RTI | From Radiation to Information

Cobia

The Cobia Family – Reliable X-ray Quality Control

The Cobia Family offers a straightforward instrument that everyone who needs to make reliable Quality Control can use. RTI has over 30 years of experience in the manufacture of X-ray detectors, and the Cobia Family is a direct implementation of our high-tech knowledge coupled with what we have learned in the field.

COBIA FAMILY

COBIA SMART

Cobia Smart is a simple-to-use instrument for checking that the output from an X-ray tube is correct. Place it beneath the X-ray tube, take an X-ray exposure, and instantly get an accurate reading. The measured values can be read directly from Cobia Smart's large and clear display, even from a distance. No adjustments are required, making it exceptionally easy to use.

COBIA FLEX

The Cobia Flex offers you the convenience to make your X-ray Quality Control as quick and accurate as possible. It's just as easy as the Cobia Smart but with more possibilities. The Cobia Flex has an internal detector, offers ability to connect different probes and ion chambers, and has built-in mAs. The measured values can be read directly from the large and clear display, and stored in the Cobia Flex to read later.

COBIA SENSE

The Cobia Sense offers you the convenience to make the regular constancy checks of your X-ray equipment as quick and as accurate as possible. The Cobia Sense offers the ability to connect different probes and ion chambers thereby enabling measurement in a wide variety of situations. The measured values can be read directly from the large and clear display, and are stored in the Cobia Sense for later viewing.

COBIA DENTAL

Since the Cobia Dental is so easy to position and doesn't require any complicated settings, anyone who works in the dental clinic can quickly and easily perform the routine inspection of the intraoral X-ray equipment. To determine patient safety – every day.

OCEAN X-RAY QA SOFTWARE

Cobia Flex and Sense users also has the possibility to use a tablet or a PC, saving data to computer, printing reports, using analyses and much more. The X-ray QA software, Ocean, exhibits the Cobia's capabilities and adds benefits that make the work flow more practical and simple. You simply connect to your Cobia Flex via Bluetooth or with a USB cable to your PC or Tablet – then measure.

COBIA SMART

COBIA FLEX

Ocean Compatible

COBIA SENSE

Ocean Compatible

COBIA DENTAL

COBIA SMART FEATURE LIST

CHECK AND GO

Cobia Smart is perfect for anyone wanting to ensure that an X-ray device is functioning as it should. For example, Cobia Smart is ideal for checking fast and often that the kV and/or dose are not changing over time.

ROTATABLE COLOR DISPLAY

Cobia Smart has a very clear and rotatable color display, so you can read off measurement results fast and easily – even from a distance. The innovative and smart display even shows the results right way up in measurement situations where the instrument needs to be positioned upside down.

ONLY PAY FOR WHAT YOU NEED

There are four versions of Cobia Smart for measuring a range of different radiography and fluoroscopy parameters. Select the model that suits your needs, and only pay for what you want to measure.

COBIA SMART IN DIFFERENT LANGUAGES

As well as English, you can choose to run your Cobia Smart in several languages such as Chinese, French, German, Japanese, Norwegian, Russian, Spanish, Swedish and Turkish. This can easily be selected via the Cobia menu and we constantly update with more languages

Cobia SMART

SPECIFICATIONS

Cobia Smart General

Weight Approx	290 g
Size	138 x 76 x 27 mm³
Power source	Int. battery / ext. power supply
Battery life	10 – 20 hours
Display	Color, 320x240 pixel
Min. exp. time	0.1 ms
Sensitivity	0.2 mA @ 50 kV, 50 cm (3 mm Al)

Internal mAs

Ranges	0.1 – 999 As, 1 mA – 999 mA
	0.01 mAs/p– 999 As/p, 1 – 999 mA/p
Inaccaracy	±1 % or ±0.01 mA

