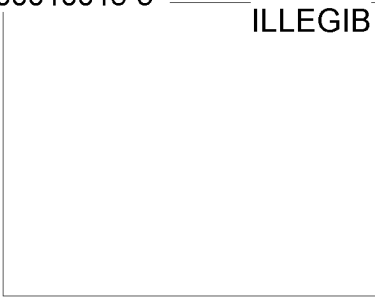
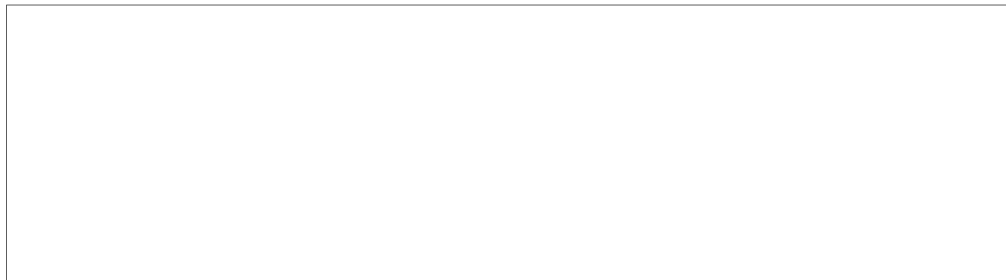


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DUPLICATION FILM SYSTEM

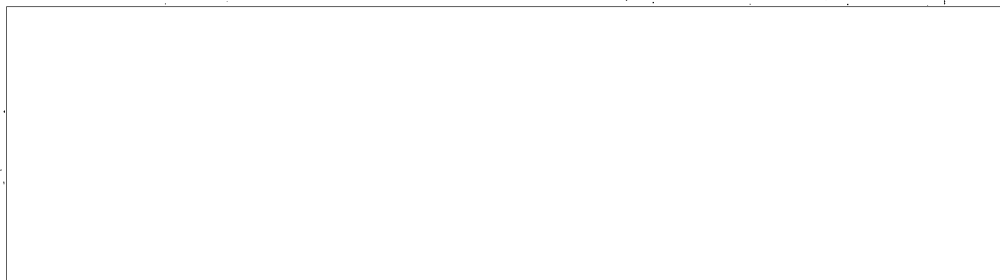


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DUPLICATION FILM SYSTEM



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OBJECTIVE

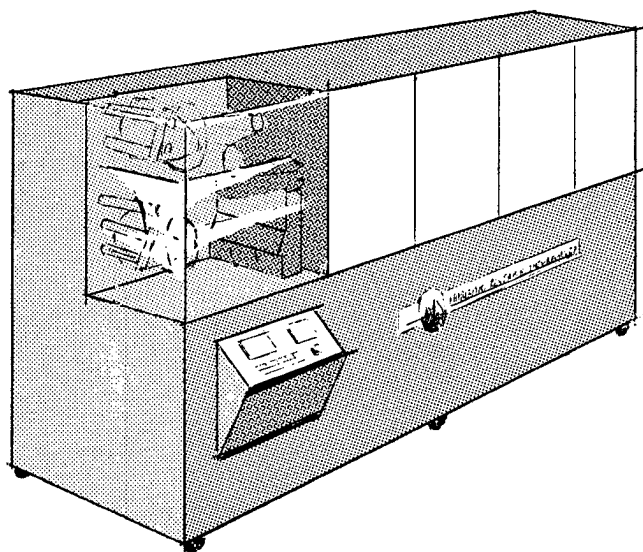
To produce a dry-working non-silver photographic product capable of duplicating original aerial negatives without loss of informational content. The photographic material should ideally multigenerate and should have the following characteristics.

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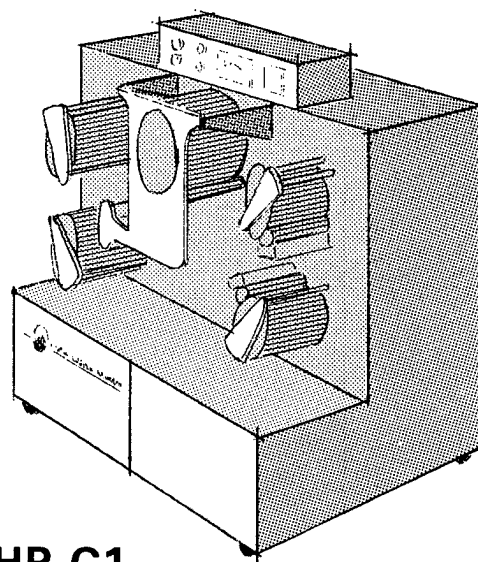


DUPLICATION SYSTEM

- Printer PHP-C1
- Processor PHF-C1
- SO-500



**PHF-C1
PROCESSOR**



**PHP-C1
PRINTER**

SPECIFICATIONS

Model PHF-C1 Processor is a high-speed continuous 9½" film processor for Free Radical Duplicating Films.

SPECIFICATIONS:

Size 7'2"L x 5'6"H x 3'D
 Power Required 220V-100 Amps Single Phase
 Transport Rate 0-40 fpm
 Film Width 70mm to 9½"
 Fixer Temps 130°C-160°C

Model PHP-C1 Printer is a high-^{STAT} continuous roll to roll 9½" printer for ^{STAT} Free Radical Duplicating Films.

