



**Quality Tools and Machines**

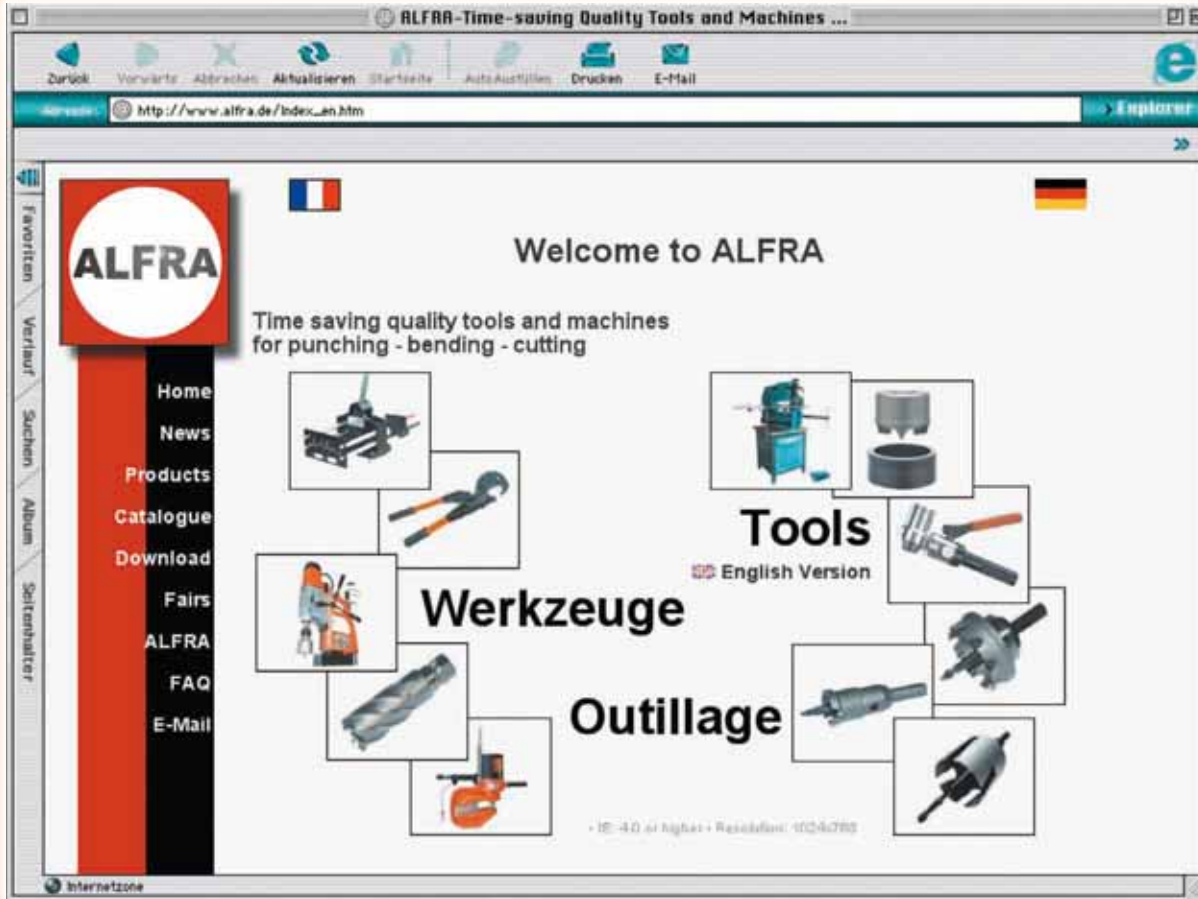
# **DRILLING PUNCHING CUTTING DEBURRING**

**2. revised  
Edition**

**20**  
**Part B**



NATURALLY ALSO ON THE INTERNET – [www.alfra.de](http://www.alfra.de)







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METAL CORE DRILLING HAS GOT A NAME

**ALFRA ROTABEST®**





# GOOD REASONS TO DECIDE ON **ALFRA RÖTABEST®**

**MANUFACTURER'S COMPETENCE  
30 YEARS OF EXPERIENCE**



**Powerful Motors with high torques and a range from 900 to 1.800W, ergonomic design, perfect technology.**



**mpi**

**Magnet feet with 3 instead of 2 coils and with the new M.P.I. magnet system (Magnetic Power Increase). Electronic increase of magnetic adhesion at the start of the drilling operation, when strongest adhesion is required (for an even higher protection of user and tool).**



**Pressed-in brass rings for an improved protection of the magnet coils.**



**Continuously adjustable motor on the slide for a maximum stroke enlargement, when using twist drills, drill chucks and tapping attachments.**



**Rota-Quick® – quick change arbor – problem-free change of cutter. The decisive advantage compared with other quick change arbors: every usual cutter with Weldon-shank fits.**



**Durable keyboard with flat cable. Panel slopingly arranged, directly in sight of the user. To feel for the ON/OFF-switch has come to an end. Easy reachability of keyboard, even in narrow U-beams and H-beams.**



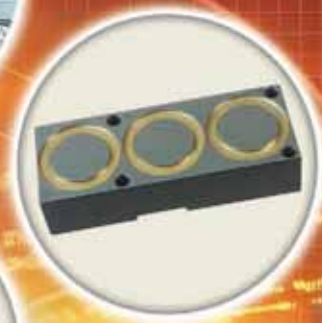
**Newly designed gear-housing with integrated motor support. With built-in height adjustment by means of clamping jaws – there is no better fixing device.**



**Trouble with ordinary dovetail or pillar guides? Solid brass guide rails guarantee an optimum slide guidance.**



**The heart of our Magnetic Drilling Machines: Robust electronic switch units, interchangeable between Model 32 – 40 – 60 – 100 and between 40 RL-E – 60 RL-E – 100 RL-E**





# ALFRA METAL CORE DRILLING MACHINES – Overview

Made in Germany by ALFRA



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Type	Rotabest® 32 RQ	Rotabest® 40 RQ	Rotabest® 40 RL-E	Rotabest® 60	Rotabest® 60 RL-E
Prod.-No.	18600	18610	18611	18625	18626
Input	900 Watt	1200 Watt	1200 Watt	1800 Watt	1800 Watt
Speed (rpm)	450	250/450	100-250 180-450	110/175/ 245/385	50-110/75-175 105-245/165-385
Full Wave Electronics/ Thermal protection	–	–	■	–	■
Oilbath Gear Box <b>NEW</b>	–	■	■	■	■
Motor Overload Protection/ Over-Voltage Switch-Off	–	–	■	–	■
Right-/Left Rotation	–	–	■	–	■
Friction Clutch	–	–	–	■	■
Max. Ø of Cutter	32 mm	40 mm	40 mm	60 mm	60 mm
Max. Cutting Depth	35 mm	50 mm	50 mm	50 mm	50 mm
Tapping	–	with Tapping Attachment	M 14	with Tapping Attachment	M 22
Countersinking	■	■	■	■	■
Twist Drills Ø max.	13 mm	13 mm	16 mm	32 mm	32 mm
Arbor	19 mm Weldon Rota-Quick® quick change arbor	19 mm Weldon Rota-Quick® quick change arbor	MT 2	MT 3	MT 3
Magnetic Adhesion	11000 N rigid	16000 N rigid	16000 N rigid	20000 N 30° swiveling	20000 N 30° swiveling
Min. Material Thickness	6 mm	6 mm	6 mm	10 mm	10 mm
Size of Magnet Foot	70 x 180 mm	80 x 230 mm	80 x 230 mm	80 x 230 mm	80 x 230 mm
Stroke	160 mm	170 mm	170 mm	190 mm	190 mm
Motor adjustable in height <b>NEW</b>	85 mm	100 mm	100 mm	60 mm	60 mm
Weight	10,5 kg	16 kg	16 kg	22 kg	22 kg





# B



## ALFRA METAL CORE DRILLING MACHINES – Overview

Made in Germany by ALFRA

					
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<b>Rotabest® 100/100 RL-E</b>	<b>Rotabest® V32</b>	<b>Piccolo 32/50</b>	<b>Mini 38/50</b>	<b>Mini 40/2</b>	<b>Junior 75/4</b>
18630/18632	18710	18550/18552*	18554/18555*	18541/18542*	18567/18568*
1800 Watt	900 Watt	1050 Watt	900 Watt	1200 Watt	1800 Watt
<b>100:</b> 110/175/245/385 <b>100 RL-E:</b> 50-110/75-175/ 105-245/165-385	450	400	450	250/450	110/175/ 245/385
 100 RL-E	–	–	–	–	–
 	–	–	–	–	–
 100 RL-E	–	–	–	–	–
 100 RL-E	–	–	–	–	–
	–	–	–	–	
100 mm	32 mm	32 mm	38 mm	40 mm	75 mm
50 mm	25 mm	50 mm	50 mm	50 mm	50 mm
<b>100:</b> with Tapping Attachment <b>100 RL-E:</b> with Tap Collets	–	–	–	–	with Tapping Attachment
					
32 mm	–	13 mm	13 mm	10 mm	32 mm
MT 3	19 mm Weldon	19 mm Weldon	19 mm Weldon	19 mm Weldon	MT 3
20000 N 30° swiveling	16000 N rigid	8000 N rigid	12000 N rigid	12000 N rigid	18000 N 330° swiveling
10 mm	6 mm	6 mm	6 mm	6 mm	10 mm
80 x 230 mm	95 x 200 mm	70 x 160 mm	95 x 200 mm	95 x 200 mm	95 x 200 mm
245 mm	45 mm	129 mm	141 mm	141 mm	235 mm
116 mm	–	92 mm	127 mm	–	–
28 kg	12,5 kg	10,6 kg	15,5 kg	15 kg	25 kg

\* with Switch keypad



\* with Switch keypad



\* with Switch keypad



\* with Switch keypad



# B



Core Drilling with

# ALFRA ROTABEST<sup>®</sup>

## 32RQ

**NEW**

Motor continuously  
height adjustable on  
the slide up to 85 mm





# METAL CORE DRILLING MACHINE – ALFRA Rotabest® 32 RQ

Made in Germany by ALFRA



## Technical Data:

Core Drill:	Ø 12.0 - 32.0 mm
Cutting depth:	35.0 mm
Twist drill:	Ø 1.0 - 13.0 mm
Countersinking:	Ø 10.0 - 40.0 mm
Input:	900 W
1-speed gearbox:	450 rpm
Tool holder:	19.0 mm Rota-Quick® quick change arbor internal, automatically
Cooling:	230 Volt or 110 Volt
Magnet adhesion:	11000 N
Magnet foot:	70 x 180 mm (rigid)
Stroke:	160 mm
Weight:	10.5 kg

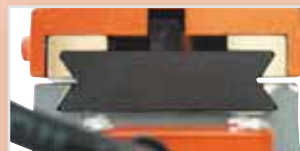
## Scope of supply:

- Metal Core Drilling Machine 32 RQ
- Transport case
- Coolant Unit
- Coolant spray
- Drill chuck Ø 1 - 13 mm
- Chip remover
- Safety belt
- HSS-Co Cutter Ø 18 mm
- Ejector pin



### Prod.-No.

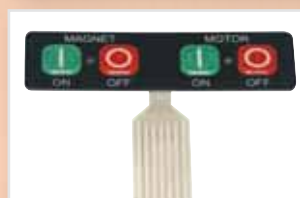
Complete set ALFRA Rotabest® 32 RQ	230 Volt	18600
Complete set ALFRA Rotabest® 32 RQ	110 Volt	18600.110



Trouble with ordinary dovetail or pillar guides? Solid brass guide rails guarantee an optimum slide guidance.



Rota-Quick® – quick change arbor – problem-free change of cutter. The decisive advantage compared with other quick change arbors: every usual cutter with Weldon-shank fits.



Durable keyboard with flat cable. Panel slopingly arranged, directly in sight of the user. To feel for the ON/OFF-switch has come to an end. Easy reachability of keyboard, even in narrow U-beams and H-beams.



Magnet feet with 3 instead of 2 coils and with the new M.P.I. magnet system.

**M.P.I. magnet system (Magnetic Power Increase).** Electronic increase of magnetic adhesion at the start of the drilling operation, when strongest adhesion is required (for an even higher protection of end user and tool). Pressed in brass rings for an improved protection of the magnet coils.



The jackscrews for the slide guidance are no longer on the front side, but on the back side of the panel. No danger of injuries. Fixing device to fix the slide on each height. For comfortable tool-change, ideal for the machine-transport.



Continuously adjustable motor on the slide for a maximum stroke enlargement, when using twist drills, drill chucks.



The heart of our Magnetic Drilling Machines: Robust electronic switch units, interchangeable with all types of the new Generation. Model 32 - 40 - 60 - 100. Easy to approach for a quick service.





# B



Core Drilling with

# ALFRA ROTABEST®

# 40RQ





## METAL CORE DRILLING MACHINE – ALFRA Rotabest® 40 RQ

Made in Germany by ALFRA



### Technical Data:

Core Drill:	Ø 12.0 - 40.0 mm
Cutting depth:	50.0 mm
Twist drill:	Ø 1.0 - 13.0 mm
Countersinking:	Ø 10.0 - 40.0 mm
Tapping:	with Tapping Attachment Prod.-No. 18652
Input:	1200 W
2-speed gearbox	250/450 rpm
Tool holder:	19.0 mm Rota-Quick® quick change arbor internal, automatically
Cooling:	230 Volt or 110 Volt
Voltage:	16000 N
Magnet adhesion:	80 x 230 mm (rigid)
Magnet foot:	170 mm
Stoke:	16.0 kg
Weight:	

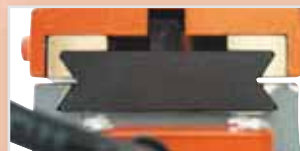
### Scope of supply:

- Metal Core Drilling Machine 40 RQ
- Transport case
- Coolant Unit
- Coolant spray
- Drill chuck Ø 1 - 13 mm
- Chip remover
- Safety belt
- HSS-Co Cutter Ø 22 mm
- Ejector pin
- Operation manual



#### Prod.-No.

Complete set ALFRA Rotabest® 40 RQ	230 Volt	18610
Complete set ALFRA Rotabest® 40 RQ	110 Volt	18610.110



Trouble with ordinary dovetail or pillar guides? Solid brass guide rails guarantee an optimum slide guidance.



Rota-Quick® – quick change arbor – problem-free change of cutter. The decisive advantage compared with other quick change arbors: every usual cutter with Weldon-shank fits.



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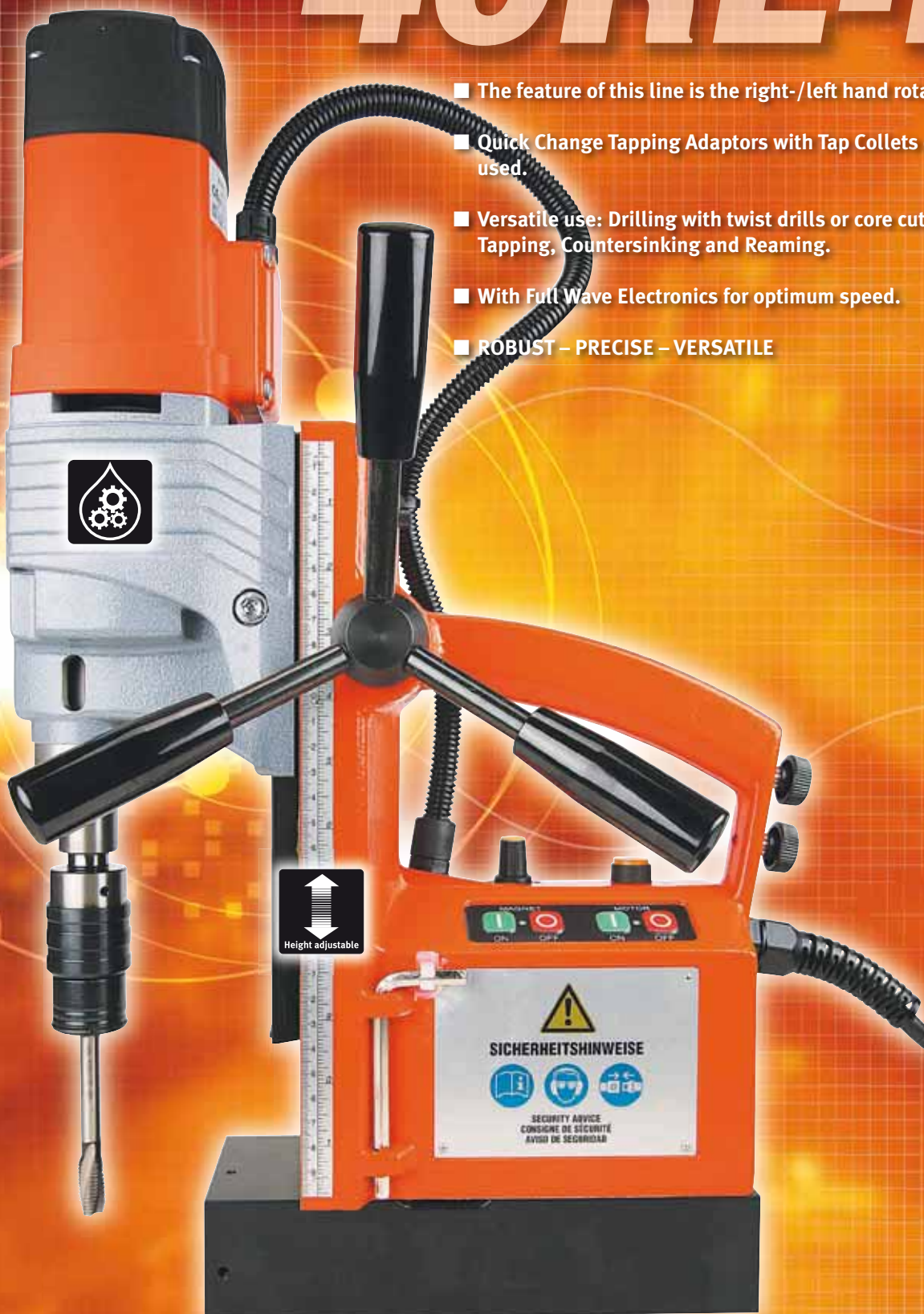
# B



**Core Drilling with**

# **ALFRA ROTABEST®**

# 40RL-E



- The feature of this line is the right-/left hand rotation
- Quick Change Tapping Adaptors with Tap Collets can be used.
- Versatile use: Drilling with twist drills or core cutters, Tapping, Countersinking and Reaming.
- With Full Wave Electronics for optimum speed.
- ROBUST – PRECISE – VERSATILE



# METAL CORE DRILLING MACHINE – ALFRA Rotabest® 40 RL-E

Made in Germany by ALFRA



## Technical Data:

Core Drill:	Ø 12.0 - 40.0 mm
Cutting Depth:	50.0 mm
Twist Drill:	Ø 3.0 up to 16.0 mm with key type drill chuck MT2, Ø 5.0 up to 20.0 mm with MT 2 DIN 345 direct insertion
Tapping:	M3 bis M14
Countersinking:	Ø 40.0 mm
Motor:	1200 W
Capacity:	right/left
2-speed gear:	1. speed 100 - 250 rpm 2. speed 180 - 450 rpm
Arbor:	MT 2
Coolant Supply:	via Tool Holder
Full Wave Electronics:	serial
Thermal protection:	serial
Torque Cutoff:	serial
Adjustable in height for max. stroke:	serial 160 up to 260 mm
Voltage:	230 V or 110 Volt
Magnetic adhesion:	16000 N
Magnet Foot:	80 x 230 mm rigid
Weight:	16.0 kg

## Scope of supply:

- Metal Core Drilling Machine 40 RL-E
- Transport case
- Coolant Unit
- Coolant Spray
- Self-Tighten Drill Chuck 1 up to 16 mm, MT2
- Chip Remover
- Safety Belt
- Operation Manual



### Prod.-No.

Complete set ALFRA Rotabest® 40-RL-E	230 V	18611
Complete set ALFRA Rotabest® 40-RL-E	110 V	18611.110



Trouble with ordinary dovetail or pillar guides? Solid brass guide rails guarantee an optimum slide guidance.

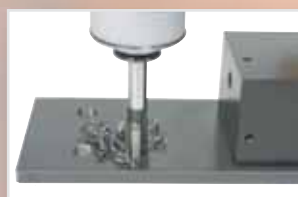


NEW - Durable keyboard with flat cable. Panel slopingly arranged, directly in sight of the user. To feel for the ON/OFF-switch has come to an end. Easy reachability of keyboard, even in narrow U-beams and H-beams. **Additionally:** Motor Control for Right-/Left Hand Rotation.



Magnet feet with 3 instead of 2 coils and with the new M.P.I. magnet system.

**M.P.I. magnet system (Magnetic Power Increase).** Electronic increase of magnetic adhesion at the start of the drilling operation, when strongest adhesion is required (for an even higher protection of end user and tool). Pressed in brass rings for an improved protection of the magnet coils.



Especially suitable for problem-free and fast tapping



Motor adjustable in height on the slide for maximum stroke enlargement when using twist drills, drill chucks or when tapping.



The heart of our Magnetic Drilling Machines: Robust electronic switch units, interchangeable with all RL-E types. Easy to approach for a quick service.



# B



Core Drilling with

# ALFRA ROTABEST<sup>®</sup>

# 60





# METAL CORE DRILLING MACHINE – ALFRA Rotabest® 60

Made in Germany by ALFRA

## Technical Data:

Core Drill::	Ø 12.0 - 60.0 mm
Cutting depth:	50.0 mm
Twist drill:	Ø 3.0 - 16.0 mm with drill chuck Ø 32.0 with Morse Taper
Countersinking:	Ø 10.0 - 55.0 mm
Tapping:	up to M20 with Tapping Attachment Prod.-No. 18653
Input:	1800 W
4-speed gearbox:	110/175/245/385 rpm
Arbor:	MT3
Voltage:	230 Volt or 110 Volt
Magnetic adhesion:	20000 N
Magnet Foot:	80 x 230 mm, 30° adjustable to left/right, 10 mm back-/forwards
Stroke:	190 mm
Weight:	22.0 kg

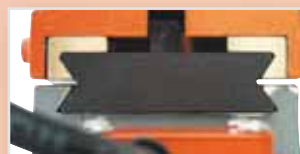
## Scope of supply:

- Metal Core Drilling Machine 60
- Transport case
- Coolant Unit
- Coolant Spray
- Chip remover
- Safety belt
- Operation Manual



Prod.-No.

Complete set ALFRA Rotabest® 60	230 Volt	18625
Complete set ALFRA Rotabest® 60	110 Volt	18625.110
Complete set ALFRA Rotabest® 60-2 weldon shank 2-speed (without illustration)	230 Volt	18621



Trouble with ordinary dovetail or pillar guides? Solid brass guide rails guarantee an optimum slide guidance.



Durable keyboard with flat cable. Panel slopingly arranged, directly in sight of the user. To feel for the ON/OFF-switch has come to an end. Easy reachability of keyboard, even in narrow U-beams and H-beams.



Magnet feet with 3 instead of 2 coils and with the new M.P.I. magnet system.

**M.P.I. magnet system (Magnetic Power Increase).** Electronic increase of magnetic adhesion at the start of the drilling operation, when strongest adhesion is required (for an even higher protection of end user and tool). Pressed in brass rings for an improved protection of the magnet coils.



Adjustable Magnet Foot for a better positioning: 10 mm back- and forwards, 30° to left and right.



Motor adjustable in height on the slide for maximum stroke enlargement when using twist drills, drill chucks or when tapping.



The heart of our Magnetic Drilling Machines: Robust electronic switch units, interchangeable with all types of the new Generation. Model 32 - 40 - 60 - 100. Easy to approach for a quick service.





# B



Core Drilling with

# ALFRA ROTABEST®

# 60RL-E



- This Machine is equipped with the same features as the model 40 RL-E, so for **Drilling - Tapping (M3 to M22) – Countersinking** up to Ø 55 mm or Reaming.
- Even more powerful and robust with highest magnetic adhesion for your safety.
- The magnet foot is pivotable by 30° right and left and additionally 10 mm back and forth.
- This means highest flexibility when positioning:
  - set Machine
  - safe with magnet
  - and subsequently position on the spot.
- Motor adjustable in height for largest possible stroke, especially for the use of twist drills with MT shank and tapping attachments, as well as for the use of extra-long core cutters.



# METAL CORE DRILLING MACHINE – ALFRA Rotabest® 60 RL-E

Made in Germany by ALFRA



## Technical Data:

Core Drill:	Ø 12.0 - 60.0 mm
Core Drills extra long 110 mm:	Ø 20.0 - 50.0 mm
Cutting Depth:	50 mm/110 mm
Twist Drill:	Ø 3.0 up to 16.0 mm with drill chuck Ø 32.0 mm with Morse Taper DIN 345
Tapping:	M6 up to M22 with tap collets M3 up to M20 with auto reversible tapping attachment
Countersinking:	Ø 55.0 mm
Motor:	
Input:	1800 W
4-speed gearbox:	right/left 1. speed 50 - 110 rpm 2. speed 75 - 175 rpm 3. speed 105 - 245 rpm 4. speed 165 - 385 rpm
Arbor:	MT 3
Coolant Supply:	via Tool Holder
Full Wave Electronics:	serial
Thermal protection:	serial
Torque Cutoff:	serial
Adjustable in height for max. stroke:	serial from 226 up to 286 mm
Voltage:	230 Volt or 110 Volt (50 - 60 Hz)
Magnetic adhesion:	20000 N
Magnet Foot:	80 x 230 mm, 30° adjustable right/left, 10 mm back and forth
Weight:	22.0 kg

## Scope of supply:

- Metal Core Drilling Machine 60 RL-E
- Transport case
- Coolant Unit
- Coolant Spray
- Self-Tighten Drill Chuck 1 up to 16 mm, MT3
- Chip Remover
- Safety Belt
- Operation Manual



### Prod.-No.

Complete Set ALFRA Rotabest® 60-RL-E	230 Volt	18626
Complete Set ALFRA Rotabest® 60-RL-E	110 Volt	18626.110



Trouble with ordinary dovetail or pillar guides? Solid brass guide rails guarantee an optimum slide guidance.



NEW - Durable keyboard with flat cable. Panel slopingly arranged, directly in sight of the user. To feel for the ON/OFF-switch has come to an end. Easy reachability of keyboard, even in narrow U-beams and H-beams. **Additionally:** Motor Control for Right-/Left Hand Rotation.



Magnet feet with 3 instead of 2 coils and with the new M.P.I. magnet system.

**M.P.I. magnet system (Magnetic Power Increase).** Electronic increase of magnetic adhesion at the start of the drilling operation, when strongest adhesion is required (for an even higher protection of end user and tool). Pressed in brass rings for an improved protection of the magnet coils.



Especially suitable for problem-free and fast tapping



Motor adjustable in height on the slide for maximum stroke enlargement when using twist drills, drill chucks or when tapping.



The heart of our Magnetic Drilling Machines: Robust electronic switch units, interchangeable with all RL-E types. Easy to approach for a quick service.



# B



Core Drilling with

# ALFRA ROTABEST®

# 100





# METAL CORE DRILLING MACHINE – ALFRA Rotabest® 100

Made in Germany by ALFRA

## Technical Data 100:

Core Drill:	Ø 12.0 - 100.0 mm
Cutting depth:	50.0 mm
Twist drill:	Ø 3.0 - 16.0 mm with drill chuck Ø up to 32.0 mm with Morse Taper Ø 10.0 - 55.0 mm
Countersinking:	up to M20 with auto reversible Tapping Attachment Prod.-No. 18653
Tapping:	1800 W
Input:	110/175/245/385 rpm
4-speed gearbox:	MT 3
Tool holder:	230 Volt or 110 Volt
Voltage:	20000 N
Magnet adhesion:	80 x 230 mm, 30° adjustable to left/right, 10 mm back-/forwards
Magnet foot:	28.0 kg
Weight:	

## Scope of supply:

- Metal Core Drilling Machine 100
- Transport case
- Coolant Unit
- Chip remover
- Safety belt
- Operation Manual



Prod.-No.

Complete set ALFRA Rotabest® 100	230 Volt	18630
Complete set ALFRA Rotabest® 100	110 Volt	18630.110



Trouble with ordinary dovetail or pillar guides? Solid brass guide rails guarantee an optimum slide guidance.

Powerful and well-proven motor with high torque and friction clutch. 1.800 Watts.

4-speed gearbox **with second grease chamber.**



Durable keyboard with flat cable. Panel slopingly arranged, directly in sight of the user. To feel for the ON/OFF-switch has come to an end. Easy reachability of keyboard, even in narrow U-beams and H-beams.



Magnet feet with 3 instead of 2 coils and with the new M.P.I. magnet system.

**M.P.I. magnet system (Magnetic Power Increase).** Electronic increase of magnetic adhesion at the start of the drilling operation, when strongest adhesion is required (for an even higher protection of end user and tool). Pressed in brass rings for an improved protection of the magnet coils.



Adjustable Magnet Foot for a better positioning: 10 mm back- and forwards, 30° to left and right.



Motor adjustable in height on the slide for maximum stroke enlargement when using twist drills, drill chucks or when tapping.



