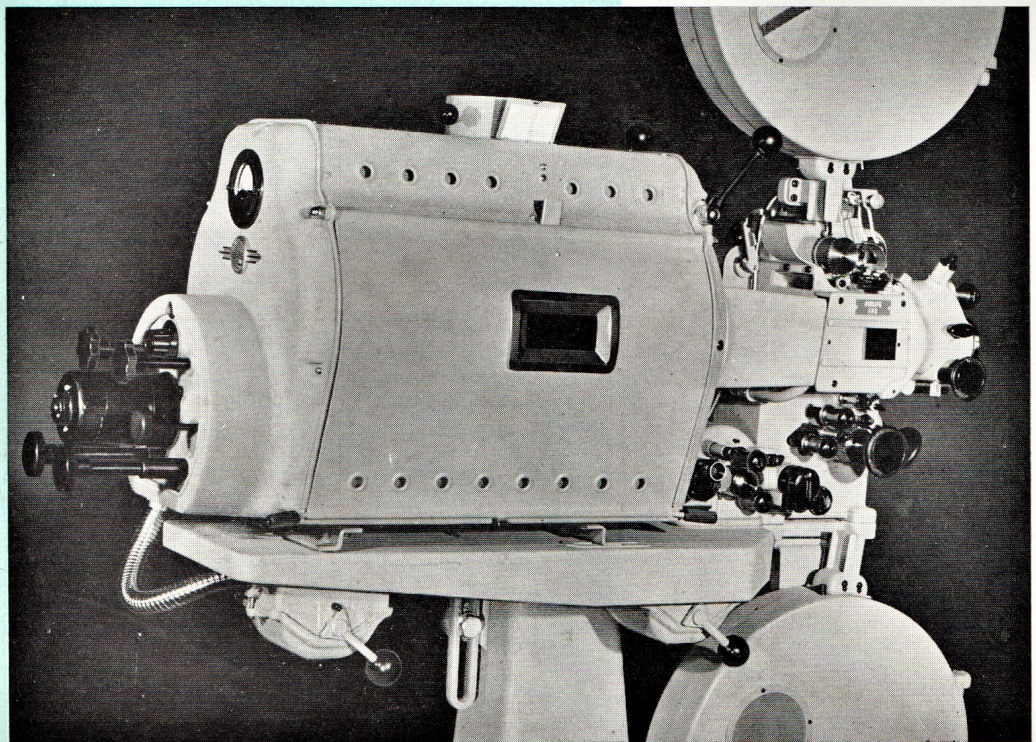


# PHILIPS

## *Cinema*

A-II-13-E

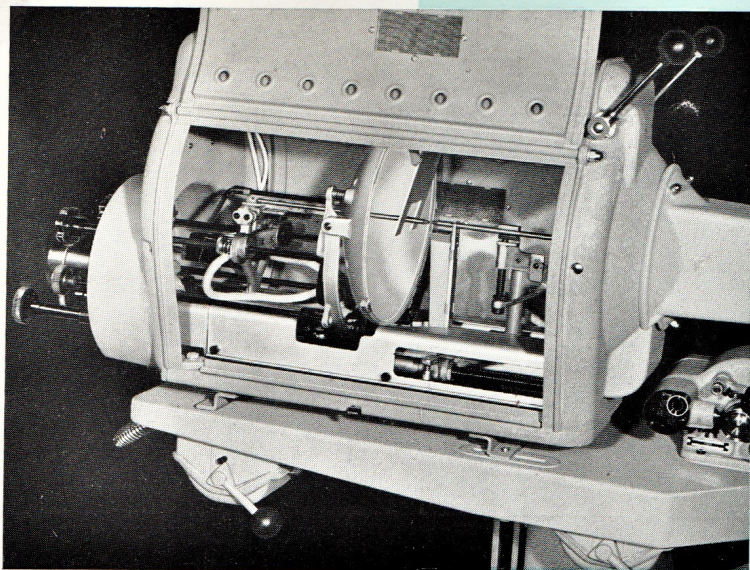
40-50 A  
HIGH-INTENSITY  
ARC LAMP  
TYPE EL 4450



This 40-50 A high-intensity arc lamp is specially intended for use in medium-sized cinemas. As will be seen from the following description, its outstanding qualities are:

- High luminous efficiency.
- Uniform light distribution.
- Constant output.
- Great reliability.
- Easy operation and supervision.
- Minimum upkeep.
- Sturdy construction.
- Also available with a device for slide projection.





