3-Axis

Machining Centers

Technical Brochure

With the fastest control in industry

Max 5®

50 YEARS of INNOVATION HURCO 1968-2018

5-Axis Machining Centers

VM 10 Ui Plus

VM 10 UHSi Plus

VMX 30 Ui

VMX 30 UHSi

VMX 42 Ui

VMX 42 SWi

VMX 42 SRTi

3-Axis Machining Centers

VM 10 i

VM 10 i Plus
VM 10 HSi Plus

VM 20 i

VM 20 i Plus

VM 30 i

VM 30 i Plus

VMX 24 i

Double-Column / Horizontal Machining Centers

BX 40 i

BX 50 i

DCX 22 i

DCX 32 i

DCX 32-5Si / DCX 32-5SCi

DCX 42 i

Turning Centers

TM 6 i

TM 8 i

TM 10 i

TM 12 i

TM 18 i / TM 18 Li

TMM 8 i

5-Axis Machining Centers

VMX 42 HSRTi

VMX 60 SWi

VMX 60 SRTi

VC 500 i

VCX 600 i

VTX Ui

3-Axis Machining Centers

VMX 30 i
VMX 30 HSi

VMX 42 i
VMX 42 HSi

VMX 50 i

VMX 60 i

VMX 64 i

VMX 84 i

Double-Column / Horizontal Machining Centers

HMX 500 i

HMX 630 i

HBMX 55 i

HBMX 80 i

HBMX 95-5i

HBMX 120 i

Turning Centers

TMM 10 i

TMM 12 i

TMX 8i / TMX 10 i

TMX 8 MYi / TMX 10 MYi

TMX 8 MYSi / TMX 10 MYSi

WinMax® All in one

Our control. Your expertise.

- Faster from the drawing to the finished part
- Shortest learning curve
- Fastest programming
- Quick overview by double screen
- Designed ergonomically

>>	Additional options: DXF, UltiMotion, Tool Change Optimization, die-mold package
>>	Adjustable-height console
>>	2 x 19“ screen
>>	Adjustable keypad angle
>>	ABS polycarbonate keys withstand petroleum solvents
>>	Override knobs for speed, feed and rapid feed
>>	Retractable QWERTY keyboard with trackball
>>	Dual USB ports
>>	Retractable console for minimum footprint*
>>	Folding auxiliary screen with stainless steel hinges*
>>	LCD remote jog unit *
>>	CPU: Intel® Core™ i5 - Processor
>>	RAM: 4 GB
>>	SSD: 80 GB
>>	Maximum feed rate: 39,000 mm/min*

*depending on machine and contour

VMi and VMXi Series

3-axis for performance machining

- Small footprint, large work cube
- Solid cast iron frame
- Heavy duty linear rails in all three axes
- Electric, side-mounted exchange arm ATC
- Next generation Yaskawa drives
- SK 40 / SK 50 spindle taper

Option: Patented UltiMotion technology option available. Invented by HURCO. Simultaneously reduce cycle time by up to 30 % (or more) and improve surface finish quality with UltiMotion. Exclusive technology only available on HURCO mills.