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# B



Core Drilling with

# ALFRA ROTABEST®

# 100 RL-E

**NEW**





# METAL CORE DRILLING MACHINE – ALFRA Rotabest® 100 RL-E

Made in Germany by ALFRA



## Technical Data 100 RL-E:

Core Drill:	Ø 12.0 - 100.0 mm
Cutting depth:	50.0 mm
Twist drill:	Ø 3.0 - 16.0 mm with drill chuck Ø up to 32.0 mm with Morse Taper Ø 10.0 - 55.0 mm
Countersinking:	M6 up to M22 with Tapping collets
Tapping:	Prod.-No.: 18681
Input:	1800 W
4-speed gearbox:	right/left 1. speed 50 - 110 rpm 2. speed 75 - 175 rpm 3. speed 105 - 245 rpm 4. speed 165 - 385 rpm
Tool holder:	MT 3
Voltage:	230 Volt or 110 Volt
Magnet adhesion:	20000 N
Magnet foot:	80 x 230 mm, 30° adjustable to left/right, 10 mm back-/forwards
Weight:	28.0 kg

## Scope of supply:

- Metal Core Drilling Machine 100
- Transport case
- Self-Tighten Drill Chuck 1 up to 16 mm, MT3
- Coolant Unit
- Chip remover
- Safety belt
- Operation Manual



Prod.-No.

Complete set ALFRA Rotabest® 100 RL-E	230 Volt	18632
Complete set ALFRA Rotabest® 100 RL-E	110 Volt	18632.110



Trouble with ordinary dovetail or pillar guides? Solid brass guide rails guarantee an optimum slide guidance.

Powerful and well-proven motor with high torque and friction clutch. 1.800 Watts.

4-speed gearbox **with second grease chamber.**



Durable keyboard with flat cable. Panel slopingly arranged, directly in sight of the user. To feel for the ON/OFF-switch has come to an end. Easy reachability of keyboard, even in narrow U-beams and H-beams.



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Adjustable Magnet Foot for a better positioning: 10 mm back- and forwards, 30° to left and right.



Motor adjustable in height on the slide for maximum stroke enlargement when using twist drills, drill chucks or when tapping.



The heart of our Magnetic Drilling Machines: Robust electronic switch units, interchangeable with all types of the new Generation. Model 32 - 40 - 60 - 100. Easy to approach for a quick service.



# B

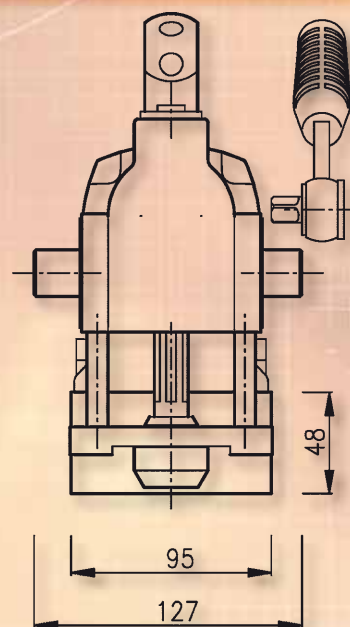
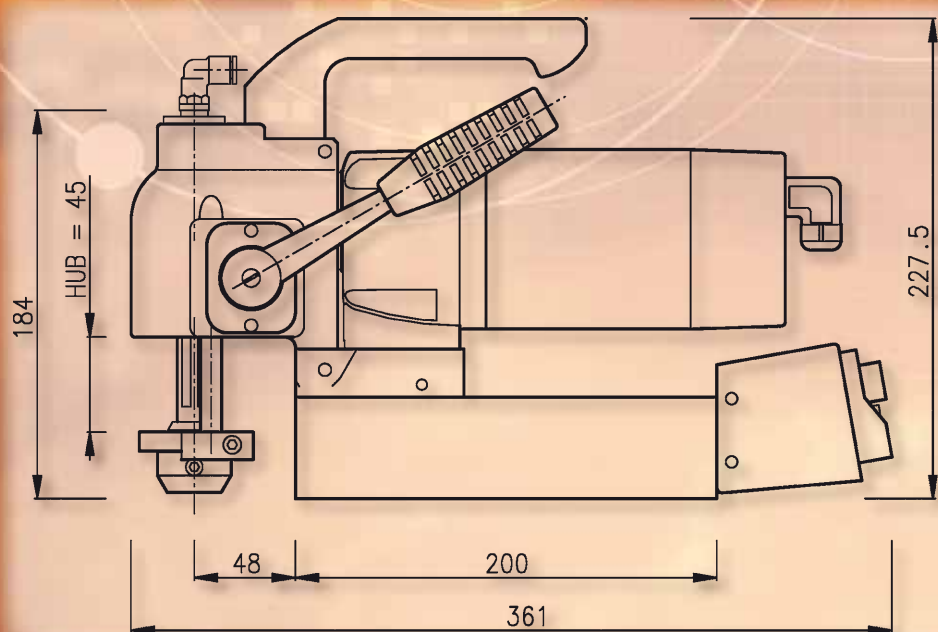


Core Drilling with

# ALFRA ROTABEST<sup>®</sup>

# V32

**NEW**





# ANGULAR METAL CORE DRILLING MACHINE – ALFRA Rotabest® V32

100% Made in Germany by ALFRA



- **Horizontal Metal Core Drilling Machine** for the pokiest spaces. Perfect to use, where regular Metal Core Drilling Machines have to quit due to their height.
- **Application areas:**  
Steel construction (in between girder flanges), vehicle construction (truck frames), bridge construction, tower construction, tunnel construction, tersely everywhere, where it's poky ...
- The total height is just 227 mm and can even be reduced to 185 mm by removing the handle.
- The spur gear unit is designed for an industrial use and the down feed is carried out by means of a ratchet lever. Switchable from right to left hand operation.
- Another advantage: the design of the angled gear unit ensures a permanent lubrication and avoids a dry running.
- Well-proven motors and magnet feet components of our Rotabest® series come into operation.

## Technical Data:

Core Drills:	Ø 12.0 - 32.0 mm
Cutting Depth:	25.0 mm
Countersinking:	Ø 10.0 - 32.0 mm
Input:	900 W
1-speed gearbox:	450 rpm
Tool Holder:	19 mm Weldon
Cooling:	internal, automatically through the spindle
Voltage:	230 Volt or 110 Volt
Magnet Foot:	95 x 200 mm (rigid)
Magnet adhesion:	16000 N
Height:	227/185 mm
Power cord:	3.0 m
Weight:	12.5 kg

## Scope of supply:

- 1 Angular Drilling Machine Rotabest® V 32
- 1 Coolant unit with hose and nipple
- 1 transport case
- 1 Allen key for Weldon arbor
- 1 safety belt
- 1 HSS Co Cutter Ø 18 mm, cutting depth 25 mm
- 1 ejector pin 6,35 x 70 mm (special for Rotabest® V32)
- 1 operation manual

### Prod.-No.

Complete set ALFRA Rotabest® V32	230 Volt	18710
Complete set ALFRA Rotabest® V32	110 Volt	18710.110



*Suitable for confined spaces, everywhere, where it's poky.*



*Infeed via ratched lever. Changeable for right and left hand operation.*



*Spur gear for robust application.*



*Good view from operator side to drilling tool.*



*Robust gear rod guidance.*



*Easy handling: Magnet on – Motor on/off.*







**METAL CORE DRILLING MACHINE – ALFRA Rotabest®**  
Made in Germany by ALFRA

# Piccolo 32/50 Weldon



Prod-No. 18552

## Technical Data:

Core Drill:	Ø 12.0 - 32.0 mm
Cutting Depth:	50.0 mm
Twist Drill:	Ø 1.0 - 13.0 mm DIN 338
Countersinking:	Ø 10.0 - 40.0 mm
Input:	1050 W
1- speed gearbox:	400 rpm
Tool Holder:	19 mm Weldon shank
Cooling:	internal, automatically adjustable in height (new)
Motor:	129 mm
Stroke:	230 V or 110 Volt
Voltage:	8.000 N
Magnet adhesion:	70x 160 m
Magnet Foot:	rigid
Magnet Foot Assembly:	10.6 kg
Weight:	

## Scope of supply:

- Metal Core Drilling Machine Piccolo 32/50 Weldon
- Plastic transport case
- Coolant unit
- Safety belt
- Operation Manual



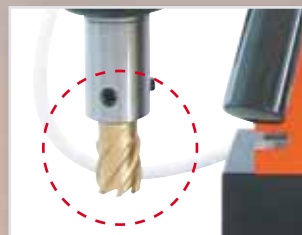
Prod-No.

ALFRA Rotabest® Piccolo 32/50 Foil keypad	230 Volt	18550
ALFRA Rotabest® Piccolo 32/50 Foil keypad	110 Volt	18550.110
ALFRA Rotabest® Piccolo 32/50 Switch keypad	230 Volt	18552
ALFRA Rotabest® Piccolo 32/50 Switch keypad	110 Volt	18552.110

**NEW**



Prod-No. 18550



*Weldon Direct Arbor. No Tool Holder required. Thus high concentric running exactness.*



*Motor adjustable in height on the slide for maximum stroke enlargement when using twist drills, drill chucks or when tapping. Solid brass guide rails guarantee an optimum slide guidance.*



## METAL CORE DRILLING MACHINE – ALFRA Rotabest®

Made in Germany by ALFRA



# Mini 38/50 Weldon

**NEW**

Motor continuously  
height adjustable on  
the slide up to 127 mm



Prod.-No. 18555

### Technical Data:

Core Drill:	Ø 12.0 - 38.0 mm
Cutting Depth:	50.0 mm
Twist Drill:	Ø 1.0 - 13.0 mm DIN 338
Countersinking:	Ø 10.0 - 40.0 mm
Input:	900 W
1- speed gearbox:	450 rpm
Tool Holder:	19 mm Weldon shank
Cooling:	internal, automatically adjustable in height
Motor:	141 mm
Stroke:	230 Volt or 110 Volt
Voltage:	12.000 N
Magnet adhesion:	95 x 200 mm
Magnet Foot:	rigid
Magnet Foot Assembly:	15.5 kg
Weight:	

### Scope of supply:

- Metal Core Drilling Machine Mini 38/50 Weldon
- Plastic transport case
- Coolant unit
- Safety belt
- Operation Manual



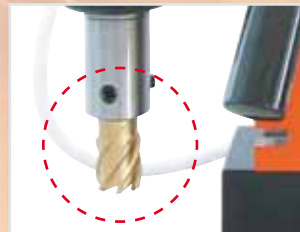
Prod.-No.

ALFRA Rotabest® Mini 38/50 Foil keypad	230 Volt	18554
ALFRA Rotabest® Mini 38/50 Foil keypad	110 Volt	18554.110
ALFRA Rotabest® Mini 38/50 Switch keypad	230 Volt	18555
ALFRA Rotabest® Mini 38/50 Switch keypad	110 Volt	18555.110

**NEW**



Prod.-No. 18554



Weldon Direct Arbor. No Tool Holder required. Thus high concentric running exactness.



Motor adjustable in height on the slide for maximum stroke enlargement when using twist drills, drill chucks or when tapping. Solid brass guide rails guarantee an optimum slide guidance.





**METAL CORE DRILLING MACHINE – ALFRA Rotabest®**  
Made in Germany by ALFRA

## Mini 40/2 Weldon



Prod.-No. 18542

### Technical Data:

Core Drill:	Ø 12.0 - 40.0 mm
Cutting Depth:	50.0 mm
Twist Drill:	Ø 1.0 - 10.0 mm DIN 1897 short
Countersinking:	Ø 10.0 - 40.0 mm
Input:	1200 W
2-speed gearbox:	250/450 rpm
Arbor:	19.0 mm Weldon Direct Arbor
Coolant Supply:	internal, automatically
Stroke:	141 mm
Voltage:	230 Volt 50-60 Hz
Magnetic Adhesion:	12.000 N
Magnet Foot:	95 x 200 mm
Magnet Foot Assembly:	rigid
Weight:	15.0 kg

### Scope of supply:

- Metal Core Drilling Machine Rotabest® mini 40/2
- Plastic transport case
- Drill chuck
- HSS- Co Cutter Ø 22.0 mm
- Ejector Pin
- Coolant Spray BIO 2000
- now with Coolant unit
- Safety belt

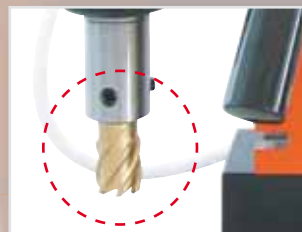


Prod.-No. 18541

Prod.-No.

ALFRA Rotabest® Mini 40/2 Foil keypad	230 Volt	18541
ALFRA Rotabest® Mini 40/2 Foil keypad	110 Volt	18541.110
ALFRA Rotabest® Mini 40/2 Switch keypad	230 Volt	18542
ALFRA Rotabest® Mini 40/2 Switch keypad	110 Volt	18542.110

**NEW**



Weldon Direct Arbor. No Tool Holder required. Thus high concentric running exactness.



## METAL CORE DRILLING MACHINE – ALFRA Rotabest®

Made in Germany by ALFRA

# Junior 75/4



Prod.-No. 18568



Prod.-No. 18567

### Technical Data:

Core Drill:	Ø 12.0 - 75.0 mm
Cutting Depth::	50.0 mm
Twist Drill:	Ø 32.0 mm
Tapping:	up to M20 with Tapping Attachment Prod.-No. 18653 possible
Countersinking:	Ø 10.0 - 55.0 mm
Input:	1800 W
4-speed gearbox:	110/175/245/385 rpm
Arbor:	MT 3 spindle for Tool Holder AMK 3
Coolant Supply:	via Tool Holder
Stroke:	235 mm
Voltage:	230 Volt 50-60 Hz
Magnetic Adhesion:	18.000 N
Magnet Foot:	95 x 200 mm, movable 10 mm back and forth, 330° to both sides
Weight:	25.0 kg

### Scope of supply:

- Metal Core Drilling Machine Rotabest® Junior 75/4 Spezial
- Transport case
- Safety belt
- Operation Manual
- Coolant unit



Prod.-No.

ALFRA Rotabest® Junior 75/4 Foil keypad	230 Volt	18567
ALFRA Rotabest® Junior 75/4 Foil keypad	110 Volt	18567.110
ALFRA Rotabest® Junior 75/4 Switch keypad	230 Volt	18568
ALFRA Rotabest® Junior 75/4 Switch keypad	110 Volt	18568.110

**NEW**







Description	Prod.-No.	32 RQ Piccolo 32/50	40 RQ 40 RL-E Mini 38/50	60 60 RL-E Junior 75/4	100 100 RL-E
HSS Countersink and Deburrer with Weldon shank Ø 25 mm	18533	■	■	■ With Tool Holder 18003/18025 18650+18651	■ With Tool Holder 18003/18025 18650+18651
HSS Countersink and Deburrer with Weldon shank Ø 30 mm	18536	■	■	■ With Tool Holder 18003/18025 18650+18651	■ With Tool Holder 18003/18025 18650+18651
HSS Countersink and Deburrer with Weldon shank Ø 40 mm	18534	■	■	■ With Tool Holder 18003/18025 18650+18651	■ With Tool Holder 18003/18025 18650+18651
HSS Countersink and Deburrer with Weldon shank Ø 55 mm	18537	■	■	■ With Tool Holder 18003/18025 18650+18651	■ With Tool Holder 18003/18025 18650+18651
Drill chuck with Weldon shank for twist drills Ø 1 - 13 mm	18107	■	■	■ With Tool Holder 18003/18025 18650+18651	■ With Tool Holder 18003/18025 18650+18651
Self-Tighten Drill chuck with Morse Taper 2 for twist drills Ø 1 - 16 mm	18008		40 RL-E ■	■	■
Self-Tighten Drill Chuck with Morse Taper 3 for twist drills Ø 1 - 16 mm	18009		40 RL-E ■	■	■
Tool Holder <b>AMK-2</b> Morse Taper 2 for core drills with Weldon shank Ø 12 - 60 mm with automatic internal cooling and nipple for coolant hose suitable for all Machines with MT 2 arbor.	18003		■	■ With Reducing Sleeve MT 3/2	■ With Reducing Sleeve MT 3/2
Tool Holder <b>AMK-3</b> Morse Taper 3 for core drills with Weldon shank Ø 12 - 60 mm with automatic internal cooling and nipple for coolant hose suitable for all Machines with MT 3 arbor.	18025			■	■
Tool Holder <b>AMK-3</b> Morse Taper 3 – <b>extended version</b> with Weldon shank Ø 12 - 50 mm, <b>Cutting Depth 110 mm</b> with automatic internal cooling and nipple for coolant hose suitable for all Machines with MT 3 arbor.	18025L			■	■
Tool Holder <b>AL3</b> - Morse Taper 3 for core drills strong construction, Ø 51 - 100 mm, with keyway with automatic internal cooling and nipple for coolant hose	20230			■	■
Quick Change Tool Holder <b>Rota-Quick®</b> Morse Taper 2 with automatic internal cooling and nipple for coolant hose suitable for all machines with MT 2 arbor <b>max. Ø 40 mm core drills</b>	18650		40 RL-E ■	■ With Reducing Sleeve MT 3/2	■ With Reducing Sleeve MT 3/2
Quick Change Tool Holder <b>Rota-Quick®</b> Morse Taper 3 with automatic internal cooling and nipple for coolant hose suitable for all machines with MT 3 arbor <b>max. Ø 40 mm core drills</b>	18651			■	■



Prod.-No. 18533



Prod.-No. 18107



Prod.-No. 18008/18009



Prod.-No. 18003/18025



Prod.-No. 18025L



Prod.-No. 20230

Prod.-No. 18650 + 18651  
max. Ø 40 mm core drills





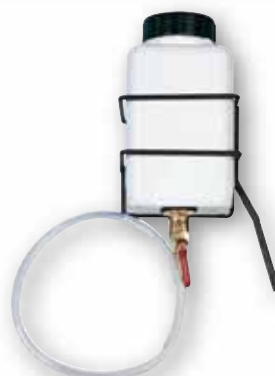
# B



## ROTABEST® CORE DRILLING MACHINES – Accessories

For all types

Description	Prod.-No.
Coolant unit complete (see illustration)	18104
ALFRA Bio 2000 Cutting and Drilling Spray Sprayer 405 ml	21010
High-performance wax pin Ideal for vertical and overhead core drillings, as paste sticks to the cutter	09011
Coolant unit (without illustration) 0,5 l for Rotabest® V32	18103



Prod.-No. 18104

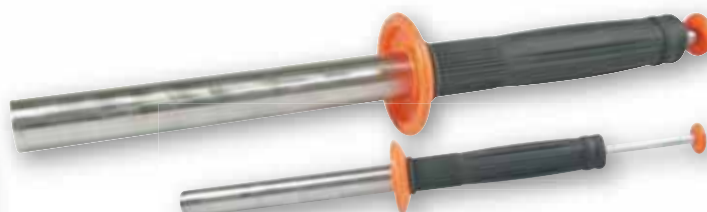


Prod.-No. 21010 + 09011

## ALFRA – Magnetic Chip Remover

In a stainless steel round rod, you can move a magnet back and forth.  
The strong magnet attracts the chips – pull the knob, chips fall down.  
For more cleanliness on the work place.

ALFRA Magnetic Chip Remover, Length 400 mm	Prod.-No. 18654
--	--------------------



Prod.-No. 18654







Description	Shank	Prod.-No.
Tapping Attachment M3 - M12 Scope of supply: with Rota-Quick®- shank and MT2 plastic case, manual book	MT2 + RotaQuick®	18652
Tapping Attachment M10 - M20 Scope of supply: with Rota-Quick®- shank and MT2 plastic case, manual book	MT2 + RotaQuick®	18653

40 RQ	60	75/4	100
■	■ With Reducing Sleeve MT 3/2	■ With Reducing Sleeve MT 3/2	■ With Reducing Sleeve MT 3/2
	■ With Reducing Sleeve MT 3/2	■ With Reducing Sleeve MT 3/2	■ With Reducing Sleeve MT 3/2



Prod.-No. 18652 + 18653

### Tapping chuck with quick-change inserts for use with Rotabest® RL-E models with right/left rotation

<b>Tapping Set Size 1</b> in wooden case consisting of: Quick Change Tapping Adaptor Size 1 <b>MT 2</b> 1pc. each of Tap Collet Size 1 M3 – M4 – M5 – M6 – M8 – M10 – M12 – M14	18660
<b>Tapping Set Size 2</b> in wooden case consisting of: Quick Change Tapping Adaptor Size 2 <b>MT 3</b> 1pc. each of Tap Collet Size 2 M6 – M8 – M10 – M12 – M14 – M16 – M18 – M20 – M22	18680
Quick Change Tapping Adaptor <b>Size 1</b> MT 2, separate	18661
Quick Change Tapping Adaptor <b>Size 2</b> MT 3, separate	18681



Prod.-No. 18680



Prod.-No. 18682 (M6)

Prod.-No. 18681

### Tap Collets with clutch

	Shank-Ø	Square	Tap	
Size 1 M3	3,5	2,7	DIN 371	18662
Size 1 M4	4,5	3,4	DIN 371	18663
Size 1 M5	6,0	4,9	DIN 371	18664
Size 1 M6	6,0	4,9	DIN 371	18678
Size 1 M8	8,0	6,2	DIN 371	18665
Size 1 M10	10,0	8,0	DIN 371	18666
Size 1 M12	9,0	7,0	DIN 376	18667
Size 1 M14	11,0	9,0	DIN 376	18668
Size 2 M6	6,0	4,9	DIN 371	18682
Size 2 M8	8,0	6,2	DIN 371	18683
Size 2 M10	10,0	8,0	DIN 371	18684
Size 2 M12	9,0	7,0	DIN 376	18685
Size 2 M14	11,0	9,0	DIN 376	18686
Size 2 M16	12,0	9,0	DIN 376	18687
Size 2 M18	14,0	11,0	DIN 376	18688
Size 2 M20	16,0	12,0	DIN 376	18689
Size 2 M22	18,0	14,5	DIN 376	18690



Prod.-No. 18681 – Assembly Note



Technical information and recommended values for tapping with Metal Core Drilling Machines compare page B/121.





## ACCESSORIES – Mechanical Clamping Devices for pipes

For all types

### Description

### Prod.-No.

„If all hell is let loose“ on site - or in the workshop!  
Our mechanical attachment for clamping pipes with tension chains enables for the use of Magnetic Core Drilling Machines on pipes from Ø 80 mm.  
The adjustment is carried out by means of clamping jaws. For pipes of various Ø.  
Base plate for magnet foot **100 x 205 mm**



Prod.-No. 18019

Attachment for Clamping Pipes with  
1 tension chain Ø 80- 300 mm, Weight 7,5 kg

18019

Attachment for Clamping Pipes with  
2 tension chains Ø 80- 900 mm, Weight 12 kg

18020

Attachment for Clamping Pipes with  
1 tension strap Ø 80-900 mm, Weight 6,5 kg

18021



Prod.-No. 18020

**Clamping range with twofold tension belt up to 2000 mm pipe-Ø  
on request Prod.-No. 18022**



Prod.-No. 18021

## ACCESSORIES – Vacuum Attachment Vacubest

For all types

### Description

### Prod.-No.

Vacuum Attachment Vacubest

18150

Use on non-magnetic surfaces such as aluminium, copper, brass, stainless steel, plastics, structured materials (e.g. bulb or checker plate)

Vacuum capacity: 1.5 m³/h - 25 l/min.  
Max vacuum: 200 mbar (abs)  
Overpressure: 300 mbar  
Dimension of vacuum plate: 400 x 200 mm

### Scope of supply:

Pump (230 V, 50Hz), vacuum plate, vacuum hose 3m

### TIP:

Please explain operation range (problems). We are pleased to advice.



Vacuum plate

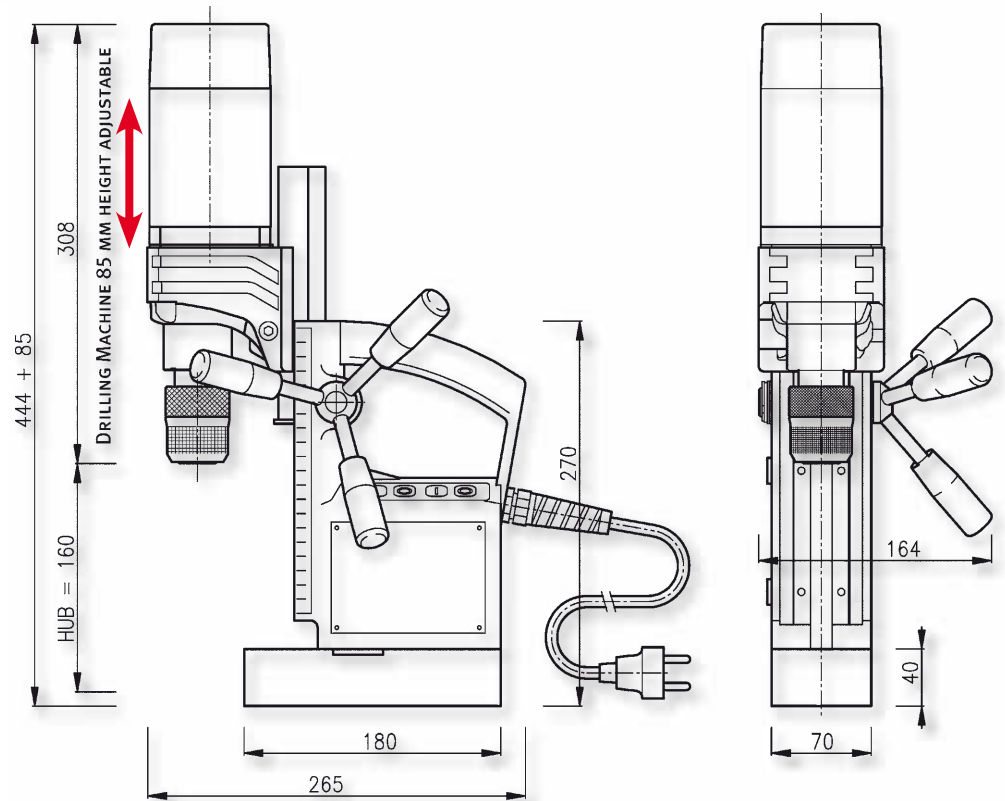


Pump

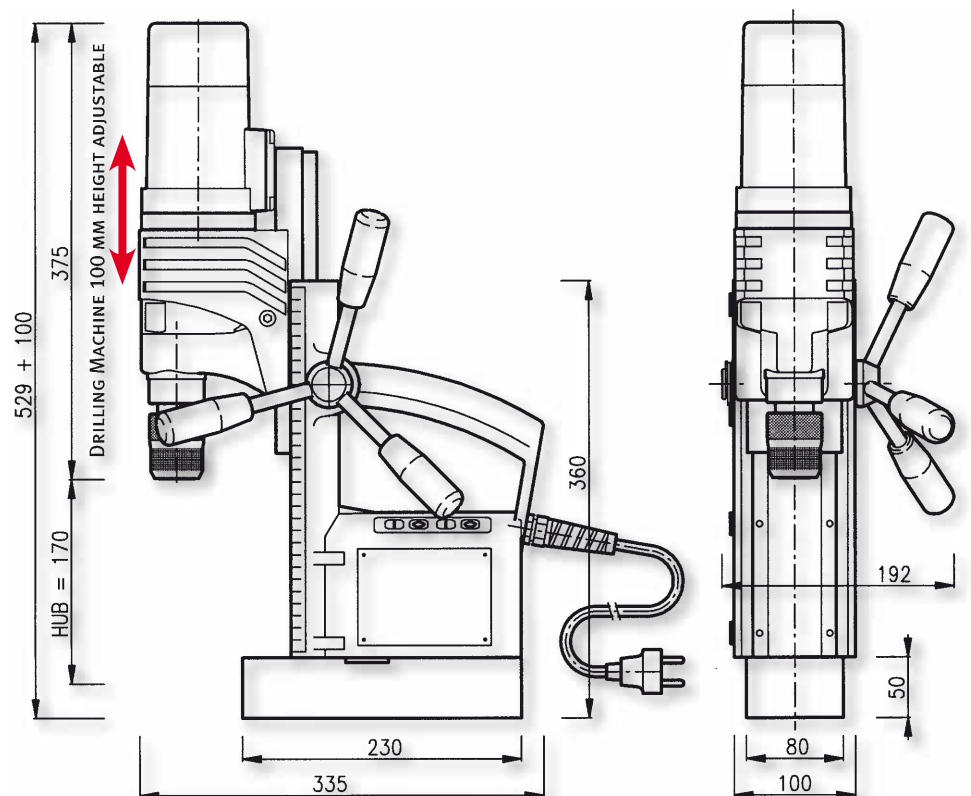




## MACHINE DIMENSIONING – ALFRA Rotabest® 32 RQ



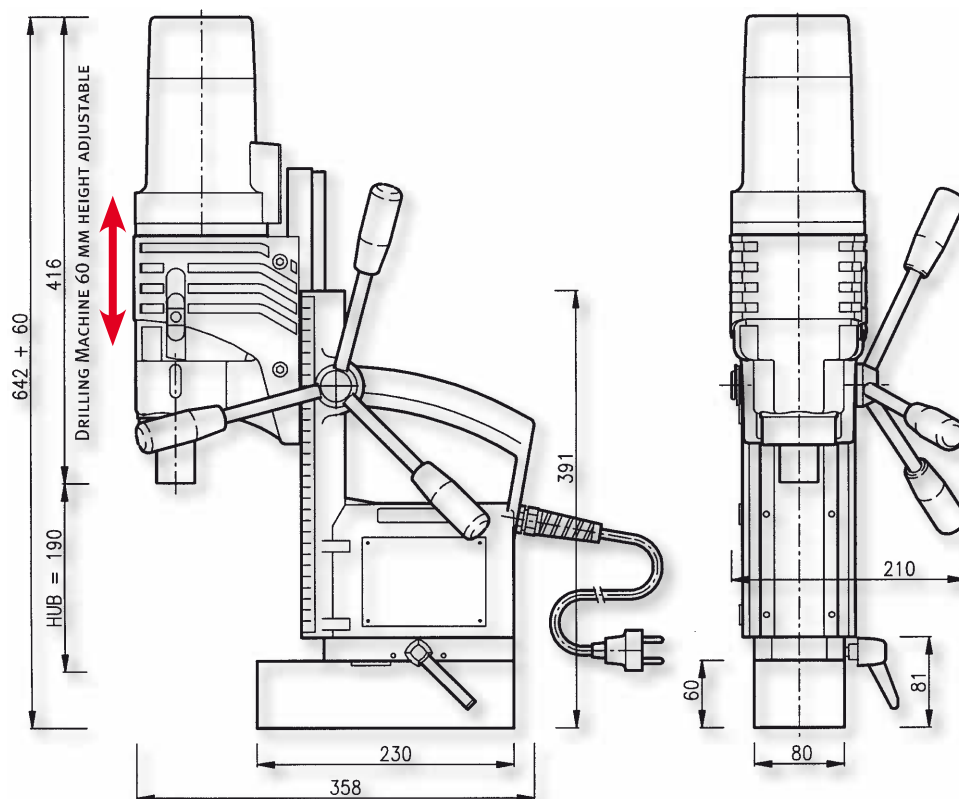
## MACHINE DIMENSIONING – ALFRA Rotabest® 40 RQ + 40 RL-E



