DMC H *linear* Series

DMC 60 H *linear*
DMC 80 H *linear*
The field of application of the DMC H linear Series ranges from the efficient machining of complex automotive components in production lines to dynamic 5-axis simultaneous machining of mold parts. Production lines for the automotive industry rely on highly accurate and fast machining centers. Through the use of low maintenance linear drives, DMC H linear machines achieve accelerations of up to 1 g in all axes and positioning accuracy of up to 0.0002 in. Also, the swivel rotary table has a 225° swivel angle for efficient production of complex freeform surfaces in one setup – with or without a pallet changer.

From powertrains to mold making.

DMC 60 / 80 H linear

ZF 8HP gearbox housing produced on a DMC 80 H linear
Machine construction
Control housing

Automotive
Cylinder head

Mold making
Forging die for connecting rods

Aerospace
Structural components

ZF 8HP
8-speed automatic transmission
With a highly productive, flexible and comprehensive design, the DMC 60/80 H linear horizontal machining centers offer a solution for every application. Linear drives in all principal axes, with rapid traverse rates of up to 3,937.0 ipm. and accelerations of up to 32.8 ft./sec.², deliver unparalleled dynamic range and precision. Additionally, unrestricted crane loading with a pallet changer, unobstructed work area viewing and easy fluid box access further highlight the excellent ergonomics and high productivity of these machines.

**DMC 60 / 80 H linear**

**Impressive!**

Note: Actual performance values and machining results may vary.

**Productive**
- Linear drives in all axes with up to 3,937.0 ipm. rapid traverse and up to 32.8 ft./sec.² acceleration
- Chip-to-chip time of 2.5 seconds
- Rear chip disposal through the machine bed
- Setup during production
- Block setup during production

**Precise**
- Precise with linear drives capable of 0.0002 in. positioning accuracy & 0.0001 in. repeatability
- Cooled linear drives, guides, swivel rotary table & main drive
**DMC H linear**

Productive  
Precise  
Flexible

- Machine bed: 8,598.0 lbs.  
  (DMC 60 H *linear*) / 11,023.1 lbs.  
  (DMC 80 H *linear*)

- Stepped traveling column for optimal leverage

**Flexible**

- With NC rotary table or swivel rotary table for 5-axis simultaneous machining
- With or without pallet changer
- Max. 363-slot wheel magazine

- Seamless integration of existing lines
- 5 motor spindle options ranging from 26.8 to 69.7 hp.
- Powertrain option with direct loading from front & above
These innovative horizontal machining centers feature optimized technical design – linear drives in all axes with max. 3,937.0 ipm. rapid traverse and 32.8 ft./sec.² acceleration as well as a weight-optimized traveling column. Although there is no pallet changer requirement, with a pallet changer or rotary storage (up to 12 pallets), the DMC 60 / 80 H linear is optimal for efficient stand-alone automation. The innovative wheel magazine offers chip-to-chip times of only 2.5 seconds, setup during production (5.6 seconds setup) with 50% smaller footprint.

Unmatched productivity!

DMC 60 / 80 H linear

Optimal chip removal

Horizontal machining delivers optimal chip disposal – steep walls and an open-bottom machine bed allow efficient chip flow into the chip conveyor. This provides better process reliability, longer tool life, enhanced heat dissipation and improved parts surfaces.
25% greater productivity and precision through linear drives

+ **Linear drives**: highest precision consistency, minimal maintenance costs and a 60-month warranty on all linear drives
+ **Dynamics**: 3,937.0 ipm. rapid traverse and 1 g acceleration (DMC 60 H linear)
+ **Precision**: max. 0.0002 in. positioning accuracy & 0.0001 in. repeatability

Linear drives with up to 32.8 ft./sec.² acceleration

1. Primary part
2. Secondary part
3. Precision cooler
4. Performance cooler
5. Secondary part cover
6. Connection cover
7. Combination distributor
8. Cooling profiles
Cooling of all relevant components

1. Linear drives
2. Main spindle
3. Swiveling rotary table
DMC 60 / 80 H linear

Always precise!

