

NONDESTRUCTIVE TESTING EQUIPMENT DENSITOMETERS

X-Rite Model 301



Specifications:

aperture Accuracy: +/- 0.2D Repeatability: +/- .01D

DETEK P/N ADN-010

A table top film densitometer that provides accurate quality control of your film processor. The 301 is easy to use. Measurements are made on a push and read basis. The 301 has a wide measurement range that allows you to determine base fog and accurately reads film densities up to 5.0. The unit's UL listed and shipped calibrated to standards traceable to NIST.

Other benefits: Easy to read display, rugged construction, lighted table, convenient service, one year warranty – (bulb excluded)

Range: 0-4.0D with 1mm aperture, 0-5.0D with 2 & 3mm

Warm-up time: 60 seconds Power: 110 VAC - 130 VAC, 60Hz Null Drift: +/- .03D Max, +/- .01D typical

X-Rite Model 331 **DETEK P/N ADN-031**



This unit is economical, portable, and compact but delivers the same performance as the tabletop models. The 331 is designed for convenience. It is lightweight, weighing 1 ¹/₂ lbs. The measuring length (throat) is 5.5 in. **Specifications:** Range: 0-3.5D with 1mm aperture, 0-4.0D with 2mm aperture Accuracy: +/- 0.2D, Repeatability: +/- .01D Size: 2.0"H x 2.9"W x 7.0"L, WT: 1 lb 5 oz Power: 4 rechargeable AA Ni-Cade batteries and charger (included)

PocketPal SM-12

DETEK P/N ADN-120



The PocketPal SM-12 has been designed to meet industry's needs for a small, economical, portable densitometer. With a range of 0 to 4.00D, the *PocketPal* SM-12 provides a quick and easy method to verify processing specifications for radiographs or B&W film. The light source is self-contained, just insert the film to the area of interest, push a button and read the density. The 3" (7.62 cm) opening will reach to the center of most field radiographs and to the area of interest in many other sizes. Furnished with 9 Volt alkaline battery, lithium battery power source is optional. Size: 4.3"L x 1.25"W x 2.5"H, WT: 5.5 oz

DETEK P/N ADN-201 X-Rite 5 Step Density Strip (X-Rite Certified)

DETEK P/N ADN-202 Kodak (184-2137) NIST Certified Density Strip, $17 \operatorname{Step}(0.2 - 4.20)$

DETEK P/N ADN-114 Lamp Assembly, Replacement, Model 301



SM-10T Densitometer

Measuring Aperture	2mm
Measuring Range	0.00 to 5.00 D
Accuracy	± 0.02 D
Repeatability	± 0.01 D
Preview Stage	2.5"x4"
Warm-up time	None
Film Measuring Depth	7.25" (18.42cm)
Portable Power Source	(2) 9V Alkaline batteries Included
Desktop Power	9V AC Power Supply
Dimensions	4.5"H (11.4cm) 4.5"W(11.4cm)
	11"L (28.0cm)
Optional	RS-232 Serial Output (CAT# 5008)



ESECO - Speedmaster[®] is a manufacturer of photographic, graphic arts, and X-ray equipment. Our products are made and serviced in the USA and backed by over forty years of technical experience. All ESECO products come with a one year No Hassle warranty.

The Speedmaster® SM-10T densitometer assures instant, accurate, and repeatable results that rival the same high standards of more expensive units. Featuring total accuracy of +/- .02 from 0.00 to 5.00 Optical Density and compliant with ANSI / ISO Standard - 5/2.

Low power consuming components and extended battery life features are provided in the automatic "stand-by" mode. For added convenience, it may be operated with the UL/CSA-approved plug-in a/c power adapter furnished with the Speedmaster[®] SM-10T. The SM-10TCI is available with a serial interface (CAT# 5008). Use the the SM-10TCI model with the **ESECO** Speedmaster[®] **QC PAL** Software for maximum guality assurance.

