

Y.SMART

Portable field inspection systems



The low weight and compact size of these portable X-ray units make them an ideal solution for field inspection. Due to high frequency switching technology, SMART units produce an extremely stable X-ray output for very short exposure times. The control unit is microprocessor controlled and housed in a rugged, splash proof casing.

KV, mA and exposure time can be adjusted by direct keyboard entry or by selecting one of the 100 exposure programs. All operational information is available on a 2-line alphanumeric backlit display. Tube head warning lamp, pressure and temperature are all monitored to prevent operation in unsafe conditions.

The control unit recognizes individual tube heads and automatically selects the required running-in programs. For operation supervision, data for the latest 100 exposures are recorded and can be recalled on the display or downloaded to a printer.

The SMART is insensitive to power supply irregularities and has a low level of power consumption. The thin, light inter-connection and power supply cables are equipped with shock resistant plugs. Along with the robust metal-ceramic X-ray tube, this leads to a very reliable, easy-to-handle portable X-ray unit.

YXLON. The reason why.

- low weight
- short exposure times
- high reliability
- easy to use

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SMART System	160E/0.4	160E/1.5	160W	200	200PC	200CTH	300HP	300PC	300CTH
Typical applications/ Special benefits	- Designed for very short FFD e.g. aircraft industry - Especially suited for detection of small defects in radioscopic systems	- Suitable for inspection of composite materials, plastics and other easily penetrable materials in radioscopic systems	- Water cooling - Designed for very short FFD e.g. aircraft industry - Especially suited for detection of small defects	- Designed for medium-sized steel welds and thick aluminum parts	- Panoramic X-ray tube head - Especially suitable for pipeline applications	- Crawler tube head meant for OEM-applications - Controlling of the tube head via customer equipment	- Designed for thick-sized steel welds	- Panoramic X-ray tube head - Designed for thick-sized pipeline steel welds	- Crawler tube head meant for OEM-applications - Controlling of the tube head via customer equipment
High voltage									
Adjustment range	10-160 kV	10-160 kV	10-160 kV	60-200 kV	50-200 kV	50-200 kV	50-300 kV	50-300 kV	50-300 kV
Adjustment increments	1 kV/step	1 kV/step	1 kV/step	1 kV/step	1 kV/step	1 kV/step	1 kV/step	1 kV/step	1 kV/step
Tube current									
Adjustment range	2.0-6.0 mA	2.0-6.0 mA	2.0-6.0 mA	0.5-4.5 mA	0.5-4.5 mA	0.5-4.5 mA	0.5-3.0 mA	0.5-3.0 mA	0.5-3.0 mA
Adjustment increments	0.1 mA/step	0.1 mA/step	0.1 mA/step	0.1 mA/step	0.1 mA/step	0.1 mA/step	0.1 mA/step	0.1 mA/step	0.1 mA/step
Max. power	640 W	960 W	640 W	900 W	600 W	600 W	900 W	600 W	600 W
Focal spot size									
acc. EN12543	1.0 mm	3.0 mm	1.0 mm	3.0 mm	4.0 mm (0.4 mm x 4.0 mm)	4.0 mm	3.0 mm (0.4 mm x 4.0 mm)	4.0 mm (0.4 mm x 4.0 mm)	4.0 mm
acc. IEC 336	0.4	1.5	0.4	1.5	0.3 x 3.0	0.3 x 3.0	1.5	0.3 x 3.0	0.3 x 3.0
Beam angle	40° x 55° ¹	40° x 55° ¹	40° x 40°	40° x 55°	40° x 360°	40° x 360°	40° x 55°	40° x 360°	40° x 360°
Inherent filtration	1 mm Be	1 mm Be	1 mm Be	1 mm Be	0.4 mm Fe/Ni/Co	0.4 mm Fe/Ni/Co	1 mm Be	0.4 mm Fe/Ni/Co	0.4 mm Fe/Ni/Co
Additional filters	3 mm Al	3 mm Al	3 mm Al	3 mm Al	3 mm Al	3 mm Al	4 mm Al equivalent	4 mm Al	4 mm Al
Duty cycle at P_{max}	70 % at 20 °C	50 % at 20 °C	100 % at 20 °C	100 % at 20 °C	100 % at 20 °C	100 % at 20 °C	100 % at 20 °C	100 % at 20 °C	100 % at 20 °C
Anode cooling	air	air	water, 5 l/min	air	air	air	air	air	air
Pointer available	no	no	yes	yes	no	no	yes	no	no
Mechanical data									
Tube head:									
- Dimensions [mm] incl. hand rings (length x diameter)	667 x 284	667 x 284	606 x 295	670 x 295	672 x 295	659 x 200	775 x 295	812 x 295	797 x 229
- Weight [kg] incl. hand rings	23.0	23.0	21.5	26.5	22.0 32.5 kg (with lead belt)	24.0 34,5 kg (with lead belt)	33.0	37.0 63 kg (with lead belt)	34.0 60 kg (with lead belt)
Control unit:									
- Dimensions [mm] (w x h x d)	444 x 342 x 166	444 x 342 x 166	465 x 323 x 154	465 x 323 x 154	465 x 323 x 154	-	465 x 323 x 154	465 x 323 x 154	-
- Weight [kg]	10.5	10.5	11.3	11.3	11.3	-	11.3	11.3	-
Penetration	32 mm Fe	32 mm Fe	32 mm Fe	43 mm Fe	40 mm Fe	40 mm Fe	65 mm Fe	65 mm Fe	65 mm Fe

