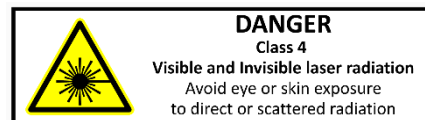


Technical Data Multiscan® – Specification



	Multiscan® HE 25i 10.6µm
Laser characteristics⁽¹⁾	
Type	Sealed CO ₂ RF excited slab
Wavelength ⁽²⁾	10.6µm
Rated output power	250W
Peak power	630W
Minimum shipment power	300W
Typical shipment power	335W
Pulse energy range	10mJ to 200mJ
Pulse frequency range	500Hz to 50kHz
Duty cycle (maximum)	60%
Pulse width range	2 to 400µs
Optical rise/fall time ⁽³⁾	<60µs
Polarisation ⁽⁴⁾	Linear rotated
Performance	
Line speed (maximum) ⁽⁵⁾	0-500m/min (static or 'on the fly' marking)
Characters/second (maximum) ⁽⁶⁾	1200
Software	
Operating system	Windows 10 Embedded
Principal features	
- (Field types)	Fixed text, date/time with offset, custom date, incremental counters, operator fields, logos, barcodes, bitmaps, composite fields, shift field and external fields.
- (Control options)	Serial, Digital, Ethernet
Code characteristics	
Scan area (standard)	70mm/105mm/140mm/210mm/250mm
Character height	1mm – 50mm
Spot size (1/e ² diameter) ⁽⁷⁾	0.53mm
Beam pointing stability (half angle)	<0.25mRad
Display/Keypad	
Remote VGA display (colour) and Qwerty keypad	Standard
Fabrication	
Main enclosure	316 stainless steel
Laser enclosure	Silver anodised aluminium with optional stainless steel covers
Beam delivery	Silver anodised aluminium
Scan head	Silver anodised aluminium
Dimensions and weights	
Main enclosure	800mm(l) x 550mm(w) x 274mm(h)
Laser enclosure (without beam delivery or scanning head)	1062mm(l) x 252mm(w) x 228mm(h)
ScanCube 14	133.5mm(h) x 99.5mm(w) x 122.8mm(d)
Weight – Main enclosure	65kg
Weight – laser enclosure (without beam delivery or scanning head)	59kg
Electrical ratings	
Voltage	230VAC ± 10% 50/60Hz. Single or bi-phase

Typical power consumption⁽⁸⁾

Cooling

Type

Minimum flow rate

Recommended flow rate

Maximum pressure

Refrigeration capacity

Temperature

Environmental

Lens Protection (air curtain)

Humidity

Storage temperature

Sealing (main enclosure)

Sealing (laser enclosure)

Interface

Inputs

Product detector

Shaft encoder

Interlocks

System enable

Extractor fault

Remote control/File download

Outputs

Product detector output

System on

Ready to print

Product reject

Shutter status

Extractor enable

Good mark

Maintenance required

System fault

Options

20A @ 230V

External water

≥ 5L/min

≥ 6L/min

6 bar

> 5.3kW

19°C/66°F to 25°C/77°F ± 1°C (Above dew point)