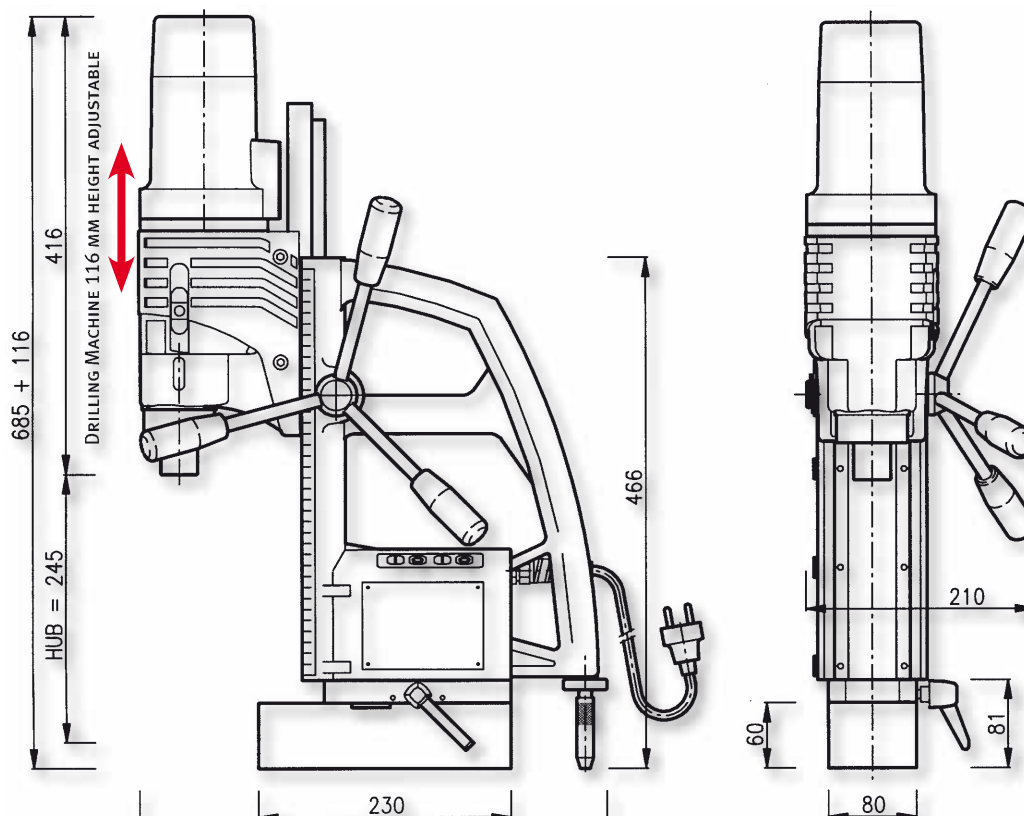


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## MACHINE DIMENSIONING – **ALFRA Rotabest® 60 + 60 RL-E**



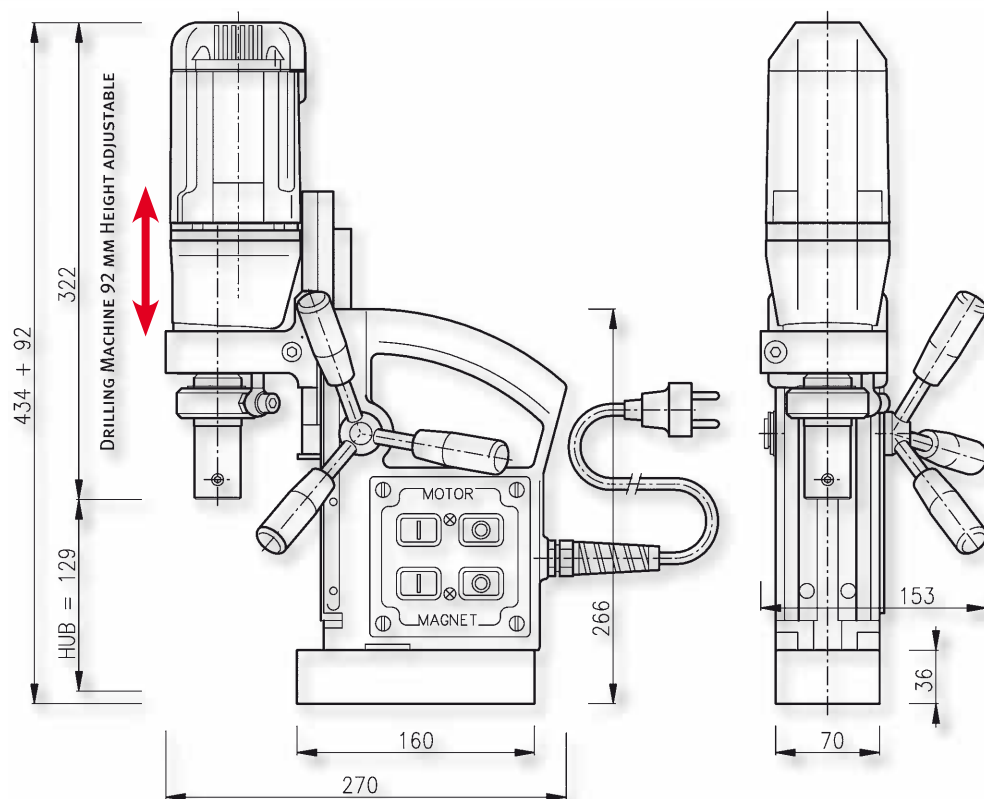
## MACHINE DIMENSIONING – **ALFRA Rotabest® 100/100 RL-E**



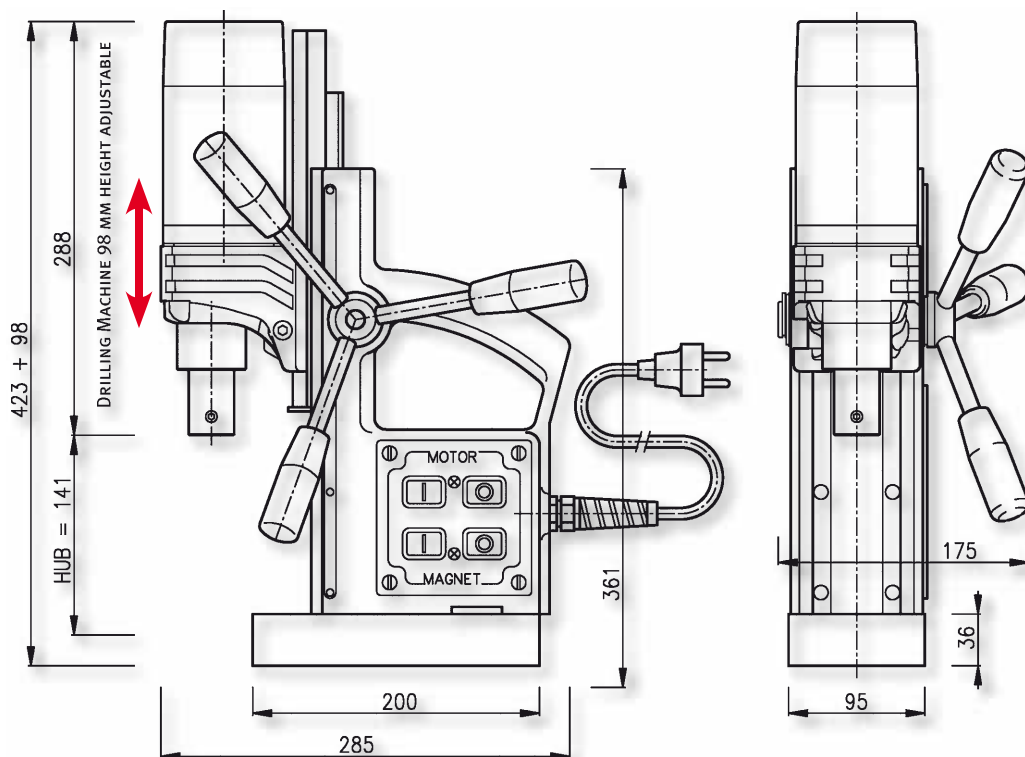




## MACHINE DIMENSIONING – Rotabest® Piccolo 32/50



## MACHINE DIMENSIONING – Rotabest® Mini 38/50





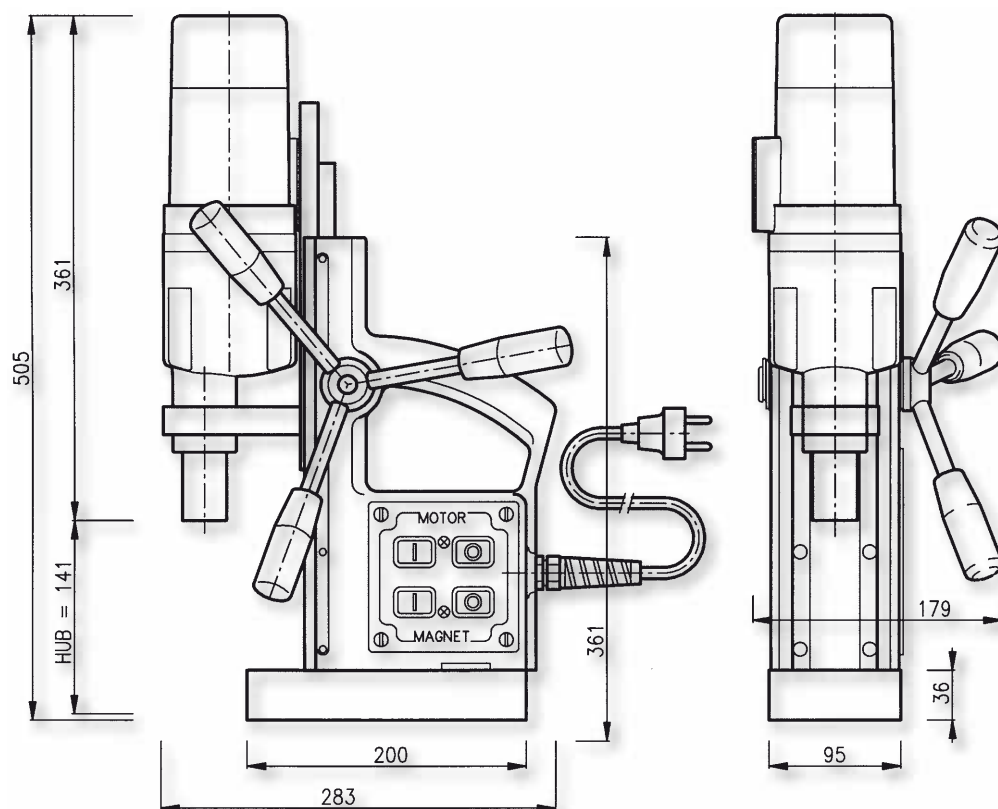


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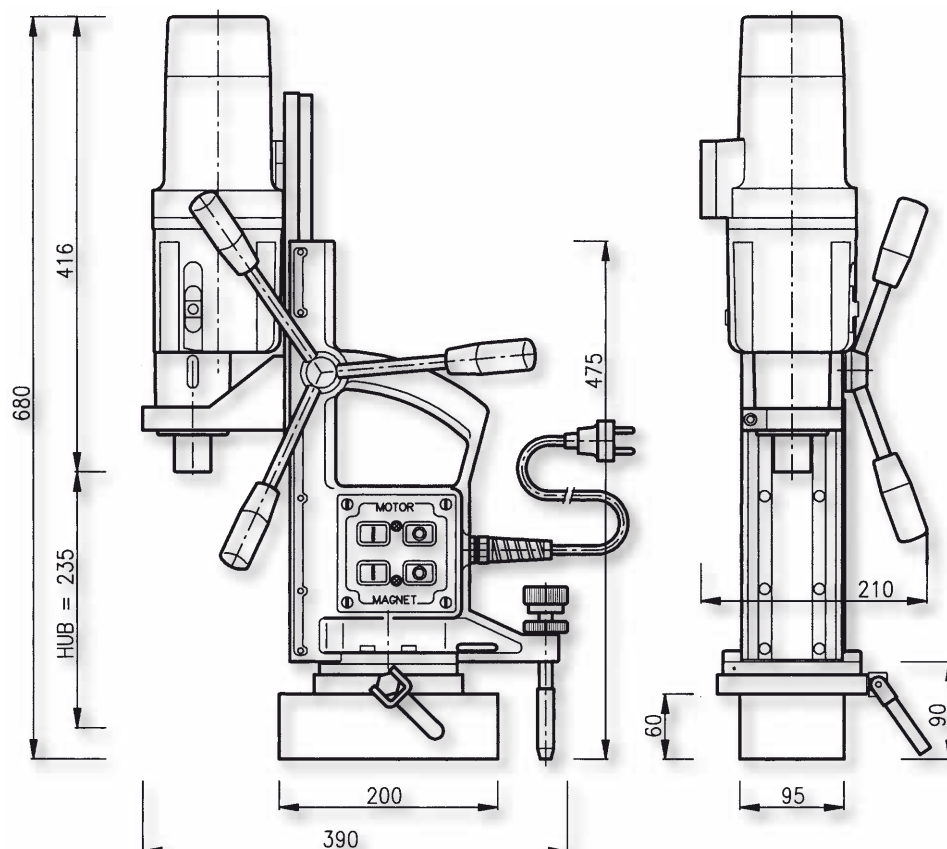
## MACHINE DIMENSIONING – Rotabest® Mini 40/2

**€CO**



## MACHINE DIMENSIONING – Rotabest® Junior 75/4

**€CO**



METAL CORE CUTTERS HAVE GOT A NAME

**ALFRA ROTABEST®**

- ▶ HSS-Co-Eco
- ▶ HSS-Co RQX COATED
- ▶ ASP-30 RAIL





# ALFRA ROTABEST<sup>®</sup> MAGNETIC CORE DRILLING MACHINES + ALFRA ROTABEST<sup>®</sup> CUTTERS BELONG TOGETHER. PERFECTLY TUNED WITH EACH OTHER.

MANUFACTURER'S COMPETENCE  
30 YEARS OF EXPERIENCE

## Advantages of ALFRA ROTABEST<sup>®</sup> HSS-Co Cutters

**Design** Specially designed cutting geometry

- Advantages**
- Immediate centering
  - No running off center
  - Good concentricity
  - Suitable for NC and CNC machines

**Design** Optimum regular chip break

- Advantages**
- Smooth cutting
  - Excellent cutting capacity
  - Good chip production at each tooth
  - Regular chip flow

**Design** Minimum cross section of chip removing surface

- Advantages**
- Easy cutting
  - Low torque
  - Minimum demand for energy

**Design** High tooth hardness due to optimum raw material and special heat treatment

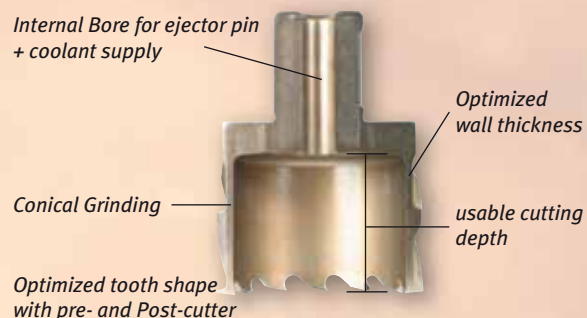
- Advantages**
- Long tool life
  - Also suitable for material difficult to cut

**Design** High toughness of cutter, specially graduated hardness

- Advantages**
- Low risk of tool break, especially under rough working conditions

Industrial scale manufacturing by  
state-of-the-art CNC technology

- Best reproducibility
- Constant quality







# ALFRA ROTABEST® – HSS-Co-Eco Cutters

With Weldon shank 19.0 mm

- With Weldon shank 19 mm  
2 clamping surfaces, 1 Countersinking for RotaQuick®
- Internal bore 6,35 mm
- Steel quality: Special high-capacity speed steel
- Ground section: high performance toothing with pre- and post cutter

## Suitable for:

ALFRA-Rotabest® (Weldon), ALFRA-RotaQuick® quick change system, BDS, Bux, Ruko, Magnetor, Euroboor, Universal, Nitto, Jancy, Hougen, Magtron, Promac, Rotabroach and as well as for all types of magnetic drilling machines with Weldon shank.

Ø in mm Cutting depth	Prod.-No. 25 mm	Prod.-No. 35 mm	Prod.-No. 50 mm	Prod.-No.* 110 mm
12,0	1901012025	1901012035	1901012050	–
13,0	1901013025	1901013035	1901013050	–
13,5	1901013525	–	1901013550	–
14,0	1901014025	1901014035	1901014050	–
15,0	1901015025	1901015035	1901015050	–
15,5	1901015525	–	1901015550	–
16,0	1901016025	1901016035	1901016050	–
17,0	1901017025	1901017035	1901017050	–
17,5	1901017525	–	1901017550	–
18,0	1901018025	1901018035	1901018050	–
19,0	1901019025	1901019035	1901019050	–
19,5	1901019525	–	1901019550	–
20,0	1901020025	1901020035	1901020050	1901020110
21,0	1901021025	1901021035	1901021050	–
22,0	1901022025	1901022035	1901022050	1901022110
23,0	1901023025	1901023035	1901023050	–
24,0	1901024025	1901024035	1901024050	1901024110
25,0	1901025025	1901025035	1901025050	1901025110
26,0	1901026025	1901026035	1901026050	1901026110
26,5	1901026525	–	1901026550	–
27,0	1901027025	1901027035	1901027050	–
28,0	1901028025	1901028035	1901028050	1901028110
29,0	1901029025	1901029035	1901029050	–
30,0	1901030025	1901030035	1901030050	1901030110
31,0	1901031025	1901031035	1901031050	–
32,0	1901032025	1901032035	1901032050	1901032110
33,0	1901033025	1901033035	1901033050	–
34,0	1901034025	1901034035	1901034050	–
35,0	1901035025	1901035035	1901035050	1901035110
36,0	1901036025	1901036035	1901036050	–
37,0	1901037025	1901037035	1901037050	–
38,0	1901038025	1901038035	1901038050	–
39,0	1901039025	1901039035	1901039050	–
40,0	1901040025	1901040035	1901040050	1901040110
41,0	1901041025	–	1901041050	–
42,0	1901042025	–	1901042050	–
43,0	1901043025	–	1901043050	–
44,0	1901044025	–	1901044050	–
45,0	1901045025	–	1901045050	1901045110
46,0	1901046025	–	1901046050	–
47,0	1901047025	–	1901047050	–
48,0	1901048025	–	1901048050	–
49,0	1901049025	–	1901049050	–
50,0	1901050025	–	1901050050	1901050110
51,0	–	–	1901051050	–
52,0	1901052025	–	1901052050	–
53,0	–	–	1901053050	–
54,0	–	–	1901054050	–
55,0	1901055025	–	1901055050	–
56,0	–	–	1901056050	–
57,0	–	–	1901057050	–
58,0	–	–	1901058050	–
59,0	–	–	1901059050	–
60,0	1901060025	–	1901060050	–
Ejector Pins Size	1926500 6,35 x 77	1935500 6,35 x 87	1950500 6,35 x 102	2001502 8 x 160

\* Attention: HSS-Co-Eco Cutters with cutting depth 110 mm can only be used with Tool Holder AMK 2 L ( Prod.-No. 18003 L )  
or AMK 3 L ( Prod.-No. 18025 L ).



Countersinking for RotaQuick® Weldon



High performance toothing with pre- (1)  
and post (2) cutter







**B**

# ALFRA ROTABEST® – HSS-Co-Eco Cutter Sets

With Weldon shank 19.0 mm



- An assortment of the most popular sizes of cutters clearly presented in a plastic case.
- An absolute protection of the teeth even in rough applications on the spot and in the workshop.
- On request, we can manufacture your individual sets from Ø 12 to 30 mm.

## HSS-Co-Eco Cutter Set

Cutting depth **25 mm**

**Prod.-No.**

1901003025

Content of the set:

**6 cutters, Ø 12.0 - 14.0 - 16.0 - 18.0 - 20.0 - 22.0 mm**

in solid plastic case

incl. 1 ejector pin Prod.-No. 1926500



Prod.-No. 1901003025

## HSS-Co-Eco Cutter Set

Cutting depth **25 mm**

**Prod.-No.**

1901001025

Content of the set:

**10 cutters, Ø 2 x 12.0 - 2 x 14.0 - 1 x 16.0 - 2 x 18.0 - 1 x 20.0 - 2 x 22.0 mm**

in solid plastic case

incl. 2 ejector pins Prod.-No. 1926500



Prod.-No. 1901001025

## HSS-Co-Eco Cutter Set

Cutting depth **50 mm**

**Prod.-No.**

1901003050

Content of the set:

**6 cutters, Ø 14.0 - 16.0 - 18.0 - 20.0 - 22.0 - 26.0 mm**

in solid plastic case

incl. 1 ejector pin Prod.-No. 1950500



Prod.-No. 1901003050

## HSS-Co-Eco Cutter Set

Cutting depth **50 mm**

**Prod.-No.**

1901001050

Content of the set:

**10 cutters,**

**Ø 2 x 14.0 - 1 x 16.0 - 2 x 18.0 - 1 x 20.0 - 2 x 22.0 - 1 x 24.0 - 1 x 26.0 mm**

in solid plastic case

incl. 2 ejector pins Prod.-No. 1950500



Prod.-No. 1901001050



# ALFRA ROTABEST® – HSS-Cobalt RQX Cutters RQX coated

With Weldon shank 19.0 mm • with Balzers Coating

- With Weldon shank 19 mm  
2 clamping surfaces, 1 Countersinking for RotaQuick®
- Internal bore 6,35 mm
- Steel quality: special quality high speed steel with cobalt, **coated**
- Ground section: high performance toothing with pre- and post cutter.



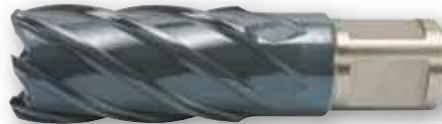
Ø in mm    Cutting depth 25 mm    Prod.-No.

12,0	1902012025
13,0	1902013025
14,0	1902014025
15,0	1902015025
16,0	1902016025
17,0	1902017025
18,0	1902018025
19,0	1902019025
20,0	1902020025
21,0	1902021025
22,0	1902022025
23,0	1902023025
24,0	1902024025
25,0	1902025025
26,0	1902026025
27,0	1902027025
28,0	1902028025
29,0	1902029025
30,0	1902030025
31,0	1902031025
32,0	1902032025
33,0	1902033025
34,0	1902034025
35,0	1902035025
36,0	1902036025
37,0	1902037025
38,0	1902038025
39,0	1902039025
40,0	1902040025
41,0	1902041025
42,0	1902042025
43,0	1902043025
44,0	1902044025
45,0	1902045025
46,0	1902046025
47,0	1902047025
48,0	1902048025
49,0	1902049025
50,0	1902050025
51,0	
52,0	
53,0	
54,0	
55,0	
56,0	
57,0	
58,0	
59,0	
60,0	

Ejector Pin 6,35 x 77 mm    1926500

## Suitable for:

ALFRA-Rotabest® (Weldon), ALFRA-RotaQuick® quick change system, BDS, Bux, Ruko, Magnetor, Euroboor, Universal, Nitto, Jancy, Hougen, Magtron, Promac, Rotabroach and as well as for all types of magnetic drilling machines with Weldon shank.



Ø in mm    Cutting depth 50 mm    Prod.-No.

12,0	1902012050
13,0	1902013050
14,0	1902014050
15,0	1902015050
16,0	1902016050
17,0	1902017050
18,0	1902018050
19,0	1902019050
20,0	1902020050
21,0	1902021050
22,0	1902022050
23,0	1902023050
24,0	1902024050
25,0	1902025050
26,0	1902026050
27,0	1902027050
28,0	1902028050
29,0	1902029050
30,0	1902030050
31,0	1902031050
32,0	1902032050
33,0	1902033050
34,0	1902034050
35,0	1902035050
36,0	1902036050
37,0	1902037050
38,0	1902038050
39,0	1902039050
40,0	1902040050
41,0	1902041050
42,0	1902042050
43,0	1902043050
44,0	1902044050
45,0	1902045050
46,0	1902046050
47,0	1902047050
48,0	1902048050
49,0	1902049050
50,0	1902050050
51,0	1902051050
52,0	1902052050
53,0	1902053050
54,0	1902054050
55,0	1902055050
56,0	1902056050
57,0	1902057050
58,0	1902058050
59,0	1902059050
60,0	1902060050

Ejector Pin 6,35 x 102 mm    1950500



Countersinking for RotaQuick®    Weldon



High performance toothing with pre- (1) and post (2) cutter







# ALFRA ROTABEST® – HSS-Cobalt RQX Cutters RQX Sets

With Weldon shank 19.0 mm • with Balzers Coating

- An assortment of the most popular sizes of cutters clearly presented in a solid plastic case.
- Absolute protection of the teeth even in rough applications on the spot and in the workshop.
- We can manufacture your individual sets from Ø 12 to 30 mm on request.

## Rota-Quick® HSS-Cobalt RQX Cutter Set Prod.-No.

Cutting Depth **25 mm**

1902003025

Content of the set:

**6 cutters, Ø 12.0 - 14.0 - 16.0 - 18.0 - 22.0 - 26.0 mm**

in solid plastic case

incl. 1 ejector pin Prod.-No. 1926500

## Rota-Quick® HSS-Cobalt RQX Cutter Set Prod.-No.

Cutting Depth **25 mm**

1902001025

Content of the set:

**10 cutters, Ø 2 x 12.0 - 2 x 14.0 - 1 x 16.0 - 2 x 18.0 - 2 x 22.0 - 1 x 26.0 mm**

in solid plastic case

incl. 2 ejector pins Prod.-No. 1926500

## Rota-Quick® HSS-Cobalt RQX Cutter Set Prod.-No.

Cutting Depth **50 mm**

1902003050

Content of the set:

**6 cutters, Ø 14.0 - 16.0 - 18.0 - 20.0 - 22.0 - 26.0 mm**

in solid plastic case

incl. 1 ejector pin Prod.-No. 1950500

## Rota-Quick® HSS-Cobalt RQX Cutter Set Prod.-No.

Cutting Depth **50 mm**

1902001050

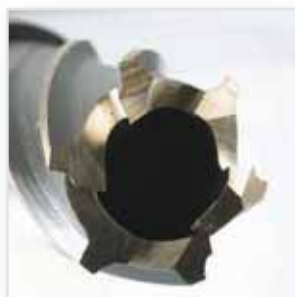
Content of the set:

**10 cutters,**

**Ø 2 x 14.0 - 1 x 16.0 - 2 x 18.0 - 1 x 20.0 - 2 x 22.0 - 1 x 24.0 - 1 x 26.0 mm**

in solid plastic case

incl. 2 ejector pins Prod.-No. 1950500



**HSS-Cobalt Cutters for stack drilling ( drilling in sandwich material) on request!**  
**(Standard core drills aren't suitable.)**



Prod.-No. 1902003025



Prod.-No. 1902001025



Prod.-No. 1902003050



Prod.-No. 1902001050



## ALFRA ROTABEST® – ASP-30 Rail

With Weldon shank 19.0 mm



- with Weldon shank 19 mm
- Internal bore
- Steel quality: Cobalt-containing special high capacity speed steel on a powder-metallurgical basis with highest pureness and improved tenacity compared with the powdersteels of older generations.
- Perfectly suitable for wear-intensive applications, such as drilling rails.
- These tools can also be used on all Magnet Drilling Machines, especially with Weldon shank.

