Fiber Lasers

ARM FL D

High-Power Dual Ring ARM

The ARM FL series of industrial, multi-kilowatt fiber lasers includes beam management to deliver superior results in a variety of challenging welding tasks.

The ARM technology now features up to three individually controllable, coaxial beams from a single fiber, providing a new level of flexibility for wide variety of applications. Some of these applications are gigacastings repairs, highspeed copper welding, zero-gap welding of zinc-coated steel, as well as the ability to weld aluminum without filler wire, with minimal spatter, and no hot cracking. The power levels in central spot and both surrounding rings are independently adjustable. This results in high speed and high throughput spatter-free processing and lowers overall production costs by largely eliminating the need for post-processing.

To maximize operational flexibility, ARM FL products are equipped with either a Fiber-Fiber-Switch (FFS) or Fiber-Fiber-Coupler (FFC).

FEATURES

- Output power: 6,000 - 20,000 Watts
- Adjustable Ring Mode (ARM) with independently controlled center beam and 2 separate coaxial ring beams
- Fiber-Fiber-Switch (FFS) or Fiber-Fiber-Coupler (FFC)
- Excellent stability over the entire power range (1% to 100%)
- Inherently back reflection safe
- Industry-leading closed loop power control for high process consistency
- Optimized power profile programming tool for welding processes
- Minimized operating costs

APPLICATIONS

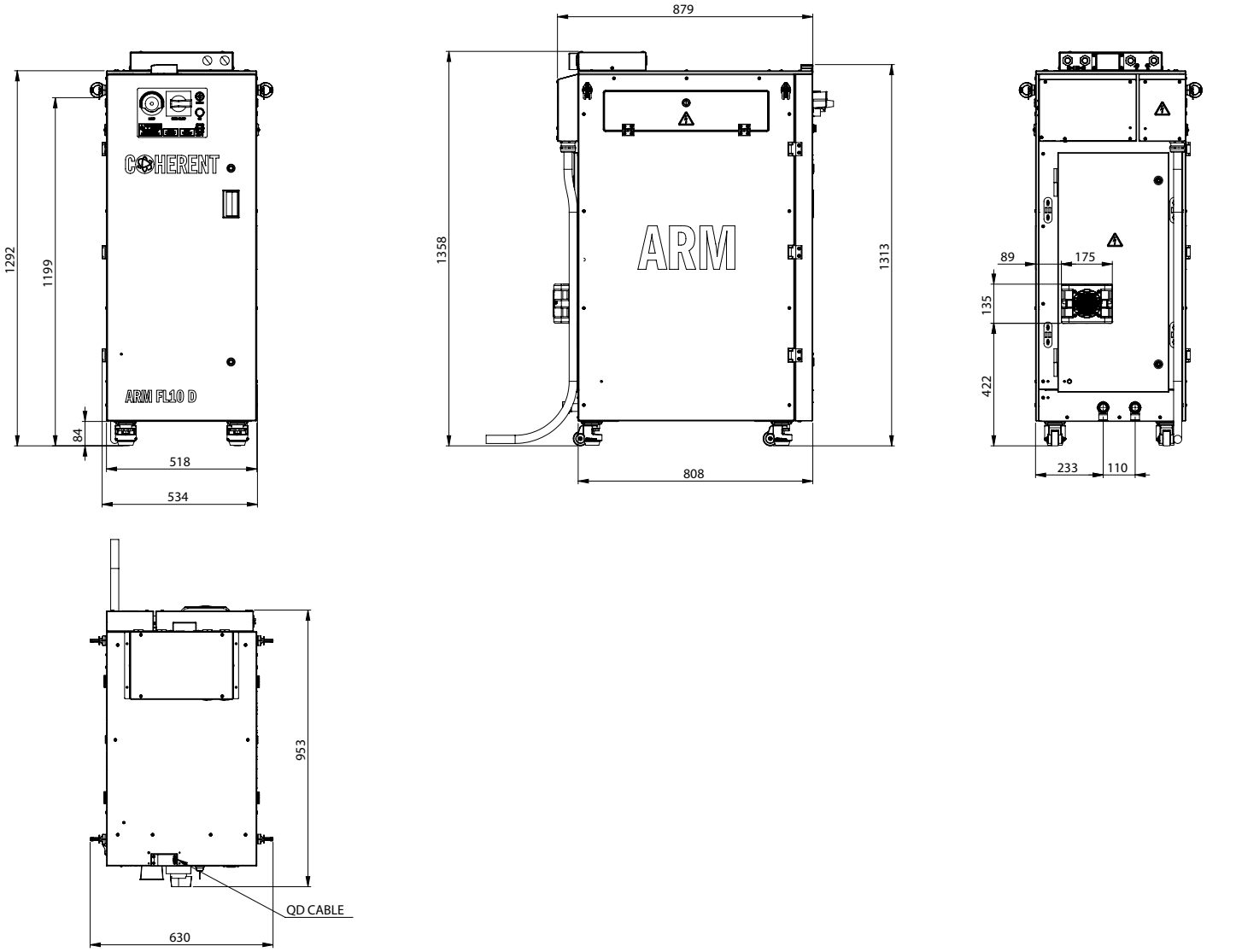
- High-speed and deep penetration welding of challenging materials like high-strength steel, aluminium, or copper
- Cast aluminium welding without filler wire
- Cutting

