

SUNNY TECHNOLOGY

2D scanning systems

Sunny Technology offers scan-heads of 2 series, TSH8*** and a newer S-9***. All the models are available with housing and as a module without housing, consisting of two galvo-scanners and two driver-boards. Select 2D scanning system by aperture size, speed, accuracy and cost.

TSH8*** series of scan-heads based on TSH8*** galvo-scanners is characterized by lower price. S-9*** series of scan-heads based on S-9*** galvo-scanners is characterized by lower drifts, higher speeds, better torque performance.



Model	2 Generation Series TSH8***						3 Generation Series S-9***										
	TSH8203		TSH8310		TSH8720		S-8107		S-9210		S-9320		S-9650				
Aperture size (mm)	3	5	7	10	16	20	3	5	7	10	12	15	20	30	40		
Max. scan angle	±20°		±12.5°		±20°		±20°		±12.5°		±12.5°		±12.5°				
Active scan angle	±12.5°																
Max. laser power (W)	Nd:YAG@1064 nm		-	-	100	120	200	300	-	-	100	120	150	200	300	1000	1500
	CO ₂		-	-	50	70	150	200	-	-	50	70	100	150	200	600	1000
Small step response time ⁽¹⁾	0.25		0.31		0.7		0.15		0.22		0.4		0.6				
Tracking error (ms)	0.13		0.15		0.4		0.1		0.12		0.22		0.33				
Marking speed ⁽²⁾ (m/s)	-	-	4	3	2	2	-	-	4	4	3	3	3	1	-		
Positioning speed ⁽²⁾ (m/s)	-	-	12	11	7	7	-	-	15	18	12	10	8	5	-		
Writing speed ⁽³⁾ (cps)	good quality		-	-	700	650	350	300	-	-	1000	800	680	600	500	400	-
	high quality		-	-	550	480	220	200	-	-	800	690	520	450	360	290	-
Zero drift (μRad./°C)	<20		<20		<20		<15		<15		<15		<15				
Scale drift (ppm/°C)	<75		<75		<75		<50		<50		<50		<50				
Long-term drift over 8 hours (mrad.)	<0.8		<0.8		<0.8		<0.6		<0.5		<0.5		<0.5				
Linearity ⁽⁴⁾	≥99.70%		≥99.90%		≥99.90%		≥99.90%		≥99.90%		≥99.90%		≥99.90%				
Repeatability (μRad.)	<8		<8		<8		<8		<8		<8		<8				
Max. RMS current (A/axis)	2		3		4		2		2.5		4		5				
Peak current (A)	10		20		25		10		15		20		30				
Input signals	XY2-100 or Analog ±5V, ±10V																
Input power	±24 VDC ±10%, Max. RMS 3.5A/axis																
Operating temperature	25 °C±10°C																
Scan head weight (without lens) (kg)	---		2.9		4.5		---		2.1		4.2		4.7		8.4		
2D Module weight (kg)	0.4		0.75		1.7		0.4		0.8		1.5		3.6				
Typical application	Laser mark Laser show Laser therapy Research&science		Laser mark Trimming Engraving Coding Research &Science		Laser mark Welding Cutting Drilling		Laser mark Mark-on-the-fly Laser imaging Laser therapy Medicine Research&science		High speed mark Mark-on-the-fly Trimming Research&science		Precision mark Cutting Welding Trimming Scribing		Welding Cutting Drilling Rapid prototyping				

- All angles are in mechanical degrees.

- All above specifications are applicable after 60 sec warm-up.

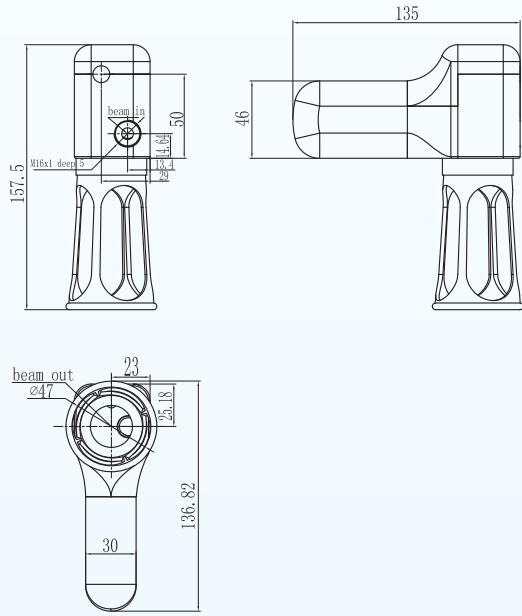
(1) Settling to 1% of full scale with Min. Y mirror which the scanner can carry.

(2) With F=160mm lens.