Cobia Smart Measuring Parameters

Parameter	Range	Inaccuracy
Tube volt.	38 – 155 kVp	±2 %
Time	0 ms – 9999 s	±1 % or ±0.33 ms
	3 – 9999 pulses	–
Dose	70 nGy–1700 Gy	±5 %
	8 µR – 200 kR	±5 %
Dose rate	2.5 µGy/s – 175 mGy/s	±5 % or ±200 nGy/s
	0.3 mR/s – 20 R/s	±5 % or ±2 µR/s
	17 mR/min – 1200 R/min	±5 % or ±0.1 mR/min
	1 R/h – 70 kR/h	±5 % or ±70 mR/h
Auto-Comp.	1.0 – 90 mm Al Total Filtr. equiv.	N/A

Parameter	Range	Inaccuracy
HVL	1.2 – 14 mm Al	±10 % or ±0.2 mm
Total Filtration	1.0 – 90 mm Al	±10 % or ±0.3 mm Al
Pulse frequency	1/6 – 260 Hz	±1 % or ±0.2 Hz
Dose/pulse	10 nGy/p – 600 mGy/p	±5 %
	1.1 µR/p – 66 R/p	±5 %
Effective time	0 ms – 9999 s	±1 % or ±0.33 ms

R/F–kV Art No. 9761001-00
R/F–Dose Art. No. 9761002-00
R/F – kV & Dose Art. No. 9761003-00
R/F – kV & MAS Art. No. 9761004-00

COBIA FLEX FEATURE LIST

FOR YOUR FAST BUT MORE ADVANCED MEASUREMENTS

The Cobia Flex has no position dependence, just place it under the beam and make sure the detector area is irradiated. It is easy for everyone to use and gives you an accurate result. With Cobia Flex there is no need to reset between your measurements, so you can stay in the control room until all your measurements are made. The practical log function makes it possible for you to read your measurements when you have the time.

BUILD TO SUIT YOUR SPECIFIC NEEDS

With the internal detector of your Cobia Flex you can measure dose, dose rate, kV, HVL, TF and Time. Internal mAs is standard but can be deselected if not required. Our selection of external probes gives you several opportunities to make the Cobia Flex suit your specific needs – just plug it in and the Cobia Flex will adapt automatically.

COBIA FLEX IN DIFFERENT LANGUAGES

As well as English, you can choose to run your Cobia Flex in several languages such as Chinese, French, German, Japanese, Norwegian, Russian, Spanish, Swedish and Turkish. This can easily be selected via the Cobia menu and we constantly update with more languages.

COBIA FLEX HIGHLIGHT LIST

- Easy to position, no position dependence
- Large rotatable display
- Log/history function
- Measures pulsed radiation
- Full Auto range (kV, TF and Sensitivity)
- Built-in mAs
- Plug and play
- Bluetooth and USB communication
- Solid-state detectors = no need to compensate for temperature & pressure
- Built-in energy compensation
- Can be used together with ion chambers
- Automatic recognition of external probes
- Long-lasting rechargeable battery
- Always free firmware upgrades
- Firmware is easily updated via Internet or CD
- Upgradable to any model you want
- Up to 10-year warranty
- 2-year Calibration Cycle

Cobia FLEX

SPECIFICATIONS

Cobia Flex General

Weight Approx	290 g
Size	138 x 76 x 27 mm³
Power source	Int. battery / ext. power supply
Battery life	10 – 20 hours
Display	Color, 320x240 pixel
Min. exp. time	0.1 ms
Sensitivity	0.2 mA @ 50 kV, 50 cm (3 mm Al)

Internal mAs

Ranges	0.1 – 999 As, 1 mA – 999 mA
	0.01 mAs/p– 999 As/p, 1 – 999 mA/p
Inaccaracy	±1 % or ±0.1 mA

