

## Montana Department of Transportation Bridge Bureau Approved Construction Equipment List

<b>Make:</b>	<i>Wirtgen</i>
<b>Model:</b>	<i>W220</i>
<b>Equipment Type:</b>	<i>Mill Truck</i>
<b>Contractor Modifications:</b>	<i>None</i>

### Interstate Approval Conditions

<b>Approval Type</b>	<i>Crossing Only</i>
<b>Speed:</b>	<i>No Restriction</i>
<b>Weight:</b>	<i>97,488 lb or less</i>
<b>Traffic:</b>	<i>Approved with regular traffic</i>
<b>Location Restrictions:</b>	<i>No Restriction</i>

### Non-Interstate Approval Conditions

<b>Approval Type</b>	<i>DENIED</i>
<b>Speed:</b>	<i>DENIED</i>
<b>Weight:</b>	<i>DENIED</i>
<b>Traffic:</b>	<i>DENIED</i>
<b>Location Restrictions:</b>	<i>DENIED</i>

**Comments:**

Equipment configuration, weights, and specifications on following pages. Approval does not apply to load posted bridges. Other construction equipment is not allowed to operate on or cross bridge at the same time this equipment is on the bridge.

# SUBMITTAL

 <b>KNIFE RIVER</b> <small>AN MDU RESOURCES COMPANY</small>
Billings Division PO Box 80066, Billings MT 59108

To: James Stevenson
Owner: MDT
E-Mail: <a href="mailto:jlstevenson@mt.gov">jlstevenson@mt.gov</a>

Job name: <b>Mossmain</b>
Contract No. <b>05422</b>
KRY Job No. 28221021

From: Van Hildreth
E-Mail: <a href="mailto:van.hildreth@kniferiver.com">van.hildreth@kniferiver.com</a>

	SUBMITTAL NUMBER: <b>S-042</b>	
DATE: <u>03/31/23</u>	Total pages INCLUDING this sheet	<u>7</u>
SUBJECT: <u>ACEL Request - Wirtgen W220 Milling Machine</u>		
SPEC: _____		

<b>SUBMITTAL FORWARDED:</b>	
Please find attached information for ACEL approval. NOTE: this machine is similar to Wirtgen 2100 currently on ACEL.	

<b>REPLY FROM ENGINEER:</b>	<b>Date:</b> <span style="background-color: yellow; display: inline-block; width: 100px; height: 15px;"></span>
No Exceptions Taken: <input type="checkbox"/>	Rejected: <input type="checkbox"/>
Make Corrections Noted: <input type="checkbox"/>	Comments Attached: <input type="checkbox"/>
Revision Needed: <input type="checkbox"/>	Resubmittal Not Required: <input type="checkbox"/>
	Resubmit in Entirety: <input type="checkbox"/>
	Revise & Resubmit Noted Items: <input type="checkbox"/>
	Submit Specified Items: <input type="checkbox"/>
This review is for general conformance with design concept only. Any deviation from plans or specifications not clearly noted by the Contractor has not been reviewed. Review by the engineer shall not serve to relieve the Contractor of the contractual responsibility for any error or deviation from the contract requirements.	_____ <b>MDT</b> Architect, Designer, or Engineer