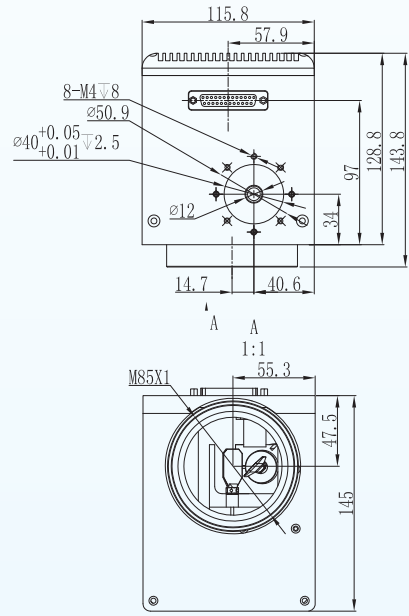
(3) With F=160mm, mark 1mm height single stroke consisting of digits and English letters.

(4) Within ±20° optical angle.

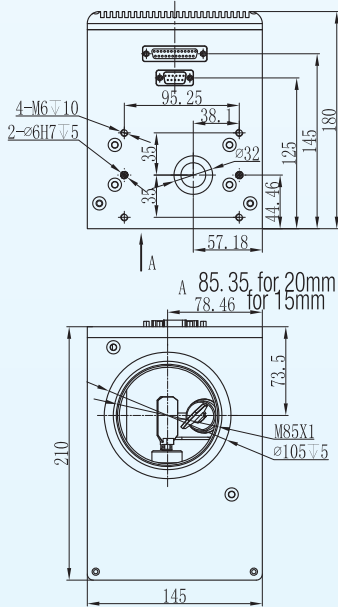
※ オプトマックスではTSHシリーズは現在取り扱っておりません



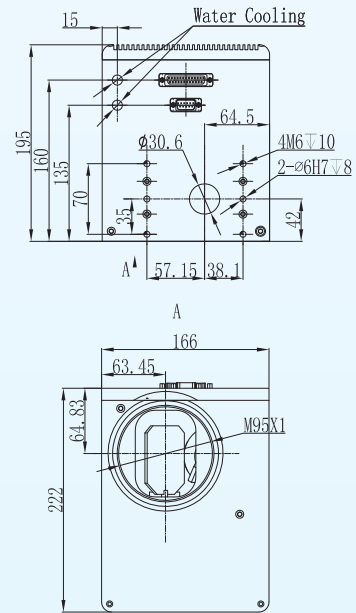
TSH8203H, S-8107H



TSH8310A/D, S-9210A/D



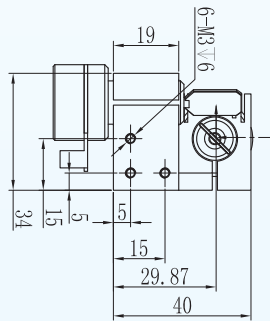
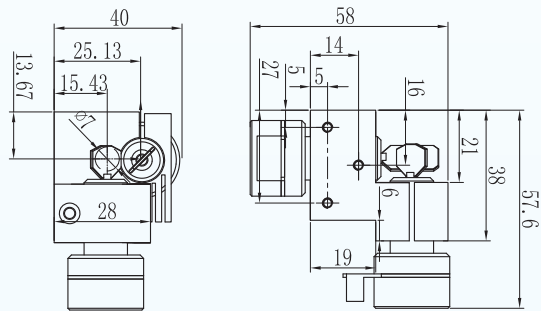
TSH8720A/D, S-9320A/D



