...   |
| Screws and nuts         | Stainless steel, A4              | AISI 316L, 316, 316Ti, etc | 1.4401,1.4404, ...   |
| O-rings                 | Fluorinated rubber (FPM) 70 IRHD | -                          | -                    |

| Denomination        | Material   | ASTM | EN |
|---------------------|--|------|----|
| Oil, part no 901752 | Medical white oil of paraffin type. Fulfills FDA 172.878 (a) | -    | -  |

Table 2: Mechanical seals

| Inner seal             | Outer seal                       |
|------------------------|----------------------------------|
| Carbon/ Aluminum oxide | Silicon carbide/ Silicon carbide |

**Surface treatment**

None.

**Options**

- Other cables
- Flexible protective sheeting for the cables
- Zinc anodes, Surface treatment (Epoxy)
- Water detector in motor and oil housing

**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

## LT

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

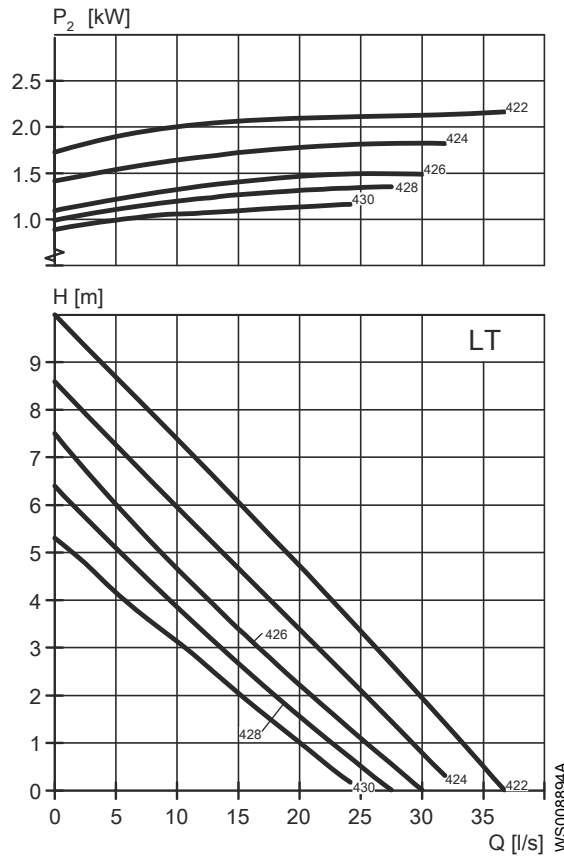


Table 3: 400 V, 50 Hz, 3-phase

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated current, A | Starting current, A | Power factor, $\cos \varphi$ | Installation |
|-----------------|-----------------|--------------------|-----------------------------|------------------|---------------------|------------------------------|--------------|
| 2.2             | 3.0             | 422                | 1340                        | 5.0              | 18                  | 0.89                         | P,S          |
| 2.2             | 3.0             | 424                | 1340                        | 5.0              | 18                  | 0.89                         | P,S          |
| 1.5             | 2.0             | 426                | 1410                        | 3.3              | 18                  | 0.84                         | P,S          |
| 1.5             | 2.0             | 428                | 1410                        | 3.3              | 18                  | 0.84                         | P,S          |
| 1.5             | 2.0             | 430                | 1410                        | 3.3              | 18                  | 0.84                         | P,S          |