STANDARD & OPTIONAL ITEMS	VM 10 i / VM 10 i Plus	VM 20 i / VM 20 i Plus	VM 30 i / VM 30 i Plus	VMX 24 i	VMX 30 i	VMX 42 i	VMX 50 i	VMX 60 i	VMX 64 i	VMX 84 i
AC spindle motor	S	S	S	S	S	S	S	S	S	S
Dual wound AC spindle motor	–	–	–	S	S	S	S	S	S	S
HS, liquid cooled integral spindle	–	–	–	–	–	–	–	–	–	–
Direct drive in all axes with AC brushless servos	S	S	S	S	S	S	S	S	S	S
Direct drive Z-axis (no mechanical counterbalance)	S	S	S	S	S	S	S	S	S	S
Spindle thermal chiller	O / S	O / S	O / S	S	S	S	S	S	S	S
Remote jog unit	S	S	S	S	S	S	S	S	S	S
Extra wide linear guide ways	S	S	S	S	S	S	S	S	S	S
Ultra-rigid roller guideways	–	–	–	S	S	S	S	S	S	S
Double-nut pretensioned ball screws	S	S	S	S	S	S	S	S	S	S
Direct measuring system (X, Y, Z)	O	O	O	O	O	O	O	O	O	O
Automatic central lubrication system	S	S	S	S	S	S	S	S	S	S
Oil skimmer	–	–	–	S	S	S	S	S	S	S
Status signal light	S	S	S	S	S	S	S	S	S	S
Optional 40 station tool changer	–	–	–	–	O	O	O	O	O	O
Optional 96 station tool changer	–	–	–	–	–	–	–	–	O	O
Chip conveyor/Chip auger	O / S	O / S	O / S	–	–	–	–	–	–	–
Scraper conveyor	–	–	–	S	S	S	S	S	S	S
Enclosure wash down system	–	–	–	S	S	S	S	S	S	S
Coolant gun & air gun	S	S	S	S	S	S	S	S	S	S
Spindle coolant ring	O	O	O	S	S	S	S	S	S	S
Coolant thru spindle / 20 bar	O	O	O	O	O	O	O	O	O	O
Oversized hinged side access door(s)	S	S	S	S	S	S	S	S	S	S
LED work light(s)	S	S	S	S	S	S	S	S	S	S
Power cabinet heat exchanger	S	S	S	S	S	S	S	S	S	S
Renishaw part probing	O	O	O	O	O	O	O	O	O	O
Renishaw tool probing	O	O	O	O	O	O	O	O	O	O
4th/5th axis rotary tables axis	O	O	O	O	O	O	O	O	O	O

O: optional | S: standard

VM 10 i

Efficient design with a small foot print

- One-piece machine base
- 762 x 406 mm table, 682 kg capacity
- Travels: 660 x 406 x 508 mm
- 10,000 rpm spindle
- 11.0 kW peak spindle
- 20 station automatic tool changer
- 24 / 24 / 24 m/min rapid traverse rates

VM 10 i Plus

The plus in display and technical features optimizes ease of use and efficiency

- One-piece machine base
- 762 x 406 mm table, 682 kg capacity
- Travels: 660 x 406 x 508 mm
- 12,000 rpm spindle
- 11.2 kW peak spindle
- 20 station automatic tool changer
- 24 / 24 / 24 m/min rapid traverse rates

VM 20 i

Exceptionally large travels for complex machining applications

- 1,168 x 508 mm table, 909 kg capacity
- Spindle max RPM 10,000 rpm
- Travels: 1,016 x 508 x 508 mm
- 15 kW peak spindle
- 20 station automatic tool changer
- 24 / 24 / 24 m/min rapid traverse rates

VM 20 i Plus

The plus in display and technical features optimizes ease of use and efficiency

- 1,168 x 508 mm table, 909 kg capacity
- Spindle max RPM 12,000 rpm
- Travels: 1,016 x 508 x 508 mm
- 15 kW peak spindle
- 20 station automatic tool changer
- 24 / 24 / 24 m/min rapid traverse rates

VM 30 i

Large work envelope for high-performance machining

- 1,321 x 508 mm table, 909 kg capacity
- Travels: 1,270 x 508 x 508 mm
- 10,000 rpm spindle
- 15 kW peak spindle
- 20 station automatic tool changer
- 24 / 24 / 24 m/min rapid traverse rates

VM 30 i Plus

The plus in display and technical features optimizes ease of use and efficiency

- 1,321 x 508 mm table, 909 kg capacity
- Travels: 1,270 x 508 x 508
- 12,000 rpm spindle
- 15 kW peak spindle
- 20 station automatic tool changer
- 24 / 24 / 24 m/min rapid traverse rates

