



SWEBEND

PRECISION BENDING, SIMPLIFIED

STRAIGHTENING

[& FORMING MACHINES]

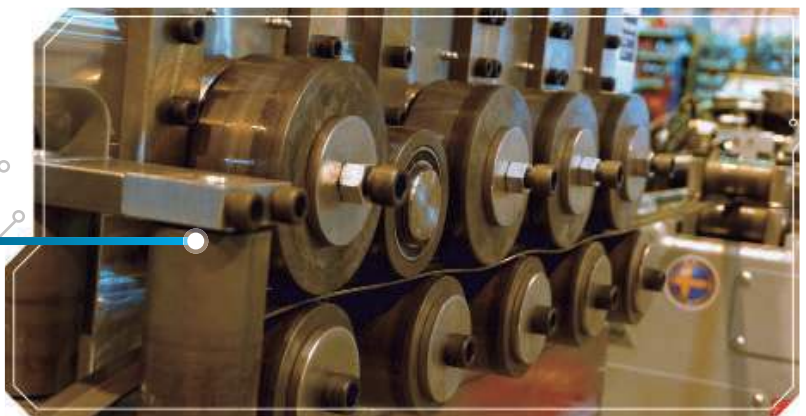
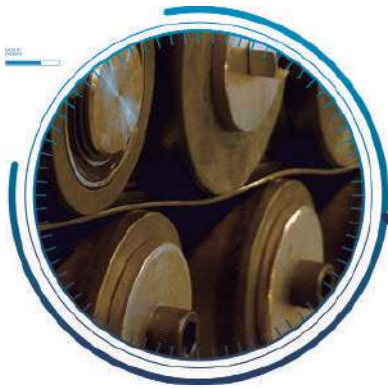
WWW.SWEBEND.COM

As the fourth industrial revolution is upgrading the industry, we set out on a mission to equip our clients to take full advantage of this boost in production quality and efficiency. Faster production with tighter tolerances and better precision technology is only achievable if the material inserted into the machine is straight and level and precisely prepared for the processing that follows. Through our CNC control equipped with advanced measuring possibilities, cameras to see and connectivity to communicate, we introduce you to the most precise, effective and technologically superior straightening machines on the market. Our machines are ALWAYS tailored to our clients' exact requirements, so tell us if there is a function or feature that you'd like us to incorporate!

Peter Nilsson, Technical Director & CEO

WHY LEVEL A SEEMINGLY **LEVELED** PLATE?

A leveled plate is necessary for any type of metal processing, whether if it is laser/plasma/flame cutting, pressing, shearing or bending. The most common problem with sheet metal is non-planarity and variation in thickness. Disregarding these problems usually causes delays and costly re-work. Our CNC control executes based on your input data and uses fine-tuned algorithms which are constantly learning from previous results. If the processes before or after should encounter a delay, the CNC control automatically adjusts the speed of leveling together with the input and output rolls to accommodate for this delay and keep your production running smoothly.



HOW IT WORKS?

1. Automatic material transporters (optional) bring forth the material to be leveled. The pinching rolls creates a friction to move the material (especially necessary if the plate is thin)
2. The leveling begins with the first top roll bending the plate beyond the yield point (to achieve plastic deformation in the material)
3. To increase the flatness of the plate the following straightening rolls are positioned incrementally to have less deformation after every pass.
4. A re-run might be required depending on the number of straightening rolls and the required tolerance for the leveling. The straightening process requires fewer passes if the machine is equipped with more rolls (down to only a single pass).

THE POWER OF SWEBEND

SweBend's machines are all developed with Swedish engineering, built to Swedish manufacturing standards and primed through years of success building superior quality machines.

[ADVANTAGES OF SWEBEND PLATE STRAIGHTENERS]

- **Built for YOU!** Eliminates ALL curvature and corrugation within your determined time requirement.
- **Versatile!** Crowned rolls or Supported rolls or both - adjusted to meet your demands, budget and maximize your ROI.
- **Heavily proportioned stress-relieved main frame and components.** This helps increase stiffness and reduce flexing of the machine, insuring optimal leveling results
- **Stronger.** More drive torque than any comparably sized machine.
- **SKF Bearings.** Only genuine SKF bearings used throughout the machine.
- **Superior Quality Steel.** World famous German steel used for all roll tooling.
- **Safe.** Multiple safety systems available to keep operator and operations safe and secure.

CAN YOUR MACHINE HANDLE MY PLATE DIMENSIONS?

ANSWER

YES

We virtually have no limits for the machines we design and build

Width: Plates normally have a width range up to 4.2m (165")

Ask us for wider plates!

