

# MANITOWOC TOOL & MACHINING, LLC



*Over 50 Years of Precision CNC Machining Services*



## FACILITY LIST

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4211 Clipper Drive  
Manitowoc, WI 54220  
Phone: (920) 682-8825 Fax: (920) 682-4299

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# MANITOWOC TOOL & MACHINING, LLC

- Business established in 1965.
- Approximately 261,000 square feet of production machining and warehousing space.
- Entire plant centrally air-conditioned with special climate-controlled heating.
- Turnkey operations include:

Production Machining

Prototype Machining

Production Part Washing

Fixtures

Cleanliness (Millipore) Testing Lab using Gravimetric Method

Assembly

Honing Equipment

Spot Welding

Vibratory Finishing Equipment

- Equipment and experience to machine all types of materials including aluminum, stainless steel, steel, die castings, forgings, plastics, alloys and exotic materials.
- Owns and operates a fleet of trucks for local delivery.
- In-house Engineering Department for fixture design, build and maintenance.
- Separate In-house Prototype Department dedicated for Prototyping.
- Software includes:
  - ERP - Infor Visual
  - Quoting - Micro Estimating
  - CAD - IronCAD, PTC Creo, AutoCAD
  - CAM - Mastercam
  - Quality Data Collection - Infor Visual Quality, Mitutoyo MeasurLink
  - Gage Control - IndySoft



# Production Machining Equipment:

## CNC Horizontal Machining Centers

### 2 Mazak Nexus HCN - 6000

Travel Limits:

X=31.49

Y=31.49

Z=31.49

(1) 120 pocket tool changer per machine

(1) 80 pocket tool changer, 10,000 RPM

### 5 Mazak HCN - 6000

Travel Limits:

X=31.49

Y=31.49

Z=31.49

(4) 80 pocket tool changer per machine, 10,000 RPM

(1) 160 pocket tool changer per machine, 10,000 RPM

### 2 Mazak Nexus HCN - 6800

Travel Limits:

X=41.33

Y=35.43

Z=38.58

80 pocket tool changer per machine, 10,000 RPM

### 1 Mazak HCN - 6800

Travel Limits:

X=41.34

Y=35.48

Z=38.50

120 pocket tool changer, 8,000 RPM

### 2 Mazak FH-680

Travel Limits:

X=42.00

Y=32.00

Z=32.00

40 pocket tool changer, 10,000 RPM

Probe/coolant thru spindle

### 5 Mazak FH-6800

Travel Limits:

X=41.30

Y=31.50

Z=34.60

120 pocket tool changer, 10,000 RPM

### 3 Okuma MA-60HB

Travel Limits:

X=40.00

Y=32.00

Z=32.00

60 pocket tool changer, (2) w/ 10,000 RPM, (1) w/ 12,000 RPM

### 1 HAAS HSIR 4 AXIS

Travel Limits:

X=24.00

Y=20.00

Z=22.00

24 pocket tool changer, 7,500 RPM

### 2 Mori-Seiki NH-4000 DCG

Travel Limits:

X=22.00

Y=22.00

Z=24.80

40 pocket tool changer, Probe/coolant thru spindle

### 3 Mori-Seiki NH-5000 50 DCG

Travel Limits:

X=28.70

Y=28.70

Z=33.50

54 pocket tool changer, 8,000 RPM

Probe/coolant thru spindle

### 1 Mori-Seiki NH-6300 DCG II

Travel Limits:

X=41.34

Y=35.40

Z=38.60

100 pocket tool changer per machine, 10,000 RPM

Probe/Coolant thru spindle

### 4 Mitsui Seiki HJ63A

Travel Limits:

X=35.40

Y=31.50

120 pocket tool changer per machine

### 3 Mori NHX 5500

Travel Limits:

X=31.50

Y=31.50

Z=34.66

60 pocket tool changer per machine, 8,000 RPM

## CNC Boring Bars

### 2 Toshiba BTD-13 R22

Travel Limits:

X=118.00

Y=91.00

Z=63.00

Table Dimensions: 71 x 87

Rotary indexable table, programmable

Max Weight Capacity: 24,000 lbs.