### suitable for:

all portable Magnet Drilling Machines with 19 mm Weldon arbor, but especially for Rail Drilling Machines of the makes:

- Cembre
- Erico
- KKT
- Dubuis
- Universal
- Magtron
- Rotabroach

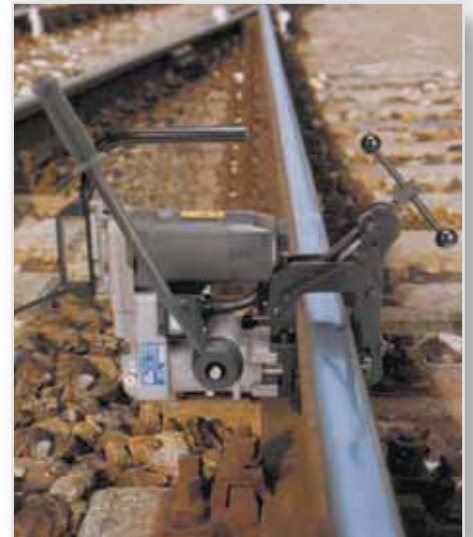
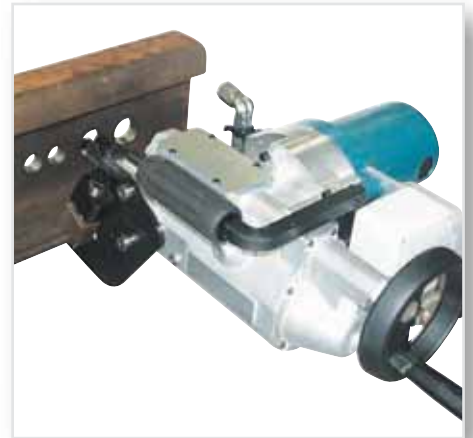


Ø in mm Cutting depth 25 mm Prod.-No.

14,0	1905014025
16,0	1905016025
17,0	1905017025
18,0	1905018025
19,0	1905019025
20,0	1905020025
22,0	1905022025
23,0	1905023025
24,0	1905024025
25,0	1905025025
26,0	1905026025
27,0	1905027025
27,5	1905027525
28,0	1905028025
30,0	1905030025
31,0	1905031025
32,0	1905032025
33,0	1905033025
34,0	1905034025
36,0	1905036025
Ejector Pin 6,35 x 77 mm	1926500

Ø in mm Cutting depth 50 mm Prod.-No.

14,0	1905014050
16,0	1905016050
17,0	1905017050
18,0	1905018050
19,0	1905019050
20,0	1905020050
22,0	1905022050
23,0	1905023050
24,0	1905024050
25,0	1905025050
26,0	1905026050
27,0	1905027050
27,5	1905027550
28,0	1905028050
30,0	1905030050
31,0	1905031050
32,0	1905032050
33,0	1905033050
34,0	1905034050
36,0	1905036050
Ejector Pin 6,35 x 102 mm	1950500

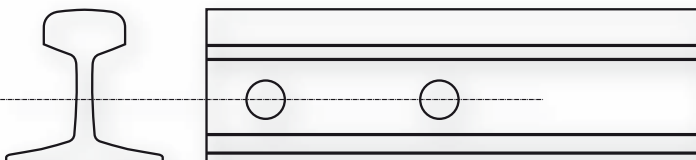


### Tip:

Well-proven for drilling Hardox and similar high-tensile steels. Name your drilling problem, we are pleased to advise.

### Another Tip:

ASP-60 for „impossible“ drilling jobs on request.







**B**



## ALFRA – HSS-Co-Eco Cutters for FEIN-QUICK IN

### ■ Suitable for FEIN Magnet Drilling Machines

- You use FEIN Magnet Drilling Machines and do not want to do without ALFRA-Rotabest Cutters? Here is our range of HSS- and TCT Cutters suitable for the various FEIN types of machines.
- Special shank 18.0 mm with 4 ball recesses
- Steel quality: Special high capacity speed steel
- Internal bore: 6.4 mm
- Suitable for: FEIN Magnet Drilling Machines with Quick-IN quick change arbor of the models KBM 22 Q, KBM 50 Q, KBM 65 Q, KBM 65 QF
- Ground section: high performance toothing with pre- and post cutter

Ø in mm	Cutting Depth 35 mm	Prod.-No.
12,0		1909012035
13,0		1909013035
14,0		1909014035
15,0		1909015035
16,0		1909016035
17,0		1909017035
18,0		1909018035
19,0		1909019035
20,0		1909020035
21,0		1909021035
22,0		1909022035
23,0		1909023035
24,0		1909024035
25,0		1909025035
26,0		1909026035
27,0		1909027035
28,0		1909028035
29,0		1909029035
30,0		1909030035
31,0		1909031035
32,0		1909032035
Ejector Pin 6,35 x 106 mm		1936500



Prod.-No. 1936500



High performance toothing with pre- and post cutter

## ALFRA – HSS-Co Eco Cutters suitable for FEIN + Hitachi

- Suitable for FEIN and HITACHI Magnet Drilling Machines with threaded arbor, internal thread M18 x 6P 1.5

Ø in mm	Cutting Depth 50 mm	Prod.-No.
12,0		1908012050
13,0		1908013050
14,0		1908014050
15,0		1908015050
16,0		1908016050
17,0		1908017050
18,0		1908018050
19,0		1908019050
20,0		1908020050
21,0		1908021050
22,0		1908022050
23,0		1908023050
24,0		1908024050
25,0		1908025050
26,0		1908026050
27,0		1908027050
28,0		1908028050
29,0		1908029050
30,0		1908030050





# ALFRA – HSS-Co-Combi for NITTO One Touch machines

- New universal shank as well suitable for Magnet Drilling Machines with Weldon arbor
- Internal bore 6,35 mm
- Steel quality: Special high-capacity speed steel
- Ground section: high performance toothing with pre- and post cutter

## Suitable for:

ALFRA, ALFRA-RQ models with quick change system, BDS (incl. Keyless system), Bux, Ruko, Magnetor, Euroboor, Jancy, Hougen, Magtron, Promag, Rotabroach, Jepson, Metallkraft etc.

## Especially for Nitto One Touch machines

### Ø in mm Cutting Depth 25 mm Prod.-No.

12,0	1903012025
13,0	1903013025
13,5	–
14,0	1903014025
15,0	1903015025
15,5	–
16,0	1903016025
17,0	1903017025
17,5	–
18,0	1903018025
19,0	1903019025
19,5	–
20,0	1903020025
21,0	1903021025
22,0	1903022025
23,0	1903023025
24,0	1903024025
25,0	1903025025
26,0	1903026025
26,5	–
27,0	1903027025
28,0	1903028025
29,0	1903029025
30,0	1903030025
31,0	1903031025
32,0	1903032025
33,0	1903033025
34,0	1903034025
35,0	1903035025
36,0	1903036025
37,0	1903037025
38,0	1903038025
39,0	1903039025
40,0	1903040025
41,0	1903041025
42,0	1903042025
43,0	1903043025
44,0	1903044025
45,0	1903045025
46,0	1903046025
47,0	1903047025
48,0	1903048025
49,0	1903049025
50,0	1903050025
51,0	–
52,0	1903052025
53,0	–
54,0	–
55,0	1903055025
56,0	–
57,0	–
58,0	–
59,0	–
60,0	1903060025

Ejector Pins 6,35 x 77

1926500

### Ø in mm Cutting Depth 50 mm Prod.-No.

12,0	1903012050
13,0	1903013050
13,5	–
14,0	1903014050
15,0	1903015050
15,5	–
16,0	1903016050
17,0	1903017050
17,5	–
18,0	1903018050
19,0	1903019050
19,5	–
20,0	1903020050
21,0	1903021050
22,0	1903022050
23,0	1903023050
24,0	1903024050
25,0	1903025050
26,0	1903026050
26,5	–
27,0	1903027050
28,0	1903028050
29,0	1903029050
30,0	1903030050
31,0	1903031050
32,0	1903032050
33,0	1903033050
34,0	1903034050
35,0	1903035050
36,0	1903036050
37,0	1903037050
38,0	1903038050
39,0	1903039050
40,0	1903040050
41,0	1903041050
42,0	1903042050
43,0	1903043050
44,0	1903044050
45,0	1903045050
46,0	1903046050
47,0	1903047050
48,0	1903048050
49,0	1903049050
50,0	1903050050
51,0	1903051050
52,0	1903052050
53,0	1903053050
54,0	1903054050
55,0	1903055050
56,0	1903056050
57,0	1903057050
58,0	1903058050
59,0	1903059050
60,0	1903060050

Ejector Pins 6,35 x 102

1950500

**NEW**



High performance toothing with pre- (1) and post (2) cutter





METAL CORE CUTTERS HAVE GOT A NAME

**ALFRA ROTABEST®**

► **TUNGSTEN  
CARBIDE TIPPED**





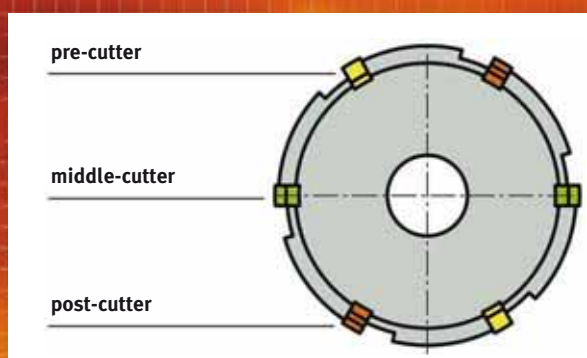
# **ALFRA ROTABEST** MAGNETIC CORE DRILLING MACHINES + **ALFRA ROTABEST** CUTTERS BELONG TOGETHER. PERFECTLY TUNED WITH EACH OTHER.

**MANUFACTURER'S COMPETENCE  
30 YEARS OF EXPERIENCE**

Usable on Magnet Drilling - and Pillar Drilling Machines.  
For constructional steels, hard-to-cut materials, such as  
chrome-nickel steels and for non-ferrous metals, such as  
aluminium or CuZn-alloys and many more.

## **Advantages of ALFRA ROTABEST® TCT Cutters**

- Good concentricity through solid construction
- CAD - optimized cutting geometry for regular chip break
- Specially shaped chip flutes to avoid chip jamming
- Immediate centering
- No running off center
- Low torque
- Minimum demand for energy
- Quick core removal through ejector pin
- Long tool life





# ALFRA ROTABEST® – TCT Cutters

With Weldon shank 19.0 mm

- With Weldon shank 19 mm
- Internal bore: Ø 14 - 17 mm = 6,35 mm  
Ø 18 - 50 mm = 8,0 mm
- Ground section: high performance toothing with pre-, middle- and post cutter
- For highest requirements in capacity and tool life
- These tools can also be used on all Magnet Drilling Machines with Weldon arbor.



## Suitable for:

ALFRA-Rotabest® (Weldon), ALFRA-RotaQuick® quick change system, BDS, Bux, Ruko, Magnetor, Euroboor, Universal, Nitto, Jancy, Hougen, Magtron, Promac, Rotabroach and as well as for all types of magnetic drilling machines with Weldon shank.



B



Ø in mm Cutting Depth 35 mm Prod.-No.

14,0	2003014035
15,0	2003015035
16,0	2003016035
17,0	2003017035
18,0	2003018035
19,0	2003019035
20,0	2003020035
21,0	2003021035
22,0	2003022035
23,0	2003023035
24,0	2003024035
25,0	2003025035
26,0	2003026035
27,0	2003027035
28,0	2003028035
29,0	2003029035
30,0	2003030035
31,0	2003031035
32,0	2003032035
33,0	2003033035
34,0	2003034035
35,0	2003035035
36,0	-
37,0	-
38,0	-
39,0	-
40,0	-
41,0	-
42,0	-
43,0	-
44,0	-
45,0	-
46,0	-
47,0	-
48,0	-
49,0	-
50,0	-

Ejector Pin  
für Ø 14 - 17 mm, 6,35 x 87 mm

1935500

Ejector Pin  
für Ø 18 - 50 mm, 8 x 87 mm

2001500

Ø in mm Cutting Depth 50 mm Prod.-No.

14,0	2003014050
15,0	2003015050
16,0	2003016050
17,0	2003017050
18,0	2003018050
19,0	2003019050
20,0	2003020050
21,0	2003021050
22,0	2003022050
23,0	2003023050
24,0	2003024050
25,0	2003025050
26,0	2003026050
27,0	2003027050
28,0	2003028050
29,0	2003029050
30,0	2003030050
31,0	2003031050
32,0	2003032050
33,0	2003033050
34,0	2003034050
35,0	2003035050
36,0	2003036050
37,0	2003037050
38,0	2003038050
39,0	2003039050
40,0	2003040050
41,0	2003041050
42,0	2003042050
43,0	2003043050
44,0	2003044050
45,0	2003045050
46,0	2003046050
47,0	2003047050
48,0	2003048050
49,0	2003049050
50,0	2003050050

Ejector Pin  
für Ø 14 - 17 mm, 6,35 x 102

1950500

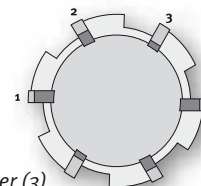
Ejector Pin  
für Ø 18 - 50 mm, 8 x 102 mm

2001501



## High performance toothing

Smooth cutting, good chip production at each tooth  
Pre (1), middle (2), post cutter (3)





# ALFRA ROTABEST® – TCT Cutters for industrial use

suitable for all Magnet Drilling-, Pillar Drilling- and Milling Machines

- Strong construction for industrial applications **with keyway and fitting key.**
- Extended series of tests have shown that this special construction with keyway and fitting key proves well in comparison with standard Weldon shank 32 mm. Optimal absorption of high torsion. Shorter and thus steadier tool construction.
- Ground section: Pre-, middle- and post cutter.
- Necessary: Tool Holder with internal cooling
 

AL 3	MT 3	Prod.-No. 20230
AL 4	MT 4	Prod.-No. 20240
AL 5	MT 5	Prod.-No. 20250

Ø in mm      Cutting Depth 50 mm      Prod.-No.

51,0 ■	2002051050
52,0 ■	2002052050
53,0 ■	2002053050
54,0 ■	2002054050
55,0 ■	2002055050
56,0 ■	2002056050
57,0 ■	2002057050
58,0 ■	2002058050
59,0 ■	2002059050
60,0 ■	2002060050
61,0 ■	2002061050
62,0 ■	2002062050
63,0 ■	2002063050
64,0 ■	2002064050
65,0 ■	2002065050
66,0 ■	2002066050
67,0 ■	2002067050
68,0 ■	2002068050
69,0 ■	2002069050
70,0 ■	2002070050
71,0 ■	2002071050
72,0 ■	2002072050
73,0 ■	2002073050
74,0 ■	2002074050
75,0 ■	2002075050
76,0 ■	2002076050
77,0 ■	2002077050
78,0 ■	2002078050
79,0 ■	2002079050
80,0 ■	2002080050
81,0 ■	2002081050
82,0 ■	2002082050
83,0 ■	2002083050
84,0 ■	2002084050
85,0 ■	2002085050
86,0 ■	2002086050
87,0 ■	2002087050
88,0 ■	2002088050
89,0 ■	2002089050
90,0 ■	2002090050
91,0 ■	2002091050
92,0 ■	2002092050
93,0 ■	2002093050
94,0 ■	2002094050
95,0 ■	2002095050
96,0 ■	2002096050
97,0 ■	2002097050
98,0 ■	2002098050
99,0 ■	2002099050
100,0 ■	2002100050
■ No serial production	
Ejector Pin 8 x 102 mm	2001501
Tool Holder AL 2/MT 2	20220
Tool Holder AL 3/MT 3	20230
Tool Holder AL 4/MT 4	20240
Tool Holder AL 5/MT 5	20250



Shorter and steadier tool construction.  
ALFRA-Design.  
High concentric running exactness.

## Description of the Modifications

- shape of the body
- design for the chip guiding groove
- reduced no. of teeth
- cutting geometry

## Results

- perfect first cut
- good self-centering performance
- less cutting pressure required
- no chattering, vibration-free operation
- splitted chips (abt. 0.20 - 0.25 mm wide)
- whole cutting depth can be drilled at a time
- no jamming of the chips
- core was ejected trouble-free



Prod.-No. 20230



# ALFRA ROTABEST® – TCT Cutters RAIL

With Weldon shank 19.0 mm

- with Weldon shank 19 mm
- Internal bore 6,35 mm
- Perfectly suitable for wear-intensive applications, such as drilling rails.
- Ground section: high performance toothing with pre- and post cutter.

## suitable for:

all portable Magnet Drilling Machines with 19 mm Weldon arbor, but especially for Rail Drilling Machines of the makes:

- Cembre
- Erico
- KKT
- Dubuis
- Universal
- Magtron
- Rotabroach

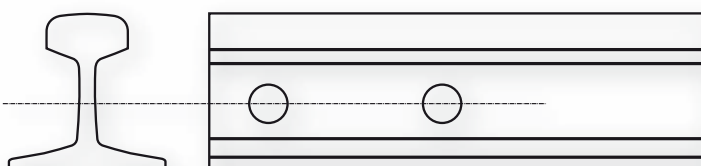


Ø in mm Cutting depth 25 mm Prod.-No.

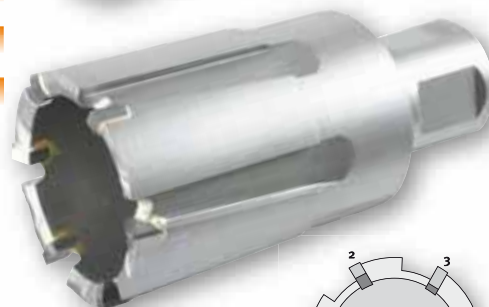
19,0	2005019025
20,0	2005020025
21,0	2005021025
22,0	2005022025
23,0	2005023025
24,0	2005024025
25,0	2005025025
26,0	2005026025
27,5	2005027525
28,0	2005028025
30,0	2005030025
31,0	2005031025
32,0	2005032025
33,0	2005033025
34,0	2005034025
36,0	2005036025
Ejector Pin 6.35 x 77 mm	1926500

Ø in mm Cutting depth 50 mm Prod.-No.

19,0	2005019050
20,0	2005020050
21,0	2005021050
22,0	2005022050
23,0	2005023050
24,0	2005024050
25,0	2005025050
26,0	2005026050
27,5	2005027550
28,0	2005028050
30,0	2005030050
31,0	2005031050
32,0	2005032050
33,0	2005033050
34,0	2005034050
36,0	2005036050
Ejector Pin 6.35 x 102 mm	1950500

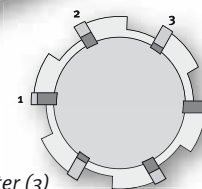


**NEW**



## High performance toothing

Smooth cutting, good chip production at each tooth  
Pre (1), middle (2), post cutter (3)



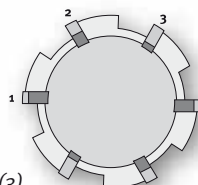
## ALFRA – TCT Cutters for FEIN-QUICK IN

■ Suitable for FEIN Magnet Drilling Machines

Ø in mm	Cutting Depth 35 mm	Prod.-No.
12,0		2009012035
13,0		2009013035
14,0		2009014035
15,0		2009015035
16,0		2009016035
17,0		2009017035
18,0		2009018035
19,0		2009019035
20,0		2009020035
21,0		2009021035
22,0		2009022035
23,0		2009023035
24,0		2009024035
25,0		2009025035
26,0		2009026035
27,0		2009027035
28,0		2009028035
29,0		2009029035
30,0		2009030035
31,0		2009031035
32,0		2009032035
33,0		2009033035
34,0		2009034035
35,0		2009035035
36,0		2009036035
37,0		2009037035
38,0		2009038035
39,0		2009039035
40,0		2009040035
41,0		2009041035
42,0		2009042035
43,0		2009043035
44,0		2009044035
45,0		2009045035
46,0		2009046035
47,0		2009047035
48,0		2009048035
49,0		2009049035
50,0		2009050035
51,0		-
52,0		2009052035
53,0		-
54,0		-
55,0		2009055035
57,0		-
58,0		-
59,0		-
60,0		2009060035
61,0		-
62,0		-
63,0		-
64,0		-
65,0		2009065035
Ejector Pin 6,35 x 106 mm		1936500

### High performance toothing

Smooth cutting, good chip production at each tooth  
Pre (1), middle (2), post cutter (3)



Prod.-No. 1936500







# ALFRA – TCT Cutters suitable for FEIN + Hitachi

■ Suitable for FEIN + HITACHI Magnet Drilling Machines with threaded arbors, internal thread M18 x 6P 1.5

Ø in mm	Cutting Depth 50 mm	Prod.-No.
14,0		2008014050
15,0		2008015050
16,0		2008016050
17,0		2008017050
18,0		2008018050
19,0		2008019050
20,0		2008020050
21,0		2008021050
22,0		2008022050
23,0		2008023050
24,0		2008024050
25,0		2008025050
26,0		2008026050
27,0		2008027050
28,0		2008028050
29,0		2008029050
30,0		2008030050
31,0		2008031050
32,0		2008032050
33,0		2008033050
34,0		2008034050
35,0		2008035050
36,0		2008036050
37,0		2008037050
38,0		2008038050
39,0		2008039050
40,0		2008040050
41,0		2008041050
42,0		2008042050
43,0		2008043050
44,0		2008044050
45,0		2008045050
46,0		2008046050
47,0		2008047050
48,0		2008048050
49,0		2008049050
50,0		2008050050
51,0		-
52,0		2008052050
53,0		-
54,0		-
55,0		2008055050
57,0		-
58,0		-
59,0		-
60,0		2008060050
61,0		-
62,0		-
63,0		-
64,0		-
65,0		2008065050



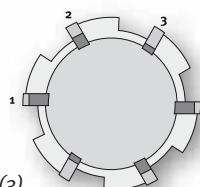
Threaded arbor M18 x 6P1.5



Save and robust plastic wrapping to protect and store the core drills.

## High performance toothing

Smooth cutting, good chip production at each tooth  
Pre (1), middle (2), post cutter (3)





## OVERVIEW – tool Holder

FOR ALL TYPES WITH MORSE TAPER 2 OR 3

- Tool Holders are necessary, when using Magnetic Drilling Machines without Weldon arbor.
- The capacity of Magnetic Drilling Machines of older generations with Morse taper can be enlarged.
- The cutters can then be mounted with the Tool Holders as well as on pillar drilling machines and milling machines.
- With automatic internal cooling
- All Tool Holders are supplied in a solid plastic case

Ø in mm

Prod.-No.

Tool Holder **AMK-2** – Morse taper 2  
for cutters with Weldon shank  
Ø 12 - 60 mm  
With automatic internal cooling and nipple for coolant hose  
suitable for all Machines with MT 2 arbor.

18003

Tool Holder **AMK-2 L** – Morse taper 2  
for cutters with Weldon shank  
Ø 20 - 50 mm, **Cutting Depth 110 mm**  
With automatic internal cooling and nipple for coolant hose  
suitable for all Machines with MT 2 arbor.

18003L

Tool Holder **AMK-3** – Morse taper 3  
for cutters with Weldon shank  
Ø 12 - 60 mm  
With automatic internal cooling and nipple for coolant hose  
suitable for all Machines with MT 3 arbor.

18025

Tool Holder **AMK-3** – Morse taper 3  
for cutters with Weldon shank  
Ø 20 - 50 mm, **Cutting Depth 110 mm**  
With automatic internal cooling and nipple for coolant hose  
suitable for all Machines with MT 3 arbor.

18025L

Tool Holder **AL3** – Morse taper 3  
for cutters strong construction  
Ø 51 - 100 mm, with keyway  
With automatic internal cooling and nipple for coolant hose  
and ejector pin 8 x 102 mm, Prod.-No. 2001501

20230

Tool Holder **AL4** – Morse taper 4  
for cutters strong construction  
Ø 51 - 100 mm, with keyway  
With automatic internal cooling and nipple for coolant hose  
and ejector pin 8 x 102 mm, Prod.-No. 2001501

20240

Tool Holder **AL5** – Morse taper 5  
for cutters strong construction  
Ø 51 - 100 mm, with keyway  
With automatic internal cooling and nipple for coolant hose  
and ejector pin 8 x 102 mm, Prod.-No. 2001501

20250

Quick-change Tool Holder **Rota-Quick®**  
Morse taper 2  
With automatic internal cooling and nipple for coolant hose  
suitable for all machines with drill spindle MT 2  
max. Ø 12 - 40 mm Core drills

18650

Quick-change Tool Holder **Rota-Quick®**  
Morse taper 3  
With automatic internal cooling and nipple for coolant hose  
suitable for all machines with drill spindle MT 3  
max. Ø 12 - 40 mm Core Drills

18651



Prod.-No. 18003 MT2



Prod.-No. 18025 MT3



Prod.-No. 18025L



Prod.-No. 202..



Prod.-No. 18650



Prod.-No. 18651



# ALFRA ROTABEST® ADAPTORS – Overview



- You use FEIN Magnet Drilling Machines?
- You do not want to do without **ALFRA Rotabest® Cutters**?
- **No Problem** – we have the suitable adaptors

## Prod.-No.

Adaptor with internal thread M 18 x 6P 1.5  
Adaptor for the use of Rotabest HSS-Co-Eco Cutters  
from Ø 12.0 to 32.0 mm and Rotabest® TCT Cutters from  
Ø 14.0 to 32.0 mm on FEIN Magnet Drilling Machines Type KBM 542

20201



Weldon



FEIN/Hitachi  
M18 x 6P 1.5  
Internal Thread

Prod.-No. 20201



FEIN/Hitachi  
M18 x 6P 1.5  
Internal Thread



Weldon

Prod.-No. 20202

Adaptor with external thread  
Adaptor for the use of FEIN Cutters with internal thread M18 x 6P 1.5  
On Magnet Drilling Machines with Weldon shank.

20202

Adaptor  
Adaptor for the use of all Cutters with Weldon shank on FEIN Quick IN  
Quick change systems.

20204

This Adaptor is inapplicable when using our HSS-Eco Cutters Prod.-Nos.  
1936501 and 2009....

To be used with Original-FEIN ejector pins (125 mm)

Weldon



FEIN-Quick IN

Prod.-No. 20204

Adaptor cpl. with 2 ejector pins+ Allen key  
Adaptor for Nitto Kohki Quick Change System ( Onetouch)  
for the use of Rotabest HSS-Eco, HSS- Co and TCT Cutters  
with Weldon shank.

20205

Weldon



Nitto One Touch

Prod.-No. 20205

Extension Adaptor  
with Weldon shank and ejector pin.

20206

For the use of Cutters with 25 – 35 – 50 mm cutting depth for appli-  
cations, where the surface of the material to be drilled, is below the  
platform of the machine. The first ejector pin releases the second  
ejector pin, the coolant runs through the bore to the Cutter.

Total length of Adaptor: 80 mm  
Diameter: 32 mm  
Ejector Pin: 6,35 x 77 mm Prod.-No. 1926500



Prod.-No. 20206

Adaptor cpl. with 1 ejector pin and Allen key  
for Core drills with FEIN-Quick IN shank  
for the use on machines with Weldon shank.

20210

FEIN-Quick IN



Weldon



Prod.-No. 20210

Spare ejector pin (for adaptor only) 6,35 x 125 mm

1936501

# ALFRA



**RBX 120 HV**



**RBX 180 HV**



# ROTAFLEX<sup>®</sup>

## Portable Band Saw Machines for Professionals

There is a variety of portable band saw machines, but only a few of them are suitable for industrial applications or at a construction site. Pricing is usually being more important than reliability and durability.

Our new machines have an excellent price-performance-ratio and are setting new standards. The robust and compact design makes it ideal for handling in the machine shop or the construction site.

Ideally qualified for locksmiths, plumbing, metal-, heating-, pipeline- and mechanical workshops. Also for construction companies, public utilities with or without mobile workshops, power stations, schools, technical learning and teaching facilities.