Cobia Flex Measuring Parameters

Parameter	Range	Inaccuracy
Tube volt.	38 – 155 kVp	±2 %
Time	0 ms – 9999 s	±1 % or ±0.33 ms
	3 – 9999 pulses	–
Dose	70 nGy – 1700 Gy	±5 %
	8 µR – 200 kR	±5 %
Dose rate	2.5 µGy/s – 175 mGy/s	±5 % or ±200 nGy/s
	0.3 mR/s – 20 R/s	±5 % or ±20 µR/s
	17 mR/min – 1200 R/min	±5 % or ±1 mR/min
	1 R/h – 70 kR/h	±5 % or ±70 mR/h
Auto-Comp.	1.0 mm Al – 1.4 mm Cu	N/A

Parameter	Range	Inaccuracy
HVL	1.2 – 14 mm Al	±10 % or ±0.2 mm
Total Filtration	1.0 – 90 mm Al	±10 % or ±0.3 mm Al
Pulse frequency	1/6 – 260 Hz	±1 % or ±0.2 Hz
Dose/pulse	10 nGy/p – 1 Gy/p	±5 %
	1.1 µR/p – 120 R/p	±5 %
Effective time	0 ms – 9999 s	±1 % or ±0.33 ms

Cobia Flex R/FArt No. 9762003-00
Cobia Flex R/F with mAsArt. No. 9762004-00

COBIA SENSE FEATURE LIST

Cobia Sense is dedicated for use with an external detector such as RTI Dose Probe, Light Probe, CT ion chamber or external mAs probes. The wide selection of external probes enables a big flexibility in the performance of regular constancy checks for most modalities.

The Cobia Sense is targeted for routine constancy checks, with the ambition to make those tasks quick and easy – there is no need to reset between your measurements, so you can remain in the control room until all your measurements are made. The practical data log allows you to store measurements for later viewing.

COBIA SENSE FOR CT

RTI provides a Cobia Sense dedicated for CT. Used together with either CT Dose Profiler or a pencil ion chamber, Chamber Adapter, and CTDI phantoms, you will get an excellent and easy-to-use CT QA tool. This solution gives you an easy way to calculate CTDI values e.g. CTDIw , CTDI100 or CTDIvol and DLP.

COBIA SENSE FOR MAM

Your Quality Control and Service of the mammography systems must be done in an accurate, quick and efficient way. To make sure that the dose and other parameters are within acceptance limits and to ensure that the hospitals do not have any down time on the X-ray systems the Cobia Sense provides you with efficient solutions for this area.

COBIA SENSE FOR RAD/FLUORO

Thanks to the quick response and high sensitivity of the RTI Dose Probe, measurements in radiography and fluoroscopy applications are fast, easy and reliable. The RTI Dose Probe is designed to perform very low dose rate measurements, for instance on image intensifiers. For situations requiring a probe with a smaller footprint or less influence on AEC – the T20 Dose Detector can be used. Cobia Sense automatically identifies the probes you connect and makes all necessary adjustments without any need for interaction from the user.

Cobia
SENSE

SPECIFICATIONS

Cobia Sense General

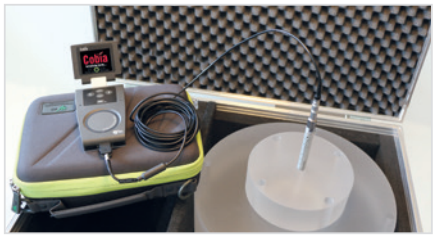
Weight Approx	290 g	Battery life	10 – 20 hours
Size	138 x 76 x 27 mm³	Display	Color, 320x240 pixel
Power source	Int. battery / ext. power supply	Min. exp. time	0.1 ms

Cobia Sense Measuring Parameters

	Range	Inaccuracy
Time	0 ms – 2000 s	±1 % or ±0.33
	3 – 9999 pulses	

Art. No: 9763001-00

COBIA SENSE KIT



Sense CT

Sense MAM

Sense RAD/FLUORO

COBIA DENTAL FEATURE LIST

EVERY DAY “CHECK-UPS”

The Cobia Dental is especially suitable for acceptance test, constancy test, and routine quality control of Intraoral X-rays. The basic need for a dental clinics calibration check of kV and exposure time is covered with the standard kV model of Cobia Dental. With a small addition to price, dose, total filtration and HVL measuring will also be included.

