



# INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

MATERIALS MANAGEMENT DIVISION

Powai, Mumbai 400076

**Purchase Requisition No. 1000016341 (SRM/RFx No. 6100000461)**

**Technical specifications for 4kW Fast Axis Flow CO<sub>2</sub> Laser and Accessories**

• **4kW Fast Axis Flow CO<sub>2</sub> Laser**

Description		
Laser power range (W)	200-4000	
Max. laser power (W)	4100	
Laser wavelength (μm)	10.6	
Polarization	45° linear polarization	
Beam quality (M2)	2.3	
Half beam angle divergence (mrad)	1.5	
pulse repetition rate (kHz)	0-2	
Pulse range (μs)	250	
Pointing stability (24hr.) (μrad)	<±150	
Beam diameter (mm)	19	
Beam mode	Q mode or D mode (TEM00 + TEM01)	
Operation mode	CW/pulse	
Gas composition	CO <sub>2</sub> :N <sub>2</sub> :He =4%:28%:68%	
Gas pressure (mbar)	110	
Gas consumption (L/h)	20-70	
Power supply	3x380VAC, ±5%, 50/60Hz	
Power required (kW)	37.5	
Dimensions (L×W×H) (mm)	3112x870x900	
Weight (kg)	1200	
Warming up (min)	≤6	
Ambient temperature	Max. 40°C, Min.10°C	recommended in 25°C dry and thermostatic room.
Relative humidity	<95 No condensation	
Cooling liquid	Distilled water (with 35% Dowfross HD)	
cooling liquid pressure difference (Bar)	1.5	
Max. inlet pressure (Bar)	6	
Rated inlet pressure (Bar)	3	
Water flow (L/min)	133	
Filter (μm)	100	

- **50kW WATER CHILLER**

Model	MCWL-500DT
Refrigeration Capacity	50KW
Powersupply	3 PHASE/ AC380V/50HZ
Input power	18KW
Rated current	37A
Refrigerant / filling amount	R22 / 5KG x2

## **Other accessories**

### **1. Focal len II-VI infrared**

ZENSE PO/CX LENS

38.1mm DIA 190.5mm FL

ET=7.87mm

AR COATED @ 10.6μm

### **2. Water-Cooled Copper Mirror-**

CU REFLECTOR

70mm DIA 25mm THK

Side 1:PO/MMR-A

Side 2:SPT/UC

Coated @10.6μm

### **3. Vacuum Pump Oil and Filter**