> NBS Standard 1009 - Reference Material ID 057901 ANSI / ISO Standard - 5/2

> > 301-449-7300





FAX 301-449-7011





SM-12 Densitometer

Measuring Aperture	3mm
Measuring Range	0.00 to 4.00 D
Accuracy	± 0.02 D or 1%
Repeatability	± 0.02 D
Warm-up Time	None
Film Measuring Depth	3" (7.65 cm)
Portable Power Source	(1) 9v Alkaline Battery Included
	Optional 9V AC Power Supply
Weight	5.9oz. (167.2 grams)
Dimensions	2.5"H(6.35cm)
	1.5"W(3.81cm)

4.5"L(11.43cm)



ESECO - Speedmaster[®] is a manufacturer of photographic, graphic arts, and X-ray equipment. Our products are made and serviced in the USA and backed by over forty years of technical experience. All ESECO products come with a one year No Hassle warranty.

This instrument is accurate to +/- .02 from 0.00 to 4.00 Optical Density. The push button switch "wakes up" the Pocket Pal and gives a stable reading in just 1 second. The Speedmaster[®] SM-12 also features alignment marks for quick film positioning.

The **SM-12** is constructed to be rugged and durable. Minimal drift and no warm-up time provide fast, dependable readings. A 9V AC adapter is available as an accessory.

Reliability and ease of use make the compact Speedmaster® SM-12 "Pocket Pal" the ideal cost-effective choice for film processing quality assurance.







SM-14 Densitometer Reads densities directly from film viewers

Measuring Aperture 3mm 0.00 to 4.00 D Measuring Range ± 0.02 D or 1% Accuracy Repeatability ± 0.02 D Warm-up Time None Portable Power Source (1) 9v Alkaline Battery Included Weight 5.9oz. (167.2 grams) Dimensions 2.5"H(6.35cm) 1.5"W(3.81cm) 4.75"L(12.06cm)



ESECO - *Speedmaster*[®] has been designing and manufacturing X-ray, photographic, and graphic arts equipment since 1956. All ESECO products have a one year **No Hassle warranty.** Our products are made and serviced in the USA, backed by forty five years of technical experience.

The *Speedmaster*[®] **SM-14** is accurate to +/- .02 from 0.00 to 4.00 Optical Density. The push button switch "wakes up" the Pocket Pal to give a stable reading in just 1 second. Simply place film on your viewer, put the SM-14's "EASY READ" probe on the area to be read then push the read button.

The *Speedmaster*[®] *SM-14* is constructed for rugged and durable use, minimal drift and no warm-up time, providing it with fast dependable readings. Reliability and ease of use make the compact *Speedmaster*[®] *SM-14* "*Pocket Pal*" the ideal cost-effective choice for film quality assurance.





☆☆☆ MADE IN USA



FILM VIEWERS

NONDESTRUCTIVE TESTING EQUIPMENT

Film Viewer Model 65-C1 Twin Deluxe



This film illuminator is a high power illuminator that combines a full viewing panel (14" X 17") and a 4" spot viewer in one unit. Variable light intensity, Foot Switch Control, All steel constructed with enamel finish **Detek P/N AVW-651**

Adjustable Iris diaphragm to provide film masking P/N AVW-654 4" Magnifier P/N AVW-655 Bulb 300 watt # BAH P/N AVW-004 or 500 watt EBV Bulb P/N AVW-002 Halogen Bulb for spot viewer – 150 Watt EYK Bulb

High Intensity Stainless Steel Film Viewer



The QME1001 film viewer is manufactured with 304 Stainless Steel and designed to provide the ultimate in high intensity. Illumination is provided by 4 BBA bulbs. Intensity is controlled by a dimmer switch, Foot Switch control, Fan cooled Supplied with 4 viewing masks; 70mm, 3 1/2", 4 1/2 10" & 17" Reading light mounted on front Detek P/N AVW-871 Bulb 250 watt # BBA (4 required) P/N AVW-001

