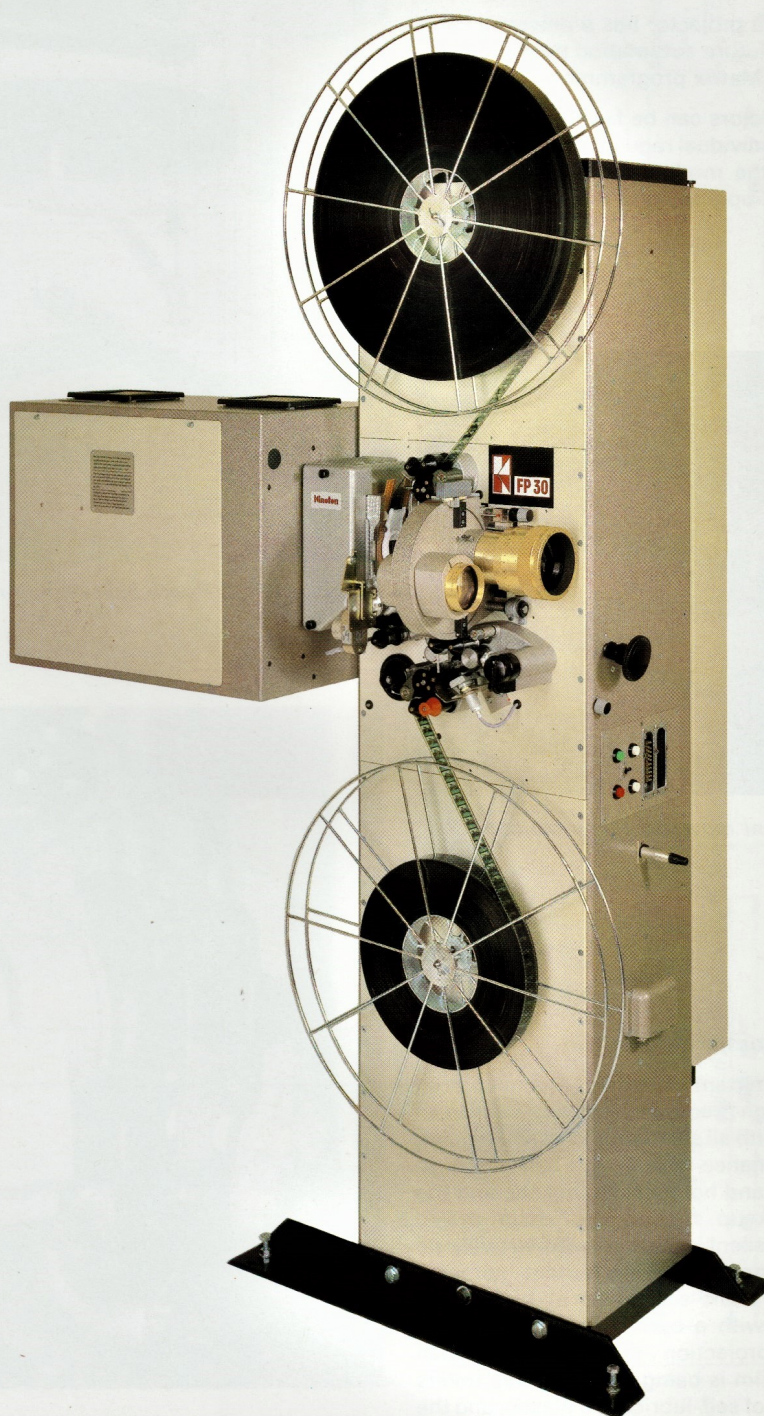




### Projector FP 30

The FP 30 35 mm projector meets the most stringent demands all over the world due to its high quality and is noted for its excellent reproduction of picture and sound.



