

SYNCHROMASTER



Press Brake
SynchroMaster

SynchroMaster Series

Your entry-level machine

Always the right choice for your application

- SynchroMaster Series

Equipment

- EasyBEND 2D / FastBEND-2D/3D MT Premium

HACO's pressbrake series are the result of a decades long tradition in designing and manufacturing affordable **state-of-the art bending machines** for a wide variety of customers and applications.

INTUITIVE EASYBEND-2D CONTROL



DSP OPTICAL SAFETY GUARD (optional)



BEAM CONTROL

Beam parallelism and depth stop setting by means of bed referenced linear encoders for accurate beam position measurement, synchro module and proportional valve hydraulics

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SynchroMaster Series

HACO's attention for **design** and **manufacturing quality** has resulted in a worldwide reputation of long lasting production machines offering **excellent reliability** and **precision**.



CROWNING TABLE (OPTIONAL)

Compensates for ram and table deflection, ensuring consistent bending angles over the entire bending length. Manual operation and CNC controlled versions (V-axis)

STANDARD BACKGAUGE X

Rigid backgauge for accurate sheet positioning, fingers on LM Guide



STANDARD EUROPEAN

Quick Manual upper Clamping (Optional)
Manual bottom clamping



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Standard Execution

ATS 595 CNC - Control with Angle Programming

SIMPLE AND EASY

The ATS 595 is an easy-to-use press brake control that allows the user to create multiple bending programs by entering a number of steps with a target angle and the desired position of the back gauge.

Optional settings for the depth axis can be assigned per step, e.g. TDC, plate thickness, auto-up function, system pressure and fast/slow point.

The system automatically controls the depth and pressure of the hydraulic axis.

SPECIFICATIONS:

- 5-axis control : Y1-Y2-X-R-Crowning
- Graphic 7" color LCD Touch screen.
(Graphic works with 2D offline software)
- Angle mode programming
- Automatic or manual program execution
- Upto 200 programs / Upto 20 steps/program
- Absolute or incremental back gauge programming
- Programmable retraction
- Mm or Inch
- Multi Language support
- All logic for machine control on-board (no additional logic or relays required)
- Proportional valve amplifiers on-board
- Digital outputs for direct valve on/off control
- Digital outputs for special function
- CAN-bus extension (optional)
- USB support (Import from offline software, Full backup "From and To" USB.)
- Programmable beam tilting
- Programmable CNC-controlled anti-deflection
- Workpiece counter (up/down)
- Diagnostics and service routines



Graphical view

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Optional

INTUITIVE EASYBEND-2D GRAPHICAL CONTROL

Intuitive entry level control for 2D applications with graphical support during work piece design and production cycle.

Automatic bending sequence calculation, collision detection and program generation.
User friendly interface enabling operation by low to medium skilled operators.

SPECIFICATIONS:

- Multiple drawing methods
- Graphic simulation of work pieces
- **Multitasking Real Time solution**
- **Automatic bending sequence calculation** with collision control
- Automatic program generation
- **10.4"** colour graphic LCD display
- Expandable up to **7 axes**:
 - Standard Y1 + Y2
 - Standard X-axis
 - Standard crowning (= V-axis)
 - optional R-axis
 - optional X-R-Z/Z' and X-R-Z1-Z2 axes
- Material library up to **30 different materials**
- Tool library with graphical visualisation for
- **30 upper** and **30 lower tools**
- **USB Support** (stick included) + Network board
- **Programmable Beam Speed** and **Speed Change-Over Point**
- **Top Dead Centre (TDC)**, Back gauge Positioning with retraction



