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more visible



## System blue

The "blue" Standard  
for Photodynamic Diagnostics (PDD)

# System blue

The "blue" Standard for Photodynamic Diagnostics (PDD)

Early identification is the top priority for treatment of bladder tumors. This is why our systems for Photodynamic Diagnostics (PDD) have been contributing to make this as simple and safe as possible for more than 20 years.

PDD development has reached new heights thanks to **System blue!** Discover the "blue" standard which will help you make the invisible visible.



## PDD with Richard Wolf – everything from a single source

The **System blue** complete system for the treatment of bladder tumors consists of the following components:

- **ENDOLIGHT LED blue:** LED-based PDD light source offers maximum color contrast for clear differentiation of tumors, without overexposing the tissue
- **Autoclavable Special Fiber Light Cable:** Unique for fluorescence applications – can also be used as a standard light cable
- **ENDOCAM Logic 4K:** High-resolution camera control unit with two different PDD modes: **bluePDD** and **bluePDD Color Contrast**
- **PENDUAL blue HD:** Flexible camera head which can be articulated to suit individual hand positions during cystoscopies and TUR-B
- **PANOVIEW Telescopes blue:** Improved light transmission and longer service life thanks to special fiber design

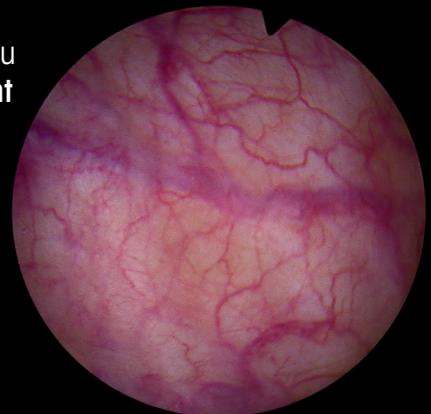


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Bladder carcinomas can be easily overlooked using conventional cystoscopy on account of their superficial growth or their minimal expansion.

Carcinoma in situ  
under white light



# System blue

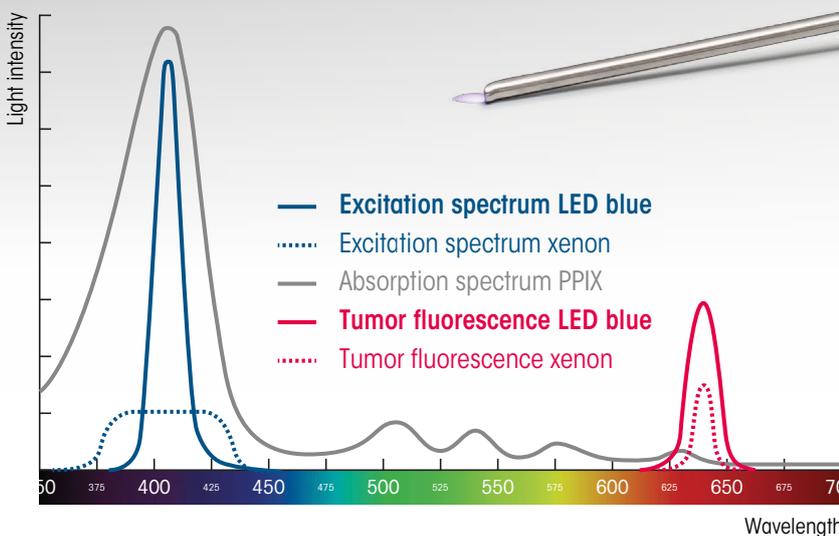
Visible progress thanks to LED technology

## ENDOLIGHT LED blue – LED-based PDD light source.

The emission spectrum is tuned optimally to the absorption band of the photosensitizer used for PDD. This generally results in a much stronger tumor fluorescence than that obtained with xenon light sources.

This not only significantly improves contrast imaging and the differentiation between malignant and benign tissue, but also provides a fundamentally brighter and more natural image of the surgical site.

- Faster detection of tumors due to high color contrast
- No delay in image transmission thanks to the high-speed image processor
- Narrow-band blue LED light prevents overexposure of the tissue
- Special cooling system enables virtually silent operation



The comparison with xenon technology demonstrates that the emission band of **LED blue** is optimally correlated with the main absorption band of the photosensitizer based on PPIX (protoporphyrin IX). This leads to much stronger tumor fluorescence.