- Universal application due to the range of automation capabilities
- Possibility of updating equipment at anytime using comprehensive, fully compatible accessories
- Ease of operation
- Proven reliability
- Complete factory pre-wiring and testing
- Utmost simplicity of installation
- Minimal maintenance
- Simple replacement modules
- Advantageous price compared with its efficiency
- Long lifetime
- Requires little space
- Possibility of remote control and automation.



## Construction

The FP 30 series of projectors consists of a column, adjustable base with  $\pm 12$  degrees tilt, a film projector mechanism with optical sound head and either film spool frictions or a set of rollers for a non-rewind system. The projectors are completely wired.

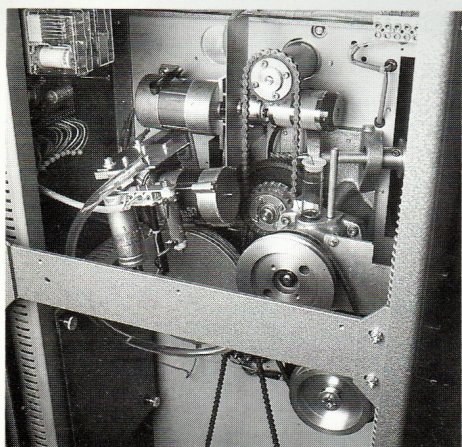
To special order, a control desk for non-rewind system, a Matrix programmer, amplifiers, a monitor loudspeaker, a motorised volume control and a cassette recorder can be incorporated in the hinged rear door. The simple replacement of these units facilitates easy service.

The FP 30 A projector can be used as a universal projector for manual operation, as a single projector or for change-over operation with a second projector.

The FP 30 F is equipped with a simple automation system.

The FP 30 projector has a universal cable loom for future automation possibilities as well as a Matrix programmer.

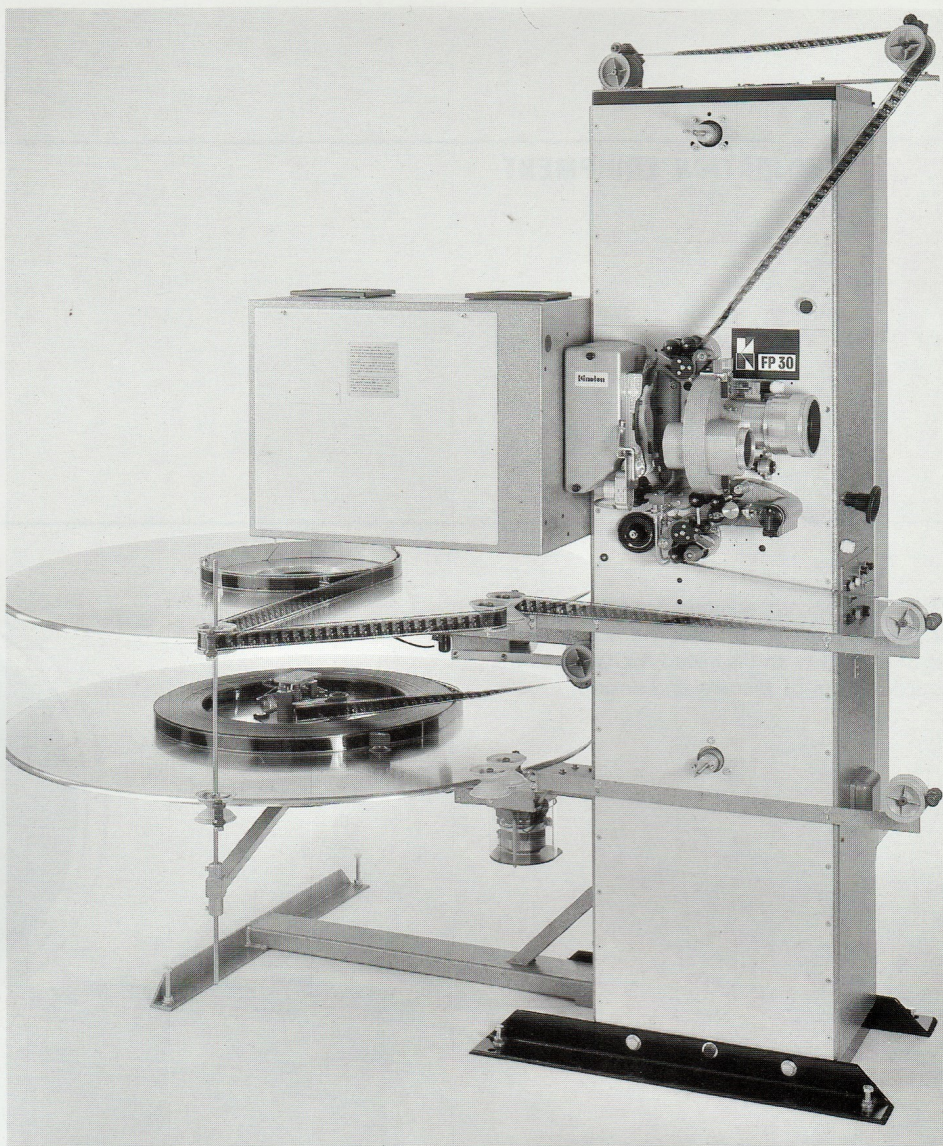
The projectors can be factory equipped to suit the individual requirements of customers, but the modular construction allows easy field upgrading at a later date.