Spindle extension: 27



## CNC Multiple Pallet Machining Centers

### 1 Mazak Nexus HCN 5000 (6 Pallet Pool)

Travel Limits:

X=28.70

Y=28.70

Z=33.50

160 pocket tool changer per machine, 18,000 RPM

### 1 Mori NHX 5500 (5 Pallet Pool)

Travel Limits:

X=31.50

Y=31.50

Z=34.66

180 pocket tool changer per machine, 15,000 RPM

### Mitsui Seiki HJ80

#### 4 Machine - 40 Pallet Fastem System

Travel Limits:

X=47.20

Y=37.40

240 pocket tool changer per machine

Coolant thru spindle

### Mazak 6000-2

#### 3 Machine - 20 Pallet Palletech System

Travel Limits:

X=31.50

Y=31.50

Z=31.50

160 pocket tool changer per machine, 10,000 RPM

### Mazak FH-6800

#### 4 Machine - 30 Pallet Palletech System

Travel Limits:

X=41.30

Y=31.50

Z=34.60

120 pocket tool changer per machine, 10,000 RPM

### Mazak 8800

#### 2 Machine - 8 Pallet Palletech System

(1) Mazak 8800

(1) Mazak u-8800\*

Travel Limits:

X=55.12

Y=47.24

Z=52.17

348 pocket tool changer per machine, 10,000 RPM

Ultra-High Precision Machine\*

### Mazak 6800

#### 4 Machine - 30 Pallet Palletech System

(3) Mazak 6800

(1) Mazak u-6800\*

Travel Limits:

X=41.30

Y=31.50

Z=34.60

(3) w/ 160, (1) w/ 120 pocket tool changer, 10,000 RPM  
Ultra-High Precision Machine\*

### Mazak 6800

#### 5 Machine - 38 Pallet Palletech System

(4) Mazak 6800

(1) Mazak u-6800\*

Travel Limits:

X=41.30

Y=31.50

Z=34.60

(3) w/ 330, (1) w/ 160, (1) w/ 120 pocket tool changer  
10,000 RPM per machine  
Ultra-High Precision Machine\*

### Mazak 6800

#### 6 Machine - 46 Pallet Palletech System

(5) Mazak 6800

(1) Mazak u-6800\*

Travel Limits:

X=41.30

Y=31.50

Z=34.60

(5) w/ 160, (1) w/ 120 pocket tool changer  
10,000 RPM per machine  
Ultra-High Precision Machine

## Five Axis CNC Machining Centers

### 6 Mazak Integrex 200

Mark III with Gantry Loaders

10" Chuck

Travel Limits:

X=22.54

Y=6.3 +/- 3.15

Z=41.14

### 1 Mazak Integrex e-650H

Travel Limits:

X=40.35

Y=25.60

Z=122.91

15-24" Chuck



## Five Axis CNC Machining Centers

Continued

### 1 Mazak i-500

Travel Limits:  
X=13.78  
Y=21.66  
Z=20.08

60 pocket tool changer  
15" x 19" Table

### 1 Mazak i-600

Travel Limits:  
X=20.08  
Y=35.83  
Z=20.08

120 pocket tool changer  
Two pallet changer (15.75" x 15.75")

## CNC Vertical Machining Centers

### 1 Haas VF-6

Travel Limits:  
X=64.00  
Y=32.00  
Z=30.00

31 pocket tool changer  
7500 RPM spindle

### 2 EMag VL3 DUO

Travel Limits:  
X=19.50  
Z=10.00

Twin Spindle/Twin Turret, 12 pocket tool changer x2  
Workpiece Diameter=6.00, Chuck Diameter=8.50  
Gantry load system, Live turret tooling

### 2 Okuma MC-6VA

Travel Limits:  
X=60.00  
Y=25.00  
Z=25.00

32 pocket tool changer

### 1 Milltronics RH30

Travel Limits:  
X=60.00  
Y=30.00  
Z=30.00

### 1 Milltronics VM6030IL

Travel Limits:  
X=60.00  
Y=30.00  
Z=24.00

### 1 HAAS VF-OE

Travel Limits:  
X=30.00  
Y=16.00  
Z=20.00

20 pocket tool changer

### 7 HAAS VF 3 SS

Travel Limits:  
X=40.00  
Y=20.00  
Z=25.00

40+1 pocket tool changer, 12,000RPM

### 1 Mazak VTC200C

Travel Limits:  
X=65.00  
Y=20.00  
Z=20.00

24 pocket tool changer

### 1 Okuma MF-46VA

Travel Limits:  
X=30.00  
Y=22.00  
Z=18.11

20 pocket tool changer, 15,000 RPM, Pallet Changer

### 1 Brother CNC Drilling/Tapping Center

Travel Limits:  
X=24.00  
Y=14.20  
Z=10.60

### 3 Fanuc Robodrill

QT21 IDL – BTD 30 Plus  
Travel Limits:  
X=27.50  
Y=15.70  
Z=12.90

21 pocket tool changer, 10,000 RPM

### 1 Fanuc Robodrill

QT21 IEL – BTD 30 Plus  
Travel Limits:  
X=27.55  
Y=15.70  
Z=13.70

21 pocket tool changer, 10,000 RPM



## CNC Turning Centers

### 1 Mazak Multiplex W-300Y

Maximum turning diameter: 16.93  
Distance between centers: 8.86  
RPM: 4000  
10" Chuck  
Dual Spindle/Dual Turret

