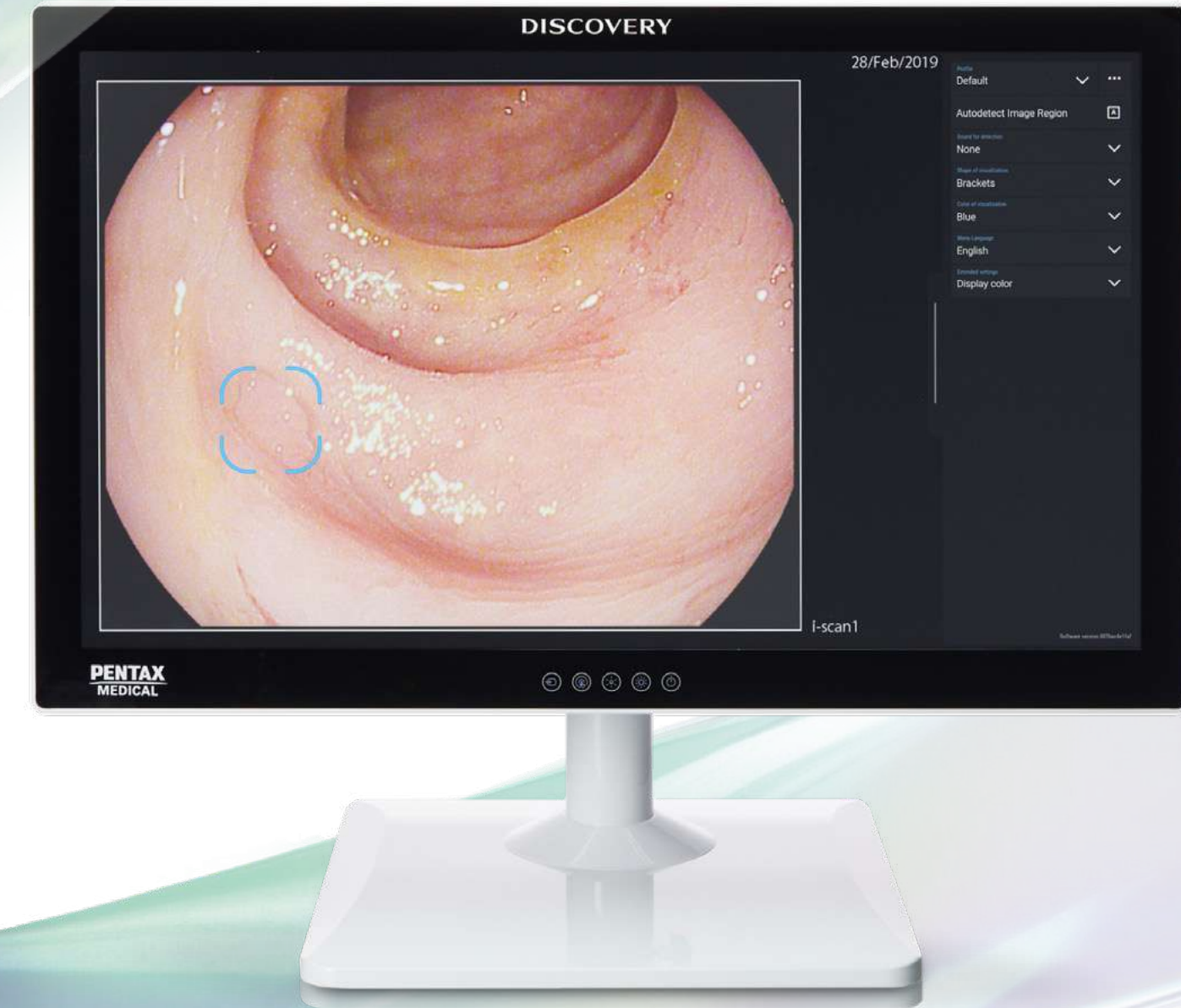


NEXT LEVEL INTELLIGENCE



Highly focused assistance
to find more polyps than ever



DISCOVERY **AI**

Detection
Challenges

Challenge:
Human
Factor

PENTAX
Medical
DISCOVERY™

What
makes it so
intelligent?

Experience
PENTAX
Medical
DISCOVERY™

Technical
Information

Challenges in colonoscopy

Detection Challenges

Challenge: Human Factor

PENTAX Medical DISCOVERY™

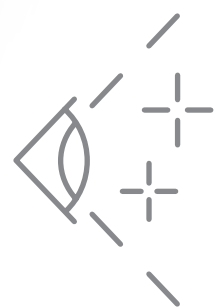
What makes it so intelligent?

Experience PENTAX Medical DISCOVERY™

Technical Information

In our fight against colorectal cancer we have already achieved a lot. However, up to 26 %¹⁾ of lesions are still missed in examinations. That's why we're committed to developing new solutions to overcome daily challenges in colonoscopy routines.

