Nidec PRESS & AUTOMATION / MINSTER

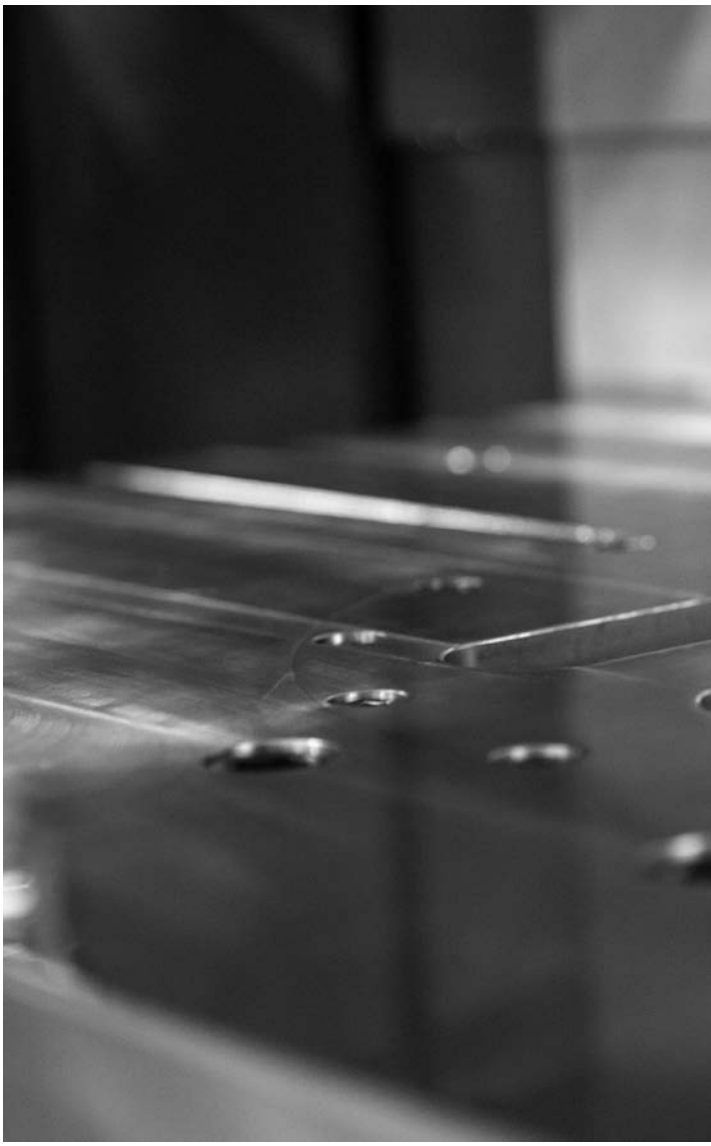
P2H

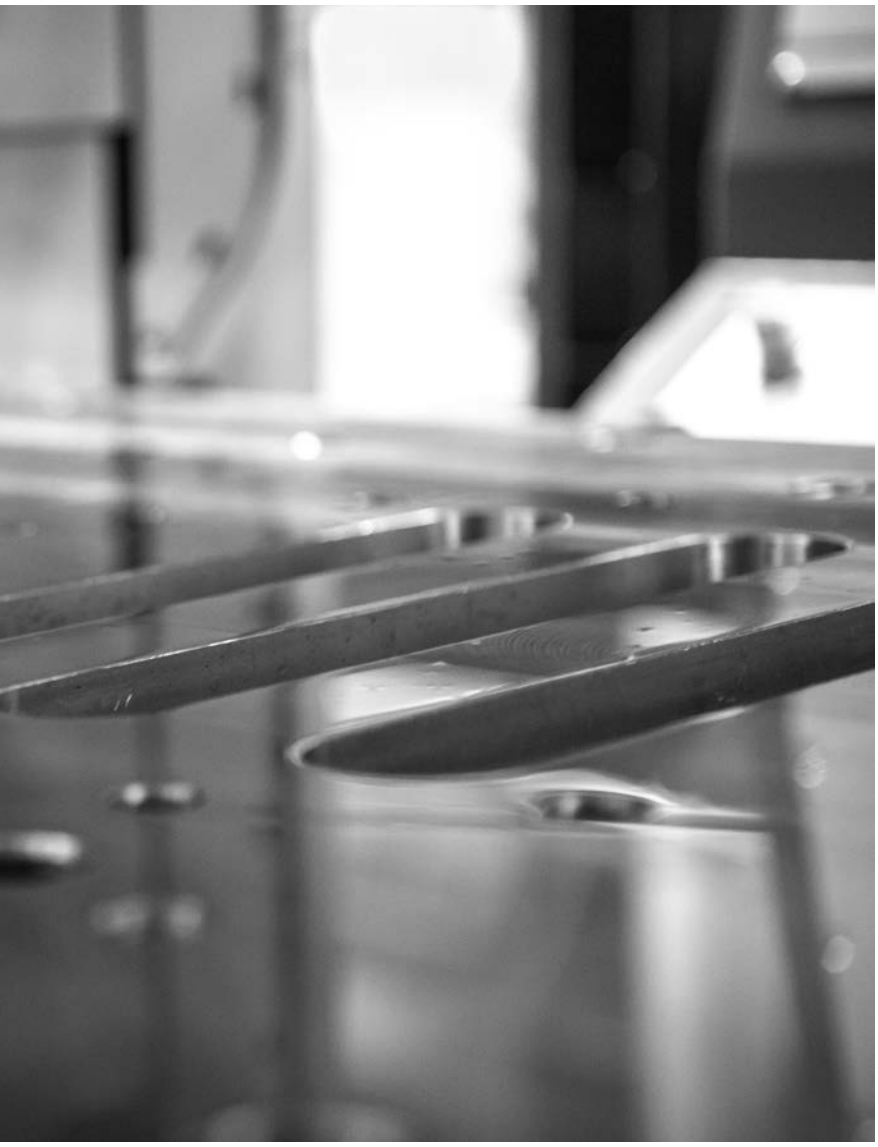
PRECISION STRAIGHTSIDE PRESSES

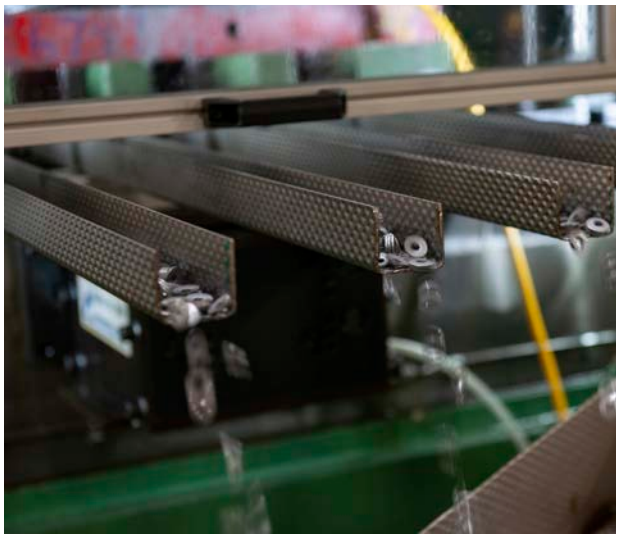
560 - 1,424 kN
630 - 1,600 Metric Tons Capacity

PRODUCT OVERVIEW

P2H presses are designed for universal stamping applications. The flexibility of an available adjustable stroke, and quick access slide, with motorized shutheight adjustment, expand the use of the machine from flat blanking to multiple forming or drawing operations. The rigid guiding system, combined with hydraulic overload and hydraulic clutch and fast braking provide the ultimate in part precision, die life and productivity.







1 The P2H cast iron frame, forged high strength, alloy steel drive train rated to full press tonnage and 50% reverse loading, reduces overall press vibration levels.

2 The quick lift slide feature facilitates die inspection, material threading and misfeed troubleshooting, contributing to overall production efficiency.

