

Bending and Edging Machine Model BM



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Detail of BM 306A, bending of rectangular channel



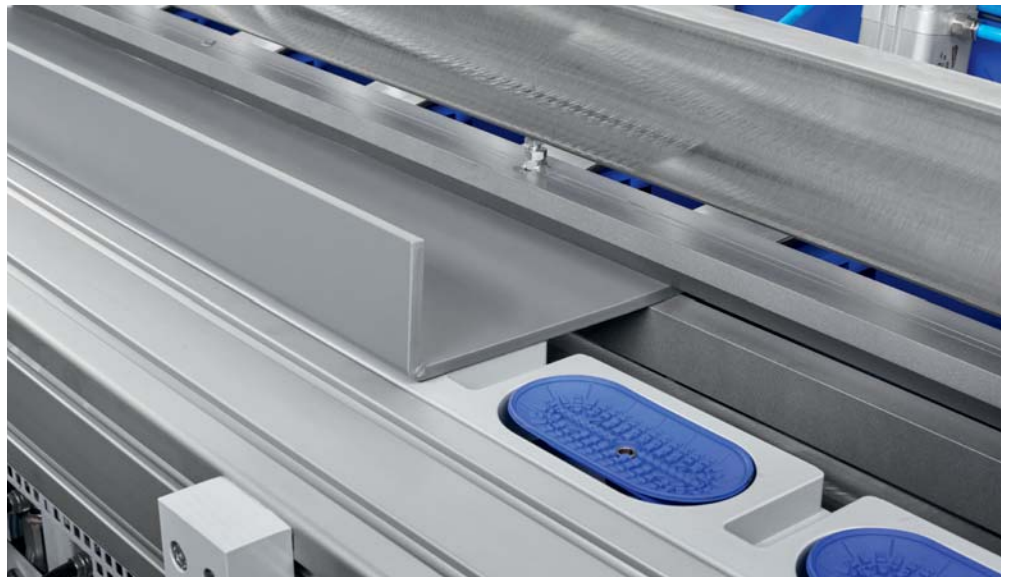
BM 306A

Like all of our machines, the latest configuration level of our BM series of machines is based on a sturdy welded construction. All of the machine's components are matched to the relevant load case to ensure a top quality welding by bending using a heated tool process, also called bending and edging process.

The high quality standard of **WEGENER** machines is your guarantee for maximum precision, reliability and longevity. The BM 306A bending machine is a fully automated unit offering maximum ease of operation, a revolutionary user concept with graphic support for the operator to guide them through the operation of the fully-automated machine in a self-explanatory way. This type of machine is offered in a standard working length of 3 metres. The modular design of the BM machines permits not only a standard configuration but also customised solutions and special lengths.

The **BM 306A bending and edging machine** works fully-automatically with panels between 3 and 30 mm thickness. The bending line correction as well as the linear correction needed for the fully automated production of channels are set at the control terminal, as are the bending angle and relevant gap between the bending lines. The material is transported by an electric motor so

that the machine, if programmed accordingly, automatically produces a channel with up to 12 bends after the material has been inserted. Even the basic model of the BM 306A bending and edging machine has a modern and innovative Siemens control system from the S7 1500 series with a 10" industrial touch screen as a user interface and the latest generation of valve cluster technology. The 10" industrial touch screen offers great luminance, outstanding colours and a high brilliancy, thus making it unbelievably easy to read and operate. The control system allows the free definition of specific customer bending parameters. The basic model also comes with the patented hydro-pneumatic bending beam drive that moves the bending beam uniformly, even with altered bending loads. Another new feature is the clamping beam that can be unlocked on one side to greatly facilitate the removal of the closed channels from the machine. An optional automated and integral milling fixture is available for the BM 306A automatic bending machine. The milling process is fully integrated in the overall process in this version. The milling process reduces both the bending cycle time and the heat introduced into the panel to be bent, thus minimising the distortion or torsion of the bent parts.