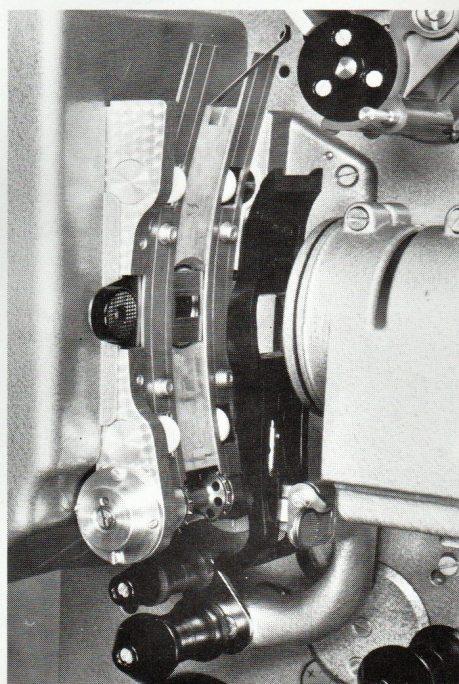
*Intermittent movement with motor*

## Film projector mechanism

The intermittent movement, manufactured to very high precision standards, runs in an oil bath with all spindles and shafts running in maintenance-free, sealed ball-bearings. The feed and holdback sprockets, and the lower takeup friction are chain driven ensuring silent operation with virtually no maintenance. The intermittent sprocket with the shaft supported at both ends, together with a curved film gate, ensure perfect projection quality, even when buckled film is being run. All guide rollers are made of self-lubricating plastic, and the sprockets enclosed by pad shoes.



*Projector FP 30 F with built-on non-rewind system*



*Film gate and film path*

The optical sound head and rotating sound drum has a maximum run up time of only three seconds. The high quality slit lens in the optical system, rapidly replaceable pre-adjusted exciter lamp and wear resistant solar cell, fully support the demands of modern cinema technology.

The projector can be equipped with a 4 channel magnetic sound head or a time code reader.

The single blade shutter optimally placed in the light path ensures a very high light efficiency. The electromagnetically actuated dowser situated in the shutter housing permits shadow free change-over. The projector can be driven either by an asynchronous or a synchronous motor. Additionally Selsyn or interlock motors can be used. On request the projector can be delivered with a built in water cooling system.

A special kit is available for the projection of 3 perforation films instead of the standard 4 perforation films. This kit, once fitted can be changed from 3 perf to 4 perf and back again in minutes offering great flexibility.