3 The drive system bearing design promotes prolonged machine accuracy and die life.

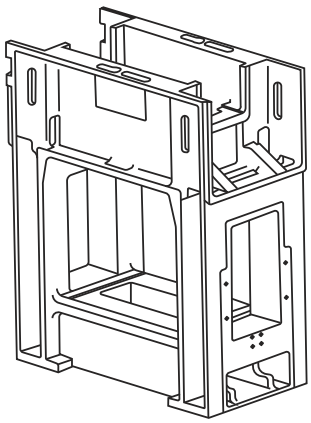
4 All main and connection bearings have full film lubrication with pressurized oil supplied to each bearing within the crankshaft. The consistent oil film gives the ultimate dynamic bearing stiffness and longevity.

STANDARD FEATURES

Cast Iron Frame

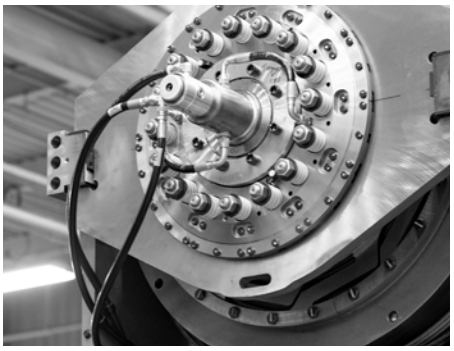
The cast iron frame of the P2H has increased mass to better dampen the overall press vibration level. Operator controls are conveniently flush mounted in the upright design. The open top of the frame provides easy access for routine maintenance.

One-piece frame on P2H-63 & P2H-100
Four-piece frame on P2H-160



Combination Hydraulic Flex Disc Clutch and Brake

Includes dual clutch valves providing quick starts and faster stopping times for high production speeds.

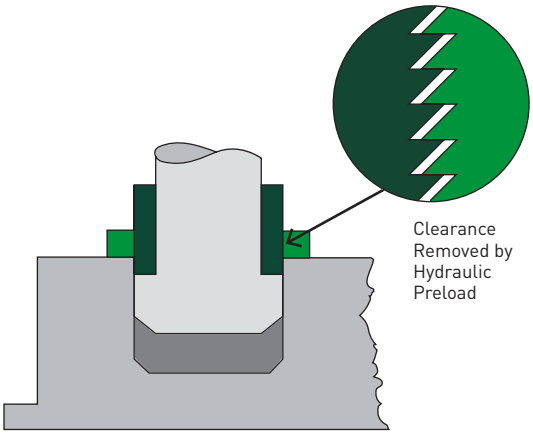


Air Operated Flywheel Brake

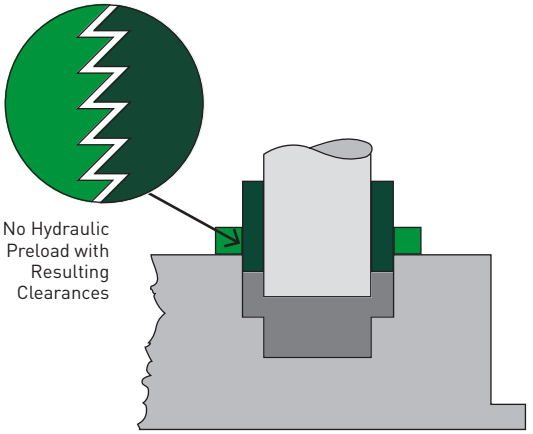
Electrically interlocked with "stop" circuit eliminates "coasting" resulting in quicker access to die area.

Hydraulic Slide Lockup

Eliminates clearance in slide adjustment parts to reduce the effects of snap-through forces and punch penetration, thus reducing vibration.