You will find user opinions and other information on our website:

[systemblue.richard-wolf.com](http://systemblue.richard-wolf.com)



„The HD image enables tumors to be easily differentiated even in white-light mode – the different blue PDD modes also allow outstanding distinction and contrast differentiation. In summary, I can say that this represents a substantial improvement over anything we have experienced up to now.“

*Dr. med. Michael Straub // Senior Urologist  
Head of Endourology and Stone Center  
University Hospital Klinikum rechts der Isar  
Department of Urology Technical University  
Munich, Germany*

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In blue PDD mode, the color of tumorous tissue becomes significantly more differentiated than the healthy surrounding tissue. The healthy section of the bladder wall is shown as light and contrast-rich and this permits an outstanding overview.

bluePDD



# System blue

Unique components for an innovative system



„The great aspect of System blue is the strong image illumination: This allows me to operate continuously in PDD mode and achieve complete resection of all tumors with a high level of clinical certainty.“

*Dr. med. Gerson Lüdecke // Senior Urologist  
Head of the Section of Uro-Oncology / Med. Tumor Therapy  
Clinic and Polyclinic for Urology, Pediatric Urology and An-  
drology, Giessen, Germany*

## ENDOCAM Logic 4K

With the latest software update, our high-resolution camera control unit is the first of its kind to offer two different PDD modes.

- **Two Special Imaging Modes (SIM) included for differentiated visualization: "bluePDD" and "bluePDD Color Contrast"**
- **Compatible with all applied parts and camera heads of ENDOCAM Logic HD**



## Pendul blue HD camera head

- **Intuitive articulation between 0° and 90° for use as pendulum head for the resection**
- **1920 x 1200 sensor resolution (WUXGA)**
- **Bladder tumor resection can be carried out entirely under blue light**
- **Can also be used for white-light endoscopy without restrictions**

### PANOVIEW telescopes blue

The special fiber design and a particularly fast lens system ensure crystal-clear images and a longer service life.

- **HD telescope** for a brilliant, bright image
- **Improved light transmission**
- **Longer service life**
- **Can also be used for white-light endoscopy without restrictions**
- **0° / 12° / 30° / 70°**



„From my own experience, I am able to report that treatment successes can be increased with every improvement in image quality and the resulting enhanced identifiability of tumorous tissue. This ultimately provides a considerable advantage for the patient.“

*Shabrokh F. Shariat, M.D. // Head of Department of Urology MedUni Vienna, Austria*

*Adjunct Professor of Urology and Medical Oncology Weill Medical College of Cornell University / New York, USA*

*Adjunct Professor of Urology UT Southwestern / Dallas, USA*

### NEW: HF-Generator 2260

Perfectly tailored to monopolar and bipolar applications with the Richard Wolf instrument set.

- **Monopolar and bipolar presets**



### Special Fiber Light Cable blue

Another innovation from Richard Wolf:

Our highly flexible PDD light cable can be autoclaved without any restrictions.

- **Autoclavable!** An innovation for fluorescence applications
- **Better transmission** through innovative fiber design
- **Highly flexible light cable**
- **Can also be used for white-light endoscopy without restrictions**



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**bluePDD**  
Color Contrast

The blue PDD color contrast mode offers an even stronger differentiation which visualizes the fluorescence in vibrant magenta.



# Order data

## System blue

### Light source

#### ENDOLIGHT LED blue light source, bndl

comprising:

ENDOLIGHT LED blue light source (5165001), power cable (244003), patch cable, RJ45 (72325378), foot control rockerswitch (2030105) ..... **51650011**

#### Spezial Fiber light cable blue, Set

Fiber light cable blue Ø 3.5 mm (80673523), Adapter endoscope side (809509) ..... **806735231**

### Telescopes

#### PANOVIEW telescope blue

Ø 4,0 mm

0° ..... 8650.514  
 12° ..... 8654.531  
 30° ..... 8654.522  
 70° ..... 8650.515