# MT

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

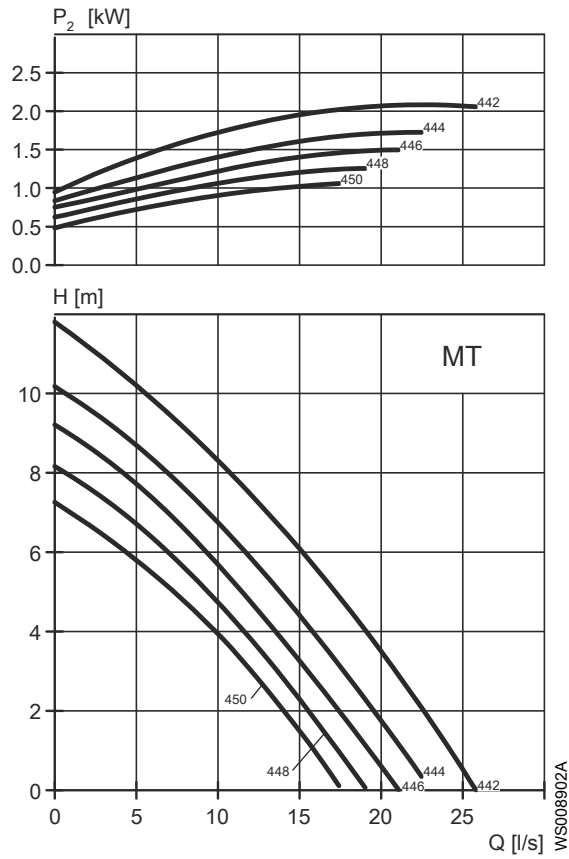


Table 4: 400 V, 50 Hz, 3-phase

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated current, A | Starting current, A | Power factor, cos φ | Installation |
|-----------------|-----------------|--------------------|-----------------------------|------------------|---------------------|---------------------|--------------|
| 2.2             | 3.0             | 442                | 1340                        | 5.0              | 18                  | 0.89                | P,S          |
| 2.2             | 3.0             | 444                | 1340                        | 5.0              | 18                  | 0.89                | P,S          |
| 1.5             | 2.0             | 446                | 1410                        | 3.3              | 18                  | 0.84                | P,S          |
| 1.5             | 2.0             | 448                | 1410                        | 3.3              | 18                  | 0.84                | P,S          |
| 1.5             | 2.0             | 450                | 1410                        | 3.3              | 18                  | 0.84                | P,S          |

# HT

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

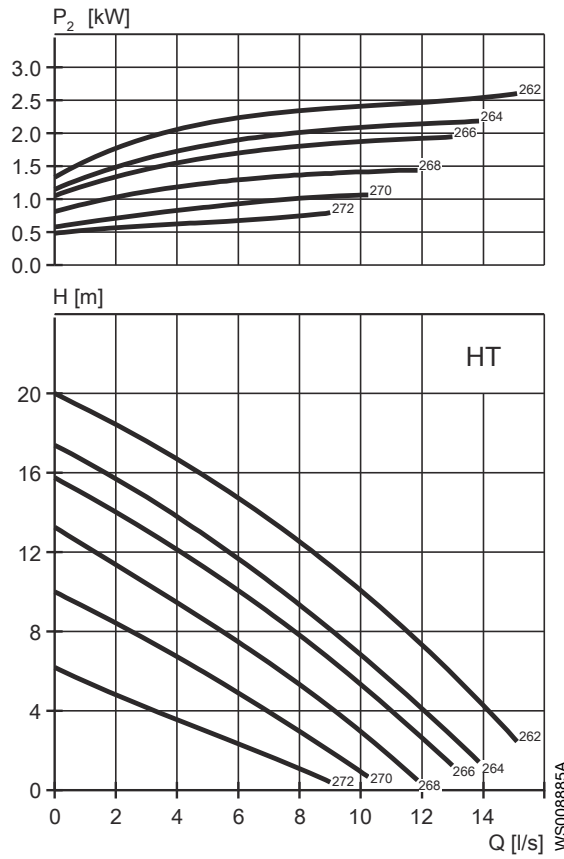


Table 5: 400 V, 50 Hz, 3-phase

| Rated power, kW | Rated power, hp | Curve/ Impeller No | Revolutions per minute, rpm | Rated current, A | Starting current, A | Power factor, $\cos \varphi$ | Installation |
|-----------------|-----------------|--------------------|-----------------------------|------------------|---------------------|------------------------------|--------------|
| 2.6             | 3.5             | 262                | 2800                        | 5.8              | 29                  | 0.84                         | P,S          |
| 2.2             | 3               | 264                | 2840                        | 5.0              | 29                  | 0.81                         | P,S          |
| 2.2             | 3               | 266                | 2840                        | 5.0              | 29                  | 0.81                         | P,S          |
| 1.5             | 2               | 268                | 2740                        | 3.9              | 14                  | 0.81                         | P,S          |
| 1.5             | 2               | 270                | 2740                        | 3.9              | 14                  | 0.81                         | P,S          |
| 1.5             | 2               | 272                | 2740                        | 3.9              | 14                  | 0.81                         | P,S          |



# Dimensions and Weight

## LT

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.

