

## BS 2151.010 Technical specification

The BS 2151 is a robust, submersible drainage pump with large capacity. The pump is made of a highly wear-resistant material to cope with the pumping of liquids containing abrasive particles.

Its wear-resistant construction and high capacity enable the pump to cope with demanding duties in the most diverse environments. The BS 2151 is particularly suited for use in the building and civil engineering industry. It can also be used in the

mining industry wherever a rugged pump that can easily be installed on different sites is needed.

The BS 2151 requires no special attendance and service is uncomplicated. The wear parts can easily be trimmed and 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

The pump is intended to be used for pumping water which may contain abrasive particles

The pump is available in the following versions:

LT = low-head version, for 50 Hz

MT = medium-head version, for 50 and 60 Hz

HT = high-head version, for 50 and 60 Hz

**Liquid temperature:** max 40°C (103°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 (10 × 42 mm) can pass through the pump.

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

BS 2151 shall not be used in explosive or flammable environments or with flammable liquids.

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

## MOTOR DATA

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

Frequency: **50 Hz**

Frequency: **60 Hz**

Output: 20 kW

Output 22 kW (30 hp)

Speed of rotation: 2900 rpm

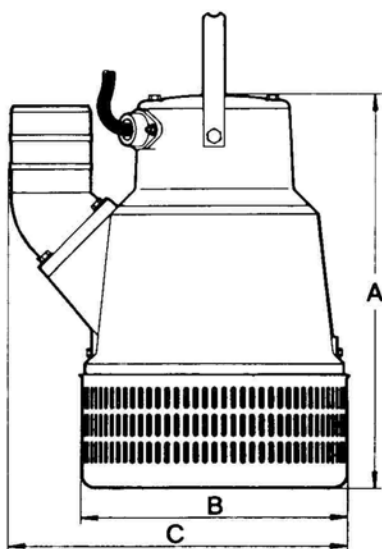
Speed of rotation: 3500 rpm

Voltage	Rated current
190 V	76 A
220 V	66 A
380 V	38 A
415 V	35 A
500 V	29 A
550 V	26 A

Voltage	Rated current
200 V	79 A
220 V	72 A
230 V	69 A
440 V	36 A
460 V	34 A
575 V	27 A

## DIMENSIONS AND WEIGHTS

All dimensions are in mm.



A = 745    B = 505

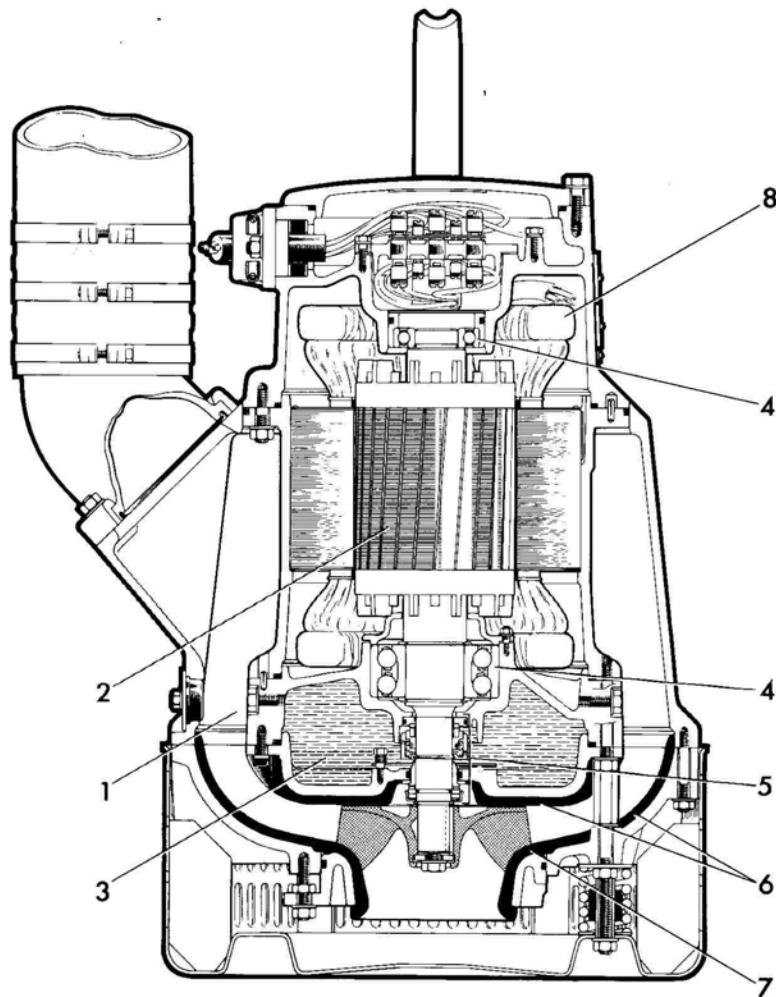
C: Dimension	Discharge connection
569	R4" and 4—8 NPSM
590	4"
638	6"
654	R6" and 6—8 NPSM

