High Frequency Linear Array Transducer Type 8870

for BK Medical Ultrasound Scanners

Product Data

USES

- Musculoskeletal scanning
- Peripheral vascular scanning
- Small part scanning
- Interventional procedures
- Doppler examinations

BENEFITS

- Broad bandwidth gives excellent image quality in the entire image
- High frequency gives superb near field images with many details
- Fine pitch gives high contrast resolution
- High Doppler sensitivity, including steerable Doppler
- Easy-to-use needle guide for quick, reliable puncture and biopsy procedures
- Compatible with modern sterilization methods

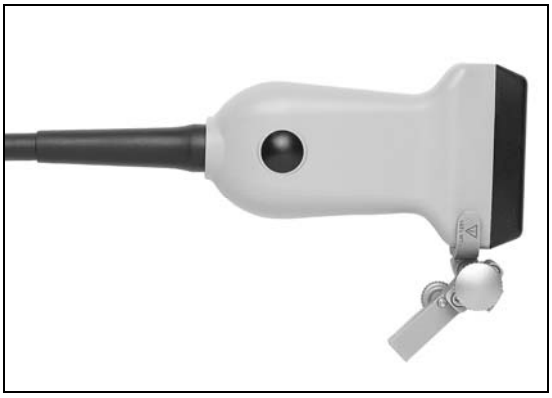

Fig. 1 8870 transducer assembled with puncture attachment UA1251

General Description

The 8870 is a high frequency linear array, fine pitch transducer designed for use with the BK Medical Flex Focus 1202 and Pro Focus 2202 ultrasound scanners.

Applications

With its high scanning frequencies ranging from 6 to 18 MHz, the 8870 offers superb near field images and is ideal for small part scanning including musculoskeletal, and for vascular procedures.

The control button on the transducer handle lets you start and stop scanning or freeze the image.

Interventional Procedures

The UA1251 stainless steel puncture attachment is designed for interventional procedures and accepts needles with an internal bore diameter of 0.6 to 3.4 mm. Three different angles of insertion are possible: 30°, 45° and 60° with respect to the transducer's image axis.

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

Multifrequency Imaging

The 8870 transmits at 9, 12, 15 and 18 MHz on the Flex Focus 1202 and Pro Focus 2202 ultrasound scanners and can be used for tissue harmonic imaging.

Cleaning and Disinfection

The 8870 can be disinfected by immersion in the solutions listed under Specifications. 8870 can be processed by using STERIS SYSTEM 1® when a watertight plug protection device is fitted.*
The puncture attachments can be disinfected by immersion and can be autoclaved.

Sterile transducer covers are available.

Safety

The 8870 is designed and tested in accordance with EN 60601-1 (IEC 60601-1), "Medical Electrical Equipment, General Requirements for Safety." When used with BK Medical's ultrasound scanners, Type BF requirements are met.

* STERIS SYSTEM 1 is not market cleared in the USA.

Specifications 8870

SAFETY:
Complies with Type BF requirements of EN60601-1 (IEC 60601-1)

FREQUENCY RANGE:
6 –18 MHz

OPERATIONAL FACILITIES:
Built-in control button

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)
Watertight immersion temperatures:
Max. +40 °C (+104 °F)
Watertight immersion time:
Max. 15 hours per 24 hours

Resistance to chemicals during disinfection:
Immersion for less than 10 minutes in each hour in:
- Chlorhexidine gluconate (5–20%)

Immersion in the following solutions, following manufacturer's instructions (but not exceeding maximum watertight immersion time specified for this transducer):
- Glutaraldehyde (2–3.4% in water)
- Korsolex® Basic
- Korsolex® Extra
- Tristel®
- PeraSafe®
- Cidex OPA®

Wiping with:
- Ethanol (70% in water) or
- Isopropanol (70% in water)

- The STERIS SYSTEM 1® process can be used.*

POWER SUPPLY:
Internally from scanner

CABLE LENGTH:
2.3 m (7.5 ft)

TRADEMARKS:
- Korsolex is a registered trademark of Bode Chemie GmbH.
- Tristel is a registered trademark of Tristel Pharmaceutical.
- PeraSafe is a registered trademark of Antec International.
- Cidex OPA is a registered trademark of Advanced Sterilization Products (ASP), a Johnson & Johnson Company.