VMX 24 i

Big capabilities in a small package

- 760 x 508 mm table, 1,360 kg capacity
- Travels: 610 x 508 x 610 mm
- 12,000 rpm spindle
- 9.0 kW peak spindle
- 30 station automatic tool changer
- 38 / 38 / 32 m/min rapid traverse rates

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VMX 30 i

Intelligent design and sophisticated technology

- 1,020 x 508 mm table, 1,360 kg capacity
- Travels: 762 x 508 x 610 mm
- 12,000 rpm spindle
- 13.4 kW peak spindle
- 30 or 40 station automatic tool changer
- 38 / 38 / 32 m/min rapid traverse rates

VMX 42 i

The CNC workhorse for high performance and flexibility

- 1,270 x 610 mm table, 1,360 kg capacity
- Travels: 1067 x 610 x 610 mm
- 12,000 rpm spindle
- 18 kW peak spindle
- 30 or 40 station automatic tool changer
- 38 / 38 / 32 m/min rapid traverse rates

VMX 50 i

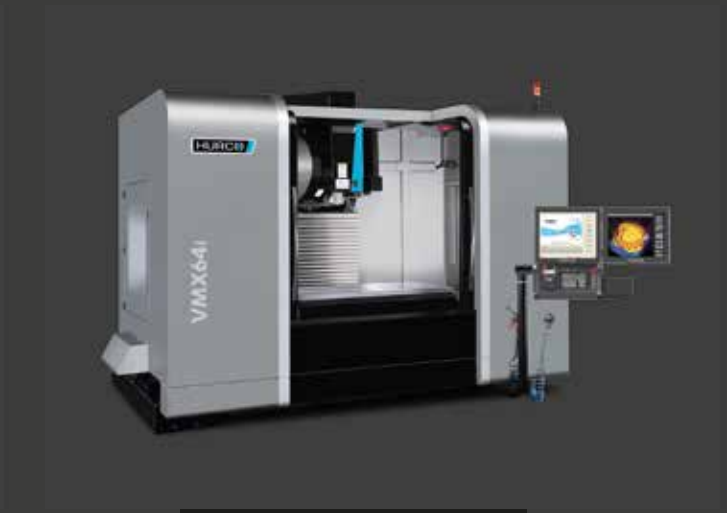
Power and flexibility for demanding applications

- 1,500 x 660 mm table, 1,360 kg capacity
- SK 40 (SK 50) spindle taper
- Travels: 1270 x 660 x 610 mm
- 12,000 rpm spindle (8,000 rpm)
- 18 kW (22,2 kW) peak spindle
- 30 or 40 station automatic tool changer
- 32 / 32 / 24 m/min rapid traverse rates

VMX 60 i

High performance for any machining application

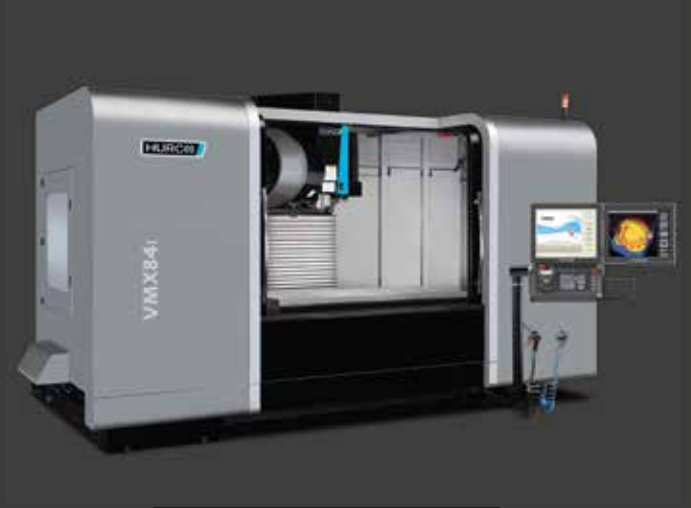
- 1,676 x 762 mm table, 1,360 kg capacity
- SK 40 (SK 50) spindle taper
- Travels: 1,524 x 660 x 610 mm
- 12,000 rpm (8,000 rpm) spindle
- 18 kW (22,2 kW) peak spindle
- 30 or 40 station (30 station) automatic tool changer
- 32 / 32 / 24 m/min rapid traverse rates