SPECIFICATIONS:

Size 4'11"L x 4'6"H x 2'8"D
 Power Required 220V-20 Amps Single Phase
 Transport Rate 0-100 fpm
 Film Width 70mm to 9½"
 Light Source High Energy Doped Mercury

For price and delivery contact Marketing Department

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PROCESSING METHODS

SO-500

EXPOSE



HEAT FIX



FINISHED PRODUCT

STAT

 **BLACK IMAGE
DUPLICATION MATERIAL**

SO-500

- Dry Processed
- Non-Silver
- Medium Gamma
- Negative Working
- Black Image on Clear Background
- High Resolution
- Multigeneration Capabilities

SO-500 DUPLICATION FILM

	Objective	Specification
Image Color	Black	Black
Sensitivity	< 100 mj/cm²	80 mj/cm²
Spectral Response	350 to 450 nm	350 to 500 nm
Resolution— T.O.C. 1.6/1	> 500 cy/mm	920 cy/mm

SO-500 DUPLICATION FILM

	Objective	Specification
D max.	2.0	1.6
D min.	0.10	0.04
Gamma	1.40	1.3
Shelf Life	1 yr at 42°F	1 yr at 42°F
Base Material	Polyester	Polyester

SO-500 DUPLICATION FILM

	Objective	Specification
Printing & Processing Rate	> 10 ft/min	25 ft/min
Capability of Multigeneration	3 generations	3+ generations
Working Mode	Negative	Negative
Useful Log E Scale	> 0.7	1.6

**MULTIGENERATION CHARACTERISTICS
OF
SO-500**

- Exposed on [redacted] PHP-C1 Printer
- Processed on [redacted] PHF-C1 Processor

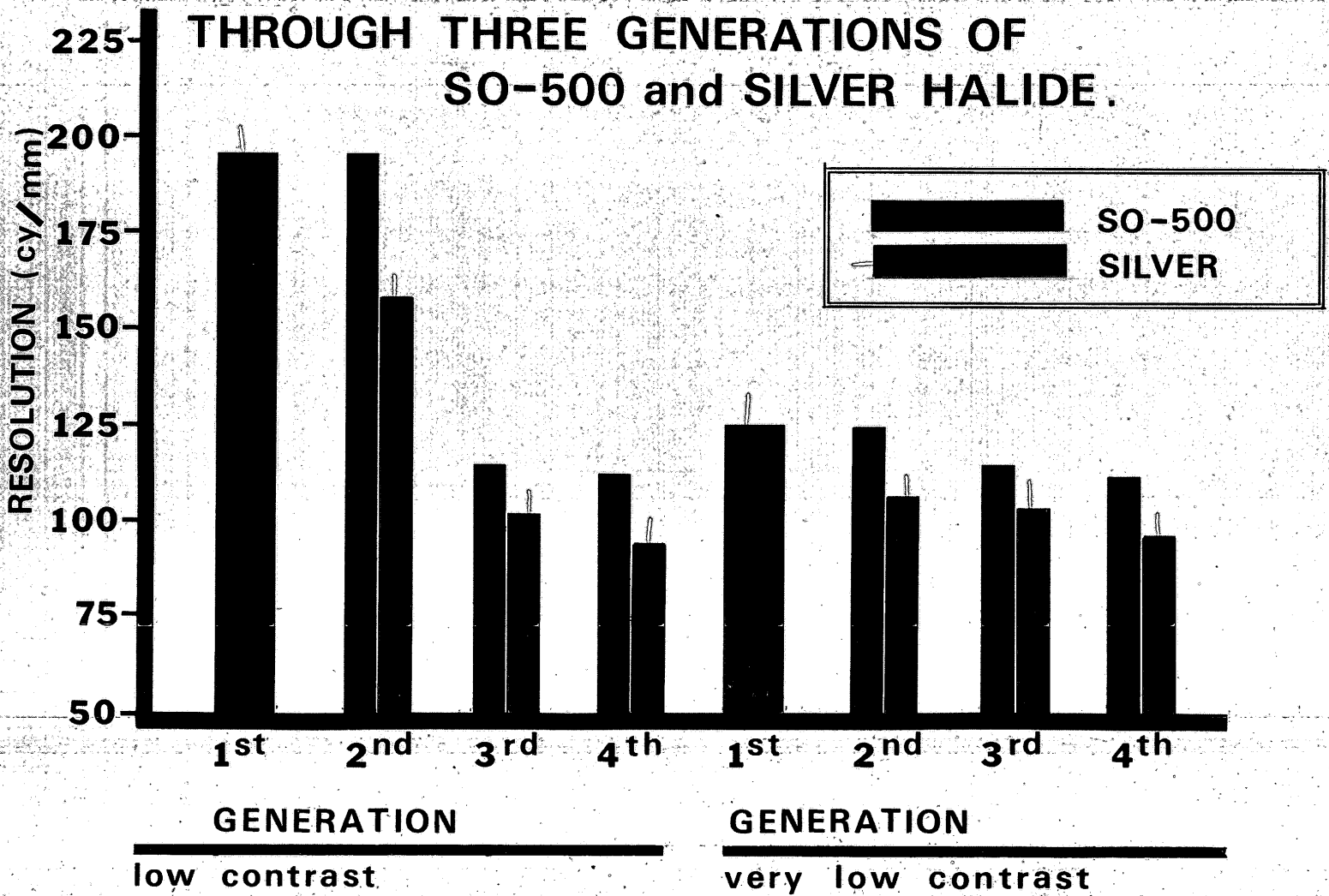
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**THE RESOLUTION TRANSFER
CHARACTERISTICS OF SO-500
—DYNAMIC MODE—**

