

AMCM M 290 FLX

With single or dual laser setup. From Gaussian to ring-shaped beams. Also with FDR – fine detail resolution.

For highest productivity.





AMCM M 290 FLX

Benefits

AMCM M 290-1 FLX, AMCM M 290-2 FLX configuration with up to 2 x nLIGHT AFX-1000 lasers:

- Compatible with legacy EOS M 290 (400 W) process for 85 μ m spot process parameter sets (same focus, beam quality, etc.) (1)
- Up to 3x higher productivity with 316L steel and aluminum (compared to standard 400 W process)
- Excellent part properties (e.g. Cu density, electrical conductivity)
- Process gas cooling for constant process conditions
- Machine design e.g., gas flow or thermal management adapted to the higher laser power
- · Single or dual laser setup
- Full field overlap possible with the AMCM M 290-2 FLX (85 µm spot)

AMCM M 290-1 FLX (FDR), AMCM M 290-2 FLX (FDR) configuration with up to 2 x nLIGHT AFX-1000 and FDR (fine detail resolution):

- For demanding applications with focus down to 55 μm
- Open software for process optimization
- · High productivity due to dual laser setup

Technical Data

Building volume (height inclusive build plate) 250 x 250 x 325 mm 9.85 x 9.85 x 12.8 in	reciffical Data				
(height inclusive build plate) Laser type Yb Fiber laser Nominal power 1 x 1000-1200 W 2 x 1000-1200 W Wave length 1070 nm Precision optics Scanner Standard scanner with active cooling Scanning speed Focus diameter 85 - 210 μm 0.003 - 0.008 in 0.002 - 0.006 in Process gas cooling x x x x x x Power supply Power consumption 15 kW 17 kW Inert gas supply Recommended installation space 8.66 x 8.66 x 12.8 in 9.85 x 9.85 x 12.8 in 8.66 x 9.85 x 12.8 in 1000-1200 W 10		AMCM M 290-1 FLX		AMCM M 290-2 FLX	
Nominal power 1 x 1000-1200 W 2 x 1000-1200 W Wave length 1070 nm Precision optics F-theta-lens Scanner standard scanner with active cooling Scanning speed up to 7.0 m/s 23 ft./sec Focus diameter 85 - 210 μm 0.003 - 0.008 in 0.002 - 0.006 in 0.002 - 0.006 in 0.002 - 0.006 in 0.003 - 0.008 in 0.002 - 0.008 in 0.002 - 0.008 in	(height inclusive				
Wave length 1070 nm Precision optics F-theta-lens Scanner standard scanner with active cooling Scanning speed up to 7.0 m/s 23 ft./sec Focus diameter 85 - 210 μm 0.003 - 0.008 in 0.002 - 0.006 in 0.003 - 0.008 in 0.002 - 0.006 in Process gas cooling x x x x Power supply 32 A / 400 V Power consumption 15 kW 17 kW Inert gas supply 7,000 hPa; 20 m³/h 102 psi; 706 ft³/h Dimensions (W x D x H) 2,680 x 2,120 x 2,400 mm 105.5 x 83.5 x 94.5 in Recommended installation space min. 4,800 x 3,600 x 3,500 mm 189 x 142 x 138 in	Laser type	Yb Fiber laser			
Precision optics Scanner Standard scanner with active cooling Scanning speed Up to 7.0 m/s 23 ft./sec Focus diameter 85 - 210 µm 0.003 - 0.008 in 0.002 - 0.006 in 0.003 - 0.008 in 0.00	Nominal power	1 x 1000-1200 W		2 x 1000-1200 W	
Scanner standard scanner with active cooling Scanning speed up to 7.0 m/s 23 ft./sec Focus diameter 85 - 210 μm 0.003 - 0.008 in 55 - 140 μm 0.003 - 0.008 in 55 - 140 μm 0.002 - 0.006 in Process gas cooling x x x x Power supply 32 A / 400 V 17 kW 17 kW Power consumption 15 kW 17 kW 17 kW Inert gas supply 7,000 hPa; 20 m³/h 102 psi; 706 ft³/h 105.5 x 83.5 x 94.5 in 105.5 x 83.5 x 94.5 in W x D x H) min. 4,800 x 3,600 x 3,500 mm 189 x 142 x 138 in	Wave length	1070 nm			
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0.003 - 0.008 in 0.002 - 0.006 in 0.003 - 0.008 in 0.002 - 0.006 in Process gas cooling	Scanning speed	up to 7.0 m/s 23 ft./sec			
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Inert gas supply 7,000 hPa; 20 m³/h 102 psi; 706 ft³/h Dimensions (W x D x H) Recommended installation space 7,000 hPa; 20 m³/h 102 psi; 706 ft³/h 2,680 x 2,120 x 2,400 mm 105.5 x 83.5 x 94.5 in min. 4,800 x 3,600 x 3,500 mm 189 x 142 x 138 in	Power supply	32 A / 400 V			
Dimensions (W x D x H) 2,680 x 2,120 x 2,400 mm 105.5 x 83.5 x 94.5 in Recommended installation space min. 4,800 x 3,600 x 3,500 mm 189 x 142 x 138 in	Power consumption	15 kW		17 kW	
(W x D x H) Recommended installation space min. 4,800 x 3,600 x 3,500 mm 189 x 142 x 138 in	Inert gas supply	7,000 hPa; 20 m³/h 102 psi; 706 ft³/h			
installation space 189 x 142 x 138 in		2,680 x 2,120 x 2,400 mm 105.5 x 83.5 x 94.5 in			
Weight approx. 1,250 kg 2,756 lb approx. 1,350 kg 2,976 lb					
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⁽¹⁾ Processes must all be re-qualified by customer.

Consulting for parameter set transfer from EOS M 290 (400 W) to AMCM systems on request.



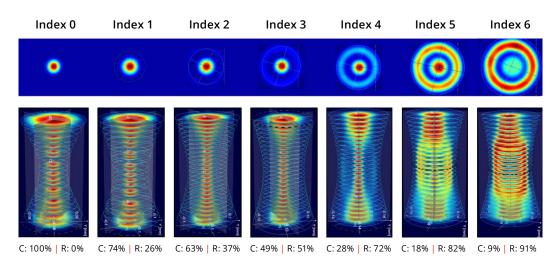


Fig 1: nLIGHT laser index properties.





Fig 2: 316L impeller made on an AMCM M 290-1 FLX system with the nLIGHT AFX-1000. Spot size: $85~\mu m$ Volume rate: $17~mm^3/sec$