STORM
CNC Vertical Machining Centers

The Best Valued VMC in the Market Today...
Take a Minute and Compare
Storm CNC Vertical Machining Centers are designed and built heavier with more standard features than any VMC in its size and price range...

- Starting with a heavier cast iron base and saddle to assure less vibration than VMC’s with a fabricated base.
- 1.57” (40mm) double nut pre-tensioned ballscrew, directly coupled to the servo drive motor on all 610-1300 models, 1.96” on 1600, gives stronger, more precise and durable operation than machines with only 1.26” (30mm) ballscrews.
- Duplex angular contact bearings support both ends of all ballscrews, far superior to lower cost single radial bearings.
- High performance spindle fitted with 2+2 matched super precision bearings for greater long term precision and accuracy, even during heavy cutting.

Take a minute and check out the Storm VMC advantage...

Storm VMC’s offer Real CNC Machining Power, Precision and Performance. Available in a full range of models, there is a machine to meet most any requirement

**VMC500L**
- 16 Tool Carousel ATC
- Linear Ways
- 23.6” x 12.6” Table
- 20”x16”x18” X/Y/Z Travels
- 10/7.5 hp Spindle Motor
- 8,000 rpm Spindle

**VMC610L/S**
- 24 Tool Dual Arm ATC
- Linear or Square Ways
- 31.5” x 17.7” Table
- 24”x18”x20” X/Y/Z Travel
- 15/10 hp Spindle Motor
- 10,000 rpm with Oil Cooler

**VMC850L/S**
- 24 Tool Dual Arm ATC
- Linear or Square Ways
- 39.37” x 19.68” Table
- 33.5”x20”x22” X/Y/Z Travel
- 15/10 hp Spindle Motor
- 10,000 rpm with Oil Cooler

**VMC1020L/S**
- 24 Tool Dual Arm ATC
- Linear or Square Ways
- 47.24” x 19.68” Table
- 40”x20”x22” X/Y/Z Travel
- 20/15 hp Spindle Motor
- 10,000 rpm with Oil Cooler

**VMC1300S**
- 24 Tool Dual Arm ATC
- Square Ways
- 55.23” x 23.62” Table
- 51”x27.5”x28” X/Y/Z Travel
- 20/15 hp Spindle Motor
- 10,000 rpm with Oil Cooler

**VMC1600S**
- 24 Tool Dual Arm ATC
- Square Ways • CAT #50
- 66.93” x 32.08” Table
- 63”x31”x27” X/Y/Z Travel
- 20/15 hp Spindle Motor
- 4,000 rpm Geared Head
Square Ways on (S) Models for Heavy-Duty Precision Cutting

In-column mechanical counterbalance provides smooth operation of the extra heavy-duty cast iron headstock.

High performance Unitta Belt Driven Spindle fitted with 2+2 matched super precision bearings on 500L-1300S models, with a powerful AC servo motor and spindle speeds up to 12,000 rpm...

Rigid tapping standard.

Large hardened and ground square slideways for a greater load bearing surface. All adjoining surfaces to slideways are Turcite coated to ensure maximum performance and wear.

Extra deep column with integral Z axis servo motor.

Pre-tensioned doubled nut heavy-duty 1.57” 40mm Z axis ballscrew on 610 - 1300 models to minimize backlash.

A state-of-the-art Ball Bar test ensures squareness and accuracy of micro movement. Test is computer recorded during a run in all operational directions between the spindle and table.

Extra heavy Meehanite castings for superior rigidity, wear resistance and vibration absorption.

A special, high precision machining & finish process provides accurate positioning on solid and linear way models.

All 3 axes are checked by a Laser Inspection System to ensure positioning accuracy and repeatability.

Extra heavy-duty cast iron bases, saddles and tables provide proven, superior dampening capability than cheaper fabricated frames.

Saddle and table are driven by extra heavy-duty 1.57” (40mm) pre-tensioned double nut ball screws to minimize backlash and ensure long term accuracy. Ball screws are supported at both ends with double angular contact precision bearings.
Extra Heavy-Duty Construction...

