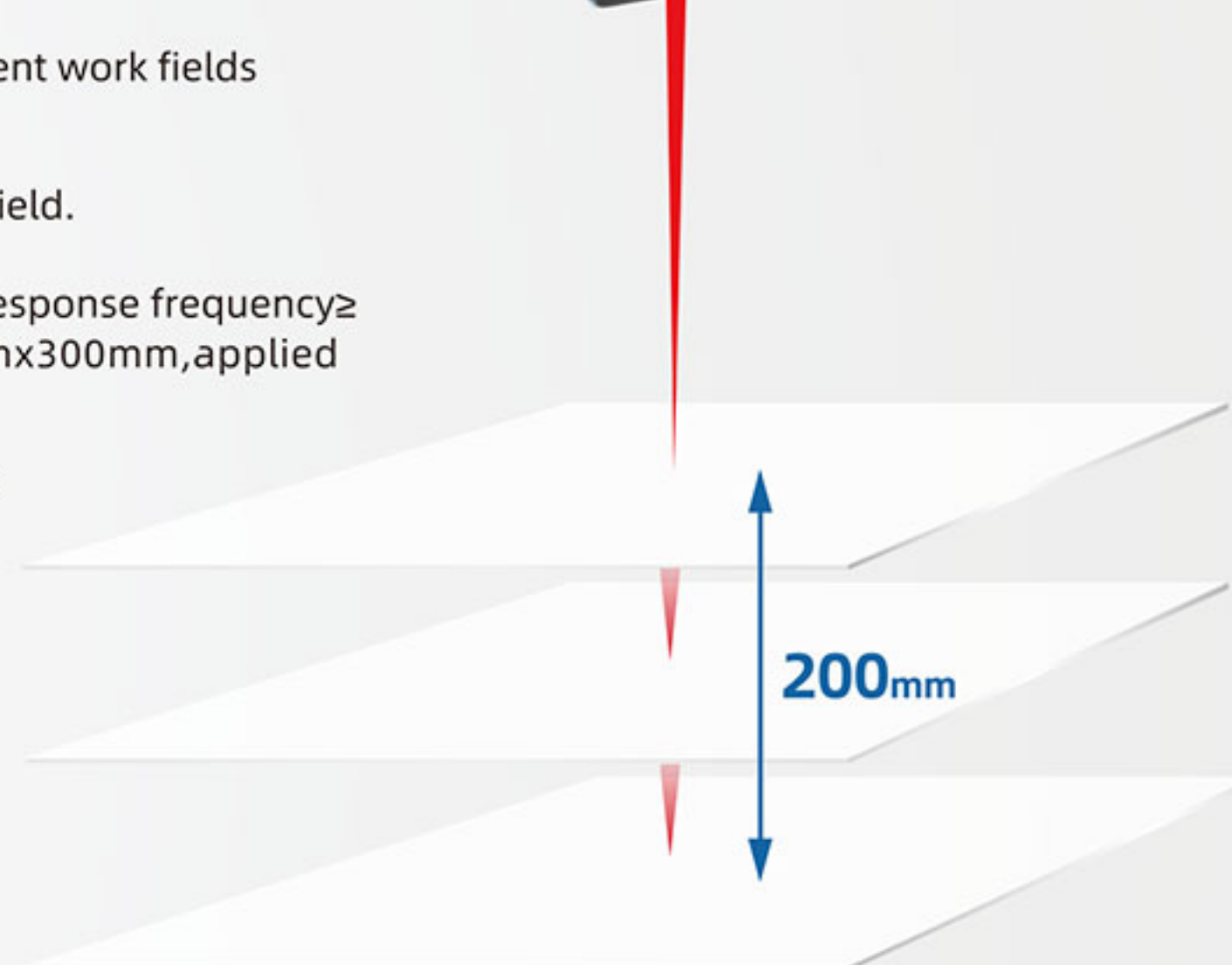


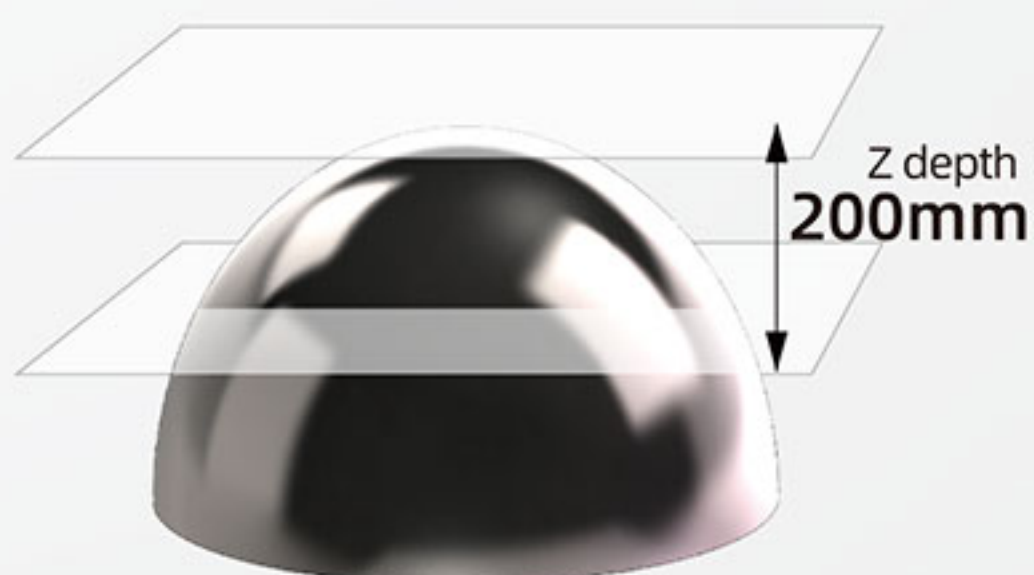
## 3D Dynamic Focus System Flexible Z-depth

- The adjustment knob is used to switch between different work fields without replacing any parts.
- Focal length data preservation when switching work field.
- Double driving Z axis dynamic focus module design, response frequency  $\geq 100\text{HZ} \pm 10^\circ$ , easy to achieve Z depth 150mm@300mmx300mm, applied to flat surface, 3D surface high speed processing.
- The optional accessory of on-axis CCD module for F20 could support positioning, framing, inspection, evaluation on automation line.



### Large Z-depth curved surface processing

Through the dynamic focus system control, the Z-depth can reach 200mm with fine spot quality under 300\*300mm to 600\*600mm work field. It is specifically suited for the environment of large height differences as well as large curved surface processing and is widely used in automotive interior and exterior accessories.



### 3D Surface Processing

The FR20-F applies dynamic focus control technology, breaks the limitation of traditional marking, and can do no distortion marking in the large-scale surface, 3D surface, steps, cone surface, slope surface and other objects.

	Regular Scanhead	FR20-F
Cylinder surface	 Can not cover focal points at two edges, distorted edge marking effect	
