

EQUIPMENT SPECIFICATIONS

TANDEM MILL

20" & 53" X 66" FOUR STAND TANDEM COLD MILL - "AVAILABLE IN ENTIRETY OR PIECEMEAL"
TDI REFERENCE NUMBER: 64223

MANUFACTURER: Bliss
QUANTITY: 1.00

GENERAL SPECIFICATIONS:

MANUFACTURER: Bliss

ENTRY MATERIAL: Carbon Steel

ENTRY PRODUCT DIMENSIONS:

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|-----------------------------|--------------------------|
| WIDTH MINIMUM (INCHES): | 24 Inches (609.600 mm) |
| WIDTH MAXIMUM (INCHES): | 60 Inches (1,524.000 mm) |
| THICKNESS MINIMUM (INCHES): | 0.015 Inches (0.378 mm) |
| THICKNESS MAXIMUM (INCHES): | 0.185 Inches (4.699 mm) |

FINISHED PRODUCT: Strip

STRIP:

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|-----------------------------|--------------------------|
| WIDTH MINIMUM (INCHES): | 24 Inches (609.600 mm) |
| WIDTH MAXIMUM (INCHES): | 60 Inches (1,524.000 mm) |
| COIL O.D. MAXIMUM (INCHES): | 72 Inches (1,828.800 mm) |
| COIL I.D. MINIMUM (INCHES): | 19 Inches (482.600 mm) |
| COIL I.D. MAXIMUM (INCHES): | 28 Inches (711.200 mm) |
| COIL WEIGHT (LBS.): | 60,000 Pounds |
| COIL WEIGHT (TONS): | 30 Tons (27.216 mt) |
| ANNUAL PRODUCTION (TPY): | 1.145,000 Tpy |

ROLLING MILL USE: Cold Reduction

COIL PROCESSOR:

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|--------------|----------|
| APPLICABLE: | Yes |
| DESCRIPTION: | Coil Box |

UNCOILER / PAYOFF REEL:

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|-------|------------------------------|
| TYPE: | Dual Stub Driven/hyd. clutch |
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MILL STAND 1:

POST SIZE:

THICKNESS (INCHES): 32.500 Inches (825.500 mm)

WIDTH (INCHES): 26.500 Inches (673.100 mm)

WINDOW SIZE:

HEIGHT (INCHES): 212 Inches (5,384.800 mm)

WIDTH (INCHES): 57.500 Inches (1,460.500 mm)

WORK ROLLS:

ROLL DIAMETER (INCHES): 19.775 Inches (502.285 mm)

ROLL FACE (INCHES): 66 Inches (1,676.400 mm)

BEARING TYPE: Roller

BACK UP ROLLS:

ROLL DIAMETER (INCHES): 53 Inches (1,346.200 mm)

ROLL FACE (INCHES): 66 Inches (1,676.400 mm)

BEARING TYPE: Oil Film

DRIVEN:

Work rolls

DRIVE SPINDLE TYPE:

Geared

SHOEPLATE:

SHOE / SOLE PLATE: Yes

SCREWDOWN:

EXISTS: Yes

COMPLETE: Yes

SCREWDOWN TYPE: Hydraulic

LINE SPEED (FPM):

1,370 Fpm (417.576 mpm)

REDUCER:

MILL DRIVE TYPE: Combination Pinion Stand/Gear Reducer

HORSEPOWER: 3,000 HP (2,238.000 kw)

INPUT RPM: 300/670 Rpm

GEAR RATIO: 2.625:1

BEARING TYPE: Roller

OUTPUT SHAFT CENTERS (INCHES): 20 Inches (508.000 mm)

MAIN MILL MOTOR:

QUANTITY: 2

HORSEPOWER: 1,500 HP (1,119.000 kw)

MOTOR MANUFACTURER: Westinghouse

FRAME: MCF

RPM: 300/670 Rpm

VOLTS: 750

CURRENT: DC

MILL STAND 2:

POST SIZE:

THICKNESS (INCHES): 32.500 Inches (825.500 mm)

WIDTH (INCHES): 26.500 Inches (673.100 mm)

WINDOW SIZE:

HEIGHT (INCHES): 212 Inches (5,384.800 mm)

WIDTH (INCHES): 57.500 Inches (1,460.500 mm)

WORK ROLLS:

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|--------------------------------|---------------------------------------|
| ROLL DIAMETER (INCHES): | 20.225 Inches (513.715 mm) |
| ROLL FACE (INCHES): | 66 Inches (1,676.400 mm) |
| BEARING TYPE: | Roller |
| BACK UP ROLLS: | |
| ROLL DIAMETER (INCHES): | 53 Inches (1,346.200 mm) |
| ROLL FACE (INCHES): | 66 Inches (1,676.400 mm) |
| BEARING TYPE: | Oil Film |
| DRIVEN: | Work rolls |
| DRIVE SPINDLE TYPE: | Geared |
| SHOEPLATE: | |
| SHOE / SOLE PLATE: | Yes |
| SCREWDOWN: | |
| EXISTS: | Yes |
| COMPLETE: | Yes |
| SCREWDOWN TYPE: | Hydraulic |
| LINE SPEED (FPM): | 1,875 Fpm (571.500 mpm) |
| REDUCER: | |
| MILL DRIVE TYPE: | Combination Pinion Stand/Gear Reducer |
| HORSEPOWER: | 4,500 HP (3,357.000 kw) |
| INPUT RPM: | 200/450 Rpm |
| GEAR RATIO: | 1.289:1 |
| BEARING TYPE: | Roller |
| OUTPUT SHAFT CENTERS (INCHES): | 22 Inches (558.800 mm) |
| MAIN MILL MOTOR: | |
| QUANTITY: | 2 |
| HORSEPOWER: | 2,250 HP (1,678.500 kw) |
| MOTOR MANUFACTURER: | Westinghouse |
| FRAME: | MCF |
| RPM: | 200/450 Rpm |
| VOLTS: | 750 |
| CURRENT: | DC |
| MILL STAND 3: | |
| POST SIZE: | |
| THICKNESS (INCHES): | 32.500 Inches (825.500 mm) |
| WIDTH (INCHES): | 26.500 Inches (673.100 mm) |
| WINDOW SIZE: | |
| HEIGHT (INCHES): | 212 Inches (5,384.800 mm) |
| WIDTH (INCHES): | 57.500 Inches (1,460.500 mm) |
| WORK ROLLS: | |
| ROLL DIAMETER (INCHES): | 20.675 Inches (525.145 mm) |
| ROLL FACE (INCHES): | 66 Inches (1,676.400 mm) |
| BEARING TYPE: | Roller |
| BACK UP ROLLS: | |
| ROLL DIAMETER (INCHES): | 53 Inches (1,346.200 mm) |
| ROLL FACE (INCHES): | 66 Inches (1,676.400 mm) |
| BEARING TYPE: | Oil Film |
| DRIVEN: | Work rolls |