Linear Ways on (L) Models for High-speed Precision Operation

- Z axis servo motor coupled directly to ballscrew.
- Z axis ballscrew has double angular contact bearings at both ends.
- Mechanical counterbalance inside column to offset headstock weight.
- 24 tool dual arm high speed tool changer and 24 pull studs with 2.5 sec. tool to tool change time, standard on all models from VMC610 and larger.
- Coolant flows thru easy adjustable nozzles so you can direct coolant exactly at the cut, at 8 gal/min. M code or manually activated. (Through spindle coolant optional)
- All ways are covered by stainless steel way covers to protect ways and ball screws from dust and coolant.
- Chip and coolant tray has swivel rollers for quick and easy cleaning and maintenance.
- High quality electrical components and circuits. Electrical interface uses PC boards for greater reliability and easy maintenance.
- Extra heavy-duty Meehanite cast iron base and saddle ensure proven thermal and mechanical rigidity and vibration absorption, important characteristics necessary for heavy loads and high speed traverses.

The massive cast iron column construction, provides greater dampening capability than steel. Our extra deep column is heavily ribbed for maximum lateral stiffness, designed to maintain consistent accuracy and thermal stability while withstanding the tremendous forces required during heavy cutting.

We use the latest caged ball technology. Balls are separated by grease pockets, guided by the ball cage and are uniformly aligned in the direction of circulation, unlike conventional ball type that skew and move randomly. The unique ball cage design minimizes friction between balls, creating less generation of heat, making it possible for smooth high-speed operation.

High speed brushless AC servo motors, superior to brush type motors, are directly coupled to the ballscrews, resulting in sharper corner cuts, more precise circular interpolation and greater positioning accuracy.


Construct of Meehanite castings for superior rigidity, wear resistance and vibration absorption.

We use the latest caged ball technology. Balls are separated by grease pockets, guided by the ball cage and are uniformly aligned in the direction of circulation, unlike conventional ball type that skew and move randomly. The unique ball cage design minimizes friction between balls, creating less generation of heat, making it possible for smooth high-speed operation.
Conversational programming, standard G-Code or CAM, it’s your choice...

The Clausing ANILAM 6000i is a full digital CNC Control that offers both true Conversational and standard G-Code Programming within the same system. The simple conversational language allows the 6000i control to be easily programmed by any user. Conversational programs can be edited or executed in automatic mode without changing or converting the format. The 6000i control has 4 axes capability and is 4th axes wired.

G-Code
For those who prefer it, the 6000i series control may be programmed in standard G-code language.

CAM
Programs can also be created using ANILAM’s integrated CAM system. Programs created offline can also be loaded into the control by USB or via the network facility.

Standard G-code Programming Format

Full Screen Editing... Experienced G-Code programmers will appreciate the 6000i’s full screen program page. Advanced editing operations such as cut, copy, find change word, etc., make program changes fast and easy.

Line Help Example

Help Menu... New users can take advantage of the Help Menu to create entire G-Code programs. Help is available for any programmable function, from a simple rapid move to more advanced pocketing cycles.
Clausing ANILAM 6000i Control

Conversational Programming Format

Using the conversational programming language, the full compliment of canned cycles and the integrated geometric calculator, complex parts can be programmed easily at the VMC.

Part programs can be viewed in the Draw Graphics screen. Graphics screens may be viewed in XY, XZ and YZ planes or isometric.

6000i DXF converter, you can view and access source CAD files saved in the DXF file format. The 6000i can save DXF files in choices of G-code, conversational or CAM shapes. The DXF converter will automatically generate the selected tool path and transfer to the desired program name. The program code is then output directly in the 6000i program language and is ready to use.