20psig 25 litres/min, purified

10 to 90% non-condensing

-10 to +70°C

IP66

N/A

Two independent inputs for NPN or PNP 24 or 12VDC

Input for control of variable speed production lines,

dual channel quadrature input, max 200kHz

Dual channel interlock, dual channel E-stop

Input for the provision of externally enabling or disabling the system

Input for monitoring the status of the extractor

RS232, with Ethernet options

Two outputs for monitoring the two detector input signals

Output for monitoring the on/off power

Output for monitoring the status i.e. Standby or Ready to Print

Output for rejecting unmarked product

Two independent outputs for monitoring the safety shutter status

Output to enable the extractor when the system is ready to print

Output for monitoring of the status of each individual mark

Output for indication that maintenance is required

Output for monitoring when the system has a fault

7mm Aperture scanning head⁽⁹⁾

10mm Aperture scanning head⁽⁹⁾

20mm Aperture scanning head

Scanning lens focal lengths 75mm – 360mm

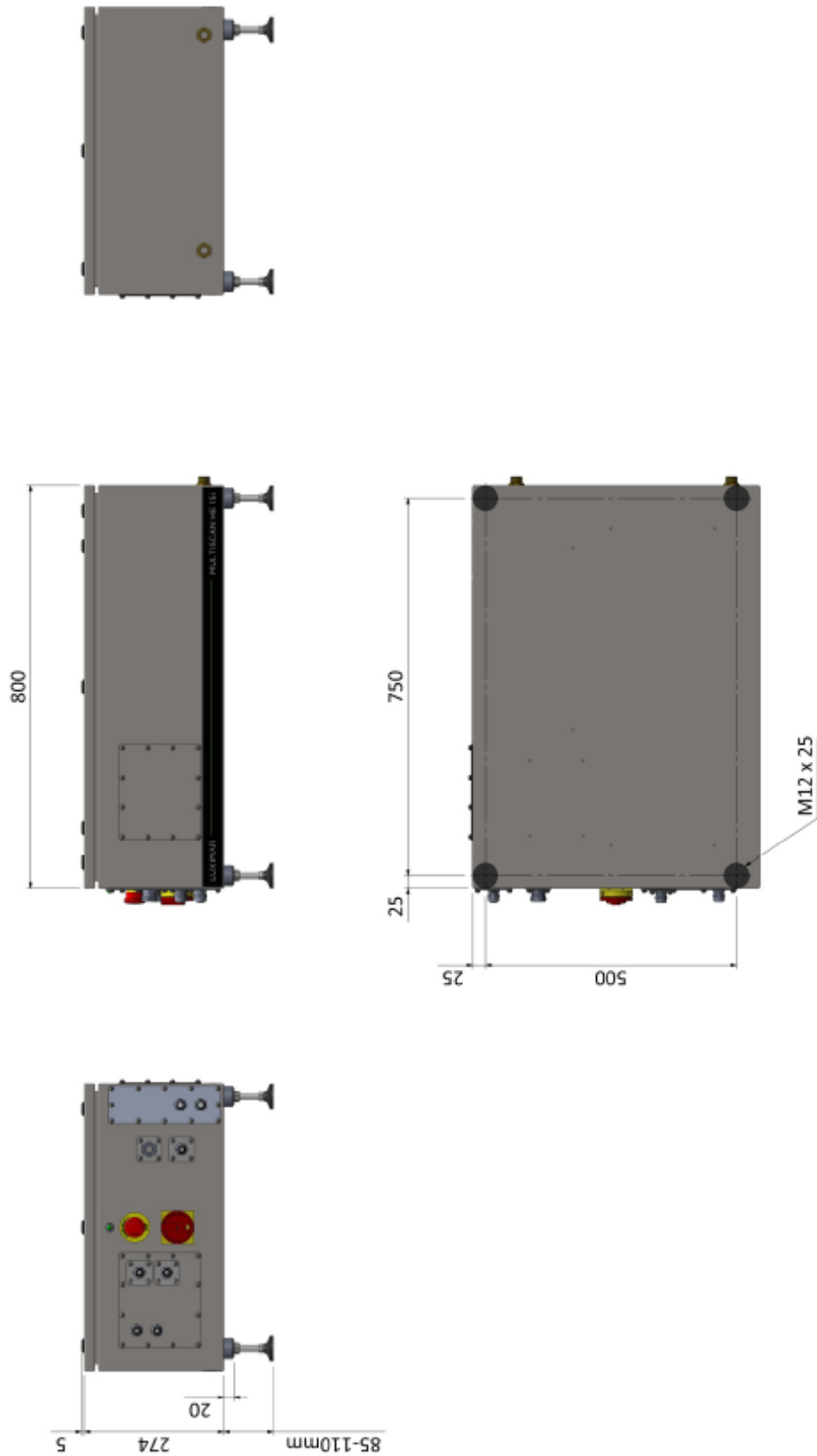
Articulated arm beam delivery

Notes:

1. Power and energy is quoted at the point where the beam exits the laser enclosure. For each mirror in the beam delivery there is an expected loss of between 0.5% and 1%. Operating with the galvanometer head gives a further expected power loss of between 6% and 12%.
2. 10.6µm is the predominant wavelength. This can typically vary in the range 10.2µm – 10.7µm.
3. Rise and fall times are quoted between the 10% and 90% levels.
4. Polarization angle is dependent upon the type and orientation of the beam delivery.
5. Maximum line speed is assuming a single line 8-character code on an inked paper label. Please note that maximum line speed is dependent upon the nature of the material and the size/quantity/complexity of the mark.
6. Character generation speed in a single line format with a code height of 2mm. Faster generation speeds are possible at smaller code heights. Mark quality dependent upon character height, material and speed of marking.
7. Operating with 14mm aperture head, 360mm focal length lens.
8. Typical average power consumption assumes a 50% coding duty cycle.
9. Depending on the application duty cycle, the 7mm and 10mm aperture may not be suitable for use with the MSHE 25i.

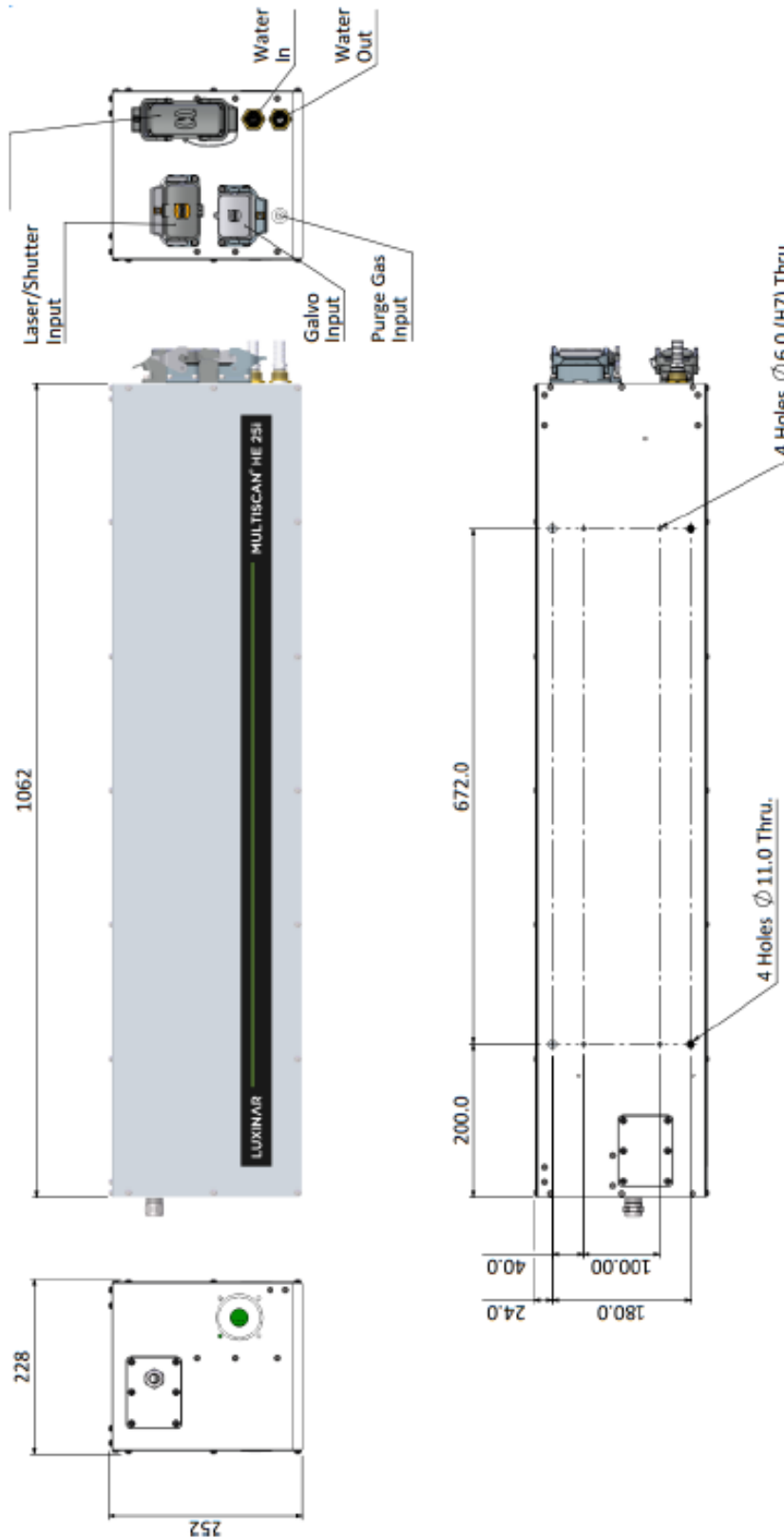
Please note that while every effort has been made to ensure that the data given in this document is accurate, the information, figures, illustrations, tables, specification and schematics contained herein are subject to change without notice.