## Wirtgen W220 – Milling Machine

### ACEL request

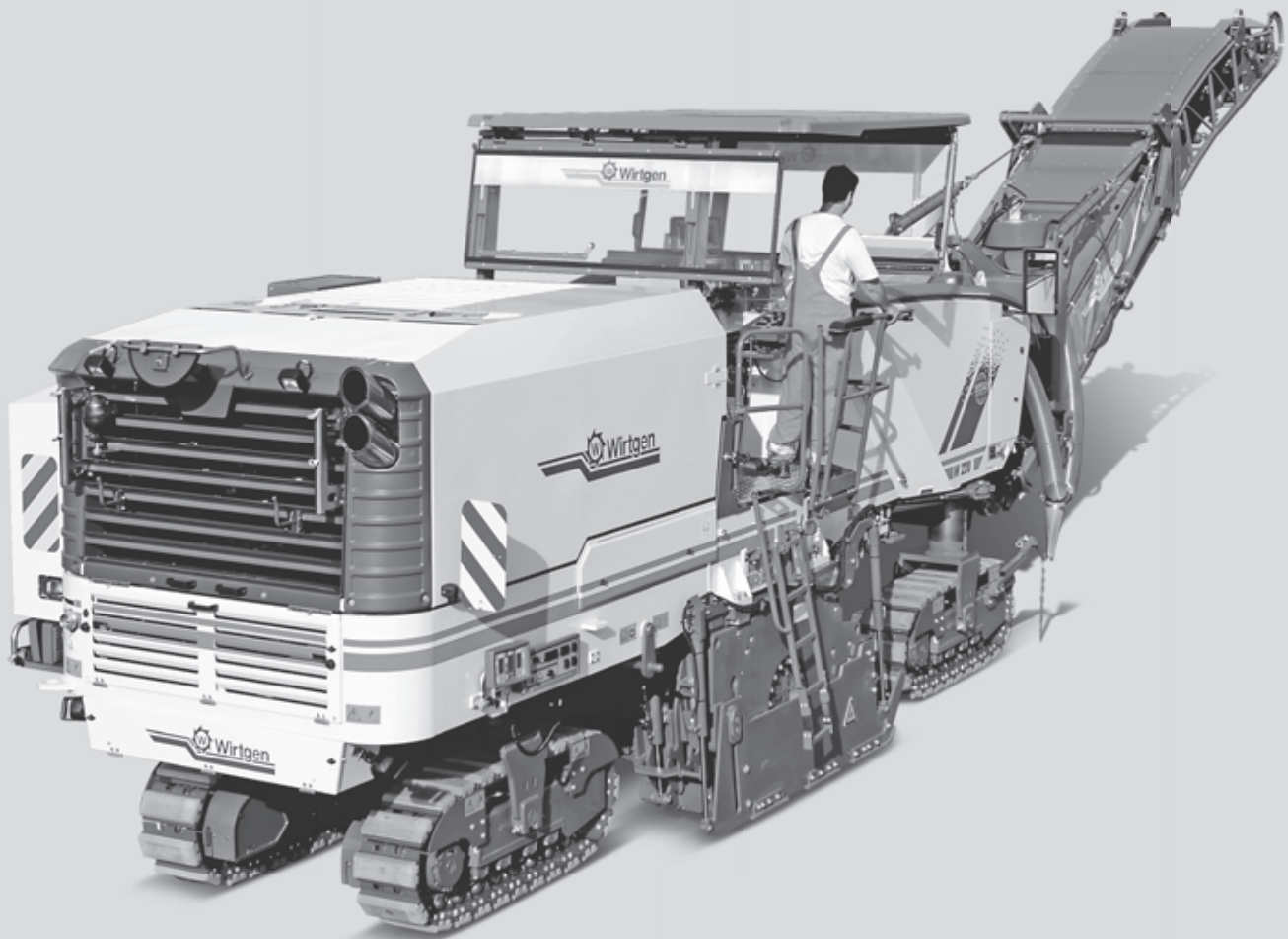
- Equipment manufacturer's product specifications - **Attached**
- Detailed equipment dimensions and data
  - Vehicle width **10.3 ft**
  - Vehicle length **Conveyor folded: 44.9', Conveyor extended: 54.2'**
  - Number of axles **Track assembly front and rear, each assembly has 2 "axles"**
  - Track or wheel dimensions **Track Height: 30 in, Track length: 79 in, Pad width: 15 in**
  - Track or wheel spacing (width) **54" center to center**
  - Track or wheel gage spacing (centerline to centerline of wheel lines)
    - **Center front assembly to Center rear assembly: 17.6'**
    - **1<sup>st</sup> to 2<sup>nd</sup> axle center: 3.8', 2<sup>nd</sup> to 3<sup>rd</sup>: 13.8', 3<sup>rd</sup> to 4<sup>th</sup>: 3.8'**
  - Gross vehicle weight rating **Operating Weight: 85,650 lbs**
  - Hauling capacity (weight) **Does not haul**
- Maximum operating speed **3.3 MPH**
- Potential dynamic or vibratory effects of vehicle during operation (note that some vehicle attributes may preclude inclusion onto the ACEL) **None**
- Information on any equipment modifications for your vehicle (note that some modifications may preclude inclusion onto the ACEL) **Optional equipment as noted in Spec sheet, operating weight indicated above INCLUDES optional equipment.**
- Contractor's contact information for ACEL analysis-related correspondence or follow-up information. **Van Hildreth, Knife River, [van.hildreth@kniferiver.com](mailto:van.hildreth@kniferiver.com) 406.672.0954**

