

1.1.2.6 High Power Water Cooled Thermal Sensors and Power Pucks

20W to 10kW

Features

- Highest powers
- Water cooled
- Up to 10kW
- $\phi 45\text{mm}$ and $\phi 50\text{mm}$ apertures

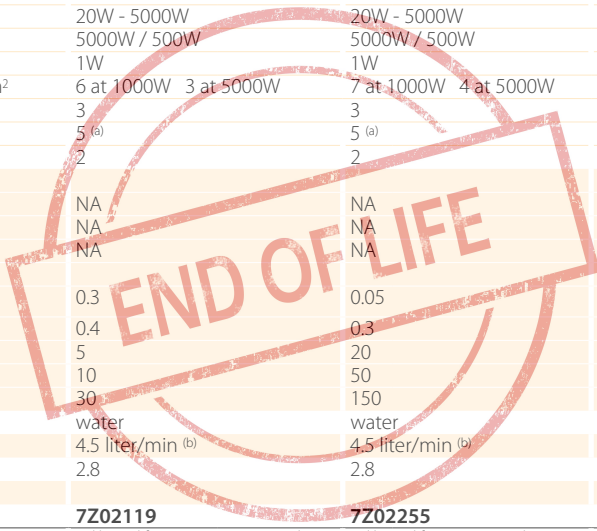
5000W / 5000W-LP



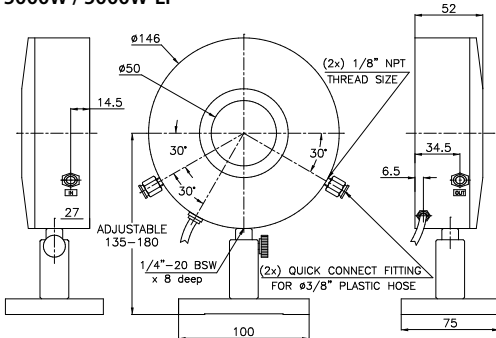
10K-W



Model	5000W	5000W-LP	10K-W
Use	General purpose	High power densities and long pulses	Highest powers and power densities
Absorber Type	Broadband	LP	Beam deflector + broadband absorber
Spectral Range μm	0.19 - 20	0.4 - 1.5, 10.6	0.8 - 2, 10.6
Aperture mm	$\phi 50\text{mm}$	$\phi 50\text{mm}$	$\phi 45\text{mm}$
Power Mode			
Power Range	20W - 5000W	20W - 5000W	100W - 10kW
Power Scales	5000W / 500W	5000W / 500W	10kW / 1kW
Power Noise Level	1W	1W	2W
Maximum Average Power Density kW/cm^2	6 at 1000W 3 at 5000W	7 at 1000W 4 at 5000W	See note (c) below
Response Time with Meter (0-95%) typ. s	3	3	2.7
Power Accuracy +/- %	5 (a)	5 (a)	5 (a)
Linearity with Power +/- %	2	2	2
Energy Mode			
Energy Range	NA	NA	NA
Energy Scales	NA	NA	NA
Minimum Energy mJ	NA	NA	NA
Maximum Energy Density J/cm^2			See note (c) below
<100ns	0.3	0.05	
1 μs	0.4	0.3	
0.5ms	5	20	
2ms	10	50	
10ms	30	150	
Cooling	water	water	water
Minimum Water Flow Rate at Full Power	4.5 liter/min (b)	4.5 liter/min (b)	9 liter/min (b)
Weight kg	2.8	2.8	4.5
Version			V1
Part number	7Z02119	7Z02255	7Z02645
Notes: (a)	Calibrated for $\sim 0.8\mu\text{m}$ 1.064 μm and 10.6 μm	Calibrated for 1.064 μm and 10.6 μm	Calibrated for 1.064 μm and 10.6 μm
Notes: (b)	Water temperature range 18-30°C. Water temperature rate of change <1°C/min.		
Notes: (c)	Beam diameter	Max power density	Max energy density
			1ms pulse width
	<15mm	10kW/cm ²	30J/cm ²
	15 - 20mm	7kW/cm ²	20J/cm ²
	20 - 40mm	5kW/cm ²	15J/cm ²
	40 - 45mm	4kW/cm ²	12J/cm ²
			3ms pulse width
			60J/cm ²
			40J/cm ²
			30J/cm ²
			70J/cm ²
			60J/cm ²
			10ms pulse width
			150J/cm ²
			100J/cm ²
			70J/cm ²
			60J/cm ²



5000W / 5000W-LP



10K-W