### Spool shafts and non-rewind systems

The projector can be equipped with spool shafts and frictions for 600 m, 1800 m, 3200 m and 4000 m European or American type film spools. For additional security, 12.7 mm diameter shafts are used for the 3200 m and 4000 m film spools. These can also be equipped with an optional motor driven rewind system with variable speed and a film break device so that a separate spool tower is not necessary.

To avoid rewinding and for a capacity up to 6000 m film, the use of a non-rewind system (see leaflet non-rewind systems) is recommended.

To special order, the projector can also be equipped with a reverse running system. The projection quality in reverse is almost the same as in forward run.

### Aperture plates and lens holder

The aperture plates are interchangeable even during projection. They are situated directly behind the film gate and consequently permit a sharply defined picture. The interchangeable lens holders can accommodate 70.6 mm diameter and 62.5 mm diameter lenses with intermediate rings. The lens holders can be quickly replaced with another holder containing a different focal length lens by means of a positive locking and positioning device.

The projector can also be equipped with a turret for 2 lenses, with either manual or motor drive. The aperture plates are also changed by motor drive.

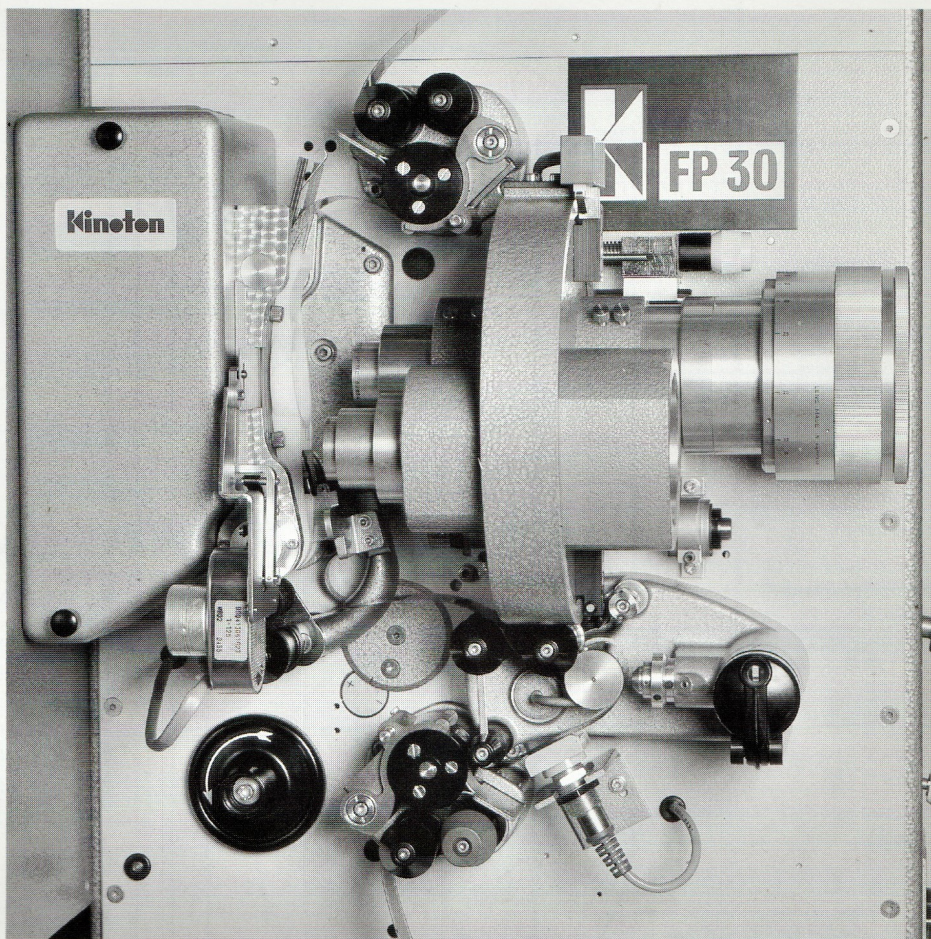
Remote control focusing and framing are other facilities available with this highly versatile equipment.