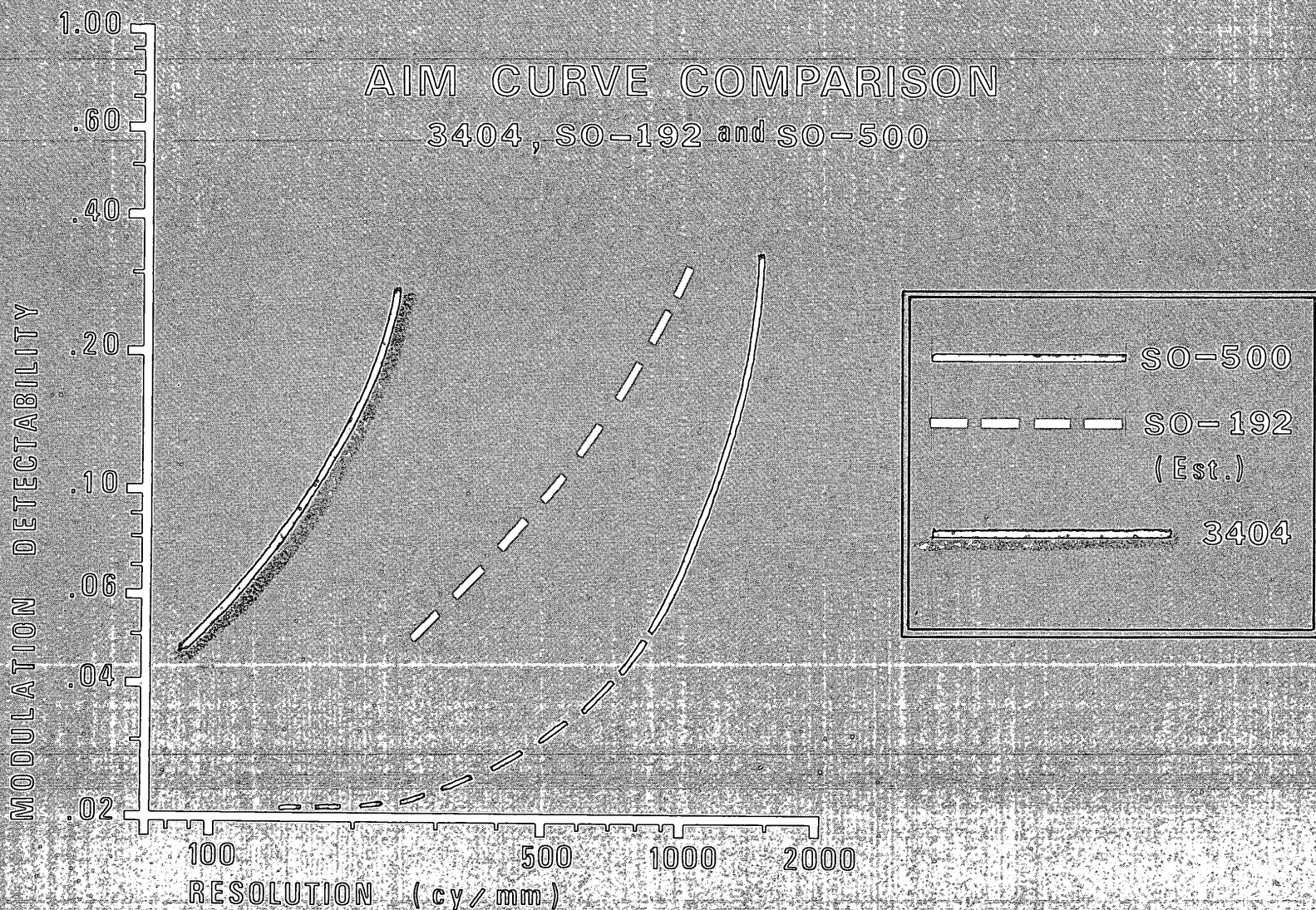
Input - 1st	Generation—SO-500		
	2nd	3rd	4th
Very Low Contrast 128 cy/mm (3414 Original)	128 cy/mm	119 cy/mm	115 cy/mm
Low Contrast 203 cy/mm (3414 Original)	203 cy/mm	192 cy/mm	181 cy/mm