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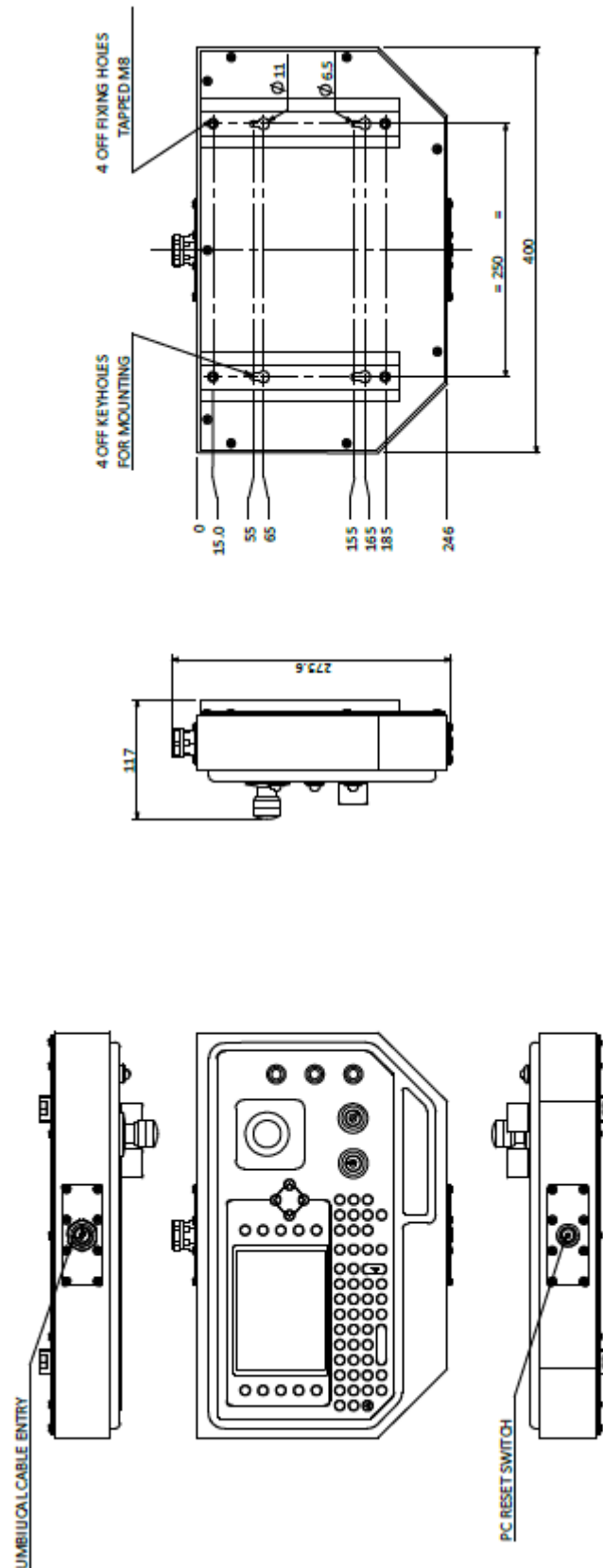


Multiscan® HE 25i – main enclosure

Note: Four mounting positions M12 x 25mm depth are provided. The enclosure can be supplied with adjustable feet, as shown.



Multiscan® HE 25i – laser enclosure (without beam delivery)



Control panel

Note: The control panel is supplied with a 5m umbilical cable for connection to the main enclosure.