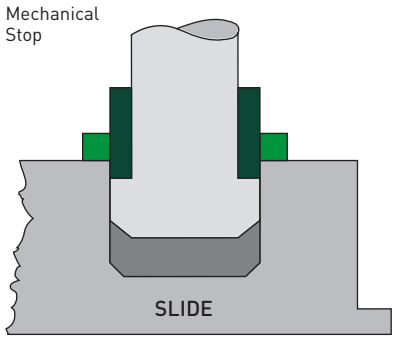
P2H Adjustment Screw with Hydraulic Lockup



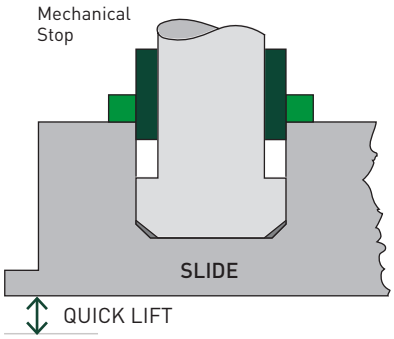
Adjustment Screw without Hydraulic Lockup

Quick Lift Slide

Quick access to dies is provided by a hydraulic system which lifts the slide to a fixed open position. The hydraulic system returns the slide to the original shutheight position against a mechanical stop, maintaining accurate tool settings. This feature facilitates die inspection, material threading and misfeed troubleshooting, contributing to overall production efficiency.



RUNNING PRODUCTION



DIE INSPECTION

Hydrostatic Piston Drive

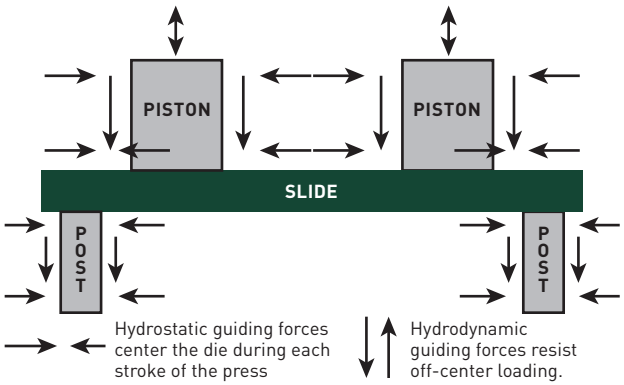
The P2H drive includes two large diameter hydrostatically guided pistons. Large wrist pins and connection bushings are lubricated through the crankshaft with pressurized oil, increasing tensile stiffness and providing the ultimate in bottom-dead-center repeatability. The drive system bearing design promotes prolonged machine accuracy and die life.

Monitored Lubrication

All main and connection bearings have full film lubrication with pressurized oil supplied to each bearing within the crankshaft. The system is designed to stop the press in the event of an interruption of the oil flow. The consistent oil film gives the ultimate dynamic bearing stiffness and longevity resulting in better bottom-dead-center repeatability and die life.

Slide Guiding

The P2H guiding system assures positive centering of the slide and resistance to off-center loads. The slide is piston driven and guided by sixteen hydrostatic centering pads plus four hydrodynamic guide posts which are at material pass line level. Punch to die clearance is maintained and die life is extended.



STANDARD FEATURES

Motorized Shutheight Adjustment

The motorized shutheight adjustment with digital readout eases and speeds the die setting procedure, contributing to longer production time and better part production as a result of accurate repeatable die settings.

Main Drive Motor

The P2H variable frequency main drive motor is totally enclosed, fan-cooled, variable speed and provides proven durability and increased torque response.

Production Management Control (PMC)

Incorporates all press functions including:

- Full machine diagnostics detailing all press and feed line faults
- Multiple selectable languages
- Open architecture which allows for greater convenience in planning and maintenance.
- PLC and color touch screen technology; all press and feed line functions can be monitored for efficient diagnosis of production line faults

Available popular options include: die protection, load monitoring as well as automatic shutheight controls.

FieldHawk - Industry 4.0

FieldHawk is a cloud-based communications mobile application designed to communicate with your NP&A stamping press lines from your IOS or Android mobile devices. Cloud-based, secured communications allows all authorized users to check machinery status from anywhere you can get phone service and/or an internet connect, reducing downtime.

Integral Press Shock Mounts

Standard press mounts are designed as an integral part of the frame and serve as levelers in addition to vibration absorbers. Mount adjustment screws with fine threads reduce adjustment torque. Covers protect the screws from debris which could gall the threads.