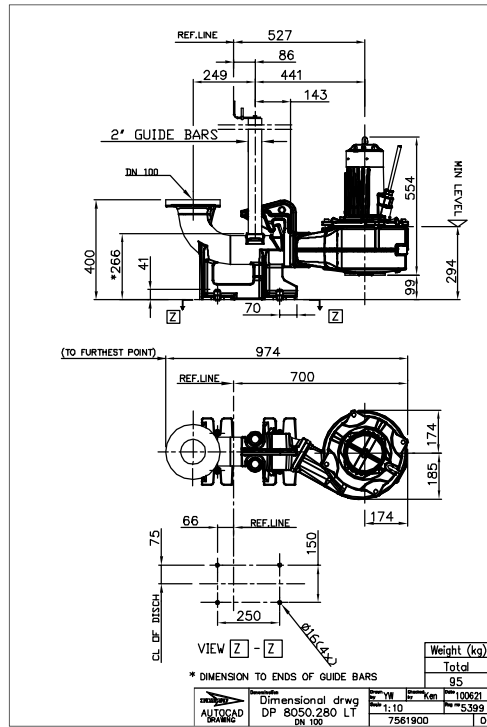


Figure 1: LT, P-installation

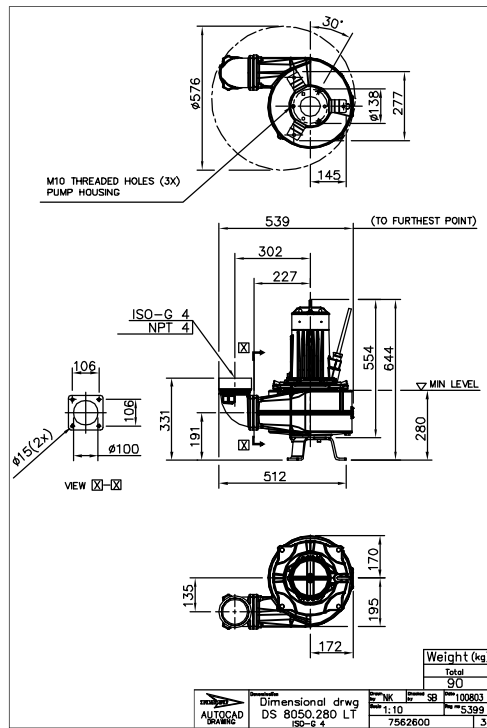


Figure 2: LT, S-installation

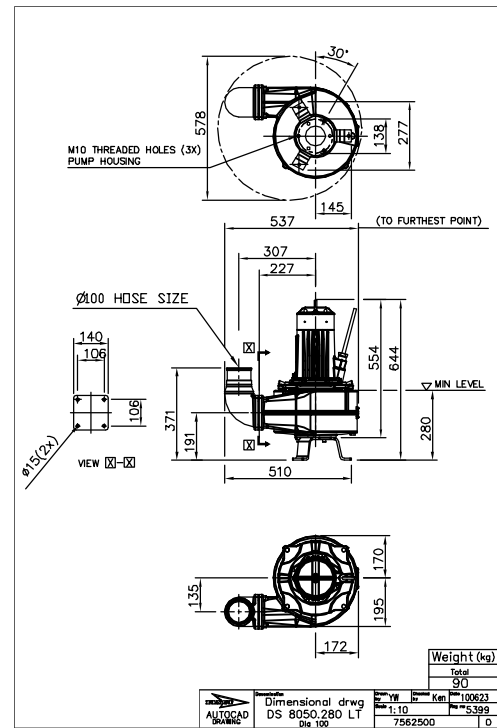


Figure 3: LT, S-installation

## MT

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.