Exceptional accuracy is achieved through primary component cooling and solid construction. All linear drives, the NC rotary table or NC swivel rotary table as well as the main spindle are comprehensively cooled. Machines featuring a ball screw also come with cooled linear guides. The bed and all moving components are FEM optimized for maximum rigidity. Together with wear-free drives, 0.0002 in. positioning accuracy and 0.0001 in. repeatability is possible. DMC 60 / 80 H linear machines also come with a rigid machine bed and 3-point support for quick setup.

Highly stable design

One-piece machine bed and tiered traveling column for optimized force distribution and leverage.

Maximum precision – linear drives for maximum long-term accuracy

+ Max. 0.0002 in. circular shape accuracy*
+ Max. 0.0002 in. positioning accuracy
+ Max. 0.0001 in. repeatability

* X / Y by F = 118.1 ipm. and R = 5.9 in.
Flexible for any application!

The modular design concept of the DMC 60/80 H linear makes the machine highly adaptable. Customizable features include a pallet changer, 4- or 5-axes, and linear drives or ball screws. Additionally, the wide selection of motor spindles offer diverse production with various materials, including steel, cast iron or aluminum.
### Work area

<table>
<thead>
<tr>
<th></th>
<th>DMC 60 H linear</th>
<th>DMC 80 H linear</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4-axes</td>
<td>5-axes</td>
</tr>
<tr>
<td>Travel (X / Y / Z)</td>
<td>24.8 / 31.5 / 33.5</td>
<td>24.8 / 31.5 / 29.5</td>
</tr>
<tr>
<td>Table / Pallet</td>
<td>ø 24.8 / 19.7 × 19.7</td>
<td>ø 24.8 / 19.7 × 19.7</td>
</tr>
<tr>
<td>Load weight, max.</td>
<td>1,322.8 / 1,433.0*</td>
<td>881.8 / 992.1*</td>
</tr>
<tr>
<td>Workpiece dimensions</td>
<td>in.</td>
<td>lbs.</td>
</tr>
</tbody>
</table>

* Powertrain options without a pallet changer

**DMC 60 H:**
- Ball screws in all axes

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**Productive**
**Precise**
**Flexible**
Intelligent, modern control systems are vital for maximum process efficiency, parts precision and ease-of-use. This is why DECKEL MAHO counts on Siemens and Heidenhain to provide cutting-edge technology for the DMC 60 / 80 H linear with the 840D solutionline and TNC 640. Additionally, many software solutions, including DMG Virtual Machine and DMG Process Chain are available for even greater productivity and workpiece quality.

DMG SLIMline® Control

Advanced CNCs for reliable processes and maximum precision.

Intelligent, modern control systems are vital for maximum process efficiency, parts precision and ease-of-use. This is why DECKEL MAHO counts on Siemens and Heidenhain to provide cutting-edge technology for the DMC 60 / 80 H linear with the 840D solutionline and TNC 640. Additionally, many software solutions, including DMG Virtual Machine and DMG Process Chain are available for even greater productivity and workpiece quality.

DMG SLIMline® panel with a Siemens 840D solutionline control

+ Easy interactive programming
+ New SINUMERIK Operate user interface
+ ATC*, 3D quickSET®*
+ New functions for setup, programming as well as tool & program management
+ Fast 0.6 ms block processing
+ DIN / ISO ShopMill with a uniform interface

* Optional

DMG SLIMline® panel with a Heidenhain TNC 640 control

+ Highly detailed 3D graphical simulation
+ Newly optimized TNC user interface
+ HSCI – HEIDENHAIN Serial Controller Interface
+ Shop floor or DIN / ISO programming
+ Quick programming via plain text
+ Graphical programming
+ CollisionMonitoring (DCM)
+ ATC*, 3D quickSET®*

* Optional
MPC – Machine Protection Control
Machine protection via quick shut-off function
Vibration sensors on the milling spindle
Shut-off function with teach technology
Process monitoring via bar graph display
Milling spindle bearings diagnosis

SGS – Spindle Growth Sensor
Greater precision through measuring and spindle displacement compensation
Real-time measuring of rotor axial displacement relative to the stator
Compensation of actual displacement via the CNC control