### Electrical unit

The electrical unit of the projector can be equipped for any desired mains voltage as well as for a frequency of 50 or 60 Hz. It is incorporated in the lower part of the rear projector door and is very accessible. The plug in relays are powered by 24 V A.C. The mains unit can be expanded to include a change-over unit, an exciter lamp power supply and with the automatic "system F" (see next paragraph).

### Programmers

The projectors in the FP 30 F series are equipped with a double sensor and an automatic control "system F". Using the automatic "system F", only one button has to be pressed at the beginning of the performance which starts the following functions: projector start, ignition of the xenon lamp via the rectifier, opening of the dowsers when the projector is up to speed and simultaneous change-over to optical sound. This permits a simple automatic projection operation which can also be remote controlled. A metal foil stuck on the



*Lens turret*

film produces a pulse for the lens turret and aperture motors to change the aspect ratio. A metal foil also restarts "system F" which switches the projector off, raises the auditorium lights and carries out further functions, if required.

In the FP 30 series of projectors, an inbuilt sensor feeds pulses directly to the Matrix programmer. The Matrix programmer is available in two versions – for single projector or twin projector with change-over operation. The Matrix programmer controls not only all functions of the projection equipment, but also the auditorium lighting, stage lighting, curtains and masking, lens turret and aperture plate format change and background music before and after the performance and during the intermission. An electronic pulse unit can generate a second pulse after 5 or 10 seconds so that a time delay can be achieved automatically for change-over or other functions. In the event of a film break, a safety device operates and the projector and light source are shut down, the curtains closed, the auditorium lights raised and intermission music brought up to replace the optical sound.

All functions can be operated manually in the projection room or by means of a remote control panel in the auditorium, with full override of the automation system.

### Cassette recorder

A standard cassette recorder, either mono or stereo, for opening or intermission music can be incorporated in the projector door. A pulse generator supplies the starting pulse for the projector and can also control a slide projector.