### Camera head

#### Pendul blue HD camera head

Angleable case for individual handling,

Integrated lens f = 15 mm

cable length: 3 m ..... **5525833**



### Camera

#### ENDOCAM Logic 4K camera controller, bndl

comprising:

ENDOCAM Logic 4K camera controller (5525301), manual remote control USB (5525401), power cable (244003), USB flash drive 32 GB (72321829), cable HDMI / HDMI lockable 3.0 m (103847)..... **55253011**



# Order data

## Recommended instrument combinations\* for use with **System blue**



**TUR-B/monopolar SHARK continuous irrigation resectoscope**  
22/24 Fr., 30°, for monopolar resection of bladder tumors

- Working element mono,**  
active, closed ..... **8674205**
- optional: Working element mono,**  
passive, closed ..... **8674225**
- Outer sheath, 24 Fr. .... 8675424**
- Internal sheath, 22 Fr. .... 8675322**
- Obturator, 22 Fr. .... 8673022**
- Viewing obturator, 22 Fr. .... 8673122**
- Spezial Fiber light cable blue, Set**  
2.3 m ..... **806735231**
- PANOVIEW telescope blue, 30° ..... 8654.522**
- optional: PANOVIEW telescope blue, 12° ..... 8654.531**
- Cutting electrode mono**  
22 Fr., 0.25 mm, 12°/30°, for single use,  
single sterile packed (PACK=10 pcs.) ..... **46782225**
- Coag electrode mono**  
22 Fr., 12°/30°, for single use,  
single sterile packed (PACK=5 pcs.) ..... **46782201**



**TUR-B/monopolar SHARK continuous irrigation resectoscope**  
24/26 Fr., 30°, for monopolar resection of bladder tumors

- Working element mono,**  
active, closed ..... **8674205**
- optional: Working element mono,**  
passive, closed ..... **8674225**
- Outer sheath, 26 Fr. .... 8675426**
- Internal sheath, 24 Fr. .... 8675324**
- Obturator, 24 Fr. .... 8673024**
- Viewing obturator, 24 Fr. .... 8673124**
- Dilatations obturator, 24 Fr. .... 8673224**
- Spezial Fiber light cable blue, Set**  
2.3 m ..... **806735231**
- PANOVIEW telescope blue, 30° ..... 8654.522**
- optional: PANOVIEW telescope blue, 12° ..... 8654.531**
- Cutting electrode mono**  
24 Fr., 0.25 mm, 12°/30°, for single use,  
single sterile packed (PACK=10 pcs.) ..... **46782425**

\* These are recommended instrument combinations.  
Further information can be found at [www.richard-wolf.com](http://www.richard-wolf.com)

# Order data

Recommended instrument combinations\*  
for use with **System blue**



**TUR-B/bipolar SHARK continuous irrigation resectoscope**

22/24 Fr., 30°, for bipolar resection of bladder tumors

- Working element bipo,**  
active, closed ..... **8680.205**
- optional: Working element bipo,**  
passive, closed ..... **8680.225**
- Outer sheath, 24 Fr. .... 8675424**
- Internal sheath, 22 Fr. .... 8675322**
- Obturator, 22 Fr. .... 8673022**
- Viewing obturator, 22 Fr. .... 8673122**
- Spezial Fiber light cable blue, Set**  
2.3 m ..... **806735231**
- PANOVIEW telescope blue, 30° ..... 8654.522**  
**optional: PANOVIEW telescope blue, 12° ..... 8654.531**
- Cutting electrode bipo**  
22 Fr., 0.25 mm, 12°/30°, for single use,  
single sterile packed (PACK=3 pcs.) ..... **4622.2533**
- Cutting electrode bipo**  
22 Fr., 0.30 mm, 12°/30°, for single use,  
single sterile packed (PACK=3 pcs.) ..... **4622.1333**
- Coag electrode bipo**  
22 Fr., 12°/30°, for single use,  
single sterile packed (PACK=3 pcs.) ..... **4623.0243**



