HAEUSLER

the forming factory

Section Bending Machines

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1950
Construction of the first Section Bending Machine

1997
Construction of the biggest
Section Bending Machine BB13.7

"Machine construction is our profession – using inventive talent and passion."

We at HAEUSLER

HAEUSLER is one of the world's leading companies in the field of metal forming. With 70 years of experience we have always been and still are pioneers in developing innovative bending machines. What once started as a small locksmith's shop in 1936 is now a successful, future-oriented family business in the field of metal bending, forming and general assembly technologies. Our goal is to provide our customers with first class one-off machines, innovative custom solutions and entire highly efficient production lines. All designed and manufactured at HAEUSLER.

Know-how of HAEUSLER

The current lines of HAEUSLER Section Bending Machines are the result of over 60 years of experience. Their design has been strongly influenced by customer feedback as well as our constant effort to improve our products.

Section Bending at HAEUSLER offers 6 product lines:

- Section Bending Machines Type HPR, with bending capacities of up to 1 700 cm^3 using symmetrical or asymmetrical bending roll setups, these are universally usable machines for almost every kind of section bending work.
- 4-rolls Section Bending Machines Type VPR: their 4-rolls-setup allows to constantly pinch the workpiece between the middle rolls, thus allowing for very good torque transmission, a high level of automation as well as advantages when bending special sections.
- Beam Bending Machines Type BB allow the bending of the biggest commercially available beams over their x-x- and y-y-axes as well as tubes and flat bars with a bending capacity of up to 14 000 cm^3. Special designs allow section bending of materials with even bigger yield strength.
- Equipped with an adjustable geometry the Section Bending Machines Type PRV offer an especially broad bending range and are therefore often used for special applications.
- Tube Bending Machines Type RBM bend tubes to almost any type of coiled geometries and are highly customized to meet the customers' requirements.
- For special bending applications HAEUSLER offers different unique solutions beyond standard machines so that almost any physically possible bending problem can be solved.

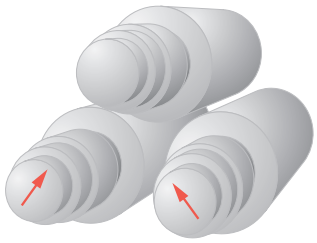
2002
Construction of the first HPR 7 000

The universal Section Bending Machine Type HPR

The range of standard design HAEUSLER HPR universal Section Bending Machines covers a bending capacity from 50 to 1700 cm³ section modulus for all commercially available section types like U-, I-, T-, L-, flat and round sections as well as tubes. Additionally a big variety of special sections can be processed by this machine type.

Our standard HPR machines are equipped with a set of universal bending rolls. Optionally special bending rolls and auxiliary equipment can be adapted to meet specific bending requirements. The symmetrical/asymmetrical arrangement of the bending rolls allows for optimal conditions during bending, profiling or flanging.

Machine concept of the HAEUSLER HPR



Range of performance

Section modulus
50 to 1700 cm³

Other values on request

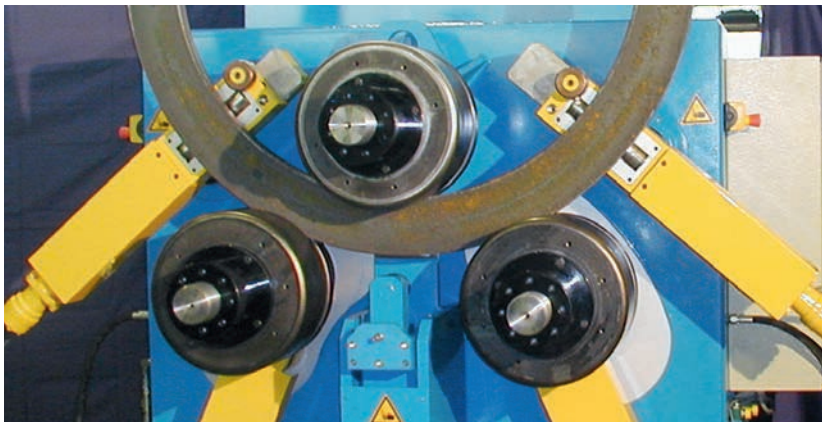
Advantages

- Each of the 3 bending rolls is directly powered by a hydraulic motor and is equipped with a maintenance-free planetary transmission gear with automated speed compensation.
- Hydraulic positioning of the bending rolls.
- Hydraulic positioning of the pressure roll supports in all three directions (Settings controlled from control panel).
- Machines sizes of up to a section modulus of 330 cm³ can be mounted vertically and horizontally .
- The generously dimensioned bending rolls run on automatically lubricated spherical roller bearings.
- Using optional equipment, production of multi-starter tube coils, one step profiling, bending of half-pipes and production of complex sections from strip or coil can be realized.