SIS – Spindle Interface System
Chip detection via the HSK tool interface
Increased precision machining process reliability
Fewer production errors
Chip detection on flat & conical surfaces

ATC – Application Tuning Cycle
Process optimization with the push of a button
Practical feed drive tuning
Faster machining and excellent part quality, even for heavy workpieces

Exclusive DMG MORI Technology Cycles (optional)

3D quickSET®
Fast and easy for maximum precision
Toolkit for inspection and adjustment of the kinematic precision (4- & 5-axis machining configurations)
All heads and table axes

Grinding
Machining with exceptional surface quality
Grinding on a universal milling machine
Outer / inner surface grinding
Truing cycle for the grinding disks

Interpolation turning
Seal face and groove production without a milling / turning table
Machining via a circular motion around the inside of the workpiece
Spindle oriented perpendicular to the direction of movement

Efficient Production Package
Safe & efficient production – optimized machining
Advanced milling strategy
Easy programming of repetitive processing steps
Safe pull-out for production abort
Faster programming
Modular design for every production requirement.

The DMC 60 / 80 H linear machines feature a highly adaptable modular design concept.

### DMC 60 H linear

<table>
<thead>
<tr>
<th>NC rotary table / Powertrain configuration</th>
<th>DMC 60 H linear</th>
<th>DMC 80 H linear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table size</td>
<td>in.</td>
<td>ø 24.8</td>
</tr>
<tr>
<td>Load weight, max.</td>
<td>lbs.</td>
<td>1,433.0</td>
</tr>
<tr>
<td>Torque (B-axis)</td>
<td>ft./lbs.</td>
<td>2,256.9</td>
</tr>
<tr>
<td>Speed (B-axis)</td>
<td>rpm.</td>
<td>40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Swivel rotary table / Powertrain configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table size</td>
</tr>
<tr>
<td>Load weight, max.</td>
</tr>
<tr>
<td>Torque (B-axis)</td>
</tr>
<tr>
<td>Speed (B-axis)</td>
</tr>
<tr>
<td>Torque (A-axis)</td>
</tr>
<tr>
<td>Speed (A-axis)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NC rotary table / Pallet changer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table size</td>
</tr>
<tr>
<td>Load weight, max.</td>
</tr>
<tr>
<td>Torque (B-axis)</td>
</tr>
<tr>
<td>Speed (B-axis)</td>
</tr>
</tbody>
</table>

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<tr>
<th>Swivel rotary table / Pallet changer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table size</td>
</tr>
<tr>
<td>Load weight, max.</td>
</tr>
<tr>
<td>Torque (B-axis)</td>
</tr>
<tr>
<td>Speed (B-axis)</td>
</tr>
<tr>
<td>Torque (A-axis)</td>
</tr>
<tr>
<td>Speed (A-axis)</td>
</tr>
</tbody>
</table>
Spindles

<table>
<thead>
<tr>
<th>Speed</th>
<th>Torque</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>81.1 ft. / lbs.</td>
<td>26.8 hp.</td>
</tr>
<tr>
<td>12,000 rpm.</td>
<td>HSK-63</td>
<td></td>
</tr>
<tr>
<td>12,000 rpm.</td>
<td>HSK-100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>147.5 ft. / lbs.</td>
<td>61.7 hp.</td>
</tr>
<tr>
<td>10,000 rpm.</td>
<td>HSK-63*</td>
<td></td>
</tr>
<tr>
<td>18,000 rpm.</td>
<td>HSK-63*</td>
<td></td>
</tr>
</tbody>
</table>

HSK-63

HSK-100

HSK-100

HSK-63*

Tool magazine

40 / 63 / 123 / 183 / 243 / 303 / 363 tools

Tool measuring

BLUM laser tool measuring in the work area

Production

Chip conveyor

Coolant / lubricant system (258.9 gal.)

Hydraulic clamping

2 channel (proportional); 2 / 4 channels; 4 channel (proportional); 4 / 7 channels

* Optional HSK-100 only available for DMC 80 H linear
Applications and parts

Highlights

Control technology

Overview

- Automation

Technical specifications

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**DMC 60 / 80 H linear**

Automation solutions for every requirement.