26%



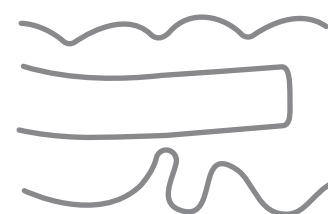
VISIBILITY

Through digital and optical image enhancement we were able to increase adenoma detection rates (ADR) by up to 11 %²⁾.

+11%

ADR increase

1) According to studies miss rates for polyps of any size are approximately 22–26 %, and an AMR (adenoma miss rate) of 27 % for serrated polyps. Missed lesions may have the possibility to develop into cancer.



BLIND SPOTS

By using mechanical enhancement technology such as RetroView™ and G-EYE® the ADR could be increased by up to 28 %³⁾.

+28%

ADR increase

2) Bowman EA, Pfau PR, Mitra A, et al. High Definition Colonoscopy Combined with i-SCAN Imaging Technology Is Superior in the Detection of Adenomas and Advanced Lesions Compared to High Definition Colonoscopy Alone. Diagn Ther Endosc. 2015;2015:167406. doi:10.1155/2015/167406



HUMAN FACTOR

The unsolved challenge so far was the human factor. Now PENTAX Medical DISCOVERY™ will help you solve this, as well.

3) Shirin H, Shpak B, Epshtein J, et al. G-EYE colonoscopy is superior to standard colonoscopy for increasing adenoma detection rate: an international randomized controlled trial. Gastrointest Endosc. 2018

The human factor

The human factor is responsible for missing many lesions and has a negative impact on the medical outcomes of your examinations.



FATIGUE

Due to successive, repetitive procedures, physicians often show signs of fatigue which can lead to fewer lesions detected. Studies show that early-morning cases yielded 27 % more polyps per patient than later cases.⁴⁾



DISTRACTIONS

Distractions reduce the ability to concentrate. Studies show that Physicians are distracted in up to 13 % of exam time, i. e. due to phone calls during the exam or external staff entering the room.⁵⁾

4) Clinical Gastroenterology and Hepatology, Volume 7, Issue 11, November 2009, Pages 1141-1142

5) "Do absorption and realistic distraction influence performance of component task surgical procedure?" Jon R. Pluyter, Sonja N. Buzink, Anne-F. Rutkowski, Jack J. Jakimowicz; Surg Endosc. 2010 Apr; 24(4): 902-907 Published online 2009 Sep 30

PENTAX Medical DISCOVERY™ Next Level Intelligence



PENTAX Medical DISCOVERY™ is an innovative device working with Artificial Intelligence. It is able to support you in the detection of unremarkable lesions and directs your attention to potential lesions.



OPTIVISTA PLUS



IMAGINA

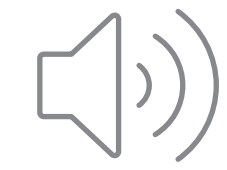
PENTAX Medical DISCOVERY™ seamlessly integrates with various video processors and technology from PENTAX Medical.



