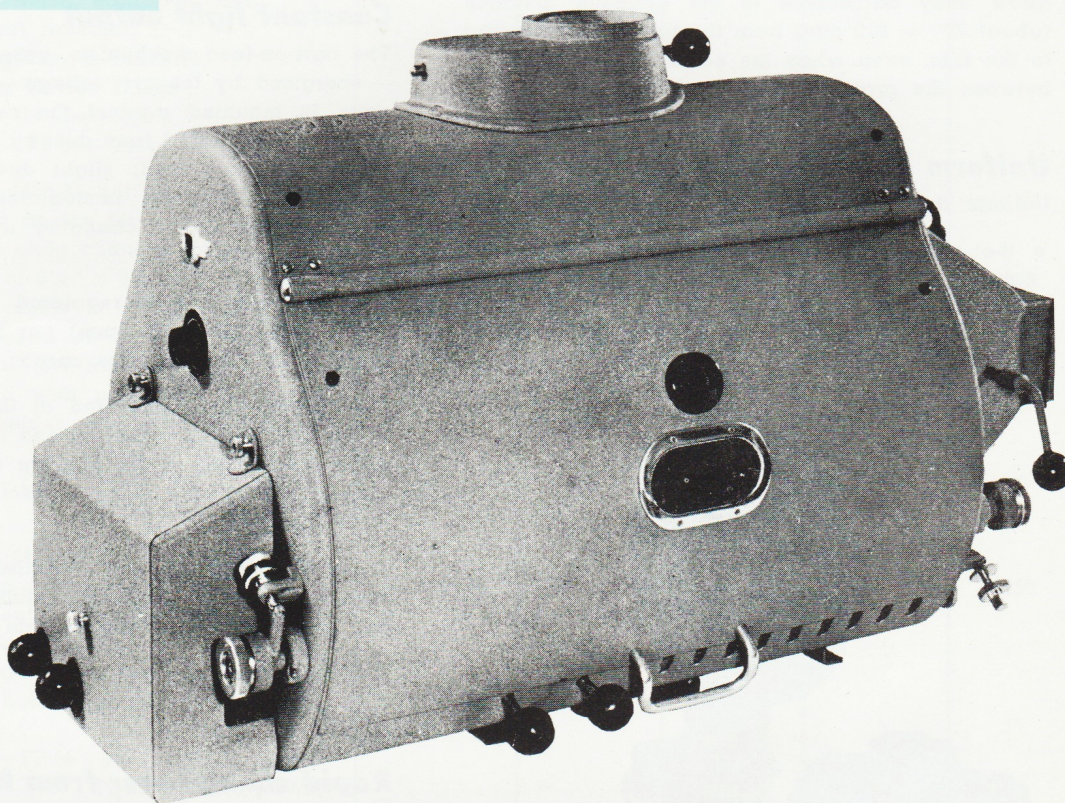


PHILIPS

55-85 A high-intensity arc lamp, type EL 4455



This 55-85 A H.I. arc lamp possesses the following outstanding features:

- Very high luminous efficiency.
- Uniform light distribution.
- Constant light output.
- Neat arrangement and easy accessibility of all the controls.
- Matched to the Philips projectors FP 5, FP 6, FP 56, FP 7 and FP 20; easily adaptable to any other projector.
- Suitable for H.I. carbon trims for amperages from 55 A to 85 A and for L.I. trims from 25 to 30 A.
- Easy operation and maintenance.
- Simple supervision.
- Also available with slide attachment.

