



*Early detection
is not witchcraft!*

DAFE

Diagnostic Auto-Fluorescence
Endoscopy in the Bronchial Airways

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*Early detection
is not witchcraft ...*

...the magic word is

DAFE

DAFE makes tumour margins clearly and distinctly visible.

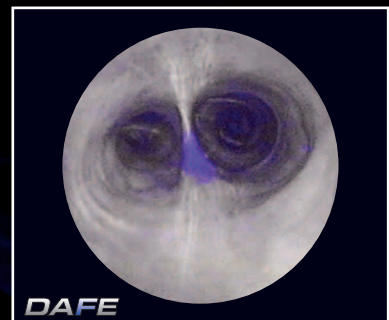
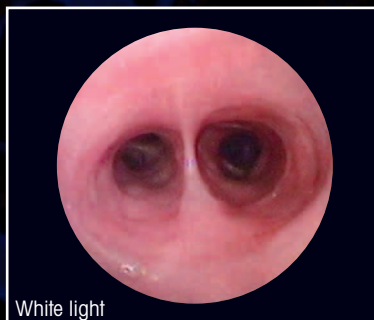
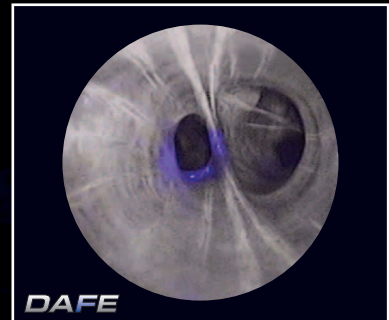
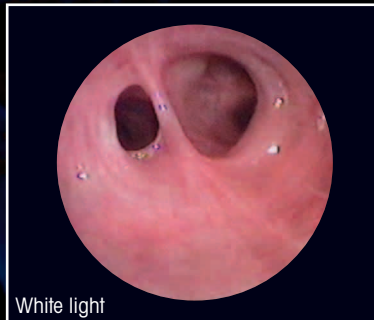
DAFE permits bronchial carcinomas to be recognised at a stage when the chances for a cure are still high.

DAFE is your indispensable partner in early detection.

The radiation and excitation of bronchial tissue with violet and blue light of a precisely defined waveband causes fluorescence to occur in the body's own fluorophores of the bronchial walls.

As the fluorescent behaviour depends very much on the condition of the tissue - healthy tissue is strongly fluorescent whereas pathologically changed tissue is only weakly fluorescent - it is possible to display pre-malignant and early malignant tissue in high contrast to the surrounding healthy tissue - contrary to the conventional white light endoscopy.

Slightly pathologically changed tissue already stands out distinctly from the healthy tissue in the fluorescent image.



- Now even clearer tissue colour differentiation for easy and safe diagnosis
 - Healthy tissue is shown in shades of grey whilst
 - (early) malignant tissue stands out in strong blue
 - haematose tissue and tissue with a high density of vessels are displayed in black
- iCB - intelligent Color Balance: Individualised colour comparison within the body for patient-optimised colour representation using the **DAFE** blue light mode
- Suitable for CCD and fibre-endoscopes as well as standard telescopes
- Brilliant image quality
- Very easy to use and operate
- Can be used with white light without restrictions
- Quick change between white and **DAFE** blue light or blue light **PDD**
- OSD - On-Screen Display for comfortable user guidance
- CAN-BUS for connection to RIWO-NET

Developed in collaboration with EPFL (Ecole Polytechnique Fédérale de Lausanne), Switzerland and in cooperation with Dr. Lutz Freitag, Lungenklinik Hemer, Germany, Prof. Philippe Monnier, CHUV (Centre Hôpital Universitaire Vaudoise), Switzerland and Dr. Philippe-Pierre Ramon, Hôpital Albert Calmette, Lille, France.

All from one source: The unique **DAFE** system from Richard WOLF



COMBILIGHT DAFE PDD Set

consisting of:

LP COMBILIGHT **DAFE PDD** (5138.001)
white light, blue light DAFE and blue light PDD, incl.

DAFE and PDD filter system, lamp module 300 Watt R. WOLF selected (2431.111), mains cable (2440.03), system cable (103.03), CAN-BUS cable (103.701), CAN-BUS terminator (5590.989), foot switch (2030.105),

power supply: 100 - 240 V~, 50/60 Hz,

dimensions (w x h x d):

330 x 155 x 380 mm5138.0011



design award
winner
2004

eyeMAX[®]

DAFE Video Bronchoscope

flexible, with 1/10" CCD-Chip,

OD 5.3 mm, working and irrigation channel 2.0 mm, angle of view 0°, field of view 85°, deflection 180° up, 130° down, working length 600 mm, with fixed light cable incl.

water tightness tester (163.903), gas sterilisation valve (163.904), cleaning brush (7264.691) and case (15583.1037), biopsy valve (7265.851), sealing valve (red) (15114.052 / pack of 20), sealing membrane (blue)(15479.014 / pack of 20)

PAL7269.001

NTSC7269.061

as 7269.001/.061 but

OD 6.0 mm, working and irrigation channel 2.2 mm, field of view 110°,

PAL7270.001

NTSC7270.061

also:

Flexible Grasping Forceps7265.601

"chip-on-the-tip" technology
for a clearly improved image quality

- higher resolution
- no pixel structure
- no Moiré effect

Distal tip
made of high-tech ceramic
ensuring the highest degree of patient safety during HF or laser applications

Ergonomic control housing
distinguished with the IF Design Award

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1 CCD ENDOCAM 5520

The ENDOCAM 5520 controller can be operated either directly with our new flexible **DAFE video bronchoscopes** or, via a separate camera head, using our standard flexible and rigid **DAFE bronchoscopes**.

