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# Technical specification

2250.011, 2250.011-U



## BS 2250.011/2250.011-U Technical specification

The 2250 is a powerful, submersible drainage pump with high capacity and delivery head. The pump is made of a highly wear-resistant material to cope with harsh environments and the pumping of liquids containing abrasive particles.

The POLY-LIFE version, U 2250.011, is equipped with polyurethane lined wear parts for prolonged life especially for pumping of highly abrasive liquids.

Its wear-resistant design and high delivery head make the 2250 ideal for use in dam con-

struction, harbour work, power station construction, tunnel work, mines and other demanding applications.

The 2250 requires no special attendance and service is uncomplicated. The wear parts can easily be trimmed or replaced to maintain full capacity even in the face of heavy wear.

Two or three pumps can be connected in tandem to boost the delivery head.

### APPLICATIONS

2250 is intended to be used for pumping water which may contain abrasive particles.

The pump is available in the following versions:

MT = Medium-head version

HT = High-head version

**Liquid temperature:** max 40°C (105°F).

**Liquid density:** max 1100 kg/m<sup>3</sup>.

**The pH of the pumped liquid:** 5—8

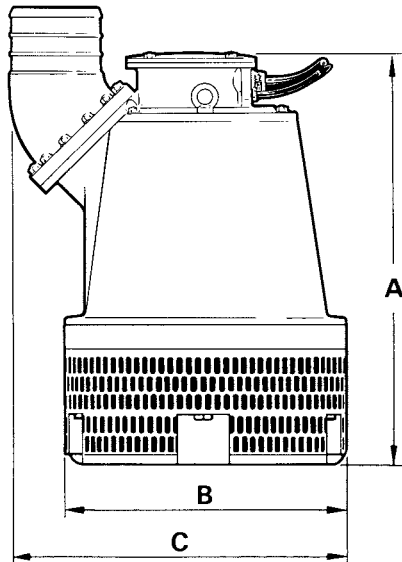
Particles up to a size that corresponds to the openings in the strainer (15 x 45 mm) can pass through the pump.

**Depth of immersion:** max. 20 m.

2250 shall not be used in explosive or flammable environments or with flammable liquids.

For other applications, contact your nearest Flygt representative for information.

### DIMENSIONS AND WEIGHTS



All dimensions are in mm.

Weight without motor cable: 540 kg.

A = 1144 mm

B = 771 mm

C = 830—912 mm, with hose connection

847—935 mm, with threaded pipe connection

**Discharge connections:** 6", R6", NPT6"  
8", NPT8"  
10", 10" for alvenius pipe,  
NPT10"

### MOTOR DATA

Motor type: Squirrel-cage 3-phase AC motor, insulation class F

Frequency: **50 Hz**

Output: 54 kW

Speed of rotation: 1470 rpm

Frequency: **60 Hz**

Output: 65 kW (87 hp)

Speed of rotation: 1770 rpm

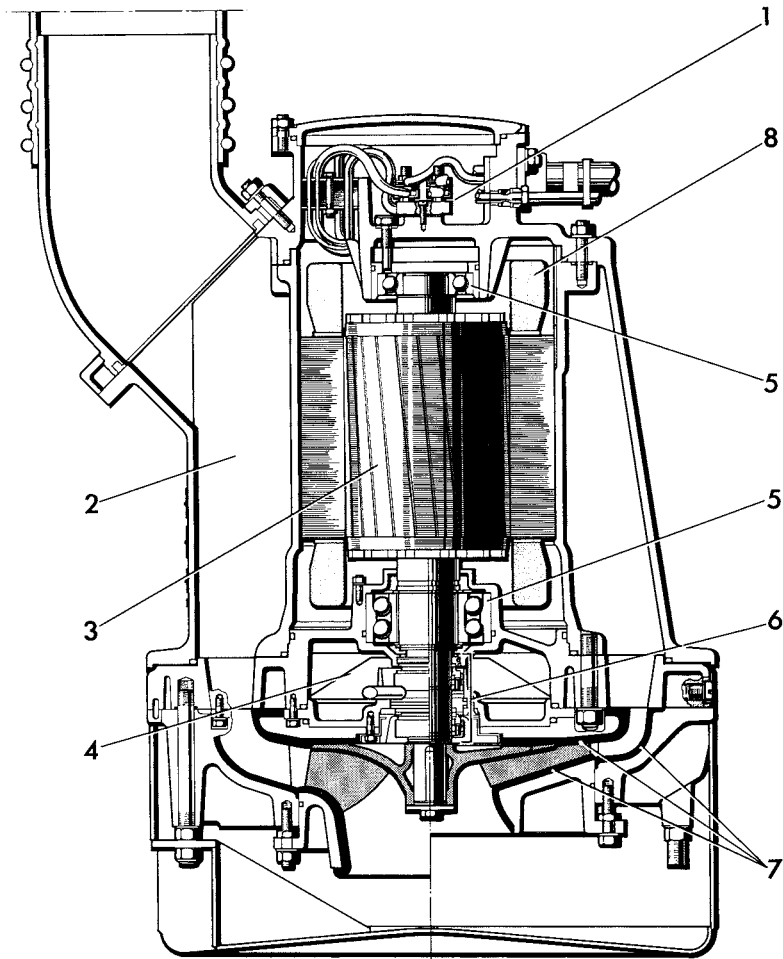
Voltage	Rated current
220 V	181 A
380 V	105 A
400 V	99 A
415 V	96 A
440 V	91 A
500 V	80 A
550 V	74 A

Voltage	Rated current
220 V	216 A
380 V	125 A
460 V	104 A
575 V	83 A

### MATERIALS

		DIN	BS	AISI
Cast parts	Aluminium	G-AlSi 10 Mg	1490/ LM 9	—
Shaft	Stainless steel	17440 X20 Cr13	970 420 S37	420
Strainer	Galvanized steel	17100/ RST 37-2	4360/ 40 B	ASTM A36 284 GRD; 501 573 GR 65
Impeller	Chromium-alloyed cast iron	GX-260 Gr 27	4844 Grade 3E	ASTM 532-80 Alloy 111A
Wear parts	Nitrile-rubber-lined			
Wear parts, POLY-LIFE version	Polyurethane-lined			
Seal surfaces,				
inner	Tungsten carbide—Tungsten carbide			
outer	Tungsten carbide—Tungsten carbide			

## DESIGN



### 1. Junction box

The junction box is completely sealed off from the surrounding liquid and from the motor unit.