Signals in real-time



VISUAL MARKER



SOUND

PENTAX Medical DISCOVERY™

Major benefits

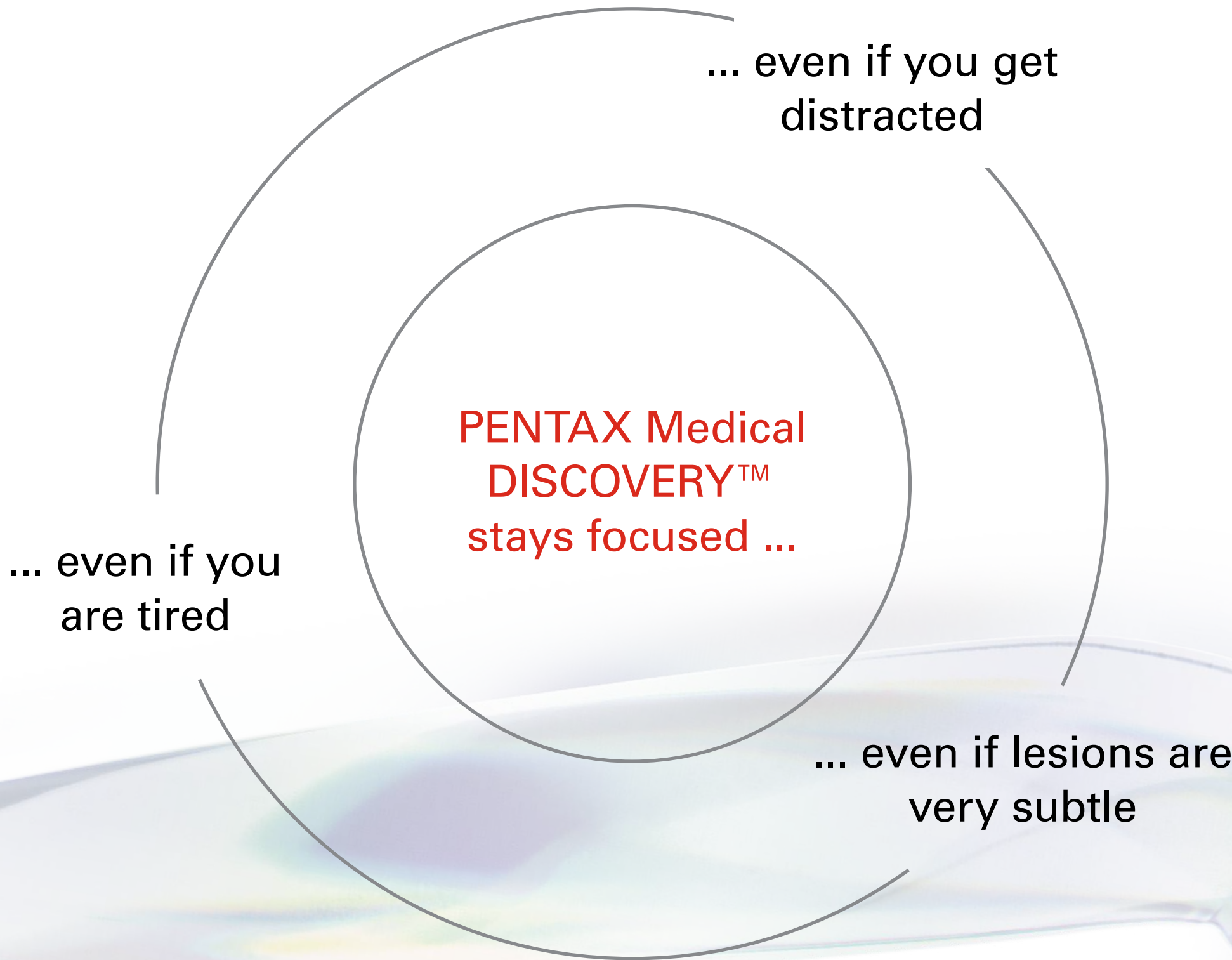


1

GET HIGHLY FOCUSED ASSISTANCE IN YOUR EXAMS

PENTAX Medical DISCOVERY™ assists endoscopists in finding potential polyps during a colonoscopy examination.

Multiple factors are considered to have a negative impact on the detection rate, one of them being human factor.



PENTAX Medical DISCOVERY™

Major benefits



2

INCREASE CONFIDENCE IN THE EXAMINATION OUTCOME

Colorectal cancer prevention is the primary goal of screening and diagnostic colonoscopy. At least 50 % of all interval carcinomas (iCRCs; defined as a cancer diagnosed between screening and post-screening surveillance colonoscopies) arise from missed lesions during colonoscopy.

PENTAX Medical DISCOVERY™ has a high potential to contribute in decreasing the appearance of (interval) colorectal cancer by assisting endoscopists in finding potential polyps during a colonoscopy examination. This might influence the frequency of the examination interval.

Increased ADR



Appropriate exam intervals



Decreased appearance of iCRC



Improved patient's quality of life

PENTAX
Medical
DISCOVERY™

PENTAX Medical DISCOVERY™

Major benefits



3

IMPROVE HEALTH CARE COST-EFFICIENCY

Each 1.0 % increase of the detection rate is associated with up to 3.0 % decreased risk of iCRCs.⁷⁾ Average CRCancer cost per treatment of patient is 35.000€.

PENTAX Medical DISCOVERY™ could potentially contribute to improving health care cost-efficiency.

1 %
higher ADR⁷⁾



3 %
lower risk of iCRC⁷⁾



Reduced number of cancer patients
(cost per treatment 35,000€ on average)



PENTAX Medical DISCOVERY™
has the potential to improve
health care cost-efficiency

7) Corley DA, Jenson CD, Marks AR JR, et al. Adenoma Detection Rate and Risk of Colorectal Cancer and Death. NEJM 2014;370:1298-306.

PENTAX Medical DISCOVERY™

What makes it so intelligent?

The database of PENTAX Medical DISCOVERY™ is what sets it truly apart from any other solution in the market. The training of the Artificial Intelligence was based on a vast amount of expertly curated images.



EXPERT CURATED DATABASE

PENTAX Medical DISCOVERY™ learned from a database of images including the most difficult lesions. This database contains thousands of dedicated images of each kind of polyp, annotated by renowned CRC centers worldwide. With this database, PENTAX Medical DISCOVERY™ assists endoscopists in finding potential polyps during a colonoscopy examination



Highlighting suspicious areas with frames

What experts say about PENTAX Medical DISCOVERY™



Prof Timo Rath, Professor of Endoscopy and Molecular Imaging, University of Erlangen, Nuremberg, Germany

“I’m very confident that PENTAX Medical DISCOVERY™ will translate into increasing our Adenoma Detection Rate and therewith will contribute to reducing colorectal cancer mortality.”



