Nidec PRESS & AUTOMATION / MINSTER

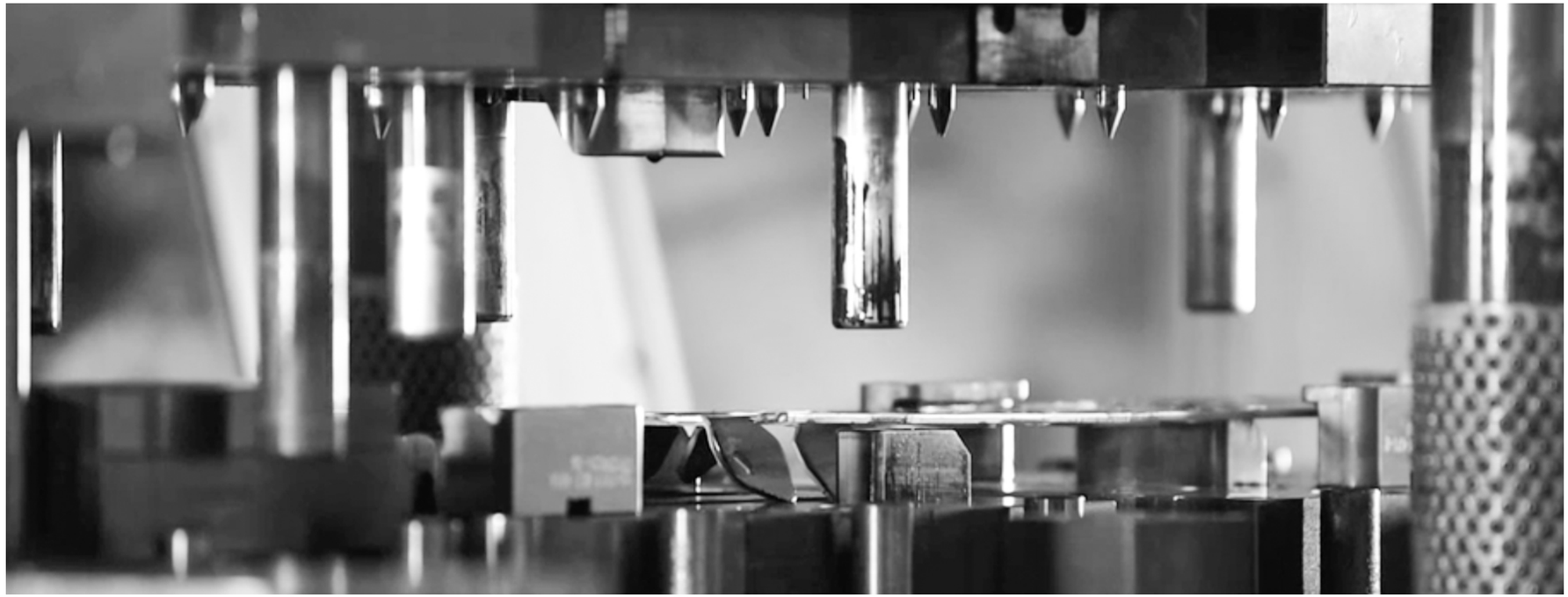
FX2

HIGH PERFORMANCE SERVO PRESSES

2,670 - 5,340 kN
300 - 600 US Tons Capacity

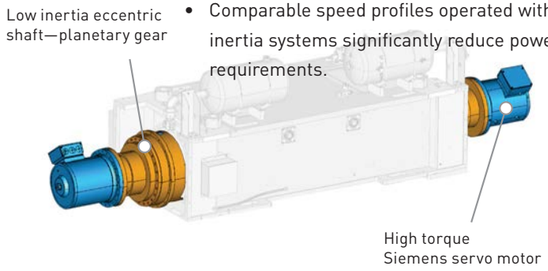
PRODUCT OVERVIEW

Based off legendary Minster E2 press technology, the FX2 Servo Press Series incorporates a servo drive and control from Siemens and features user-friendly programmable motion profiles for maximum flexibility.