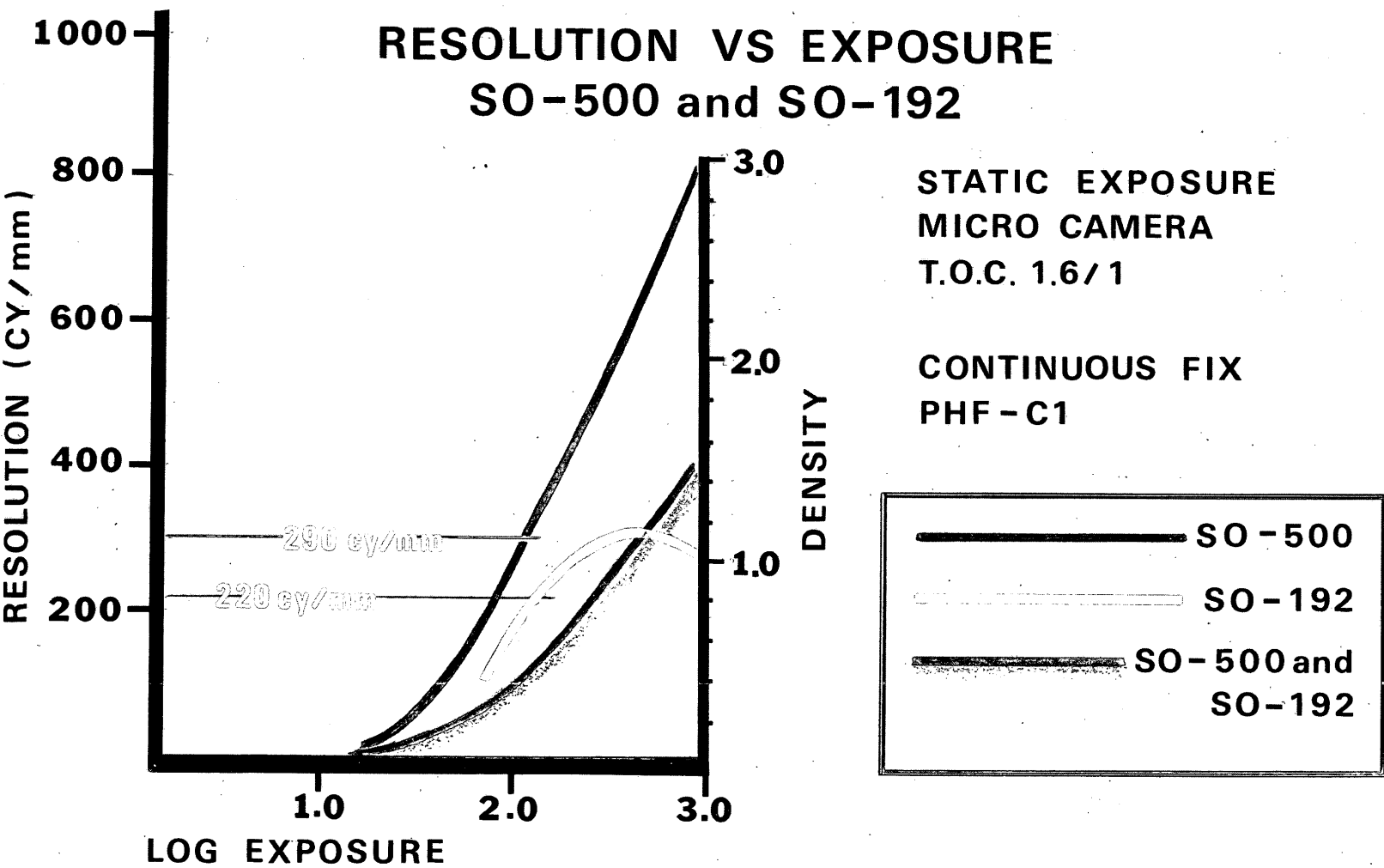
A COMPARISON OF RESOLUTION TRANSFER THROUGH THREE GENERATIONS OF SO-500 and SILVER HALIDE.