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	Units	Flex Focus 1202				Pro Focus 2202			
Center frequency	MHz	9	12	15	18	9	12	15	18
Doppler frequency	MHz	6				6			
CFM frequency	MHz	6 - 7.5 - 10				6 - 7.5 - 10			
Tissue Harmonic frequency	MHz	14				14			
Number of elements		192				192			
Transverse plane aperture	mm	3.5				3.5			
Transverse focal length (typical)	mm	15				15			
Image plane aperture	mm	12.8				12.8			
Image plane focal length	mm	variable				variable			
Axial resolution*	mm	0.4	0.3	0.3	0.3	0.4	0.4	0.3	0.2
Lateral resolution*	mm	0.4	0.3	0.3	0.3	0.4	0.3	0.2	0.2
Image field	mm	38.4				38.4			
Basic scanning modes		B, M, Doppler, CFM, Tissue Harmonic Imaging				B, M, Doppler, CFM, Tissue Harmonic Imaging			
Penetration depth*	mm	82	75	68	54	83	71	66	55
Dynamic focus extension	mm	3–60				3–60			
Frame rate (max)	Hz	>150				>150			
Contact surface (acoustic)	mm	38.4 x 3.5				38.4 x 3.5			
Total dimensions	mm	97 x 57 x 26				97 x 57 x 26			
Weight (approximate)	g	100				100			
Applications (typical)		Musculoskeletal Small part Peripheral vascular				Musculoskeletal Small part Peripheral vascular			

* Measurements according to IEC/TS 61390 and JIS T 1501. Penetration depth is measured at 0.7dB/cm/MHz and recalculated corresponding to a realistic tissue attenuation of 0.5 dB/cm/MHz.
For definitions of terms, refer to Acoustic Output Measurement Standard for Diagnostic Ultrasound Equipment, AIUM/NEMA, 2004.

Ordering Information

ACCESSORIES INCLUDED

KP0212	Carrying case
DS0512	Insert for carrying case

ACCESSORIES AVAILABLE

UA1251	Puncture attachment (bore diameter variable from 0.6 to 3.4 mm; angle of insertion 30, 45 or 60° to the long axis of the transducer)

TRANSDUCER COVERS

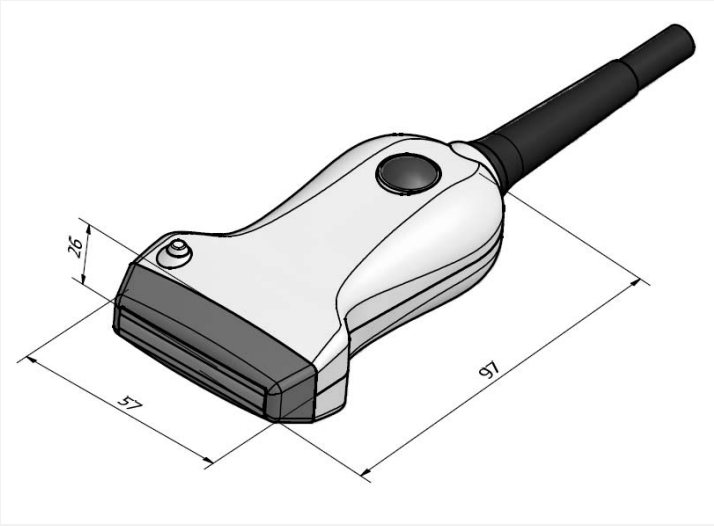
UA0009	CIV-Flex™ sterile, latex-free (pack of 24)
UA0004	Sterile cable cover, latex-free (pack of 24)

CIV-Flex is a trademark of CIVCO Medical Instruments Co., Inc.

Technical Drawings

All measurements are in mm.

8870



Puncture guide UA1251

- Weight: 50g
- Dimensions: 48 x 50 x 40 mm
- Material: stainless steel AISI 303