VMX 64 i

The speed, accuracy and reliability you need

- 1,676 x 889 mm table, 2722 kg capacity
  SK 40 (SK 50) spindle taper
- Travels: 1,625 x 864 x 762 mm
- 12,000 rpm (8,000 rpm) spindle
- 18 kW (22,2 kW) peak spindle
- 30, 40 or 96 station automatic tool changer
  (96 station only with 96STA model)
- 18 / 18 / 13.5 m/min rapid traverse rates



VMX 84 i

Premium components and meticulous manufacturing extend the machine's service life

- 2,184 x 865 mm table, 2,268 kg capacity
  SK 40 (SK 50) spindle taper
- Travels: 2,134 x 864 x 762 mm
- 12,000 rpm (8,000 rpm) spindle
- 18 kW (22,2kW) peak spindle
- 40 or 96 station (32 station) automatic tool changer
- 18 / 18 / 13.5 m/min rapid traverse rates

HSi Series

A new approach to
high speed machining

Premium components
and expert design

- Small footprint, large work cube
- Solid cast iron frame
- Heavy duty linear rails in all three axes
- Electric, side-mounted exchange arm ATC
- Next generation Yaskawa drives
- Integral motorized spindle

Option: Patented UltiMotion technology option available. Invented by HURCO. Simultaneously reduce cycle time by up to 30 % (or more) and improve surface finish quality with UltiMotion. Exclusive technology only available on HURCO mills.

STANDARD & OPTIONAL ITEMS	VM 10 HS i Plus	VMX 24 HS i	VMX 30 HSi	VMX 42 HSi
AC spindle motor	S	S	S	S
Dual wound AC spindle motor	–	–	–	–
HS, liquid cooled integral spindle	S	S	S	S
Direct drive in all axes with AC brushless servos	S	S	S	S
Direct drive Z-axis (no mechanical counterbalance)	S	S	S	S
Spindle thermal chiller	S	S	S	S
Remote jog unit	S	S	S	S
Extra wide linear guide ways	S	S	S	S
Ultra-rigid roller guideways	–	S	S	S
Double-nut pretensioned ball screws	S	S	S	S
Direct measuring system (X, Y, Z)	O	O	O	O
Automatic central lubrication system	S	S	S	S
Oil skimmer	S	S	S	S
Status signal light	S	S	S	S
40 station automatic tool changer	–	–	O	S
96 station automatic tool changer	–	–	–	–
Chip conveyor/Chip auger	S	–	–	–
Scraper conveyor	–	S	S	S
Enclosure wash down system	–	S	S	S
Coolant gun & air gun	S	S	S	S
Spindle coolant ring	–	S	S	S
Coolant thru spindle /20 bar (300 psi)	–	O	O	O
Oversized hinged side access door(s)	S	S	S	S
LED work light(s)	S	S	S	S
Power cabinet heat exchanger	S	S	S	S
Renishaw part probing	O	O	O	O
Renishaw tool probing	O	O	O	O
4th/5th axis rotary tables axis	O	O	O	O

O: optional | S: standard

VM 10 HSi Plus

The plus in display and technical features optimizes ease of use and efficiency

- 762 x 406 mm table, 340 kg capacity
- Travels: 660 x 406 x 508 mm
- 20,000 rpm high-speed spindle
- 8.5 kW peak spindle
- 20 station automatic tool changer
- Higher rapid traverse rate 45/45/40 m/min

VMX 24 HSi

Built to withstand the rigors of high speed machining

- 760 x 508 mm table, 1,360 kg capacity
- 610 x 508 x 610 mm travels
- 18,000 rpm high-speed spindle
- Direct drive ballscrews
- 30 station high-speed automatic tool changer
- Higher rapid traverse rate 45/45/40 m/min