Cinema

**55-85 amps. H.I. arc lamp
type EL 4455**

Cat. A-II-14-E



High luminous efficiency

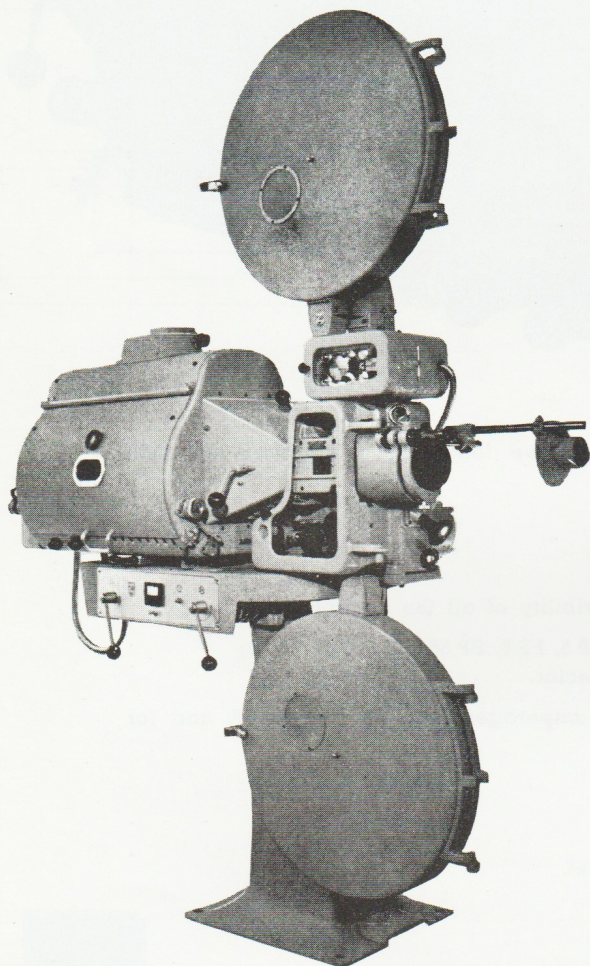
The arc lamp is equipped with a reflector of special curvature, the diameter being 14" (356 mm); with rotating shutter and no film in the gate the luminous flux leaving a lens with an aperture $f/1.6$ amounts to 9000 lumens at a current of 75 A.

The front of the lamphouse is so designed as to allow easy adjustment of the optimum distance (about 32" = 813 mm) from the top of the reflector to the film, even when the soundhead is mounted between the projector and the lamphouse.

Uniform light distribution

Uniform light distribution is ensured since:

- the reflector can be adjusted accurately by means of two knobs on the operating side;
- the negative carbon can be adjusted laterally and vertically;



Type EL 4455 arc lamp used with a Philips FP 7 projector provided with a lens holder for slide projection.

- the support of the positive carbon is provided with an accurately aligned V-guide which ensures that this carbon always remains in the optical axis of the reflector.

Constant light output

The carbon-feed mechanism, consisting of a motor — energized by the arc voltage — and a reduction gear, is mounted against the rear of the lamphouse and protected from dust by a cap. It ensures constant carbon feed; slight deviations from the correct arc gap are immediately corrected, the speed of the motor changing automatically and instantaneously.

The feed rate can be regulated within very wide limits up to 17 $\frac{3}{4}$ " (450 mm) per hour both for the positive and the negative carbon.

Two milled knobs provided at the operating side of the lamphouse, to the left and to the right, allow exact adjustment of the positive and the negative carbon for obtaining the correct arc length and crater position.

An electromagnetic arc stabiliser guarantees a steady arc of correct shape, resulting in a constant and high light output and uniform light distribution.

Rapid change-over from H.I. to L.I.