**TUR-B/bipolar SHARK continuous irrigation resectoscope**

24/26 Fr., 30°, for bipolar resection of bladder tumors

- Working element bipo,**  
active, closed ..... **8680.205**
- optional: Working element bipo,**  
passive, closed ..... **8680.225**
- Outer sheath, 26 Fr. .... 8675426**
- Internal sheath, 24 Fr. .... 8675324**
- Obturator, 24 Fr. .... 8673024**
- Viewing obturator, 24 Fr. .... 8673124**
- Spezial Fiber light cable blue, Set**  
2.3 m ..... **806735231**
- PANOVIEW telescope blue, 30° ..... 8654.522**  
**optional: PANOVIEW telescope blue, 12° ..... 8654.531**
- Cutting electrode bipo**  
24 Fr., 0.25 mm, 12°/30°, Einweg,  
single sterile packed (PACK=3 pcs.) ..... **4622.2513**
- Cutting electrode bipo**  
24 Fr., 0.30 mm, 12°/30°, for single use,  
single sterile packed (PACK=3 pcs.) ..... **4622.1313**
- Cutting electrode bipo**  
(oval, especially for en bloc resection)  
24 Fr., 0.30 mm, 12°/30°, for single use,  
single sterile packed (PACK=3 pcs.) ..... **4622.1323**
- Coag electrode bipo**  
24 Fr., 12°/30°, for single use,  
single sterile packed (PACK=3 pcs.) ..... **4623.0223**



**NEW: HF-Generator 2260**

For monopolar and bipolar applications

**HF surgery generator 400 kHz**

for the connection of monopolar and bipolar accessories, international version (Bowa, Olympus, Storz, Valleylab, KLS) ..... **2260001**

**HF surgery generator 400 kHz**

for the connection of monopolar and bipolar accessories, Erbe version (only Erbe) ..... **2260002**

**Footswitch 2 pedals L 5 m,**

with fixed connection cable ..... **2260021**

**Monopolar application:**

**HF neutral electrode cable mono L 4.5 m,**

reusable..... **2260031**

**Neutral electrode**

for use with high-frequency surgery product, Foil bag with 5 neutral electrodes, (PACK = 50 pcs.) ..... **1280H**

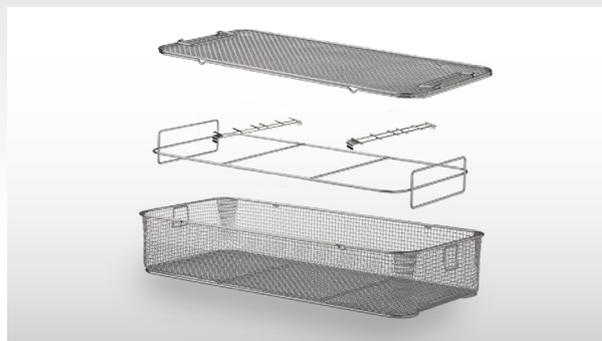
**Bipolar application:**

**HF connection cable**

(international and Erbe version), bipo, 3 m ..... **8108233**

**HF connection cable**

(international and Erbe version), bipo, 5 m ..... **8108253**



**Reprocessing**

For the instrument combinations\*

**Perforated basket for camera head** (Pendul blue HD)

for machine reprocessing, sterilization, storage and transport ..... **38002**

**Spare part: Set of fixing chains** ..... **643301174**

**Perf. basket for standard telescope 2** (PANOVIEW blue

telescopes) for machine reprocessing, sterilization, storage and transport ..... **38016**

**Spare part:**

**Fixing chain with 4 balls** ..... **64271020**

**Spring clip for perforated basket**..... **64076028**

**Universal perforated basket 3** (for TUR-B bipo/mono SHARK

continuous irrigation resectoscope with accessories) for sterilization, storage and transport ..... **33003**

**optional:**

**Universal perforated basket 5** for TUR-B bipo/mono

SHARK continuous irrigation resectoscope with accessories) for sterilization, storage and transport ..... **33005**

**for this:**

**Instrument mat for perforated basket** ..... **33301**

**Fastening set for perforated basket** ..... **33303**

**Auxiliary equipment for manual reprocessing:**

**Tray** (W x H x D) 432 x 100 x 150 mm ..... **68601**

**Cleaning brushes** can be found in our Hygiene catalog and the corresponding instructions for use.

\* These are recommended instrument combinations. Further information can be found at [www.richard-wolf.com](http://www.richard-wolf.com)