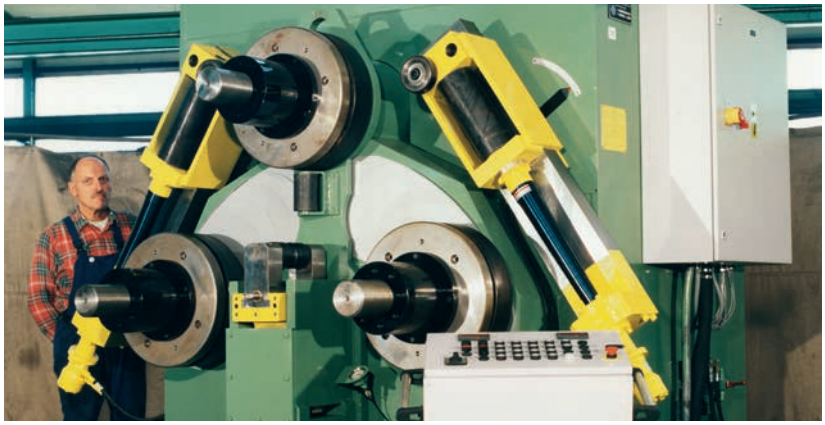
HPR machine sizes

For bending U-, I-, T-, L-, flat and round sections, tubes and special sections

Section Bending Machine HPR 150



Section Bending Machine HPR 330



Section Bending Machine HPR 7 000

Special construction for bending of beams up to a section modulus of 8 000 cm^3

Capacity Chart

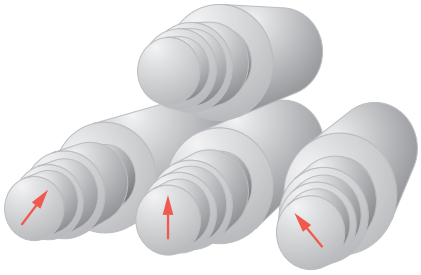
Section	HPR 65 max. dimensions	HPR 150 max. dimensions	HPR 330 max. dimensions	HPR 700 max. dimensions	HPR 1100 max. dimensions	Tools	HPR 1700 max. dimensions	Tools
	120 x 120 x 12 Ø 1 200	150 x 150 x 16 Ø 1 500	160 x 160 x 19 Ø 1 800	200 x 200 x 28 Ø 2 000	200 x 200 x 28 Ø 1 800	1	200 x 200 x 28 Ø 1 800	5
	110 x 110 x 12 Ø 1 400	140 x 140 x 15 Ø 1 800	160 x 160 x 19 Ø 2 000	200 x 200 x 28 Ø 3 000	200 x 200 x 28 Ø 2 300	1	200 x 200 x 28 Ø 2 300	5
	120 x 120 x 12 Ø 1 200	150 x 150 x 16 Ø 1 500	160 x 160 x 19 Ø 1 400	200 x 200 x 28 Ø 1 800	200 x 200 x 28 Ø 1 600	1	200 x 200 x 28 Ø 1 600	5
	110 x 110 x 12 Ø 1 400	140 x 140 x 15 Ø 1 800	160 x 160 x 19 Ø 1 800	200 x 200 x 28 Ø 2 700	200 x 200 x 28 Ø 2 300	1	200 x 200 x 28 Ø 2 300	5
	120 x 25 Ø 1 200	160 x 30 Ø 1 500	200 x 30 Ø 1 500	250 x 60 Ø 3 000	300 x 60 Ø 3 500	1	300 x 80 Ø 3 000	1
	70 x 70 Ø 1 000	90 x 90 Ø 1 500	110 x 110 Ø 1 500	150 x 150 Ø 2 500	180 x 180 Ø 3 000	1	200 x 200 Ø 2 500	1
	max. Ø 80 mm Ø 1 000	max. Ø 100 mm Ø 1 200	Ø 125 mm Ø 1 200	Ø 180 mm Ø 2 500	Ø 200 mm Ø 2 500	1	Ø 230 mm Ø 3 000	1
	120 x 60 x 6	120 x 120 x 8	180 x 180 x 10	240 x 240 x 13	260 x 260 x 13	1	300 x 300 x 13	1
	UPN 120 Ø 4 000	UPN 160 Ø 8 000	UPN 200 Ø 10 000	UPN 300 Ø 15 000	UPN 350 Ø 18 000	1 + 2	UPN 400 Ø 25 000	1 + 2