Basic & Advanced Canned Cycles

<table>
<thead>
<tr>
<th>Pocketing</th>
<th>Drill/Tap</th>
<th>Paths</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Circular (ramp or plunge)</td>
<td>• Basic drilling</td>
<td>• Linear interpolation</td>
</tr>
<tr>
<td>• Rectangular (ramp or plunge)</td>
<td>• Hole patterns</td>
<td>• Circular profile</td>
</tr>
<tr>
<td>• Irregular profile</td>
<td>• Bolt hole circles</td>
<td>• Rectangular profile</td>
</tr>
<tr>
<td>• Draft pockets</td>
<td>• Pecking</td>
<td>• Spiral</td>
</tr>
<tr>
<td>• Hole milling</td>
<td>• Chip breaking</td>
<td>• Ellipse</td>
</tr>
<tr>
<td>• Frame milling</td>
<td>• Rigid tapping</td>
<td></td>
</tr>
<tr>
<td>• Draft pockets</td>
<td>• Counter boring</td>
<td></td>
</tr>
<tr>
<td>• Circular (ramp or plunge)</td>
<td>• Boring</td>
<td></td>
</tr>
<tr>
<td>• Pocketing</td>
<td>• Pecking</td>
<td></td>
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<tr>
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<td></td>
</tr>
<tr>
<td>• Frame milling</td>
<td>• Boring</td>
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</tbody>
</table>

Available on request... FANUC Oi MC (Manual Guide i’ optional)

Loaded with features such as...

- Rigid tapping
- Three axis interpolation
- Inch/metric data selection
- Programmable resolution-.00004"
- 400 tool length offsets
- Cutter diameter compensation
- Color screen
- Background editing
- Custom macro B
- Expanded part program edit
- 128K part program storage
- Helical interpolation
- Pocket milling macros
- Scaling
- Sub program nesting
- Tool life management
- 4th axis pre-wired
- Absolute/incremental (X, Y, Z and B Axis)
- Canned cycles
- Spindle speed, feed rate, rapid traverse override
- Linear and circular interpolation
- Manual reference point return
- Run time parts counter
- Sequence number search
- Single block operation
- Single direction positioning
- Tool compensation memory B and C
- Tool length compensation
- And much more
# Storm Machine Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>VMC500L</th>
<th>VMC610L/S</th>
<th>VMC850L/S</th>
<th>VMC1020L/S</th>
<th>VMC1300S</th>
<th>VMC1600S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>23.6&quot; x 12.6&quot; (600 x 320mm)</td>
<td>31.5&quot; x 17.7&quot; (800 x 450mm)</td>
<td>38.4&quot; x 19.7&quot; (1000 x 500mm)</td>
<td>47.2&quot; x 13.7&quot; (1200 x 600mm)</td>
<td>55.2&quot; x 23.6&quot; (1400 x 815mm)</td>
<td>66.9&quot; x 32.1&quot; (1700 x 815mm)</td>
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<tr>
<td>Weight</td>
<td>800 lbs (363kg)</td>
<td>990 lbs. (450kg)</td>
<td>2,200 lbs. (1000kg)</td>
<td>4,850 lbs (2200kg)</td>
<td>3,300lbs. (1500kg)</td>
<td>4,840 lbs. (2200kg)</td>
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<tr>
<td>Spindle</td>
<td></td>
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<tr>
<td>Spindle Motor</td>
<td>7.5/10 hp (5.5/7.5kW)</td>
<td>10/15 hp (7.5/11kW)</td>
<td>10/15 hp (7.5/11kW)</td>
<td>15/20 hp (11/15kW)</td>
<td>15/20 hp (11/15kW)</td>
<td>15/20 hp (11/15kW)</td>
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<tr>
<td>Spindle speed</td>
<td>8000 rpm</td>
<td>10,000 rpm</td>
<td>10,000 rpm</td>
<td>10,000 rpm</td>
<td>10,000 rpm</td>
<td>10,000 rpm</td>
</tr>
<tr>
<td>Option #1 spindle speed</td>
<td>12,000 rpm</td>
<td>12,000 rpm</td>
<td>12,000 rpm</td>
<td>12,000 rpm</td>
<td>12,000 rpm</td>
<td>12,000 rpm</td>
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<tr>
<td>Option #2 spindle speed</td>
<td>12,000 rpm</td>
<td>12,000 rpm</td>
<td>12,000 rpm</td>
<td>12,000 rpm</td>
<td>12,000 rpm</td>
<td>12,000 rpm</td>
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<tr>
<td>Coolant pump</td>
<td>1 hp (.75kw)</td>
<td>1 hp (.75kw)</td>
<td>1 hp (.75kw)</td>
<td>1 hp (.75kw)</td>
<td>1 hp (.75kw)</td>
<td>1 hp (.75kw)</td>
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<tr>
<td>XY/Z axes servo motor</td>
<td>2.5 hp (2kw)</td>
<td>2.5 hp (2kw)</td>
<td>2.5 hp (2kw)</td>
<td>4 hp (3kw)</td>
<td>4 hp (3kw)</td>
<td>6 hp (4.5kw)</td>
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<tr>
<td>Air pressure</td>
<td>70 psi</td>
<td>70 psi</td>
<td>85 psi</td>
<td>85 psi</td>
<td>85 psi</td>
<td>99.5 psi</td>
</tr>
<tr>
<td>Total KVA (3 axes/4 axes)</td>
<td>15/20 KVA</td>
<td>20/25 KVA</td>
<td>25/30 KVA</td>
<td>25/30 KVA</td>
<td>30/30 KVA</td>
<td>35/40 KVA</td>
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<tr>
<td>Machine Accuracy</td>
<td>±.0002&quot; (.0005mm)</td>
<td>±.0002&quot; (.0005mm)</td>
<td>±.0002&quot; (.0005mm)</td>
<td>±.0002&quot; (.0005mm)</td>
<td>±.0002&quot; (.0005mm)</td>
<td>±.0002&quot; (.0005mm)</td>
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<tr>
<td>Weight</td>
<td>4,850 lbs (2200kg)</td>
<td>8,800 lbs (4000kg)</td>
<td>10,582 lbs (4800kg)</td>
<td>11,023 lbs (5000kg)</td>
<td>11,464 lbs (5200kg)</td>
<td>15,673 lbs (7200kg)</td>
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</tbody>
</table>