Mirco-Speed Barring

The P2H is available with micro-speed barring that allows for easier die set-up.

OPTIONAL FEATURES

Infinitely Adjustable Stroke

Provides more flexibility and higher production capability:

- No limit on stroke length within the range
- Quick and simple pushbutton adjustment
- Dial-in, or pushbutton stroke length via die number automatically sets stroke & shutheight for easy changeover
- Provides micro-speed barring feature and allows for easier die set-up
- Extremely accurate bottom-dead-center repeatability and parallelism

Benefits Include:

Short Stroke for Flat Blanking Operations:

- Higher production speeds for blanking dies
- Reduced vibration and noise
- Reduced punch impact velocity
- Die guide pins can remain in bushings

Long Stroke for Forming & Drawing Operations:

- Increased forming range.
- Longer feed cycle
- Optimized press stroke for draw applications
- Increased access for die maintenance

High Speed Drives

The P2H is available with high speed drives for increased part productivity. Refer to the specifications on page 8 for availability and speeds.

Die Area Doors

The P2H frame is designed to accept an integral lift-type enclosure which is both mechanically and electrically interlocked.

High Energy Drive

Available on the P2H-100 and P2H-160, an auxiliary flywheel doubles the available energy and produces a higher rating off the bottom of the stroke.

Die Rollers & Die Clamping

Minster P2H presses are easily equipped with die rollers and clamping to speed up die changing and further enhance press uptime and productivity. Consult Nidec Minster for answers to your quick-die-change requirements.

Hydraulic Overload Protection

The hydraulic overload valve is attached directly to the slide and is pressure activated immediately relieving the overload. In addition, a switch initializes the stop circuit to help protect expensive dies.

Shutheight Thermal Stabilization System

For more stringent applications which require extremely tight shutheight control, a Shutheight Thermal Stabilization System is available. This unique feature is integrated into the press lubrication and hydraulic system.

OPTIONAL FEATURES

Single-Geared Twin Drive Arrangement

Available on the P2H-160, this arrangement is designed for slower speed and/or higher energy applications. In this arrangement, Minster's hydraulic clutch and brake unit is mounted on the drive shaft on top of the crown. This drives the eccentric shaft from both ends through opposed helical gears, promoting die parallelism, even in off-center loading conditions. The geared version of the P2H is available with longer stroke lengths than the flywheel version, and is equipped with air counterbalance cylinders.