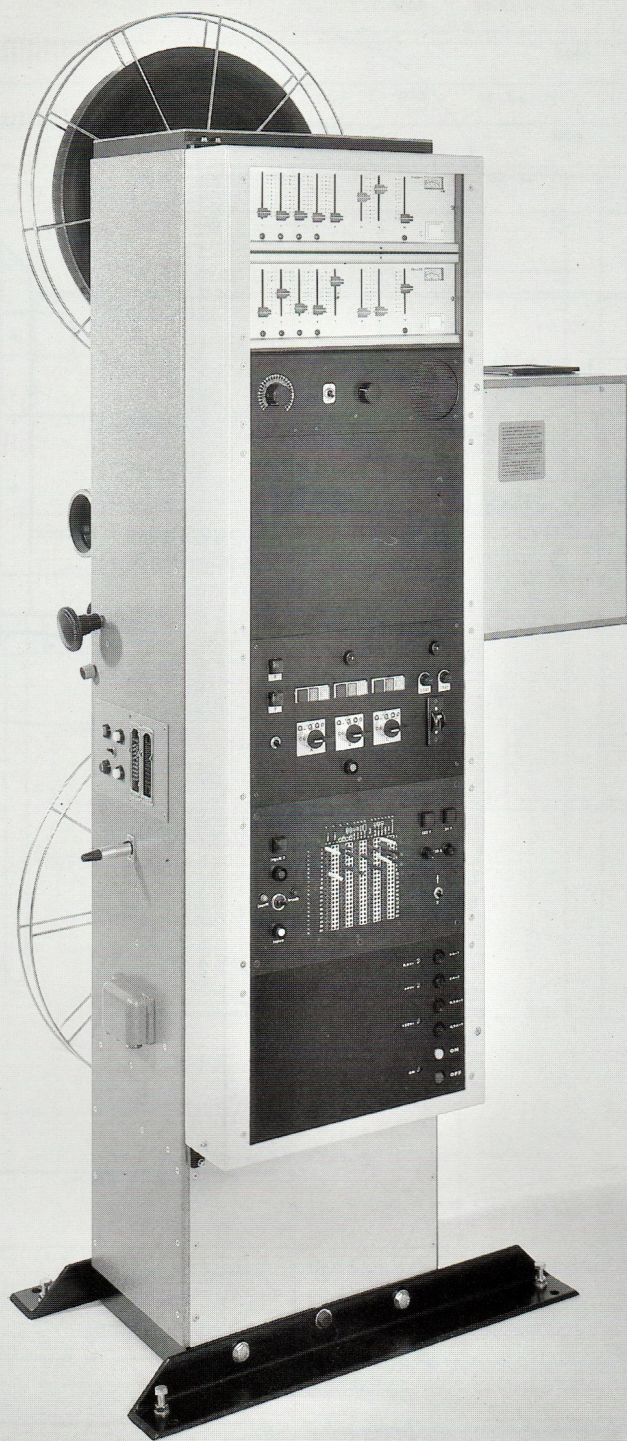
### Sound control unit

A conveniently placed monitor loudspeaker with volume control can be incorporated in the projector door. Full remote control from the auditorium is available by push-button or toggle switch. The control unit also incorporates an electronic fader for slow automatic fading between intermission music and film sound. Remote switching from mono to stereo and switching from one amplifier to another is also provided for.

### Amplifier

One or two plug in amplifiers are fixed by screws to mounting plates allowing rapid interchange. The amplifiers have two inputs for solar cells and three inputs for non sync. The frequency response is flat from 40 Hz–16 000 Hz and can be varied by treble and bass controls. The amplifiers have either a line output of 1.5 V or a power output of 50 W or 100 W.





*Rear side of the FP 30 projector*

### Light sources

The cables for the lamphouse are already integrated in the cable loom in the projector and can be quickly connected. The projectors can either be equipped with a halogen light source or a xenon lamphouse. The halogen equipment containing 2 lamps 36 V 400 W can be installed in the shutter housing. Should a lamp fail, the second lamp automatically cuts in. The xenon lamphouses for horizontal xenon lamps 500 W, 700–1600 W, 2000 W and 2500 W are directly mounted onto the projector. Where a higher light intensity is required, xenon lamphouses of 2000 W/4000 W, 6000 W and 7000 W, are available and are mounted on an additional lamphouse bracket fitted to the projector. (see separate leaflet "light sources").

### FP 30 RR system

This system calls for two projectors. While one projector is running and projecting in the forward mode, the film on the second projector is being rewound to the start position. Control of the complete system is carried out automatically. The projectors are equipped with reverse running systems and an additional motor for an accelerated reverse running speed of up to 30 frames/sec. A special Matrix RR programmer is fitted in place of the standard model in one of the projectors and is fed with pulses from double sensors.

Where a faster rewind speed is required, the projector can be equipped with the special 'Kinoton cross'. In this unit the sprocket is driven continuously during reverse running and speeds of up to 120 frames/sec can be achieved without damage to the film. In the forward mode the sprocket is automatically coupled to the intermittent.

### Studio equipments

Special projectors designated FP 30 MC and FP 30 Variosync are available for specialised studio operation such as preview, mixing, synchronisation, examination of prints and television scanning. These projector types have been especially designed for studio applications and incorporate modern electronic and computer control systems. (see special leaflets for the studio programme).