Detail of BM 306A, bending in process

Technical Data	BM 306A
Machine length (mm):	4,300
Machine width (mm):	2,000
Machine height (mm):	1,650
Approx. total weight (kg):	2,500
Max. working width (mm):	3,050
Panel thickness (mm):	3 to 30
Min. bending angle:	5°
Max. bending angle:	95°
Min. channel cross section: if operated with clamping beam:	Inside dimension 175 x 175 mm (assumes a square channel with four sides of equal length whose open end is closed by means of a downstream 90° weld). Inside dimension 350 x 350 mm (when bending for welding outside the 4th edge, e.g. butt welds on a WEGENER butt welding machine). The min. channel cross-sections of the butt welding machine also have to be taken into account.
Min. channel cross-section when using the vacuum clamping system option and residual clamping length reduction:	Inside dimension: 85 x 85 mm (remaining clamping length)
Min. remaining clamping length:	175 mm (= remaining clamping length needed to clamp the panels in the machine; standard design) 85 mm with the vacuum clamping system option and residual clamping length reduction
Clamping force (at 8 bars in N):	7,250
Clamping areas:	1
Energy supply:	230/400 V 3/N/PE 50-60 Hz
Elec. output (kW):	7.5
Compressed air connection (bar):	8.0
Heated tool, top Teflon-coated, Tmax=260 °C (W x H in mm):	40 x 45, 86°
Heated tool, bottom Teflon-coated Tmax=260 °C (W x H in mm):	20 x 40, blunt

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Control engineering

Siemens control system from the S7-1500 series with 12" industrial touch screen with plaintext display and valve island technology

Features

- Microprocessor control and motor feed, for fully automated bending, including:
 - electronic angle adjustment
 - electronic bending line input
 - electronic bending line correction
 - Programming several bends (max. 4 with unequal leg lengths between the bends and up to 12 for bends with equal legs)
 - motorised panel transport
- Heating and bending times controlled by the PLC
- Patented hydro-pneumatic bending beam drive that moves the bending beam uniformly, even with altered bending loads.
- Clamping beam that can be unlocked on one side for the easier removal of the closed channels and geometries
- Upper heated tool v-shaped with optimised flank angle to produce 90° bends in PE-HD and PP
- Lower heated tool in flat design to heat up the rear of the panel or board
- Adjustable fusion depth for upper heated tool
- Holding bar with clamping disks to clamp the panels or boards
- Infinitely variable, adjustment of the angle from 5° to 95°

Options

- Vacuum clamping device (max. material thickness 10 mm) for the smallest of bending legs
- Remaining clamping length reduction (reduces the remaining clamping length to 85 mm; only available in connection with vacuum clamping device)
- Milling fixture, automatic and integrated in the overall process, to shorten the pre-heat cycles (requires slight modification of the minimum channel cross-sections and leg lengths)
- Mobile shavings exhaustor for the milling fixture, air swept volume: 430m³/h, dust bin: 50 litres
- Arrestor small version mounted on clamping beam, as a support for small and medium sized products in steps of 165 mm, 365 mm and 665 mm supporting
- Arrestor full size version mounted at machine frame; arrestor stepless height adjustable within setting range of 500 mm up to approx. 1.500 mm; suitable for medium sized and full-sized products
- Signal horn (acoustical signal at the end or the bending process)
- Extension arms for bending flange (optimized support of medium sized or full-sized products during bending 5 pcs.)
- Contact heated tool 20 x 40 mm, flat, to process PVC, PC, ABS, PMMA
- Contact heated tool, v-shaped to produce bending angles ≠ 90° e.g. 45° or 60°
- Carrying beam for upper or/and lower heating element BM 306A (We recommend to have a carrying beam for each heating element used to allow an easy installation and/or exchange)
- Software modification, for leg lengths > 1m
- Special energy supply
- Special paintwork if the RAL colour is specified



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