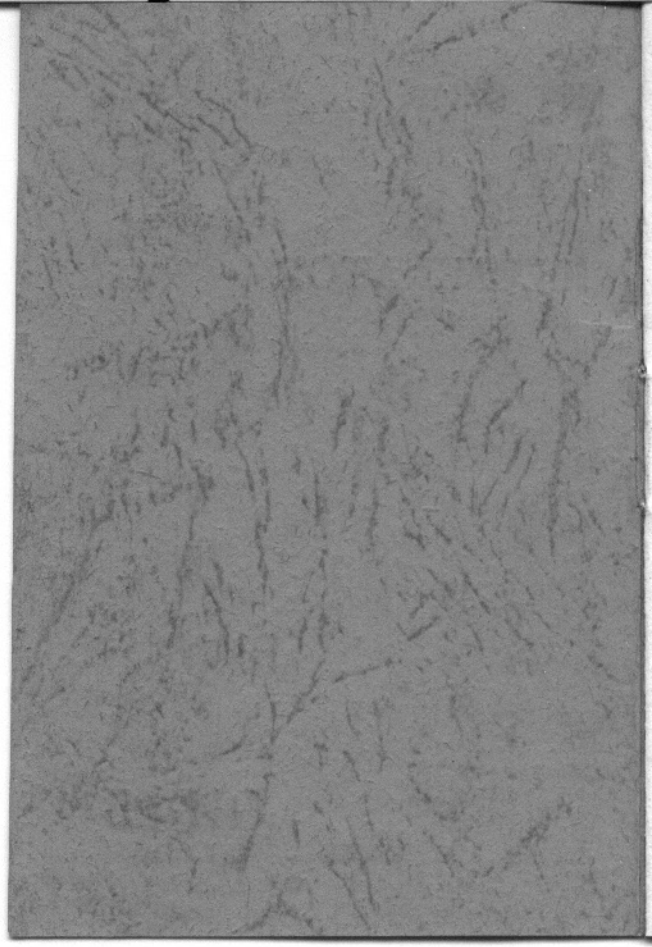

Leningrad
Optical-Mechanical
Enterprises,
Amalgamated

ILLUMINATOR

ОИ-35

TECHNICAL DESCRIPTION AND OPERATION
INSTRUCTIONS

1. APPLICATION

ILLUMINATOR ОИ-35 is an accessory for biological microscopes of type «Биолам 70» and is designed, together with the microscope condenser, for illumination of transparent objects.

The illuminator is applied for studying objects in transmitted light in light field.

Illuminators ОИ-35 are produced in three versions:

in version У of grade 4.2, i. e. for operation in temperate climate in laboratory premises at ambient air temperature from +10 up to +35° C;

in version Т of grade 4.2, i. e. for operation both in dry and wet tropical climate in laboratory premises at ambient air temperature from +10 up to +45° C;

in version ТС of grade 4.2, i. e. for operation in dry tropical climate in laboratory premises at ambient air temperature from +10 up to +45° C.

2. SPECIFICATIONS

Incandescent lamp СЦ61 (8 V, 20 W) is applied as a source of light.

The lamp is powered from 127/220/8 V, 50 cps a. c. line via a step-down transformer.

Overall dimensions, mm, not above:

illuminator	330×110×100
transformer	140×110×70

Mass, kg, not above:

illuminator	1.02
transformer	1.70

3. COMPLETE SET

1. Illuminator ОИ-35 ЮО-41.56.172	1
2. Transformer 127/220/8 V, 50 cps, P=20 VA ЮО-43.14.627	1

4. DESIGN AND OPERATION

The optical system of the illuminator includes the following items: incandescent lamp *1* (Fig. 1), two-lens condenser *2*, iris diaphragm *3*, mirror *4* and protective glass *5*.

Appearance of the illuminator is given in Fig. 2. The illuminator consists of body *6*, casing *7*, holder *8* and lampholder *9* with lamp. The lampholder with lamp can travel in the body and it is fixed with screws *10*. To shift the collector axially, use knob *11*. Iris

field diaphragm is mounted in the illuminator body, it is opened with knob *12*. Screws *13* serve to bring the field diaphragm image into the microscope view field centre.

The illuminator is set into the fitting recess in the microscope base and connected to the

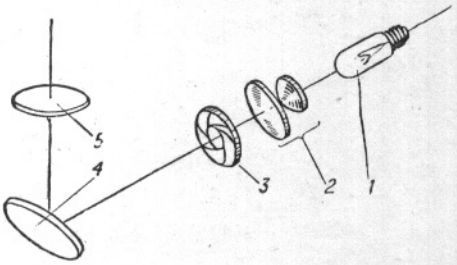

Fig. 1

mains via step-down transformer (Fig. 3) which is released set to 220 V. To switch it over to 127 V, move the lever through the window in the transformer bottom from contact «220» cnto contact «127».