*Available with CAT #40 or BT40 belt-drive spindle. (Specifications and design are subject to change without notice or obligation.)
Optional Equipment

A wide range of optional equipment is available to customize your Storm VMC into the exact machine for your needs.

- Belt Type Chip Conveyor
- Screw Type Chip Auger
- 4th Axis Interface, Motor & Drive
- Chip Flushing System (Factory Installed)
- Thru Spindle Coolant (Factory Installed)
- Spindle Oil Coolant for VNC500 & VMC1600 (Factory Installed)
- Automatic Power Off (Factory Installed)
- Electrical Cabinet Air Conditioning
- Auto Door Open and Close (Factory Installed)
- Additional Pull Studs for 12, 16 or 24 Tools ATC
- Pallet Loader
- Tooling Package
- 12,000 rpm Spindle with Oil Cooler (Factory Installed)
- ZF Gear Box, 8000 rpm Machines (Factory Installed)
- Chain Type 32 Tool ATC for VMC1020, VMC1300 & VMC1600 (Factory Installed)
- Belt Type Chip Conveyor for VMC 610 and larger
- Screw Type Chip Augor for VMC1600
- 6000 rpm Spindle for VMC1600 (Factory Installed)
- Full Guarding for VMC1600 (Factory Installed)
# Machine Dimensions

![Machine Diagram]