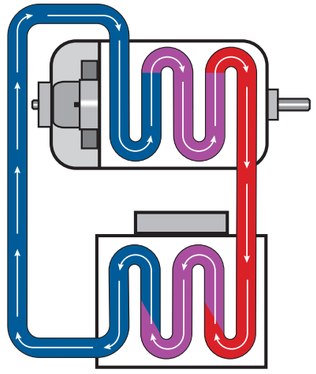


1 **Low Inertia Drive** - Engineered to enable higher acceleration and deceleration rates, Nidec Minster's low inertia drive creates a faster response through each press stroke. Lower torque requirements also result in higher efficiency forming.

- Faster response results in significantly higher production rates while running complex profiles including pendulum, rapid restrike and multi-point.
- Increased variability; operational capability to run longer feed lengths/angles at higher production rates.
- Comparable speed profiles operated with lower inertia systems significantly reduce power requirements.



2 **Liquid Cooling Technology** - Nidec Minster's leading Servo technology consistently provides more usable power than comparable air cooled motors, in addition to maintaining thermal stability and cooler operating temperature. These combined features lead to a longer component life and an overall cleaner operating environment.

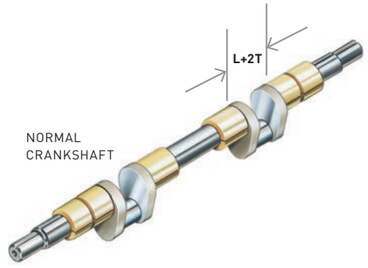


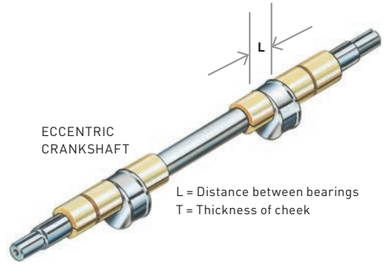
3 **Robust Design** - Nidec Minster presses are built to withstand increased forces of the new high tensile materials and stand the test of time. Our design configurations are:

- Built from forged high-strength alloy steel drive train components.
- Rated to full press tonnage and carries optional 20% reverse load ratings.

4 **Precision Built** - Built to meet your exact needs with extremely tight tolerances in the crown bearings, 8-point bronze gibs, and slide adjustment components for rapid and exact shutheight adjustments.

- Precision ground Eccentric Shaft Design. This unparalleled approach creates:
  - Superior dynamic parallelism and BDC accuracy.
  - Minimized backlash for consistent accuracy in pendulum mode.



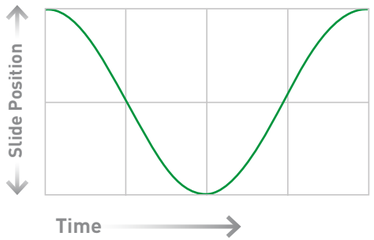


STANDARD FEATURES

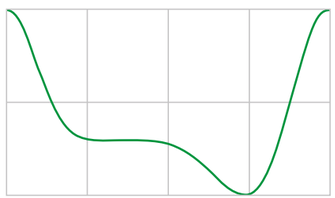
Motion profiles for flexibility to program your optimum production solution

The operator-friendly Human Machine Interface (HMI) provides the ability to quickly chose from any of these highly customizable slide motion profiles (below) to improve productivity, part quality and tool life.