COHERENT

ARM D Standard Specifications	ARM FL6D	ARM FL8D	ARM FL10D	ARM FL15D	ARM FL20D
Nominal Power (kW)	6	8	10	15	20
Dual Ring Typical Laser Beam Quality (BPP) at Collimator (mm x mrad)	For 50/200/400 µm + FFC/FFS: Center ≤2.5 Ring 1 ≤8, Ring 2 ≤20				
Electrical Ratings					
Connected Load (kVA)	20.8	27.6	36.2	54.3	72.4
Effective Power at Nominal Power (kW)	20.6	27.4	36	54	72
Max. Current Consumption at 400 V (A)	29.7	35	52	78	104
Fuses Type NH (A)	63			94.5	126
Cooling					
Recommended Cooling Capacity Laser (kW)	13.3	17.8	22.2	33.3	44.4
Recommended Cooling Capacity FFC/FFS and QHB/QD (kW)	FFS2: 1.0 FFC: 1.0				
Flow Rate Laser (l/min.)	65	84	84	126	168
Flow Rate for FFS/FFC and QBH/QD (l/min.)	FFS2: 8.0 FFC: 6.0				
Temperature Laser (°C)	25 ±1				
Temperature for FFS/FFC and QBH/QD (°C)	24 to 35				
Max. Pressure Laser (MPa)	0.5				
Max. Pressure FFS/FFC and QBH/QD (Mpa)	0.4				
Typical Pressure Drop Laser (MPa)	0.25				
Fiber Delivery System					
Interface	QD/QBH				
Dual Ring Diameter (µm)	50/200/400				
Length (m)	20				
Dimensions and Weights	MAXI			DoubleMAXI	
Laser Dimension (L x W x H) (mm) without Signal Tower	808 x 518 x 1290			808 x 1014 x 1290	
FFC / FFS Dimension (L x W x H) (mm)	FFC: 816 x 518 x 151, FFS: 816 x 518 x 215				
Laser Weight (kg)	FFC:<460 FFS: <520			FFC:<850 FFS: <950	

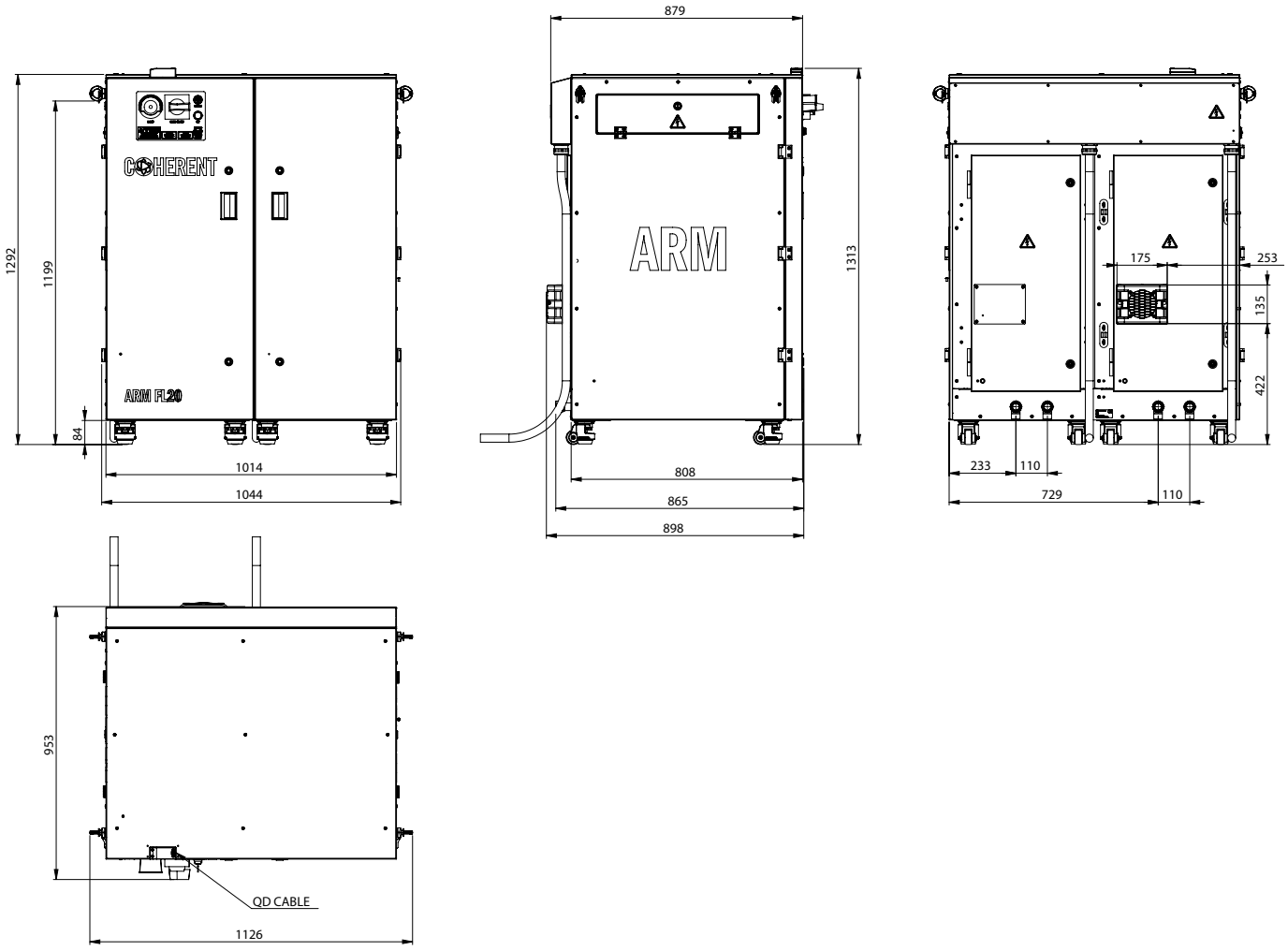
Mechanical Specifications

MAXI



Mechanical Specifications

DoubleMAXI



For more information
www.coherent.com