6" High Intensity Illuminator



This super bright illuminator was designed for reading with densities up to 5.0. This viewer is supplied with a set of steel masks and on/off foot switch. Variable brightness control. Light gray baked enamel finish. Optional adjustable iris is available. Detek P/N AVW-850

Same as above, with adjustable iris Detek P/N AVW-851

Spectralux Film Viewer



This film viewer uses a white light source which allows easy viewing of radiographs. No need for high intensity spot, masking or darkened viewing areas. Includes illuminator with carrying handle, light dimmer, foot switch, and power cord. Two versions available: Model 18 with 10" x2.5" viewing area, Model 54 with 14" x 4" viewing

Model 18 Detek P/N AVW-518 Model 54 Detek P/N AVW-554 Replacement Bulb for Spectralux (white), Set of 2, Detek P/N AVW-055 Replacement Bulb for Veralux (green), Set of 2, Detek P/N AVW-054

Bright Spot Illuminator



This illuminator was designed for quick and economical film viewing. Unit comes with a swivel base, variable intensity foot switch, and wall or desk mounts. Light gray baked enamel finish. Detek P/N AVW-880

REMSCO SuperBright Viewer



Six Tungsten-Halogen 150 Watt Projector Bulbs, with pre-focused Dichroic Multi-Facet Reflectors concentrate 900 watts of high temperature light evenly across the entire 14" x 17" viewing surface. Reads densities up to 4.0. Solid state rheostat dimmer control. 120VAC, 8 amps. Includes footswitch, short mask and 70 mm mask. Size 26.5"L x 7.5"W x 15" H, Wt 21.1 Lbs. Model SB-900 Detek P/N AVW-309

Bulbs, 150W Tungsten Halogen (6 required) P/N AVW-007



LC NDT FV-2009 Plus Portable LED Film Viewer

New! Upgraded Model!

Eco-Friendly Product!



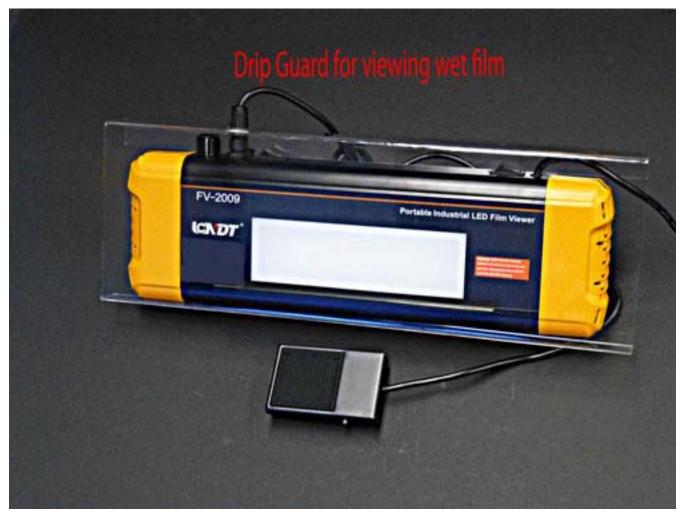
Upgraded Features:

- Increased Intensity: 120,000 Cd/m2 = 4.1D
- Stainless Steel Hardware More Durable Resistant to Corrosion
- Higher Uniformity across viewing window
- Wall-mount-brackets standard

Standard Features (Same as the FV-2009):

- Lower Power Consumption
- Viewer Window: 2.5" x 8" (60mm x 200mm)
- **Uniformity**: $g \ge 0.95$
- **Diffusion Factor**: $g \ge 0.95$
- Cool Operation
- Dimmer: 5% 100%
- **Power**: 110 220 VAC / 50 60 Hz Operation
- Rated Power: 5W
- Warranty: 5 Years Parts, 1 Year Labor
- Compact Size: 18" x 5.5" x 2.5" (455mm x 140mm x 65mm)
- Weight: 5.5 lbs/ (2.5 kg)





Price Includes:

- Foot Switch
- Mask: 1.8" x 6" (45mm x 150mm)
- Carrying Case
- Instruction Manual
- EC Certificate of Conformity
- Warranty Card

Shipping:

- Weight: 10 lbs. (4.5 kg)
- Dimensions: 21" x 8" x 9" (52.5cm x 20cm x 22.5cm)
- Warranty: 5 Years Parts, 1 Year Labor



LC NDT FV-2010 Plus Portable Film Viewer with Electronic Masking



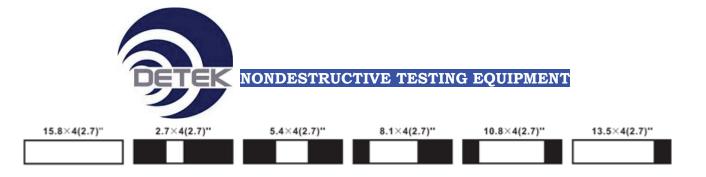
FV-2010 Plus is designed to meet the needs of Film Examiners requiring a code compliant X-ray Film Viewer:

- NEW Electronic Light Mask
- Allows viewing of long strip films
- Bright enough to view 4.1 Density Film
- Low heat output
- Low noise fan speed varies with temperature
- 25 year lifespan for LEDs (approximately 50,000 hours!)
- Low power consumption
- Universal Power Supply

The LEDs used in the FV-2010 Plus have a pure white light, providing a very uniform luminance and have a theoretical life expectancy of 50,000 hours! The LEDs use much less electricity and generate significantly less heat than conventional lamps, making it better for the environment.

The FV-2010 Plus uses a low voltage / constant current power supply specifically designed to extend the life of LEDs. It is supplied with a Dimmer Control that allows you to adjust the intensity from 5% to 100%. A foot switch is also provided.

Instead of multiple hardware masks, the FV-2010 Plus has 6 push button selectable window sizes as shown below (plus one hardware mask to limit the window height to 2.7" (69mm)).



Even Illumination Typical Luminance distribution in Cd/m²

128,000	128,000	130,000	128,000
128,000	129,000	130,000	129,000
127,000	128,000	129,000	128,000

Specifications:

- Maximum Luminance: ≥ 130,000 Cd/m²
- **Uniformity:** g > 0.95
- **Diffusion Factor:** g > 0.95
- Viewer Window: 15.8" x 4" / 400 x 100 mm
- Surface Temperature Rise: ≤ 65°F / 18°C after 12 hours of continuous maximum luminance
- **Power:** 85 264 VAC / 47 63 Hz
- Dimensions: 23.6" x 3.1" x 6.3" / 600 x 80 x 160 mm
- Weight: 8.8 lbs. (4 kg)
- Warranty: 5 years parts, 1 year labor

Kit Contains:

- FV-2010 Plus Viewer
- External Mask: 15.8" x 2.7"
- Foot Switch
- Power Supply
- Power Adaptor & Line
- Instruction Manual
- Guarantee & Report
- Warranty Card

Shipping:

- Weight: 16 lbs. (7.25 kg)
- Dimensions: 26" x 9" x 11" (66cm x 20cm x 28cm)

WARRANTY: 5 Years Parts, 1 Year Labor



NONDESTRUCTIVE TESTING EQUIPMENT

LC NDT FV-2014 14" x 17" Industrial LED Film Viewer



The FV-2014 viewer combines the latest electronic technology with a reliable LED driver circuit. The FV-2014 can view film with a density up to 3.8HD and can be operated continuously 24 hours a day.