## Special Features:

- Portable
- Mobile
- Change from horizontal or vertical cutting within seconds. With help of the vertical section notches or contours can be cut out easily from radius 85 mm on.
- For vertical section 0 - 45 ° stepless
- Very fast band saw blade-change, as the change is on the front side
- Cutting pressure adjustment in 4 steps, matched to the material cross section
- Safe material clamping due to quick-vice application
- Robust high-performance single-phase-motor
- 4-fold ball bearings-blade guide RBX 120 HV
- 8-fold ball bearings-blade guide RBX 180 HV
- Adjustable ball bearings-blade guide for angular cutting



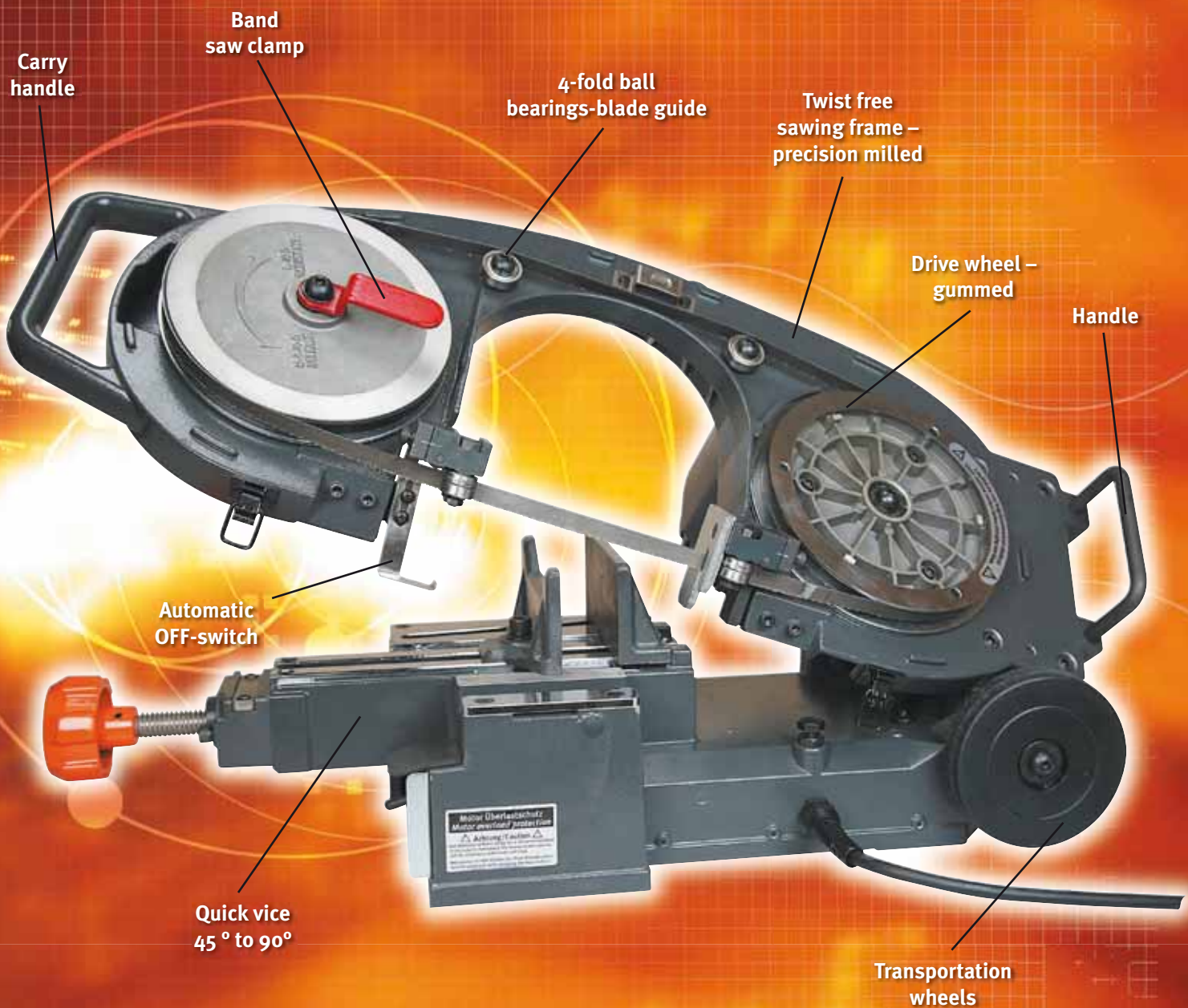


# B



## ALFRA Band Saw Machine

# RBX 120 HV





# ALFRA BAND SAW MACHINE – RBX 120 HV

Our portable Band Saw Machine RBX 120 HV cuts reliably gas pipes and conduits as well as thin walled pipes made of stainless steel, construction steel, aluminum and PVC. Furthermore it's particularly suitable for cutting flat and profiled materials.

90°	Ø	120 mm; 4-3/4"
	□	105 mm; 4-1/8"
	●	60 mm; 3-3/8"
45°	Ø	50 mm; 2"
	□	50 mm; 2"



## Technical Data:

Induction motor, capacity	400 Watt
Power	230 Volt
Cutting speed	40,5 m/min <sup>-1</sup> – 50 Hz 49,0 m/min <sup>-1</sup> – 60 Hz
Feed	Automatic
Cutting pressure adjustment:	4 steps
Mitre	0 - 45°
Band saw measurements	1430 x 13 x 0,65 mm; 56-1/3" x 1/2" x 0,025"
90°	Ø 120 mm; 4-3/4" □ 105 mm; 4-1/8" ● 60 mm; 3-3/8"
45°	Ø 50 mm; 2" □ 50 mm; 2"
ED:	40 %
Sound level (during no-load operation)	75 dB(A)
Unit size (mm)	length 780, width 340, high 335
Weight:	35 kg; 77 lbs

## Standard Accessories:

- Portable Band Saw Machine RBX 120 HV – 230 V (110 V on demand)
- HSS Bi-Metal Band saw blade
- Operator protection plug
- Tool kit
- Operation manual

### Prod.-No.

Band Saw Machine RBX 120 HV	22500
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### Special Accessories

Enlarged saw table 150 x 100 mm; 6" x 3-15/16"	22523
---	-------

### Replacement Band Saw Blades HSS-Bi-Metal 1430 x 13 x 0,65 mm; 56-1/3" x 1/2" x 0,025"

HSS Bi-Metal	10 tpi	IPU = 10 pcs	22510
HSS Bi-Metal	14 tpi	IPU = 10 pcs	22511
HSS Bi-Metal	6/10 tpi	IPU = 10 pcs	22512
HSS Bi-Metal	8/12 tpi	IPU = 10 pcs	22513
HSS Bi-Metal	10/14 tpi	IPU = 10 pcs	22514



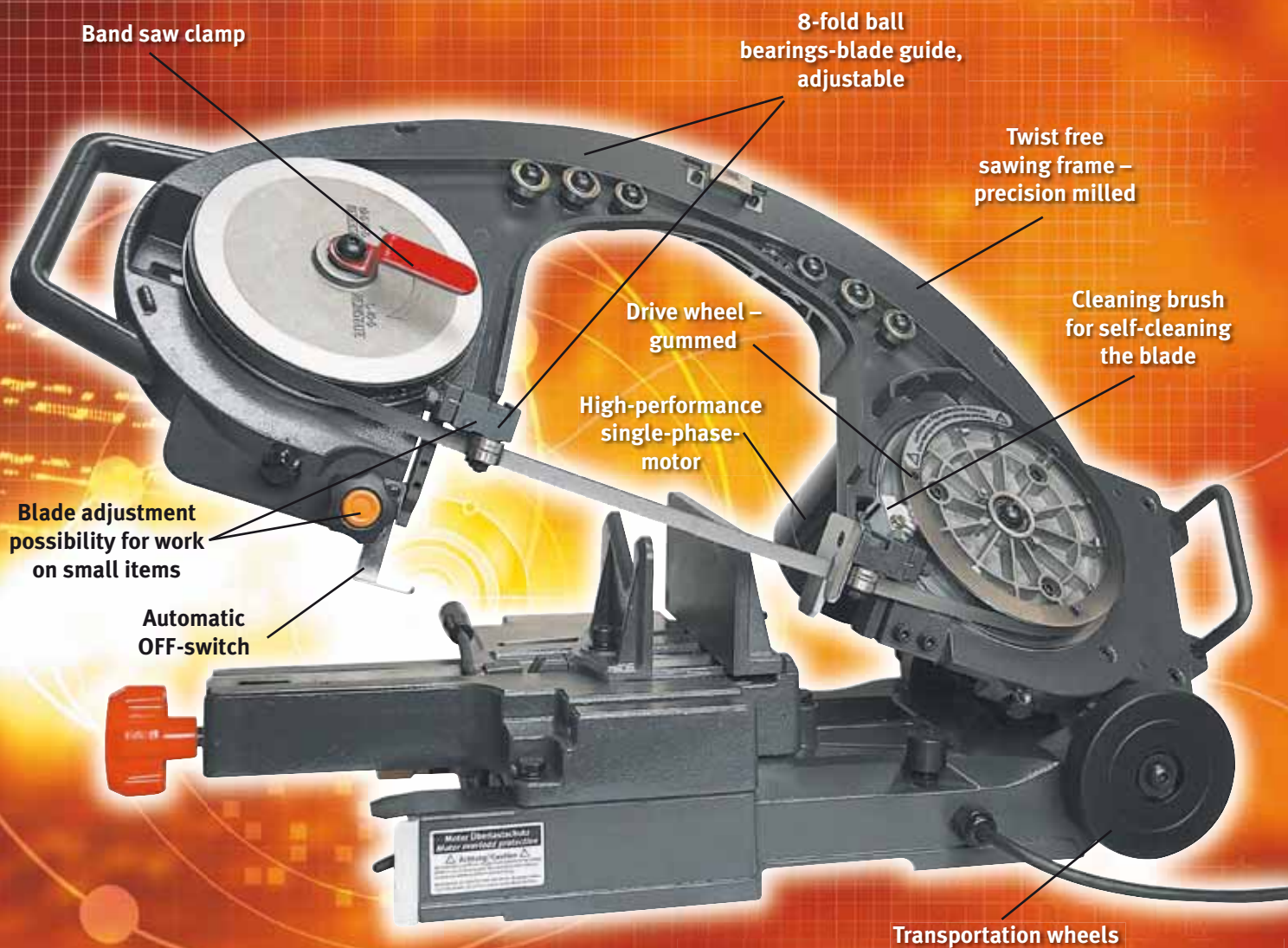


# B



## ALFRA Band Saw Machine

# RBX 180 HV



Optional:  
Chain vice for pipes and profiles (90° only)





# ALFRA BAND SAW MACHINE – RBX 180 HV

Our Band Saw Machine RBX 180 HV features all technical advantages of the small one but with extended capacity:

90°	Ø	180 mm, 7"
	□	150 mm; 6"
45°	Ø	80 mm, 3-5/32"
	□	80 mm, 3-5/32"

The standard quick-clamping flat vice can be changed into a chain vice within seconds. Therefore big diameter tubes can be clamped tightly and machined.



## Technical Data:

Induction motor, capacity	380 Watt
Power	230 Volt
Cutting speed	40,5 m/min <sup>-1</sup> – 50 Hz 49,0 m/min <sup>-1</sup> – 60 Hz
Feed	Automatic
Cutting pressure adjustment	4 steps
Mitre	0-45° with quick clamp flat vice; 90° with chain vice
Band saw measurements:	1625 x 13 x 0,65 mm; 64" x 1/2" x 0,025"
90°	Ø 180 mm, 7" □ 150 mm; 6"
45°	Ø 80 mm, 3-5/32" □ 80 mm, 3-5/32"
ED:	40 %
Sound level (during no-load operation)	75 dB (A)
Unit size (mm)	length 865, width 335, high 415
Weight	41 kg, 90 lbs with chain vice; 46 kg, 101 lbs with quick clamp flat vice



Chain vice  
(optional)

Cutting pressure adjustable



## Standard Accessories:

- Portable Band Saw Machine RBX 180 HV – 230 V (110 V on demand)
- Quick clamp flat vice
- 2 pieces HSS Bi-Metal Band saw blades  
(one saw blade is stored safely inside protection cover)
- Operator protection plug
- Tool kit
- Operation manual



Prod.-No.

Band Saw Machine RBX 180 HV	22520
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Chain vice	22522
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### Special accessories

Enlarged saw table 150 x 100 mm; 6" x 3-15/16"	22523
---	-------

### Replacement Band Saw Blades HSS-Bi-Metal 1625 x 13 x 0,65 mm; 64" x 1/2" x 0,025"

HSS Bi-Metal	10 tpi	IPU = 10 pcs	22530
HSS Bi-Metal	14 tpi	IPU = 10 pcs	22531
HSS Bi-Metal	6/10 tpi	IPU = 10 pcs	22532
HSS Bi-Metal	8/12 tpi	IPU = 10 pcs	22533
HSS Bi-Metal	10/14 tpi	IPU = 10 pcs	22534

# ALFRA RBX BAND SAW MACHINES IN ACTION



Enlarged saw table



Automatic OFF Switch  
RBX 120 HV + 180 HV



Mitre Saw up to 45 °  
RBX 120 HV + 180 HV



Vertical cutting, here with extended support  
surface, RBX 120 HV + 180 HV



Cleaning brush  
RBX 180 HV



Quick vice  
RBX 180 HV



Change from quick vice to chain vice within  
seconds – RBX 180 HV



Changeable chain vice in action  
RBX 180 HV



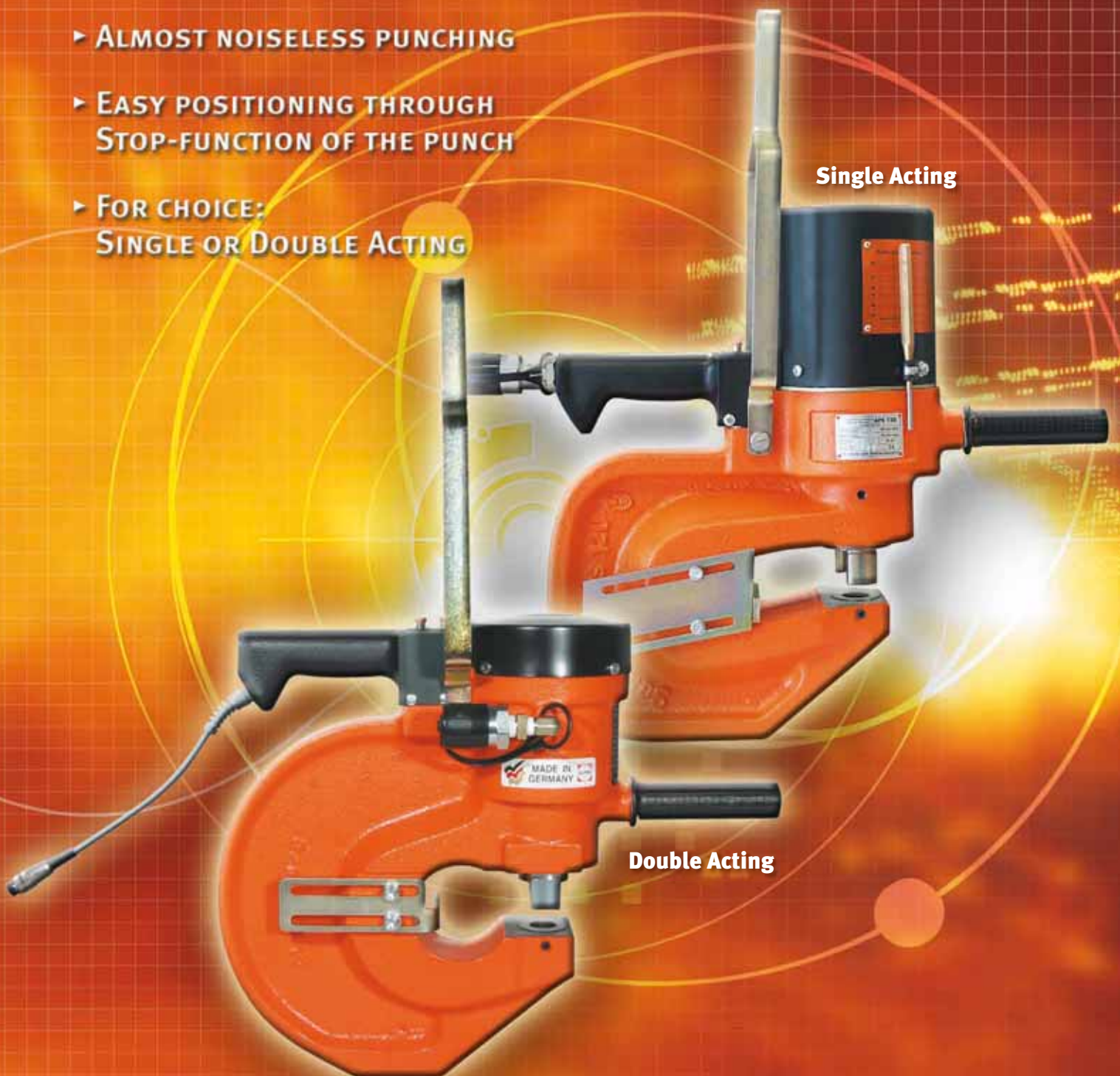
Clamped pipe in chain vice  
RBX 180 HV



# **ALFRA - PRESS**

## HYDRAULIC PUNCHING UNITS

- ▶ EASILY PORTABLE, FULLY AUTOMATIC HYDRAULIC PUNCHING UNITS FOR STEEL-, BRIDGE-, CONTAINER-, CRANE- AND METAL CONTRUCTION
- ▶ MOBIL USE, NO TRANSPORT OF MATERIAL
- ▶ ALMOST NOISELESS PUNCHING
- ▶ EASY POSITIONING THROUGH STOP-FUNCTION OF THE PUNCH
- ▶ FOR CHOICE:  
SINGLE OR DOUBLE ACTING





# ALFRA HYDRAULIC PUNCHING UNITS – Overview

Made in Germany by ALFRA



€CO



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€CO



Page B/64



Page B/65

Type	APS 70 €CO	APS 120 €CO	APS 60
Prod. No.	23002.Eco	23004.Eco	23001
Max. Hole-Ø	22 mm 7/8"	25 mm 1-1/16"	18 mm 11/16"
Max. Oblong Hole	22 x 14 mm 7/8" x 9/16"	25 x 18 mm 1" x 11/16"	– –
Max. Material Thickness St. 42	13 mm 1/2"	16 mm 5/8"	10 mm 3/8"
Total punching time with Pump ...	AHP 03-3: ca. 20 sec.	AHP 03-3: ca. 25 sec.	SC 05 II-B: ca. 7 sec. SC 17: ca. 4 sec.
Throat Depth	70 mm 2-3/4"	110 mm 4-3/8"	60 mm 2-3/8"
Max. Pressure	700 bar 10150 psi	700 bar 10150 psi	700 bar 10150 psi
Punching Power	30 t	44 t	22 t
Punch Stroke	18 mm 11/16"	20 mm 25/32"	16 mm 5/8"
Weight	21 kg / 46 lbs	35 kg / 77 lbs	17 kg / 37 lbs
Standard Equipment	Hydraulic Hose 3 m	Hydraulic Hose 3 m	Hydraulic Hose 5 m Punch/Die Ø 14 mm

## ALFRA – Hydraulic Pumps

Made in Germany by ALFRA

	AHP 03-3	SC 05 II-B
Prod. No.	23006	23007
Max. Pressure	700 bar 10150 psi	750 bar 10670 psi
Pump capacity	0,52 l/min at 2720 rpm	0,94 l/min at 2770 rpm
Motor Capacity	550 W, 230V (50 Hz)*	1100 W, 230V (50 Hz)*
Oil Quantity	2,5 l	5 l
Weight incl. oil filling	18 kg / 39 lbs	27 kg / 59 lbs











# B





## ALFRA HYDRAULIC PUNCHING UNITS – Overview

Made in Germany by ALFRA

			
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<b>APS 70</b>	<b>APS 120</b>	<b>APS 70 D</b>	<b>APS 110 D</b>
23002	23004	23180	23181
22 mm 7/8"	25 mm 1-1/16"	22 mm 7/8"	25 mm 1-1/16"
22 x 14 mm 7/8" x 9/16"	25 x 18 mm 1" x 11/16"	22 x 14 mm 7/8" x 9/16"	25 x 18 mm 1" x 11/16"
13 mm 1/2"	16 mm 5/8"	13 mm 1/2"	16 mm 5/8"
SC 05 II-B: ca. 10 sec. SC 17: ca. 5 sec.	SC 05 II-B: ca. 15 sec. SC 17: ca. 8 sec.	SC 17 D: ca. 5 sec	SC 17 D: ca. 8 sec
70 mm 2-3/4"	110 mm 4-3/8"	70 mm 2-3/4"	110 mm 4-3/8"
700 bar 10150 psi	700 bar 10150 psi	700 bar 10150 psi	700 bar 10150 psi
30 t	44 t	30 t	44 t
18 mm 11/16"	20 mm 25/32"	18 mm 11/16"	20 mm 25/32"
21 kg / 46 lbs	35 kg / 77 lbs	21 kg / 46 lbs	35 kg / 77 lbs
Hydraulic Hose 5 m Punch/Die Ø 18 mm / Depth Fence	Hydraulic Hose 5 m Punch/Die Ø 22 mm / Depth Fence	Hydraulic Hose 5 m Punch/Die Ø 18 mm / Depth Fence	Hydraulic Hose 5 m Punch/Die Ø 22 mm / Depth Fence



	<b>SC 17</b>		<b>SC 17 D</b>
	23170		23186
	750 bar 10670 psi		750 bar 10670 psi
	1,5 l/min at 1370 rpm		1,4 l/min at 1370 rpm
	1500 W, 230V (50 Hz)*		1500 W, 230V (50 Hz)*
	17 l		17 l
	45 kg / 99 lbs		47 kg / 103 lbs



### ALFRA-Press APS 70 €co

**Prod.-No.**

Hydraulic Punching Unit with automatic return stroke  
via neoprene spring

23002.Eco

**Technical Data:**

Max. hole Ø mm	22 mm – 7/8"
Max. material thickness	13 mm – 1/2" when working on St. 42
Total punching time with Pump AHP 03-03	appr. 20 sec.
Throat depth	70 mm – 2-3/4"
Max. pressure	700 kg/cm <sup>2</sup> (10150 psi)
Punching power	30 t
Punch stroke	18 mm – 11/16"
Weight	21 kg/46 lbs

**Scope of supply:**

APS 70 Eco Punching Unit, control cable and hydraulic hose 3 m, spanner



Prod.-No. 23002.Eco

### ALFRA-Press APS 120 €co

**Prod.-No.**

Hydraulic Punching Unit with automatic return stroke  
via neoprene spring

23004.Eco

**Technical Data:**

Max. hole Ø mm	25 mm – 1/2"
Max. material thickness	16 mm – 5/8" when working on St. 42
Total punching time with Pump AHP 03-03	appr. 25 sec.
Throat depth	110 mm – 4-3/8"
Max. pressure	700 kg/cm <sup>2</sup> (10150 psi)
Punching power	44 t
Punch stroke	25 mm – 15/16"
Weight	35 kg/77 lbs

**Scope of supply:**

APS 70 Eco Punching Unit, control cable and hydraulic hose 3 m, spanner



Prod.-No. 23006



Prod.-No. 23004.Eco







**B**

# ALFRA-PRESS – Hydraulic Punching Units single acting

MADE IN GERMANY BY ALFRA



## ALFRA-Press APS 60

**Prod.-No.**

Hydraulic Punching Unit with automatic return stroke  
via neoprene spring

23001

### Technical Data:

Max. hole Ø mm	18 mm
Max. material thickness	10 mm when working on St. 42
Total punching time	
with Pump SC 05 II	appr. 7 sec.
with Pump SC 17	appr. 4 sec.
Throat depth	60 mm
Max. pressure	700 kg/cm <sup>2</sup> (10000 psi)
Punching power	22 t
Punch stroke	16 mm
Weight	17 kg

### Scope of supply:

APS 60 Punching Unit, control cable and hydraulic hose 5 m, spanner, punch and die Ø 14 mm



Prod.-No. 23001

## ALFRA-Press APS 70

**Prod.-No.**

Hydraulic Punching Unit with automatic return stroke  
via neoprene spring

23002

### Technical Data:

Max. hole Ø mm	22 mm
Oblong holes max.	22 x 14 mm
Max. material thickness	13 mm when working on St. 42
Total punching time	
with Pump SC 05 II	10 sec.
with Pump SC 17	5 sec.
Throat depth	70 mm
Max. pressure	700 kg/cm <sup>2</sup> (10000 psi)
Punching power	30 t
Punch stroke	18 mm
Weight	21 kg

### Scope of supply:

APS 70 Punching Unit, control cable and hydraulic hose 5 m, spanner, punch and die Ø 18 mm, depth fence, suspension hook



Prod.-No. 23002

## ALFRA-Press APS 120

**Prod.-No.**

Hydraulic Punching Unit with automatic return stroke  
via neoprene spring

23004

### Technical Data:

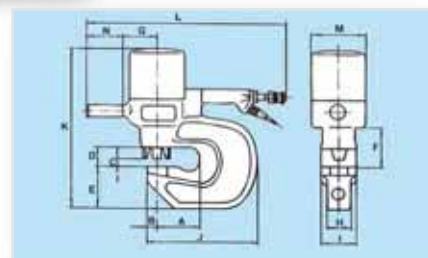
Max. hole Ø mm	25 mm
Oblong holes max.	25 x 18 mm
Max. material thickness	16 mm when working on St. 42
Total punching time	
with Pump SC 05 II	15 sec.
with Pump SC 17	8 sec.
Throat depth	110 mm
Max. pressure	700 kg/cm <sup>2</sup> (10000 psi)
Punching power	44 t
Punch stroke	25 mm
Weight	35 kg

### Scope of supply:

APS 120 Punching Unit, control cable and hydraulic hose 5 m, spanner, punch and die Ø 22 mm, depth fence, suspension hook



Prod.-No. 23004



Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N
APS 60	60	17	12	51	73	92	75	40	74	162	360	552	110	135
APS 70	70	24	15	51	85	100	80	40	80	204	382	562	125	135
APS 120	110	25	18	51	111	110	90	68	100	285	442	585	144	135

## Important technical notice:

The APS Punching Units are not suitable for punching high-tensile tool steels, stainless steels or boiler plates.

Ask for our technical advice for punching jobs in this application range.



## ALFRA-PRESS – Hydraulic Punching Units double acting

MADE IN GERMANY BY ALFRA

### ALFRA-Press APS 70D

Prod.-No.

Hydraulic Punching Unit with automatic return stroke

23180

#### Technical data:

Max. hole Ø mm	22 mm
Max. oblong holes	22 x 14 mm
Max. material thickness	13 mm when working on St. 42
Total punching time with pump SC 17-D	5 sec.
Throat depth	70 mm
Max. pressure	700 kg/cm <sup>2</sup> (10000 psi)
Punching power	30 t
Punch stroke	18 mm
Weight	21 kg

#### Scope of supply:

APS 70 D Punching Unit, control cable and hydraulic hose 5 m, spanner, punch and die Ø 18 mm, depth fence, suspension hook



Prod.-No. 23180

### ALFRA-Press APS 110D

Prod.-No.

Hydraulic Punching Unit with automatic return stroke

23181

#### Technical data:

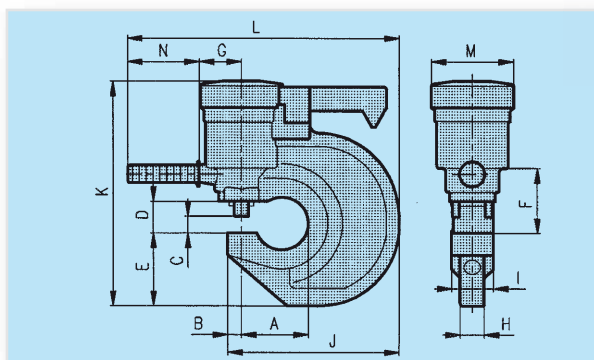
Max. hole Ø mm	25 mm
Max. oblong holes	25 x 18 mm
Max. material thickness	16 mm when working on St. 42
Total punching time with pump SC 17-D	8 sec.
Throat depth	110 mm
Max. pressure	700 kg/cm <sup>2</sup> (10000 psi)
Punching power	44 t
Punch stroke	25 mm
Weight	35 kg

#### Scope of supply:

APS 110 D Punching Unit, control cable and hydraulic hose 5 m, spanner, punch and die Ø 22 mm, depth fence, suspension hook



Prod.-No. 23181



Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N
APS 70D	70	24	28	55	126	112	73	41	71	295	387	468	141	124
APS 110D	110	24	28	55	90	112	73	41	78	210	351	383	121	124

#### Important technical notice:

The APS Punching Units are not suitable for punching high-tensile tool steels, stainless steels or boiler plates.

Ask for our technical advice for punching jobs in this application range.





# ALFRA – Hydraulic Pumps

MADE IN GERMANY BY ALFRA



**B**



**For the use of our Punching Units, there are two Hydraulic Pumps available**

## ALFRA Hydraulic-Pump SC 05 II-B for APS 60, 70, 120

**Prod.-No.**

ALFRA Hydraulic-Pump SC 05 II-B

23007

### Technical Data:

Working pressure max.	750 kg/cm <sup>2</sup> (10670 psi)
Pump capacity	0,94 l/min at 2770 rpm
Oil quantity	5,0 l
Single phase motor 2770 rpm	1100 W 110v and 230v 50 HZ or 60 HZ
Weight incl. oil and roll bar	27 kg

## ALFRA Hydraulic-Pump SC 17 for APS 60, 70, 120

**Prod.-No.**

ALFRA Hydraulic-Pump SC 17  
complete with control and switch box

23170

**This new pump was especially developed to drastically reduce the punching time.** Specially suitable for the use in the workshop.

### Technical Data:

Working pressure max.	750 kg/cm <sup>2</sup> (10670 psi)
Pump capacity	1,50 l/min at 1370 rpm
Oil quantity	17 l
Single phase motor 1370 rpm	1500 W 110v and 230v 50 HZ or 60 HZ
Weight incl. oil and transport rollers	45 kg
Dimensions (L x W x H)	550 x 370 x 560 mm

## ALFRA Hydraulic-Pump SC 17D for APS 70D, 110D

**Prod.-No.**

ALFRA Hydraulic-Pump SC 17D double acting  
complete with control and switch box.

23186

### With connector for double hose package.

This new pump was especially developed to drastically reduce the punching time. Specially suitable for the use in the workshop.