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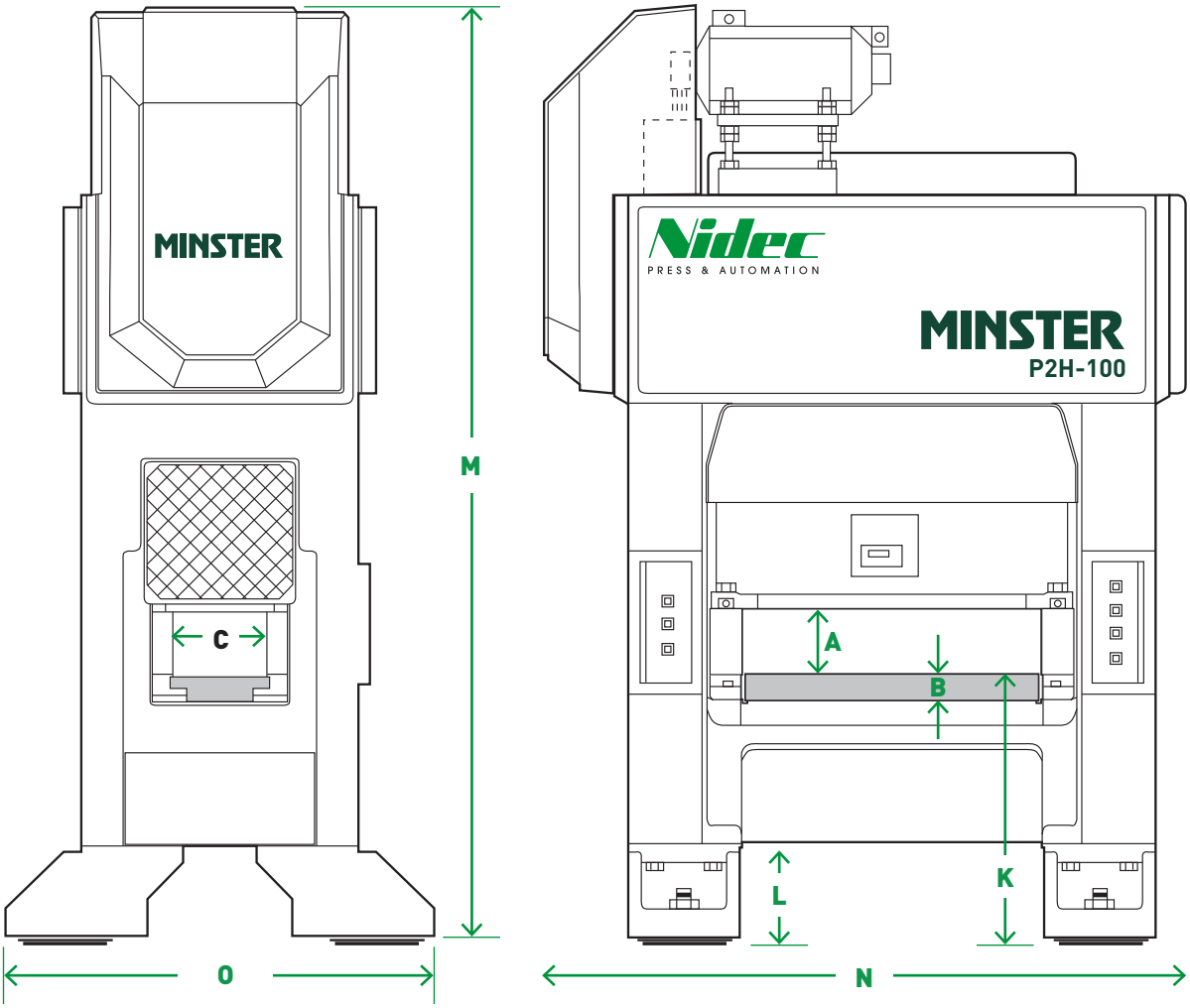
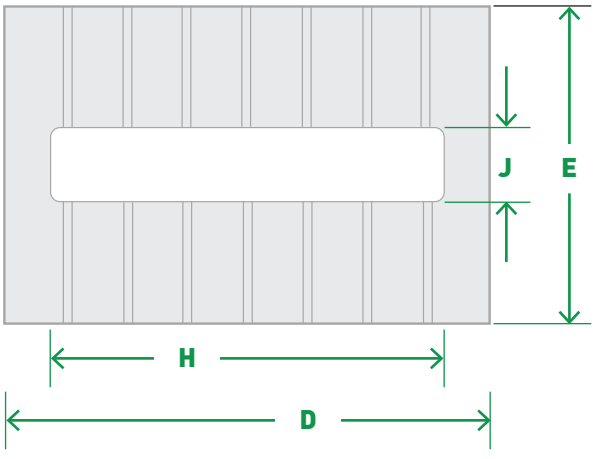
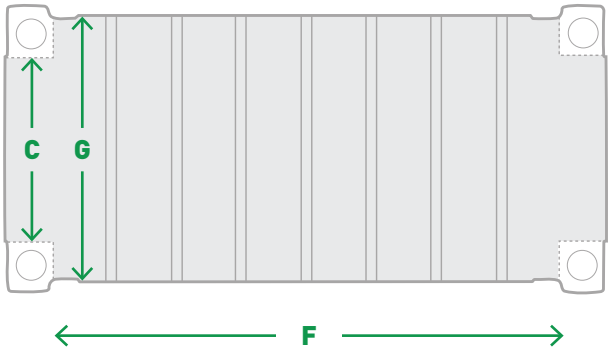
High Speed Gripper Feeds
Heavy-Duty Coil Lines

GLOBAL SERVICE NETWORK
Field Service
Remanufacturing
Spare Parts
Technical Service
Training
Planned Maintenance
Inspection & Audit
Relocation
Upgrade Services
Engineering Services