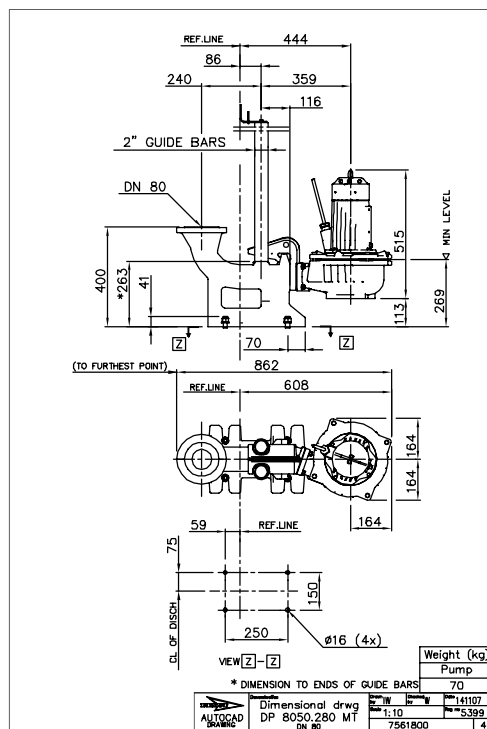


Figure 4: MT, P-installation

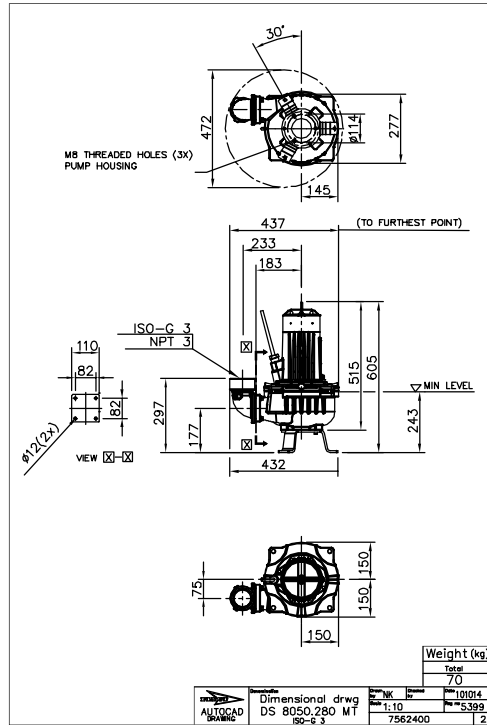


Figure 5: MT, S-installation

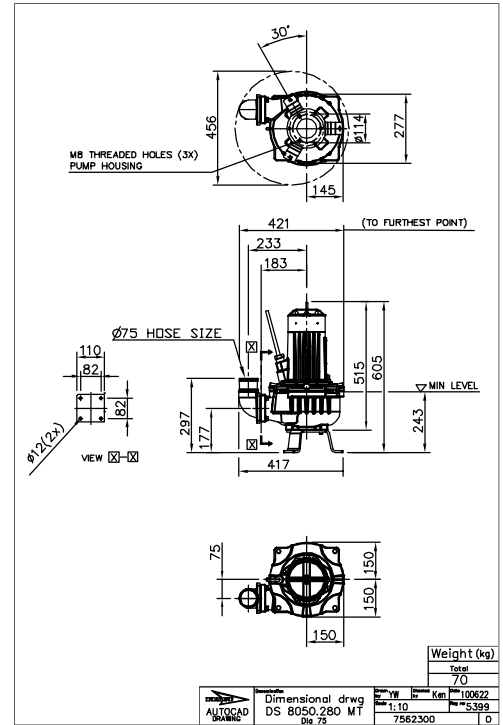


Figure 6: MT, S-installation

## HT

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.