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**Weights:**

Electrical Unit	Weight
Transformer	kg 125,0
Condenser	kg 6,5
Condenser	kg 7,5
Condenser	kg 4,0
Condenser	kg 3,0
Condenser	kg 11,0
Condenser	kg 52,0
System	kg 91,0
use 500 W	kg 10,0
use 700/1600 W	kg 27,0
with Transformer	kg 9,5

Technical drawing of the XENON 700/1600 W lamp assembly. The drawing includes top and side views with dimensions in inches and millimeters.

**Top View Dimensions:**

- Overall width: 2250 mm (88.6")
- Overall height: 2000 mm (78.8")
- Distance from left edge to center of lamp: 1920 mm (75.6")
- Distance from left edge to center of transformer: 1770 mm (69.7")
- Distance from left edge to center of condenser: 1600 mm (71")
- Distance from left edge to center of condenser: 1190 mm (47")
- Distance from left edge to center of condenser: 750 mm (29.6")
- Distance from left edge to center of condenser: 670 mm (26.4")
- Distance from left edge to center of condenser: 325 mm (12.8")
- Distance from left edge to center of condenser: 1620 mm (63.8")
- Distance from left edge to center of condenser: 1380 mm (55")
- Distance from left edge to center of condenser: 1080 mm (42")

**Side View Dimensions:**

- Overall height: 48.8"
- Distance from top edge to center of lamp: 30.4"
- Distance from top edge to center of transformer: 1000 mm (39.4")
- Distance from top edge to center of condenser: 520 mm (20.5")
- Distance from top edge to center of condenser: 630 mm (24.8")
- Distance from top edge to center of condenser: 32.7"
- Distance from top edge to center of condenser: 20.5"

**Lamp Assembly Dimensions:**

- Overall width: 3200 mm (126")
- Overall height: 1800 mm (70.9")
- Distance from left edge to center of lamp: 600 mm (23.6")
- Distance from left edge to center of lamp: 450 mm (17.4")

**Transformer Dimensions:**

- Overall width: 725 mm (28.6")
- Overall height: 48.8"

