



Endosonic Probe Type 1850 for BK Medical Ultrasound Scanners

Product Data

USES

- Investigating the anal sphincter
- Investigating the rectal wall
- Preoperative evaluation for treatment planning
- Transurethral capabilities for the urethra and bladder

BENEFITS

- One transducer suitable for all transrectal and transurethral examinations
- Provides a full 360° transverse image
- Superb imaging technique for the anal sphincter – sphincter defects are clearly seen
- Increased post-operative control – possible to detect small recurrences at an early stage, and can increase the chances of curative surgery.

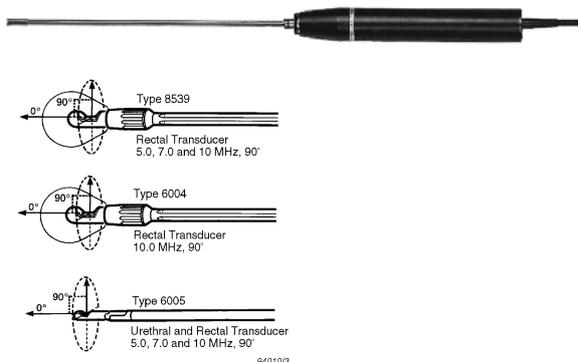


Fig. 1 1850 endosonic probe with its three transducer heads: 8539, 6004 and 6005. (Note the scanning planes for each of the transducer heads)

General Description

Endosonic Probe Type 1850 is a mechanical sector transducer designed for use with ultrasound scanners from BK Medical.

Applications

1850 is designed for anorectal and transurethral examinations. It has a rotating shaft to give a full 360-degree transverse scan image without the operator having to move the handle. Three interchangeable transducer heads (Fig. 1) are available that can be mounted on the 1850 probe handle and can scan through 360°:

- 6005 urethral and rectal transducer head is used for scanning the bladder, rectum and anal canal. It has a frequency range of 5 to 10MHz.
- 8539 head is used for scanning the anal canal. It has a frequency range from 5 to 10MHz.
- 6004 is designed to scan the anal canal and rectal wall. It has a frequency of 10MHz.

The EA4006 RASHA applicator is intended for use with 1850 when it is set up for rectal scanning. The applicator is designed as an aid for inserting High Dose Rate (HDR) radioactive seeds into a low rectal tumor.

The single-use rectosigmoidoscope, obturator and grip (UA0681), is a sterile kit, designed to be used with 1850 to examine the rectum. A light source cable adaptor can be attached to the rectosigmoidoscope and grip.

Interventional Procedures

During interventional procedures, the ultrasound scanner superimposes a puncture line on the scan image to help you guide the needle to its target. 1850 uses the puncture attachment UA0650 (optional) with a bore diameter of 2.1 mm.

Cleaning and Disinfection

1850 and its puncture attachment UA0650 can be disinfected by immersion in the solutions listed under Specifications. The puncture attachment can also be autoclaved.

Safety

1850 is designed and tested in accordance with EN60601-1 (IEC60601-1), "Medical Electrical Equipment, General Requirements for Safety." When used with BK Medical's ultrasound scanners, Type B requirements are met.