Thickness: Our machines normally handle thicknesses up to 100mm (4")

Ask us for thicker plates!



[SPECIAL REQUIREMENTS]

With our standard range of models as a foundation, we design and produce custom-built and adapted machines for specific customer needs. This can mean producing a machine with a unique roll diameter, special roll length or even a customized shape of the rolls. Request help with integrating the machine in your product line, demand special features and ask for what you think is impossible; we'll gladly prove you wrong!

MADE IN SWEDEN BECAUSE QUALITY MATTERS

Made in Sweden means a machine that guarantees the highest quality in all details resulting in longer lifetime, less maintenance and repairs, higher output, better production quality and an unmatched return-on-investment!



CHOOSING THE SIZE, ROLLS AND FUNCTIONS

Dimensioning the plate straightener ultimately comes down to defining the material to be leveled and how it may vary over time. Depending on how straight the input material is together with your acceptable processing time will determine if the machine should have 5, 7 or 9 rolls. The straightening rolls (top rolls) are all fully adjustable at both ends. The more rolls in the machine, the fewer passes are necessary to reach the desired flatness. The thickness of the plate will determine the potential crowning or support of the straightening rolls. The roll crowning has a function of resisting the forces from the plate. Using support rolls instead of crowning the straightening rolls will increase the versatility of the machine as the supported rolls now can withstand stronger forces from thicker plates. Even the support rolls can be adjustable - for true versatility. *Ask us or your closest reseller to make an assessment for you!*

TILTED ROLLS

VERSATILE FLATTENING THROUGH ACCURACY

Tilt the rolls to compensate for input material of low quality (straightness and thickness). Our roll positioning technique is the finest in the industry with an accuracy of 1/10mm. (0.004")

FRAME

DIMENSIONED FOR POWER, DIMENSIONED FOR SUCCESS

The frames and components are heavily proportioned and stress-relieved. This helps increase stiffness and reduce flexing of the machine, ensuring optimal leveling results.

PRE-SET PINCHING PRESSURE

To compensate for thickness variation in the plate, our hydraulic "floating" control of the rolls keeps the pinching pressure constant, which will ensure movement of the plate through the straightening process.



SPEED

OPTIMAL INTEGRATION INTO YOUR PRODUCTION

Forget high torque on low speed and low torque on high speed. **Experience full torque throughout the entire speed range** for full compatibility with your other machines. Standard operating speed is between 0-7m/minute (0-23 feet/minute) but through our unmatched expertise we can tailor any function of our machines: *Ask us for higher speeds!*

SUPPORT



MAINTENANCE

SWEBEND SUPPORT, ONLY ONE CLICK AWAY

SweBend machines are built for easy maintenance yet equipped with online support - diagnostics and problem solving are only one click away!

BEARINGS FROM SKF

Perfect float-ability with single spherical bearings (*NEVER double, ask us why*) from SKF, the world's best bearing company. *We guarantee that no bronze bushings are ever used for our roll journals, unlike many other brands!*

DRIVE

TORQUE THROUGHOUT THE ENTIRE SPEED RANGE

We guarantee higher torque compared to any similarly sized machine. The electric and hydraulic motors are sized to match the capacity of the machine with extra margin, which results in smoother operation.

THE SEVEN CNC SYSTEM



Built for the Fourth Industrial Revolution, promoting interconnectivity between machines allowing machines talk to each other. **The SEVEN CNC system** is built to receive, adjust to and send data from other machines and systems. This allows for powerful integration of new features, measurement systems and processes.

[DYNAMIC ADJUST]

Adjust for varying plate thickness, and for slower or faster production in the processes before and after the machine with Dynamic Adjust. Each independently hydraulically driven roll is adjusted by the CNC system to avoid rolls spinning or braking on the material, damaging both material and rolls.

POSSIBLE DATA OUTPUT & MEASUREMENTS

Integrate precise controls and data output for the operator to have full control of the machine.
See some of the possibilities below.

MATERIAL DATA

- Location in Machine (Laser)
- Location in Machine (Camera)