EASE OF USE

Cobia Dental is designed for “ease of use” which is accomplished through easy positioning and possibilities to choose your preferred language together with a powerful and clear color display. The screen is rotatable and is easy to read from a distance, and your 100 latest measurements will always be automatically saved.

ONLY PAY FOR WHAT YOU NEED

There are three versions of Cobia Dental for measuring a range of different parameters in both Intraoral and CBCT. Select the model that suits your needs, and only pay for what you want to measure. Intraoral kV, Intraoral Dose, or Intraoral kV & Dose.

RTI DENTAL SOLUTIONS

Cobia Dental is designed to be the instrument used by the dental clinic staff. For more advanced Quality Assurance of Dental X-ray equipment RTI recommend our multimeter – the RTI Piranha together with our QA software Ocean.

Cobia
DENTAL

SPECIFICATIONS

Cobia Dental General

Weight Approx	290 g
Size	138 x 76 x 27 mm³
Power source	Int. battery / ext. power supply
Battery life	10 – 20 hours
Display	Color, 320x240 pixel
Min. exp. time	0.1 ms
Sensitivity	0.2 mA @ 50 kV, 50 cm (3 mm Al)

Cobia Dental Measuring Parameters

	Range	Inaccuracy
Tube volt.	45 – 105 kVp	±2 %
Time	0 ms – 9999 s	±1 % or ±0.33 ms
	3 – 9999 pulses	–
Dose	70 nGy – 1700 Gy	±5 %
	8 µR – 200 kR	±5 %
Dose rate	2.5 µGy/s – 175 mGy/s	±5 % or ±200 nGy/s
	0.3 mR/s – 20 R/s	±5 % or ±2 µR/s
	17 mR/min–1200 R/min	±5 % or ±0.1 mR/min
	1 R/h – 70 kR/h	±5 % or ±70 mR/h
Auto-Comp.	1.0 – 90 mm Al Total Filtr. equiv.	N/A

Parameter	Range	Inaccuracy
HVL	1.2 – 14 mm Al	±10 % or ±0.2 mm
Total Filtration	1.0 – 90 mm Al	±10 % or ±0.3 mm Al
Pulse frequency	1/6 – 260 Hz	±1 % or ±0.2 Hz
Dose/pulse	10 nGy/p – 600 mGy/p	±5 %
	1.1 µR/p – 66 R/p	±5 %
Effective time	0 ms – 9999 s	±1 % or ±0.33 ms

Cobia Dental intraoral kV Art No. 9764001-00
Cobia Dental intraoral Dose Art. No. 9764002-00
Cobia Dental intraoral kV & Dose Art. No. 9764003-00

ACCESSORIES

RTI DOSE PROBE

The RTI Dose Probe is an external dose detector, designed to perform very low dose rate measurements for instance on image intensifiers.

To avoid or minimize interference with AEC (Automatic Exposure Control) on X-ray equipment, the probe is very small. This also enables to fit it easily into the table bucky. Since it is a solid-state detector, no corrections for pressure or temperature are needed. Neither is bias voltage.

Specifications Dose Probe

Dose	5 nGy – 2 kGy, 0.6 µR – 250 kR	Inaccuracy	±5 %
Dose rate	0.2 µGy/s – 200 mGy/s	Backscatter protected	Yes
	1.5 mR/min – 1.5 kR/min	Size	20 x 45 x 7.4 mm, 0.79” x 1.8” x 0.29”
Dose per pulse	1 nGy/pulse – 1600 mGy/pulse, 0.1 µR/pulse – 180 R/p	Weight	85 g (3 oz)

T20 – ALMOST NOT THERE

T20 is a solid state detector dedicated for measurements on radiographic and fluoroscopic systems when it is crucial that the detector itself does not have any effect on the system. This probes main task is measurements of the skin entrance dose and maximum dose rate in the radiographic and fluoroscopic field. T20 can be placed anywhere in the X-ray field and has a built-in correction filter which allows the detector to self-compensate for different beam energies.