With direct loading capabilities from the front and above, DMC 60 / 80 H linear machines are ideal for automation. Additionally, the 4-axis and 5-axis machines have the same loading height.

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**Direct loading**

**Application:** high parts volume

**Parts spectrum:** limited (same parts)

- Economical solution
- Static order of operations
- Manual loading required
- Complicated retrofitting

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**Robot solutions**

**Application:** high parts volume

**Parts spectrum:** similar

- Many handling options through 6-axis robot
- Linking of multiple machining centers possible
- Automated production
- Flexible expansion for additional processes (deburring, marking, measuring)
- Robot programming requires specialized personnel
**Production line:** optional clamping hydraulics and custom devices deliver fast and reliable workpiece transfer.

**Rotary storage**
- **Application:** batch $\geq 1$
- **Parts spectrum:** high
  - Setup during production via external setup station
  - Expandable
  - Automated production

**Gantry loading**
- **Application:** high parts volume
- **Parts spectrum:** limited (same parts)
  - Long transfer paths possible
  - Static order of operations
  - Automated operation possible
  - Complicated retrofitting
  - All processes can be mapped
Highly productive 5-axis complete machining.

The DMC 60 / 80 H linear features a swivel rotary table (225° swivel angle) for maximum machining flexibility of workpieces weighing up to 1,433.0 lbs. Complete machining in one setup also ensures unmatched speed and precision.

5-axis / 5-sided machining advantages

+ Machining at spatial & negative angles up to –25° in one setup
+ Machining of complex molds and prototypes
+ Higher precision through complete machining in one setup
+ Optimal design of tool length and tool geometry
+ Optimal design of process flow for efficient machining (requires fewer fixtures, machines and tools)
+ Flexible loading of workpieces on powertrain machines without a pallet changer – axis can be pivoted for loading
5-axis version

+ Travel (X / Y / Z): 31.5 / 35.4 / 41.3 in. (DMC 80 H linear)
+ Workpieces up to ø 39.4 × 39.4 in. / 1,322.8 lbs.
+ Identical workpiece dimensions and travel paths on powertrain machines and machines with a pallet changer
Ergonomic and efficient

**Fluid box:** optimally accessible central maintenance unit.
DMC 60 / 80 H linear

Highly reliable with minimal maintenance.

1. **All drives arranged outside the work area**
   - Easy access; high precision with no heat interference; no coolant or chip contamination

2. **Maintenance area positioned behind the traveling column**
   - Displaced 11.8 in. to the rear for easy access during spindle replacement with quick access to the release unit

3. **Trailing cable above and outside of the work area**
   - No coolant or chip contamination in the work area or tool magazine

4. **Pallet changer drive positioned below the pallet changer unit**
   - Prevents contamination and is easily accessible

5. **Pallet changer central lifting column and drive column positioned at the center of gravity**
   - Greater stability and less maintenance
**DMC 60 / 80 H linear**

Wheel magazine: modular setup and fast chip-to-chip times.

### Highlights

+ **2.5 sec. chip-to-chip time**  
  (for DMC 60 H linear)
+ **Complete block setup during machining**  
  on the outer wheel (min. 123 tools)
+ **Max. 5.6 sec. setup** for the farthest tool
+ One wheel with **40 tools (standard)**
+ Expandable to 5 wheels and **363 tools**  
  (for DMC 80 H linear)
+ **Cone cleaning** and **mechanical tool breakage**  
  control during operation
+ Tool dimensions –  
  Length, max: **25.6 in.**  
  Diameter, max: ø **15.7 in.**  
  Tool weight, max: **88.2 lbs.**  (HSK-A100)  
  Breakdown torque, max: **18.4 ft./lbs.**