### 2. Cooling

A built-in cooling system enables the pump to work continuously at its rated output regardless of whether the electric motor is above or below the surface of the liquid.

The pumped liquid is circulated from the pump casing up between the cooling jacket and the stator casing and carries away heat generated by the motor.

### 3. Motor

Flygt motors are tested according to IEC 34-1.

Motor insulation to Class F means a maximum working temperature of 155°C (310°F) and permits a temperature rise of 100°C (210°F).

The temperature rise in Flygt motors does not normally exceed 80°C (175°F). The insulation material is chosen with the greatest care, and most materials are classified as Class H (180°C, 355°F) materials or very close to Class H. This means an expected service life far beyond what is required for Class F.

### 4. Oil casing

The oil lubricates and cools the seals and acts as a buffer between the pumped liquid and the electric motor.

Pressure build-up within the oil casing is reduced by means of a built-in volume.

### 5. Bearings

The lower bearing consists of a two-row angular contact ball bearing.

The upper bearing consists of a single-row ball bearing.

The bearings are designed for at least 20 000 hours of operation.

### 6. Shaft seals

2250 has two mechanical seals.

The seals work independently of each other and seal off the motor from the pump section.

### 7. Wear parts

The pump's easily replaceable wear parts are rubber-lined.

The wear parts are also available in polyurethane for pumping of highly abrasive liquids.

By means of a simple fine adjustment, the pump's capacity can be maintained despite heavy wear.

### 8. Monitoring system

The stator incorporates three thermal switches connected in series.

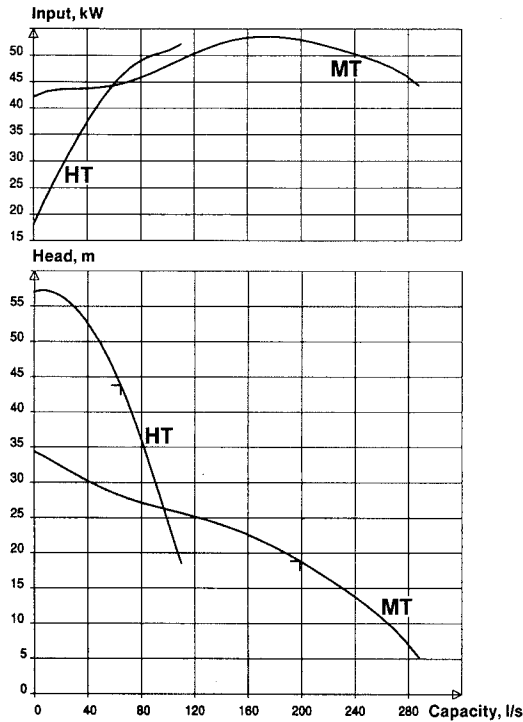
The thermal switches open at 125°C (260°F).

## PERFORMANCE CURVES

### 50 Hz

MT = Curve No. 431

HT = Curve No. 433

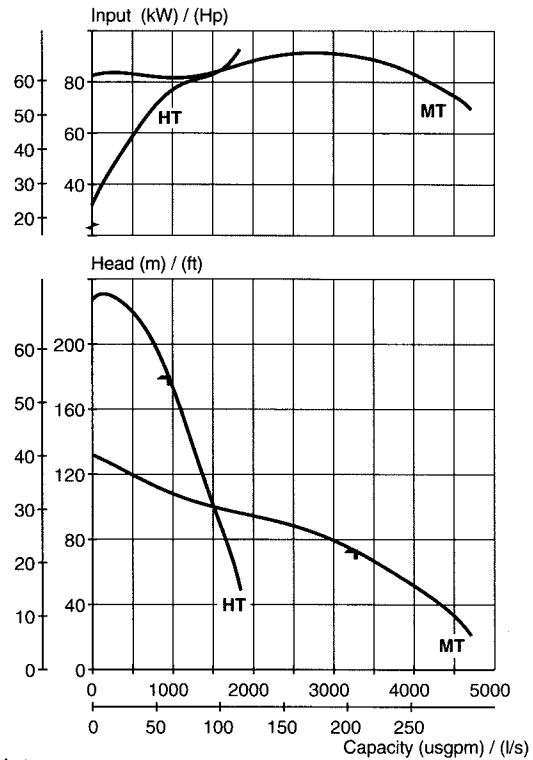


⌊ = best operating point

### 60 Hz

MT = Curve No. 432

HT = Curve No. 434



## ACCESSORIES

### Tandem operation

The delivery head can be increased by connecting two or three pumps in tandem. For this purpose, a tandem flange unit is available from Flygt.

See special brochure that describes the procedure for tandem connection.

### Start and control equipment

Flygt has suitable start and control equipment for the pump. Contact Flygt for further information.

### Zinc anode set

In order to reduce corrosion on the pump, it can be fitted with zinc anodes.

### Hose

Flygt has suitable 6", 8" and 10" hose available in different qualities.

Contact Flygt for further information.



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