VMX 30 HSi

Built for speed, accuracy and repeatability

- 1,020 x 510 mm table, 1,364 kg capacity
- Travels: 762 x 508 x 610 mm
- 18,000 rpm high-speed spindle
- Direct drive ballscrews
- 30 / 40 station automatic tool changer
- Higher rapid traverse rate 45/45/40 m/min

VMX 42 HSi

The mold industry´s choice for HSM

- 1,270 x 610 mm table, 1,360 kg capacity
- Travels: 1067 x 610 x 610 mm
- 18,000 rpm high-speed spindle
- 35 kW peak spindle
- Direct drive ballscrews
- 40 station automatic tool changer
- Higher rapid traverse rate 45/45/40 m/min

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Information may change without notice. Optimum machine performance is reliant upon installation conditions at the facility, such as power supply, air supply, and ambient air conditions

	VM 10 i (VM 10 i Plus)	VM 10 HSi Plus	VM 20 i (VM 20 i Plus)	VM 30 i (VM 30 i Plus)	VMX 24 i	VMX 24 HSi	VMX 30 i	VMX 30 HSi
Table								
Table working surface (mm)	762 x 406	762 x 406	1,168 x 508	1,321 x 508	760 x 508	760 x 508	1,020 x 508	1,020 x 510
T-slots (mm)	3 x 18	3 x 18	5 x 18	5 x 18	5 x 18	5 x 18	5 x 18	5 x 18
Max. load (kg)	682	340	909	909 (1,306)	1,360	1,360	1,360	1.364
Spindle nose to table (mm)	610 - 102	610 - 102	610 - 102	610 - 102 (152)	762 - 152	762 - 152	762 - 152	762 - 152
Travels								
X-axis (mm)	660	660	1.016	1,270	610	610	762	762
Y-axis (mm)	406	406	508	508	508	508	508	508
Z-axis (mm)	508	508	508	508	610	610	610	610
Spindle								
Spindle power max. (rpm)	10,000 (12,000)	20,000	10,000 (12,000)	10,000 (12,000)	12,000	18,000	12.000	18,000
Spindle power max. (kW/rpm)	11.2 @ 1,450 (11.2@1,740)	8.5 @ 14,700	15 @ 1,450 (15@1,740)	15 @ 1,450 (15@1,740)	9 @ 900	35 @ 2,800	13.4@600	35 @ 2,800
Spindle torque max. (Nm)	73.6 (61)	5.9	102 (82)	102 (82)	143	119	214	119
Automatic Tool Changer								
Tool type	SK -40	BT30	SK-40	SK-40	SK-40	HSK 63 Form A	SK-40	HSK 63 Form A
Stations	20	20	20	20	30	30	30 or 40	30 or 40
Max. tool diameter (mm)	89	60	89	89	80	80	80 / 76	80 / 76
Max. tool length (mm)	250	250	250	250	300	300	300	300
Max. tool weight (kg)	7	5	7	7	7	7	7	7
Tool-to-tool ATC time (sec)	2.5	2.5	2.5	2.5	2	1.5	2	1,5
Feeds								
Rapid traverse XYZ (m/min)	24 / 24 / 24	24 / 24 / 24	24 / 24 / 24	24 / 24 / 24	38 / 38 / 32	45 / 45 / 40	38 / 38 / 32	45 / 45 / 40
Progr. feed rate XYZ (m/min)	24	24	24	24	38 / 38 / 32	45 / 45 / 40	38 / 38 / 32	45 / 45 / 40
Further details								
Floor space required (mm) (doors open, incl. control unit and chip conveyor)	3,000 x 2,891	3,198 x 2,981	3,703 x 3,007	4,083 x 2,743	3,939 x 4,053	3,939 x 4,053	3,939 x 4,032	4,053 x 3,939
Machine height (mm)	2,530	2,533	2,576	2,576	2,747	2,747	2,747	2,747
Machine weight (kg)	2,818	3,102	4,100	4,245	4,748	4,864	4,850 / 5,040	5,000