EASYBEND-2D TOUCH CONTROL

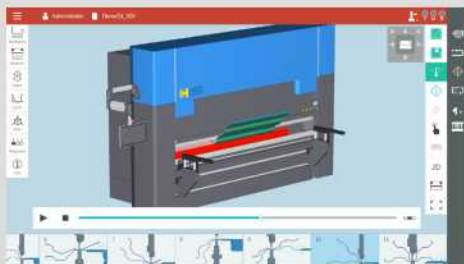
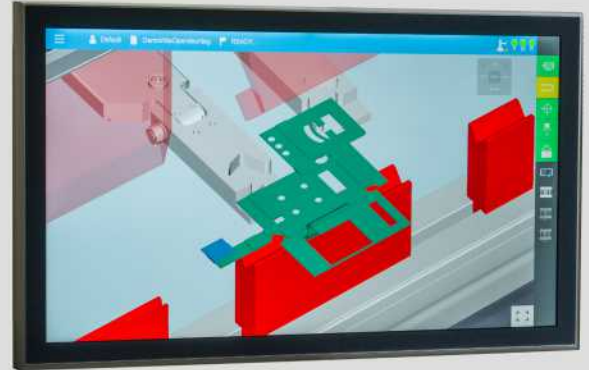
FastBEND-2D/3D MT Premium

Intuitive Bending (Optional)

The **FastBEND-2D/3D MT Premium Controls** set a new standard in the market for flexible, reliable and high precision sheet metal bending.

Driven by **state-of-the-art PC-based hardware**, the system allows for very fast data processing and highly accurate calculation of the optimal bending programs for hydraulic CNC press brakes.

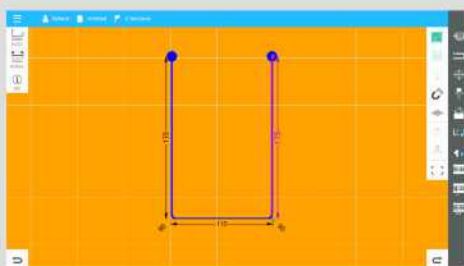
Intuitive Interface with a minimum of interactions to draw the workpiece and generate the corresponding program



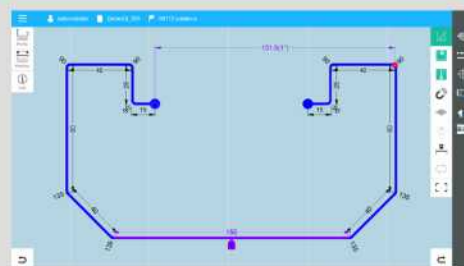
Multi Touch Technology on
24" screen (FastBEND-3D MT Premium)
21,5" screen (FastBEND-2D MT Premium)



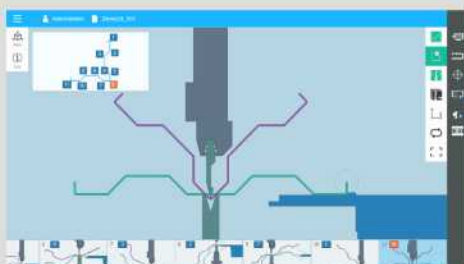
Intuitive Interface with combined numerical-graphical user interface



MULTITASKING : Workpiece drawing with instantaneous collision detection and calculation of the bending sequence in the background



SMART DRAFT : Innovative drawing method for generating 2D workpieces



STEP PREVIEWER : bar with possibility of horizontally scrolling of the bending steps



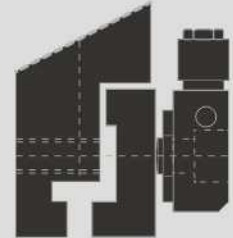
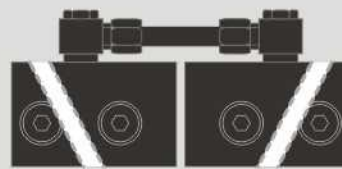
COMBINED ICONS : multiple functionalities by means of one single icon

SyncroMaster Tooling

HACO TOOLING

A budget friendly tool system specifically designed for each machine capacity. The multi V-die combines flexibility by having different V-openings into 1 die and easy tool turning. The top bending tool is available in different versions: flexible gooseneck tool 86°, straight tools of 86°, 30°, 60° or 180°, in full length or sectioned.