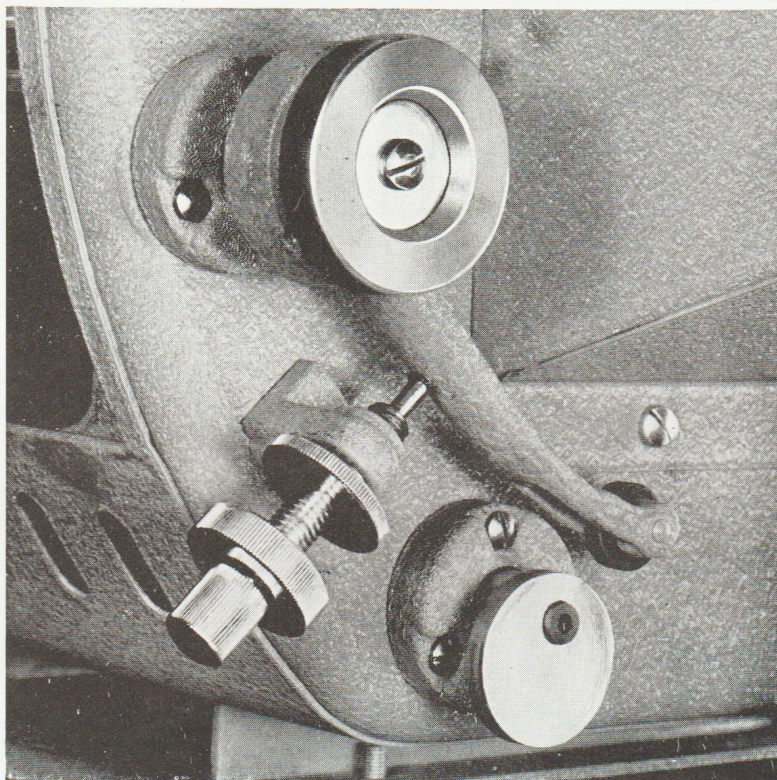
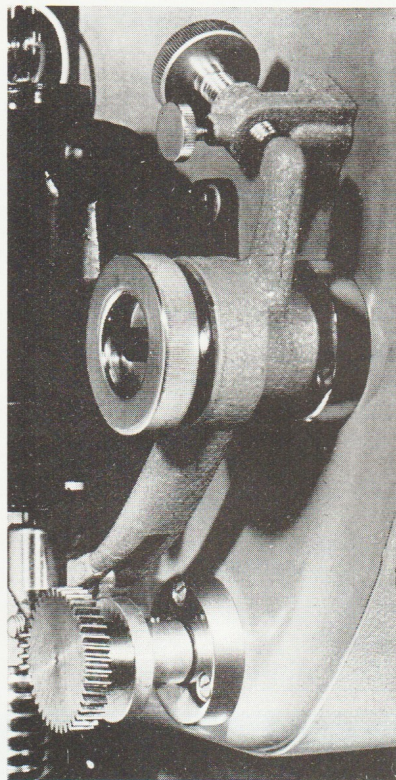
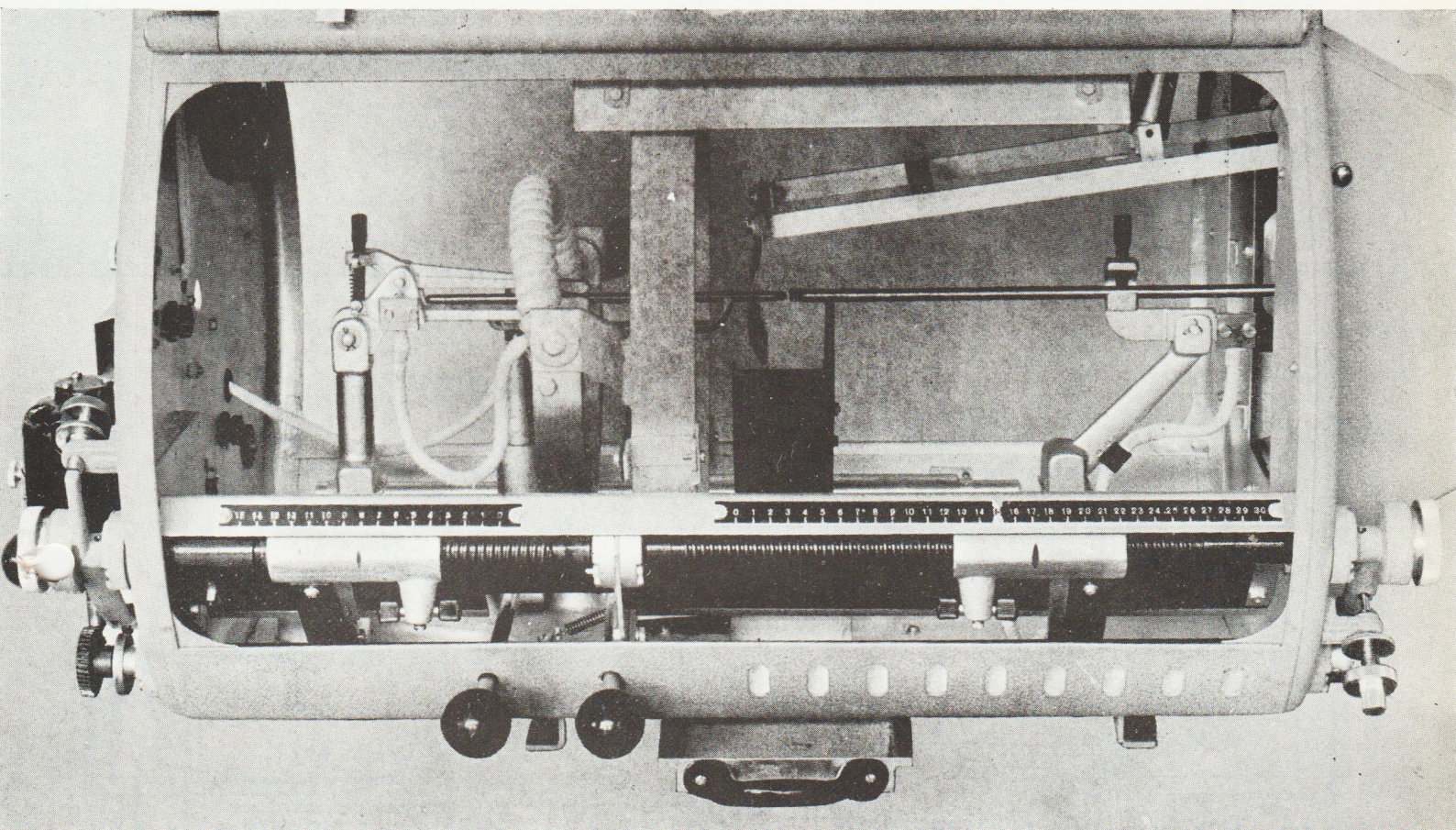
The lamp is suitable for H.I. carbon trims with a diameter of 7/8 or 7/9 mm, and for L.I. trims of 8/12 mm.