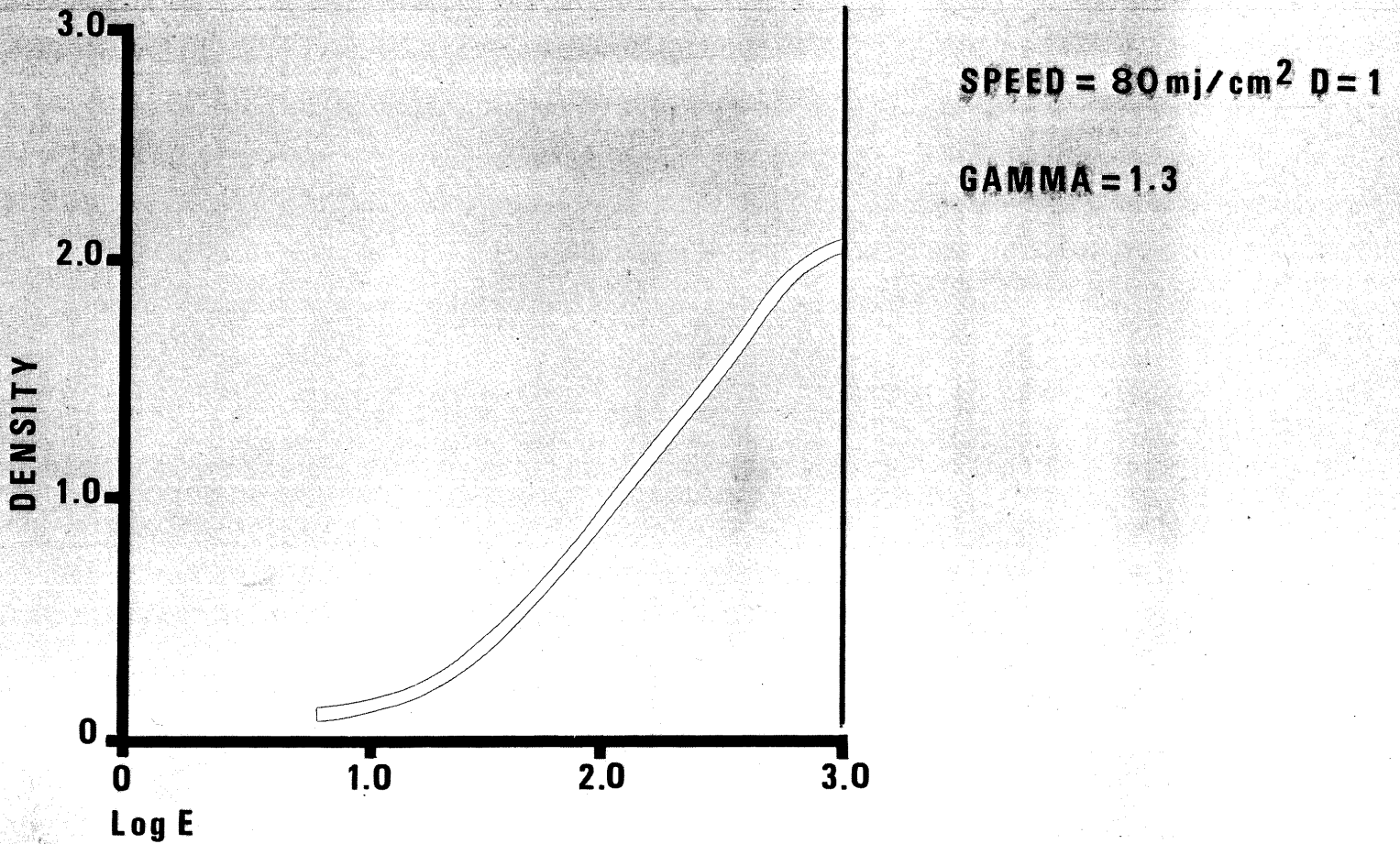
AIM CURVE COMPARISON

3404, SO-192 and SO-500





DENSITY VS LOG EXPOSURE SO - 500