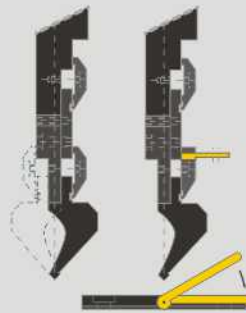
hydraulic clamping for Haco style upper tools



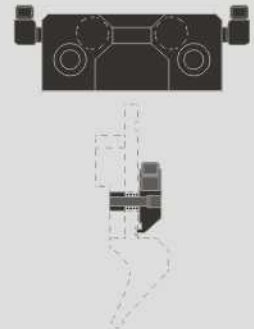
SYSTEM TOOLING

System tools are available in a wide range of different bottom and top tools to adapt the machine to almost any specific job. System tools are manufactured within the smallest tolerances in standard lengths of 835 and 415 mm so they can be put together to achieve larger lengths. System bottom tools in combination with an anti-deflection table results in a machine with the highest degree of accuracy.

quick manual clamping for System upper tools



hydraulic clamping



NEW STANDARD

This system offers a high degree of accuracy tool changing speed and flexibility. All 'New Standard' top and bottom tools are available in a wide range of heights and shapes. They all are manufactured to the smallest possible tolerances resulting in an optimal final bending accuracy. The top tools can be exchanged quickly and safely, vertically as well as horizontally. The self alignment of the dies by using the groove, avoids additional press strokes, so it is possible to start bending operations immediately after tool change. Hydraulic clamping on both, top and bottom tools is available.

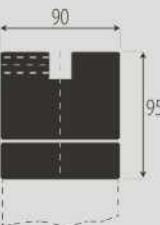
manual clamping (top and bottom)



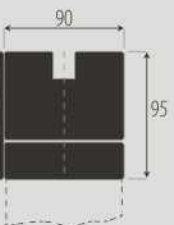
hydraulic clamping (top and bottom)



crowning

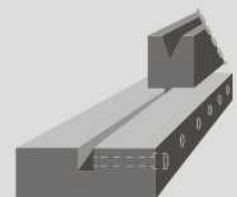
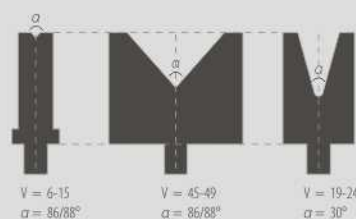


crowning



SINGLE V-DIES

Single V-dies are available in a large variety of angles and V-openings. The small width/height ratio allows an improved access for the workpiece around the die. Single V-die clamping is using a groove in either a Haco or a System tool table. By using the groove as a self alignment system, the tool change can be reduced to very little time.



SynchroMaster Series



EUROPEAN STANDARD (OPTIONAL) top tooling with Quick Manual Clamping arrangement

The European Standard Tooling System has proven its flexibility, affordability and precision during the last decades in an infinite number of sheet metal working shops. A wide choice of a vast number of top and bottom tools allows for a unpredictable number of applications in various materials and thicknesses.



X-AXIS BACKGAUGE, expandable to X-R, X-R-Z/Z' and X-R-Z1-Z2

The SynchroMaster is standard equipped with a rigid and accurate X backgauge featuring average travelling speeds.

Optional X-R (height programming), X-R-Z/Z' (symmetric finger programming) and X-R-Z1-Z2 (asymmetric finger programming) are available for increasing your range of applications.

- **EasyBEND-2D control**
- **X-Axis Backgauge for accurate sheet positioning**
 - Stroke X = 750mm, maximum speed = 250mm/s
 - Stroke R = 120 mm, maximum speed = 100mm/s (Optional)
- **European Standard (ES) top clamping with Quick Manual Clamping Arrangement**



X-R BACKGAUGE

SynchroMaster

Optional equipment

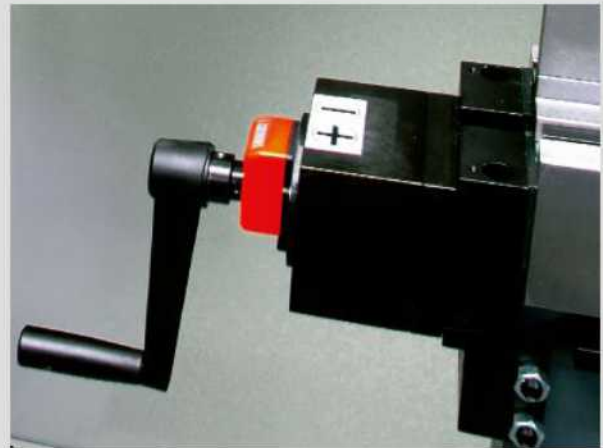
ANTI-DEFLECTION TABLES

Angular variations caused by beam and machine deformation can be compensated for by the anti-deflection table fitted directly on the lower beam. It works by means of a system of wedges moving progressively over each other, giving the table the desired form in order to compensate for beam and bed deflection. This results in a constant angular profile of the workpiece over the full working length of the machine. The anti-deflection table can be set independently from machine type or execution and is available for standard Haco tools, System tools, Single V-dies and New Standard tools.



