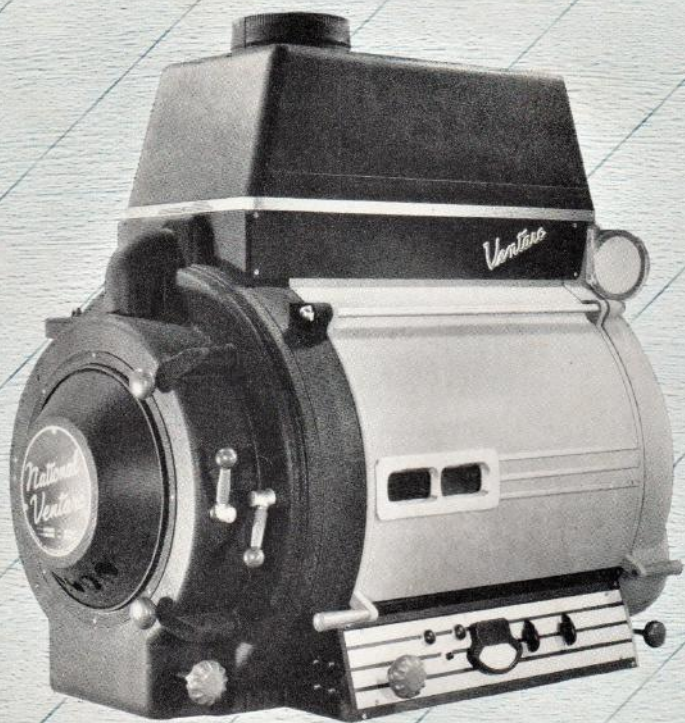


# NATIONAL VENTARC PROJECTION LAMP



D I S T R I B U T E D   B Y

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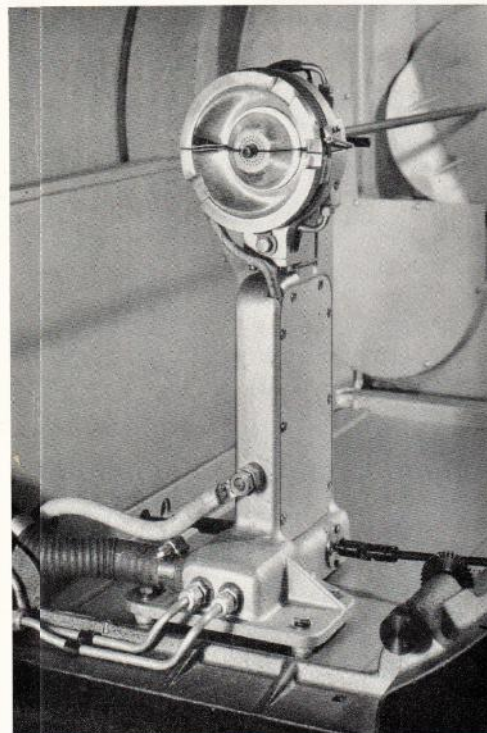
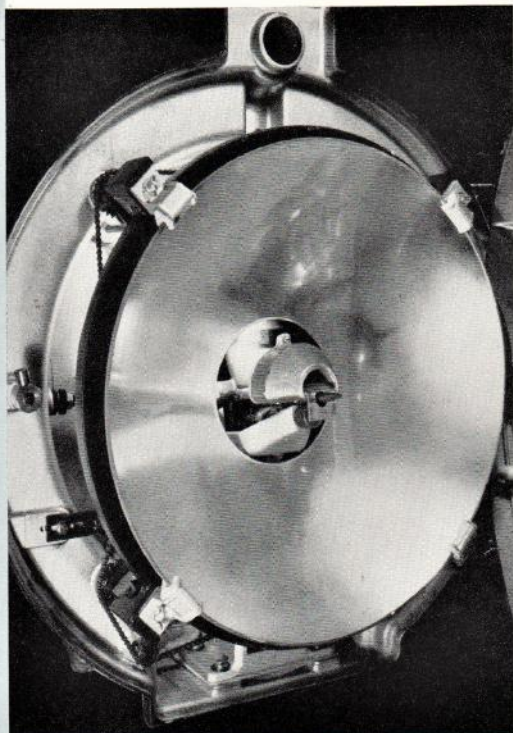


# NATIONAL VENTARC

## PROJECTION LAMP

A new and totally different system of producing light by carbon arc which establishes new high standards of screen illumination is employed in this lamp and affords the answer to the problem of obtaining brilliant pictures on the mammoth screens now being used.

This new arc, which is without doubt the most powerful ever adapted to a projector lamp, can be used equally well in the projection of any width film by any projection technique, and with any size aperture. The 51% greater light output can be realized with 35 mm film and an f1.7 lens, and is not dependent on the use of a faster lens.



## FEATURES:

Heretofore, a single mirror has been employed to pick up the light from arcs because the burning carbon presented a rather flat light source. The newly developed burning technique results in a three-dimensional cylindrically shaped arc which permits the use of a much more efficient optical system.

The form of the arc is changed from the conventional by air pressure from jets arranged in concentric circles around the positive carbon so that the air strikes the burning end. Air pres-

sure is supplied by a blower which is an integral part of the lamp.

In the process of reshaping the arc stream, it is constricted so that it assumes a much higher degree of brightness.

The available light pickup angle, due to the cylindrical shape of the arc, is increased to more than 260°. To utilize this increase, an auxiliary 4-inch spherical mirror is positioned behind the positive carbon because the pickup angle of the conventional reflector is only 155-160°.

The edge light gained is reflected by the auxiliary mirror to the main mirror to be combined with the light from the crater, increasing the lumen total an additional 12-15%.

When projecting small aperture 35 mm pictures (.825 x .600), the lamp delivers 46,000 lumens; for CinemaScope 35 mm (.839 x .715 or .912 x .715) 55,000 lumens; for MGM 65 mm and Todd-AO 70 mm 56,000 lumens and for Fox CinemaScope 55 mm (1.340 x 1.06) 65,000 lumens.

Distribution of light over the entire screen area ranges from 80%, when passed in focus through a 35 mm aperture and f1.7 lens, up to a full 100% distribution.

A 10 mm x 27" non-rotating Ultrex positive, which passes through the center opening in the auxiliary mirror, is burned with a rotating 7/16" x 12" solid graphite negative carbon at 140 to 160 amperes and 70 to 78 volts. 10 mm x 25" Hitex positives may be burned at 125 to 140 amperes or 10 mm regular positives at 110 to 125 amperes.

The lamp employs the largest main reflector ever used in regular production, a 21-inch glass cold type mirror with a 6 1/4" focal length and 42" working distance. It has been made an integral part of the rear door and need not be changed for the projection of film of any width 35 mm to 70 mm.

The position of the burner need never be changed, since all focusing is done by shifting the main reflector. A convenient handle changes aperture spot size to conform to the requirements of any system and film width.

Due to the size of the lamp, 45" long x 29" wide x 43" high, the fact that direct radiation from the arc is practically eliminated by the surrounding reflectors, and the complete change of air by blower every six seconds, the lamphouse is exceptionally cool in operation. Heat at the aperture is no greater than when burning an 8 mm copper coated trim at 70 amperes without a heat filter. Water cooling has been provided for the auxiliary reflector, and the positive and negative carbon heads. Air and water flow interlock switches insure these cooling agents are operating before the lamp can be energized.

A new 220 volt, 3 phase selenium rectifier, designed as companion equipment, can be located at any distance from the lamp and the power output adjusted by means of a control on the lamp instrument panel.

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