Specifications T20

Dose	35 nGy – 15 kGy, 4 µR – 1700 kR	Inaccuracy	±5 %
Dose rate	1.5 µGy/s – 1500 mGy/s	Backscatter protected	Yes
	10 mR/min – 10 kR/min	Size	25 x 5 square millimeter
Dose per pulse	5 nGy/pulse – 11 Gy/pulse, 0.6 µR/pulse – 1.3 kR/pulse	Lenght	318 mm (rod & detector)

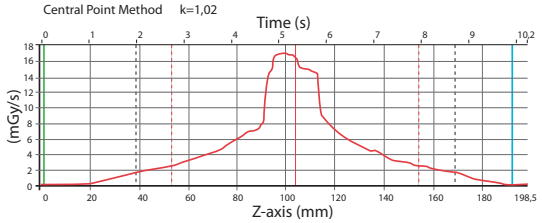
CT DOSE PROFILER

CT scanners are developing in a very rapid pace. The CT Dose Profiler has been designed to meet these new challenges as it provides a dose value for an unlimited beam length.

The CT Dose Profiler will, in just one shot, give you a complete picture of the dose profile and it can also give you all CTDI parameters, dose length product (DLP), geometric efficiency and full width at half maximum (FWHM).

With the CT Dose Profiler you only have to perform one helical scan, instead of the usual five axial scans, due to the automatic calculations in the program. The dose is measured in every point in the X-ray beam and the total dose profile is acquired regardless of how wide the beam is and without the drawbacks of traditional CT ionization chambers.

Patented technology.



Specifications CT Dose Profiler

Dose rate	3.3 µGy/s to 3.3 Gy/s	Spatial resolution	0.25 mm
	23 mR/min – 23000 R/min	Length	155 + 45 mm (extension)
Inaccuracy	±5 % or ±0.3 nGy/s / 0.1 mR/min	Diameter	12.5 mm

MAS-1

The MAS-1 is an invasive probe that together with the Cobia provides you direct reading of mA and mAs as well as waveforms. The probe can be used to measure tube current for all modalities including fluoroscopic and radiographic exposures.

Specifications MAS-1

Ranges	0.001 – 9999 mAs, 0.1 mA – 3000 mA
Inaccuracy	±1 % or ± 0.01 mA

MAS-2

The MAS-2 is clamped easily on the high voltage cable. No connection inside the X-ray generator is required. Connected to the Cobia, the MAS-2 is ready for non-invasive measurements, reading mA, mAs, and capturing an mA waveform.

Specifications MAS-2

Ranges	0.1 mAs – 9999 mAs, 10 mA – 4000 mA
Inaccuracy	±5 % or ±2 mA

DCT10

The DCT10 is a pencil shaped ion chamber for CTDI measurements. It is intended for measuring and monitoring the exposure output level of CT scanners in a phantom or in air. (Chamber adapter required).

Specifications DCT10

Air kerma rate	0.8 mGycm/s – 8 Gycm/s
Inaccuracy	±6 % or ±0.08 mGycm/s (exp. time > 10 ms)

MAGNA 1CC

The Magna 1cc ion chamber is designed especially for mammographic dose and dose rate measurements. It also has an excellent energy response and can be used for radiographic applications. (Chamber adapter required).

Specifications Magna 1cc

Air kerma rate Magna 1cc	0.25 mGy/s – 2.5 Gy/s
Inaccuracy	±6 % or ±0.025 mGy/s (exp. time > 10 ms)

CHAMBER ADAPTER

The Chamber Adapter makes it possible to use Ion Chambers with the Cobia. It is primarily designed for Mammography and CT use, but can of course be used for other applications as well.