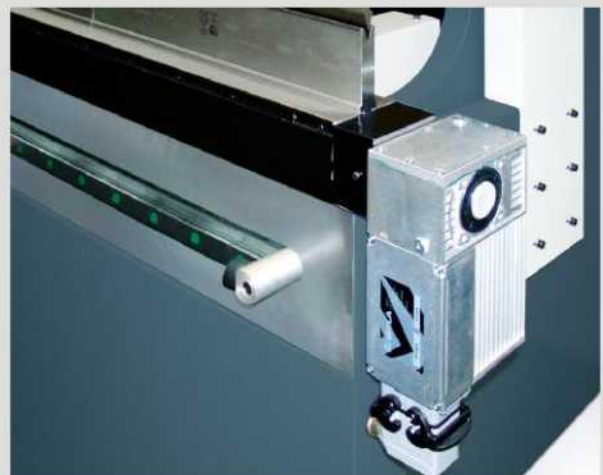
MANUAL CROWNING

Manual Anti-Deflection table for European Standard Bottom tooling



CNC CROWNING

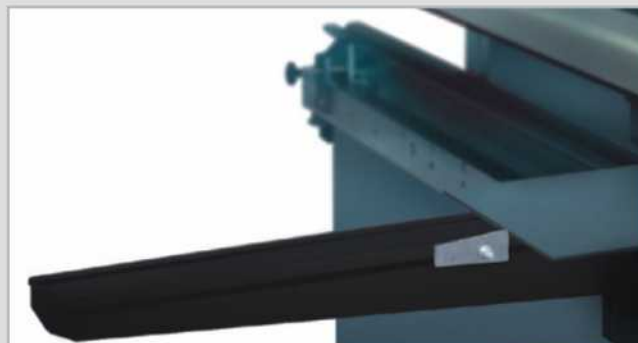
Motorised CNC controlled anti-deflection table for European Standard and single V-dies



SynchroMaster

Optional equipment

FRONT STOP (FIXED TYPE)



FRONT STOP (MOVEABLE)



DSP OPTICAL SAFETY GUARD

The CE regulation allows only Fast Approach Speed when applying an optical safety guard moving with the closing beam.

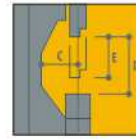
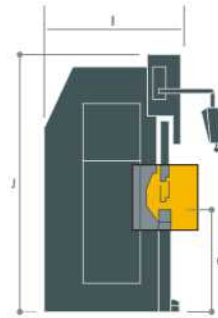
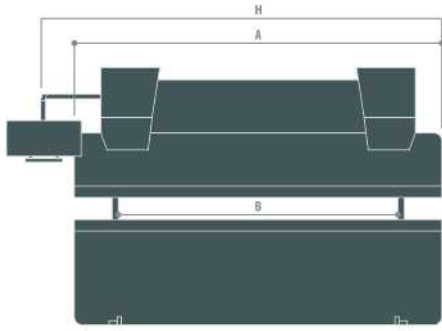
This guard is mounted to the beam and can be adjusted manually in height.

When detecting an obstacle within the protected area around the tip of the upper tooling, the system interrupts the downward movement instantaneously.