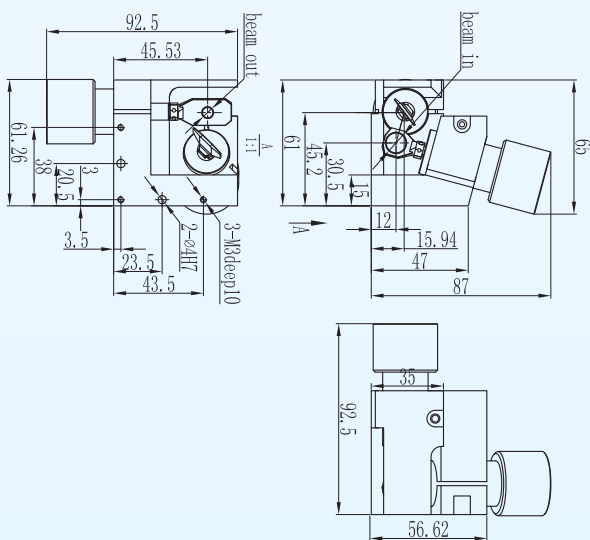
S-9650A/D

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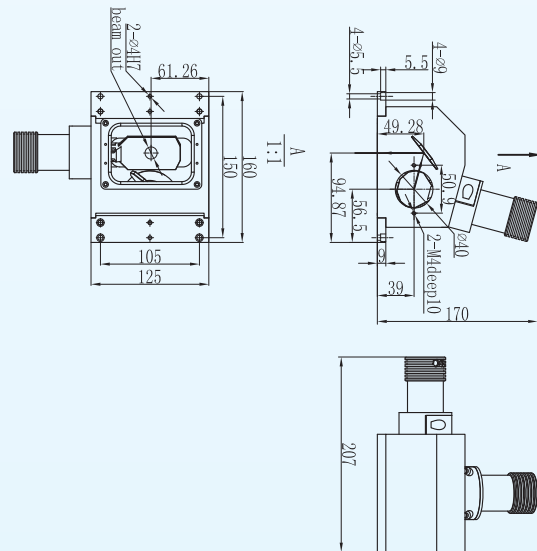
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TSH8203M, S-8107M

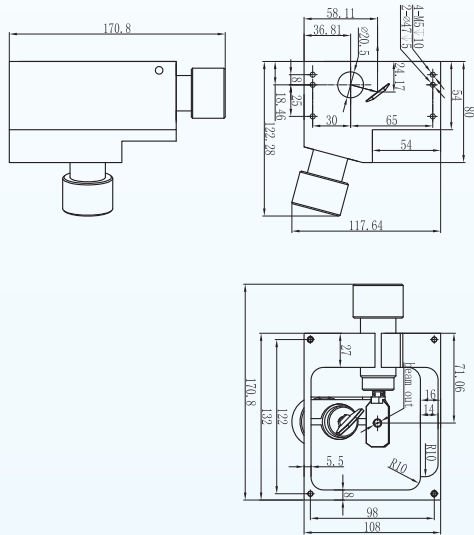


TSH8310M, S-9210M

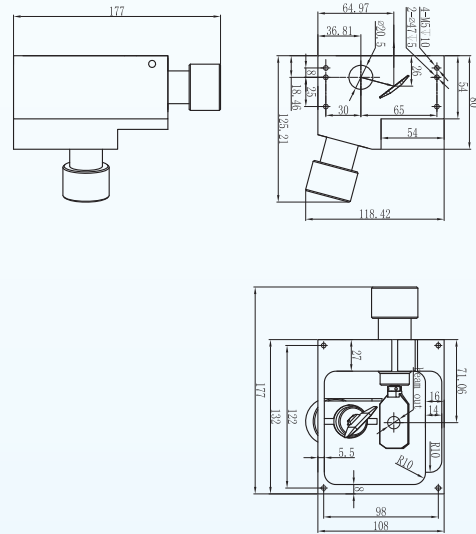


S-9650M

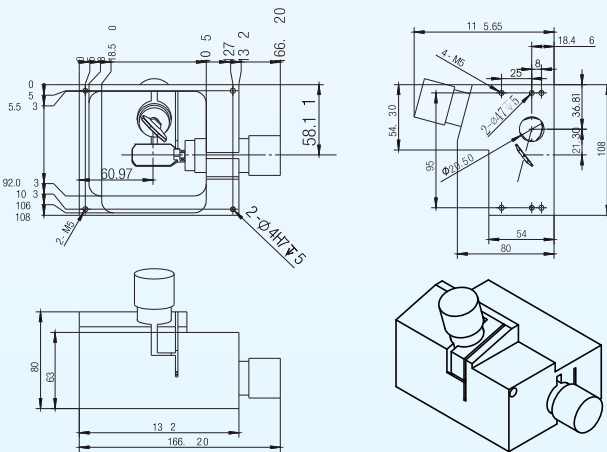
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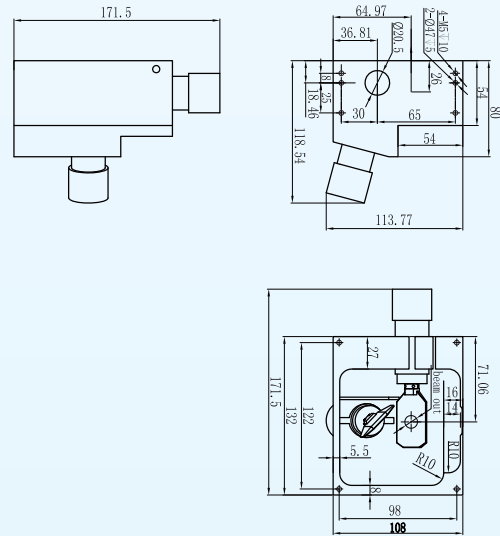
TSH8720M-16



TSH8720M-20



S-9320M-15



S-9320M-20

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