### Magazine expansion

<table>
<thead>
<tr>
<th></th>
<th>1 magazine wheel</th>
<th>2 magazine wheels</th>
<th>3 magazine wheels</th>
<th>4 magazine wheels</th>
<th>5 magazine wheels</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DMC 60 H linear (HSK-A63)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheel size</td>
<td>small / med. / large</td>
<td>medium</td>
<td>medium</td>
<td>medium</td>
<td>medium</td>
</tr>
<tr>
<td>Number of tools</td>
<td>40 / 63 / 80</td>
<td>123</td>
<td>183</td>
<td>243</td>
<td>303</td>
</tr>
<tr>
<td><strong>DMC 80 H linear (HSK-A63)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheel size</td>
<td>small / med. / large</td>
<td>medium / large</td>
<td>large</td>
<td>large</td>
<td>–</td>
</tr>
<tr>
<td>Number of tools</td>
<td>40 / 63 / 93</td>
<td>123 / 183</td>
<td>273</td>
<td>363</td>
<td>–</td>
</tr>
<tr>
<td><strong>DMC 80 H linear (HSK-A100)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheel size</td>
<td>medium / large</td>
<td>large</td>
<td>large</td>
<td>large</td>
<td>–</td>
</tr>
<tr>
<td>Number of tools</td>
<td>40 / 63</td>
<td>123</td>
<td>183</td>
<td>243</td>
<td>–</td>
</tr>
</tbody>
</table>

– Not available
DMC 60 H linear: 98.4 in.

DMC 60 H linear: 145.7 in.

1 wheel = 40 tools (standard);
185.1 ft² footprint (incl. pallet changer & chip conveyor)

5 wheels = 303 tools;
217.4 ft² footprint (incl. pallet changer & chip conveyor)

Operation
1. Tool selected from wheel 3
2. Free path (3 tools) for shuttle via turning of the wheel
3. Shuttle (double gripper) travels to selected tool, stroke removes tool from the holder
4. Tool switching and double gripper retraction

98.4 inches width: ideal for production lines
Motor spindles for every application

A wide range of motor spindles are available for efficient machining of diverse materials, including steel, cast iron and aluminum.
DMC 60 / 80 H linear

Maximum productivity through fast spindle run-up.

**Spindle options**

<table>
<thead>
<tr>
<th>Speed (rpm.)</th>
<th>Tool-holder</th>
<th>Power (hp.)</th>
<th>Torque (ft./lbs.)</th>
<th>Spindle run-up time</th>
</tr>
</thead>
<tbody>
<tr>
<td>12,000 rpm.</td>
<td>HSK-A63, 26.8 hp.</td>
<td>81.1</td>
<td>212.4 ft./lbs.</td>
<td>from 1.0 seconds</td>
</tr>
<tr>
<td>18,000 rpm.</td>
<td>HSK-A63*, 45.6 hp.</td>
<td>81.1</td>
<td>317.2 ft./lbs.</td>
<td>from 1.3 seconds</td>
</tr>
<tr>
<td>10,000 rpm.</td>
<td>HSK-A63*, 61.7 hp.</td>
<td>147.5</td>
<td>363.4 ft./lbs.</td>
<td>from 1.4 seconds</td>
</tr>
<tr>
<td>12,000 rpm.</td>
<td>HSK-A100, 59.0 hp.</td>
<td>212.4</td>
<td>317.2 ft./lbs.</td>
<td>from 3.8 seconds</td>
</tr>
<tr>
<td>12,000 rpm.</td>
<td>HSK-A100, 69.7 hp.</td>
<td>317.2</td>
<td>363.4 ft./lbs.</td>
<td>from 3.8 seconds</td>
</tr>
</tbody>
</table>

- Standard
- Optional
- Not available
- * Optionally available with HSK-A100 for DMC 80 H linear

**Motor spindle: HSK-A63**

- 12,000 rpm. / 26.8 hp. / 81.1 ft./lbs.

**Motor spindle: HSK-A63***

- 18,000 rpm. / 45.6 hp. / 81.1 ft./lbs.

**Motor spindle: HSK-A100**

- 10,000 rpm. / 69.7 hp. / 317.2 ft./lbs.
Performance milling, drilling and threading of aluminum and steel.

Torque spindle rated at 12,000 rpm / 59.0 hp / 212.4 ft-lbs.