Change-over from H.I. to L.I. and vice versa does not involve replacement of parts; in fact, it requires only two very simple operations:

- setting the screw at the front of the lamphouse for H.I. or L.I.;
- turning the potentiometer of the feed motor to the value determined for H.I. or L.I.

For H.I. the speed of the *positive* carbon feed is adjusted with the feed-motor potentiometer, and that of the *negative* carbon by adjusting the stroke of its feed lever by means of the stop-screw (see left-hand figure).

For L.I. the speed of the *negative* carbon feed is adjusted with the feed-motor potentiometer, and that of the *positive* carbon by reducing the stroke of its feed lever by means of the stop-screw (see right-hand figure).



Easy operation

A dowser placed between the arc gap and the reflector protects the latter when the arc is struck. The dowser is coupled with the light cut-off and hence it is automatically turned away when the latter is opened.

The arc is struck by moving the negative carbon forward and returning it to the correct burning position by means of its adjusting knob. As soon as the current passes through the arc the carbon-feed motor is switched on automatically by means of a relay; this dispenses with the use of a motor switch.

The quick-release carbon holders ensure rapid recarboning.

The knobs for adjusting the reflector are situated at the operating side of the projector, so that during the adjustment the projectionist can check the light distribution on the screen. The knobs for adjusting the negative carbon are situated at the back, so that errors are precluded.

The interior is illuminated by a lamp.

Simple supervision

Consumption scales are provided both for the positive and for the negative carbon, so that the available carbon length can easily be read.

The door at the operating side is fitted with an arc imager and each of the doors is provided with a coloured heat-resistant viewing glass.

A volt/ammeter for checking both the arc voltage and the arc current is contained in the mounting table of all the FP 56 and FP 7 projectors; in the mounting table of the FP 20 projectors there is an ammeter.

Easy maintenance

The interior can be cleaned quite easily; it is accessible from both sides through large doors which open wide and are automatically kept open.

Under the bottom of the lamphouse a large ash-tray, constructed as a sliding drawer, catches all the drippings from the carbons via an ash trap and a large hole in the bottom of the lamphouse. The dirt in the lamphouse can simply be swept through the hole into the ash-tray.