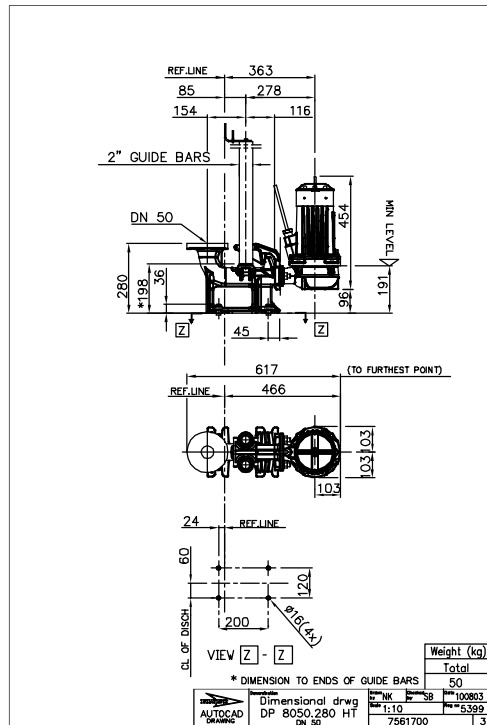


Figure 7: HT, P-installation

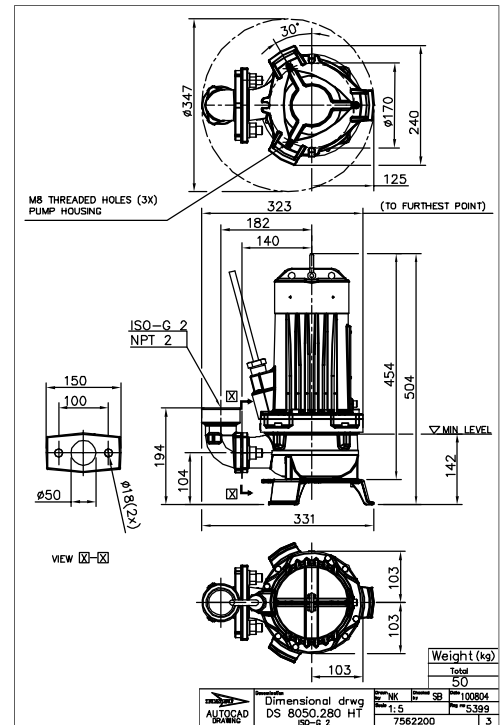


Figure 8: HT, S-installation

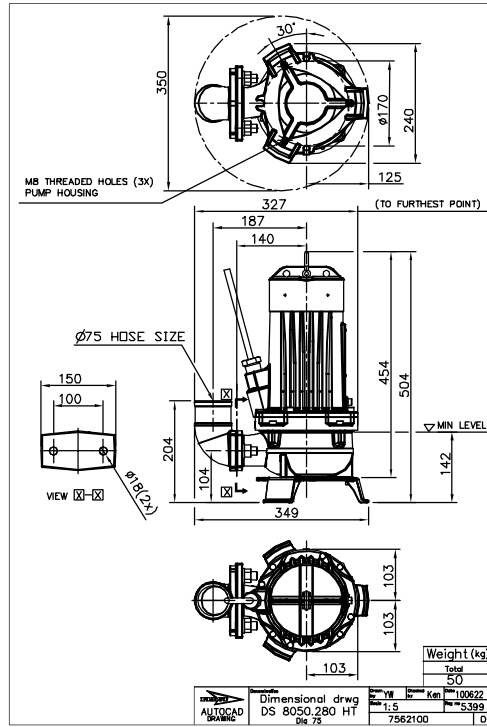


Figure 9: HT, S-installation

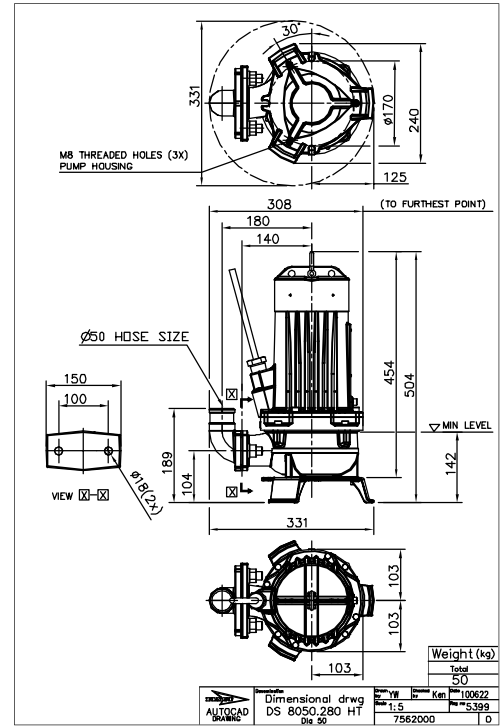


Figure 10: HT, S-installation



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