	IPN 120 Ø 2 600	IPN 160 Ø 4 000	IPN 200 Ø 5 000	IPN 300 Ø 10 000	IPN 340 Ø 10 000	1 + 2	IPN 400 Ø 13 000	1 + 2
	IPE 120 Ø 2 600	IPE 160 Ø 5 000	IPE 200 Ø 6 000	IPE 300 Ø 12 000	IPN 330 Ø 14 000	1 + 2	IPN 400 Ø 17 000	1 + 2
		HEA 120 Ø 4 000	HEA 180 Ø 5 500	HEA 240 Ø 12 000	HEA 260 Ø 13 000	1 + 2	HEA 320 Ø 16 000	1 + 2
		HEB 120 Ø 3 500	HEB 160 Ø 4 000	HEB 200 Ø 6 000	HEB 240 Ø 7 500	1 + 2	HEB 300 Ø 10 000	1 + 2
			HEM 120 Ø 3 000	HEM 160 Ø 4 000	HEM 200 Ø 4 500	1 + 2	HEM 220 Ø 5 000	1 + 2
	230 x 30 Ø 1 000	280 x 40 Ø 1 000	380 x 50 Ø 1 400	450 x 70 Ø 1 500	500 x 80 Ø 1 400	1 + 3	600 x 90 Ø 2 500	1
	UPN 200 Ø 1 200	UPN 300 Ø 1 500	UPN 380 Ø 1 800	UPN 400 Ø 2 200	UPN 400 Ø 2 200	1 + 3	UPN 400 Ø 2 200	1
	UPN 200 Ø 1 000	UPN 300 Ø 1 300	UPN 380 Ø 1 650	UPN 400 Ø 1 800	UPN 400 Ø 1 800	1 + 3	UPN 400 Ø 1 800	1
	IPN 200 Ø 1 200	IPN 300 Ø 1 500	IPN 360 Ø 1 700	IPN 500 Ø 2 200	IPN 500 Ø 2 200	1 + 3	IPN 500 Ø 2 200	1
	IPE 200 Ø 1 200	IPE 300 Ø 1 800	IPE 360 Ø 2 000	IPE 500 Ø 2 400	IPN 550 Ø 2 500	1 + 3	IPN 600 Ø 2 700	1
	HEA 120 Ø 1 500	HEA 180 Ø 2 200	HEA 240 Ø 2 900	HEA 320 Ø 3 600	HEA 400 Ø 3 600	1 + 3	HEA 600 Ø 3 600	1
	HEB 100 Ø 1 200	HEB 160 Ø 1 900	HEB 200 Ø 2 400	HEB 280 Ø 3 400	HEB 320 Ø 3 600	1 + 3	HEB 500 Ø 3 600	1
		HEM 120 Ø 1 500	HEM 140 Ø 1 800	HEM 220 Ø 2 700	HEM 280 Ø 3 500	1 + 3	HEM 300 Ø 3 700	1
	OD 127 X 5.6 Ø 1 500	OD 168.3 X 7.1 Ø 3 000	OD 219.1 X 7.1 Ø 4 000	OD 298.5 X 10 Ø 8 500	OD 355.6 X 11 Ø 10 000	4	OD 406 X 12.5 Ø 12 000	4
max. section modulus	50 - 65 cm³	80 - 150 cm³	200 - 330 cm³	415 - 700 cm³	680 - 1100 cm³		1100 - 1700 cm³	
min. bending-Ø	500 mm	550 mm	600 mm	700 mm	800 mm		900 mm	