The lamphouse is excellently ventilated and the fumes developed are carried off through a flue equipped with an adjustable vent.

Slide attachment

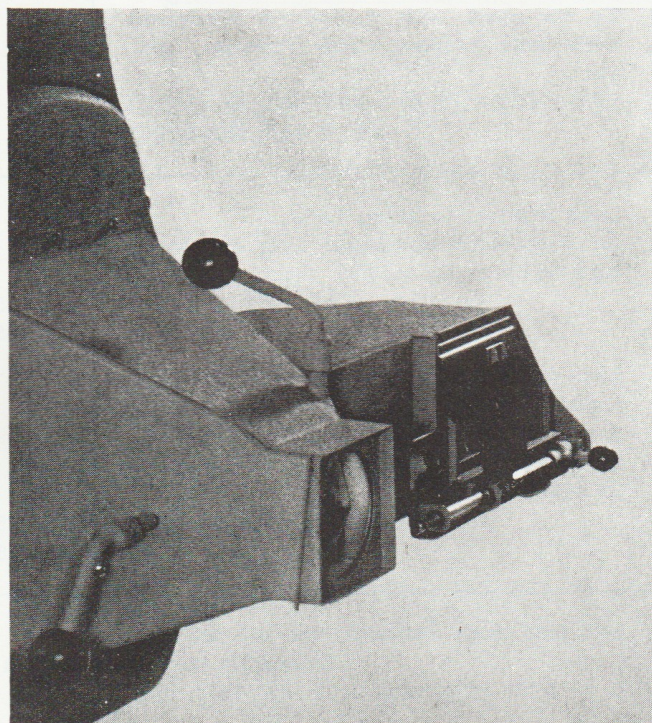
The lamphouse can be supplied with a slide attachment; the lens holder with slide-projection lens is mounted on the projector.

For slide projection a metal mirror is turned into the light beam which is then cast on to the lantern slide via a negative lens, a second mirror and a condenser lens, thus ensuring uniform illumination.

The slide attachment is suitable for slides of $3\frac{1}{4}'' \times 3\frac{1}{4}''$ (83 x 83 mm) or $3\frac{1}{4}'' \times 4''$ (83 x 100 mm).

Carbons

Description	Pos. carbon	Neg. carbon
Diameter:		
H.I. carbons	8-9 mm	7 mm
L.I. carbons	12 mm	8 mm
Max. length:		
for film projection	21'' (530 mm)	17 $\frac{3}{8}$ '' (440 mm)
for slide projection	12'' (300 mm)	17 $\frac{3}{8}$ '' (440 mm)
Length that can be consumed without reclamping	11 $\frac{1}{2}$ '' (290 mm)	6'' (155 mm)