### 2 Okuma LB-3511

Maximum turning diameter: 19.40  
Distance between centers: 37.00  
RPM: 3200  
15" Chuck

### 3 Okuma LB-45

Maximum turning diameter: 25.50  
Distance between centers: 39.25  
15-24" Chuck

### 1 Okuma LB-45

Maximum turning diameter: 25.50  
Distance between centers: 75.75  
15-24" Chuck

### 1 Doosan Lynx 2100LB

W/ LNS Alpha 552 Bar Feeder  
Multiple Bars ¾-2.0" Diameter x 12' Long  
Maximum turning diameter: 13.78  
W/ Fanuc (200-i) Robot 6 Axis  
6" Chuck

### 1 Clausing 24 x 40

Maximum turning diameter: 16.34  
Distance between centers: 40.00  
RPM: 2500  
8" Chuck

### 1 Mazak Quick Turn Primos 100S

Maximum turning diameter: 11.00  
RPM: 6000  
8" Chuck

### 1 Mazak Megaturn Nexus 900M VTL

Maximum machining diameter: 36.22  
Maximum height: 31.50  
24" Chuck  
12 pocket tool changer

### 2 Mazak Nexus QTN 250

Chucker CNC turning center  
Maximum turning diameter: 13.80  
10" Chuck

### 2 Okuma Captain L-470

Maximum turning diameter: 16.54  
Distance between centers: 25.59  
RPM: 3000  
12" Chuck

### 4 Mori-Seiki NL3000 MC700

Maximum turning diameter: 16.50  
15" Chuck  
Distance between centers: 28.00

### 1 Milltronics ML 26

Maximum turning diameter over the carriage: 16.00  
Maximum turning diameter over the ways: 26.00  
12" Chuck  
Distance between centers: 36.00



# Quality Control Equipment:

## Coordinate Measuring Machines

### 1 Brown & Sharpe GLOBAL IMAGE 12-15-10

DCC Coordinate Measuring Machine  
 SP-800 Scanning Probe  
 PC-DMIS

### 1 Brown & Sharpe GLOBAL IMAGE 9-20-8

DCC Coordinate Measuring Machine  
 SP-800 Scanning Probe  
 PC-DMIS

### 1 Hexagon GLOBAL S 12-30-10

DCC Coordinate Measuring Machine  
 TP200 Touch Trigger Probe  
 HP- S-X1 Scanning Probe with 2.5 degree  
 Hexagon Articulating Wrist  
 PC-DMIS

### 1 Hexagon GLOBAL S 12-22-10

DCC Coordinate Measuring Machine  
 TP200 Touch Trigger Probe  
 HP- S-X1 Scanning Probe with 2.5 degree  
 Hexagon Articulating Wrist  
 PC-DMIS

### 1 ZEISS UPMC 1200 CARAT

DCC Coordinate Measuring Machine  
 Zeiss Scanning Probe with Table Rotation Capability

### 1 ZEISS PRISMO ULTRA 12-24-10

One of only a few machines in the US with this accuracy  
 DCC Coordinate Measuring Machine  
 VAST Scanning Probe  
 Calypso Software

### 1 Starrett Coordinate Measuring Machine

IBM-AT compatible computer system  
 Statistical Process Control (SPC) readout capability

### 1 FARO Platinum CMM ARM

0.0005" Accuracy, 7 Axis, 8ft Measuring Range  
 SPC capability both through CMM and shop floor

## List of Certified Tools:

Dial Indicators	Taper Gages
Digital Readouts	Hole Micrometers
Surface Gages	Telescoping Gages
Height Gages	Inside & Outside Vernier Calipers
Inside & Outside Micrometers	Precision Squares
Surface Plates	Dial Bore Gages
Granite table (10" thick x36 x 60)	Profilometer
4 Granite tables (12" thick x60x140)	Rail Gages
Gage Blocks	Spectrophotometer
Plug Gages	12x18x4 Granite Tri-Square
Depth Micrometers	Thread Plug Gages
Thread Micrometers	Master Setting Rings
Precision Protractors	42" Precision Granite Straight- Edge

### The Scope of Quality System Compliance Includes:

Production CNC machining, prototype machining, fabrication and assembly, design and manufacture of tools and fixtures.