- Integrated text generator
- Digital image processing with **i_{logic}** control
- i_oLight**
- Digital zoom
- Flip
- Freeze
- DAFE** functions
- PDD** functions
- Can-Bus interface
- DV board



1CCD ENDOCAM Controller

consisting of: 1CCD ENDOCAM Controller 5520 with integrated text generator, digital image processing with **i_{logic}** control, **i_oLight**, digital zoom, Flip, Freeze, PDD functionality, inclusive cable set,
 Power supply 100 – 230 V, 50/60 Hz
 dimensions (w x h x d):
 330 x 100 x 360 mm
 Colour system PAL5520.210
 NTSC5520.810

1 CCD ENDOCAM Controller

as 5520.210/810 but including CAN bus interface
 Colour system PAL5520.102
 NTSC5520.702

1 CCD ENDOCAM Controller

as 5520.210/810 but including CAN bus interface and DV board
 Colour system PAL5520.201
 NTSC5520.801



DAFE camera head

- RW-mount connection
- Two programmable remote control buttons
- Straight cable outlet
- Cable length 3 m
- Weight 80 g

The camera sets contain one controller and one camera head each.

The controllers come as the "standard" version, the CAN-BUS model or the high-end

solution with integrated DV board, which permits your image material to be transferred directly to a laptop computer, for example.

Camera Head		1 CCD ENDOCAM 5520 Controller					
		[Image]		+ dialog + core		+ dialog + core + DV IEEE 1394	
		PAL	NTSC	PAL	NTSC	PAL	NTSC
		5520.210	5520.810	5520.102	5520.702	5520.201	5520.801
PAL	5520.9018	5520.004		5520.0042		5520.2042	
NTSC	5520.9618		5520.604		5520.6042		5520.8042



Flexible Bronchoscope *DAFE*

WL 600 mm, outer \varnothing 6 mm, working channel \varnothing 2.2 mm

incl. biopsy valve (7265.851), flexible biopsy forceps (7265.611), leakage tester (163.903), EO-steri-compensator (163.904), cleaning brush (7264.691), clip blocking filter (7265.009) and

carrying case7265.006

also:

Miniature Zoom lens

with lock mechanism and RW-mount connector, immersible and autoclavable

f = 11 - 26 mm85264.501

Miniature RIWO lens

with lock mechanism and RW-mount connector, immersible and autoclavable

f = 12 mm85264.121

Flexible Grasping Forceps7265.601

19" LCD Monitor

SONY LMD-1950MD, 19 inch TFT LCD,
to be used as PC and video LCD,
resolution: 1280 x 1024 pixel,
field of view: 178°(H), 178°(V),
unit mounting by VESA (100 x 100 mm),
Signals:

1 x Composite (BNC in/out),

1 x Y/C (S-VHS in/out),

1 x Component (RGB in/out),

1 x DVI-D (in),

1x RGB-analog (15 pol HD-SUB in),

to be extended with SONY input adaptors,
incl.

mains cable, DC cable,

CD-ROM, instructions

Power supply: 24V DC

external AC adaptor:

100-240 V a.c., 50/60Hz,

dimensions (w x h x d):

442 x 403 x 118 mm

Weight: max. 9.7 kg5370.019



also:

Monitor stand

SONY SU-560, for LCD-Monitors,

unit mounting by

VESA (100 x 100 mm)5370.0190

All from one source: The unique **DAFE** system from Richard WOLF

For rigid bronchoscopy:

Rigid Bronchoscope **DAFE**

angle of view 30°, ø 5.5 mm,
WL 493 mm8465.502

Fluid Light Cable

ø 3 mm, 2.3 m long4070.253

Filter Clip **DAFE** / **PDD**

necessary, if an Auto-Fluorescence diagnosis will be done under direct view (without camera).
Clip-on on eyepiece for use with **DAFE** and **PDD**-telescopes,
autoclavable8650.985

Unit trolleys:



Compact Cart Trolley
Monitor is not included in scope of delivery.
Only approved for Europe - CE certified.

Compact Cart Trolley **32113**

with drawer and holders for
endoscope, camera head and monitor

RIWObilsmart 31114

the classic, with extensive accessories.

More information upon request.



Accessories to adapt to parts from other manufacturers:

Lightsource Adapter **DAFE**

to connect a flexible Olympus bronchoscope
with COMBILIGHT
DAFE PDD 51388094.801

Lightsource Adapter **DAFE**

to connect a flexible Pentax bronchoscope
with COMBILIGHT
DAFE PDD 51388094.901

Eyepiece Adapter

to connect a flexible Olympus bronchoscope
with R. WOLF camera
lenses507.81

Eyepiece Adapter

to connect a flexible Pentax bronchoscope
with R. WOLF camera
lenses507.90