



**MINSTER**

# FX2

High Performance  
Servo Presses

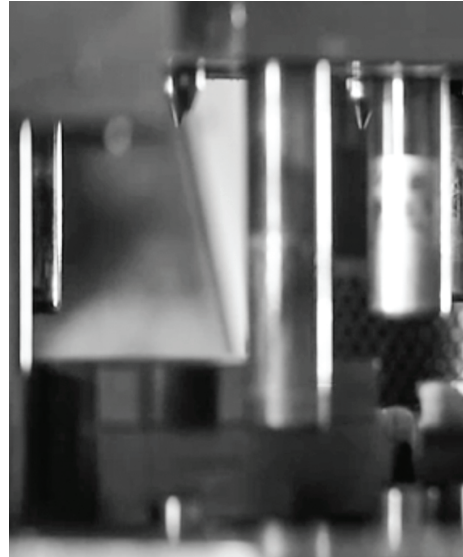
300-600 Tons Capacity



BULLETIN 188D

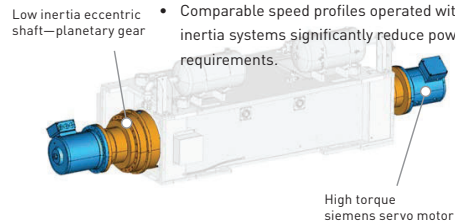
## Product Overview

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.

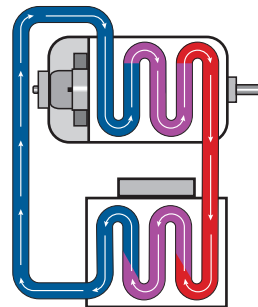


**1 Low Inertia Drive** - Engineered to enable higher acceleration and deceleration rates, Nidec Minster's low inertia drive creates a faster response through each press stroke. Lower torque requirements also result in higher efficiency forming.

- 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.

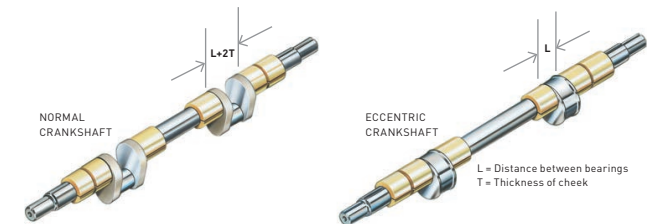


**3 Robust Design** - Nidec Minster presses are built to withstand increased forces of the new high tensile materials and stand the test of time. Our design configurations are:

- 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 rapid and exact shutheight.

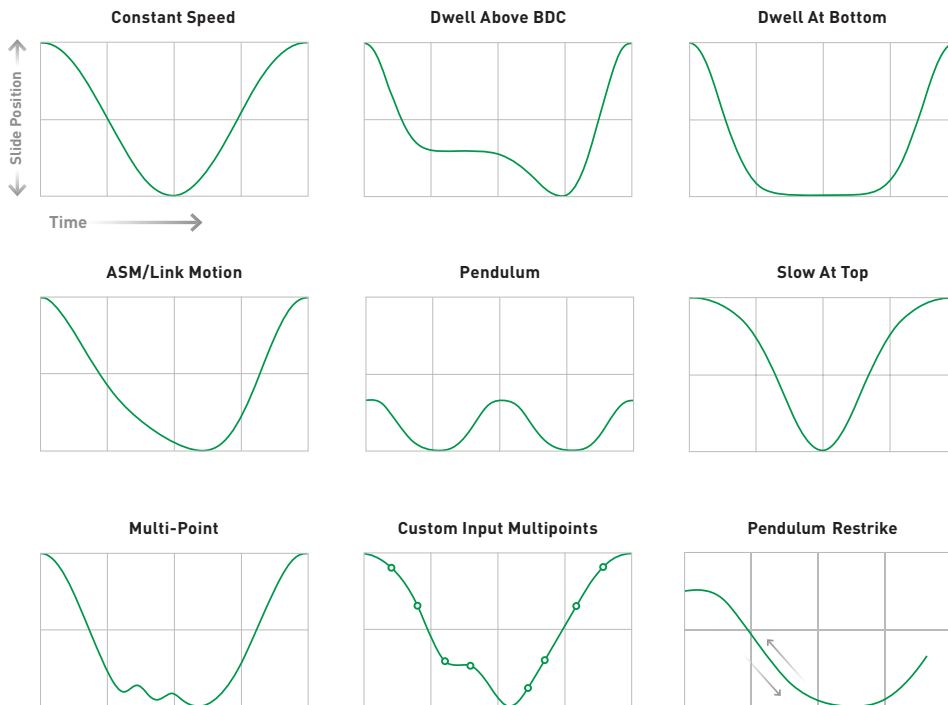
- Drive your ability for end-result accuracy with our Eccentric Shaft Design. This unparalleled approach creates:
  - Superior dynamic parallelism and BDC accuracy.
  - Minimized backlash for consistent accuracy in pendulum mode.