Performance milling
- Steel (Ck45)
- Removal rate: 49.6 in³/min.
- Tool: Face mill ø 3.9 in. (7 cutting edges)
- Spindle speed: 1,255 rpm. (Vc = 15,511.8 ipm.)
- Feed: 114.2 ipm. (Fz = 0.01 in.)
- Cut depth/width: 0.1 / 3.1 in.

Drilling
- Steel (Ck45)
- Removal rate: 43.2 in³/min.
- Tool: Indexable insert drills ø 2.8 in.
- Spindle speed: 1,023 rpm. (Vc = 10,039.4 ipm.)
- Feed: 7.3 ipm. (Fz = 0.007 in.)
- Cut depth/width: 3.9 in.

Threading
- Steel (Ck45)
- Processing time (per thread)*: 1.5 seconds
- Tool: Tap drill M30
- Spindle speed: 106 rpm. (Vc = 393.7 ipm.)
- Feed: 14.6 ipm. (Fz = 0.1 in.)
- Cut depth/width: 1.2 in.

Motor spindle rated at 18,000 rpm / 45.6 hp / 81.1 ft-lbs.

Performance milling
- Aluminum (AI_3MgSi)
- Removal rate: 166.6 in³/min.
- Tool: Face mill ø 3.1 in.
- Spindle speed: 12,000 rpm. (Vc = 118,110.2 ipm.)
- Feed: 236.2 ipm. (Fz = 0.005 in.)
- Cut depth/width: 0.3 / 2.8 in.

Drilling
- Aluminum (AI_3MgSi)
- Removal rate: 48.9 in³/min.
- Tool: Indexable insert drills ø 1.7 in.
- Spindle speed: 2,400 rpm. (Vc = 12,598.4 ipm.)
- Feed: 21.5 ipm. (Fz = 0.009 in.)
- Cut depth/width: 2.8 in.

Threading
- Aluminum (AI_3MgSi)
- Processing time (per thread)*: 1.5 seconds
- Tool: Tap drill M6 (VHM)
- Spindle speed: 2,500 rpm. (Vc = 1,929.1 ipm.)
- Feed: 0.5 in.

* Incl. approach and retraction
### Motor spindle rated at 18,000 rpm. / 45.6 hp. / 81.1 ft./lbs.

<table>
<thead>
<tr>
<th>Workpiece material</th>
<th>Performance milling**</th>
<th>Drilling</th>
<th>Threading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel (Ck45)</td>
<td>19.3 in.³/min.</td>
<td>Steel (Ck45)</td>
<td>Steel (Ck45)</td>
</tr>
<tr>
<td>Tool</td>
<td>Milling head ø 3.1 in.</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Spindle speed</td>
<td>1,400 rpm. (Vc = 13,779.5 ipm.)</td>
<td>1,146 rpm. (Vc = 7,086.6 ipm.)</td>
<td>2.7 seconds</td>
</tr>
<tr>
<td>Feed</td>
<td>59.1 ipm. (Fz = 0.007 in.)</td>
<td>5.6 ipm. (Fz = 0.005 in.)</td>
<td>Tap drill M12 (VHM)</td>
</tr>
<tr>
<td>Cut depth / width</td>
<td>0.1 / 2.8 in.</td>
<td>3.0 in.</td>
<td>0.9 in.</td>
</tr>
</tbody>
</table>

* Incl. approach and retraction, ** Performance comparable to 18,000 rpm motor spindle

### Motor spindle rated at 12,000 rpm. / 26.8 hp. / 81.1 ft./lbs.

<table>
<thead>
<tr>
<th>Workpiece material</th>
<th>Performance milling**</th>
<th>Drilling</th>
<th>Threading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel (Ck45)</td>
<td>61.0 in.³/min.</td>
<td>Steel (Ck45)</td>
<td>Steel (Ck45)</td>
</tr>
<tr>
<td>Tool</td>
<td>Face mill ø 6.3 in. (9 cutting edges)</td>
<td>Indexable insert drills ø 3.1 in.</td>
<td>–</td>
</tr>
<tr>
<td>Spindle speed</td>
<td>1,000 rpm. (Vc = 19,685.0 ipm.)</td>
<td>900 rpm. (Vc = 10,039.4 ipm.)</td>
<td>46 rpm. (Vc = 236.2 ipm.)</td>
</tr>
<tr>
<td>Feed</td>
<td>70.9 ipm. (Fz = 0.008 in.)</td>
<td>6.5 ipm. (FZ = 0.007 in.)</td>
<td>8.1 ipm. (FZ = 0.2 in.)</td>
</tr>
<tr>
<td>Cut depth / width</td>
<td>0.2 / 4.7 in.</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
DMC 60 / 80 H linear