Weight without motor cable: 165 kg

## MATERIALS

		DIN	BS	AISI
Cast parts	Aluminium	1725G	LM25	ASTM
		AISI7		356.0
		Mg Wa		
Shaft	Carbon steel	17200	970 EN	C1034
		C 35	5 C	
Strainer	Steel	1623	1449	—
		St 13	Cr 3	
Impeller	Chromium-alloyed cast iron	G-X260	4844	ASTM
		Gr 27	Grade 3E	532-80
				Alloy 111 A
Wear parts	Nitrile-rubber covered.			
Seal surfaces,	Tungsten carbide—	Carbon		
		inner		
outer	Tungsten carbide—	Tungsten carbide		

## DESIGN



### 1. 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.

### 2. Motor

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.

### 3. 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.

### 4. Bearings

The lower bearing consists of a deep-groove ball bearing.

The upper bearing consists of a double-row angular contact ball bearing.

The bearings are designed for at least 16 000 hours of operation.

### 5. Shaft seals

The pump has two mechanical seals.

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

### 6, 7. Wear parts

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

The suction cover (7) 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

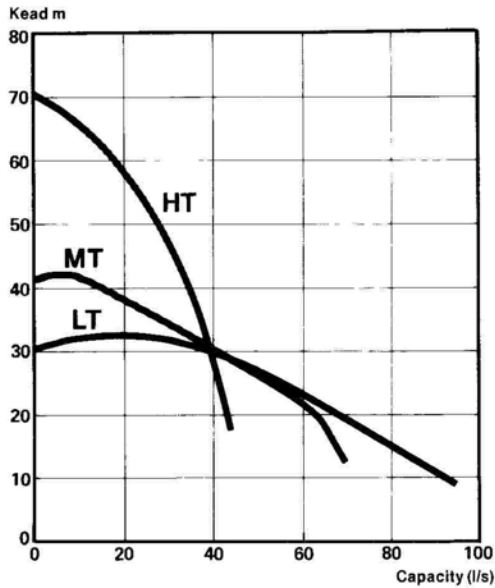
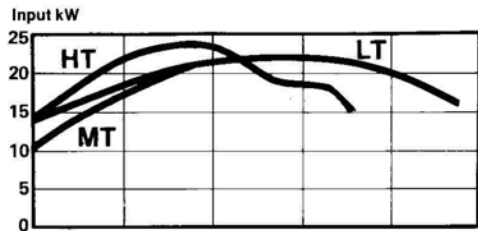
The stator incorporates three thermal switches connected in series.

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

## PERFORMANCE CURVES

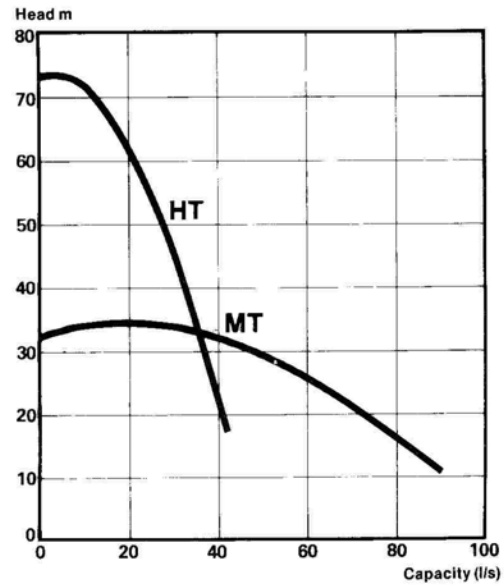
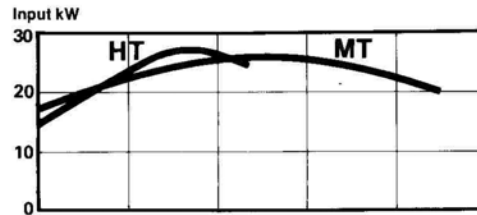
### 50 Hz

LT = Curve No. 231  
 MT = Curve No. 241  
 HT = Curve No. 233



### 60 Hz

MT = Curve No. 232  
 HT = Curve No. 234



## 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 3" and 4" hose in different qualities. Contact Flygt for further information.



The manufacturer reserves the right to alter performance, specification or design without notice.