

S.No	Description	Qty
1	Electron Beam Welding Machine	01 No
A)	Job Description	
1	Dia of tube= 10mm & 12mm	
2	Wall thickness of tube= 0.5 – 0.7 mm	
3	Length of tube = 3500 mm	
4	End plug outer dia= 10-50mm	
5	End plug outer dia =10-12 mm	
6	Weld gap = 0.02-5 mm	
7	Material = Zr-04/ S.S/ inconel	
8	Weld bead. 1-5 mm	
9	Penetration: 0.1-15mm	
10	Gun positioning accuracy: ± 0.03 mm	
11	Beam power accuracy: $\pm 0.4\%$	
12	Tube positioning accuracy: ± 0.03 mm	
13	Focus current accuracy : $\pm 0.1\%$	
B)	WELDING CHAMBER	
1	Loading capacity = 50~55 tubes	
2	Chamber size=suitable for both end welds	
3	Vacuum required= 10^{-5} to 10^{-6} mbar	
4	Automatic welding of 50 ~ 55 tubes	
5	Gap adjustment between turret supports	
C	Voltage and Current	
1	Input supply voltage: 415 V, 50 Hz, three phase	
2	Acceleration voltage: 20~75 kv (adjustable)	
3	Max. beam current : 0~ 100 mA	
4	Max beam power : 8.0 kw	
D	ESSENTIAL FEATURES	
1	CNC controlled EBM gun locator manipulator in both X & Y axis.	
2	CNC controlled tube rotation manipulation for circular seam weld.	
3	Viewing system with motorized camera adjustment	
4	Lighting system inside chamber	
5	Viewing window in chamber	
6	Motorized focus and deflection coil adjustment.	
7	Vacuum system	
8	Control system	
9	Work table for external loading unloading table	
10	Platform for linear welding of components	
11	Linear weld table. 1 ft ² min. (as attachment)	
12	Work piece holding mechanism for linear welding	
13	Closed loop cooling system	
14	UPS backup for operation critical systems	
15	Panels should be temperature & humidity controlled	
E	(05 YEARS Essential spares & all operational accessories including ☺)	
1	Pump oils and seals	
2	HT transformer oil	
3	Vacuum gauge heads	
4	Maintenance kits for gun, chamber and pumps	
5	Each type of breaker and contractors	
6	Gun electrodes and essential components	
7	Chamber vacuum seals	
8	PLC and control cards etc.	
e)	Limits of supply	
1	Inspection demonstration sample qualification and training at supplier site	
2	Installation commissioning, and acceptance at customer premises	
3	Warranty after commissioning	
4	PLC programming of PC based software alongwith interface cable and soft and hard copy of PLC program.	
5	Lifetime license of machine	
6	Operation and maintenance manuals with mechanical, electrical and electronic circuit diagrams.	
	Make. European (preferably TECH META)	