BOTTOM ROLLS DATA

- Rotation Speed
- Roll Load Forces from Material
- Flex/Curvature of Roll

STRAIGHTENING ROLLS DATA

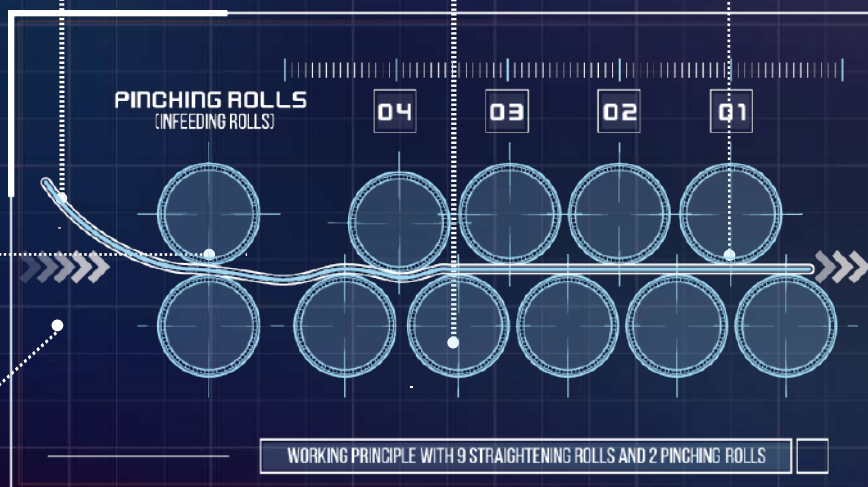
- Position Data (Both Ends)
- Rotation Speed
- Roll Load Forces from Material
- Roll Load Forces from Support Roll
- Flex/Curvature of Roll

PINCHING ROLL

- Pinch Pressure
- Position (Both Ends)
- Rotational Speed

FEED ROLLS DATA

- Rotation Speed



EXTRA EQUIPMENT

Expand and integrate almost anything into the control of the machine with the **SEVEN CNC system.**

Start operations as another machine delivers the plate, control the flatness and position of the plate with lasers, secure a perimeter around the machine with cameras and export all process data to machines that are next in the production line.

Ask us for more features and remember - if you can dream it, we can build it!

LASERS

Measure the position of the material, the speed through the machine as well as the flatness in the end. All data can then be analyzed, processed and sent to other machines.

LIVE FEED CAMERAS

With live feed cameras, nothing slips by the operator. See inside and around the machine and set up security perimeters that cut the machine power if an unsafe condition is detected.

STATUS LIGHTS

Determine the position of the material by turning on a status light as the laser detects the material.



YOUR EQUIPMENT?

There's nothing as valuable as being able to build upon one's already existing equipment and devices.

The SEVEN CNC can talk to almost any other control system or device on the market.

Tell us about what you'd like to integrate!

STANDARD RANGE CAPACITY

Based on our standard machines, we produce customized machines to meet your specific requirements. Consider any model to be adjustable to your request.

