




Supply specification:

The technical specification takes precedence over the values in the table.

 Cutting gas	Nitrogen N ₂	Primary pressure, dynamic at the machine input	25 bar	363 psi
		Flow rate, dynamic	2 200 l/min	78 ft ³ /min
		Primary pressure, static at the machine input	30 bar	435 psi
		Connection	Ø 18 mm	
	Oxygen, O ₂	Primary pressure, dynamic at the machine input	12 bar	174 psi
		Flow rate, dynamic	700 l/min	25 ft ³ /min
		Primary pressure, static at the machine input	15 bar	218 psi
		Connection	Ø 12 mm	
	Compressed air	Primary pressure, dynamic at the machine input	9 bar	130 psi
		Flow rate, dynamic	670 l/min	24 ft ³ /min
		Primary pressure, static at the machine input	10 bar	145 psi
		Connection	Ø 12 mm	
	The dimensions of the cutting-gas supply pipes must be specified by the relevant gas fitter.			
 Compressed air	COMPRESSED-AIR QUALITY TO ISO 8573-1:2001			
		Maximum particle diameter	Class 4	
		Maximum particle density	Class 4	
		Compressed-air dew point	Class 4	
		Maximum residual oil content	Class 3	
		Minimum dynamic pressure on supply unit	6 bar	87 psi
		1) Maximum consumption, machine	4.5 Nm ³ /h	159 ft ³ /h
		2) Average consumption extraction system	3 Nm ³ /h	106 ft ³ /h
		2) Short-term consumption extraction system	16.2 Nm ³ /h	572 ft ³ /h
		3) Average consumption ByLoader	1 Nm ³ /h	35 ft ³ /h
		4) Average consumption ByTrans Extended	10 Nm ³ /h	353 ft ³ /h
		Max. temperature of compressed air on the supply unit	43 °C	109 °F
		Supply line cross-section	Ø ½ inch	

 Electrical connection	SUPPLY FOR THE LASER CUTTING MACHINE				
	3 phases & PE				
	Connection	3 x 400 V		3 x 480 V	
	Supply voltage	50 Hz ±1%		60 Hz ±1%	
	Mains frequency	±10%		+6% -13%	
	Voltage tolerance				
	1) LASER POWER	2000 W	3000 W	4000 W	6000 W
	Fuse (time-lag fuse)	63 AT	63 AT	63 AT	80 AT
	cos (φ)	0.95	0.95	0.95	0.95
	Max. connected load	30 kVA	30 kVA	30 kVA	38 kVA
	2) ROUTER SUPPLY RATINGS				
	1 phase & N & PE				
	Connection	230 V		110V	
	Supply voltage	50 Hz		60 Hz	
	Mains frequency				
	Fuse			10 AT	
	4) SUPPLY RATINGS FOR DUST EXTRACTION SYSTEM				
	3 phases & PE				
	Connection	3 x 400 V		3 x 480 V	
	Supply voltage	50 Hz		60 Hz	
	Mains frequency	±10%		+6% -13%	
	Voltage tolerance				
	Fuse			25 AT	
cos (φ)			0.88		
Power supply	5.5 kVA		4.6 kVA		

5) SUPPLY RATINGS FOR COOLING UNIT (2 KW)		Typ:BYF-6-03545	
Connection	3 phases & PE		
Supply voltage	3 x 400 V	3 x 480 V	
Mains frequency	50 Hz	60 Hz	
Voltage tolerance	±10%	+6%	-13%
Fuse	16 AT		
cos (φ)	0.75	0.75	
Max. connected load	4.8 kVA	6.0 kVA	

5) SUPPLY RATINGS FOR COOLING UNIT (3 AND 4 KW)		Typ:BYF-10-03545	
Connection	3 phases & PE		
Supply voltage	3 x 400 V	3 x 480 V	
Mains frequency	50 Hz	60 Hz	
Voltage tolerance	±10%	+6%	-13%
Fuse	16 AT		
cos (φ)	0.75	0.75	
Max. connected load	7.0 kVA	8.6 kVA	

5) SUPPLY RATINGS FOR COOLING UNIT (6 KW)		Typ:BYF-17-05035	
Connection	3 phases & PE		
Supply voltage	3 x 400 V	3 x 480 V	
Mains frequency	50 Hz	60 Hz	
Voltage tolerance	±10%	+6%	-13%
Fuse	20 AT		
cos (φ)	0.75	0.75	
Power consumption during operation	9.6 kVA	12.4 kVA	

6) BYTOWER SUPPLY RATINGS			
Connection	3 phases & PE		
Supply voltage	3 x 400 V	3 x 480 V	
Mains frequency	50 Hz	60 Hz	
Voltage tolerance	±10%	+6%	-13%
Fuse	60 AT		
cos (φ)	>0.95		
Max. connected load	16 kVA		

7) BYSORT SUPPLY RATINGS			
Connection	3 phases & PE		
Supply voltage	3 x 400 V	3 x 480 V	
Mains frequency	50 Hz	60 Hz	
Voltage tolerance	±10%	+6%	-13%
Fuse	40 AT		
Max. connected load	16 kVA		

Max. connected loads must be taken into account when designing a possible transformer and stabilizer.



Electrical connection

für, Materialnummer, Einkäufergruppe / Fertigungssteuerer.



Metric measurements are always the reference for conversion.

Foundation data:

The foundations depend on the quality of the underlying ground. Floor condition, dimensions and reinforcement of the foundations should (must for ByTower) be checked by the local engineer.

CHARACTERISTIC	VALUE
Recommended foundation thickness	200 mm reinforced (possibly more, depending on the subsoil)
Concrete quality	Strength class C 25/30
Differential settlement	Max. 0.3 mm/m
Evenness of floor	± 5 mm over 5 m
Maximum permitted amplitude of acceleration (measured at support points of basic machine, in time period)	1m/s ²
Minimal natural frequency of the ground	30 Hz
Foundations	— · · · — · · · —
Maintenance and safety zone	— · · · · · —

Max. unloading weight:

MACHINE (HEAVIEST PART):

Machine frame	4700 kg
Machine frame with small part conveyor	5500 kg

AUTOMATION (HEAVIEST PART):

Byloader	1950 kg
ByTrans 3015	4600 kg
ByTrans 3015 Extended	5600 kg
BySort	2450 kg
ByTower	2500 kg

FOOT LOAD MACHINE:	WEIGHT	FOOT SIZE	
Max. weight machine	1400 kg/foot	Ø 160	B
Max. weight shuttle table system	1100 kg/foot	Ø 160	C

FOOT LOAD AUTOMATION:	WEIGHT	FOOT SIZE	
Max. weight ByTrans	2800 kg/foot	Ø 160	D
Max. weight BySort	1500 kg/foot	205 x 205	E
Max. weight ByTower [11 (stock) compartments]	22,000 kg/foot	520 x 274	F
Max. weight ByTower [8 (stock) compartments]	16,000 kg/foot	520 x 274	F
Max. weight ByTower [6 (stock) compartments]	12,500 kg/foot	520 x 274	F

Environmental conditions

Customer must ensure that light conditions at the installation site (artificial lighting, sunlight, and reflective surfaces) are such as not to interfere with the functioning of optical sensors.