Features:

- 13" x 16.1" Window size (fits 14" x 17" Film)
- Bright enough to view 3.8 Density Film
- Vertical and Horizontal Electronic Masks
- LED switch control system that allows you to switch on or off areas on the viewer window
- Rugged viewer feet that can support the viewer at any angle or wall mount
- New "Screen Grab" film holder for your convenience
- Low heat output
- Low noise fan speed varies with temperature
- Low power consumption
- Universal Power Supply use it anywhere





Mounted on the Wall



Rugged Stand

Specifications:

Max Luminance:	82,800 Cd/m ²
Uniformity:	g = 0.95
Diffusion Factor:	$\sigma = 0.95$
Viewer Window:	13" x 16.1" (335 x 410 mm)
Surface Temperature:	Rise ≤ 68°F (20°C) After 12 hours continuous maximum luminance
Power:	85 – 264 VAC 47 – 63 Hz. Universal
Dimensions:	20.1" x 16.1" x 2.4" (L x W x H) 51 x 41 x 6 cm
Weight:	3.4 lbs. (7.4 kg.)
Warranty:	5 years parts, 1 year labor

FV-2014 Kit Includes:

- FV-2014 Film Viewer •
- Vertical and Horizontal Electronic Masks
- Foot Switch
- Power Supply
- Power Adapter & Line •
- Instruction Manual
- Guarantee •
- Inspection Report •
- Warranty Card •



The Model 87-C1 is a truly portable industrial radiographic film viewer with high intensity output.



FEATURES :

- Variable light intensity control
- Fan cooled for prolonged operation
- Convenient carry handle
- 5.25 x 4.75 inch glass view screen
- 300-watt lamp
- Face plate will accept optonal iris diaphragm
- Convenient cord wrap for transport and storage ease
- Optional footswitch control

CONSTRUCTION :

Completely constructed of electro-galvanized steel and painted with a durable, textured blue polyurethane enamel.

The variable dimmer allows precise control of the light source for positive film interpretation.

SPECIFICATIONS :

Dimensions:

- Width = 6"(15.2 cm)
- Height = 11"(27.9 cm)
- Depth = 11"(27.9 cm)
- Active viewing area = 5.25" x 4.75"(13.3 x 12.1 cm)
- Weight = 10 lbs(4.5 kg)
- Shipping weight = 12 lbs(5.4 kg)

Power requirements: 115 VAC, 50-60 Hz.

ORDERING INFORMATION :

DETEK P/N AVW-840. Model 87-C1 illuminator, complete and ready to operate with lamps, and 8-foot, 3-wire power cord.

OPTIONS :

- Model 65-D4 Iris Diaphragm 4 inch(10 cm) round adjustable opening for high spot masking.
- Model 65-FS Foot Switch with cable and plug.



Specifications Dimensions: 14" x 25" x 16" Shipping Weight: 45 lbs.

Optional Accessories: Variable Round Iris Diaphragm 65-D4 Slotted Iris Diaphragm 65-D5 Detachable Magnifier 65-M4

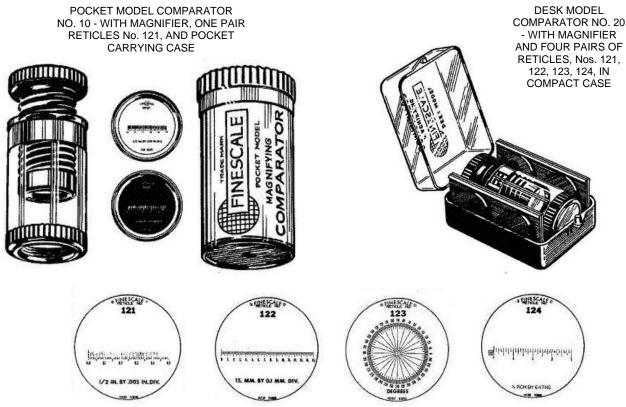
DETEK P/N AVW-652



Model 65-C2 Deluxe Dual X-Ray Illuminator

- Combines a full 14"x17" viewing area and a 4 inch diameter "brite spot."
- Illumination of the viewing area is changed by depressing a footswitch which
 is included with the basic unit.
 - Each viewing area is controlled independently with an electronic dimming control.
 - The 14"x17" section will illuminate to a 3.0 density and the brite spot will illuminate to 4.0 density film.
 - The 14"x17" section uses two BAH 300 watt bulbs and is cooled by fan.
- The "brite spot" area uses either an 500 watt DXb or 300 watt halogen bulb. This section is cooled by a blower and a sheet of Pyrex[™] reflecting glass.
- All steel construction protected by attractive textured blue finish and trimmed with polished chrome strips.
 - A hinged top lid makes it easy to change bulbs.





