



Motor with Disc Holder, 12 V

11614.00

Operating instructions



The unit complies with the corresponding EC guidelines.

### 1 PURPOSE AND DESCRIPTION

The Motor with Disc Holder, 12 VDC is a handy, robust and compact device which, with its post support and other supporting material can be easily held in any required position. The DC motor is fitted with a 5:1 gearbox. The speed adjustment is made by varying the motor operating voltage in the range 2...12 V; the corresponding no-load speeds are about 200...900 rpm. Operation in either direction is possible by reversing the operating voltage.

The motor is capable of delivering a maximum output power of about 14 W.

A disc holder with a pulley is mounted on the gear shaft, so that the motor can be used for providing a belt drive to other devices as well as for turning discs with 10 mm holes.

### 2 OPERATION

The motor is set up according to the required experimental arrangement.

Discs are firmly clamped between the pulley and the knurled nut on the disc holder. With the belt drive to devices, e.g. the Strobe Drum (65976.00), the tensile force on the drive belt placed over the pulley should not act transverse to the line of the motor post.

The motor is connected to an adjustable DC voltage source which should be capable of supplying about 4 A; suitable devices: e.g. Universal Power Supply (13500.93) or Variable Power Supply (13530.93). The connected cables may not be longer than 3 m.

With connection of the operating voltage according to the labelled polarity on the two 4mm motor sockets, the motor runs to the right and to the left if polarity is reversed (with the gearbox shaft viewed from the front). The required speed is adjusted with the aid of the operating voltage and a 10 Ω rheostat can also be used in the variable supply circuit to give a fine speed setting.

**Important!** The knurled nut on the disc holder must be firmly tightened – even when no disc is used – particularly if high accelerations can occur when starting or stopping the motor by switching the operating voltage on or off.

### 3 EXPERIMENT LITERATURE

Laboratory Experiments Physiology

16500.02

### 4 TECHNICAL DATA

The stated operational data should be regarded as only giving guide values.

Type of device	DC motor with permanently mounted gearbox, ratio 5:1
Operating voltage $V_S$	2...max. 12 VDC
No load ( $V_S = 12$ VDC)	
Speed	approx. 900 rpm
Current	approx. 0.5 A
Max. continuous current	3 A
Disc holder	for discs with 10 mm hole
Pulley	for drive belts up to 3 mm dia.
Post support	
Diameter	10 mm
Length	120 mm