*Type EL 4450 lamp-house with door open.*

## CONSTANT LIGHT OUTPUT

## GREAT RELIABILITY

## EASY OPERATION AND SUPERVISION

## HIGH LUMINOUS EFFICIENCY UNIFORM LIGHT DISTRIBUTION

The favourable optical properties and the various possibilities of adjustment ensure an extraordinary high efficiency and uniform light distribution. At an amperage of 45 A the luminous flux is about 3500 lumens.

The high-quality mirror used in this lamphouse has a diameter of  $10\frac{1}{4}$ " (260 mm). The secondary focus is rather short and hence the relative aperture of the mirror equals that of many mirrors with a larger diameter as used in other arc lamps.

The mirror holder can be aligned by means of two knobs.

The support of the positive carbon is provided with an accurately aligned V-guide which ensures this carbon being always in the optical axis of the mirror.

The negative carbon can be aligned both horizontally and vertically with respect to the positive carbon.

A stabilizing magnet energized by the arc current ensures a perfectly burning arc.

The chimney is provided with an adjustable vent for regulating the air current for ideal burning conditions.

The driving motor for the feed mechanism of the carbons corrects immediately and automatically the slightest deviations in the length of the arc. Consequently the arc current, and hence also the output, remains practically constant.

The speed of this motor is adjustable between ample limits. Moreover, the speed of the negative carbon can be controlled independently of that of the positive carbon, so as to match  $+7/-6$  mm (40-50 A) carbon trims of any make.

The feed motor with wormwheel transmission is accurately adjusted in the factory and runs in self-lubricated bearings.

The mirror is uniformly clamped in its holder and a practical protecting dowser prevents it from being damaged during ignition.

The automatic carbon-feed device is equipped with only two gear-wheel transmissions, no chains being used for this purpose. Consequently its operation is perfectly noiseless and very reliable.

Operation and supervision are very easy, the controls for the mirror and carbon adjustments, the potentiometer for the speed control, the driving motor and the ammeter (measuring range 0-100 A) being located at the back of the lamphouse.

The knobs for the adjustment of the mirror and those for the adjustment and the feed of the carbons are of different shape, thus precluding errors in operation.

Ignition of the arc is very simple: the knob on the feed shaft of the negative carbon is turned to the right until this carbon touches the positive one, and then turned to the left, thereby striking the arc. The feed motor starts as soon as the current for the arc lamp is switched on.

The burning of the arc can be checked through the large, coloured and heat-resistant viewing glasses provided in the doors on both sides of the lamphouse.

A crater reflector projects the arc onto a small white screen at the top of the lamphouse via a small stainless-steel mirror, thus permitting the position of the carbons and the length of the arc to be easily checked.

The light cut-off and the protecting dowser of the mirror are interlocked, making it impossible to open or close one dowser without the other.

Quick release is provided for re-carboning the positive carbon holder.

Cleaning is extremely simple. The doors at both sides of the lamphouse open wide and are secured in this position by the handle of the dowser when it is closed.

The complete feed mechanism is protected by means of easily removable metal covers.

The rear wall of the lamphouse is fixed by means of screws, so that it can easily be removed and fitted again.

The entire inner mechanism, the controls and the driving motor form one assembly which can be removed by taking out two screws, thus making all the parts easily accessible for cleaning and adjustment. Guides preclude any misalignment when replacing the assembly.

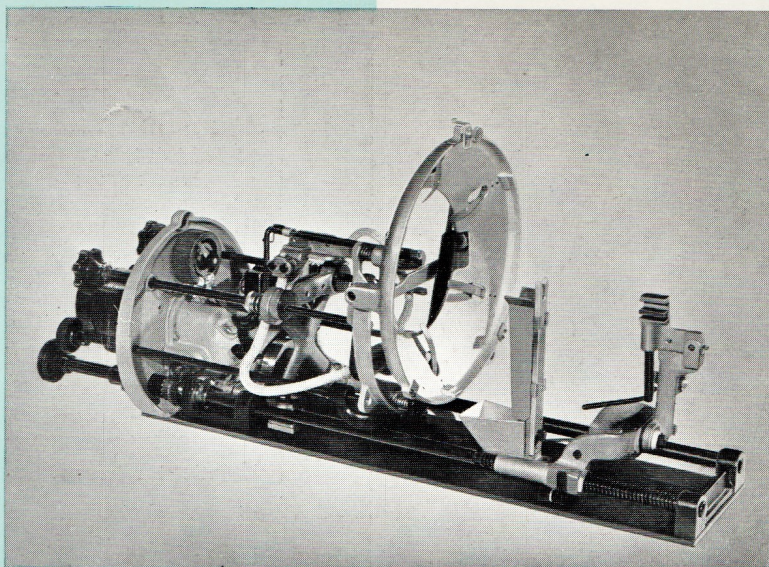
An easily removable receptacle underneath the crater catches the melted copper from the carbons.