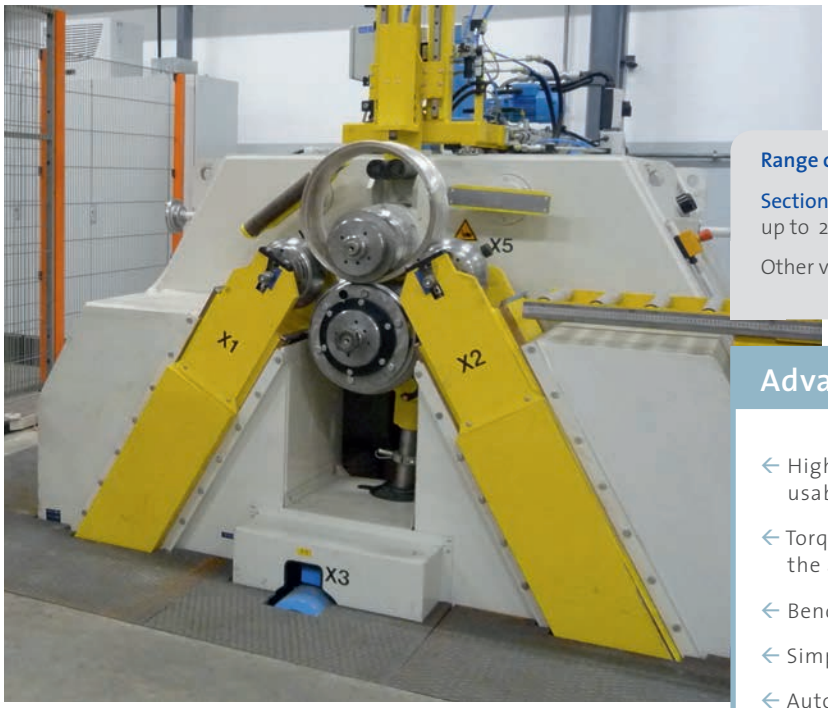
All values for regular structural steel; 1 with universal bending rolls; 2 with pulling unit; 3 with additional rings;
4 for each tube diameter one set of bending rolls; 5 with special tools

4-roll Section Bending Machine Type VPR

For customized requirements in profiling and bending HAEUSLER is a market leader in the development of custom machines. These products are developed in close cooperation with our customers. A prime example for this is the HAEUSLER VPR. These section bending machines are equipped with 4 bending rolls and allow the profiling and bending in one step (keyword: serial production).

Machine concept of the HAEUSLER VPR





Range of performance

Section modulus
up to 200 cm³

Other values on request

Advantages

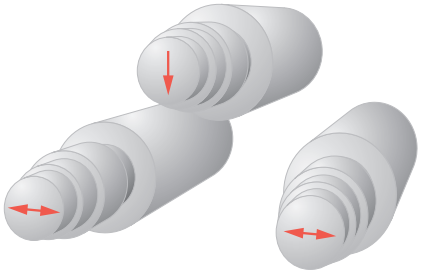
- Highest level of automation and therefore usable in serial production
- Torque transmission always warranted through the active pinch between upper and lower roll
- Bending of elliptical workpieces
- Simple calibration of apple and pear shapes
- Automatical minimization of straight ends

Beam and Tube Bending Machine Type BB

The standard Beam and Tube Bending Machines Type BB offer a section modulus from 2 500 up to 14 000 cm³. On request their bending power can be increased considerably. In connection with the Section Bending Machines Type HPR HAEUSLER covers the complete range of section modulus up to 14 000 cm³ with standard machines.

This type of machine is usually used for the bending of the biggest commercially available steel beams over their x-x- and y-y-axes as well as for pipes with diameters up to 610 mm. Such components are used in the construction of stadiums, train stations, airports, bridges etc.

Machine Concept of the HAEUSLER BB



Range of performance

Section modulus
from 2 500 to 14 000 cm³

Other values on request

Advantages

- Each of the 3 bending rolls is directly powered by a hydraulic motor and is equipped with a maintenance-free planetary transmission gear with automated speed compensation.
- Hydraulic repositioning of the bending rolls and pressure roll supports from control panel.
- Vertically and horizontally adjustable hydraulic pulling unit to guide and support U- and I-sections during bending over their x-x-axis.
- The bending shafts are generously dimensioned to minimize deflection and run on automatically lubricated spherical roller bearings.
- The Beam and Tube Bending Machines Type BB are equipped with a set of standard bending rolls that are able to bend flat, rectangle, U- and I- sections over their x-x- and y-y-axes without modifications.