### Technical Data:

Working pressure max.	750 kg/cm <sup>2</sup> (10670 psi)
Pump capacity	1,40 l/min at 1370 rpm
Oil quantity	17 l
Single phase motor 1370 rpm	1500 W 110v and 230v 50 HZ or 60 HZ
Weight incl. oil and transport rollers	47 kg
Dimensions (L x W x H)	550 x 370 x 560 mm

Prod.-No. 23007



Prod.-No. 23170



**SC 17**



Connector for  
double hose package.

Prod.-No. 23186



**SC 17 D**

### For ALFRA Press Hydraulic Punching Units

#### Prod.-No.

With **blocking device**, spring fracture safety device, length of cable 2.0 m

9362 B	15 - 20 kg	23150
9363 B	20 - 25 kg	23151
9366 B	35 - 45 kg	23152

### Attention:

Actuation of spring hoist only with suspended Punching Unit resp. under load.



Prod.-No. 23152

## ALFRA – Service-Boy

Made in Germany by ALFRA

### For Hydraulic Punching Units APS 60 – 70 – 120 – TÜV-certificate –

This handy time- and energy saving cart makes the handling of our Hydraulic Punching Units more comfortable.

Absolutely necessary for every structural steel worker- even where our Hydraulic Punching Units are already used.

- Easy positioning of the Punching Head at the steel girder due to gas pressure shock absorber.
- Being located on the Service Boy the hydraulic pump does not need to be carried any longer.
- Tool cabinet with drawers for clean arrangement of the punching tools and accessories.
- Solid and safe construction with **TÜV**-certificate ( tested by the German Technical Supervision Authority)- less expensive than any „self-made“ construction.
- Dimensions (L x W x H): 900 x 530 x 2000 mm

#### Prod.-No.

Complete with tool cabinet and drawers	23160
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Prod.-No. 23160 (Tools and Punching Unit/Pump not included)



# ALFRA – Original-Tools

MADE IN GERMANY BY ALFRA



**B**



## Punches for

APS 120/120 €co APS 110D	APS 70/70 €co APS 70D	APS 60	Ø mm	Prod.-No.
■	■	■	7	23-01-07
■	■	■	8	23-01-08
■	■	■	9	23-01-09
■	■	■	10	23-01-10
■	■	■	11	23-01-11
■	■	■	12	23-01-12
■	■	■	13	23-01-13
■	■	■	14	23-01-14
■	■	■	15	23-01-15
■	■	■	16	23-01-16
■	■	■	17	23-01-17
■	■	■	18	23-01-18
■	■	-	19	23-01-19
■	■	-	20	23-01-20
■	■	-	21	23-01-21
■	■	-	22	23-01-22
■	-	-	23	23-01-23
■	-	-	24	23-01-24
■	-	-	25*	23-01-25

\*) with tension nut Prod.- No. 2350012003 B

Prod.-No. 23-01-..



Prod.-No. 23-02-..

## Dies for

APS 120/120 €co APS 110D	APS 70/70 €co APS 70D	APS 60	Ø mm	Prod.-No.
■	■	-	7	23-02-07
■	■	-	8	23-02-08
■	■	-	9	23-02-09
■	■	-	10	23-02-10
■	■	-	11	23-02-11
■	■	-	12	23-02-12
■	■	-	13	23-02-13
■	■	-	14	23-02-14
■	■	-	15	23-02-15
■	■	-	16	23-02-16
■	■	-	17	23-02-17
■	■	-	18	23-02-18
■	■	-	19	23-02-19
■	■	-	20	23-02-20
■	■	-	21	23-02-21
■	■	-	22	23-02-22
■	-	-	23	23-02-23
■	-	-	24	23-02-24
■	-	-	25	23-02-25
-	-	■	7	23-03-07
-	-	■	8	23-03-08
-	-	■	9	23-03-09
-	-	■	10	23-03-10
-	-	■	11	23-03-11
-	-	■	12	23-03-12
-	-	■	13	23-03-13
-	-	■	14	23-03-14
-	-	■	15	23-03-15
-	-	■	16	23-03-16
-	-	■	17	23-03-17
-	-	■	18	23-03-18

### Important:

On Material St. 37: max. material thickness = 0.8 x hole-Ø  
On Material St. 42: max. material thickness = 0.5 x hole-Ø



### Tip:

**Punches and Dies are interchangeable with Nitto/Selfer Punching Systems.**

### Tip:

**Please oil Punch from time to time, when material is heavily oxidized.**



### 5°-bevelled Dies for

APS 120 APS 110D	APS 70 APS 70D	Ø mm	Prod.-No.
■	■	10	23-04-10
■	■	11	23-04-11
■	■	12	23-04-12
■	■	13	23-04-13
■	■	14	23-04-14
■	■	15	23-04-15
■	■	16	23-04-16
■	■	17	23-04-17
■	■	18	23-04-18
■	■	19	23-04-19
■	■	20	23-04-20
■	■	21	23-04-21
■	■	22	23-04-22
■	-	23	23-04-23
■	-	24	23-04-24
■	-	25	23-04-25

### Oblong tools for

mm	APS 120 APS 110D	APS 70 APS 70D	Punch Prod.-No.	Die Prod.-No.
16 x 8	■	■	23-01-1608	23-02-1608
18 x 9	■	■	23-01-1809	23-02-1809
18 x 11	■	■	23-01-1811	23-02-1811
20 x 10	■	■	23-01-2010	23-02-2010
20 x 12	■	■	23-01-2012	23-02-2012
20 x 14	■	■	23-01-2014	23-02-2014
22 x 11	■	■	23-01-2211	23-02-2211
22 x 14	■	■	23-01-2214	23-02-2214
24 x 12	■	-	23-01-2412	23-02-2412
25 x 9*	■	-	23-01-2509	23-02-2509
25 x 12*	■	-	23-01-2512	23-02-2512
25 x 13*	■	-	23-01-2513	23-02-2513
25 x 14*	■	-	23-01-2514	23-02-2514
25 x 18*	■	-	23-01-2518	23-02-2518

\*) with tension nut Prod.-No. 23004-56B  
Other dimensions on request

### Spare Parts:

	Prod.-No.
Spare high pressure connection hose, <b>3 m</b> (for €co Only) cpl. with control cable and coupling	23010
Spare high pressure connection hose, <b>5 m</b> cpl. with control cable and coupling	23015
Spare high pressure connection hose, <b>*10 m</b> cpl. with control cable and coupling	23016
Spare high pressure connection hose, <b>*15 m</b> cpl. with control cable and coupling	23017
Spare high pressure connection hose, <b>5 m</b> For APS 70D + 110D ( double hose package) cpl. with control cable and double coupling	23020

#### \*Note:

Pressure build-up prolongs to appr. additional 4 sec. (10 m hose),  
appr. 6 sec. (15 m hose).

Tension nut for punches Ø 7 - 24 mm	23004-56A
Tension nut for punches Ø 25 mm (only APS 120)	23004-56B
Tension nut for punches Ø 26 mm on request only	23004-56C



Prod.-No. 23-04-.. (for girders with bevelled flanges)



Prod.-No. 23-02-..



Prod.-No. 23-01-..



Prod.-No. 23015



Prod.-No. 23020



Prod.-No. 23004-056A  
For Punch Ø 7 - 24 mm



Prod.-No. 23004-056B  
For Punch Ø 25 mm



# ALFRA

## DEBURRING TECHNOLOGY

► BEVEL MILLING AND DEBURRING DEVICES  
FOR THE UNIVERSAL USE





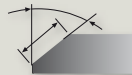


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Type	<b>KFH 150</b>	<b>KFH 250</b>	<b>SKF 63-15</b>
Prod.-No.	25100	25130	25010
Prism support	L = 150 mm/W = 20/40 mm	L = 250 mm/W = 70 mm	support guide with rollers 240 x 80 mm/220 x 75 mm
End Mill Ø	Solid Carbide acc. to DIN, Ø 8 mm	Solid Carbide acc. to DIN, Ø 12 mm	indexable inserts
Max. Bevel Width 	1 - 5 mm, depending on material, with fine adjustment	14 mm depending on material	15 mm max.
Bevel Angle	45°	continuously 30° - 45° - 30° pivoting left and right for 60° welding bevels. As well for radii r= 3,0 , 4,0 and 5,0 by means of radius solid carbide end mills.	15 - 20 - 30 - 45 - 60° adjustable <b>NEW</b>
High Performance Motor	■	■	■
Motor Capacity	1050 Watt	1800 Watt	1100 Watt
Stepless Speed Control	8000 up to 25000 rpm	6000 up to 24000 rpm	2870 rpm
Full Wave Electronics	■	■	■ with thermal and overload protection
Collet Ø	43 mm	63 mm	
Voltage	230 V, 50 – 60 Hz or 110 V, 50 – 60 Hz	230 V, 50 – 60 Hz or 110 V, 50 – 60 Hz	230 V, 50 Hz or 110 V, 50 Hz oder 60 Hz
Weight	3,5 kg	12,8 kg	21 kg
Dimensions (LxWxH)	340 x 150 x 110 mm	480 x 315 x 145 mm	440 x 200 x 280 mm
Cable Length	3,0 m	3,0 m	3,0 m
			
	■ 230 Volt – Prod.-No. 25191 ■ 110 Volt – Prod.-No. 25191.110	■ 230 Volt – Prod.-No. 25192 ■ 110 Volt – Prod.-No. 25192.110	



# ALFRA BEVEL MILLING- AND DEBURRING DEVICES – Overview

Made in Germany by ALFRA



			
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<b>KFT 250</b>	<b>KFT 500</b>	<b>KSL</b>	<b>KFK</b>
25110	25140	25250	25200
L = 250 mm/W = 40 mm	L = 500 mm/W = 70 mm	L = 380 mm/W = 170 mm	–
Solid Carbide acc. to DIN, Ø 8 mm	Solid Carbide acc. to DIN, Ø 8 mm	Ø 180 x 22 mm Flapped Discs	Indexable insert holder
1-7 mm depending on material, with fine adjustment	1,5 - 14 mm	0 – 2 mm	45°: steel 0 – 5 mm, alu 0 – 8 mm 30°: steel 0 – 4 mm, alu 0 – 6 mm
45°	45°	45°	45° (optional 30°) Radius R = 2,5
■	■	■	■
1050 Watt	1800 Watt	550 Watt	1300 W
8000 up to 25000 rpm	6000 up to 24000 rpm	2860 rpm	6000 up to 10.000 rpm with soft start
■	■	–	■ with thermal and overload protection
43 mm	63 mm	–	–
230 V, 50 – 60 Hz or 110 V, 50 – 60 Hz	230 V, 50 – 60 Hz or 110 V, 50 – 60 Hz	230 V, 50 – 60 Hz or 110 V, 50 oder 60 Hz	230 V, 50 – 60 Hz or 110 V, 50 – 60 Hz
5,0 kg	18 kg	29 kg	4,2 kg
360 x 250 x 110 mm	450 x 500 x 160 mm	460 x 380 x 320 mm	L = 450 mm
3,0 m	3,0 m	3,0 m	3,0 m
 <p>ALFRA foot switch with female connector (230 V). Running time reduction and motor saving operation. Function: Foot switch pressed – female connector energized. Foot switch released – Voltage disconnected. Prod.-No. 25116</p>			

# B



## **ALFRA** *Deburring Devices*

# KFH 150



Guidance Handle

Fine Adjustment of  
Milling Depth/Bevel  
Width

High-performance motor  
with double  
bearing milling spindle

Clamping Lever for  
quick adjustment

Guidance Rails of  
high-tensile special  
steel (optionally made  
of plastics)



# ALFRA DEBURRING DEVICES – KFH 150

Made in Germany by ALFRA

With the machine towards the workpiece, where a machined deburring is too time-consuming.

Manually operated device for the deburring (45°) of larger workpieces, profiles, girders, sheet metals, with 90° support.

- Manually operated, for 45° bevels.
- Optimal guiding and safe operation.
- For customary solid carbide end mills Ø 8 mm.

Full Wave Electronics



## Technical Data:

Guide Rail 45°:	L = 150 mm W = 20/40 mm
End Mill:	Solid Carbide End Mills acc. to DIN, Ø 8 mm
Max. Bevel Width:	1 - 5 mm, depending on material with fine adjustment
High Performance Motor:	with Full Wave Electronics
Voltage:	230 Volt or 110 Volt
Motor Capacity:	1050 W
Continuously adjustable Speed:	8000 up to 25000 rpm
Collar-Ø:	43 mm
Weight:	3,5 kg

## Scope of Supply:

- ALFRA Deburring Device KFH 150
- 1 Set Guide Rails
- 1 Collet Ø 8 mm and Clamping Nut
- 1 Operation Manual

		Prod.-No.
Deburring Device KFH 150	230 Volt	25100
Deburring Device KFH 150	110 Volt	25100.110
Deburring Device KFH 150 (without motor)		25109

### Accessories

Spare-Guide Rails	25101
Made of high-tensile special steel W = 40/15 mm x L = 150 mm, 1 Set = 2 pieces	
<b>Special Accessories</b>	
Guide Rails	25102
made of high-grade plastics W = 40/15 mm x L = 150 mm, 1 Set = 2 pieces	



### Cost reduction:

The bigger part of the End Mill's cutting range can be used by moving the End Mill in the collet.



# B



## **ALFRA** *Deburring Devices*

# KFH 250





## ALFRA DEBURRING DEVICES – KFH 250

Made in Germany by ALFRA

Manually operated model, especially developed for the processing of bevels (visual bevels) and preparation of weld on large right-angled workpieces.

- An indispensable helper in engineering and steel construction.
- Wide speed range of various materials.
- Individual adjustment of milling depth.
- Easy handling and guiding through aluminium head.

High-performance motor with double bearing milling spindle



Fine adjustment of milling depth/ bevel width



### Cost reduction:

The bigger part of the End Mill's cutting range can be used by moving the End Mill in the collet.



## Technical Data:

Guide Rail:	L = 250 mm W = 70 mm
End Mill-Ø:	12 mm DIN 6527
Max. Bevel Width:	14 mm (depending on material)
Edge angles:	continuously traversable by 30° – 45° – 30° right and left. Also for radii r = 3.0, 4.0, 5.0 by means of Radius- Solid Carbide End Mills
Capacity:	1800 W (The Quality Motor for difficult deburring tasks)
Continuously adjustable Speed:	6000 up to 24000 rpm
Full Wave Electronics –	under load, the speed generator provides a power replenishment.
Collar-Ø:	63 mm
Voltage:	230 Volt or 110 Volt
Weight:	12,8 kg

## Scope of Supply:

- ALFRA Deburring Device KFH 250, with milling depth fine adjustment
- 1 Set Guide Rails with 2 Support Rollers
- 1 Collet Ø 12 mm and Clamping Nut
- 1 Set Operating Tools
- 1 Operation Manual

### Prod.-No.

Deburring Device KFH 250	230 Volt	25130
Deburring Device KFH 250	110 Volt	25130.110
Deburring Device KFH 250 (without motor)		25131

Guide Rails and Support Rollers made of wear-resistant plastic upon request.



**B**



# **ALFRA** *Bevel Milling Machine* **SKF 63-15**

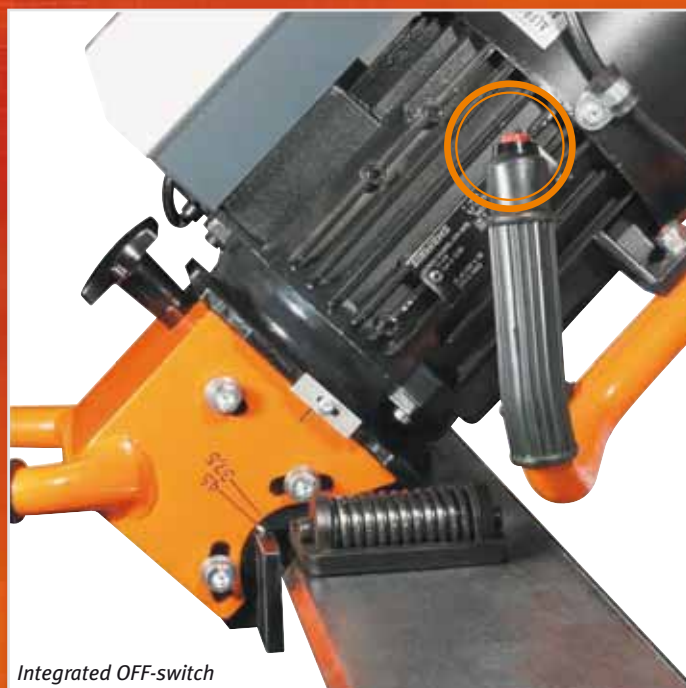




# ALFRA BEVEL MILLING MACHINE – SKF 63-15

Made in Germany by ALFRA • For bevel width of max. 15 mm and with a continuously variable angle adjustment 15° - 20° - 30° 45° - 60°

- The ALFRA Bevel Milling Machine was especially developed for the preparation of welds and for the bevelling of metallic materials.
- Low weight, enabling the universal use on the work piece.
- Machine is designed for one-hand operation suitable for the milling of steel, chrome nickel steel, cast iron and non-ferrous heavy metals. The machine is set at the edge of the work piece and moved with a slight pressure (manual feed).
- The construction of the milling disk, under the use of commercially available carbide milling plates and a rotation speed of 2870 rpm, guarantees a steady bevel milling without rattling.
- The guide roller's rails are made of hardened steel and guarantee convincing feed values.
- Easy and safe operation by electronic switch-off control in the event of overstressing and reclosure preventing device.
- OFF-button integrated in right handle (Illustration).
- Also suitable for the bevelling of pipes from Ø 160 mm up to Ø 390 mm by means of a special accessory.
- Larger diameters up to Ø 1000 - 1500 - 2000 mm upon request.



Integrated OFF-switch

## Technical Data:

Voltage:	230 Volt or 110 Volt
Capacity :	1100 Watt
Speed:	2870 rpm With thermal and overload protection
Bevel width:	15 mm max.
Bevel angle:	15 - 20 - 30 - 45 - 60° continuously adjustable
Weight:	21 kg
Dimension (L x W x H)	440 x 200 x 280 mm

## Scope of Supply:

- Bevel Milling Machine SKF 63-15
- 1 set of tools
- operation manual
- transport case

		Prod.-No.
Bevel Milling Machine SKF 63-15, 230 V, cpl.	230 Volt	25010
Bevel Milling Machine SKF 63-15, 230 V, cpl.	110 Volt	25010.110

### Special accessories:

Pipe insert for the processing of external bezels on pipes from Ø 160 - 390 mm	25014
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Larger diameters up to 2000 mm upon request.

### Spare Parts:

Spare milling head for St.37 Spun 12008 cpl.	25011
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Consisting of: 2 milling disks and 6 pcs. high speed indexable inserts each

Carbide Milling plates, TiAlN/TiN-PVD multilayer coating	25013
Universal for steel and stainless steel, Clearance angle 11°	
Carbide Milling plates, TiAlN/TiN-PVD multilayer coating	25010.15036B
for steel < 850 N/mm²; stainless steel < 900 N/mm², Clearance angle 20°	
Carbide Milling plates, high gloss polished	25010.15036C
for aluminium and NE-metals, Clearance angle 11°	
Carbide Milling plates, TiAlN/TiN-PVD multilayer coating	25010.15036E
for steel < 1400 N/mm²; stainless steel < 900 N/mm², Clearance angle 11°	
Milling disk assembly device	25019

For an easy assembly of the indexable inserts.



2 milling disks and 6 pcs. high speed indexable inserts



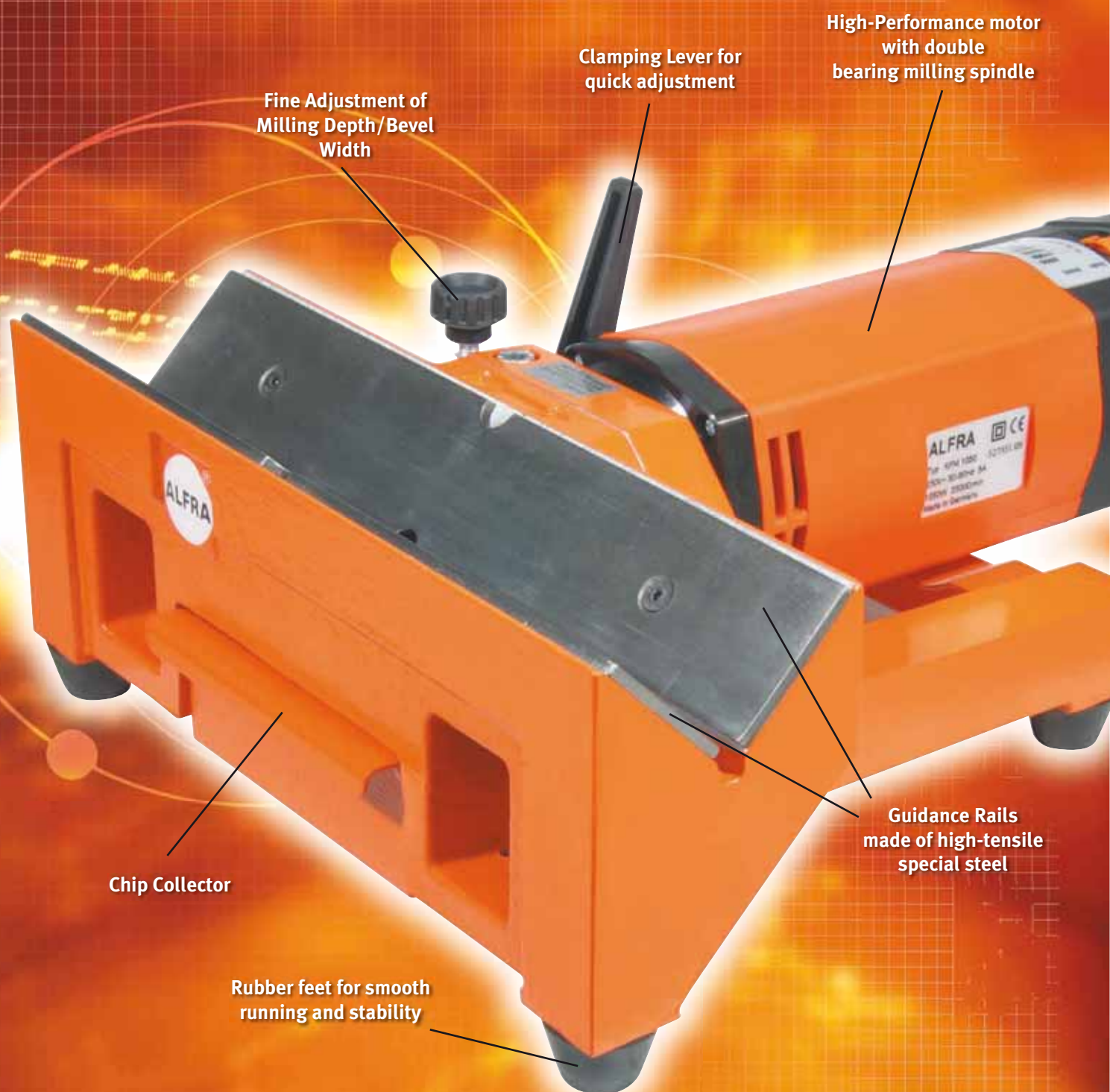


# B



## **ALFRA** *Deburring Devices*

# KFT 250



Fine Adjustment of  
Milling Depth/Bevel  
Width

Clamping Lever for  
quick adjustment

High-Performance motor  
with double  
bearing milling spindle

Chip Collector

Rubber feet for smooth  
running and stability

Guidance Rails  
made of high-tensile  
special steel



# ALFRA DEBURRING DEVICES – KFT 250 (Stationary Model)

Made in Germany by ALFRA

Simple and inexpensive Deburring Device for light to medium operation demands.

For the realisation of unique outer bevel surfaces with Solid Carbide End Mills DIN 6527 when hobbing, without secondary burr.

Full Wave Electronics



Foot Switch (optional)



Position I:  
Material thicknesses as from 4.5 mm



Position II:  
Material thicknesses as from 1.0 mm



## Cost reduction:

The bigger part of the End Mill's cutting range can be used by moving the End Mill in the collet.



## Technical Data:

Deburring range:	Bevel angle 45°
Prism Support Position I:	Material Thicknesses from 4.5 mm
Position II:	Material Thicknesses from 1 mm
Prism Support:	L = 250 mm
Guide Rails:	W = 40 mm
Max. Bevel Width:	7 mm, depending on material.
	When using corresponding End Mills, speed and corresponding number of cutting passes, as well suitable for stainless steel (brush edges with cutting oil).
Weight:	5,0 kg
Warranty:	1 year
High Performance Motor:	1.050 W with triple bearing
Double supported milling spindle	
Spindle bearing with high speed lubrication	
Wheel flange Norm-Ø:	43 mm
Continuously adjustable Speed:	8000 - 25000 rpm
Voltage:	230 Volt or 110 Volt
Full Wave Electronics –	
under load, the speed generator provides a power replenishment.	

## Scope of Supply:

- Deburring Device KFT 250, with fine adjustment of the milling depth
- 1 Set Guide Rails
- 1 Collet Ø 8 mm and Clamping Nut
- 1 Chip Collector
- 1 Set Operating Tools
- 1 Operation Manual

		Prod.-No.
Deburring Device KFT 250 Stationary Model	230 Volt	25110
Deburring Device KFT 250 Stationary Model	110 Volt	25110.110
Deburring Device KFT 250 Stationary Model (without motor)		25111

## Accessories:

ALFRA Foot Switch with female connector	230 Volt	25116
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Look page B/73

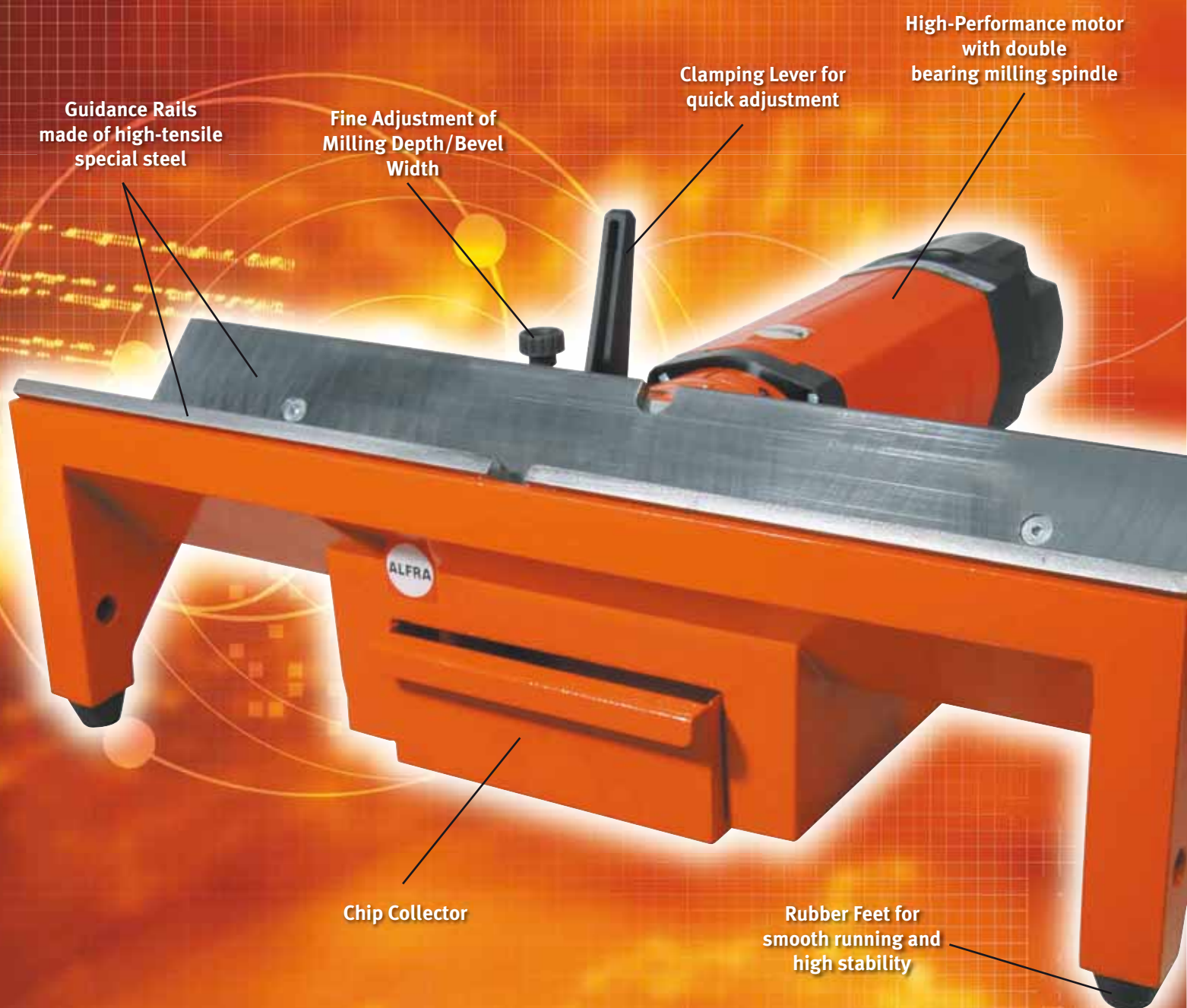


# B



## **ALFRA** *Deburring Devices*

# KFT 500



Guidance Rails  
made of high-tensile  
special steel

Fine Adjustment of  
Milling Depth/Bevel  
Width

Clamping Lever for  
quick adjustment

High-Performance motor  
with double  
bearing milling spindle

Chip Collector

Rubber Feet for  
smooth running and  
high stability



# ALFRA DEBURRING DEVICES – KFT 500 (Stationary Model)

Made in Germany by ALFRA

**For medium and larger workpieces. Max. bevel width 14 mm**

**For the realisation of unique outer bevel surfaces with Solid Carbide End Mills DIN 6527 when hobbing, without secondary burr.**



*Exact Deburring by means of self-generating milling cutter*



*Foot Switch (optional)*



*Fine Adjustment of Milling Depth/Bevel Width*



*Position I:  
Material thicknesses 6 - 14 mm*



*Position II:  
Material thicknesses as from 1.5 mm*



## Cost reduction:

The bigger part of the End Mill's cutting range can be used by moving the End Mill in the collet.