Dr Sergey Kashin, Head of Endoscopy Department, Yaroslavl Regional Cancer Hospital, Russia

“The PENTAX Medical DISCOVERY™ uses advanced artificial intelligence to highlight the presence of pre-cancerous lesions with a visual marker in real-time – serving as an ever vigilant second observer.”



Prof Peter Siersema, Professor of Endoscopic Gastrointestinal Oncology, Editor-in-Chief, Endoscopy, Radboud University, Netherlands

“Computer-aided detection has been shown to increase the detection of pre-cancerous colorectal lesions. The introduction of the PENTAX Medical DISCOVERY™ artificial intelligence system opens the door to a new era where endoscopists and PENTAX Medical DISCOVERY™ jointly reduce health-care costs by decreasing the prevalence of colorectal cancer.”

Experience PENTAX Medical DISCOVERY™



There is nothing like seeing PENTAX Medical DISCOVERY™ at work for yourself. We offer you various ways to get this personal experience as close up as you wish.



OBSERVATION

Live case attendance at one of the institutes that already work with PENTAX Medical DISCOVERY™



ON-SITE DEMONSTRATION

Trial at your institute supported by PENTAX Medical staff



Visit the PENTAX Medical Live Academy and watch live cases online



PENTAX Medical DISCOVERY™

Technical information

PENTAX Medical DISCOVERY™
 Smart Assistant System SAS-M10

| TYPE | SAS-M10 |
|--|--|
| Display | 32" LCD capacitive touch-screen |
| Max. resolution | 3,840 × 2,160 |
| Max. colours | 10 bits (8 bits + FRC) / 1.07B colours |
| CPU | Intel® Core™ i7 – 6820EQ Processor |
| Storage | 2.5" Solid State Drive |
| Size and weight | 778 × 478 × 102 mm (W × H × D); 20.6 kg |
| Power supply | 100–240V AC; 50–60 Hz |
| Degree of protection against electric shock / ingress of water | Class I / IPX0 |
| Video output | DisplayPort |
| Compatible Video Processors | EPK-i7010, EPK-i7000, EPK-i7000(A), EPK-i5500c, EPK-i5010, EPK-i5000 |

Seamless integration



For your daily challenges in colonoscopy we offer you intelligent technologies. PENTAX Medical DISCOVERY™ works seamlessly together with the following products to provide you with a fully integrated solution.

| | VISIBILITY | BLIND SPOT | HUMAN FACTOR |
|-----------------------------|---|---------------------------------------|---|
| OPTIVISTA PLUS EPK-i7010 | HD+ i-scan OE i-scan SE i-scan TE i-scan CE | RetroView G-EYE® * G-EYE® PILOT | PENTAX Medical DISCOVERY™ SCOPEPILOT |
| EPK-i7000 EPK-i5000 | HD+ i-scan SE i-scan TE i-scan CE | RetroView G-EYE® * G-EYE® PILOT | PENTAX Medical DISCOVERY™ SCOPEPILOT |
| IMAGINA EPK-i5500c | HD+ i-scan SE i-scan TE i-scan CE | G-EYE® * | PENTAX Medical DISCOVERY™ SCOPEPILOT |

* Powered by SMART Medical Systems

Home

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Challenges

Challenge:
Human
Factor

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Medical
DISCOVERY™

What
makes it so
intelligent?

Experience
PENTAX
Medical
DISCOVERY™

Technical
Information

PENTAX Medical Discovery™ (SAS-M10)
SCOPEPILOT (NCU-7000)
Video processors & Endoscopes



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Germany**

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info.emea@pentaxmedical.com • www.pentaxmedical.com



Manufacturer

HOYA Corporation
6-10-1 Nishi-shinjuku
Shinjuku-ku • Tokyo
160-0023 Japan

G-EYE®-System



MedNet GmbH
Borkstrasse 10
48163 Münster • Germany



Manufacturer

Smart Medical Systems Ltd.
5 HaNofar St.
Ra'anana 4366404 • Israel
T +972 9 7444 321 • F +972 9 7444 543
info@smartmedsys.com

PENTAX Medical Discovery™ (SAS-M10), SCOPEPILOT (NCU-7000): Medical device class: I

Video processors & Endoscopes: TÜV Süd CE0123 • Medical device class: IIa

G-EYE®-System: MEDCERT CE0482 • Medical device class: IIa

These products must be used only by healthcare professionals. Before use and for detailed product specifications, please refer to the instructions for use.

In the interest of technical process, specifications may change without notice.

PENTAX
MEDICAL

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