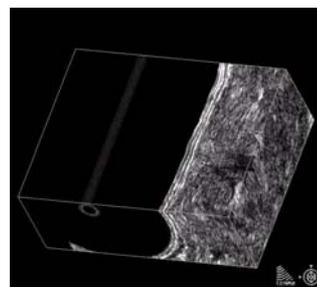


Fig. 2 3D image of the rectal wall in 80Y male, taken with transducer 1850

Specifications 1850

<p>SAFETY: When used with BK Medical's ultrasound scanners, this transducer complies with Safety Standard EN60601-1 (IEC60601-1) Type B</p> <p>FREQUENCY RANGE: 6004: 10MHz 6005 and 8539: 5-10MHz.</p> <p>OPERATIONAL FACILITIES: Built-in control button Three interchangeable transducer heads</p> <p>ENVIRONMENTAL: Operating pressure: 700-1060hPa (normal atmospheric pressure)</p> <p>Operating temperature: +10 to +40°C (+50 to +104°F)</p> <p>Storage temperature -25 to +70°C (-13 to +158°F)</p> <p>Watertight immersion time Max 15 hours per 24 hours</p>	<p>Watertight immersion temperature Max +40°C (+104°F)</p> <p>Resistance to chemicals during disinfection Immersion for less than 10 minutes in each hour in: ■ Chlorhexidine gluconate (5-20%)</p> <p>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) ■ Ethanol 70%</p> <p>■ Wiping with Ethanol (70% in water)</p> <p>The following disinfectants can also be used: ■ Korsolex® Basic ■ Korsolex® Extra ■ Cidex® OPA ■ PeraSafe®/ PeraSafe LG</p> <p>OVERLOAD Torque-controlled motor shutdown</p>	<p>POWER SUPPLY: Internally from scanner</p> <p>CABLE LENGTH: 2.3 m (7.5 ft)</p> <p>OVERALL DIMENSIONS Length: 514 mm excluding transducer head</p> <p>WEIGHT 0.6kg (1.3lb.)</p> <p>TRADEMARKS ■ Korsolex is a registered trademark of Bode Chemie GmbH. ■ PeraSafe is a registered trademark of Antec International. ■ Cidex OPA is a registered trademark of Advanced Sterilization Products (ASP), a Johnson & Johnson Company.</p>
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	Units	Transducers for 1850 Endosonic Probe						
		6004		6005			8539	
Number of elements		One		One			One	
Center frequency	MHz	10	5	7.5	10	5	7.5	10
Crystal diameter	mm	6	5			6		
Focal length (typical)*	mm	17	15			20		
Focal range (typical)*	mm	15-40	5-30			10-40		
Focal area*	mm ²	1	1.3	1	1	1.8	1.8	1.6
Focal beam width*	mm	1	1.2	1.1	1.1	1.5	1.5	1.4
Axial resolution (measured at 25 mm)**	mm	0.3	0.5	0.4	0.4	0.4	0.3	0.3
Axial resolution on Flex Focus 1202 (measured at 45 mm)**	mm	0.5	0.7	0.6	0.6	1	1	0.9
Lateral resolution**	mm	1.4	1.9	2.2	1.6	1.8	1.9	1.8
Lateral resolution on flex Focus 1202**	mm	0.9	1.5	1.2	0.7	1.6	1.8	1.6
Absolute max ultrasonic power*	mW	10	10			15	15	10
Basic scanning modes		B	B			B		
Sector angle		360°	360°			360°		
Penetration depth**	mm	47	65	65	65	65	65	65
Beam angle to rotating axis	°	90	90			90		
Length	mm	53	40			53		
Diameter	Mm	13	6.9			13		
Weight (approximate)	g	15	5			15		
Applications (typical)		Transrectal (anal canal and rectum)		Intraoperative (urethra, bladder) Transrectal			Transrectal (rectum)	
Scanner types supported		2202 and 1202						

* Values measured in water

** Measurements according to IEC/TS 61390 and JIS T 1501. Penetration depth limited by max image depth.

For definition of terms, refer to Acoustic Output Measurement Standard for Diagnostic Ultrasound Equipment, AIUM/NEMA 2004

Ordering Information 1850

ACCESSORIES AVAILABLE

UA0650 Perineal Puncture Attachment for transrectal and endoanal applications (bore diameter 2.1mm)

6005 transducer

6005: Urethral and rectal transducer, 5, 7.5 and 10MHz, 90°

Accessories for 6005

UA0652: Storz adaptor

WQ0410: Storz sheath

WA0500: 10mm tube (including WA0499 and WA0597 hoods and QS0011 lubricant)

WA0499: Convex hood for WA0500

WA0597: Slim hood for WA0500

WS3416: Hood for WA0637

8539 transducer

8539: Rectal transducer, 5, 7.5 and 10MHz, 90°

6004 transducer

6004: Rectal transducer, 10MHz, 90°

Accessories for 8539 and 6004

UA0878: 17mm rectal tube (including QS0011 lubricant and UA0799 rubber sheaths)

WA0543: Hood for UA0878

EA4020: Plastic hood for UA0878

UA0799: Water stand-off rubber sheaths (pack of 100)