SPECTRAL SENSITIVITY CURVE SO-500

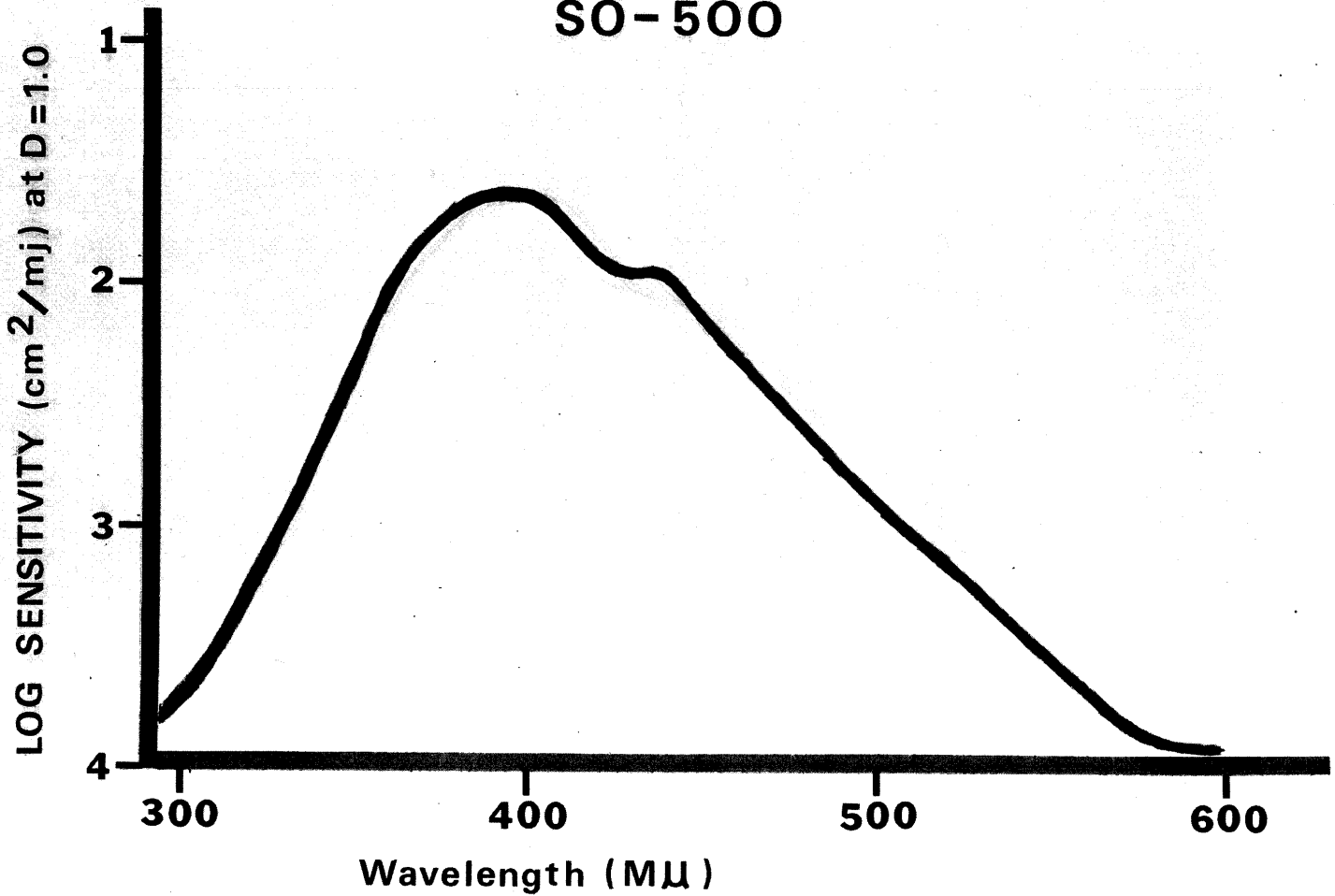
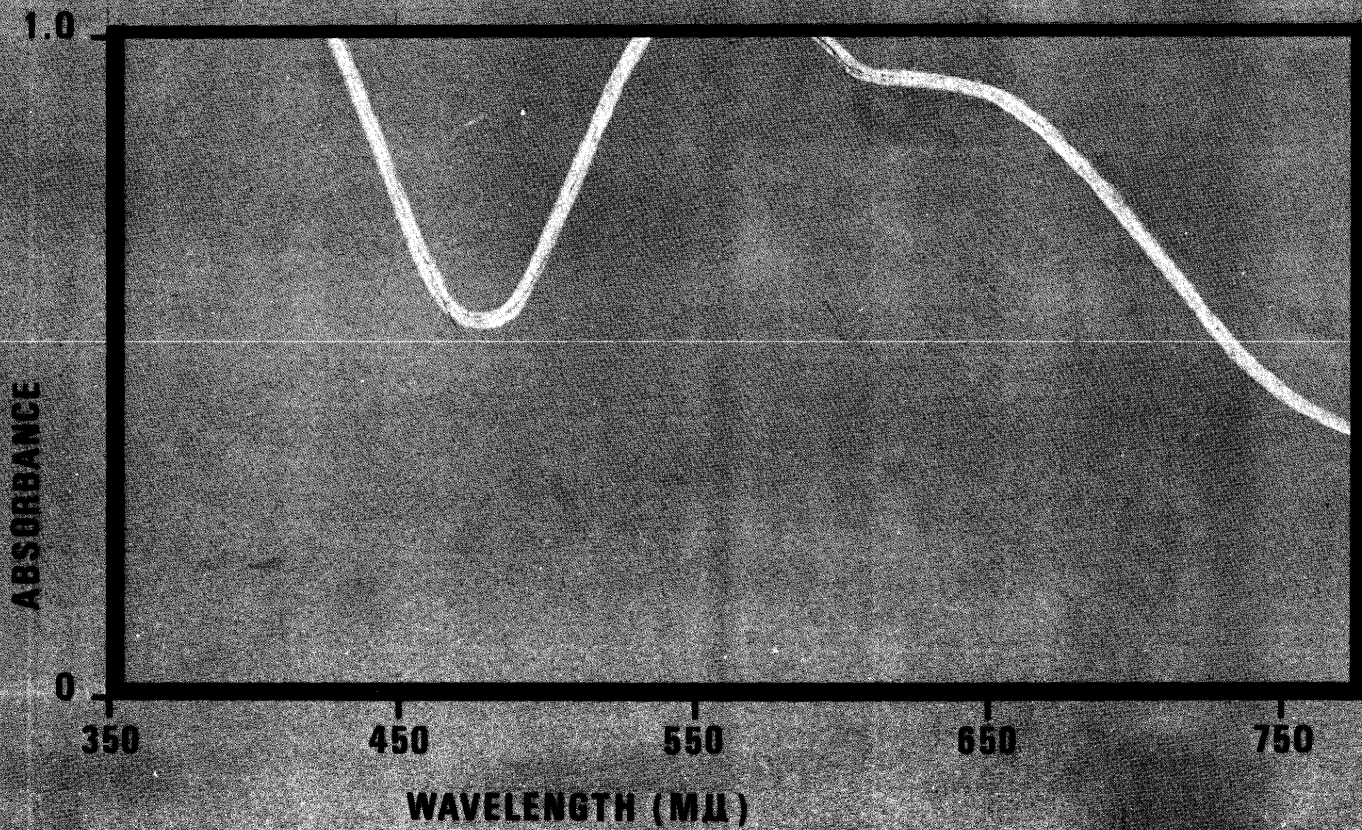
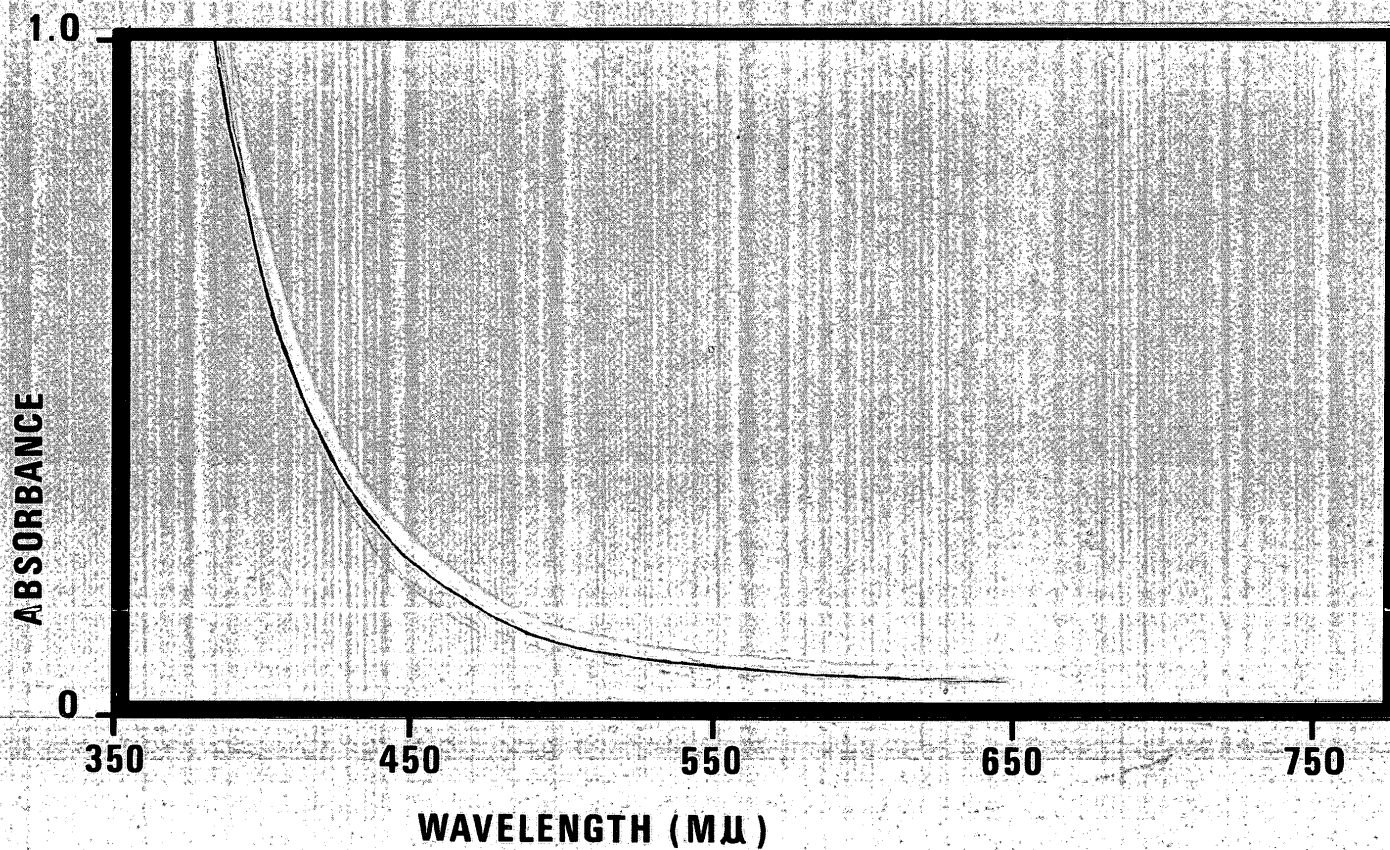