SPECIFICATIONS & DIMENSIONS







			P2H-63-40			P2H-100-48			P2H-100-63			P2H-160-63			P2H-160-75			P2H-160G-75		
	Tons Capacity		630 **kN** / 71 **Tons**			1,000 / 112			1,000 / 112			1,600 / 180			1,600 / 180			1,600 / 180		
	Distance off Bottom	**Standard**	1.5 mm / .06 in			1.5 mm / .06 in			1.5 mm / .06 in			1.5 mm / .06 in			1.5 mm / .06 in			6 mm / .24 in		
		High Energy	N/A			3 mm / .12 in			3 mm / .12 in			3 mm / .12 in			3 mm / .12 in			10 mm / .39 in		
	Stroke Speed		Stroke Length	Std. Speed	Max.* Speed	Stroke Length	Std. Speed	Max.* Speed	Stroke Length	Std. Speed	Max.* Speed	Stroke Length	Std. Speed	Max.* Speed	Stroke Length	Std. Speed	Max.* Speed	Stroke Length	Std. Speed	Max.* Speed
			20 mm 0.79 in	250	600															
			25 mm 0.98 in	250	550	25 mm 0.98 in	250	550	25 mm 0.98 in	250	525									
			30 mm 1.18 in	250	500	30 mm 1.18 in	250	500	30 mm 1.18 in	250	475	30 mm 1.18 in	200	400	30 mm 1.18 in	200	400			
			40 mm 1.57 in	250	450	40 mm 1.57 in	250	450	40 mm 1.57 in	250	425	40 mm 1.57 in	200	400	40 mm 1.57 in	200	400			
			50 mm 1.97 in	250	400	50 mm 1.97 in	250	400	50 mm 1.97 in	250	375	50 mm 1.97 in	200	350	50 mm 1.97 in	200	350			
			65 mm 2.56 in	250	350	65 mm 2.56 in	250	350	65 mm 2.56 in	250	325									
			75 mm 2.95 in	250	300	75 mm 2.95 in	250	300	75 mm 2.95 in	250	275	75 mm 2.95 in	200	300	75 mm 2.95 in	200	300			
						100 mm 3.94 in	250	275	100 mm 3.94 in	225	250	100 mm 3.94 in	150	250	100 mm 3.94 in	150	250	100 mm 3.94 in	120	150
												125 mm 4.92 in	150	200	125 mm 4.92 in	150	200	150 mm 5.91 in	120	150
												150 mm 5.91 in	150	200	150 mm 5.91 in	150	200	200 mm 7.88 in	100	120
	Adjustable Stroke	**Min. Stroke**	25 mm 0.98 in			35 mm 1.38 in			35 mm 1.38 in			25 mm 0.98 in			25 mm 0.98 in			100 mm 3.94 in		
		Max SPM @ Min. Stroke	500 SPM			450 SPM			425 SPM			400 SPM			400 SPM			150 SPM		
		Max. Stroke	75 mm 2.95 in			100 mm 3.94 in			100 mm 3.94 in			125 mm 4.92 in			125 mm 4.92 in			200 mm 7.88 in		
		Max SPM @ Max. Stroke	275 SPM			250 SPM			225 SPM			200 SPM			200 SPM			120 SPM		
	Shutheight Adjustment		75 mm 2.95 in			100 mm 3.94 in			100 mm 3.94 in			100 mm 3.94 in			150 mm 5.91 in			150 mm 5.91 in		
	QA Slide Travel (Depending on SH)		25–100 mm 0.98–3.94 in			12–115mm 0.50–4.50 in			12–115mm 0.50–4.50 in			12–115mm 0.50–4.50 in			12–165 mm 0.50–6.50 in			12–165 mm 0.50–6.50 in		
A	SH Range on Bolster (Std.)		225–300 mm 8.90–11.80 in			280–380 mm 11.0–14.94 in			280–380 mm 11.0–14.94 in			350–450 mm 13.78–17.72 in			350–500 mm 13.78–19.69 in			350–500 mm 13.78–19.69 in		450–600 mm 17.72–23.62 in