# Wirtgen W220 with 8' 2" Wide Cutter




Technical specification

## Cold Milling Machine W 220

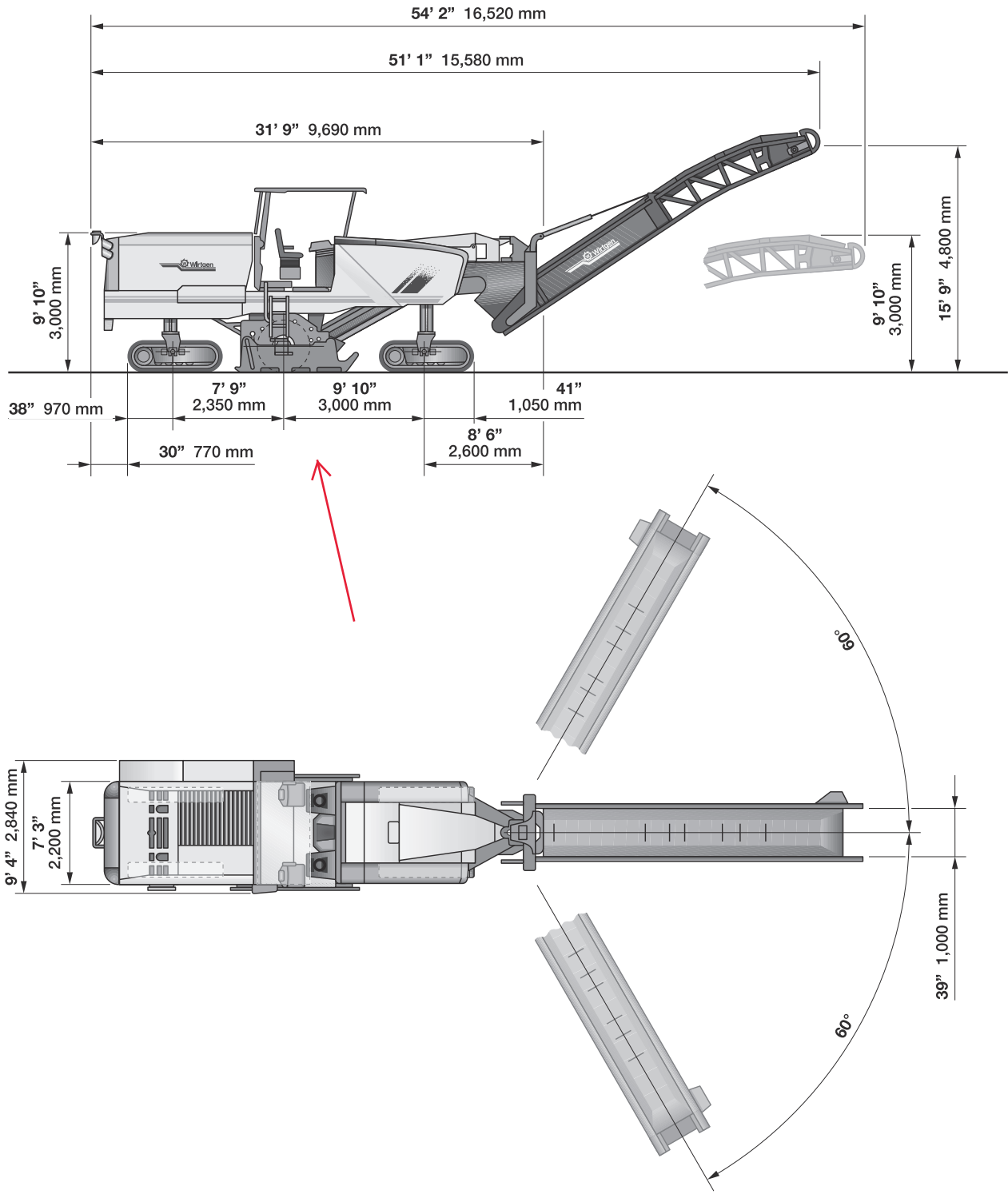


# Technical specification

	Cold milling machine W 220 	
Milling drum	Standard FB 2,200	Option FB 2,500
Milling width	7' 3" 2,200 mm	8' 2" 2,500 mm
Milling depth*1	0–14" 0–350 mm	0–14" 0–350 mm
Tool spacing	5/8" 15 mm	5/8" 15 mm
Number of tools	188	211
Drum diameter with tools	45" 1,140 mm	45" 1,140 mm
Engine		
Manufacturer	Caterpillar	
Type	C18 ATAAC	
Cooling	Water	
Number of cylinders	6	
Rated power at 2,100 min <sup>-1</sup>	571 kW/766 HP/777 PS	
Maximum power at 1,800 min <sup>-1</sup>	571 kW/766 HP/777 PS	
Operating power at 1,600 min <sup>-1</sup>	552 kW/740 HP/751 PS	
Displacement	4.8 gal 18.1 l	
Fuel consumption at rated power	37.5 gal 142 l/h	
Fuel consumption in field mix	15 gal 57 l/h	
Emission standards	no EU regulation/US Tier 2	
Electrical system	24 V	
Filling capacities		
Fuel tank	386 gal 1,460 l	
Hydraulic fluid tank	79 gal 300 l	
Water tank	1,189 gal 4,500 l	
Driving properties		
Travel speed in milling and travel gear, max	0–288 ft/min 5.3 km/h	
Crawler tracks		
Crawler tracks front and rear (L x W x H)	6' 7" x 15" x 30" 2,000 x 370 x 750 mm	
Loading the milled material		
Belt width of primary conveyor	43" 1,100 mm	
Belt width of discharge conveyor	39" 1,000 mm	
Theoretical capacity of discharge conveyor	603.7 yd <sup>3</sup> /h 552 m <sup>3</sup> /h	
Shipping dimensions		
Machine, milling width FB 2,200 (L x W x H)	31' 4" x 9' 4" x 9' 10" 9,700 x 2,840 x 3,000 mm	
Machine, milling width FB 2,500 (L x W x H)	31' 4" x 10' 4" x 9' 10" 9,700 x 3,140 x 3,000 mm	
Discharge conveyor (L x W x H)	26' 9" x 5' 3" x 4' 11" 8,150 x 1,600 x 1,500 mm	

\*1 = The maximum milling depth may deviate from the value indicated, due to tolerances and wear.