IMAGE ABSORPTION 80-500



UNEXPOSED FILM ABSORPTION SO - 500



PHYSICAL CHARACTERISTICS

SO-500

- **Reciprocity Failure . . . None 10^{-8} to 100 Seconds**
- **Latent Image Stability . . . Excellent**
- **Fixed Image Stability . . . Excellent**
- **Scratch Resistance . . . Excellent**
- **Storage . . . 1 Year at 42°F**

**DYNAMIC SYSTEMS
OFF-THE-SHELF**



EQUIPMENT

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- Printer PHP-C1
- Processor PHF-C1

PHP-C1 PRINTER

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SPECIFICATIONS

- **Size . . . 4'11" L x 4'6" H x 2'8" D**
- **Power Required . . . 220 V 20 Amps—Single Phase**
- **Transport Rate . . . 0-100 fpm**
- **Film Width . . . 70 MM to 9-1/2"**
- **Light Source . . . High Energy Doped Mercury**

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PHF-C1 PROCESSOR

SPECIFICATIONS

- Size . . . 7'2" L x 5'6" H x 3' D
- Power Required . . . 220 V 100 Amps—Single Phase
- Transport Rate . . . 0-40 fpm
- Film Width . . . 70 MM to 9-1/2"
- Temperature Range . . . 130°C to 160°C

FILM AVAILABILITY

SO-500

- Width . . . 70 MM, 5 in, 6.6 in and 9.5 in.
- Lengths . . . 250 and 500 ft.