B	Bolster Thickness		100 mm 3.94 in			100 mm 3.94 in			100 mm 3.94 in			125 mm 4.92 in			125 mm 4.92 in			125 mm 4.92 in		
C	Passline Opening (F-B)		330 mm 13.10 in			560 mm 22.0 in			560 mm 22.0 in			630 mm 24.80 in			630 mm 24.80 in			630 mm 24.80 in		
D x E	Area of Bolster (R-L x F-B) (Std)		1,000 mm x 630 mm 39.40 x 24.80 in			1,220 mm x 800 mm 48.0 x 31.50 in			1,600 mm x 800 mm 63.0 x 31.5 in			1,600 mm x 850 mm 63.0 x 33.50 in			1,900 mm x 850 mm 74.8 x 33.50 in			1,900 mm x 850 mm 74.8 x 33.50 in		
F x G	Area of Slide (R-L x F-B) (Std)		1,000 mm x 630 mm 39.40 x 24.80 in			1,220 mm x 660 mm 48.0 x 26.00 in			1,600 mm x 660 mm 63.0 x 26.00 in			1,600 mm x 850 mm 63.0 x 33.50 in			1,900 mm x 850 mm 74.8 x 33.50 in			1,900 mm x 850 mm 74.8 x 33.50 in		
H x J	Opening in Bolster (R-L x F-B)		800 mm x 160 mm 31.50 x 6.25 in			1,000 mm x 190 mm 39.40 x 7.50 in			1,300 mm x 190 mm 51.20 x 7.50 in			1,300 mm x 250 mm 51.20 x 9.80 in			1,600 mm x 250 mm 63.00 x 9.80 in			1,600 mm x 250 mm 63.0 x 9.80 in		
	Opening in Bed (R-L x F-B)		876 mm x 230 mm 34.50 x 9.00 in			1,015 mm x 360 mm 40.0 x 14.20 in			1,400 mm x 360 mm 55.00 x 14.20 in			1,300 mm x 370 mm 51.20 x 14.60 in			1,600 mm x 370 mm 63.00 x 14.60 in			1,600 mm x 370 mm 63.0 x 14.60 in		
K	Distance Floor to Top of Bolster		1,095 mm 43.10 in			1,135 mm 44.70 in			1,135 mm 44.70 in			1,180 mm 46.40 in			1,180 mm 46.40 in			1,180 mm 46.40 in		
L	Distance Floor to Bottom of Bed		380 mm 15.0 in			430 mm 17.0 in			430 mm 17.0 in			300 mm 11.75 in			300 mm 11.75 in			300 mm 11.75 in		
M	Overall Height		3,550 mm 139.50 in			3,930mm 155.00 in			3,930mm 155.00 in			4,050 mm 160.00 in			4,526 mm 178.20 in			4,780 mm 188.75 in		
N	Overall Width		2,345mm 92.30 in			2,940mm 115.75 in			3,321 mm 130.75 in			3,588 mm 141.20 in			4,042 mm 159.10 in			3,660 mm 144.00 in		3,700 mm 145.50 in
O	Width at Feet		1,640 mm 64.50 in			1,780 mm 70.00 in			1,780 mm 70.00 in			2,030 mm 80.00 in			2,030 mm 80.00 in			2,030 mm 80.00 in		
	Main Drive Motor (Standard Speed)		11,25 kW 15 HP			15 kW 20 HP			15 kW 20 HP			22,5 kW 30 HP			22,5 kW 30 HP			30 kW 40 HP		
	Main Drive Motor (High Speed)		15 kW 20 HP			18.75 kW 25 HP			18.75 kW 25 HP			30 kW 40 HP			30 kW 40 HP			37 kW 50 HP		
	Press Shipping Weight		11,800 kg 26,000 lbs			18,600 kg 41,000 lbs			20,865 kg 46,000 lbs			30,400kg 67,000 lbs			34,020 kg 75,000 lbs			34,930 kg 77,000 lbs		

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