Haas Automation, Inc.

Technical specification

Five-axis vertical milling center

HAAS UMC-500

Made in USA, Oxnard, California

№	Description	Quantity
	Five-axis vertical milling center HAAS UMC-500	1
	Fully cast iron bed	
	Servomotors for direct axis movements with direct torque transmission	
	Hardened steel bearing blocks of guides	
	Double ball screws with preloaded nut	
	Automatic lubrication system for ball guides and ballscrews	
	Thermal expansion compensation system	
	High precision sensors of B and C axis angular position	
	Internal autotransformer (354-480 V)	
	Working stroke: X - 610 mm, Y - 406 mm, Z - 406 mm	
	Travel from spindle nose to table: 102 - 508 mm	
	Max. feed speed when cutting: 16.5 m/min	
	Rapid traverse along the X, Y, Z axes: 22,9 m/min	
	Max. motor operation in X,Y-axis 14680 H, in Z-axis 18015 H	
	B-axis (inclined): +120º to -35º	
	Max rotary speed 50°/s	
	Max. torque 2514 Nm	
	Braking torque 1220 Nm	
	C axis (rotation): 360º	
	Max workpiece diameter: 457mm	
	Max rotating speed 50 °/sec	
	Max. torque 2514 Nm	
	Braking torque 1220 Nm	
	Positioning accuracy of X,Y,Z axes: ± 0,005 mm	
	Accuracy of positioning repeatability along the X,Y,Z axes: ± 0.0025 mm	
	Accuracy of positioning of the B and C axes: ±30 arc sec.	
	Accuracy Accuracy of positioning repeatability of the B and C axes: ±15 arc sec.	
	Air consumption: 113 l/min, operating pressure: 6.9 bar	
	Power supply: 380 V, 50 Hz, 3 phase	
	Electrical power consumption: 28 kVA	
	Line voltage fluctuations max ± 5%	
	Operating temperature range: from 5 ºC to 40 ºC	
	Overall machine dimensions, LxWhD: 2912x2965x2616 mm	
	Complete set	
1	Integrated two-axis tilt-turn table	1
	Faceplate diameter 400 mm	
	Max. plate weight (evenly distributed) 226 kg	
	T-slot width 16 mm	
	Distance between adjacent T-slots 63 mm	
	Number of T-slots 5	
2	Spindle with direct vector drive	1
	Spindle taper ISO 40 (CT or BT 40)	
	Max. spindle speed 8100 rpm	
	Maximum power at spindle 22.4 kW	
	Maximum torque 122 Nm at 2000 rpm	
	Spindle cooling is water cooled	
	Spindle bearings are oil-air lubricated	
	Cone blown out during tool changes	

№	Description	Quantity
3	Tool magazine with 30 positions + 1 tool in the spindle	1
	Tool magazine design - lateral type	
	Maximum tool diameter (full) 64 mm	
	Maximum tool diameter (incomplete) 127 mm	
	Max. tool length (from measuring line) 305 mm	
	Max. tool weight 5.4 kg	
	Average tool change time (from clamping to clamping) 2.8 seconds	
	Average tool change time (chip to chip) 3.6 s	
4	Coolant supply system	1
	208-litre coolant tank with 0.6 kW pump; 19.9 l/min at 2 bar	
	Cooling lubricant tank tilting design	
5	HAAS CNC system (FANUC compatible)	1
	Programming: ISO standard G codes	
	Can be programmed directly from the console	
	Start of machining from any block in the program	
	Positioning: Absolute (G90) or incremental (G91)	
	Built-in cycles: 22 standard functions	
	Two dimensional tool diameter compensation G40, G41, G42	
	Length compensation in two dimensions G43, G44, G49	
	200 tool database (geometrical dimensions and wear)	
	Tool life: all tools in the magazine	
	Tool load monitoring	
	Manual handwheel, built-in	
	Program editing in the background	
	Graphical machining demonstration on the CNC display	
	Built-in calculator for calculating machining parameters and trigonometric functions	
	HAAS Media Display with Code M-130	
	HaasDrop - Wireless file transfer from Android and iOS devices	
6	15" LCD color touch screen display	1
7	Ethernet interface	1
8	USB port	1
9	1GB RAM	1
10	Early power failure detection module	1
11	Hand held blowgun for chip removal from workpiece and machine	1
12	Red-green two-color machine status beacon	1
13	Cockpit enclosing the work area	1
14	Supports for leveling the machine	1
15	Programming and Operating manual in English	1
16	Web translation of the manual into Russian (https://haascnc.com/)	1
17	Rigid tapping	1
18	Second starting position	1
19	Remote control with color touch screen display	1
20	Renishaw stylus kit	1
	20.1 Touch-trigger probe for tool measurement with automatic correction by the TNC	1
	20.2 Touch probe for workpiece measurement and datuming with infrared transmission, inserted in the machine spindle	1
	20.3 includes programming options: Spindle orientation, macro programming, rotating and scaling the coordinate system, Visual programming system	
21	HaasConnect: remote monitoring of machine status	1
22	Wi-Fi connection for the Haas control system	1

№	Description	Quantity
23	Dynamic part offsets and Tool Center Point Control	1
24	5-Axis Calibration Tool Kit	1
25	69 bar spindle coolant supply	1

Haas Automation, Inc.