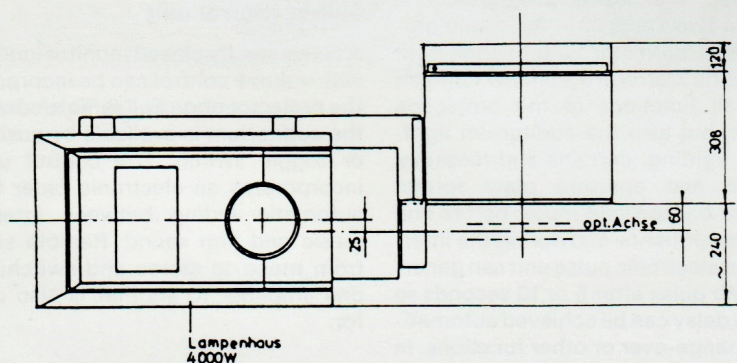
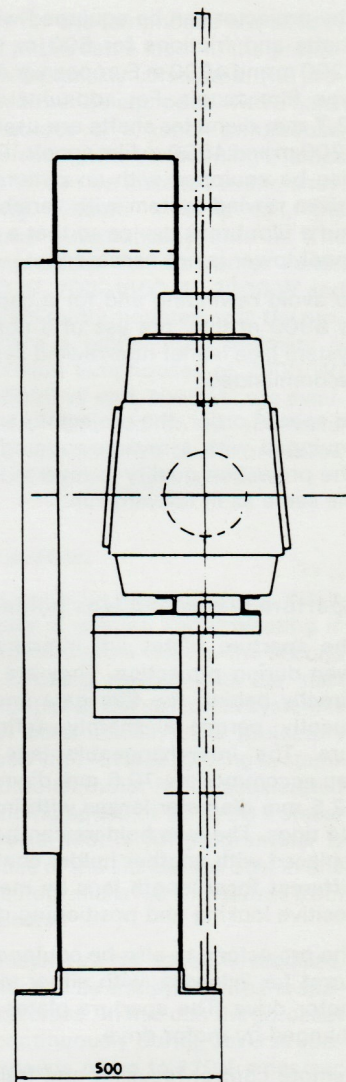
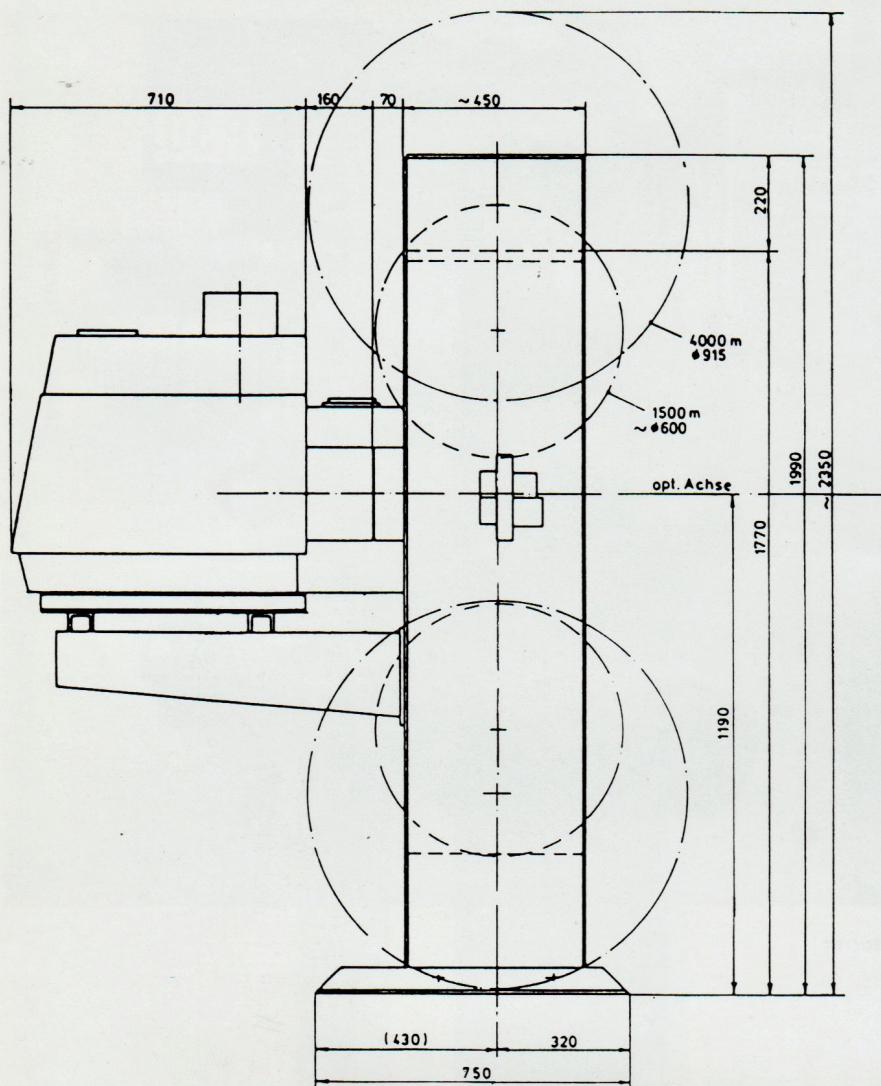
**Condenser Dimensions:**

- Overall width: 725 mm (28.6")
- Overall height: 48.8"

**Other Dimensions:**

- Distance from left edge to center of lamp: 17.4"
- Distance from left edge to center of lamp: 450 mm (17.4")
- Distance from left edge to center of lamp: 1800 mm (70.9")
- Distance from left edge to center of lamp: 600 mm (23.6")
- Distance from left edge to center of lamp: 450 mm (17.4")





PROJECTOR FP 30  
with lamphouse 4000 W

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