SweBend - Customized for you

Capacity Sheet HSM Machines

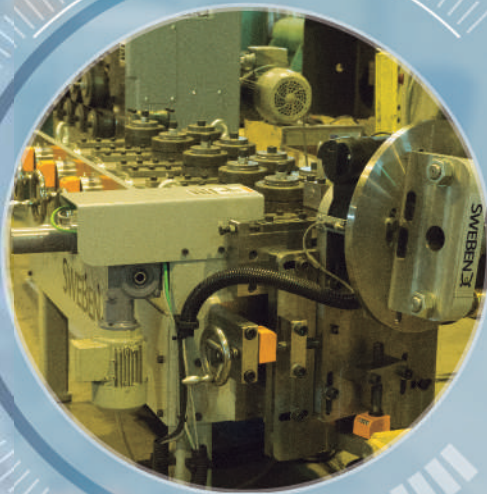
Machine Type	Max Plate Width mm	Max Thickness @ max Width (mm)		Roll Ø (mm)		Connected Power (kW)		
		260 MPa	360 MPa	Straightening	Pinching	5 roll version	7 roll version	9 roll version
X = 5,7 or 9 rolls								
HSM-X-4-2	500	6	4	102	102	1,5	2,2	3
HSM-X-4-3	1000	3	2	102	102	1,5	2,2	3
HSM-X-4-4	1250	2	1,5	102	102	1,5	2,2	3
HSM-X-5-2	500	12	9	127	127	2,2	3	4
HSM-X-5-3	1000	7,5	6	127	127	2,2	3	4
HSM-X-5-4	1225	6	4,5	127	127	2,2	3	4
HSM-X-5-5	1525	4,5	3,5	127	127	2,2	3	4
HSM-X-6-2	500	18	13	152	127	4	5,5	7,5
HSM-X-6-3	1000	10	7	152	127	4	5,5	7,5
HSM-X-6-4	1225	8	6	152	127	4	5,5	7,5
HSM-X-6-5	1525	7	5	152	127	4	5,5	7,5
HSM-X-6-6	2000	5	3,5	152	127	4	5,5	7,5
HSM-X-8-2	500	25	20	203	152	5,5	7,5	11
HSM-X-8-3	1000	14	11	203	152	5,5	7,5	11
HSM-X-8-4	1225	12	9	203	152	5,5	7,5	11
HSM-X-8-5	1525	10	7	203	152	5,5	7,5	11
HSM-X-8-6	2000	8	6	203	152	5,5	7,5	11
HSM-X-8-8	2500	6	4,5	203	152	5,5	7,5	11
HSM-X-10-3	1000	25	20	254	178	11	15	18,5
HSM-X-10-4	1225	22	16	254	178	11	15	18,5
HSM-X-10-5	1525	18	13	254	178	11	15	18,5
HSM-X-10-6	2000	14	11	254	178	11	15	18,5
HSM-X-10-8	2500	12	9	254	178	11	15	18,5
HSM-X-10-10	3050	10	7	254	178	11	15	18,5
HSM-X-12-3	1000	33	25	305	203	18,5	22	30
HSM-X-12-4	1225	28	21	305	203	18,5	22	30
HSM-X-12-5	1525	23	17	305	203	18,5	22	30
HSM-X-12-6	2000	18	14	305	203	18,5	22	30
HSM-X-12-8	2500	16	13	305	203	18,5	22	30
HSM-X-12-10	3050	12	9	305	203	18,5	22	30
HSM-X-12-12	3660	10	7	305	203	18,5	22	30
HSM-5-14-4	1225	40	31	356	227	30	37	45
HSM-5-14-5	1525	33	25	356	227	30	37	45
HSM-5-14-6	2000	27	20	356	227	30	37	45
HSM-5-14-8	2500	21	16	356	227	30	37	45
HSM-5-14-10	3050	18	14	356	227	30	37	45
HSM-5-14-12	3660	15	11	356	227	30	37	45
HSM-5-14-14	4270	12	9	356	227	30	37	45
HSM-X-16-5	1525	50	38	406	254	45	50	55
HSM-X-16-6	2000	40	31	406	254	45	50	55
HSM-X-16-8	2500	33	25	406	254	45	50	55
HSM-X-16-10	3050	27	20	406	254	45	50	55
HSM-X-16-12	3660	23	17	406	254	45	50	55
HSM-X-16-14	4270	19	14	406	254	45	50	55
HSM-X-18-5	1525	60	48	457	254	55	60	75
HSM-X-18-6	2000	50	38	457	254	55	60	75
HSM-X-18-8	2500	40	31	457	254	55	60	75
HSM-X-18-10	3050	35	26	457	254	55	60	75
HSM-X-18-12	3660	30	22	457	254	55	60	75
HSM-X-18-14	4270	25	19	457	254	55	60	75
HSM-X-20-5	1525	71	54	508	280	75	90	100
HSM-X-20-6	2000	60	48	508	280	75	90	100
HSM-X-20-8	2500	50	38	508	280	75	90	100
HSM-X-20-10	3050	40	31	508	280	75	90	100
HSM-X-20-12	3660	35	26	508	280	75	90	100
HSM-X-20-14	4270	31	23	508	280	75	90	100
HSM-5-22-5	1525	85	70	559	305	100	110	125
HSM-5-22-6	2000	71	54	559	305	100	110	125
HSM-5-22-8	2500	60	46	559	305	100	110	125
HSM-5-22-10	3050	51	40	559	305	100	110	125
HSM-5-22-12	3660	42	32	559	305	100	110	125
HSM-5-22-14	4270	37	27	559	305	100	110	125
HSM-X-24-6	2000	100	76	610	305	120	130	145
HSM-X-24-8	2500	82	65	610	305	120	130	145
HSM-X-24-10	3050	70	54	610	305	120	130	145
HSM-X-24-12	3660	60	46	610	305	120	130	145
HSM-X-24-14	4270	53	41	610	305	120	130	145

TAILORED FORMING

The SEVEN CNC system gives you endless possibilities to expand and integrate almost anything into the control sphere of the machine. We specialize in providing integrated solutions to optimize our client's processes. As with everything we design and develop, YOU are the final voice. Propose and request any desired feature
- we will happily develop it for you!

FROM DECOILER TO FINISHED COMPONENT

Working with a world-famous lawn mower producer, we designed and built a complete system producing precisely bent and curved blades. Coming off a coil, the material is first straightened vertically and then horizontally. The material is then precisely curved and twisted and cut to the correct length,
all controlled by the CNC.



"The design restriction most often boils down to what our clients are able to envision. When it comes down to bending, straightening and forming - there's almost nothing that we're not able to design, develop and build"

PONTUS HANSSON
LEAD MECHANICAL DESIGN

STRAIGHT, BEND & CUT

We produced a multi-dimensional straightening machine accompanied by a bending and cutting system. This type of multi-function machine substantially decreases the time and improves the accuracy of production. This combination prepares material from a coil to a ring, ready for welding and continued downstream processing.