Different steps	 Can not cover focal points on two different heights, no average marking	
Cone surface	 Can not cover focal points on the cone, distorted marking effect	
Slope surface	 Can not cover focal points on the slope, distorted marking effect	

### Application Highlight

#### APPLICATIONS

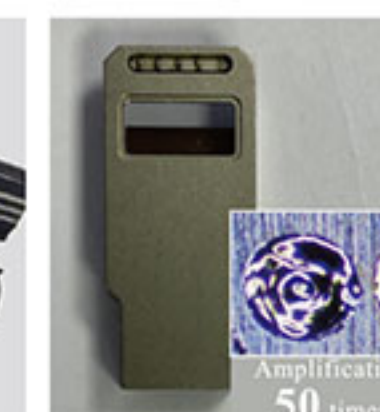
- Large field marking
- 3D engraving
- Welding
- Scribing
- Precision mould
- 3D surface treatment



Large field curved surface



Automotive headlight surface treatment



Precision laser welding

### Product Technical Information

Technical Info.		Specifications					
Items	Output Voltage(VDC)	±15					
	Current(A)	10A					
	Protocol	XY2-100 Protocol					
	Weight (KG)	12.5					
	Size(mm)	346*134*183.5					
Optical Specifications	Aperture Size(mm)	20					
	Input beam diameter(mm)	8.5					
Galvanometer Specifications	Product line	Standard		Pro		P2	
	Scan Angle(°)	±11.25		±11.25		±11	
	Repeatability(μrad)	8		8		5	
	Max.Gain Drift(ppm/k)	100		100		50	
	Max.Offset Drift(μrad/k)	30		30		15	
	Long-term drift over 8h(mrad)	≤0.2		≤0.2		≤0.1	
	Tracking Error(ms)	≤0.28		≤0.28		≤0.2	
	Max.processing speed(characters/s)	400@200×200		400@200×200		500@200×200	
Working Field & Spot Diameter	Working Field(mm)	100×100×40	200×200×150	300×300×200	400×400×200	500×500×200	600×600×200
	The Min.Spot Diameter@1/e <sup>2</sup> (mm)	0.0156	0.0257	0.0362	0.0462	0.0565	0.0661
	Focal length(mm)	120	240	360	480	600	720

