#### Colour:

Textured paint in green, similar to RAL 6011.Use For pressing in/out of bushings, arbors, bearings, bolts, pins etc.

#### Note:

Arbor presses with base frame for DP 1000 and DP 1500 deliverable on request.



Technical data:	Туре	DP 500	DP 1000	DP 1500
Compressive force	kN	5	10	15
Leverage	i	1:14	1:27	1:27
Overhang to middle of ram	mm	95	155	220
Ram diameter	mm	32	40	58
Max. installation height	mm	150	260	350
Ram stroke	mm	150	260	350
Slit width of clamping plate	mm	15–35	20-46	20-46
Height of the press body	mm	290	440	570
Weight	approx. kg	16	45	90

Туре	72005
DP 500	201
DP 1000	202
DP 1500	203

#### 72030

# Universal knuckle joint presses

#### Design

360° adjustable hand lever, stable cast-iron body with very precise prism guide with no play at the press ram. The crimping head is quick and easy to position using a hand crank. Gripping is achieved by means of several hexagonal bolts through the complete press body. Large table clamping surface with T-slots. Cat. no. 203 and 204 with reversible bearing bolts on the knuckle joint to increase the compressive force.

#### Note:

Knuckle joint presses with higher pressure performance and pneumatic drive deliverable on request.









Workshop equipment

Technical data:	Туре	2.5 kN HKP/V	5 kN HKP/V	8/12 kN HKP/V	8/16 kN HKP/V
Max. compressive force only in the bottom dead centre	approx. kN	8	14	16/20	24/32
Max. comp. force when leverage is at perm. tensile force	N	280	320	350/340	420/420
Max. stroke length	mm	0-42	0-40	0-45	0–58
Overhang	mm	90	90	120	160
Installation height	mm	75–190	70-195	75–240	100-320
Location hole, ram	Ømm	10 H7	10 H7	10 H7	15 H7
Table size	mm	150 x 100	180 x 110	200 x 168	300 x 230
Total height	mm	480-600	595–715	655-820	930-1150
Weight	kg	11.5	20	32	79

Туре	72030
2.5 kN HKP/V	201
5 kN HKP/V	202
8/12 kN HKP/V	203
8/16 kN ICPS/V	204

### 72031

# Hand-lever presses with air support and defined start

#### Design

- The operator uses the hand lever to extend the press slide over a knee joint
- In this position, the operator can implement a 5.9mm-long pneumatic power stroke by pressing a button or by turning the hand lever slightly
- The operating pressure is 2 to 7 bar
- The pneumatic connection line measures 1/4 inch









			· ·	
Technical data:	Type	4kN HKP/L DS	12 kN HKP/L DS	20kN HKP/L DS
Max. compressive force	kN	4	12	20
At X bar	kN	7.7	7.7	7
Max. stroke length	mm	6–46	6–46	6–58
Overhang	mm	120	120	160
Installation height	mm	73-240	73–240	100-320
Location hole, ram	Ø mm	10 H7	10 H7	15 H7
Table size	mm	200 x 169	200 x 169	300 x 230
Total height	mm	678	729	988
Weight	kg	36	40	92
Air consumption	L	0.07	0.14	0.25
Pneumatic connection line	Inches	1/4	1/4	1/4

Туре	72031	
4 kN HKP/L DS		101
12 kN HKP/L DS		102
20 kN HKP/L DS		103

# 72035

# Design

Very stable and torsion-resistant welded construction. The shape and profile have been designed in such a way that all operating loads are safely absorbed. The system is driven via a handwheel with 5 spokes that controls a planetary gear on the drive spindle. Thanks to the high transmission ratio, only a little effort on the handwheel is required. The guides of the square working spindle are equipped with adjustable bars.

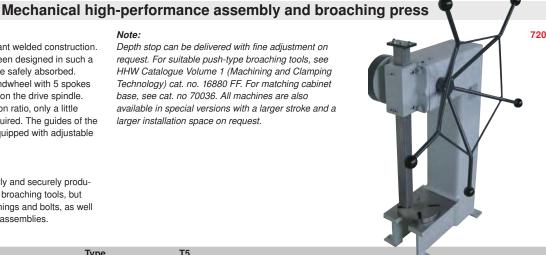
Colour: RAL 7035 Light grey.

#### **Applications**

Especially suitable for efficiently and securely producing keyways using push-type broaching tools, but also for pressing in/out of bushings and bolts, as well as for installing pre-tensioned assemblies.

#### Note:

Depth stop can be delivered with fine adjustment on request. For suitable push-type broaching tools, see HHW Catalogue Volume 1 (Machining and Clamping Technology) cat. no. 16880 FF. For matching cabinet base, see cat. no 70036. All machines are also available in special versions with a larger stroke and a larger installation space on request.