<table>
<thead>
<tr>
<th>Model</th>
<th>VMC500</th>
<th>VMC610</th>
<th>VMC850</th>
<th>VMC1020</th>
<th>VMC1300</th>
<th>VMC1600*</th>
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</thead>
<tbody>
<tr>
<td>Height A</td>
<td>96&quot; (2440mm)</td>
<td>97&quot; (2475mm)</td>
<td>112&quot; (2840mm)</td>
<td>112&quot; (2840mm)</td>
<td>113&quot; (2878mm)</td>
<td>126&quot; (3210mm)</td>
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<tr>
<td>Width B</td>
<td>91&quot; (2305mm)</td>
<td>96&quot; (2436mm)</td>
<td>87&quot; (2210mm)</td>
<td>87&quot; (2210mm)</td>
<td>110&quot; (2790mm)</td>
<td>123&quot; (3250mm)</td>
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<tr>
<td>Length C</td>
<td>76&quot; (2000mm)</td>
<td>85&quot; (2160mm)</td>
<td>115&quot; (2900mm)</td>
<td>115&quot; (2900mm)</td>
<td>126&quot; (3200mm)</td>
<td>175&quot; (4400mm)</td>
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<tr>
<td>Control Ht. D</td>
<td>63&quot; (1600mm)</td>
<td>63&quot; (1600mm)</td>
<td>63&quot; (1600mm)</td>
<td>63&quot; (1600mm)</td>
<td>63&quot; (1600mm)</td>
<td>63&quot; (1600mm)</td>
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<tr>
<td>Control Ht. F</td>
<td>33&quot; (831mm)</td>
<td>38&quot; (851mm)</td>
<td>28&quot; (708mm)</td>
<td>28&quot; (708mm)</td>
<td>28&quot; (708mm)</td>
<td>36&quot; (913mm)</td>
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<tr>
<td>Control Ht. G</td>
<td>17&quot; (433mm)</td>
<td>17&quot; (433mm)</td>
<td>33&quot; (831mm)</td>
<td>33&quot; (831mm)</td>
<td>33&quot; (831mm)</td>
<td>39&quot; (981mm)</td>
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<tr>
<td>Control Ht. H</td>
<td>26&quot; (653mm)</td>
<td>26&quot; (653mm)</td>
<td>28&quot; (708mm)</td>
<td>28&quot; (708mm)</td>
<td>28&quot; (708mm)</td>
<td>36&quot; (913mm)</td>
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<td>Table J</td>
<td>12.6&quot; (320mm)</td>
<td>17.7&quot; (450mm)</td>
<td>19.7&quot; (500mm)</td>
<td>19.7&quot; (500mm)</td>
<td>25.5&quot; (650mm)</td>
<td>33.2&quot; (845mm)</td>
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<tr>
<td>Table K</td>
<td>23.6&quot; (600mm)</td>
<td>31.5&quot; (800mm)</td>
<td>39.4&quot; (1000mm)</td>
<td>47.2&quot; (1200mm)</td>
<td>59&quot; (1500mm)</td>
<td>70.8&quot; (1800mm)</td>
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<td>Table L</td>
<td>1.96&quot; (50mm)</td>
<td>4.9&quot; (125mm)</td>
<td>1.96&quot; (50mm)</td>
<td>1.96&quot; (50mm)</td>
<td>3.9&quot; (100mm)</td>
<td>2.5&quot; (65mm)</td>
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<td>Table M</td>
<td>3.94&quot; (100mm)</td>
<td>3.94&quot; (100mm)</td>
<td>3.94&quot; (100mm)</td>
<td>3.94&quot; (100mm)</td>
<td>3.94&quot; (100mm)</td>
<td>5.9&quot; (150mm)</td>
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<tr>
<td>No. of T-slots</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>5</td>
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Specifications and design are subject to change without notice or obligation.

*Dimensions with optional guarding

<table>
<thead>
<tr>
<th>Model</th>
<th>Guideway Type</th>
<th>Model</th>
<th>Guideway Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMC500L</td>
<td>Linear Ways</td>
<td>VMC1020L</td>
<td>Linear Ways</td>
</tr>
<tr>
<td>VMC610L</td>
<td>Linear Ways</td>
<td>VMC1020S</td>
<td>Square Ways</td>
</tr>
<tr>
<td>VMC610S</td>
<td>Square Ways</td>
<td>VMC1300S</td>
<td>Square Ways</td>
</tr>
<tr>
<td>VMC850L</td>
<td>Linear Ways</td>
<td>VMC1600S</td>
<td>Square Ways</td>
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<tr>
<td>VMC850S</td>
<td>Square Ways</td>
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