PRINTER

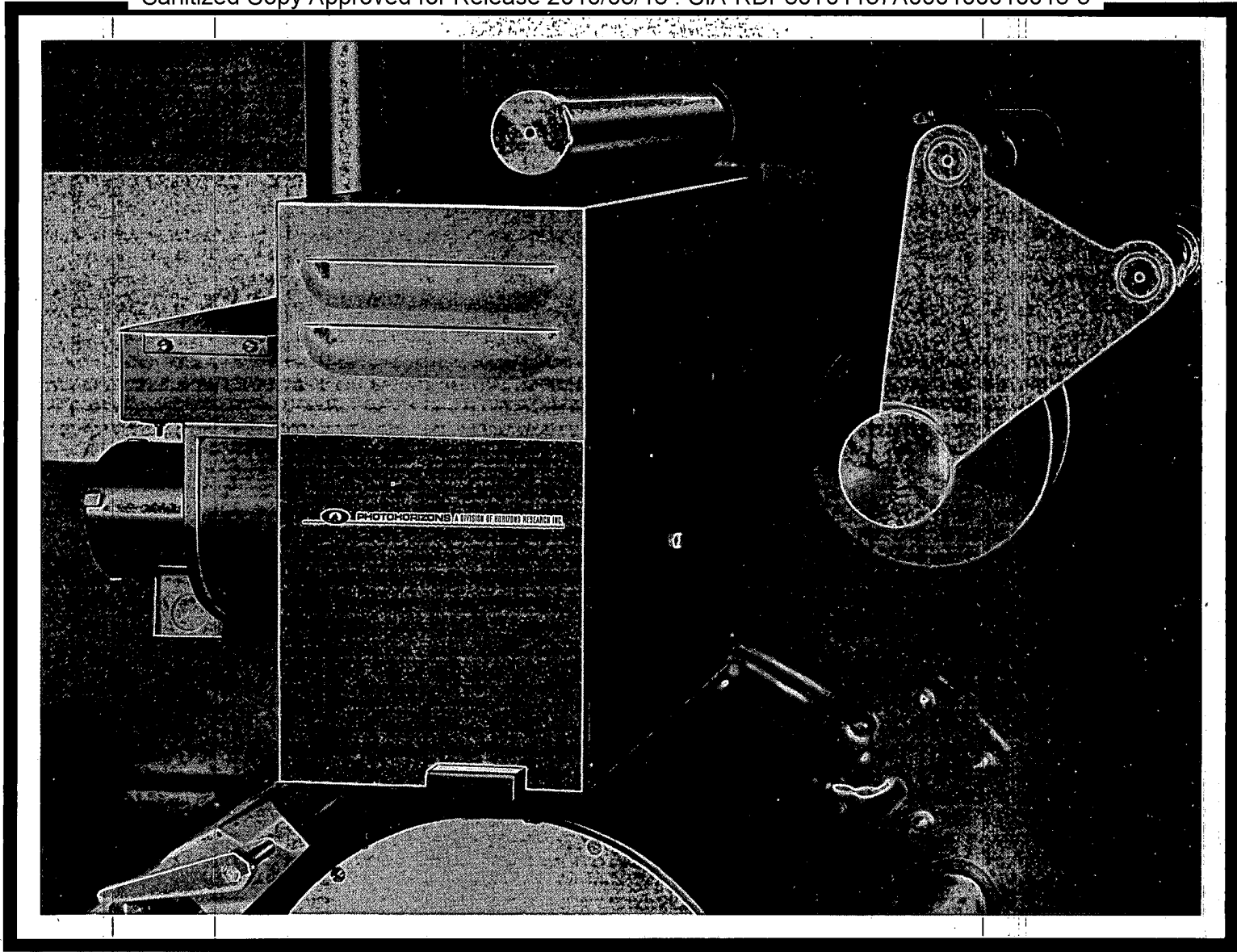
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MODIFICATION KIT

PHP-2

SPECIFICATIONS

- **Print 70 MM 5" and 6.6" Wide Rolls of SO-500**
- **Convert Existing Military 1-008-E-001 Printers**
- **Simple Conversion and Removal**
- **High Resolution**
- **Variable Speed 0 to 50 ft/min**



PRINTER MODIFICATION KIT MODEL PHP-2

The [redacted] Printer Modification Kit Model PHP-2 provides a convenient method for converting existing [redacted] 1-800-E-001 continuous roll to roll photographic duplicators to handle [redacted] Free Radical Duplicating Films. STAT

T.O.C.	Original target*	Duplication material	3.47:1	203 CY/mm Horizontal	203 CY/mm Horizontal
	3414 Type film positive target resolution	SO 500 Negative resolution transfer		181 CY/mm Vertical	181 CY/mm Vertical
1.6:1	115 CY/mm Horizontal 115 CY/mm Vertical	115 CY/mm Horizontal 115 CY/mm Vertical	*In relation to rotation of printing drum; Horizontal is parallel to drum rotation, Vertical is perpendicular to drum rotation.		

SPECIFICATIONS

Dimensions	Fits existing Niagara Printer
Power Required	110 volts 40 amps single phase
Transport Rate	0-100 fpm
Film Width	70 mm to 5"
Light Source	High energy doped mercury

For price and delivery, contact marketing department [redacted]

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DUPLICATION SYSTEM

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FILM SO-500

General Properties

Dry Processed	Negative Working
Non-Silver	Black Image
Medium Gamma	High Resolution
Autogeneration	

Specifications

Image Color	Black
Background	Clear
Spectral Response	350 to 500 nm
Sensitivity	80 mj/cm ² D=1.0
Gamma	1.3
D-max	1.6
D-min	0.04
Resolution (low contrast 1.6/1)...	920 cy/mm
Useful Log E Scale	1.6
Shelf Life	Storage at 42°
Base Material	5 mil
Autogeneration capabilities	3
Film Sizes: 70 mm	
	5-inch, 6.6-inch and 9.5-inch
	Rolls - 250 and 500 linear feet

Equipment

Printer, PHP-C1
 Printer, Niagara Modification Kit, PHP-2
 Processor, PHF-C1

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