Technical specification

CNC turning center

HAAS ST-30Y

Made in USA, Oxnard, California

№	Description	Quantity
	CNC turning center HAAS ST-30Y	1
	Main Technical Characteristics	
	Fully cast iron bed	
	Servomotors for direct axis movements with direct torque transmission	
	Hardened steel bearing blocks for guides	
	Double ball screws with preloaded nut	
	Automatic lubrication system for ball guides and ballscrews	
	Thermal expansion compensation system	
	Internal transformer (354-480 V)	
	Max. workpiece diameter 533 mm	
	Max. machining diameter (with BMT65 turret) 349 mm	
	Max. machining length (depending on the fixture) 826 mm	
	Distance between centers 826 mm	
	Max. travels of axes: X - 239 mm, Y ± 51 mm, Z - 826 mm	
	Rapid travels axes: X,Y - 12 m/min, Z - 24 m/min	
	Max. feed force axes: X - 18238 H, Y - 10231 H, Z - 22686 H	
	Support positioning accuracy ± 0,005 mm	
	Support positioning repeatability ± 0,0025 mm	
	Power supply: 3ph. 380V, 50Hz	
	Power consumption - 28 kVA	
	Line voltage fluctuations - not more than ± 5%	
	Compressed air consumption - 113 l/min, operating pressure in the network - 6.9 bar	
	Operating temperature range - 5 - 40 ºC	
	Overall machine dimensions, LxWhD, 4496x2642x2057 mm	
	Complete set	
1	Spindle with vector drive	1
	Method of torquing moment trnsmission: through belt drive	
	Spindle cone A2-6	
	Maximum power at spindle 22,4 kW	
	Max. spindle speed: 3400 rpm	
	Spindle torque maximum: 407 Nm at 500 rpm	
	Spindle bore diameter: 88.9 mm	
	Max. bar diameter: 76 mm	
	Three-jaw hydraulic chuck 254 mm diameter	
2	Sub spindle with vector drive	1
	Method of torquing moment trnsmission: through belt drive	
	Spindle taper: A2-5	
	Max. spindle speed: 4100 rpm	
	Spindle bore diameter 46 mm (not through-hole)	
	Three-jaw hydraulic chuck with 165 mm diameter	
	Parameters of the "B" axis of the counter spindle:	
	Positioning accuracy of "B" axis ± 0.02°	

№	Description	Quantity
	Servomotor with integrated brake, brake clamping force 23 Nm	
	Control type - positioning only	
	Synchronized operation of two spindles/intercepting workpiece up to 4100 rpm	
	Includes: NC workpiece ejector and control cabinet cooler	
	APL compatible: workpiece loading/unloading from main spindle	
3	Drive tool with "C" axis	1
	Drive tool parameters:	
	Maximum power 9 kW	
	Maximum speed 4000 rpm	
	Maximum torque 32 Nm	
	Constant torque 15 Nm	
	Parameters of the "C" axis:	
	Maximum power 3.7 kW	
	Positioning accuracy ± 0.01°	
	Diameter of brake 366 mm	
	Brake contact force 4448 N	
	Maximum speed 60 rpm, 360° per second	
	Control - bidirectional interpolated motion and positioning	
4	BMT65 tool revolver	1
	Number of positions in the turret 12 pieces.	
	Metric tooling set BMT65 for counter spindle work is included; 3 double 25 mm holders for external turning, 2 double 32 mm holders for internal machining, 1 split 40 mm holder for internal machining.	1
5	Coolant supply system	1
	208 liter coolant tank with 0.6 kW pump; 19.9 l/min at 2 bar	
	Variable coolant pump (P M code flow and pressure control)	
	Rolling back coolant tank design	
6	HAAS CNC system (FANUC compatible)	1
	Programming: ISO standard G codes	
	Can be programmed directly from the console	
	Graphic simulation/processing simulation	
	Positioning: absolute X,Z or incremental U,W	
	Built-in cycles: 17 standard functions	
	2-dimensional tool diameter compensation G40, G41, G42	
	5 additional M-functions	
	Tool data base - 50 items (geometrical dimensions and wear)	
	Tool life	
	Tool load monitoring with automatic feed control	
	Manual handwheel, built-in	
	Program editing in the background	
	Graphical machining demonstration on the CNC display	
	Built-in calculator for calculating trigger functions and machining modes	
	Possibility of starting machining from any block in the program	
	Cutting all types of threads	

№	Description	Quantity
	HAAS Media Display with Code M-130 HaasDrop - Wireless file transfer from Android and iOS devices	
7	RAM 1 Gigabyte	1
8	USB port	1
9	Ethernet interface	1
10	Early power failure detection module	1
11	15.4 inch color touch screen display	1
12	Hand held blowgun for chip removal from workpiece and machine	1
13	Red-green two-color machine status beacon	1
14	Cockpit that fully encloses the work area	1
15	Leveling aid kit for setting machine level	1
16	Programming and Operating Instructions in English	1
17	Web translation of the manual into Russian (https://haascnc.com/)	1
18	Rigid tapping	1
19	Wi-Fi connection for the Haas control system	1
20	HaasConnect: remotely monitoring machine status	1
21	Spindle Guidance	1
22	Stylus for tool setting and alignment	1