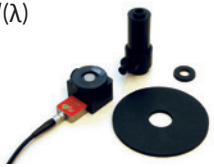
Specifications Chamber Adapter

Current Ranges	10 pA to 0.1 µA
Inaccuracy	±2 % or ±1 pA (exp. time > 10 ms)

LIGHT PROBE

The Light Probe measures the ambient light in the room as well as the brightness on monitors and film viewing boxes.

The RTI Light Probe has the same spectral response as the human eye and complies with the CIE V(λ) curve. This makes it reliable for all kind of measurements, independent of the light source.



Specifications Light Probe

Monitor, viewing box:	Ranges	0.2 cd/m2 – 180 000 cd/m2
	Inaccuracy	±5 % or ±0.04 cd/m2
Ambient light:	Ranges	0.08 lx – 70 000 lx
	Inaccuracy	±5 % or ±0.02 lx

VERTICAL HOLDER

The Vertical Holder provides easy and quick positioning for measurement on systems with vertical positioning.

CARRYING CASES

RTI's Soft Shell Case is a perfect solution for storage and transportation of your Cobia and a selection of its accessories.

We also offer a light-weight aluminum case – the Cobia ALU Case is attractive and just "the right size" to provide a good space for the Cobia and all its accessories.

SELECTION GUIDE

● Standard function
○ Optional
■ Can use external detectors
□ Can not use external detectors
✱ Depending on external detector/probe

	Cobia SMART				Cobia FLEX		Cobia SENSE		Cobia DENTAL		
Model	R/F – kV	R/F – Dose	R/F – kV/Dose	R/F – kV/MAS	R/F with MAS	R/F	Basic	with PC Com	R/F – kV	R/F – Dose	R/F – kV/Dose
Mammography					✱	✱	✱	✱			
Rad &Fluoro	✓	✓	✓	✓	✓	✓	✱	✱			
Dental	✓	✓	✓	✓	✓	✓	✱	✱	✓	✓	✓
CT					✱	✱	✱	✱			
Time	●	●	●	●	●	●	●	●	●	●	●
kV	●		●	●	●	●			●		●
Dose		●	●		●	●	●	●		●	●
Dose Rate		●	●		●	●	●	●		●	●
HVL			●		●	●					●
Total Filtration			●		●	●					●
Pulses	●	●	●	●	●	●	●	●	●	●	●
Pulse Rate			●		●	●					●
Dose/Pulse		●	●		●	●				●	●
Effective Time			●		●	●					●
Dose Probe					○	○	●	●			
CT Dose Profiler					○	○	○	○			
Internal Mas-1					●		○	○			
Mas-1, 2, 3 Probes					○	○	○	○			
Light Probe					○	○	○	○			
Ocean Compability					●	●		●			
OCP					●	●		●			
Ion Chamber					○	○	○	○			
Soft Shell Case	●	●	●	●	●	●	●	●	●	●	●

Specifications in this folder may be changed without notice.

Rad & Fluoro.....Meters for radiography and fluoroscopy

Mammography.....Meters for mammography

CT.....Meters for CT

Dental.....Meters for dental (intraoral, panoramic or CBCT)

kVp & time.....Measures kVp & time for supported modality

HVL / Total Filtr.....Measures HVL and total filtration using internal filters

Dose & dose rate.....The meter measures dose and dose rate

OCP.....Open Communication Protocol

Dose Probe.....Useful when higher sensitivity and minimal perturbation of field are required

CT Dose Profiler.....For CT dose profile measurement

Ion Chamber.....Chamber Adapter is required

FIND YOUR LOCAL DISTRIBUTOR AT WWW.RTIGROUP.COM

We offer more than just measuring instruments. We'd like to be your partner and help you in your daily work. We want you to trust us and count on us. We promise to do our best to make it easier for you in your everyday working life.

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