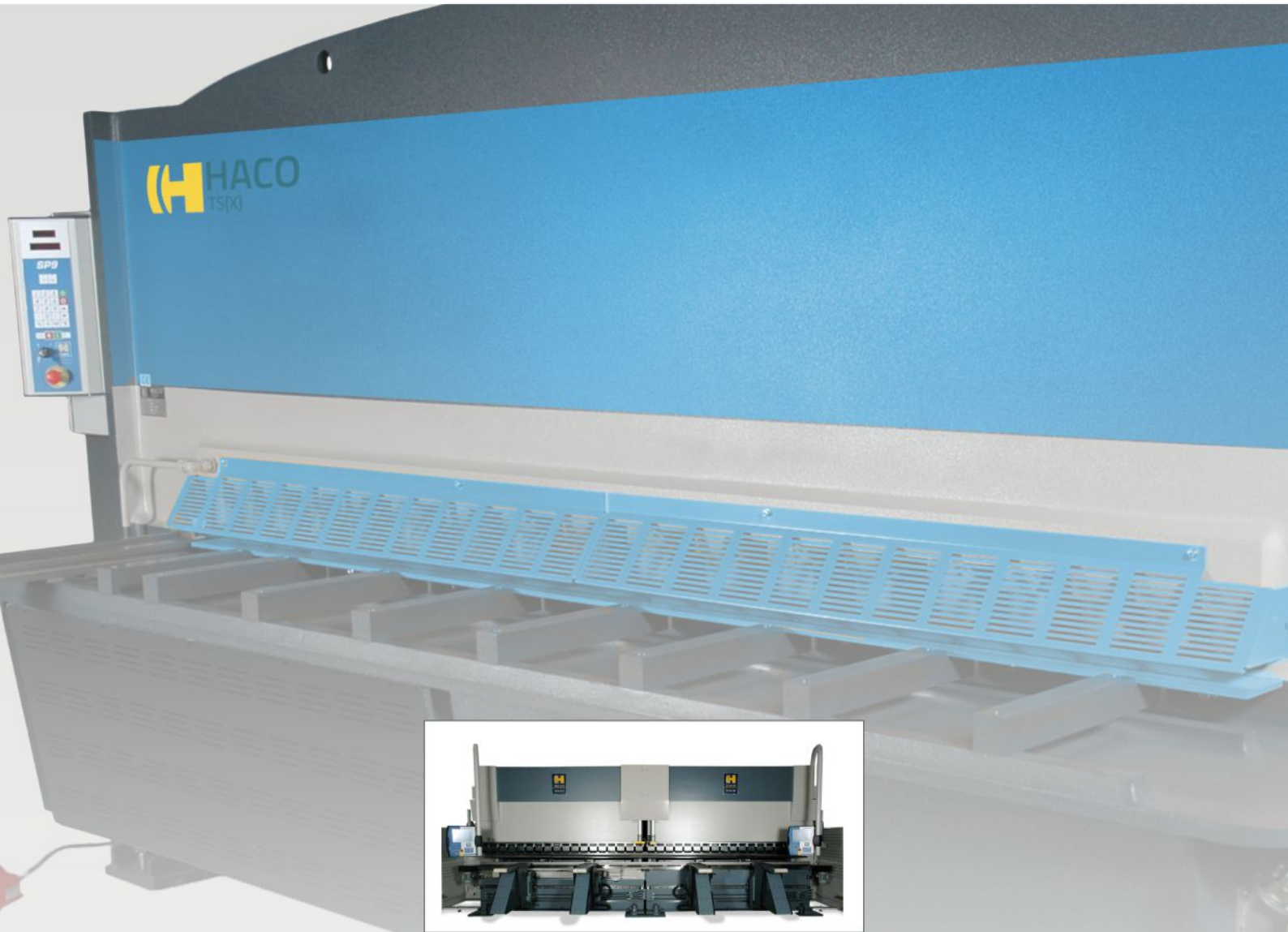


SynchroMaster Series

Technical Specifications



TYPE	WORKING LENGTH mm	CAPACITY kN	DISTANCE BETWEEN HOUSINGS mm	GAP mm	DAYLIGHT OPENING mm	STROKE mm	TABLE HEIGHT mm	FAST APPROACH SPEED mm/s	MAX. WORKING SPEED mm/s	FAST RETURN SPEED mm/s	MOTOR POWER kW	LENGTH mm	WIDTH mm	HEIGHT mm	WEIGHT kg
ERMS	A		B	C	D	E	G					H	I	J	
16040	1600	400	1100	195	295	100	840	80	10	70	4,1	2100	1450	2300	2500
20040	2100	400	1600	195	295	100	840	80	10	70	4,1	2450	1450	2300	3000
25040	2600	400	2100	195	295	100	840	80	10	70	4,1	2900	1450	2300	3500
20075	2100	750	1600	200	315	100	840	80	10	70	7,5	2450	1450	2300	4400
25075	2600	750	2100	200	315	100	840	80	10	70	7,5	2900	1450	2300	4700
30075	3100	750	2600	200	315	100	840	80	10	70	7,5	3500	1450	2300	5100
25100	2600	1000	2100	250	400	200	875	100	10	80	11	2900	1700	2500	6900
30100	3100	1000	2600	250	400	200	875	100	10	80	11	3500	1700	2500	7400
36100	3600	1000	3150	250	400	200	875	100	10	80	11	4100	1700	2500	8200
40100	4100	1000	3150	250	400	200	915	100	10	80	11	4400	1700	2500	9100
43100	4300	1000	3750	250	400	200	915	100	10	80	11	4700	1700	2850	10600
25135	2600	1350	2100	250	400	200	915	100	10	80	15	2900	1700	2500	7400
30135	3100	1350	2600	250	400	200	915	100	10	80	15	3500	1700	2500	7800
36135	3600	1350	3150	250	400	200	915	100	10	80	15	4200	1700	2500	8800
40135	4100	1350	3150	250	400	200	915	100	10	80	15	4400	1700	2500	9800
43135	4300	1350	3750	250	400	200	1010	100	10	80	15	4700	1700	2850	10800
25150	2600	1500	2100	250	400	200	915	100	10	80	15	2900	1700	2500	7700
30150	3100	1500	2600	250	400	200	915	100	10	80	15	3500	1700	2500	8200
36150	3600	1500	3150	250	400	200	915	100	10	80	15	4100	1700	2500	9300
40150	4100	1500	3150	250	400	200	915	100	10	80	15	4400	1700	2500	10400
43150	4300	1500	3750	250	400	200	1010	100	10	80	15	4700	1700	2850	12900