Dimensions in American standard and mm

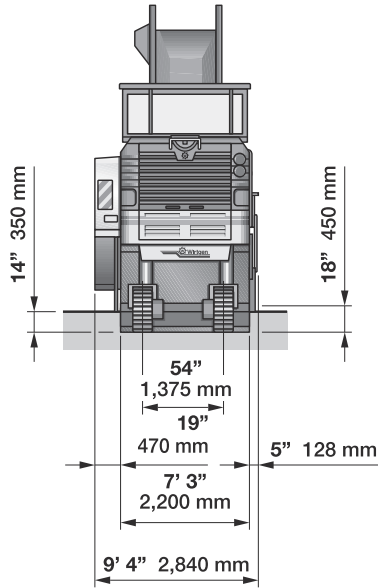


	Machine weights W 220
Empty weight of machine without filling media	73,634 lbs 33,400 kg
Operating weight, CE *	80,160 lbs 36,360 kg
Operating weight, max. (full tanks, full range of equipment), milling width 7' 3" (2,200 mm)	97,488 lbs 44,220 kg
	Weights of filling media
Water tank filling	9,921 lbs 4,500 kg
Diesel tank filling (6.93 lbs/gal (0.83 kg/l))	2,667 lbs 1,210 kg
	Optional equipment features increasing/reducing empty weight
<b>Driver and tools</b>	
Driver	165 lbs 75 kg
Weight of 5 cutting tool containers	276 lbs 125 kg
On-board tools	66 lbs 30 kg
<b>Optional milling drum assemblies in lieu of standard</b>	
Milling drum housing, milling width 7' 3" (2,200 mm), FCS-L	2,910 lbs 1,320 kg
Milling drum housing, milling width 7' 3" (2,200 mm), extendible	1,168 lbs 530 kg
Milling drum housing, milling width 8' 2" (2,500 mm)	2,293 lbs 1,040 kg
<b>Optional milling drums in lieu of standard</b>	
Milling drum, milling width 7' 3" (2,200 mm), tool spacing 5/8" (15 mm), extendible	705 lbs 320 kg
Milling drum, milling width 8' 2" (2,500 mm), tool spacing 5/8" (15 mm)	1,609 lbs 730 kg
Milling drum, milling width 7' 3" (2,200 mm), tool spacing 1/4"x2 (6x2 mm), FCS-L	1,080 lbs 490 kg
Milling drum, milling width 7' 3" (2,200 mm), tool spacing 5/16" (8 mm), FCS-L	1,631 lbs 740 kg
Milling drum, milling width 7' 3" (2,200 mm), tool spacing 5/8" (15 mm), FCS-L	-265 lbs -120 kg
Milling drum, milling width 7' 3" (2,200 mm), tool spacing 1" (25 mm), FCS-L	-904 lbs -410 kg
<b>Optional additional equipment</b>	
Operator's platform with comfortable seats in lieu of standard	551 lbs 250 kg
Canopy in lieu of standard	595 lbs 270 kg
Cabin in lieu of standard	1,323 lbs 600 kg
Folding conveyor in lieu of standard	1,257 lbs 570 kg
VCS – Vacuum Cutting System	331 lbs 150 kg
Supplementary weight for flexible use	3,307 lbs 1,500 kg

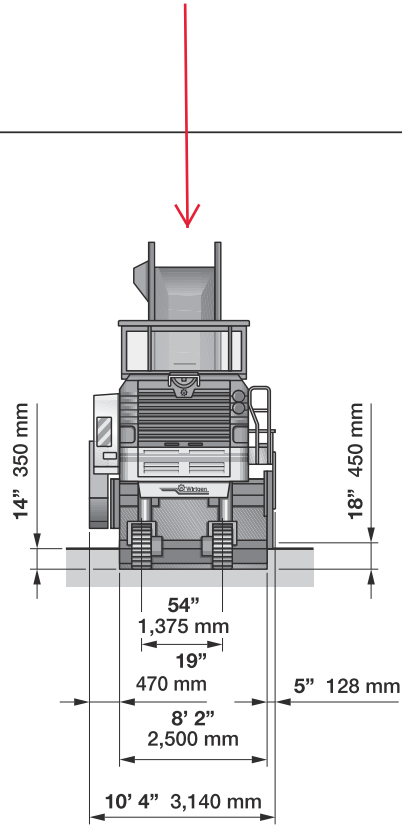
\* = weight of machine with half-full water tank, half-full fuel tank, driver (165 lbs (75 kg)) and on-board tools

### Rear view

Dimensions in American standard and mm



Milling width 7' 3" (2,200 mm)



Milling width 8' 2" (2,500 mm)

### Machine transport with optional canopy and hydraulic folding conveyor

Dimensions in American standard and mm

