



Model 570 Multipurpose & Endoscopic Phantom

Product Description

The Model 570 Multipurpose & Endoscopic phantom is an easy, comprehensive means of evaluating imaging systems with an operating frequency range of 2.25 to 7.5 MHz. The phantom is designed with a combination of monofilament line targets for distance measurements and tissue mimicking target structures of varying sizes and contrasts. Due to the acoustic similarity of the background material and the target structures, artifacts caused by distortion, shadowing and enhancement have been eliminated. Four gray scale targets ranging in contrast from +6 to -3 dB are provided to evaluate the system's displayed dynamic range and gray scale processing performance.



The Model 570 offers a new and improved scan surface design to easily accommodate linear, sector, endoscopic probes and mechanical sector probes such as used for rectal scanning.

Scan Surfaces



Tests Performed

<ul style="list-style-type: none"> • Dead Zone or Ring-Down (A1 & A2) • Horizontal Measurement Calibration Linear (C1&C2) • Horizontal Measurement Calibration Sector (C1 & C2) • Sensitivity/Penetration (F) • Vertical Measurement Calibration (B1 & B2) 	<ul style="list-style-type: none"> • Image Uniformity • Functional Resolution (F1, F2) • Focal Zone (B1, B2 or F) • Axial & Lateral Resolution (E1, E2, E3) • Contrast, Gray Scale (G1, G2, G3)
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Specifications

General		Tissue Mimicking Material	
Overall Dimensions	270 x 215 x 96 cm	Type	Urethane rubber
Housing Material	PVC	Freezing Point	< -40°C
Scan Surfaces	2	Melting Point	> 100°C
Scan Wells	1	Attenuation Coefficient	0.5 dB/cm/MHz ± 5.0%
Weight	4.55 Kg (10 lb)	Speed of Sound	1450 m/s ± 1.0% at 23°

Line Targets						
Material	Monofilament Nylon			Dead Zone Groups	A1	A2
Diameter	.12 mm			Lateral Displacement	5 mm	5 mm
Position Tolerance	± 0.1 mm			Interval Spacing	1 mm	1 mm
				Scan Surface Depth		
				Standard	2-10 mm	
				Endoscopic		2-10 mm
Vertical Groups	B1	B2		Horizontal Linear Groups	C1	C2
Number of Targets	17	8		Number of Targets	5	5
Interval Spacing	10 mm	10 mm		Interval Spacing	10 mm	10 mm
Depth	10-160 mm	10-80 mm		Scan Surface Depth		
				Standard	40 mm	
				Endoscopic		40 mm
Axial-Lateral Resolution Groups	E1	E2	E3	Horizontal Sector Groups	D1	D2
Number of Targets	Standard	Endoscopic	Scan Well	Number of Targets	5	5
Interval Spacing				Interval Spacing	10 mm	10 mm
		6		Scan Surface Depth		
		5, 4, 3, 2, 1 mm		Standard	50 mm	
				Endoscopic		50 mm
Scan Surface Depth	40 mm	60 mm	40 mm			

Anechoic Target Structures	F1	F2	Gray Scale Target Structures	G1	G2	G3
Type	Non-echogenic, cylindrical		Type	Standard	Endoscopic	Scan Well
Size	8, 4, 2 mm	6 mm	Diameters	10 mm	10 mm	6 mm
Number of Targets	27	1	Scan Surface Depth	30 mm	20 mm	30 mm
Depth	10 – 170 mm	30 mm	Number of Targets	4	4	2
Interval Spacing	10 & 20 mm	NA	Contrast relative to background material (dB)	+6, +3, -3, -6		+3, -3

*Nominal dimensions

