

HSM15M2

High Speed Marking Head



- Rapid character writing speeds comparable to smaller aperture heads
- Outstanding accuracy and stability
- Increased aperture translates into finer spot quality
- Industry standard mechanical and electrical interfaces
- Environmentally sealed for industrial applications



The HSM15M2

The *HSM15M2* establishes the new speed and accuracy performance standards for medium-aperture scan heads. Combining unique servo technology with industry-proven *M2* galvanometer, the *HSM15M2* brings unprecedented speed to your laser system unmatched by any competitor.

Common interface

Maintaining the mechanical and electrical interface standards originally developed by GSI Group, the *HSM15M2* is a bolt-on upgrade for many laser systems.

Flexibility for your application

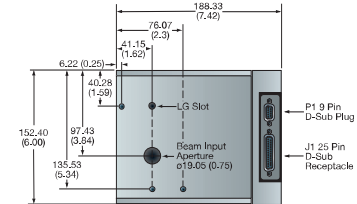
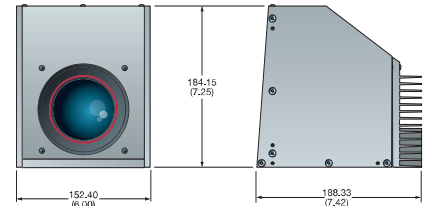
The *HSM15M2* scan modules are available for a wide variety of lasers. Select from a broad range of standard flat-field lens kits to achieve the field and spot size required by your application.

Full software compatibility

Whether used with *WinMCL Plus*, *PCMARK™ MT* or your own proprietary software, the *HSM15M2* is fully compatible and ready to integrate.

The GMAX™ advantage

GMAX stands for GSI Group Multi-AXIS modules. *GMAX* also stands for the most advanced scanning technology available today. Put our proven expertise to work for you.



Dimensions in mm (inches).

HSM15M2 Specifications

Laser Type

YAG Lens Specifications

CO₂ Lens Specifications

	1064	1064	1064	1064	10600	10600	10600	10600
Wavelength λ (nm)	1064	1064	1064	1064	10600	10600	10600	10600
Objective (f in mm)	100	160	163	254	100	200	200 HP	300
Aperture (mm)	15	15	15	15	15	15	15	15
Spot Size TEM00 (μ m)	13	21	21	34	224	262	265	382
Scan Angle (maximum °optical)	$\pm 21^\circ$	$\pm 21^\circ$	$\pm 21^\circ$	$\pm 21^\circ$	$\pm 21^\circ$	$\pm 21^\circ$	$\pm 21^\circ$	$\pm 21^\circ$
Standard Field Size (mm ²)	60 x 60	95 x 95	114 x 114	178 x 178	55 x 55	110 x 110	140 x 140	165 x 165
Maximum Practical Field Size (mm ²) ¹	73 x 73	117 x 117	120 x 120	186 x 186	70 x 70	140 x 140	140 x 140	210 x 210
Working Distance (mm) ²	147	218	200	316	102	202	202	300
Relative Position Repeatability (microns)	< 1.25	< 2	< 2	< 3.2	< 1.25	< 2.5	< 2.5	< 3.75
Dither (microns)	< 3.2	< 5	< 5	< 7.8	< 3.2	< 6.4	< 6.4	< 9.6
Writing Speed (m/s) ³	≤ 1.25	≤ 2	≤ 2	≤ 3.2	≤ 1.25	≤ 2.5	≤ 2.5	≤ 3.75
Non-Writing (Jump) Speed (m/s) ⁴	≤ 2.5	≤ 4	≤ 4	≤ 6.4	≤ 2.5	≤ 5	≤ 5	≤ 7.5
Dynamic Stability (microns)	< 9.5	< 15	< 15	< 24	< 9.5	< 19	< 19	< 28.5
Long Term Stability (microns)	< 6.3	< 10	< 10	< 16	< 6.25	< 13	< 13	< 19
Power Capability, CW (W/cm ²)	500	500	500	500	500	500	500	500
Power Capability, 100ns pulsed (MW/cm ²)	100	100	100	100	400	400	400	400
Laser Power Loss, Including Lens ⁵	< 11%	< 11%	< 11%	< 11%	< 2.5%	< 2.5%	< 2.5%	< 2.5%
Weight (kg) ⁶	4.2	4.2	4.6	5.2	4.1	4.1	4.2	4.1
Operating Temperature (°C)	$25^\circ \pm 10^\circ$ C							

1. Some beam clipping may occur. 2. Distance between lens ring mounting surface and working field 3. Actual writing speed depends on accuracy and feature sizes. 4. Jump speeds (jumps when the laser is off) may be much higher than writing (laser-on) speeds. 5. Rodenstock F-theta transmission spec <10%. 6. Scan Head weight without lens: 3.8 kg.

Specifications are subject to change. Consult GSI Group for details



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