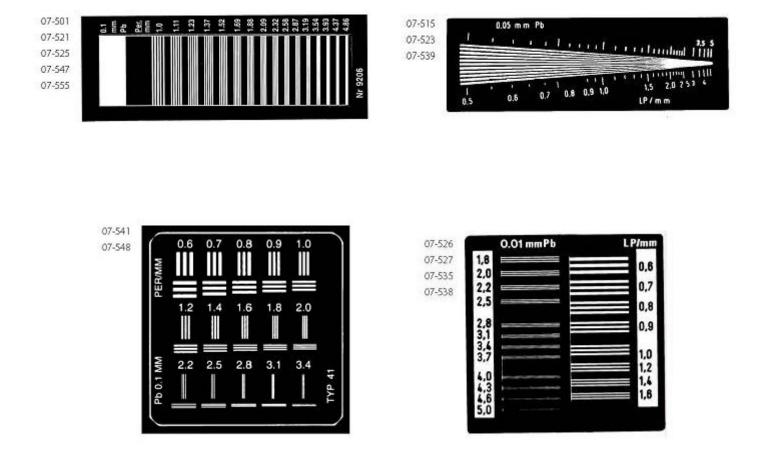
A precision 6 power magnifier and any one of more than 30 transparent scales called Reticles assembled to make a convenient POCKET INSTRUMENT!

- * ACCURATE
- * EASY TO USE. Just place it on the work and read, as you do with any other scale
- * VERSATILE. Over 30 Reticles for making all types of measurements and comparisons. Once scale to a Reticle.
- * CONVENIENT. Easily applied to any object large or small. No depth-of-throat limitations.
- * RUGGED. An unbreakable tool with optical precision.
- * TRULY PORTABLE. You can really carry it in your pocket COMFORTABLY.
- * INEXPENSIVE. Everyone can have his own and all exactly alike.

For greater accuracy when measuring small objects. Actually better for many purposes than measuring microscopes or projection comparators costing A HUNDRED TIMES as much.

DETEK

NONDESTRUCTIVE TESTING EQUIPMENT LINE PAIR GUAGES



The choice of pattern depends on the specific application. The sector test patterns are 0.4° , and the group test patterns have varying numbers of line pair groups. Lead thicknesses are limited by the resolution, with a maximum thickness of 0.1 mm for test patterns up to 5 LP/mm. Radiopaque numbers indicate the resolution (in LP/mm) of each group.