Floor plans

DMC 60 H linear
without pallet changer (optional)
Top view: 63-slot wheel magazine & chip conveyor (optional)
Footprint: 109.8 ft.² (162.5 ft.² with chip conveyor)

DMC 60 H linear
with pallet changer
Top view: 63-slot wheel magazine & chip conveyor (optional)
Footprint: 128.1 ft.² (185.1 ft.² with chip conveyor)

DMC 60 H linear
without pallet changer (optional)
Front view: 63-slot wheel magazine & chip conveyor (optional)

DMC 60 H linear
with pallet changer
Front view: 63-slot wheel magazine & chip conveyor (optional)
DMC 80 H linear
without pallet changer (optional)

Top view: 63-slot wheel magazine & chip conveyor (optional)

Footprint: 151.8 ft.² (231.4 ft.² with chip conveyor)

DMC 80 H linear
with pallet changer

Top view: 63-slot wheel magazine & chip conveyor (optional)

Footprint: 172.2 ft.² (207.7 ft.² with chip conveyor)

DMC 80 H linear
without pallet changer (optional)

Front view: 63-slot wheel magazine & chip conveyor (optional)

DMC 80 H linear
with pallet changer

Front view: 63-slot wheel magazine & chip conveyor (optional)
## Technical specifications

### DMC 60 / 80 H linear

### Work area (HSK-A63)

<table>
<thead>
<tr>
<th></th>
<th>DMC 60 H linear</th>
<th>DMC 80 H linear</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>X- / Y- / Z-axis</strong></td>
<td>24.8 / 31.5 / 33.5</td>
<td>31.5 / 35.4 / 41.3</td>
</tr>
<tr>
<td>Distance (spindle center – pallet)</td>
<td>3.9</td>
<td>5.9</td>
</tr>
<tr>
<td>Distance (spindle nose – pallet center)</td>
<td>2.8</td>
<td>5.9</td>
</tr>
</tbody>
</table>

### Table / Clamping area / Workpieces

<table>
<thead>
<tr>
<th></th>
<th>DMC 60 H linear</th>
<th>DMC 80 H linear</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC rotary table rpm.</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Pallet size in.</td>
<td>19.7 x 19.7</td>
<td>24.8 x 24.8</td>
</tr>
<tr>
<td>Loading / Without pallet changer lbs.</td>
<td>1,322.8 / 1,433.0</td>
<td>1,984.2 / 2,094.4</td>
</tr>
<tr>
<td>Work piece diameter / Height in.</td>
<td>31.5 / 40.6</td>
<td>39.4 / 43.3</td>
</tr>
</tbody>
</table>

### Main drive

<table>
<thead>
<tr>
<th></th>
<th>DMC 60 H linear</th>
<th>DMC 80 H linear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated motor spindle (HSK-A63) rpm.</td>
<td>12,000</td>
<td>12,000</td>
</tr>
<tr>
<td>Power (40 / 100 % DC) hp.</td>
<td>26.8 / 26.8</td>
<td>26.8 / 26.8</td>
</tr>
<tr>
<td>Torque (40 / 100 % DC) ft./lbs</td>
<td>81.1 / 62.0</td>
<td>81.1 / 62.0</td>
</tr>
<tr>
<td>Run up (to 12,000 rpm.) seconds</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Tool changer