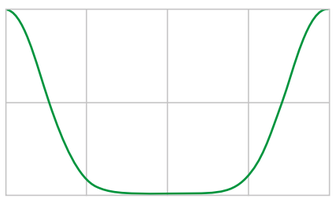
Constant Speed



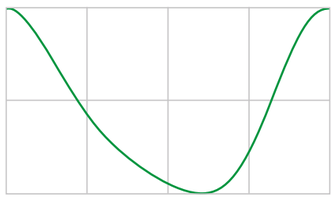
Dwell Above BDC



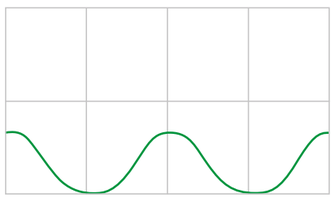
Dwell At Bottom



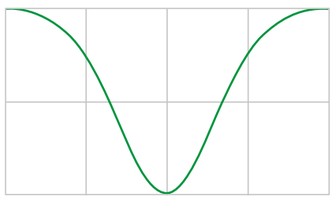
ASM/Link Motion



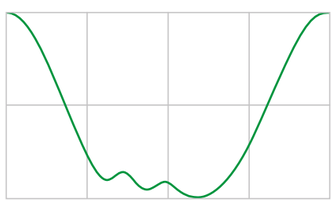
Pendulum



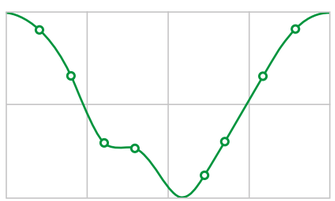
Slow At Top



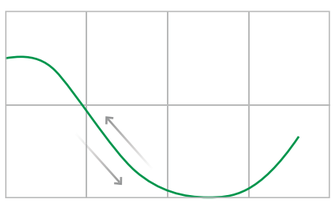
Multi-Point



Custom Input Multipoints

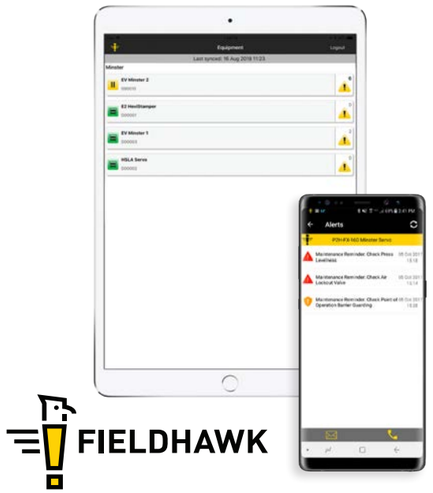


Pendulum Restrike



FieldHawk - Industry 4.0

FieldHawk is a cloud-based 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 connection, thus reducing downtime.



FIELDHAWK

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 and counterbalance controls.

SIEMENS

Ingenuity for life

Siemens Full Energy Management System

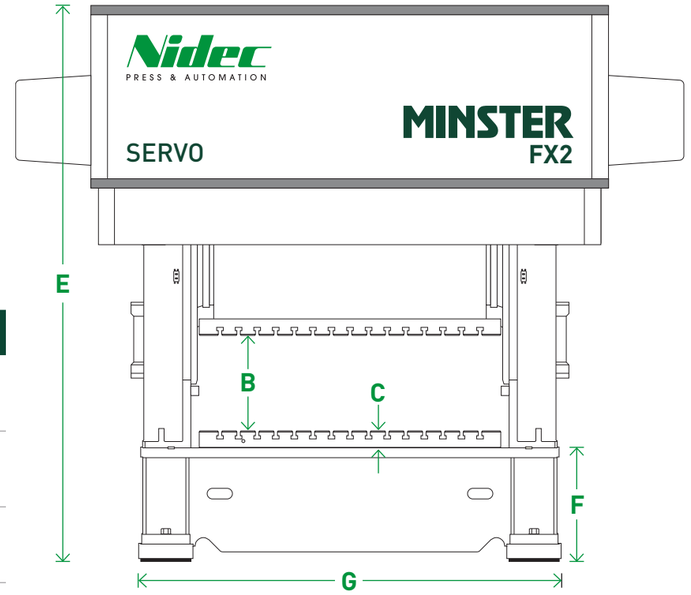
Based upon Siemens global power grid technology, the system manages and maintains the critical power requirements entirely within the system. This results in the highest efficiency at the lowest overall operating costs.