## Standard Features

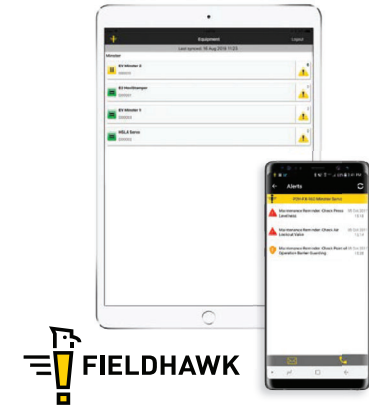
### Motion profiles for flexibility to program your optimum production solution

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



### FieldHawk - i4.0

FieldHawk is a cloud-based mobile application designed to communicate with your Nidec 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.



### 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.

## Specification and Dimensions

	FX2-300			FX2-400		
Tons Capacity <sup>1</sup>	330			440		
Shutheight Adjustment (Std.)	6			6		
<b>B</b> Shutheight on Bolster (S.D.A.U.) (Std.)	24-44			24-44		
<b>C</b> Bolster Plate Thickness	6			6		
<b>D</b> Upright Opening <sup>2</sup>	33			48		
<b>E</b> Approximate Overall Height (Std.) <sup>3</sup>	198-229			234-260		
<b>WIDTH OF PRESS</b>	<b>72</b>	<b>96</b>	<b>120</b>	<b>96</b>	<b>120</b>	<b>144</b>
Approximate Weight – Press Only (lbs) <sup>4</sup>	120,000	125,000	136,000	175,000	190,000	205,000
<b>J x K</b> Area of Slide Bed & Bolster (R-L x F-B)	72 x 48	96 x 48	120 x 48	96 x 60	120 x 60	144 x 60
<b>L x M</b> Opening in Bed – Maximum (R-L x F-B)	66 x 24	90 x 24	112 x 24	90 x 24	114 x 24	138 x 24
<b>F</b> Floor to Top of Bed	34			46		
<b>G x H</b> Overall Floor Space (R-L x F-B)	114 x 82	138 x 82	162 x 82	144.5 x 116	168.5 x 116	192.5 x 116

### Dimensions in metric

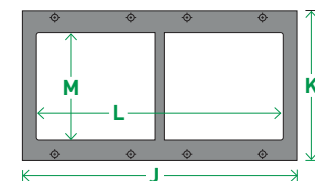
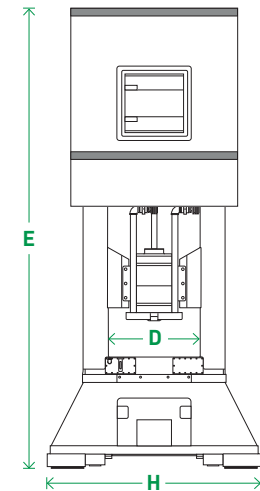
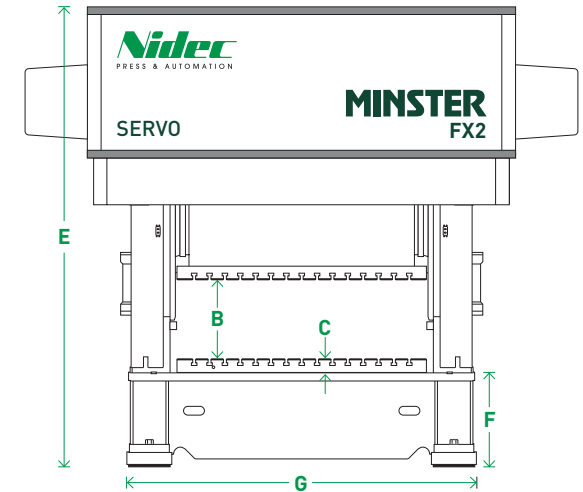
	FX2-300			FX2-400		
Tons Capacity <sup>1</sup>	2935 kN			3915 kN		
Shutheight Adjustment (Standard)	150			150		
<b>B</b> Shutheight on Bolster (S.D.A.U.) (Standard)	610-1120			610-1120		
<b>C</b> Bolster Plate Thickness	150			150		
<b>D</b> Upright Opening <sup>2</sup>	840			1220		
<b>E</b> Approximate Overall Height (Standard) <sup>3</sup>	5030-5813			5945-6605		
<b>WIDTH OF PRESS</b>	<b>1830</b>	<b>2440</b>	<b>3050</b>	<b>2440</b>	<b>3050</b>	<b>3660</b>
Approximate Weight – Press Only (kgs) <sup>4</sup>	54,400	56,800	61,700	79,500	86,400	93,200
<b>J x K</b> Area of Slide Bed & Bolster (R-L x F-B)	1830 x 1220	2440 x 1220	3050 x 1220	2440 x 1525	3050 x 1525	3660 x 1525
<b>L x M</b> Opening in Bed – Maximum (R-L x F-B)	1675 x 610	2285 x 610	2845 x 610	2285 x 610	2895 x 610	3050 x 610
<b>F</b> Floor to Top of Bed	865			1170		
<b>G x H</b> Overall Floor Space (R-L x F-B)	2895 x 2080	3505 x 2080	4115 x 2080	3670 x 2945	4280 x 2945	4890 x 2945