<table>
<thead>
<tr>
<th></th>
<th>DMC 60 H linear</th>
<th>DMC 80 H linear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool magazine (HSK-A63) Slots</td>
<td>40 / wheel</td>
<td>40 / wheel</td>
</tr>
<tr>
<td>Diameter &amp; length, max. in.</td>
<td>ø 11.0 x 6.3 / 15.7</td>
<td>ø 15.7 x 11.0 / 18.5</td>
</tr>
<tr>
<td>Tool length / diameter, max. in.</td>
<td>21.7 / ø 3.1</td>
<td>25.6 / ø 3.1</td>
</tr>
<tr>
<td>Weight / Breakdown torque lbs. / ft./lbs.</td>
<td>33.1 / 18.4</td>
<td>33.1 / 18.4</td>
</tr>
<tr>
<td>Chip-to-chip time (4-axis / 5-axis machine) seconds</td>
<td>2.5 / 2.5</td>
<td>3.1 / 3.1</td>
</tr>
</tbody>
</table>

### Linear axes (X / Y / Z)

<table>
<thead>
<tr>
<th></th>
<th>DMC 60 H linear</th>
<th>DMC 80 H linear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed rate / Rapid traverse ipm.</td>
<td>3,937.0</td>
<td>3,149.6</td>
</tr>
<tr>
<td>Acceleration ft./sec.²</td>
<td>32.8</td>
<td>29.5</td>
</tr>
<tr>
<td>Feed force (X / Y / Z) lbf.</td>
<td>2,023.3 / 1,348.9 / 2,023.3</td>
<td>2,023.3 / 1,348.9 / 3,147.3</td>
</tr>
<tr>
<td>P_{max} (X / Y / Z) – VDI DGQ 3441 / ISO 230-2 in.</td>
<td>0.0002</td>
<td>0.0002</td>
</tr>
<tr>
<td>P_{max} (X / Y / Z) – VDI DGQ 3441 / ISO 230-2 in.</td>
<td>0.0001</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

### Machine specifications

<table>
<thead>
<tr>
<th></th>
<th>DMC 60 H linear</th>
<th>DMC 80 H linear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Footprint (without chip conveyor) ft.²</td>
<td>128.1 / 109.8*</td>
<td>172.2 / 151.8*</td>
</tr>
<tr>
<td>Machine height ft.</td>
<td>9.8</td>
<td>11.5</td>
</tr>
<tr>
<td>Machine weight lbs.</td>
<td>29,762.4 / 23,148.5*</td>
<td>44,092.5 / 33,069.3*</td>
</tr>
</tbody>
</table>

### Controls

- **DMG SLIMline® Control with a 15” monitor**: Siemens 840D solutionline Operate
- **DMG SLIMline® Control with a 15” monitor**: Heidenhain TNC 640

* As powertrain model without pallet changer
Up to 1 g acceleration for X / Y / Z linear drives. 60-month warranty on all linear drives.

High durability with stainless steel covers in the work area. Steep walls and covers for optimized chip flow.

DMC 60 / 80 H linear

Options

<table>
<thead>
<tr>
<th>Feature</th>
<th>DMC 60 H linear</th>
<th>DMC 80 H linear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Siemens 840D solutionline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heidenhain TNC 640</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-axis design with swivel rotary table</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clamping hydraulics for the work table / setup station (with pallet changer)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS7 / RS12 pallet / rotary storage for pallet changer (including 7 / 12 additional pallets)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheel tool magazine (HSK-A63) 63 / 93 / 123 / 183 / 243* / 273** / 303* / 363** slots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheel tool magazine (HSK-A100) 63 / 123 / 183 / 243 slots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control panel for loading station tool magazine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrared measuring sensor (TS 649 DMG or OMP 60)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool measurement in the work area via BLUM laser</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool breakage detection during machining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scraper belt chip conveyor with 132.1 gal. coolant tank</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production package featuring 1,160.3 psi coolant supply, chip conveyor, paper band filter, 258.9 gal. tank, &amp; RotoClear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control options: 3D editing, TRANSMIT, TRAORI, CompCad, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MPC - Machine Protection Control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRANSMIT lateral surface transformation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CompCad compressor function</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Optional, – Not available, * Only for DMC 60 H linear, ** Only for DMC 80 H linear