## Technical Data:

Deburring range:	Bevel angle 45°
Prism Support Position I:	Material Thicknesses 6 - 14 mm
Position II:	Material Thicknesses from 1.5 mm
Guide Rail:	L = 500 mm
Führungsschiene:	W = 70 mm
Max. Bevel Width:	14 mm, depending on material.
	When using corresponding End Mills, speed and corresponding number of cutting passes, as well suitable for stainless steel (brush edges with cutting oil).
	Also for radii R= 3.0, 4.0, 5.0 by means of Solid Carbide End Mill
High Performance Motor:	1.800 W with triple bearing
Double supported milling spindle	
Spindle bearing with high speed lubrication	
Wheel flange-Ø:	63 mm
Continuously adjustable Speed:	6000 up to 24000 rpm
Voltage:	230 Volt or 110 Volt
Full Wave Electronics –	
under load, the speed generator provides a power replenishment.	
Weight:	18 kg

## Scope of Supply:

- Deburring Device KFT 500, with fine adjustment of the milling depth
- 1 Set Guide Rails
- 1 Collet 12 mm Ø and Clamping Nut DIN 6499
- 1 Chip Collector
- 1 Set Operating Tools
- 1 Operation Manual

## Prod.-No.

Deburring Device KFT 500 Stationary Model	230 Volt	25140
Deburring Device KFT 500 Stationary Model	110 Volt	25140.110
Deburring Device KFT 500 Stationary Model (without motor)		25141
ALFRA Foot Switch with female connector	230 Volt	25116
for running time reduction and motor sparing operation.		
Function: Foot Switch pressed: Connector energised.		
Foot Switch released: Connector cut off.		

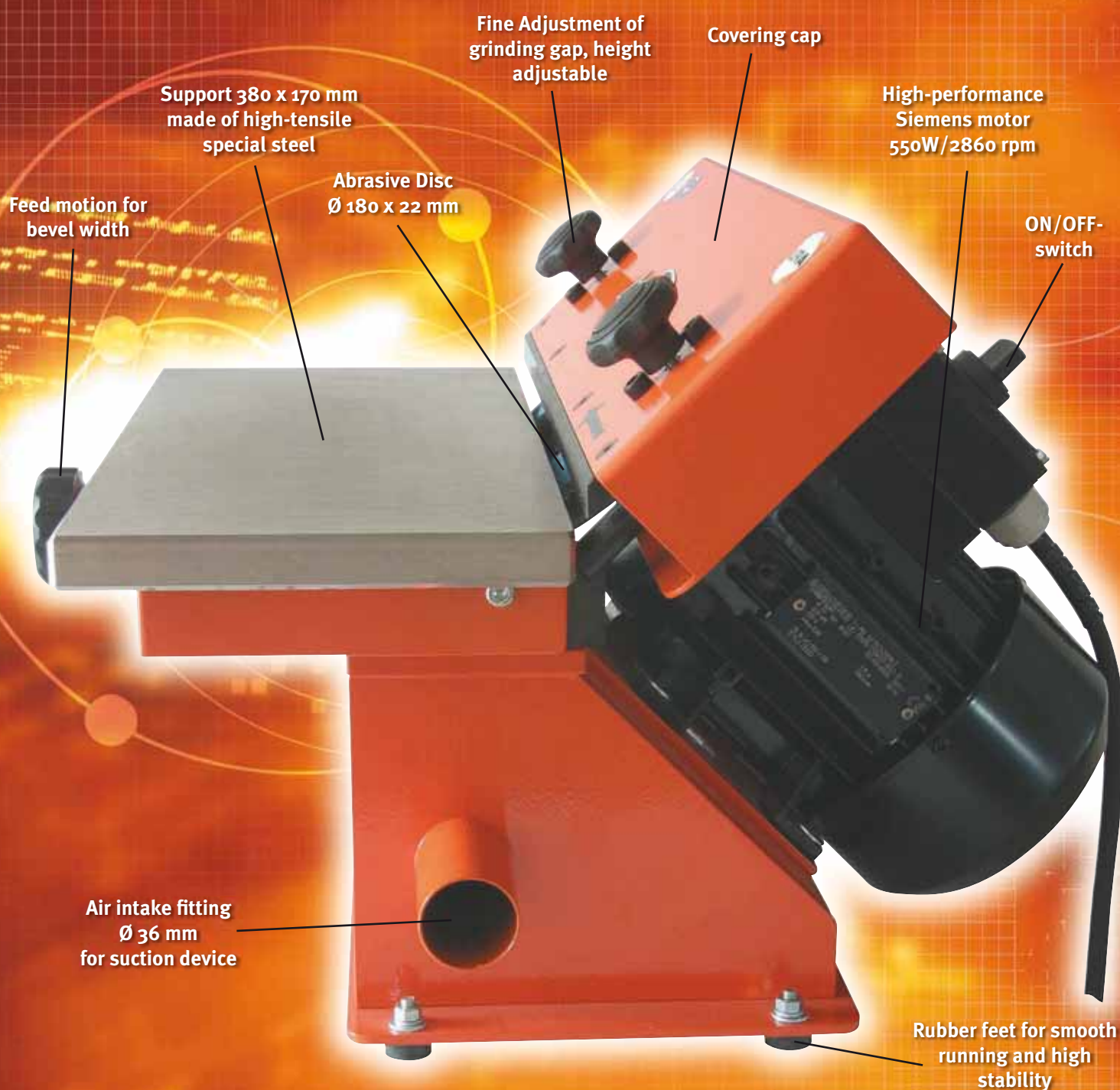


# B



# ALFRA *Deburring and Edge Grinding Machine*

# KSL



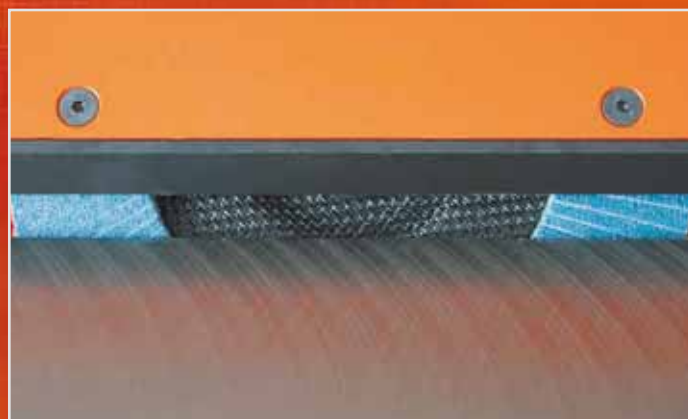


# ALFRA DEBURRING AND EDGE GRINDING MACHINE – KSL

Made in Germany by ALFRA

Bench-type model, for the 45°- deburring of small to medium-sized workpieces, by means of abra-sive discs 180 mm Ø. For all materials.

- As well for tempered workpieces.
- Fast deburring at the single piece.
- Even several parts together can be processed
- Constant bevels 45° through guide rail.
- with exhaust connecting piece.
- Outstandingly inexpensive, as customary abrasive discs in various grain sizes for all materials are available.



## Technical Data:

Bench Dimensions:	L = 380 mm, W = 170 mm
Abrasive Disc-Ø:	180 x 22 mm
Material Thickness:	as from 2 mm
Bevel Width:	as from 0 - 2 mm
Exhaust device:	serial
Speed:	2860 rpm
Motor capacity:	550 Watt
Voltage:	230 Volt or 110 Volt
Weight:	25 kg

## Tools:

All customary flapped- or abrasive discs Ø 180 mm, Bore Ø 22 mm, with various grain sizes, adapted on the material to be processed, can be used.

## Scope of Supply:

- Deburring Device KSL
- 1 Abrasive Disc 180 x 22 mm, Grain 80
- 1 Set Operating Tools
- 1 Operation Manual

**Prod.-No.**

Deburring and Edge Grinding Machine KSL	230 Volt	25250
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Deburring and Edge Grinding Machine KSL	110 Volt	25250.110
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# B



# ALFRA *Deburring Devices*

# KFK

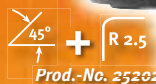
Ergonomic handle with  
ON/OFF-switch

High Performance  
motor with soft start

With thermal and  
overload protection

Adjustment of bevel  
width

Two in one





# ALFRA DEBURRING DEVICES – KFK

Made in Germany by ALFRA

For the deburring of outer and inner outlines, radii and bore holes as from 20 mm = 10 mm radius.

Especially developed to produce clean visible edges and to prepare welds.

- Tool-less adjustment of bevel height.
- Handy and powerful.
- For construction steels, stainless steels, aluminium and other material.
- Triple cutting insert holder.
- Bevel Angle 45° (30° optionally)
- Radii R = 2.5



Initial Bore as from Ø 20 mm

## Technical Data:

Bevel Angle:	45° (optional 30°)
Bevel Width 45°:	Steel 0 – 5 mm 400 N/mm <sup>2</sup> continuously Alu 0 – 8 mm 250 N/mm <sup>2</sup> continuously
Bevel Width 30°:	Steel 0 – 4 mm 400 N/mm <sup>2</sup> continuously Alu 0 – 6 mm 250 N/mm <sup>2</sup> continuously
Radii:	R=2.5
Voltage:	230 V or 110 Volt
Capacity:	1300 W
Continuously adjustable Speed:	6000 up to 10.000 rpm with soft start With thermal and overload protection manually
Feed:	manually
Weight:	4.2 kg

## Scope of Supply:

- KFK Deburring and Beveling Device
- 1 pc. Milling Tool 45° with indexable inserts
- 1 Tool Set
- Transport Case
- Operation Manual



	Prod.-No.
Deburring Device KFK – with 45° Spare-Insert Holder 230 Volt	25200
Deburring Device KFK – with 45° Spare-Insert Holder 110 Volt	25200.110
Deburring Device KFK – with 30° Spare-Insert Holder 230 Volt	25201
Deburring Device KFK – with 30° Spare-Insert Holder 110 Volt	25201.110
<b>Accessories:</b>	
45° Spare-Insert Holder/Radius 2.5 mm (without indexable inserts)	25202
30° Spare-Insert Holder (without indexable inserts)	25203
Guiding Stop for straight outer edges, adjustable	25207
<b>Tools:</b>	
Indexable inserts ISO TOHX/TOHT 13,47 x 3 coated	25206
Radius-Inserts 2.5 mm	25205

### ALFRA-Solid Carbide Deburring End Mill for KFH 150 – KFT 250

These Solid Carbide End Mills were especially developed for perfect deburring tasks.

The chips will be moved off the motor spindle in the chip collector or in the chip channels.

- **Solid Carbide** End Mill similar to DIN 6527
- Precision type shank Ø 8 mm
- Total length 60 mm

#### Prod.-No.

Carbide End Mills Ø 8 mm, 4 cutting edges,  
End Mill with larger chip spaces,  
suitable for wide bevels (up to 7 mm) at soft materials i.e.  
aluminium-brass-plastics-wood.  
Universal use at steel, stainless steel up to a bevel width of 5 mm  
**coated**

25150

Carbide End Mills Ø 8 mm, 5 cutting edges,  
suitable for wide bevels (up to 5 mm).  
Universal use at steel, stainless steel, non-ferrous metals, plastics  
**coated**

25151

Carbide End Mills Ø 8 mm, 8 cutting edges,  
for non-ferrous metals (copper, brass, bronze)  
as well as short-chipping aluminium alloys.  
**coated**

25152

Carbide End Mills Ø 8 mm, 14 cutting edges,  
for steel, cast iron and and small bevels at  
short-chipping non-ferrous metals, as well as  
for hardened materials  
**coated**

25153

Carbide End Mills Ø 8 mm, 4 cutting edges,  
rough toothing, fine knurl.  
Universal End Mill, for steel, stainless steel when  
reducing speed, also for smaller bevel mills  
**coated**

25154

Radius Mills R 1.5 – 2.0 – 2.5 for KFH 150 and KFT 250

on request

### End Mills for special tasks on request.

#### Prod.-No.

End Mill-Set in plastic packing  
Content: 5 Carbide End Mills  
Prod.-No. 25150, 25151, 25152, 25153, 25154  
**Ideal for initial equipment.**

25159



Prod.-No. 25150



Prod.-No. 25151



Prod.-No. 25152



Prod.-No. 25153



Prod.-No. 25154



Prod.-No. 25159



# ALFRA – Carbide Deburring End Mill for KFH 250 – KFT 500

MADE IN GERMANY



## ■ Solid Carbide End Mill Precision Type for KFH 250 – KFT 500

- Shank-Ø 12 mm
- Total length 80 mm

**Prod.-No.**  
25160

Carbide End Mill Ø 12 mm, 3 cutting edges,  
for long-chipping materials aluminium/copper/plastics  
Bevel Width up to 14 mm  
**coated**

Prod.-No. 25160



**Prod.-No.**  
25161

Carbide End Mill Ø 12 mm, 4 cutting edges,  
for steel/cast iron/stainless steels  
Bevel Width up to 8 mm  
**coated**

Prod.-No. 25161



**Prod.-No.**  
25162

Carbide End Mill Ø 12 mm, 6 cutting edges,  
Universal End Mill for steel/cast iron/stainless steels  
Bevel Width up to 7 mm  
**coated**

Prod.-No. 25162



**Prod.-No.**  
25163

Carbide End Mill Ø 12 mm, 4 cutting edges  
rough toothing for steel / cast iron / stainless steels.  
For the preparation of weld.  
Bevel Width up to 14 mm (with increasing milling depth)  
**coated**

Prod.-No. 25163



**Prod.-No.**  
25164

Carbide End Mill Ø 12 mm, 12 cutting edges,  
for hardened materials, steel/cast iron/stainless steel  
Bevel Width up to 6 mm  
**coated**

Prod.-No. 25164



## ■ Solid Carbide Radius End Mill

- For the chamfering of workpiece edges
- Versatile use. When processing hard materials, radii should be bevelled in separate work steps with increasing milling depth.
- The middle adjustment of the radius outline towards the edge of the workpiece is effected by the axial adjustment of the motor in the clamping eye.



## Solid Carbide Radius End Mill\*, 5 cutting edges, right-hand twist, L = 89 mm

**Prod.-No.**  
25165  
25166  
25167

R 3.0  
R 4.0  
R 5.0

\*Delivery time upon request.

## Solid Carbide End Mills and Radius End Mills 1.5 – 2.0 – 2.5 upon request.

**Prod.-No.**  
25169

Carbide End Mill Set in plastic packing  
Content: 5 End Mills  
Prod.-No. 25160, 25161, 25162, 25163, 25164  
**Ideal as initial equipment.**



Prod.-No. 25165/25166/25167



Prod.-No. 25169

### ■ Beveling and Deburring Machine with automatic feeding

- Deburring range: 20 mm Bevel width (b) at 30°
- Stationary automatic beveling and deburring machine with automatic infeed for beveling/deburring of small and medium size work pieces at angle of 30° - 60°.
- The machine is intended for beveling steel, aluminium and other materials; flat square material can be beveled/deburred as well as tubes...
- High quality beveling/deburring and brilliant finish.
- Rotating cutter head with 7 cutters 2890 r/min.
- Automatic feed wheel supported by a frequency converter

#### Prod.-No.

ALFRA Beveling and Deburring machine UZ 20-FM  
Incl. conveyor table for metal sheets, frequency converter  
and front control desk

25999

### Accessories/Spare parts

Spare indexable inserts for UZ 20-FM or UZ 20-R

25901

Guidance table for tubes and square materials

25902

Supply table, 1 m extension

25904

Output table, 1 m extension

25905

### Detailed Offer on request!!!



**Latest  
Development**





# ALFRA

## HSS-BI-METAL HOLE SAWS

► WITH COBALT-ALLOYED TEETH (M42)



### Features:

- High concentricity
- With solid base plate, thus more threads and higher stability as well as concentric running exactness.
- Combi-toothting 4/6 tpi for material as from 2 mm with positive chip- and cutting angle. This variable spacing provides a more even cut, for a minor generation of vibrations and heat. Lower expenditure of energy when cutting.
- Cutting Depth: 38 mm (1 1/2").
- Lateral slots help to remove the core.
- Suitable for unalloyed steel (up to 700 N/mm<sup>2</sup>), non-ferrous metals, light metals, plastics, gypsum, pulp wood- and plywood boards, lightweight building boards and general wood processing.
- Drill bit exchangeable with other commercially available arbors.



*Also steel/stainless steel up to approx. 3 mm, can be worked easily (for frequent use, we recommend our TCT Hole Saws).*



*... tailored to work on softwoods.*





## ALFRA – HSS-Bi-Metal Hole Saws

With Cobalt-alloyed teeth (M42)

ALFRA HSS-Bi-Metal Hole Saws are applicable in portable and pillar drilling machines. When using pillar drilling machines, use manual feed only.

### Features:

- High concentricity
- With solid base plate, thus more threads and higher stability as well as concentric running exactness.
- Combi-toothting 4/6 tpi for material as from 2 mm with positive chip- and cutting angle. This variable spacing provides a more even cut, for a minor generation of vibrations and heat. Lower expenditure of energy when cutting.
- Cutting Depth: 38 mm (1 1/2").
- Lateral slots help to remove the core.
- Suitable for unalloyed steel (up to 700 N/mm<sup>2</sup>), nonferrous metals, light metals, plastics, gypsum, pulp wood- and plywood boards, lightweight building boards and general wood processing.
- Drill bit exchangeable with other commercially available arbors.

### Tip:

Start drilling operation with light pressure. Continue with light and steady pressure, avoid pendulum motion, follow the speed chart, use coolant. When cutting wood or wood substitutes, remove drill dust in time.



Combi toothting 4/6 tpi



Ø from 14 to 210 mm available

Saw-Ø mm	Inch	Prod.-No.
14,0	9/16	0500014
16,0	5/8	0500016
17,0	11/16	0500017
19,0	3/4	0500019
20,0	15/16	0500020
21,0	13/16	0500021
22,0	7/8	0500022
24,0	15/16	0500024
25,0	1	0500025
27,0	1 1/16	0500027
29,0	1 1/8	0500029
30,0	1 3/16	0500030
32,0	1 1/4	0500032
33,0	1 5/16	0500033
35,0	1 3/8	0500035
37,0	1 7/16	0500037
38,0	1 1/2	0500038
40,0	1 9/16	0500040
41,0	1 5/8	0500041
43,0	1 11/16	0500043
44,0	1 3/4	0500044
46,0	1 13/16	0500046
48,0	1 7/8	0500048
51,0	2	0500051
52,0	2 1/16	0500052
54,0	2 1/8	0500054
57,0	2 1/4	0500057
59,0	2 3/16	0500059
60,0	2 3/8	0500060
64,0	2 1/2	0500064
65,0	2 9/16	0500065
67,0	2 7/8	0500067
68,0	2 11/16	0500068
70,0	2 3/4	0500070
73,0	2 7/8	0500073







# B

ALFRA

## ALFRA – HSS-Bi-Metal Hole Saws

With Cobalt-alloyed teeth (M42)

Saw-Ø mm	Inch	Prod.-No.
74,0	2 <sup>11</sup> / <sub>12</sub>	0500074
76,0	3	0500076
79,0	3 <sup>1</sup> / <sub>8</sub>	0500079
83,0	3 <sup>3</sup> / <sub>4</sub>	0500083
86,0	3 <sup>3</sup> / <sub>8</sub>	0500086
89,0	3 <sup>1</sup> / <sub>2</sub>	0500089
92,0	3 <sup>5</sup> / <sub>8</sub>	0500092
95,0	3 <sup>3</sup> / <sub>4</sub>	0500095
98,0	3 <sup>7</sup> / <sub>8</sub>	0500098
102,0	4	0500102
105,0	4 <sup>1</sup> / <sub>8</sub>	0500105
108,0	4 <sup>1</sup> / <sub>4</sub>	0500108
111,0	4 <sup>3</sup> / <sub>8</sub>	0500111
114,0	4 <sup>1</sup> / <sub>2</sub>	0500114
121,0	4 <sup>3</sup> / <sub>4</sub>	0500121
127,0	5	0500127
140,0	5 <sup>1</sup> / <sub>2</sub>	0500140
152,0	6	0500152

From Ø 160.0 mm (6<sup>5</sup>/<sub>16</sub>" ) only suitable for wood and wood substitutes.

160,0	6 <sup>5</sup> / <sub>16</sub>	0500160
168,0	6 <sup>3</sup> / <sub>8</sub>	0500168
177,0	7	0500177
210,0	8 <sup>5</sup> / <sub>16</sub>	0500210

9,5 mm

Prod.-No. 0501001 A6-SS

SDS plus

Prod.-No. 0501002 A6-SDS

9,5 mm

Prod.-No. 0501003 A2-SS

SDS plus

Prod.-No. 0501005 A2-SDS

11,11 mm

Prod.-No. 0501006 A3-SS

### Arbors

with guiding drill bit

Saw-Ø mm	Type	Shank-Ø	Prod.-No.
14 - 30	A 6-SS	9,5 hexagon	0501001
14 - 30	A 6-SDS	SDS	0501002
32 - 152	A 2-SS	9,5 hexagon	0501003
32 - 152	A 2-SDS	SDS	0501005
32 - 210	A 3-SS	11,11 hexagon	0501006
32 - 210	A 5-SS	16,0 hexagon	0501008

### Accessories:

Extension Shaft 300 mm, with change adaptor 3/8" – 9.5 mm for A 6-SS + A 2-SS	0501010
Spare Center Drill HSS Ø 6,35 mm x 80 mm for A 6-SS + A 6-SDS + A 2-SS + A 2-SDS + A 3-SS + A 5-SS	0502001
Ejector Spring	0502004

**Important: Disable impact drill when using SDS-shanks!**

Prod.-No. 0501010

3/8" – 9.5 mm

Prod.-No. 0502001

Prod.-No. 0502004



## ALFRA – HSS-Bi-Metal Hole Saws - Sets

With Cobalt-alloyed teeth (M42)

The following HSS-Bi-Metal Hole Saw Sets enlarge our range. These sets were especially compiled for electricians, mechanics, plumbers and for general, universal applications. These sets improve the presentation. Storage in solid tool cases.

### Hole Saw Set **Standard**

**Prod.-No.**  
0503006

**Content:**

Ø 16 mm ( $\frac{5}{8}$ "")  
 Ø 19 mm ( $\frac{3}{4}$ "")  
 Ø 22 mm ( $\frac{7}{8}$ "")  
 Ø 29 mm ( $1 \frac{1}{8}$ "")  
 Ø 35 mm ( $1 \frac{3}{8}$ "")  
 Ø 44 mm ( $1 \frac{3}{4}$ "")  
 Ø 52 mm ( $2 \frac{1}{16}$ "")  
 Ø 57 mm ( $2 \frac{1}{4}$ "")  
 Ø 67 mm ( $2 \frac{5}{8}$ "")

Arbor A6-SS, Arbor A2-SS, Spare Twist Drill



Prod.-No. 0503006

### Hole Saw Set **Professional**

**Prod.-No.**  
0503007

**Content:**

Ø 16 mm ( $\frac{5}{8}$ "")  
 Ø 19 mm ( $\frac{3}{4}$ "")  
 Ø 22 mm ( $\frac{7}{8}$ "")  
 Ø 25 mm (1")  
 Ø 29 mm ( $1 \frac{1}{8}$ "")  
 Ø 32 mm ( $1 \frac{1}{4}$ "")  
 Ø 35 mm ( $1 \frac{3}{8}$ "")  
 Ø 38 mm ( $1 \frac{1}{2}$ "")  
 Ø 44 mm ( $1 \frac{3}{4}$ "")  
 Ø 51 mm (2")  
 Ø 64 mm ( $2 \frac{1}{2}$ "")  
 Ø 76 mm (3")

Arbor A6-SS, Arbor A2-SS, Spare Twist Drill



Prod.-No. 0503007

### Hole Saw Set **Electro**

**Prod.-No.**  
0503008

**Content:**

Ø 22 mm ( $\frac{7}{8}$ "")  
 Ø 29 mm ( $1 \frac{1}{8}$ "")  
 Ø 35 mm ( $1 \frac{3}{8}$ "")  
 Ø 44 mm ( $1 \frac{3}{4}$ "")  
 Ø 51 mm (2")  
 Ø 64 mm ( $2 \frac{1}{2}$ "")  
 Ø 68 mm ( $2 \frac{11}{16}$ "")

Arbor A6-SS, Arbor A2-SS, Spare Twist Drill



Prod.-No. 0503008

### Hole Saw Set **Sanitary**

**Prod.-No.**  
0503009

**Content:**

Ø 16 mm ( $\frac{5}{8}$ "")  
 Ø 19 mm ( $\frac{3}{4}$ "")  
 Ø 24 mm ( $\frac{15}{16}$ "")  
 Ø 29 mm ( $1 \frac{1}{8}$ "")  
 Ø 38 mm ( $1 \frac{1}{2}$ "")  
 Ø 44 mm ( $1 \frac{3}{4}$ "")  
 Ø 57 mm ( $2 \frac{1}{4}$ "")  
 Ø 67 mm ( $2 \frac{5}{8}$ "")

Arbor A6-SS, Arbor A2-SS, Spare Twist Drill



Prod.-No. 0503009

**Sales Display on request!**



# ALFRA - HOLE SAWS

## THE QUALITY IS IN THE DETAIL

- 1 FIXATION ARBOR-SHANK
- 2 FIXING SCREW FOR CENTER DRILL
- 3 EJECTOR HOLES
- 4 THE EJECTOR SPRING EJECTS THE WASTE AND PROTECTS THE TCT-THEETH WHEN CENTER DRILLING
- 5 TAPERED CENTER DRILL, CENTERING WITHOUT RUNNING OFF (CENTER PUNCHING NOT NECESSARY)





# ***TCT-Hole Saws in use***



***TCT-Hole Saws – short-/long type***



***Plastic***



***Stainless steel***



***Poroton stone***



***TCT-Hole Saws – FRP type***





***TCT-Hole Saws – MBS type***



***Sanitary pipes – type SML***



***Sanitary pipes – type SML***

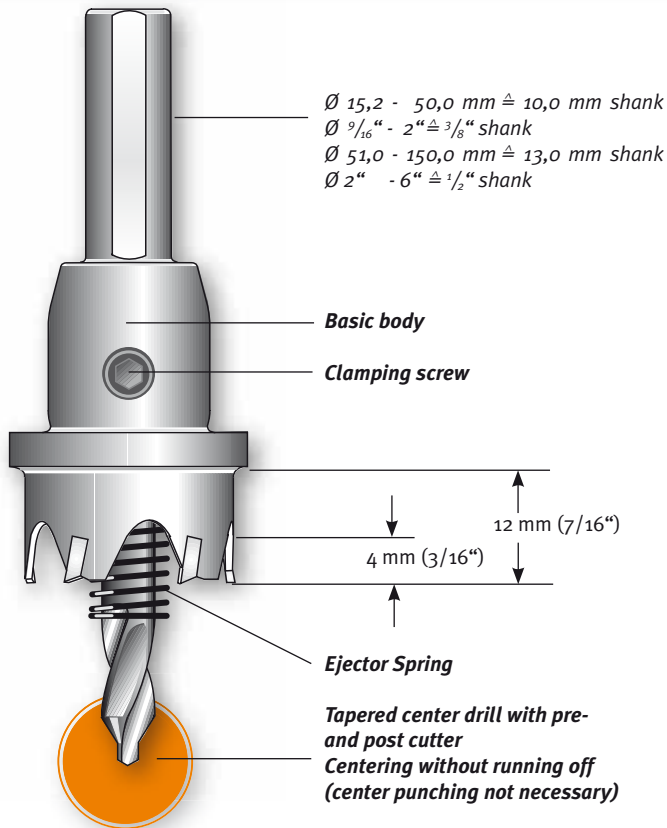


***Checker plate (VA)***



## ALFRA TCT-HOLE SAWS – Short Type

Made in Germany by ALFRA



The application area of TCT Hole Saws differs from HSS-Bi-Metal Hole Saws. With ALFRA TCT Hole Saws, suitable to economically process stainless steel up to 2 mm (1/16"), unalloyed steels up to 4 mm (3/16"), plastics, PVC, aluminium, zinc, gypsum plaster boards and lightweight building boards, as well as asbestos. For the use on portable- and pillar drilling machines. Do not use automatic feed, when working with pillar drilling machines.