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| DRIVE SPINDLE TYPE: | Geared |
| SHOEPLATE: | |
| SHOE / SOLE PLATE: | Yes |
| SCREWDOWN: | |
| EXISTS: | Yes |
| COMPLETE: | Yes |
| SCREWDOWN TYPE: | Hydraulic |
| LINE SPEED (FPM): | 2,365 Fpm (720.852 mpm) |
| REDUCER: | |
| MILL DRIVE TYPE: | Combination Pinion Stand/Gear Reducer |
| HORSEPOWER: | 4,500 HP (3,357.000 kw) |
| INPUT RPM: | 200/450 Rpm |
| GEAR RATIO: | 1.020:1 |
| BEARING TYPE: | Roller |
| OUTPUT SHAFT CENTERS (INCHES): | 22 Inches (558.800 mm) |
| MAIN MILL MOTOR: | |
| QUANTITY: | 2 |
| HORSEPOWER: | 2,250 HP (1,678.500 kw) |
| MOTOR MANUFACTURER: | Westinghouse |
| FRAME: | MCF |
| RPM: | 200/450 Rpm |
| VOLTS: | 750 |
| CURRENT: | DC |
| MILL STAND 4: | |
| POST SIZE: | |
| THICKNESS (INCHES): | 32.500 Inches (825.500 mm) |
| WIDTH (INCHES): | 26.500 Inches (673.100 mm) |
| WINDOW SIZE: | |
| HEIGHT (INCHES): | 212 Inches (5,384.800 mm) |
| WIDTH (INCHES): | 57.500 Inches (1,460.500 mm) |
| WORK ROLLS: | |
| ROLL DIAMETER (INCHES): | 21.250 Inches (539.750 mm) |
| ROLL FACE (INCHES): | 66 Inches (1,676.400 mm) |
| BEARING TYPE: | Roller |
| BACK UP ROLLS: | |
| ROLL DIAMETER (INCHES): | 53 Inches (1,346.200 mm) |
| ROLL FACE (INCHES): | 66 Inches (1,676.400 mm) |
| BEARING TYPE: | Oil Film |
| DRIVEN: | Work rolls |
| DRIVE SPINDLE TYPE: | Geared |
| SHOEPLATE: | |
| SHOE / SOLE PLATE: | Yes |
| SCREWDOWN: | |
| EXISTS: | Yes |
| COMPLETE: | Yes |
| SCREWDOWN TYPE: | Hydraulic |
| LINE SPEED (FPM): | 3,110 Fpm (947.928 mpm) |

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| REDUCER: | |
| MILL DRIVE TYPE: | Combination Pinion Stand/Gear Reducer |
| HORSEPOWER: | 4,500 HP (3,357.000 kw) |
| INPUT RPM: | 200/450 Rpm |
| GEAR RATIO: | 1.289:1 |
| BEARING TYPE: | Roller |
| OUTPUT SHAFT CENTERS (INCHES): | 22 Inches (558.800 mm) |
| MAIN MILL MOTOR: | |
| QUANTITY: | 2 |
| HORSEPOWER: | 2,250 HP (1,678.500 kw) |
| MOTOR MANUFACTURER: | Westinghouse |
| FRAME: | MCF |
| RPM: | 200/450 Rpm |
| VOLTS: | 750 |
| CURRENT: | DC |
| EXIT TENSION REEL: | |
| QUANTITY: | 1 |
| TYPE: | Expanding Mandrel |
| MANDREL DIMENSIONS: | |
| DIAMETER (INCHES): | 19 - 30 Inches |
| FACE (INCHES): | 72 Inches (1,828.800 mm) |
| CAPACITY (TONS): | 30 Tons (27.216 mt) |
| GEAR RATIO: | 1.430 |
| DRIVE TYPE: | Electro Mechanical |
| OUTBOARD BEARING SUPPORT: | |
| APPLICABLE: | Yes |
| BEARING SUPPORT TYPE: | Floor Mount |
| BELT WRAPPER: | |
| APPLICABLE: | Yes |
| TYPE: | Belt Hydraulic |
| COMMENTS: | Mill Installed 1954 Upgrades: 1990 - Bliss HAGC On All 4 Stands w/Long Stroke Cylinders. 1990 - Bliss Work Roll Bending all Stands, Roll Crowning, Shape Roll, WR Change Sled Stand 4, 2006 - ABB Shape Roll Control, Fluids Filtration System. Mill Last Operated 2009, Full Complement of Rolls, Chocks and Bearings, Spare Drive Motors. |