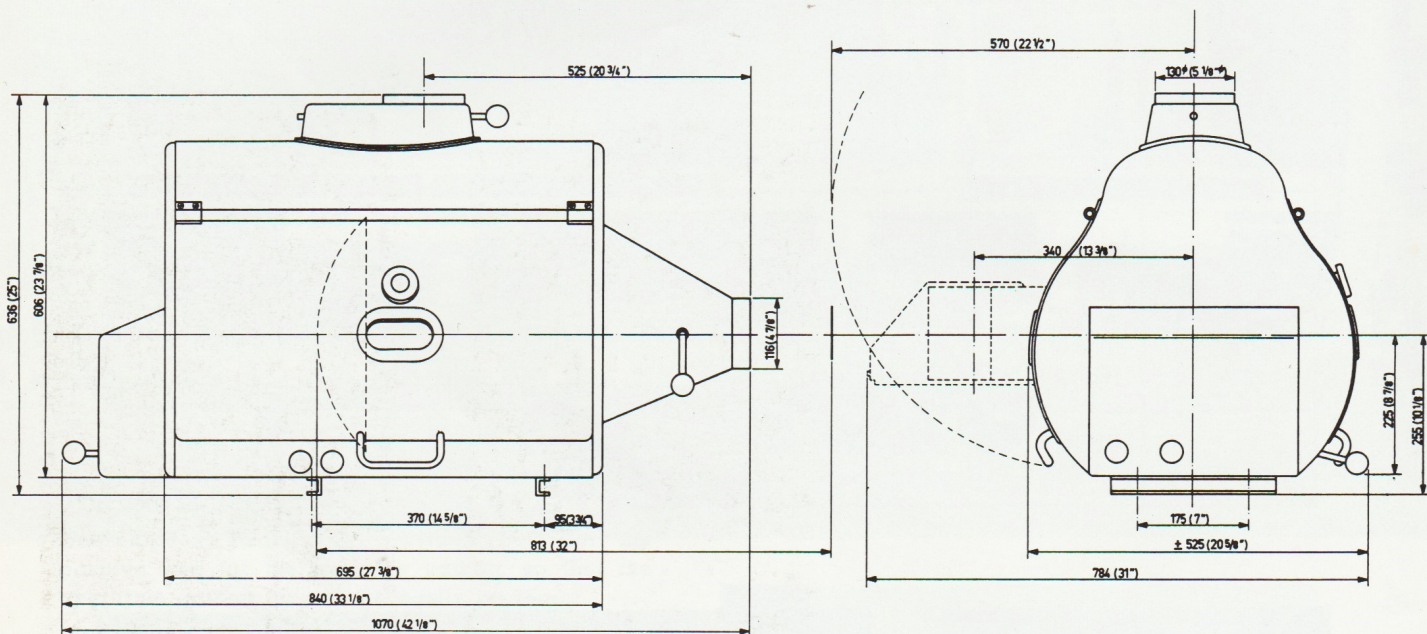


Lamphouse with slide changer, type EL 4455/85 or EL 4455/86.

Type numbers and weights

Description	Type numbers	Weights				Weights in kg	
		net		gross		net	gross
H.I. arc lamp, 55 - 85 A hammeroid finish, equipped with: 14" (356 mm) reflector, protecting glass for reflector, change-over device H.I./L.I.; adapted to the projectors: FP 5 - FP 6 - FP 56 - FP 7 - FP 20	EL 4455/81	134	8	271	3	61	123
As type EL 4455/81 but equipped more-over with a device for slide projection and with a slide changer for: slides of 3 1/4" x 3 1/4" (83 x 83 mm)	EL 4455/85	148	—	330	11	67	150
slides of 3 1/4" x 4" (83 x 100 mm)	EL 4455/86	148	—	330	11	67	150
Distance centre of slide to centre of film = 13 3/8" (340 mm). To be used with projectors equipped with lens holder, etc. for slide projection, viz.: FP 5 - FP 6 - FP 56 - FP 7 with EL 4550/00 FP 20 with EL 4550/01							
As type EL 4455/81 but equipped more-over with a device for slide projection Distance centre of slide to centre of film = 15 3/8" (390 mm). To be used with projectors equipped with lens holder, slide changer, etc., viz.: FP 5 - FP 6 - FP 56 - FP 7 with EL 4550/02 FP 20 with EL 4550/03	EL 4455/88	148	—	330	11	67	150
Lens holder + fixing rods; for projectors equipped with arc lamp EL 4455/85 or EL 4455/86, viz.: for FP 5 - FP 6 - FP 56 - FP 7 for FP 20	EL 4550/00 EL 4550/01	4 2	6 14	5 4	3 10	2 1.3	2.8 2.1
Lens holder + slide changers + fixing rods for slides of 3 1/4" x 3 1/4" and of 3 1/4" x 4" (83 x 83 mm and 83 x 100 mm); for projectors equipped with arc lamp EL 4455/88, viz.: for FP 5 - FP 6 - FP 56 - FP 7 for FP 20	EL 4550/02 EL 4550/03	16 11	9 —	18 18	12 12	5.7 5	8.5 8.5
14" (356 mm) reflector for all the arc lamps EL 4455/.. f ₁ = 5.15" (131 mm); f ₂ = 32" (813 mm)	8594/60	1	10 1/2	5	—	0.75	2.3
Set of protecting glasses for two reflectors 8594/60	EL 4605/00	1	2 1/2	4	9	0.55	2.1

Dimensioned drawing



Data subject to change without notice

