

Curved Array Transducer

USES

- Abdominal imaging
- Fetal (including Obstetrics) imaging
- Interventional procedures
- Contrast imaging¹
- Tissue Harmonic imaging

BENEFITS

- Broad bandwidth gives excellent image quality
- Fine pitch gives high contrast resolution
- Deep penetration for clear abdominal images
- Ergonomic transducer design for improved operator comfort
- Easy-to-use needle guides for quick, reliable puncture and biopsy procedures
- Built-in control button
- Single-use needle guide available
- Compatible with modern sterilization methods



Fig. 1 Curved Array Transducer Type 8820e.

GENERAL DESCRIPTION

The 8820e transducer is a curved array and designed for use with BK Medical ultrasound systems Pro Focus 2202 and *flex Focus* 1202. 8820e can be used for high resolution B-mode, spectral and CFM Doppler, Tissue Harmonic and Contrast imaging¹ (Pro Focus only).

APPLICATIONS

The 8820e is a curved array transducer with multifrequency capability and a sector angle of 60°. It is ergonomically designed for the operator.

INTERVENTIONAL PROCEDURES

The 8820e can use the UA1250 stainless steel puncture attachment designed for interventional procedures. The UA1250 has a variable bore diameter of 0.6 to 2.4 mm and an angle of insertion of 18°. Single-use needle guides UA0013, are also available with puncture attachment kit UA1341. UA0013 has a variable diameter of 0.6 to 2.3 mm. The needle may be positioned at a fixed angle of 18° or 36.5° to the image axis using UA0013.

The ultrasound system superimposes puncture lines on the scan image to help you guide the needle to its target.

REPROCESSING

The 8820e is supplied with a watertight plug lid that fits over the connector plug to protect it during reprocessing procedures (including washing) that involve liquids. When the lid is attached correctly, the transducer can be fully immersed. The lid must not be attached when gas processing methods are used.

SAFETY

The 8820e is designed and tested in accordance with EN60601-1 (IEC60601-1), "Medical Electrical Equipment, General Requirements for Safety". When used with BK Medical's systems, Type B requirements are met.

- ¹ In the USA, contrast-enhanced ultrasound has not been market cleared by the FDA, with the exception of only select cardiac imaging applications.

Specifications

<p>OPERATIONAL FACILITIES Built-in control button</p> <p>SAFETY When used with BK Medical's ultrasound systems, this transducer complies with Safety Standard EN60601-1 (IEC60601-1) Type B.</p> <p>FREQUENCY RANGE 6–2 MHz</p> <p>ENVIRONMENTAL Operating Pressure: 700–1060 hPa (normal atmospheric pressure) Operating Temperature: +10 to +40 °C (+50 to +104 °F) Storage Temperature: -25 to +70 °C (-13 to +158 °F)</p> <p>REPROCESSING</p> <ul style="list-style-type: none"> Reprocessing temperature should not exceed +60 °C (140 °F). Cover the plug when using liquid reprocessing methods. Complete details and procedures can be found in <i>Care, Cleaning & Safety</i>. Follow product manufacturer's instructions for use. 	<p>VALIDATED CLEANING AND DISINFECTION Manual Cleaning 3E-Zyme™</p> <p>Manual Disinfection</p> <ul style="list-style-type: none"> Ethanol 70% (wiping) Isopropanol 70% (wiping) Chlorhexidine gluconate (5–20%) Glutaraldehyde (2–3.4% in water) CIDEX® OPA <p>Gas Processes (plug must be uncovered)</p> <ul style="list-style-type: none"> AMSCO® V-PRO™ 1, V-PRO™ 1 PLUS and V-PRO™ maX 	<p>POWER SUPPLY Internally from system</p> <p>CABLE LENGTH 2.2 m (7.2 ft)</p> <p>TRADEMARKS</p> <ul style="list-style-type: none"> 3E-Zyme is a trademark of Medisafe UK. Cidex OPA is a registered trademark of Advanced Sterilization Products. AMSCO V-PRO models, Revital-Ox Resert XL HLD/Resert XL HLD and System 1/System 1E are registered trademarks of the STERIS Corporation.
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	Units	Curved Array Transducer Type 8820e							
		Pro Focus UltraView 2202				flex Focus 1202			
Applications (Typical)		Abdominal imaging, Fetal (including Obstetrics) imaging				Abdominal imaging, Fetal (including Obstetrics) imaging			
Basic Imaging Modes		B, M, Doppler, CFM, Tissue Harmonic Imaging, Contrast Imaging ¹				B, M, Doppler, CFM, Tissue Harmonic Imaging			
B-Mode Frequency	MHz	6	5	3.5	2.5	6	5	3.5	2.5
Doppler Frequency	MHz	3 - 2.5 - 2				3 - 2.5 - 2			
Tissue Harmonic Frequency		4.3 - 3.5							
Contrast Frequency		2.3 - 2				-			
Number of Elements		192							
Radius of Curvature	mm	61.5							
Transverse Plane Aperture	mm	13							
Transverse Focal Length (Typical)	mm	65							
Transverse Focal Beam Width (Typical)	mm	2.8	2.8	3.1	3.5	2.8	2.8	3.1	3.5
Image Plane Aperture	mm	21							
Image Plane Focal Length	mm	Variable							
Axial Resolution (Measured at 25 mm) ³	mm	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3
Lateral Resolution ^{3 4}	mm	1.2	1.2	1.4	1.4	1	1.1	1.1	1.4
Image Field	°	Sector 60 °							
Penetration Depth ³	mm	168	204	249	288 ²	198	233	255	298 ²
Focal Range	mm	12 – 200							
Frame Rate (Max)	Hz	>150							
Contact Surface (Acoustic)	mm	62.5 x 13							
Contact Surface (Overall)	mm	69 x 19							
Total Dimensions	mm	77 x 104 x 27							
Weight (Approximate)	g	180							