The lamphouse base is an accurately machined, aluminium casting. The doors are double walled and made of sheet metal; they are provided with aluminium viewing frames.

The lamphouse can be supplied with a device for slide projection, the lensholder with lens for this purpose being mounted on the projector.

For projecting lantern slides a metal mirror is introduced in the light beam and a second metal mirror casts the light through a condenser lens, thus ensuring a very uniform light distribution.

When the slide is shifted for changing over to the next one the light is cut off, so that a smooth passage from one slide to the other is obtained.



*Inner mechanism of type EL 4450 lamphouse.*

MINIMUM UPKEEP

DEVICE FOR  
SLIDE PROJECTION

### Type numbers and weights

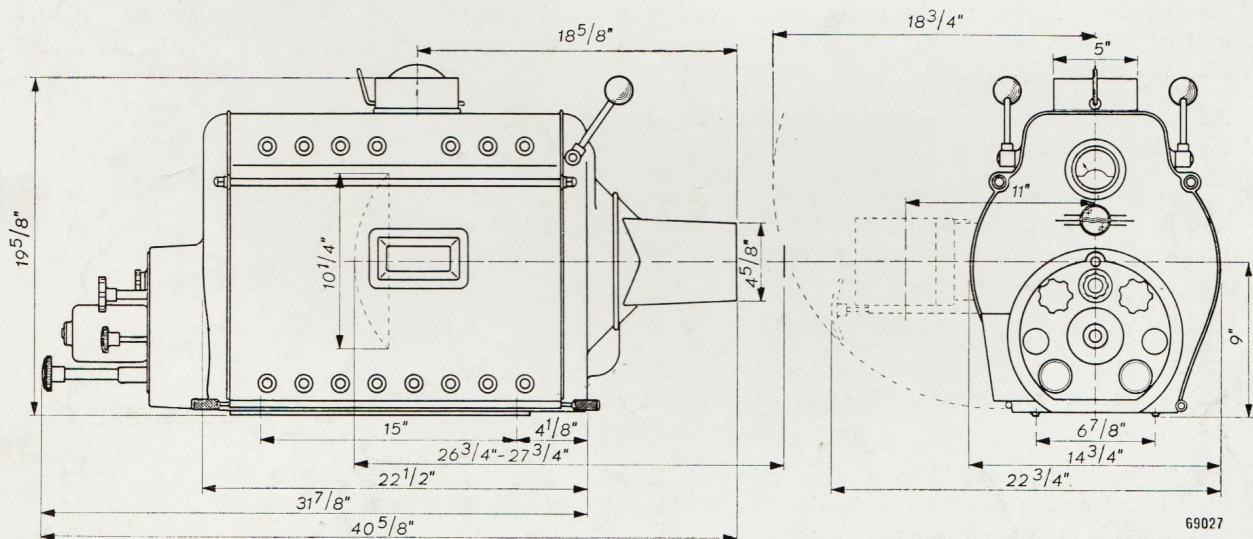
Description	Type number	Net weight	
		lbs	kg
50 A high-intensity arc lamp with elliptical mirror and light cone, without slide attachment, grey damask finish, adapted to the projectors FP 5, FP 6 and FP 7	EL 4450/12	99	45
The same with slide attachment for $3\frac{1}{4}" \times 3\frac{1}{4}"$ (85 $\times$ 85 mm) slides .....	EL 4450/22	116	53
The same with slide attachment for $3\frac{1}{4}" \times 4"$ (85 $\times$ 100 mm) slides	EL 4450/23	116	53
Elliptical mirror .....	EL 4600/00	1.76	0.8

### Carbons:

Description	Pos. carbon	Neg. carbon
Max. length .....	12" (305 mm)	any length
Max. burning length without reclamping .....	$7\frac{1}{4}"$ (185 mm)	$4\frac{1}{4}"$ (110 mm)
Feed velocity per hour adjustable up to .....	14" (360 mm)	$8\frac{1}{2}"$ (215 mm)

### Dimensions of the picture:

Current intensity	Maximum picture dimensions	
	Very good brightness	Good brightness
45 A	$19'8" \times 14'9"$ (6 $\times$ 4.5 m)	$22'2" \times 16'7"$ (6.75 $\times$ 5.05 m)



Dimensional drawing of type EL 4450 lamphouse.