	VMX 42 i	VMX 42 HSi	VMX 50 i	VMX 60 i	VMX 64 i	VMX 84 i
Table						
Table working surface (mm)	1,270 x 610	1,270 x 610	1,500 x 660	1,676 x 660	1,676 x 889	2,184 x 865
T-slots (mm)	5 x 18	5 x 18	6 x 18	6 x 18	7 x 18	7 x 18
Max. load (kg)	1,360	1,360	1,360	1,360	2,722	2,268
Spindle nose to table (mm)	762 - 152	762 - 152	762 - 152	711 - 102	889 - 127	887 - 127
Travels						
X-axis (mm)	1,067	1,067	1,270	1,524	1,625	2,134
Y-axis (mm)	610	610	660	660	864	865
Z-axis (mm)	610	610	610	610	762	762
Spindle						
Spindle power max. (rpm)	12,000	18,000	12,000 / 8,000	12,000 / 8,000	12,000 / 8,000	12,000 / 8,000
Spindle power max. (kW/rpm)	18 @ 720	35 @ 2,800	18 @ 720 / 22.2 @ 600	18 @ 720 / 22.2 @ 600	18 @ 720 / 22.2 @ 600	18 @ 720 / 22.2 @ 600
Spindle torque (peak) (Nm)	237	119	237 / 353	237 / 353	239 / 353	239 / 353
Automatic Tool Changer						
Tool type	SK-40	HSK 63 Form A	Sk-40 / Sk-50	Sk-40 / Sk-50	Sk-40 / Sk-50	Sk-40 / Sk-50
Stations	30 or 40	40	30 or 40 / 30	30 or 40 / 30	30, 40, 96 / 32	40 or 96 / 32
Max. tool diameter (mm)	80 or 76	76	80 or 76 / 125	80 or 76 / 125	80,76,95 / 125	75 / 125
Max. tool length (mm)	300	300	300	300	300, 300, 280 / 300	300
Max. tool weight (kg)	7	8	7 / 15	7 / 15	7 / 15	7 / 15
Tool-to-tool ATC time (sec)	2	1.5	2 / 4	2 / 4	2 , 2 , 4 / 4	2 / 4
Feeds						
Rapid traverse XYZ (m/min)	38 / 38 / 32	45 / 45 / 40	32 / 32 / 24	32 / 32 / 24	18 / 18 / 13.5	18 / 18 / 13.5
Progr. feed rate XYZ (m/min)	38 / 38 / 32	45 / 45 / 40	32 / 32 / 24	32 / 32 / 24	18 / 18 / 13.5	18 / 18 / 13.5
Further details						
Floor space required (mm) (doors open, incl. control unit and chip conveyor)	4,598 x 3,652	4,600 x 3,705	5,196 x 4,641 / 5,196 x 4,974	5,696 x 5,002	6,338 x 5,195	7,560 x 5,192
Machine height (mm)	2,768	2,871	3,013 / 3,048	3,002	3,310	3,310
Machine weight (kg)	6,702 / 6,902	7,500	8,136 / 9,136	8,754 / 9,318	14,600, 15,000, 15,500 / 15,000	17,000

HURCO Conversational Programming

- AdaptiPath™ (Adaptive trochoidal milling)
- NC/Conversational Merge
- 100 Work Offsets (G Code)
- Tool Change Optimization
- DXF and 3D DXF Transfer
- Solid Model Import (STEP)
- Context Sensitive Help
- Program Manager Function
- Inch-Metric Toggle
- Program Review with Cut/Copy/Paste
- Mill Cycles (with AutoCalc Function)
  - Lines & Arcs
  - Circle
  - Frame
  - Mill Face
  - Swept Surface with 3D Mold
  - Thread Milling
  - Slot
  - Stick Lettering
  - TrueType® Lettering
  - Serial Number Lettering
  (Lettering and Part Serialization)
- Pocketing with unlimited islands
- Drill Cycles
  - Drilling (Toll Retract / Chip Breaker)
  - Rigid Tapping with Pecking
  - Bore Orient
  - Deep Hole Drilling
  - Custom Drill Cycle
- Program Parameters
  - Programmable Roughing Stock Allowance
  - Safety Zone Selection
  - Helix Plunging Cycle
- Pattern Blocks
  - Loop Rotate
  - Mirror Image
  - Loop Rectangular
  - Loop Translate