25175	2600	1750	2100	300	450	200	890	100	8	100	15	2820	1750	2665	8500
30175	3100	1750	2600	300	450	200	965	100	8	100	15	3320	1750	2750	10000
36175	3600	1750	3150	300	450	200	965	100	8	100	15	3880	1750	2750	12300
40175	4100	1750	3150	300	450	200	965	100	8	100	15	4320	1750	2800	14200
43175	4300	1750	3750	300	450	200	965	100	8	100	15	4520	1750	2900	16400
25220	2600	2200	2100	300	450	200	965	100	8	100	18,7	2820	2000	2750	11200
30220	3100	2200	2600	300	450	200	965	100	8	100	18,7	3320	2000	2750	11600
36220	3600	2200	3150	300	450	200	965	100	8	100	18,7	3880	2000	2800	14500
40220	4100	2200	3150	300	450	200	965	100	8	100	18,7	4320	2000	2800	15400
43220	4300	2200	3750	300	450	200	965	100	9	100	18,7	4520	2000	2900	17200
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36250	3600	2500	3150	300	450	200	965	100	8	90	18,7	3880	2050	2800	16000
40250	4100	2500	3150	300	450	200	890	100	8	90	18,7	4320	2050	2800	16900
43250	4300	2500	3750	300	450	200	890	100	8	90	18,7	4520	2050	3000	18700
50250	5000	2500	4050	300	450	200	940	100	8	90	18,7	5700	2050	3250	24300
60250	6000	2500	5050	300	450	200	1090	80	8	45	18,7	6700	2050	3700	31000
30320	3100	3200	2600	330	500	250	890	80	8	100	22,5	3320	2050	3000	17500
36320	3600	3200	3150	330	500	250	890	80	8	100	22,5	3880	2050	3100	20000
40320	4100	3200	3150	330	500	250	890	80	8	100	22,5	4320	2050	3200	21500
43320	4300	3200	3750	330	500	250	890	80	8	100	22,5	4520	2050	3200	23500
50320	5000	3200	4050	330	500	250	940	80	8	100	22,5	5500	1980	3300	28000
60320	6000	3200	5050	330	500	250	1090	80	8	100	22,5	6500	1980	3700	33000
30400	3100	4000	2600	330	550	300	1025	90	7	60	37,5	3550	2150	3860	23000
40400	4100	4000	3150	330	550	300	1045	90	7	60	37,5	4500	2150	3860	34000



High Capacity HDSY



Shearing



Multi Iron Worker

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