

Technical proposal

[This table will be completed by the bidder in columns 2, 3, 4, 6, 7, and by the contracting authority - in columns 1, 5]

open auction
Procurement machine for metal processing.

Name of goods	Name of offered goods	Country of origin	Manufacturer	Full technical specification requested by the Contracting Authority	Full technical specification offered by bidder	Reference standards
1	2	3	4	5	6	7
Milling machine with 5 axes for metal processing.	HAAS UMC-500	USA	Haas Automation, Inc.	Fully cast-iron bed Servomotors for direct axis movements with direct torque transmissions Hardened steel bearing blocks Double ball screws with preloaded nut Automatic lubrication system for ball guides and ball screws High precision sensors of B and C axis angular position Internal autotransformer (354-480 V) Min. Working stroke: X - 600 mm, Y - 400 mm, Z - 400 mm Displacement from spindle nose to	Fully cast-iron bed Servomotors for direct axis movements with direct torque transmissions Hardened steel bearing blocks Double ball screws with preloaded nut Automatic lubrication system for ball guides and ball screws Thermal expansion compensation system High precision	ISO 9001:2015

				table: 102 - 508 mm Min. feed speed when cutting: 16.0 m/min Min. Axis rapid traverse 22.0 m/min Min. motor operation in X,Y-axis 14000 H, in Z-axis 18000 H B-axis (inclined): +120° to -35° Min. rotary speed 50 °/s Min. torque 2500 Nm Min. Braking torque 1200 Nm C axis (rotation): 360° Min. workpiece diameter: 450mm Min. rotary speed 50°/s Min. torque 2500 Nm Braking torque 1220 Nm Positioning accuracy in X, Y, Z axes: ± 0,005 mm Accuracy of repeatability of positioning along the X, Y, Z axes: ± 0.0025 mm Accuracy of positioning of the B and C axes: ±30 arc sec. Accuracy of repeatability of positioning of the B and C axes: ±15 arc sec. Air consumption: Min.113 l/min, operating pressure: 6.9 bar Power supply: 3ph, 380V, 50Hz Electrical power consumption: Min. 28 kVA Line voltage fluctuations max ± 5% Tool Changer: min - 30 tools Through-Spindle Coolant: min - 1000 psi (69 bar) Operating temperature range: from 5 °C to 40 °C	sensors of B and C axis angular position Internal autotransformer (354-480 V) Max Rating Spindle: 22,4 kW Max Speed Spindle: 8100 rpm Drive System: Inline Direct-Drive Working stroke: X - 610 mm, Y - 406 mm, Z - 406 mm Displacement from spindle nose to table: 102 - 508 mm Feed speed when cutting: 16.5 m/min Axis rapid traverse 22.9 m/min Motor operation in X,Y-axis 14680 H, in Z-axis 18015 H B-axis (inclined): +120° to -35° Rotary speed 50 °/s Torque 2514 Nm Braking torque 1220 Nm C axis (rotation): 360° Workpiece diameter: 457 mm Rotary speed 50°/sec Torque 2514 Nm Braking torque 1220 Nm Platter Diameter 400 mm Max Weight on Platter 226,8 kg
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					Positioning accuracy in X, Y, Z axes: ± 0.005 mm Accuracy of repeatability of positioning along the X, Y, Z axes: ± 0.0025 mm Accuracy of positioning of the B and C axes: ± 30 arc sec. Accuracy of repeatability of positioning of the B and C axes: ± 15 arc sec. Air consumption: 113 l/min, operating pressure: 6.9 bar Power supply: 3ph, 380V, 50Hz Electrical power consumption: 28 kVA Line voltage fluctuations max $\pm 5\%$ Tool Changer: 30+1 tools Max Tool Diameter (full/adjacent empty): 64/127 mm Max Tool Weight: 5.4 kg Through-Spindle Coolant: 1000 psi (69 bar) Operating temperature range:
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Turning machine with 2 axes for metal processing	HAAS ST-30Y	USA	Haas Automation, Inc.	Fully cast-iron bed Servomotors for direct torque transmission on axes Hardened steel bearing blocks of guides Double ball screws with preloaded nut Automatic lubrication system for ball guides and ball screws Thermal expansion compensation system Internal transformer (354-480 V) Min. workpiece diameter 500 mm Min. workpiece diameter (with BMT65 turret) 330 mm Min. machining length (depending on the fixture) 800 mm Distance between centers Min 800 mm Min. traverse of axes: X - 200 mm, Y $\pm$ 51 mm, Z - 800 mm Min. Rapid traverse axes: X, Y - 12 m/min, Z - 24 m/min Min. feed force axes: X - 18000 H, Y - 10000 H, Z - 22000 H Slide positioning accuracy $\pm$ 0,005 mm Carriage positioning repeatability $\pm$ 0,0025 mm Power supply: 3ph. 380V, 50Hz Min. Power consumption - 27 kVA Line voltage fluctuations - not more than $\pm$ 5% Compressed air consumption - Min. 113 l/min, operating pressure in the network - 6.9 bar Spindle rpm: min 3400 Spindle power: 30 hp (22.4 kW)	Fully cast-iron bed Servomotors for direct torque transmission on axes Hardened steel bearing blocks of guides Double ball screws with preloaded nut Automatic lubrication system for ball guides and ball screws Thermal expansion compensation system Internal transformer (354-480 V) Chuck Size 254 mm Bar Capacity 76 mm Workpiece diameter 533 mm Workpiece diameter (with BMT65 turret) 349 mm Machining length (depending on the fixture) 826 mm Distance between centers 826 mm Traverse of axes: X - 239 mm, Y $\pm$ 51 mm, Z - 826 mm Rapid traverse axes: X, Y - 12 m/min, Z - 24 m/min Feed force axes: X - 18238 H, Y - 10231 H, Z - 22686 H	from 5 °C to 40 °C	ISO 9001:2015
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				spindle nose: A2-6 Coolant Tank: min 208 liter with 1 hp (0.75 kW) pump Automatic Tool Presetter, manual and automatic modes. User-friendly interface. Operating temperature range - 5 - 40 °C	Slide positioning accuracy $\pm 0,005$ mm Carriage positioning repeatability $\pm 0,0025$ mm Max Rating Main Spindle C Axis 3,7 kW Positioning C Axis $\pm 0,01^\circ$ Control Type C Axis: Interpolated Motion and Positioning Power supply: 3ph. 380V, 50Hz Power consumption - 28 kVA Line voltage fluctuations - not more than $\pm 5\%$ Compressed air consumption - 113 l/min, operating pressure in the network - 6.9 bar Spindle rpm: 3400 Spindle power: 30 hp (22.4 kW) Spindle nose: A2-6 Number of Tools 12 Stations Coolant Tank: 208 liter with 1 hp (0.75 kW) pump Automatic Tool Presetter, manual and automatic modes. User-friendly interface. Operating
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							temperature range - 5 - 40 °C Max Speed Live Tooling 4000 rpm Type of tooling BMT65
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