Capacity Chart

Section	BB 2.5/180 max. dimensions	BB 5/350 max. dimensions	BB 9/450 max. dimensions	BB 14/550 max. dimensions	Tools
	250 x 170 Ø 5 000	300 x 200 Ø 5 000	350 x 250 Ø 6 000	400 x 300 Ø 10 000	1
	UAP 300 Ø 35 000	UAP 300 Ø 35 000	UAP 300 Ø 35 000	UAP 300 Ø 35 000	1 + 2
	IPE 500 Ø 33 000	IPE 600 Ø 38 000	IPE 600 Ø 38 000	IPE 600 Ø 38 000	1 + 2
	HEA 400 Ø 25 000	HEA 600 Ø 35 000	HEA 900 Ø 62 000	HEA 1000 Ø 70 000	1 + 2
	HEB 360 Ø 12 000	HEB 500 Ø 25 000	HEB 800 Ø 45 000	HEB 1000 Ø 60 000	1 + 2
	HEM 280 Ø 9 000	HEM 400 Ø 11 000	HEM 700 Ø 37 000	HEM 1000 Ø 55 000	1 + 2
	UPN 400 Ø 3 500	UPN 400 Ø 3 500	UPN 400 Ø 5 500	UPN 400 Ø 7 000	1
	UPN 400 Ø 3 500	UPN 400 Ø 3 500	UPN 400 Ø 5 500	UPN 400 Ø 7 000	1
	IPN 600 Ø 4 000	IPN 600 Ø 4 000	IPN 600 Ø 5 500	IPN 600 Ø 7 000	1
	IPE 600 Ø 4 000	IPE 600 Ø 4 000	IPE 600 Ø 5 500	IPE 600 Ø 7 000	1
	HEA 800 Ø 4 000	HEA 1000 Ø 4 000	HEA 1000 Ø 5 500	HEA 1000 Ø 7 000	1
	HEB 800 Ø 4 000	HEB 1000 Ø 4 000	HEB 1000 Ø 5 500	HEB 1000 Ø 7 000	1
	HEM 800 Ø 4 000	HEM 1000 Ø 4 000	HEM 1000 Ø 5 500	HEM 1000 Ø 7 000	1
	Ø 406 *	Ø 508 *	Ø 508 *	Ø 508 *	3
max. section modulus	2 500 cm³	5 000 cm³	9 000 cm³	14 000 cm³	
min. bending-Ø	2 800 mm	3 300 mm	5 500 mm	7 000 mm	

All values for regular structural steel; 1 with standard bending rolls; 2 with pulling unit;
3 for each tube diameter one set of bending rolls; * Bending radius depending on wall thickness

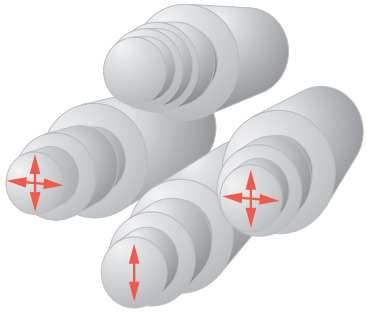


Section Bending Machine Type PRV

HAEUSLER developed this machine type for the Russian air and space industry at the beginning of this millennium. The machine has been further developed ever since and by 2011 is being used by customers around the globe.

The machine's main characteristic is the free positioning of it's side rollers. That's especially beneficial when bendig complex contours as it helps minimizing unwated cross-section deformation.

Machine concept of the HAEUSLER PRV



When to use a big side roll distance
- Bending of large sections
- Bending with lower bending forces

When to use a small side roll dictance
- For maximum section guidance
- For maximum backspring control when working with high-tensile materials
- For minimal flat ends

Range of performance

Section modulus
up to 1700 cm³

Other values on request

Advantages

- Free positioning of the side rolls independent of the desired bending radius
- Automated minimization of the straight ends
- Torque transmission always warranted through the active pinch between upper and lower tool
- High level of automation
- Bending of elliptical workpieces
- 3-dimensional bending of reinforced sections (airplane construction) with optional 3D bending head

HAEUSLER Tube Bending Machines

Besides the standard section bending machines (also useable for tube bending) HAEUSLER also offers specific tube bending machines. These machines can bend almost any kind of coiled tubes (multi starter, cone shaped or with variable pitch).