YJ0621: O-rings for WA0543/EA4020

YA0514: Inner cylindrical ring for UA0878

YM1615: Outer cylindrical ring for UA0878

UA0681: Single-use, sterile

rectosigmoidoscope kit

UA0682: Light cable adaptor for UA0681 (reusable)

Accessories for 3D scanning*

UA0553: Variable friction support arm

MISCELLANEOUS

EA4006: RASHA applicator

YJ0632: O-ring for sealing between 1850 and rectal tubes

YJ0619: O-ring for crystals

QS0011: Lubricant

TRANSDUCER COVERS

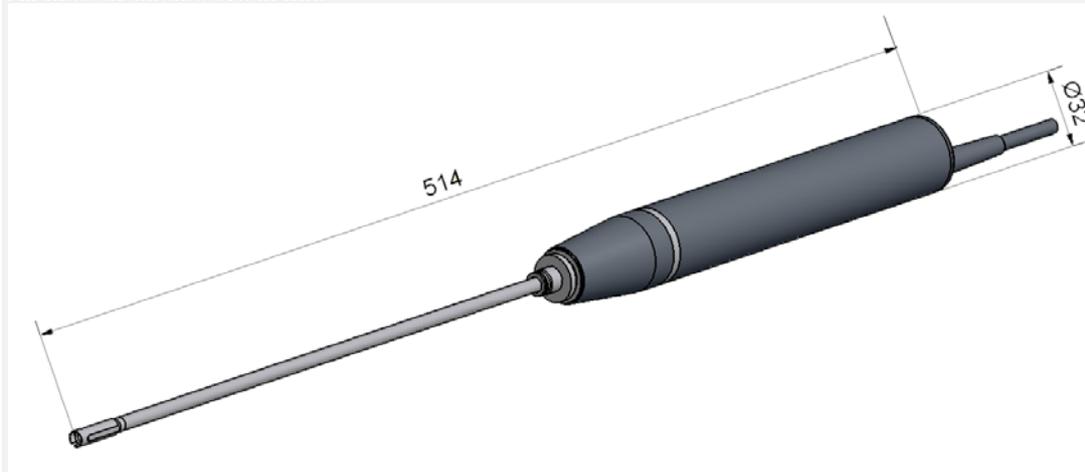
UA0799: Water-standoff Sheaths (pack of 100)

UA0069: Sterile, latex covers (24 pcs).

* For 3D options, contact your local BK Medical representative

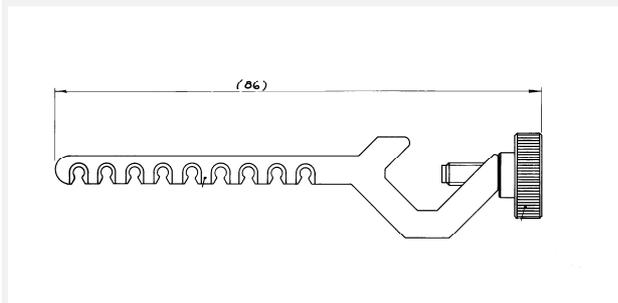
1850 Technical Drawings

All measurements are in mm

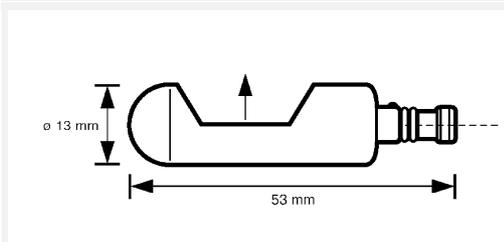


Perineal Puncture attachment UA0650

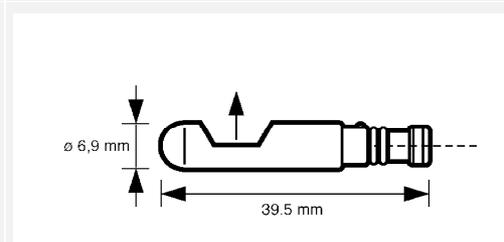
- Weight: 88g
- Dimensions: 20 x 24 x 86 mm
- Material: Chromium-plated brass



Transducer head 6004



Transducer head 6005



Transducer head 8539