**MTM will furnish customers with a Quality Control Manual upon request.**





# PERRY JOHNSON REGISTRARS, INC.

## *Certificate of Registration*

*Perry Johnson Registrars, Inc., has audited the Quality Management System of:*

***Manitowoc Tool & Machining***  
***4211 Chipper Drive, Manitowoc, WI 54220 United States***

*(Hereinafter called the Organization) and hereby declares that  
Organization is in conformance with:*

***ISO 9001:2015 and AS9100D***

*This Registration is in respect to the following scope:*

***A Contract Manufacturer of Precision Machined Components and Assemblies***

*(The assessment was performed in accordance with AS9104/1:2012-01. PJR is accredited under the ICOP scheme)*

*This Registration is granted subject to the system rules governing the Registration referred to above, and the  
Organization hereby covenants with the Assessment body duty to observe and comply with the said rules.*



Terry Boboige, President

Perry Johnson Registrars, Inc. (PJR)  
755 West Big Beaver Road, Suite 1340  
Troy, Michigan 48064  
(248) 358-3388

*The validity of this certificate is dependent upon ongoing surveillance.*

*Effective Date:*  
January 7, 2020

*Expiration Date:*  
January 6, 2023

*Certificate No.:*  
C2020-00234





**Manitowoc Tool & Machining, LLC**

*(Machining Facility)*

4211 Clipper Drive  
Manitowoc, Wisconsin, USA  
(920) 682-8825

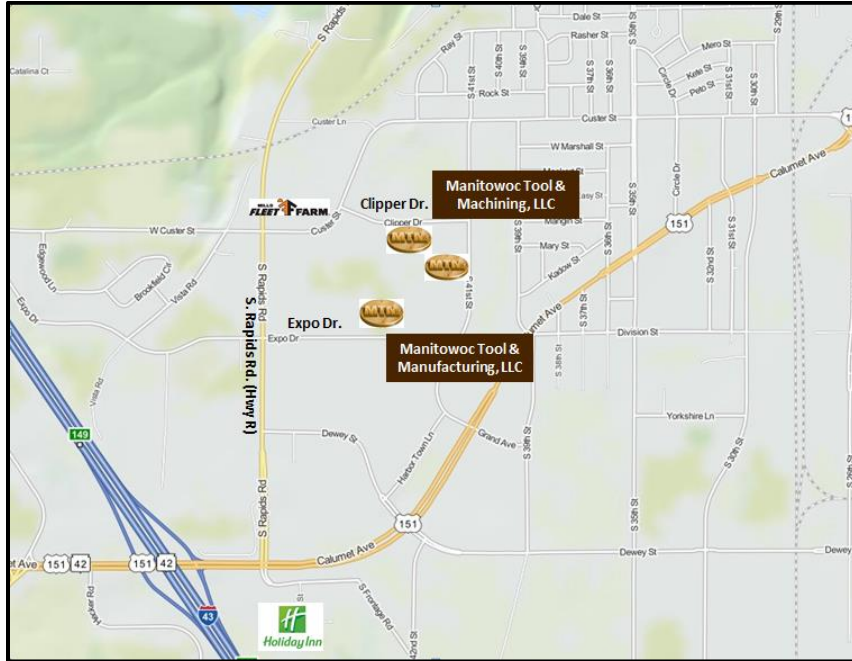


**Manitowoc Tool & Machining, LLC**

*(Shipping & Receiving)*

1210 S. 41<sup>st</sup> Street  
Manitowoc, Wisconsin, USA  
(920) 682-8825

# DIRECTIONS TO MTM



**DESTINATION – Manitowoc Tool & Machining, LLC:**

**FROM MILWAUKEE, WISCONSIN AIRPORT:** (Approximately 85 miles)

Take I-94 West (towards Madison) to I-43 North (towards Green Bay) to Manitowoc exit #149 (US Hwy 151 East).

- Upon exiting I-43, turn right On US 151 and immediately enter the left turn lane at the traffic light intersection of US 151 & Rapids Road (Hwy R).
- Turn left and proceed North on Rapids Road (Hwy R). See below for further directions.

**FROM GREEN BAY, WISCONSIN AIRPORT:** (Approximately 42 miles)

Take US 172 East to I-43 South (towards Milwaukee) to Manitowoc exit #149 (US Hwy 151 East).

- Upon exiting I-43, turn left On US 151 and immediately enter the left turn lane at the traffic light intersection of US 151 & Rapids Road (Hwy R).
- Turn left and proceed North on Rapids Road (Hwy R). See below for further directions.

**Once traveling North on Rapids Road (Hwy R):**

- In approximately 0.8 miles, proceed to the third set of traffic lights at the corner of Rapids Road and Custer Street.
- Turn right onto Custer Street (Fleet Farm is on the North East corner).
- Once on Custer Street, take the next right onto Clipper Drive.
- MTM is 0.3 miles East and is the second place of business on your right at 4211 Clipper Drive.
- Turn right into our parking lot and use the designated Visitor Parking.