DETEK NONDESTRUCTIVE TESTING EQUIPMENT

	X-Ray Test Patterns for Measuring Resolution					
07-501-2000:	Range of Resolution in LP/mm:	1.0-4.8	07-526:	Range of Resolution in LP/mm:	0.6-10.0	
	Number of Groups:	16		Number of Groups:	26	
	Lead-foil Thickness in mm:	0.1		Lead-Foil thickness in mm:	0.05	
	Dimensions in mm:	110 x 40		Dimensions in mm:	65 x 55	
07-501-1000:	Range of Resolution in LP/mm:	1.0-4.8	07-527:	Range of Resolution in LP/mm:	0.6-5.0	
	Number of Groups:	16		Lead-Foil Thickness in mm:	0.01	
	Lead-Foil Thickness in mm:	0.1		Number of Groups:	20	
	Dimensions in mm	110 x40		Dimensions in mm:	50 x 50	
07-521:	Range of Resolution in LP/mm:	2.0-10.0	07-535:	Range of Resolution in LP/mm:	0.6-5.0	
	Number of Groups:	15		Number of Groups:	20	
	Lead-Foil Thickness in mm:	0.05		Lead-Foil Thickness in mm:	0.05	
	Dimensions in mm:	94 x 50		Dimensions in mm:	50 x 50	
07-525:	Range of Resolution in LP/mm:	3.15-16.6	07-538-2000:	Range of Resolution in LP/mm:	0.6-5.0	
	Number of Groups:	15		Number of Groups:	20	
	Lead-Foil Thickness in mm:	0.03		Lead-Foil Thickness in mm:	0.1	
	Dimensions in mm:	94 x 50		Dimensions in mm:	50 x 50	
07-555:	Range of Resolution in LP/mm:	5.0-20.0	07-538-1000:	Range of Resolution in LP/mm:	0.6-5.0	
	Number of Groups:	13		Number of Groups:	20	
	Lead-Foil Thickness in mm:	0.02*		Lead-Foil Thickness in mm:	0.1	
	Dimensions in mm:	25 x 10		Dimensions in mm:	50 x 50	
07-515:	Range of Resolution in LP/mm:	1.0-10.0	07-541-2000:	Range of Resolution in LP/mm:	0.6-3.4	
	Number of Groups:	1		Number of Groups:	2 x 15	
	Lead-Foil Thickness in mm:	0.05		Lead-Foil Thickness in mm:	0.1	
	Dimensions in mm:	80 x 40		Dimensions in mm:	50 x 50	
07-523-2000:	Range of Resolution in LP/mm:	0.5-5.0	07-541-1000:	Range of Resolution in LP/mm:	0.6-3.4	
	Number of Groups:	1		Number of Groups:	2 x 15	
	Lead-Foil Thickness in mm:	0.1		Lead-Foil Thickness in mm:	0.1	
	Dimensions in mm:	157 x 50		Dimensions in mm:	50 x 50	
07-523-1000:	Range of Resolution in LP/mm:	0.5-5.0	07-548:	Range of Resolution in LP/mm:	2.0-6.0	
	Number of Groups:	1		Number of Groups:	2 x 14	
	Lead-Foil Thickness in mm:	0.1		Lead-Foil Thickness in mm:	0.08	
	Dimensions in mm:	157 x 50		Dimensions in mm:	50 x 50	
07-539:	Range of Resolution in LP/mm:	01.5-20.0		•		
	Number of Groups:	1				
	Lead-Foil Thickness in mm:	0.025				
	Dimensions in mm:	60 x 30				



DETEK NONDESTRUCTIVE TESTING EQUIPMENT

X	X-Ray Test Patterns for Measuring Resolution of Image Intensifiers and Video Systems					
07-506:	Range of Resolution in LP/mm:	1.0-2.0	07-529:	Range of Resolution in LP/mm:	2.8-5.0	
	Number of Groups:	2 x 6		Number of Groups:	2 x 6	
	Lead-Foil Thickness in mm:	0.1		Lead-Foil Thickness in mm:	0.1	
	Dimensions in mm:	32		Dimensions in mm:	32	
07-507:	Range of Resolution in LP/mm:	3.0-4.0	07-532:	Range of Resolution in LP/mm:	5.0-6.0	
	Number of Groups:	2 x 6		Number of Groups:	2 x 6	
	Lead-Foil Thickness in mm:	0.1		Lead-Foil Thickness in mm:	0.05	
	Dimensions in mm:	32		Dimensions in mm:	32	
07-511:	Range of Resolution in LP/mm:	2.0-3.0	07-537:	Range of Resolution in LP/mm:	5.0-7.0	
	Number of Groups:	2 x 6		Number of Groups:	2 x 6	
	Lead-Foil Thickness in mm:	0.1		Lead-Foil Thickness in mm:	0.05	
	Dimensions in mm:	32		Dimensions in mm:	32	
07-519:	Range of Resolution in LP/mm:	1.8-3.15				
	Number of Groups:	2 x 6				
	Lead-Foil Thickness in mm:	0.1				
	Dimensions in mm:	32				