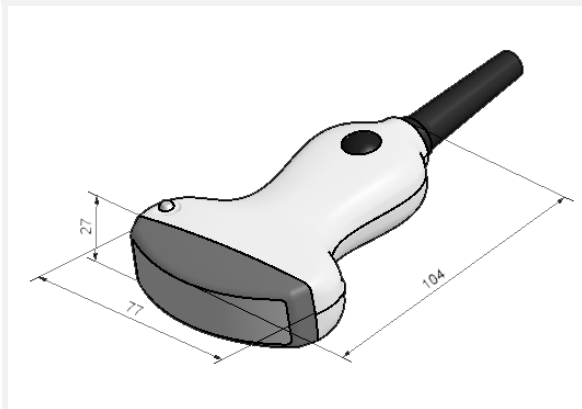
1 In the USA, contrast-enhanced ultrasound has not been market cleared by the FDA, with the exception of only select cardiac imaging applications.
2 Exceeds max. penetration depth (260 mm) in system.
3 Measurements according to IEC/TS 61390 and JIS T 1501. Penetration depth is measured in an ultrasound phantom and recalculated corresponding to a realistic tissue attenuation of 0.5 dB/cm/MHz.
4 Measured at 65.8 mm on Pro Focus 2202, and 56.5 mm on flex Focus 1202.
For definition of terms, refer to Acoustic Output Measurement for Diagnostic Ultrasound Equipment, AIUM/NEMA 2004.

Ordering Information

ACCESSORIES AVAILABLE	TRANSDUCER COVERS	TRADEMARKS
UA1250: Puncture Attachment (bore diameter variable from 0.6 to 2.4 mm; angle of insertion 18° to the long axis of the transducer)	UA0004: Cable Covers, Sterile (Pack of 24)	Ultra-Pro, Surgi-Tip and CIV-Flex are trademarks of CIVCO Medical Solutions.
UA1341: Puncture Attachment Kit. Contains: 1 reusable bracket, 5 sterile Ultra-Pro™ needle guides with transducer cover and gel.	UA0007: CIV-Flex™, Sterile (Pack of 24)	
UA0013: Sterile Ultra-Pro™ Needle Guides (Pack of 24)	UA0009: CIV-Flex™, Sterile (Pack of 24)	
UA1404: Leakage Testing Kit	UA0070: CIV-Flex™, Latex-free (Pack of 24)	
KE4300: Carrying Case	UA0072: Surgi-Tip™, sterile latex (Pack of 12)	
	UA0076: CIV-Flex™, latex-free (Pack of 24)	

8820e Technical Drawings

All measurements are in mm.



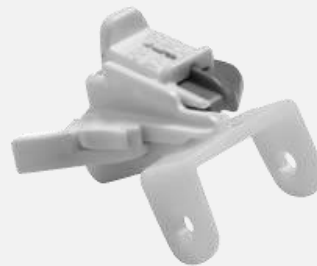
UA1250

- Weight: 40 g
- Dimensions: 38 x 39 x 45 mm
- Material: Stainless steel AISI303



UA1341 with Single-Use Needle Guide UA0013

- Weight: 8 g
- Dimensions: 40 x 31 x 39 mm
- Material: Polyoxymethylene plastic (POM)



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