NC Programming

- NC Editor
- 99 Work Offsets (G-Code)
- Fanuc0-Compatibility
- G Codes
- M Codes

5-Axis

- Automatic Safe Repositioning
- 3-D Tool Compensation
- Rotary Axes Centerline Probing
- Shortest Angular Traverse
- Tool Center Point Management
- Tool Path Linearization
- Transform Plane
- Tool Vector Canned Cycles
- Tool Vector Input & Retract

Tool Management

- Tool and Material Library
- Tool Management (Database Interfaces)
- Tool Life Monitoring
- Toll Probing with Laser* or Touch Probe*
- Advanced Tool Utilities and Settings

Review and Verification Graphics

- Remote Maintenance
- Automatic Error Check
- Advanced Verification Graphics with 3D Solid Rendering
- Fast Draw Graphics Engine
- Graphics Display (Tool Path, Solids, Projection in 3 Planes, Isometric)
- Graphical Code Search
- Real Time Tool Simulation
- Individual Stock Geometry (STL)

Automatic Mode

- Customizable Digital Readout Overlay (DRO)
- Auto Interrupt Cycle
- Cycle Start / Feed Hold
- Control and Machine Diagnostics
- Coolant Select (Dual)
- Distance To Go
- Estimated Run Time
- Feed Rate, Rapid Traverse and RPM Override
- Spindle Load Monitor
- Concurrent Programming
- Speed and Feed Edit while Running
- Job List
- UltiMotion™

The points marked with a * are optional

KNOLL Product Package

KNOLL bypass filter

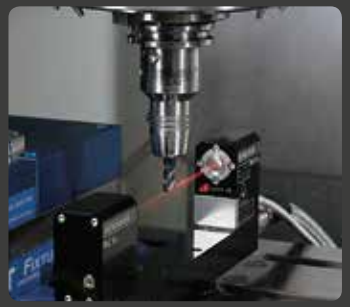
Rotoclear inspection windows

LCM rotary unions for rotary tables

Barnes chip conveyor

Part Probing with touch probe

Tool probing with touch probe



Tool probing with laser beam

Accu-Lube minimum-quantity lubrication

Air through spindle

Air through nozzles

D	HURCO GmbH Machine Tools, Sales and Service	Gewerbestraße 5 a 85652 Pliening / Germany	Phone: +49-(0)89-90 50 94 - 0 info@hurco.de www.hurco.eu

A	HURCO GmbH www.hurco.de
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CZ	ITAX PRECISION s.r.o. www.itax.cz www.hurco.cz
E	Ferrotall www.hurco.es
FL	Josef Binkert AG www.binkertag.ch
H	Single Product kft www.hurco.hu
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LT	Machine Tool Center UAB www.mtcenter.fi
LV	Machine Tool Center UAB www.mtcenter.fi
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MNE	Strojotehnika d.o.o. www.hurco.eu
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P	Kinetic Approach www.hurco.pt
PL	HURCO Sp. Z o.o. www.hurco.pl
RO	SC Allmetech Tools&Machines SRL www.hurco.ro
RU	ILK-Engineering www.ilk.ru
SRB	Strojotehnika d.o.o. www.hurco.eu
SLO	Kač Trade d.o.o. www.hurco.eu
SK	ITAX PRECISION s.r.o. www.itax.cz www.hurco.cz
TR	Tezmaksan Makina Sanayi ve Ticaret A.Ş. www.hurco.com.tr
UA	Zenitech www.hurco.com.ua