The lamp shows up when tumbler switch *14* is engaged. Lamp filament is adjusted with knob *15*. Terminal *16* serves to ground the transformer.

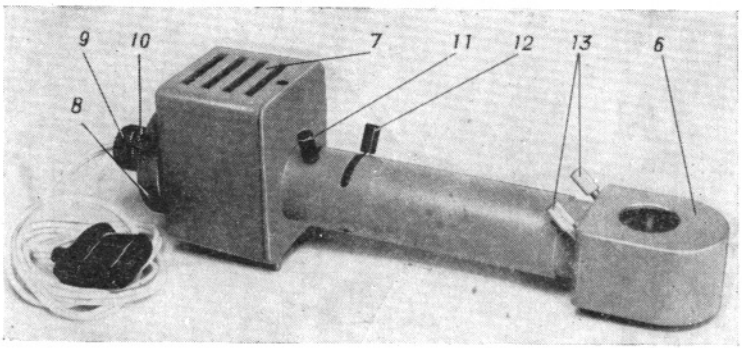

Fig. 2

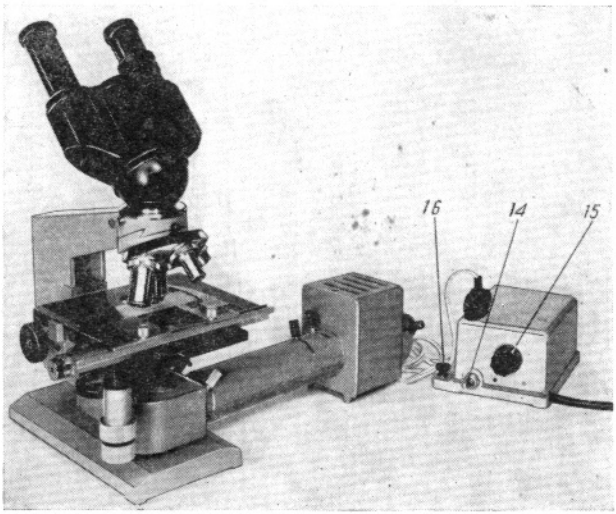

Fig. 3

5. OPERATION PROCEDURE

Image quality on the microscope greatly depends on illumination, that's why illumination adjustment is an important preliminary procedure.

To this end proceed as follows:

check up, through transformer bottom window, whether the lever is set to conform with the mains voltage, otherwise the transformer can be damaged;

ground the transformer;

set the connector with the lamp wire into transformer socket;

bring the microscope condenser to the uppermost position and place the illuminator to the left of the microscope into the fitting recess on the microscope base;

switch on the illuminator lamp by means of tumbler *14*;

turning handle *12* (Fig. 2) to the right (light source aspect) open the illuminator iris diaphragm (which is the microscope field diaphragm);

set collector knob *11* to the mid-position;

shifting the lampholder with the lamp axially and using screws *10*, obtain a sharp and centered (relative to body hole) image of lamp filament on the frosted glass placed on the illuminator body *6*;

remove the frosted glass;

open the condenser aperture diaphragm and focuse the microscope onto the object;

close the field and aperture diaphragm and by means of screws *13* bring the field diaphragm image to the view field centre;

obtain the sharp image of the field diaphragm by shifting the condenser vertically;

obtain uniform illumination of the object shifting the collector axially.

6. MARKING

The marking is performed as per drawings. Illuminator body bears a firm plague comprising the following inscriptions: trade mark of the Manufacturer; symbol, item number, which two first digits coincide with the last two digits of the year of output, and illuminator designation, i. e. production version.

7. OPERATION INSTRUCTIONS

The illuminator can operate with biological microscopes of type «Биолам 70».

When inoperative, the illuminator lamp and transformer should be disconnected. Illumination adjustment is to be done as per part 4 of the present description.

On accepting the illuminator, before the mounting, examine it and check up the complectation.

8. CARE

The illuminator should be kept clean and prevented from mechanical damages.

Don't touch illuminator optics.

Dust from the outer surfaces of the optical parts must be removed first with an artist's brush thoroughly washed in ether and then wiped with a soft cambric or linen rag slightly moistened with rectified alcohol.

9. STORAGE

On finishing the operation, illuminator should be deenergized and covered with the hood, together with the microscope.

10. SHIPMENT

If necessary to move the illuminator to some other room, it should be put into its stowage box so that it is fixed reliably, with its accessories.

All kinds of closed transport are permitted.

11. LIST OF SPARES

Name	Assembly or part No.
Collector displacement screw	Ю-47.86.806
Iris diaphragm centering screw	Ю-75.13.722
Screw to centre the lamp holder with lamp	Ю-46.18.301
Lamp СЦ61 (8 V, 20 W)	—
Pin holder with lamp and socket	Ю-28.83.053 Сп

Тип. ЛОМО ,зак. № 5979, изд. на англ. яз.
Печатник Фомина В. А.