¹typical value



Options: Water cooling kits for SMART 200 and 300HP

Power requirements: Supply: 100-125/200-250 VAC, 47-400 Hz
Max. power consumption: 10 A RMS / 230 VAC

Exposure timer: 1 second steps up to 99 minutes and 59 seconds
Special ∞ setting for radioscopic application

Pre-warning time: Adjustable from 0 to 99 seconds

Temperature cut-off: 75 °C (tube head temperature)

Operation by generator: Small size generators can be used

Hand rings: Detachable

Connection cable: Diameter: 13.5 mm
Length: 25 m (can be connected in series for up to 125 m, control unit compensates for the length to keep a constant output)

Power supply cable: Diameter: 9.0 mm
Length: 10 m

Cable bag: 8.7 kg (complete with cables)

Certificates: CE (DIN 54113, Röntgenverordnung, EN 60204-1, EN 50178, EN 55011 class A, and EN 6100-6-2)
NF C 74-100*



*for SMART200 and SMART300HP

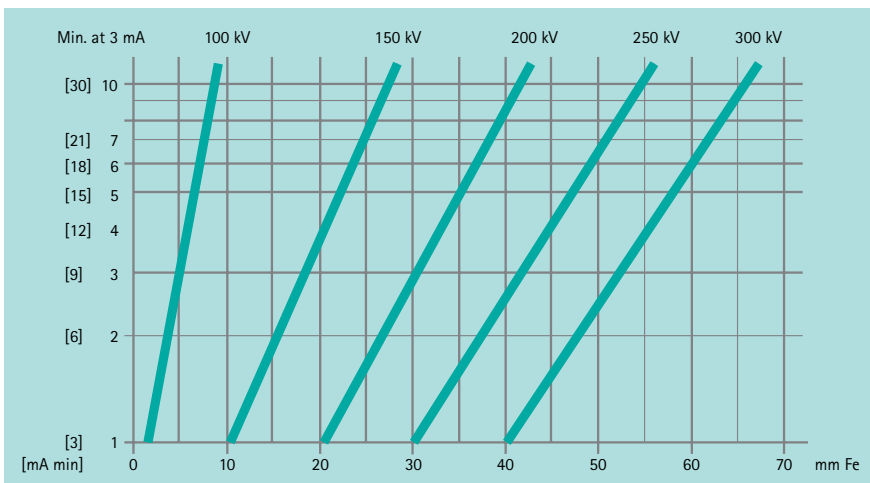
YXLON. The reason why



Accessories

Additional options available on request

- 1 Flight case for SMART
- 2 External warning lamp
- 3 Laser pointer
- 4 Lead cone
- 5 Portable AC generator
- 6 Tripod tube stand
- 7 Adapter 12 VDC
- 8 Diaphragms
- 9 Mobile tube stand



Exposure chart SMART 300HP

Type of film:
C5 acc. EN584-1
D = 2.0
Pb screen: 0.02 mm
FFD = 700 mm