Technical data:	Туре	T5	
Square working spindle	mm	55	
Location hole in the working spindle	-	Ø 20 H7	
Max. pressure performance	kN	50	
Max. spindle motion	mm	550	
Table surface	mm	350 x 250	
Ø of the rotating table	mm	235	
Base area	mm	550 x 350	
Total height when toothed rack extended	mm	1,650	
Weight	kg	195	

Туре	72035	
T5		102

# 72036

# Cabinet base for assembly and broaching presses

#### Design

Cabinet base with a door and an intermediate compartment.

#### **Applications**

For mechanical high-performance assembly and broaching presses cat. no. 72035.

Base area mm	Height mm	72036	
480 x 580	750		101



72036



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## Angle benders

#### Design

Basic body and bending arm cast from spheroidal graphite iron (no grey cast iron) and milled. For this reason, when the machine's tare weight is low it provides optimum bending performance. Thanks to the use of high-grade steel that has undergone heat treatment, the dimensions of the bending jaws can be kept small. Very tight Z- and U-bends are therefore possible. For the same reason, this equipment can be used to perform warm bending in addition to cold bending. No special jaws are required for warm bending!

#### **Applications**

The universal model is suitable for every locksmith, forge or repair workshop.

# Scope of delivery:

- 1 x KARNASCH angle bender WB 100 E
- 1 x sharp-edged jaw
- 1 x radius jaw r = 4
- 1 x longitudinal stop
- 1 x longitudinal stop



Technical data:		
Bending performance**	cold	warm
Flat steel	100 x 6 mm or 50 x 12 mm	100 x 12 mm or 60 x 20 mm
Round steel	18 mm	30 mm
Flat copper*	100 x 12 mm	-
Angle steel, notched**	60 x 8 mm	100 x 12 mm

<sup>\*</sup> Special jaws no. 4, no. 5 and no. 6 are required for these materials.

The types of bending performance available are limited to bending using the mounted radius jaw. This model is also supplied with a sharp-edged jaw, which can only be used for bending sheets up to 2 mm thick. If stronger material needs to be bent at a sharp angle, then the wide, fixed panel no. 5 is required, as this jaw is not hollowed out so much in the angle.

Base area	Width	Length without operating lever	Dimensions of the operating lever	Longitudinal stop	Weight	72120
mm	mm	mm	mm	mm	net kg	
205 x 175	290	260	710 x 40 x 12	440	24	101

### 72121

# Universal bender for round and flat material



#### Design

- Universal bender for bending flat or square material to form angular, rounded or spiralling bends
- Cold bending up to an angle of 180  $^{\circ}$
- Adjustable bending angle for high repetition accuracy
- With additional option UB 11, bending in spirals also possible
- Screw-on stand for a secure hold
- Extending handle for greater leverage
- Easy to transport, and ideal for workshops, assembly tasks and use in service trolleys
- Removable bending unit, with optional gripping plate, can also be used on vice
- High quality, made in Europe

#### Scope of delivery:

- 2 bending rollers:
- For bending radius of 24 mm
- For bending radius of 30 mm
- For bending radius of 37 mm
- For bending radius of 43 mm
- For bending radius of 49 mm
- For bending radius of 62 mm
- For bending radius of 75 mm





Round-bending	Sharp-edged bending	Round pipe Ø	Bending capacity, round	Bending capacity,	Bending capacity, square	Bending capacity,	LxWxH	Weight	72121	
max. Flat steel mm	max. Flat steel	max.	Steel/aluminium/copper mm	round V2A mm	steel/aluminium/copper mm	square V2A mm	mm ap	oprox. kg		
10 x 50	6 x 50	G 3/4	16	14	16 x 16	14 x 14	325 x 1100 x 1010	32		101

### 72121

# Pipe bender



#### Design

- For cold bending of thin-walled pipes made of brass, copper, steel and other materials
- Simple cold bending of thin-walled tubes even without supporting elements
- For bending into simple and complex shapes
- Screw-on stand for a secure hold
- Extending handle for greater leverage
- Easy to transport, and ideal for workshops, assembly tasks and use in service trolleys
- Removable bending unit, with optional gripping plate, can also be used on vice
- High quality, made in Europe
- Further bend segments on request

#### Scope of delivery:

- 6 of each bend segment
- Ø 14 mm, bending radius 56 mm
- Ø 16 mm, bending radius 64 mm
- Ø 18 mm, bending radius 72 mm
- Ø 20 mm, bending radius 80 mm
- Ø 22 mm, bending radius 88 mm
- Ø 25 mm, bending radius 100 mm





Round-bending max.	Sharp-edged bending max.	Wall thickness	Round pipe Ø	Bending capacity, square	Bending capacity, square	LxWxH	Weight	72121	
Flat steel mm	Flat steel mm	max. mm	max. mm	Steel/aluminium/copper mm	V2A mm	mm	approx. kg		
10 x 50	6 x 50	2	25	20 x 20 x 2	20 x 20 x 2	240 x 240 x 960	32		102

72.3

<sup>\*\*</sup> Bending performance relates to material cross-sections with a strength of 40 N/mm