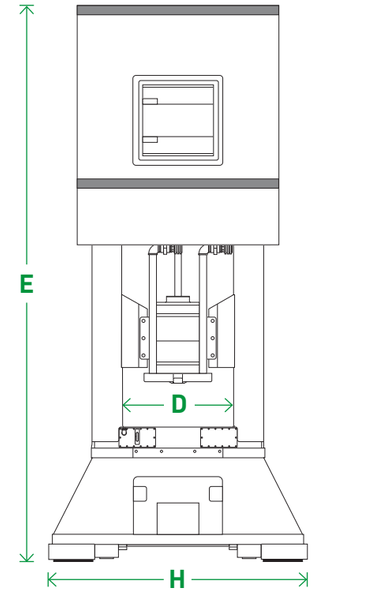
SPECIFICATIONS & DIMENSIONS

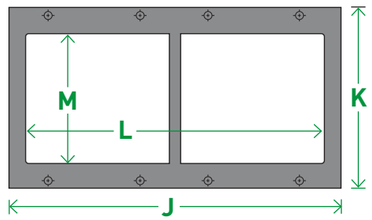
		FX2-300			FX2-400			FX2-600			
	Tons Capacity[1]	2,935 kN 330 US tons			3,915 kN 440 US tons			5,880 kN 660 US tons			
	Shutheight Adjustment (Std.)	150 mm 6 in			150 mm 6 in			225 mm 10 in			
B	Shutheight on Bolster (S.D.A.U.) (Std.)	610-1,120 mm 24-44 in			610-1,120 mm 24-44 in			610-1,120 mm 24-44 in			
C	Bolster Plate Thickness	150 mm 6 in			150 mm 6 in			180 mm 7 in			
D	Upright Opening[2]	840 mm 33 in			1.120 mm 48 in			1.345 mm 53 in			
E	Approximate Overall Height (Std.)[3]	5.030-5,813 mm 198-229 in			5,945-6,605 mm 234-260 in			6,300-7,060 mm 248-278 in			
	WIDTH OF PRESS	**1,830 mm 72 in**	**2,440 mm 96 in**	**3,050 mm 120 in**	**2,440 mm 96 in**	**3,050 mm 120 in**	**3,660 mm 144 in**	**2,440 mm 96 in**	**3,050 mm 120 in**	**3,660 mm 144 in**	**4,265 mm 168 in**
	Approximate Weight – Press Only[4]	54,400 kg 120,000 lbs	56,800 kg 125,000 lbs	61,700 kg 136,000 lbs	79,500 kg 175,000 lbs	86,400 kg 190,000 lbs	93,200 kg 205,000 lbs	113,400 kg 250,000 lbs	123,400 kg 272,000 lbs	133,400 kg 294,000 lbs	143,300 kg 316,000 lbs
J x K	Area of Slide Bed & Bolster (R-L x F-B)	1830x1220 mm 72x48 in	2440x1220 mm 96x48 in	3050x1220 mm 120x48 in	2440x1525 mm 96x60 in	3050x1525 mm 120x60 in	3660x1525 mm 144x60 in	2440x1525 mm 96x60 in	3050x1525 mm 120x60 in	3660x1525 mm 144x60 in	4265x1525 mm 168x60 in
L x M	Opening in Bed – Maximum (R-L x F-B)	1675x610 mm 66x24 in	2285x610 mm 90x24 in	2845x610 mm 112x24 in	2285x610 mm 90x24 in	2895x610 mm 114x24 in	3050x610 mm 138 x 24 in	2285x660 mm 90x26 in	2895x660 mm 114x26 in	3050x660 mm 138x26 in	4115x660 mm 162x26 in
F	Floor to Top of Bed	865 mm 34 in			1,170 mm 46 in			1,170 mm 46 in			
G x H	Overall Floor Space (R-L x F-B)	2895x2080 mm 114x82 in	3505x2080 mm 138x82 in	4115x2080 mm 162x82 in	3670x2945 mm 144.5x116 in	4280x2945 mm 168.5x116 in	4890x2945 mm 192.5 x 116 in	3835x3050 mm 151x120 in	4445x3050 mm 175x120 in	5055x3050 mm 199x120 in	5665x3050 mm 223x120 in