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		250 mm (9.84 in)			300 mm (11.81 in)			350 mm (13.78 in)		
Cont. Speed (Reduced Rating)	SPM	37	57	77	37	51	70	37	46	57
SERVO POWER INFEED (MOTORS)		STANDARD POWER 80 kW [2 x #81]								
Rated Distance Off Bottom	mm	12,7	6,6		12,7	6,8		10,7	7,0	
	in	0.50	0.26		0.50	0.27		0.42	0.28	
Standard Forming Profile	SPM	33	49		33	44		33	40	
Pendulum 150 mm (5.91 in)	SPM	44	61		48	62		52	61	
Pendulum 125 mm (4.92 in)	SPM	47	66		52	67		57	66	
Pendulum 100 mm (3.94 in)	SPM	52	72		56	72		60	71	
Pendulum 85 mm (3.35 in)	SPM	54	76		58	76		n/a	n/a	
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	7,2		12,7	7,1		12,7	9,1
	in		0.50	0.28		0.50	0.28		0.50	0.36
Standard Forming Profile	SPM		49	63		44	59		40	49
Pendulum 150 mm (5.91 in)	SPM		62	75		64	77		62	73
Pendulum 125 mm (4.92 in)	SPM		66	81		68	84		67	77
Pendulum 100 mm (3.94 in)	SPM		72	88		73	91		72	84
Pendulum 85 mm (3.35 in)	SPM		76	93		77	95		n/a	n/a
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								

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

FX2-300

FX2-400

STROKE LENGTH		250 mm (9.84 in)			300 mm (11.81 in)			350 mm (13.78 in)			400 mm (15.75 in)		
Cont. Speed (Reduced Rating)	SPM	46	57	77	37	57	77	37	51	70	37	46	64
SERVO POWER INFEED (MOTORS)		STANDARD POWER 120 kW [2 x #83]											
Rated Distance Off Bottom	mm	11,8	7,5		12,7	6,1		12,1	6,4		10,4	6,8	
	in	0.46	0.30		0.50	0.24		0.48	0.25		0.41	0.27	
Standard Forming Profile	SPM	40	49		33	48		33	44		33	40	
Pendulum 200 mm (7.87 in)	SPM	45	54		43	59		47	59		50	59	
Pendulum 150 mm (5.91 in)	SPM	52	62		49	66		53	66		56	66	
Pendulum 100 mm (3.94 in)	SPM	61	73		56	76		60	76		n/a	n/a	
Pendulum 85 mm (3.35 in)	SPM	64	77		59	84		n/a	n/a		n/a	n/a	
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 160 kW [2 x #85]											
Rated Distance Off Bottom	mm		12,7	8,4		12,7	6,9		12,7	6,9		12,7	7,3
	in		0.50	0.33		0.50	0.27		0.50	0.27		0.50	0.29
Standard Forming Profile	SPM		48	62		47	62		43	57		39	52
Pendulum 200 mm (7.87 in)	SPM		51	65		59	72		59	73		58	72
Pendulum 150 mm (5.91 in)	SPM		62	75		68	82		68	83		67	80
Pendulum 100 mm (3.94 in)	SPM		74	90		79	95		78	95		n/a	n/a
Pendulum 85 mm (3.35 in)	SPM		78	96		86	102		n/a	n/a		n/a	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											

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

FX2-400

## Stroke Speed Matrix

### FX2-600

STROKE LENGTH		350 mm (13.78 in)			400 mm (15.75 in)			500 mm (19.69 in)		
Cont. Speed (Reduced Rating)	SPM	37	46	70	32	46	64	32	37	51
SERVO POWER INFEED (MOTORS)		STANDARD POWER 132 kW [2 x #85]								
Rated Distance Off Bottom	mm	11,1	7,2		12,5	6,2		9,8	7,4	
	in	0.44	0.28		0.49	0.24		0.39	0.29	
Standard Forming Profile	SPM	32	39		28	39		28	32	
Pendulum 250 mm (9.84 in)	SPM	41	48		37	53		45	50	
Pendulum 200 mm (7.87 in)	SPM	47	54		43	59		49	55	
Pendulum 150 mm (5.91 in)	SPM	54	61		51	66		57	62	
Pendulum 100 mm (3.94 in)	SPM	63	71		n/a	n/a		n/a	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	6,1		12,3	6,3		12,7	7,8
	in		0.50	0.24		0.48	0.25		0.50	0.31
Standard Forming Profile	SPM		40	58		40	54		33	44
Pendulum 250 mm (9.84 in)	SPM		49	66		53	64		51	64
Pendulum 200 mm (7.87 in)	SPM		55	73		59	71		57	70
Pendulum 150 mm (5.91 in)	SPM		61	82		66	80		64	78
Pendulum 100 mm (3.94 in)	SPM		71	95		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.

# FX2-600



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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.

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**We're with you whenever and wherever business takes you.**

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Technical Training





## One Brand: A World of Resources

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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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