Tube Bending Plant RBA

For thin walled square tubes with automatic bending thorn insertion

Range of performance

Tube diameter
up to 60 mm

Other values on request

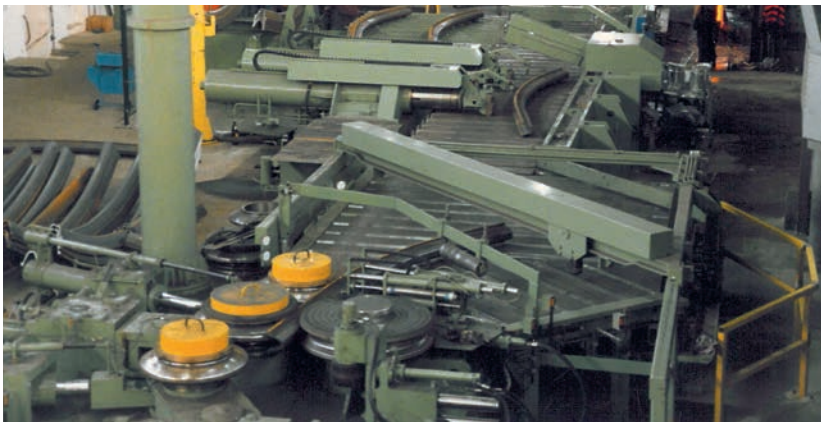
Tube Bending Machine RBM

For coiled tubes with variable pitch

HAEUSLER Special Bending Machines

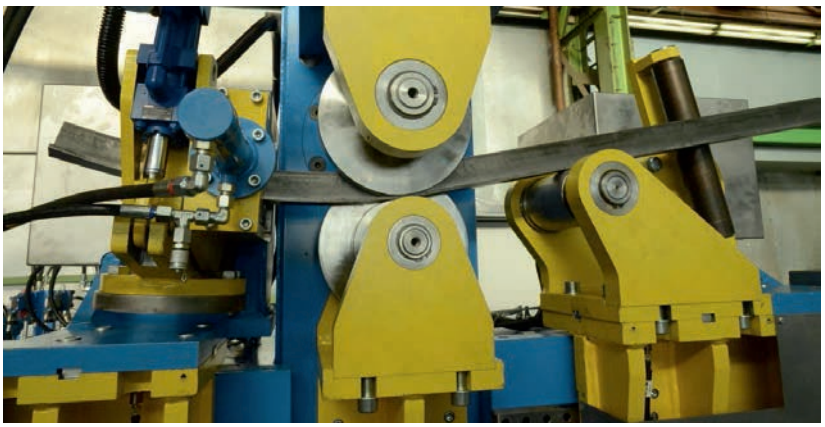
A short selection of special HAEUSLER machine designs

Mine Support Section Bending Plant



3D-Bending head

Optional equipment for 3-dimensional bending of reinforced sections in plane construction



Tube Wall Bending Machine

For the construction of heat exchangers

„Immer no e bitzeli besser wärde!“
Jörg Häusler

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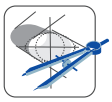
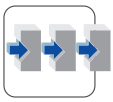
PLATE BENDING

PROFILE BENDING



SPECIAL FORMING

ASSEMBLING EQUIPMENT



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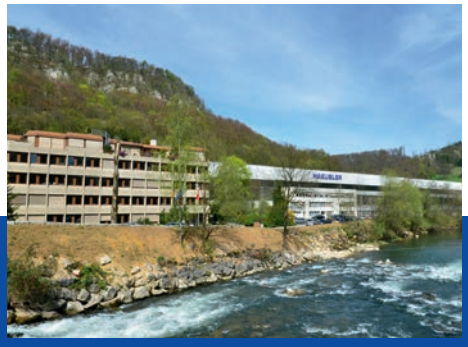

HAEUSLER headquarters in Duggingen, Switzerland

HAEUSLER factory in Rheinfelden-Herten, Germany