1. For full tonnage high in stroke, consult Minster
2. Consult Minster for upright openings other than standard
3. Overall height may be reduced on some presses if headroom problems exists (Special drive mounting can be supplied at extra cost.)
4. All weights listed are based on having standard stroke and shutheight and do not include electrical controls, drive motor or auxiliary equipment.

Stroke/Speed Ratings Refer to Pages 8-10







STROKE SPEED MATRIX

FX2-300

STROKE LENGTH		300 mm (11.81 in)
Cont. Speed (Reduced Rating)	SPM	51
SERVO POWER INFEED (MOTORS) - STANDARD POWER 80 kW (2 x #81)		
Rated Distance Off Bottom	mm	6.8
	in	0.27
Standard Forming Profile	SPM	44
Pendulum 150 mm (5.91 in)	SPM	62
Pendulum 125 mm (4.92 in)	SPM	67
Pendulum 100 mm (3.94 in)	SPM	72
Pendulum 85 mm (3.35 in)	SPM	76
Energy	kJ	116 @ 20 SPM 77 @ 30 SPM 58 @ 40 SPM 46 @ 50 SPM 39 @ 60 SPM
	in-Ton	513 @ 20 SPM 321 @ 30 SPM 257 @ 40 SPM 205 @ 50 SPM 171 @ 60 SPM
SERVO POWER INFEED (MOTORS) - HIGH POWER 120 kW (2 x #83)		
Rated Distance Off Bottom	mm	12.7
	in	0.50
Standard Forming Profile	SPM	44
Pendulum 150 mm (5.91 in)	SPM	64
Pendulum 125 mm (4.92 in)	SPM	68
Pendulum 100 mm (3.94 in)	SPM	73
Pendulum 85 mm (3.35 in)	SPM	77
Energy	kJ	198 @ 20 SPM 132 @ 30 SPM 99 @ 40 SPM 79 @ 50 SPM 66 @ 60 SPM
	in-Ton	874 @ 20 SPM 583 @ 30 SPM 437 @ 40 SPM 350 @ 50 SPM 292 @ 60 SPM

FX2-400

STROKE LENGTH		350 mm (13.78 in)
Cont. Speed (Reduced Rating)	SPM	70
SERVO POWER INFEED (MOTORS) - STANDARD POWER 120 kW (2 x #83)		
Rated Distance Off Bottom	mm	
	in	
Standard Forming Profile	SPM	
Pendulum 150 mm (5.91 in)	SPM	
Pendulum 125 mm (4.92 in)	SPM	
Pendulum 100 mm (3.94 in)	SPM	
Pendulum 85 mm (3.35 in)	SPM	
Energy	kJ	198 @ 20 SPM 132 @ 30 SPM 99 @ 40 SPM 79 @ 50 SPM 66 @ 60 SPM
	in-Ton	874 @ 20 SPM 583 @ 30 SPM 437 @ 40 SPM 350 @ 50 SPM 292 @ 60 SPM
SERVO POWER INFEED (MOTORS) - HIGH POWER 120 kW (2 x #83)		
Rated Distance Off Bottom	mm	6.9
	in	0.27
Standard Forming Profile	SPM	57
Pendulum 150 mm (5.91 in)	SPM	73
Pendulum 125 mm (4.92 in)	SPM	83
Pendulum 100 mm (3.94 in)	SPM	95
Pendulum 85 mm (3.35 in)	SPM	n/a
Energy	kJ	267 @ 20 SPM 178 @ 30 SPM 133 @ 40 SPM 107 @ 50 SPM 89 @ 60 SPM
	in-Ton	1180 @ 20 SPM 787 @ 30 SPM 590 @ 40 SPM 472 @ 50 SPM 393 @ 60 SPM