PRECISION	TUNED TO CLIENT NEEDS.	SPEED	INFINITELY VARIABLE UP TO SPEED REQUESTED BY CLIENT
POWER	ACCORDINGLY, YET ALWAYS STRONGER THAN SIMILARLY DIMENSIONED COMPETITOR'S MACHINES		

ABOUT SWEBEND

The story of SweBend originates with Roundo®, once considered the world's best bending machine manufacturer, with clients such as Rolls-Royce, John Deere, Toyota, Volvo and over 16,000 machines delivered all over the world. When the founder passed away, Peter Nilsson, whom he had mentored for almost 30 years, was appointed as his successor. Following a change of ownership at the company and the ensuing bankruptcy and closing of the Roundo factory in Sweden, Peter decided to work on a new venture, and joined by Roundo's best, brightest and most experienced team members, they combined their bending machine expertise – **and SweBend was born.**

Now, our sophisticated yet user-friendly machines supply the world's leading bending companies such as Barnshaws, Danvals, Den Oudsten, Kersten Europe, Sjölund, Van Rijsoort, etc. with precise bending results which are produced effortlessly yet efficiently. Through innovation, profound quality thinking and unmatched engineering expertise, we take great pride in building machines that have the market's highest return on investment, a reason why so many loyal clients **keep coming back to us to solve their toughest bending problems.**

By breaking down our clients' bending challenges and then explaining to our customers the fundamental theory behind it, we produce modern, powerful and specifically purposed bending machines. The sophisticated functionality of our machines is easily mastered by our clients as they **get assisted in becoming expert benders.**

Located in Sweden, with renowned Swedish quality and a client-focused mindset, our passion for developing superior bending machines has been recognized by clients all over the world. Through our vast knowledge of bending increasingly challenging materials, we continuously update our machines' technology with more sensors, better controls and improved software functionality. Ask us about our renowned CNC system "SEVEN"; we can update old and even analog machines.

Our clients value long term quality investments and choose the path of innovation, unmatched expertise and a powerful worldwide support network consisting of an increasing list of trusted resellers.

We look forward to working with you. Ask us about our Section-, Plate- and Tube bending rolls, CNC systems, Flighting, Augers and Spiraling machines, Special rolls, tooling **and more!**



SWEBEND

SWEBEND

LONG TERM RESELLERS

We continuously expand our network of resellers
Ask us for a reseller close to You!



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 North America & Mexico
www.trilogymachinery.com
inquiry@trilogymachinery.com



WATER JET SWEDEN,
 United Kingdom
www.waterjetsweden.co.uk
info@wjsuk.com



PETRONIC S.R.O.
 Czech Republic
www.petronic.cz
petronic@petronic.cz



WATER JET SWEDEN, PACIFIC
 China
www.wjs-pacific.cn
info@wjs-pacific.cn



POL-SVER
 Poland
www.polsver.pl
polsver@polsver.pl



I.P. MASKINER AS,
 Denmark
www.ip-maskiner.dk
info@ipmaskiner.dk



WJS MACHINE TOOLS
 United Kingdom
www.wjsuk.com
info@wjsuk.com



ERLANDSSON & HJORT
 Sweden
www.erlandsson-hjorth.se
info@erlandsson-hjorth.se



VENEMA BIEGETEC GMBH
 Germany
www.venema-biegetec.com
info@venema-biegetec.com



J VENEMA BV
 Belgium, Holland, Luxembourg
www.venemabv.com
j.venema@venema-bv.com



MEIDELL
 Norway
www.meidell.no
post@meidell.no



POWER MACHINERY
 Australia
www.powermachinery.com.au
info@powermachinery.com.au



METECH ENTERPRISE CO
 Taiwan
www.metech-web.com.tw
info@metech-web.com.tw



OY GRÖNBLOM AB
 Finland
www.gronblom.fi
gronblom@gronblom.fi



HILLI MASKIN
 Sweden
www.hilli.se
mail@hilli.se



TER THAI COMPANY LIMITED
 Thailand
www.terthai.com
httc168@yahoo.com.tw



TECTOOL
 Brazil
www.tectool.com.br
tectool@tectool.com.br



PYTEX
 LLC RUTEKH
 Russia
info@rutekh.ru



MP PLUS
 France
www.mpplus.fr
info@mpplus.fr



SWEBEND

THE STRONGEST, MOST SOPHISTICATED AND
[MOST RELIABLE BENDING MACHINES ON THE MARKET]
WORLDWIDE



You
Tube



LOCAL RESELLER

