



CRAWLER UNITS

SITEX & SITEXS

PORTABLE X-RAY GENERATOR

Increase the reliability of on-site X-ray techniques while decreasing their costs

OUR CHALLENGE...

« To increase the reliability of on-site X-ray techniques while decreasing their costs »

To successfully meet this challenge, ICM's engineers have worked at improving upon what we consider to be largely tried and tested techniques.

The technological options were determined at each development stage on the basis of quality, general reliability and the need to substantially increase the life of the X-ray tube.

If you are already impressed with the reliability of the **SITEX** and **SITEXS** generators, we are confident that you will be even more impressed with their outstanding performance levels. These performance levels will enable you to take advantage of the most favorable overall operating costs available to the market.



A SIMPLE & EFFECTIVE PRINCIPLE

All **SITEX** and **SITEXS** units contain a rod anode. This is the focal spot that is outside the SF₆-insulated high-voltage generator. As maximum advantages are derived from this ideal configuration, for one and the same thickness, the volume of lead required for standard radiation protection is considerably reduced.

Consequently, the reduced weight that is achieved makes it possible for further investments to be made in the quality and general improvement of the level of performance (robustness, cooling, accessories etc).

We can confirm that **SITEX** and **SITEXS** are among the lightest portable X-ray generators available to the market.

MEASUREMENT & CONTROL

Representing another first in a portable, the **SITEX** and **SITEXS** have a facility to ensure the direct and true measurement of the high voltage. This essential information enables the control system to guarantee the stability and reproducibility of the radiological parameters based on true high-voltage values rather than merely estimating an HV value based on dose output.

PERFORMANCE

A high-efficiency heat exchanger has been developed in collaboration with the Institute of Thermo-mechanics at the University of Liege. This results in the possibility of a 100% working cycle under completely safe conditions, whilst simultaneously reducing the anode temperature by 50%.

ENSURING PERFECT HOMOGENEITY

The **SITEX** and **SITEXS** panoramic X-ray tubes come equipped with a patented automatic system of beam correction. Perfect homogeneity is ensured thanks to a real time feedback loop adjustment and the EMR value achieved on the films is < 5%.

SITEXS, THE 'EXTRA-SMALL'...

The C2503 'XS' X-ray tube for crawlers is unique to the market as it delivers up to 250 kV within an 8" diameter. Furthermore, it enables the inspection of pipelines from 10" to 32". In addition and to provide you with compactness, a special crawler control unit has been developed for the **SITEXS**. The **CCU187** is designed to be mounted directly on the tubehead within the same diameter.

SITEX & SITEXS crawler technical specifications :

SITEX & XS CRAWLER	UNITS	C1802	C2004	C2254	C2504	C3003	C3203	C3603	XS-C2003	XS-C2253	XS-C2503
Output voltage range	kV	50 to 180	70 to 200	70 to 225	70 to 250	90 to 300	90 to 320	120 to 360	70 to 200	70 to 225	70 to 250
Output voltage selection step	kV	1	1	1	1	1	1	1	1	1	1
Tube current range	mA	1 to 3	1 to 7	1 to 7	1 to 5	1 to 5	1 to 5	1 to 5	1 to 4	1 to 4	1 to 4
Tube current range at full output	mA	2	4.5	4	3.6	3	2.8	2.5	4	4	3.6
Tube current selection step	mA	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Radiation geometry	-	Pan. Orthog.	Pan. Orthog.	Pan. Orthog.	Pan. Orthog.	Pan. Orthog.	Pan. Orthog.	Pan. Orthog.	Pan. Orthog.	Pan. Orthog.	Pan. Orthog.
Maximum useful angle of X-ray beam	(°)	360 x (2x20)	360 x (2x20)	360 x (2x20)	360 x (2x20)	360 x (2x20)	360 x (2x20)	360 x (2x20)	360 x (2x20)	360 x (2x20)	360 x (2x20)
Dimension of optical focal spot	mm	Ø4x0.5	Ø5x 0.8	Ø5x 0.8	Ø5x 0.8	Ø5 x 0.8	Ø5 x 0.8	Ø6 x 1.0	Ø5 x 0.8	Ø5 x 0.8	Ø5 x 0.8
Inherent filtration	mm	Equiv. 3.5 (Al)	2.5 (Al) + 0.4 (Ni)	2.5 (Al) + 0.4 (Ni)	2.5 (Al) + 0.4 (Ni)	2.5 (Al) + 0.4 (Ni)	2.5 (Al) + 0.4 (Ni)	2.5 (Al) + 0.4 (Ni)	2.5 (Al) + 0.4 (Ni)	2.5 (Al) + 0.4 (Ni)	2.5 (Al) + 0.4 (Ni)
Carrousel of internal diaphragms with lead cap	-	no	no	no	no	no	no	no	no	no	no
Working cycle at 40°C ambient temp.	%	50	100	100	100	100	100	60	100	100	100
Operating temperature range	°C	-25 to +70	-25 to +70	-25 to +70	-25 to +70	-25 to +70	-25 to +70	-25 to +70	-25 to +70	-25 to +70	-25 to +70
Storage temperature range	°C	-40 to +80	-40 to +80	-40 to +80	-40 to +80	-40 to +80	-40 to +80	-40 to +80	-40 to +80	-40 to +80	-40 to +80
SF6 insulation pressure at 20°C	kg/cm²	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Cooling fan supply voltage	VDC	48	24	24	24	24	24	24	24	24	24
Weatherproof level	-	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65
Penetration into steel at max power (FFD=700mm/Film D7pb/D=1.5/T=20 min)	mm Fe	-	32	39	46	54	58	69	30	37	43
Penetration into steel at max power (Dia=6" / D7 / D=2.0 / T=10s)	mm Fe	11	-	-	-	-	-	-	-	-	-
Penetration into steel at max power (Dia=18" / D7 / D=2.0 / T=1min)	mm Fe	11	-	-	-	-	-	-	-	-	-
Guard rings	-	no	no	no	no	no	no	no	no	no	no
Position of interconnection socket	choice	Free Axial	Axial/Radial	Axial/Radial	Axial/Radial	Axial/Radial	Axial/Radial	Axial/Radial	Axial	Axial	Axial
Number of telescopic centring device (FFD=700mm)	-	-	-	-	-	-	-	-	-	-	-
Max. leakage dose at 1m according to DIN at full output	mSv/h	2.5	2.5	10	10	10	10	10	2.5	10	10
Microcontroller HT measurement circuit (kV and mA)	-	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Overall dimensions	mm	Ø124 x 580	Ø248 x 697	Ø248 x 697	Ø248 x 697	Ø248 x 757	Ø248 x 757	Ø280 x 875	Ø180 x 844	Ø180 x 844	Ø180 x 844
Total weight without guard rings	kg	9.5	28	28	28	32	32	48	19	19	19

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