FX2-600

STROKE LENGTH		350 mm (13.78 in)	400 mm (15.75 in)			500 mm (19.69 in)
Cont. Speed (Reduced Rating)	SPM	46	46	57	64	46
SERVO POWER INFEED (MOTORS)	STANDARD POWER 132 kW (2 x #85)					
Rated Distance Off Bottom	mm	7.2	6.2			
	in	0.28	0.24			
Standard Forming Profile	SPM	39	39			
Pendulum 250 mm (9.84 in)	SPM	48	53			
Pendulum 200 mm (7.87 in)	SPM	54	59			
Pendulum 150 mm (5.91 in)	SPM	61	66			
Pendulum 100 mm (3.94 in)	SPM	71	n/a			
Energy	kJ	186 @ 20 SPM / 131 @ 30 SPM / 98 @ 40 SPM / 78 @ 50 SPM / 65 @ 60 SPM				
	in-Ton	867 @ 20 SPM / 578 @ 30 SPM / 434 @ 40 SPM / 347 @ 50 SPM / 289 @ 60 SPM				
SERVO POWER INFEED (MOTORS)	HIGH POWER 160 kW (2 x #87)					
Rated Distance Off Bottom	mm	12.7	12.3	7.9	6.3	9.6
	in	0.50	0.48	0.31	0.25	0.38
Standard Forming Profile	SPM	40	40	48	54	40
Pendulum 250 mm (9.84 in)	SPM	49	53	59	64	60
Pendulum 200 mm (7.87 in)	SPM	55	59	66	71	65
Pendulum 150 mm (5.91 in)	SPM	61	66	75	80	72
Pendulum 100 mm (3.94 in)	SPM	71	n/a	n/a	n/a	n/a
Energy	kJ	224 @ 20 SPM / 150 @ 30 SPM / 112 @ 40 SPM / 90 @ 50 SPM / 75 @ 60 SPM / 64 @ 70 SPM				
	in-Ton	992 @ 20 SPM / 662 @ 30 SPM / 496 @ 40 SPM / 397 @ 50 SPM / 331 @ 60 SPM / 284 @ 70 SPM				

†For sizes, specifications and dimensions not listed, please consult Nidec Minster.

Nidec
PRESS & AUTOMATION

One Brand: A World of Resources

Nidec Press & Automation is the full service pressroom provider of choice for businesses in more than 90 countries and on six continents. Comprised of leading press room product brands, we ensure a complete offering of machinery, services and technology to meet your exact needs, enabling you to rely on one source.

Discover the freedom to achieve, to maximize and to drive your operation to exceed your goals. At Nidec Press & Automation, your success is the core of our focus and how we design our solutions to meet the rigid needs of the metal forming industry.

Choosing to work with us means you gain a constant resource with a global footprint, the brightest minds behind our solutions, and backed by regionally based OEM support ready to work as a natural extension of your team.

Our promise to you is simple:
We're with you whenever and wherever business takes you.

MACHINERY
Turn Key Systems
Individual Components
System/Tech Upgrades
Industry 4.0 Software Upgrades
Integrated Controls

METAL FORMING PRESS APPLICATIONS
Mechanical
Servo
Transfer
High-Speed & Electrical
Electrical Vehicle (EV)
Lamination
Container Cupping
Container End-Conversion
Container Shell
Gap/D-Frame

AUTOMATION
Press Tending / Robotics
Integrated Transfers
High Speed Servo Feeds
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

Nidec
PRESS & AUTOMATION

One Brand: A World of Resources

A single source solution that will help you find the efficiencies you want — all from the products, services and technology of Nidec Press & Automation.

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