### Features:

- High concentric running exactness through solid construction.
- CAD-optimized cutting angles with specially ground section ensures high cutting capacity and long tool life.
- Quick removal of drilled core through ejector spring for all hole saws up to  $\varnothing 150 \text{ mm}$  (6").
- Carbide tipping enables repeated re-grinding.
- Exchangeable center pin.
- As from  $\varnothing 31 \text{ mm}$  (1 7/32") use of MT tool holders.

### Tips:

- At thicker materials: cut 2-3 mm per cutting process, remove chips afterwards.
- When cutting metals, a high- grade cutting oil should be used. Exception: Do not use cutting oil when using cast iron, use paraffin instead of oil when cutting aluminium.
- **Keep in mind: Always wear safety goggles.**



### Another safety feature:

From  $\varnothing 15,2 \text{ mm}$  (9/16") to  $30,0 \text{ mm}$  (1 1/8"), the Hole Saw is made of one piece. From  $\varnothing 31,0 \text{ mm}$  (1 3/16") we use special hardened tool holders to absorb heavy duty torsion forces and subsequently to avoid a shearing off of the shank.

**Incomparable with any of our competitors makes!!!**





# B

**ALFRA**

## ALFRA TCT-HOLE SAWS – Short Type

Made in Germany by ALFRA

Ø mm		inch	No. of teeth	Prod.-No. complete
15,2	PG 9	3/16"	4	0600152
16,0	M 16	5/8"	4	0600160
17,0			4	0600170
18,0		11/16"	4	0600180
18,6	PG 11		4	0600186
19,0		3/4"	4	0600190
20,0	M 20		5	0600200
20,4	PG 13		5	0600204
21,0		13/16"	5	0600210
22,0			5	0600220
22,5	PG 16		5	0600225
23,0		7/8"	5	0600230
24,0		15/16"	5	0600240
25,0	M 25		5	0600250
26,0		1"	5	0600260
27,0		1 1/16"	5	0600270
28,0			5	0600280
28,3	PG 21		5	0600283
29,0		1 1/8"	5	0600290
30,0		1 3/16"	5	0600300
31,0		1 7/32"	6	0600310
32,0	M 32	1 1/4"	6	0600320
33,0			6	0600330
34,0		1 5/16"	6	0600340
35,0		1 3/8"	6	0600350
36,0			6	0600360
37,0	PG 29	1 7/16"	7	0600370
38,0			7	0600380
39,0		1 1/2"	7	0600390
40,0	M 40	1 9/16"	7	0600400
41,0			8	0600410
42,0		1 5/8"	8	0600420
43,0		1 11/16"	8	0600430
44,0			8	0600440
45,0		1 3/4"	8	0600450
46,0			8	0600460
47,0	PG 36	1 13/16"	9	0600470
48,0		1 7/8"	9	0600480
49,0			9	0600490
50,0	M 50	1 15/16"	9	0600500
51,0		2"	9	0600510
52,0		2 1/16"	10	0600520
53,0			10	0600530
54,0	PG 42	2 1/8"	10	0600540
55,0			10	0600550
56,0		2 3/16"	10	0600560
57,0		2 1/4"	10	0600570
58,0			10	0600580
59,0		2 5/16"	10	0600590
60,0	PG 48	2 3/8"	10	0600600
61,0			11	0600610
62,0		2 7/16"	11	0600620
63,0	M 63		11	0600630
64,0		2 1/2"	11	0600640
65,0			11	0600650
66,0		2 9/16"	12	0600660
67,0		2 5/8"	12	0600670
68,0			12	0600680
69,0		2 11/16"	12	0600690
70,0		2 3/4"	12	0600700
71,0			12	0600710
72,0		2 13/16"	13	0600720
73,0		2 7/8"	13	0600730
74,0			13	0600740
75,0		2 15/16"	13	0600750
76,0		3"	13	0600760
77,0			13	0600770

Ø mm		inch	No. of teeth	Prod.-No. complete
78,0		3 1/16"	14	0600780
79,0		3 1/8"	14	0600790
80,0			14	0600800
81,0		3 3/16"	14	0600810
82,0			14	0600820
83,0		3 1/4"	14	0600830
84,0		3 5/16"	15	0600840
85,0			15	0600850
86,0		3 3/8"	15	0600860
87,0		3 7/16"	15	0600870
88,0			15	0600880
89,0		3 1/2"	16	0600890
90,0		3 9/16"	16	0600900
91,0			16	0600910
92,0		3 5/8"	16	0600920
93,0			16	0600930
94,0		3 11/16"	16	0600940
95,0		3 3/4"	17	0600950
96,0			17	0600960
97,0		3 13/16"	17	0600970
98,0		3 7/8"	17	0600980
99,0			17	0600990
100,0		3 15/16"	17	0601000
105,0		4"	18	0601050
110,0			18	0601100
115,0		4 1/2"	20	0601150
120,0			20	0601200
125,0			20	0601250
130,0		5"	20	0601300
135,0			24	0601350
140,0		5 1/2"	24	0601400
145,0			24	0601450
150,0			24	0601500



Prod.-No. 0600001

### Set Metric

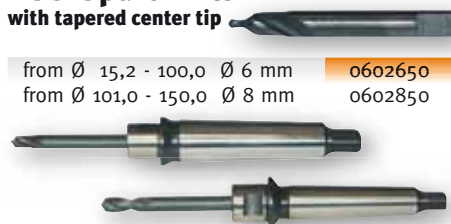
**Prod.-No.**  
0600001

Set Metric

Content:  
1 each of Ø 16/20/25/32/40 mm  
2 Allen Keys



### HSS-Spare Drill with tapered center tip



from Ø 15,2 - 100,0 Ø 6 mm 0602650  
from Ø 101,0 - 150,0 Ø 8 mm 0602850

From Ø 61 mm we recommend Tool Holders MT2  
and MT3.

MT-2 (up to Ø 100,0 mm) 0734002  
MT-3 (up to Ø 150,0 mm) 0734003

### Spare Ejector Spring

from Ø 15,2 - 100,0 Ø 6 mm 0602006

### Coolant ALFRA

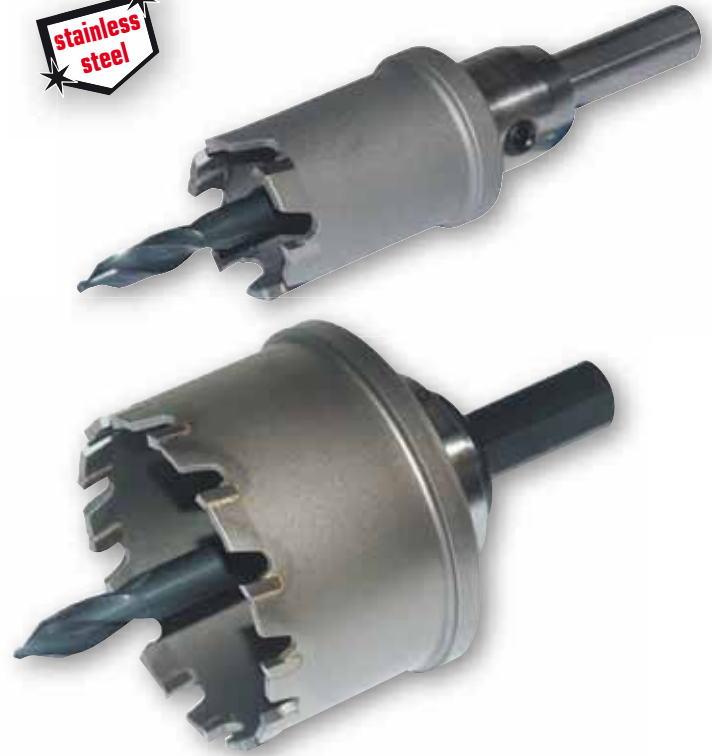
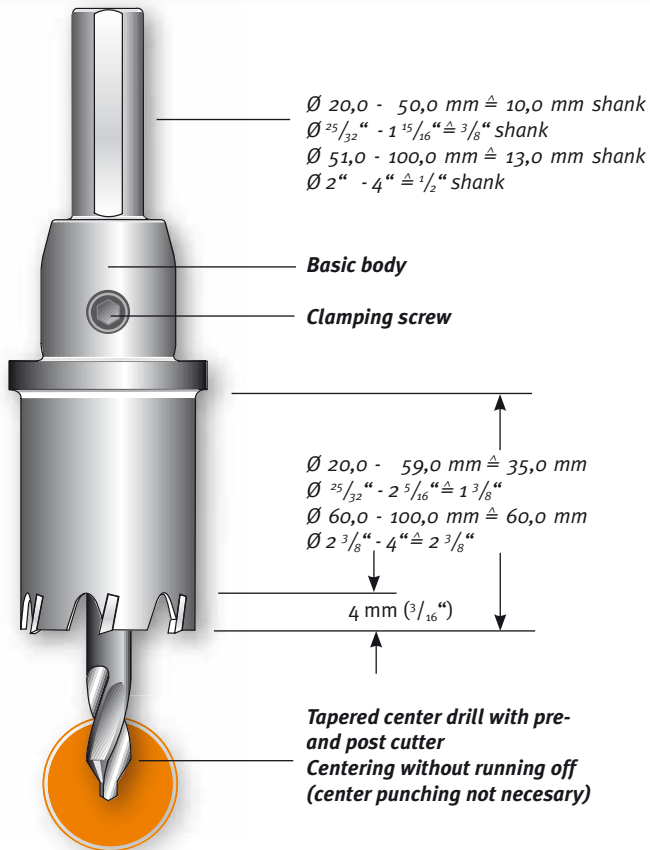
**ALFRA BIO 2000**  
For mild steel St 37, 405 ml 21010

**ALFRA 3000**  
For chrome-nickel steels  
520 ml 21030



## ALFRA TCT-HOLE SAWS – Long Type

Made in Germany by ALFRA



### Features:

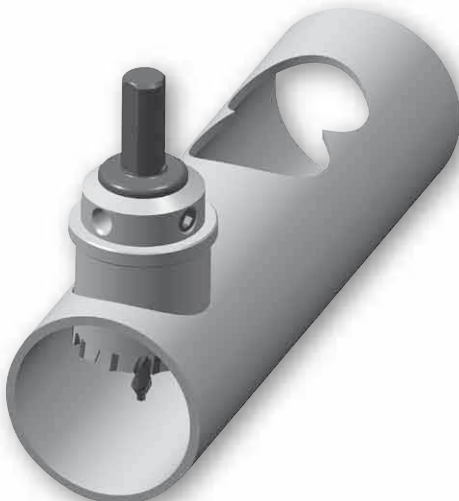
- Especially developed for the use on pipes, vaulted materials, for unalloyed and alloyed steels, nonferrous metals, plastics as well as glass fibre reinforced plastic.
- For material thickness up to 4 mm ( $\frac{3}{16}''$ ), **2 mm ( $\frac{1}{16}''$ ) stainless steel**
- For the use on hand drilling machines or pillar drilling machines

### Tips:

- Start drilling operation with light pressure, when drilling pipes. Avoid pendulum motions.
- Keep in mind: Always wear safety goggles.**



Special tool for insulant



**Special tools for special applications on request!**



Special tool for Macrolon





**B**



# ALFRA TCT-HOLE SAWS – Long Type

Made in Germany by ALFRA

Ø mm	inch	No. of teeth	Prod.-No. complete
20		5	0700200
21	13/16"	5	0700210
22		5	0700220
23	7/8"	5	0700230
24	15/16"	6	0700240
25		6	0700250
26	1"	6	0700260
27	1 1/16"	6	0700270
28		6	0700280
29	1 1/8"	6	0700290
30	1 3/16"	6	0700300
31	1 7/32"	8	0700310
32	1 1/4"	8	0700320
33		8	0700330
34	1 5/16"	8	0700340
35	1 3/8"	8	0700350
36		8	0700360
37	1 7/16"	8	0700370
38		8	0700380
39	1 1/2"	8	0700390
40	1 9/16"	10	0700400
41		10	0700410
42	1 5/8"	10	0700420
43	1 11/16"	10	0700430
44		10	0700440
45	1 3/4"	10	0700450
46		10	0700460
47	1 13/16"	10	0700470
48	1 7/8"	10	0700480
49		10	0700490
50	1 15/16"	12	0700500
51	2"	12	0700510
52	2 1/16"	12	0700520
53		12	0700530
54	2 1/8"	12	0700540

Ø mm	inch	No. of teeth	Prod.-No. complete
55		12	0700550
56	2 3/16"	12	0700560
57	2 1/4"	12	0700570
58		12	0700580
59	2 5/16"	12	0700590
60	2 3/8"	14	0700600
61		14	0700610
62	2 7/16"	14	0700620
63		14	0700630
64	2 1/2"	14	0700640
65		14	0700650
66	2 9/16"	14	0700660
67	2 5/8"	16	0700670
68		16	0700680
69	2 11/16"	16	0700690
70	2 3/4"	16	0700700
71		16	0700710
72	2 13/16"	16	0700720
73	2 7/8"	16	0700730
74		16	0700740
75	2 15/16"	16	0700750
76	3"	18	0700760
77		18	0700770
78	3 1/16"	18	0700780
79	3 1/8"	18	0700790
80		18	0700800
81	3 3/16"	18	0700810
82		18	0700820
83	3 1/4"	18	0700830
84	3 5/16"	20	0700840
85		20	0700850
86	3 3/8"	20	0700860
87	3 7/16"	20	0700870
88		20	0700880
89	3 1/2"	20	0700890

Ø mm	inch	No. of teeth	Prod.-No. complete
90	3 9/16"	20	0700900
91		20	0700910
92	3 1/8"	20	0700920
93		22	0700930
94	3 11/16"	22	0700940
95	3 3/4"	22	0700950
96		22	0700960
97	3 13/16"	22	0700970
98	3 7/8"	22	0700980
99		22	0700990
100	3 15/16"	22	0701000

Special dimensions on request

070 .../...

## HSS -Spare Drill with tapered center tip



6 x 80 mm	0702680
8 x 80 mm	0702880
8 x 100 mm	0702800



MT2 and MT3 arbors suitable as from Ø 31mm

MT-2 (up to Ø 100,0 mm)	0734002
MT-3 (up to Ø 150,0 mm)	0734003

## HIGHLY RECOMMENDED ACCESSORIES – coolant and lubricant!

### ALFRA BIO 2000



Is a fully synthetic cutting oil, developed for high-quality cutting, threading and drilling of metals of any degree of hardness, ferrous metal, steel alloys, chrome nickel steel, V2A and V4A steel, copper, aluminium and their alloys.

**ALFRA BIO 2000** is free of hydrocarbon, sulphur and chlorine.

### ALFRA 3000



Universal metal working oil free of chlorine. High-performance drilling, clearing and cutting oil, based on mineral oil, to be used for material which is medium-difficult up to difficult to cut. Having a big share of efficient admixtures which grant an optimal cutting capacity and a considerable reduction of wear and tear of the tool.

It is in accordance with the standards of work hygiene and safety. We recommend to use **ALFRA 3000** especially for the drilling and threading of high-alloy steel and chrome nickel steel.



Aerosol can 405 ml 21010

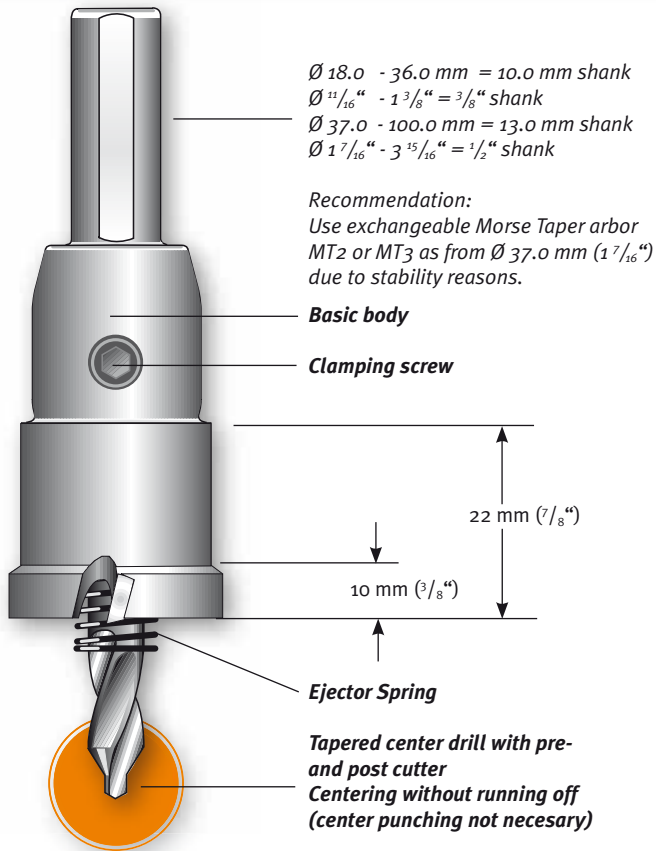
Aerosol can 520 ml

21030

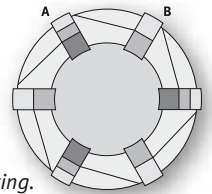


## ALFRA TCT-HOLE SAWS – MBS-Light

Registered Utility Model No. 202 03 232.9



**stainless steel**



**Cutting geometries**  
 Variable Teeth, less vibration, longer tool life, smoother cutting.

This TCT Hole Saw is a multi-range Hole Saw for the universal use up to a material thickness of max. 10 mm ( $3/8"$ ) (without ejector spring). Through its solid construction and an enhanced cutting geometry (Registered Utility Model No. 202.03 232.9), an improved cutting behaviour combined with a high cutting capacity and tool life, is achieved.

For the use on flat steel, as well as on pipes and vaulted materials. Also suitable for the cutting of overlapping holes.

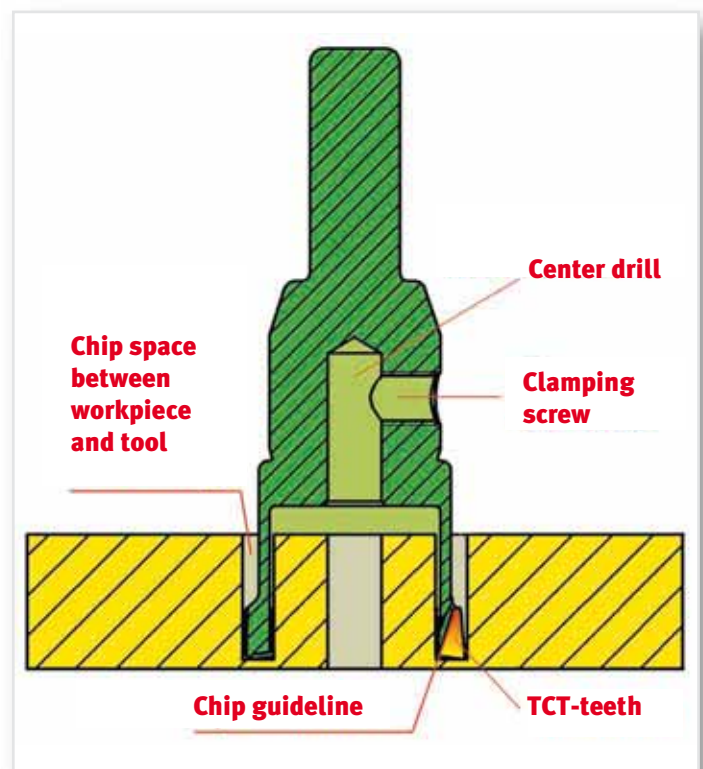
To be used on Pillar- and Hand Drilling Machines:

- **Hand Drilling Machines:** up to 4 mm ( $1/8"$ ) material thickness
- **Pillar Drilling Machines:** up to 10 mm ( $3/8"$ ) material thickness (as from 6mm material thickness, we recommend to clear chips.)

In case of heavy operation, we recommend Morse Taper Tool Holders, which are suitable as from  $\varnothing 37 \text{ mm}$  ( $1 7/16"$ ).

**Advantage:** All TCT Hole Saws MBS type are equipped with an ejector spring. The cut material is self-ejecting.

## MBS – for almost limitless use



### Another special technical feature:

As from  $\varnothing 37 \text{ mm}$  ( $1 7/8"$ ) specially hardened tool holders to compensate the torsional power in case of heavy operation which avoids early shearing off of the tool holder shank.

In terms of construction not comparable with any other make.





# B

ALFRA

## ALFRA TCT-HOLE SAWS – MBS-Light

Registered Utility Model No. 202 03 232.9

Ø mm	inch	No. of teeth	Prod.-No. complete
18,0		6	0730018
19,0	3/4"	6	0730019
20,0	M 20	6	0730020
21,0	13/16"	6	0730021
22,0		6	0730022
23,0	7/8"	6	0730023
24,0	15/16"	6	0730024
25,0	M 25	6	0730025
26,0	1"	6	0730026
27,0	1 1/16"	6	0730027
28,0		6	0730028
29,0	1 1/8"	6	0730029
30,0	1 3/16"	6	0730030
31,0	1 7/32"	6	0730031
32,0	M 32	6	0730032
33,0	1 1/4"	6	0730033
34,0	1 5/16"	6	0730034
35,0	1 3/8"	6	0730035
36,0		6	0730036

As from Ø 37.0 mm (1 7/16") we recommend the use of MT arbors

37,0	1 7/16"	6	0730037
38,0		6	0730038
39,0	1 1/2"	6	0730039
40,0	M 40	6	0730040
41,0		6	0730041
42,0	1 5/8"	6	0730042
43,0	1 11/16"	6	0730043
44,0		6	0730044
45,0	1 3/4"	6	0730045
46,0		6	0730046
47,0	1 13/16"	6	0730047
48,0	1 7/8"	6	0730048
49,0		6	0730049
50,0	M 50	6	0730050
51,0	2"	6	0730051
52,0	2 1/16"	6	0730052
53,0		6	0730053
54,0	Pg 42	6	0730054
55,0		6	0730055
56,0	2 3/16"	6	0730056
57,0	2 1/4"	6	0730057
58,0		6	0730058
59,0	2 5/16"	6	0730059
60,0	Pg 48	8	0730060
61,0		8	0730061
62,0	2 7/16"	8	0730062
63,0	M 63	8	0730063
64,0	2 1/2"	8	0730064
65,0		8	0730065
66,0	2 9/16"	8	0730066
67,0	2 5/8"	8	0730067
68,0		8	0730068
69,0	2 11/16"	8	0730069
70,0	2 3/4"	8	0730070
71,0		10	0730071
72,0	2 13/16"	10	0730072
73,0	2 7/8"	10	0730073
74,0		10	0730074
75,0	2 15/16"	10	0730075

Ø mm	inch	No. of teeth	Prod.-No. complete
76,0	3"	10	0730076
77,0		12	0730077
78,0	3 1/16"	12	0730078
79,0	3 1/8"	12	0730079
80,0		12	0730080
81,0	3 3/16"	12	0730081
82,0		12	0730082
83,0	3 1/4"	12	0730083
84,0	3 5/16"	12	0730084
85,0		12	0730085
86,0	3 3/8"	14	0730086
87,0	3 7/16"	14	0730087
88,0		14	0730088
89,0	3 1/2"	14	0730089
90,0	3 9/16"	14	0730090
91,0		14	0730091
92,0	3 5/8"	14	0730092
93,0		14	0730093
94,0	3 11/16"	14	0730094
95,0	3 3/4"	14	0730095
96,0		14	0730096
97,0	3 13/16"	14	0730097
98,0	3 7/8"	14	0730098
99,0		14	0730099
100,0	3 15/16"	14	0730100

### HSS-Spare Drill with tapered center tip

from Ø 15,2 - 60,0 Ø 6 mm	0602650
from Ø 61,0 - 100,0 Ø 8 mm	0602850



As from Ø 37mm we recommend the use of MT2 and MT3 Tool Holders.

MT-2	0734002
MT-3	0734003

### Spare Ejector Spring

from Ø 15,2 - 60,0 Ø 6 mm	0732006
from Ø 61,0 - 100,0 Ø 8 mm	0732008

### Coolant ALFRA

ALFRA BIO 2000	
For mild steel St 37, 405 ml	21010

ALFRA 3000	
For stainless steel	
520 ml	21030



Drilling structured sheet metals



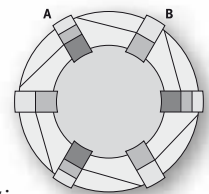
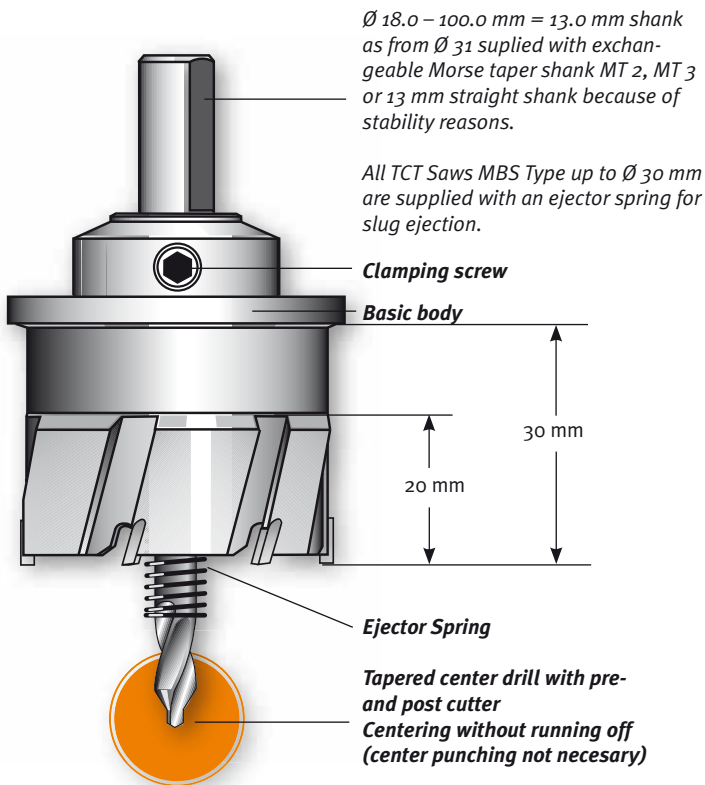
Drilling rectangular tubes



Drilling flat steels



Drilling pipes



**Cutting geometries**  
Variable Teeth, less vibration,  
longer tool life, smoother cutting.

## MBS – for almost limitless use

MBS-Multirange Hole Saws for universal use. **Max. cutting depth 20 mm**

Suitable for flat materials but also for pipes and curved surfaces. Cutting of overlapping holes is possible.  
CAD optimized precision tools with high cutting performance and durability.

Use on portable and pillar machines.

- **Portable drilling Machines:** up to 6 mm material thickness
- **Pillar drilling Machines:** up to 20 mm material thickness

MBS hole saws can be reshaped, and it is possible to replace broken out teeth depending on the condition of the hole saw.

**Advantages:** All Alfra TCT Hole Saws MBS-Pro type are equipped with an ejector spring. The cut material is self-ejecting.



### Another special technical feature:

As from Ø 31 mm specially hardened tool holders to compensate the torsional power in case of heavy operation which avoids early shearing off of the tool holder shank.

In terms of construction not comparable with any other make.





# B

## ALFRA TCT-HOLE SAWS – MBS-Pro

Made in Germany by ALFRA



Ø mm	inch	No. of teeth	Prod.-No. complete
18,0		6	0760018
18,6	PG 11	6	07600186
19,0	3/4"	6	0760019
20,0	M20	6	0760020
20,4	PG 13	6	07600204
21,0	13/16"	6	0760021
22,0		6	0760022
22,5	PG 16	6	07600225
23,0	7/8"	6	0760023
24,0	15/16"	6	0760024
25,0	M25	6	0760025
26,0	1"	6	0760026
27,0	1 1/16"	6	0760027
28,0		6	0760028
28,3	PG 21	6	07600283
29,0	1 1/8"	6	0760029
30,0	1 3/16"	6	0760030

As from Ø 31,0 mm (1 7/32") we recommend the use of MT arbors

31,0	1 7/32"	6	0760031
32,0	M32	6	0760032
33,0		6	0760033
34,0	1 5/16"	6	0760034
35,0	1 3/8"	6	0760035
36,0		6	0760036
37,0	PG 29	6	0760037
38,0		6	0760038
39,0	1 1/2"	6	0760039
40,0	M40	6	0760040
41,0		6	0760041
42,0	1 5/8"	6	0760042
43,0	1 11/16"	6	0760043
44,0		6	0760044
45,0	1 3/4"	6	0760045
46,0		6	0760046
47,0	PG 36	6	0760047
48,0	1 7/8"	6	0760048
49,0		6	0760049
50,0	1 15/16"	6	0760050
51,0	2"	6	0760051
52,0	2 1/16"	6	0760052
53,0		6	0760053
54,0	PG 42	6	0760054
55,0		6	0760055
56,0	2 3/16"	6	0760056
57,0	2 1/4"	6	0760057
58,0		6	0760058
59,0	2 5/16"	6	0760059
60,0	PG 48	8	0760060
61,0		8	0760061
62,0	2 7/16"	8	0760062
63,0	M63	8	0760063
64,0	2 1/2"	8	0760064
65,0		8	0760065
66,0	2 9/16"	8	0760066
67,0	2 5/8"	8	0760067
68,0		8	0760068
69,0	2 11/16"	8	0760069
70,0	2 3/4"	8	0760070
71,0		10	0760071
72,0	2 13/16"	10	0760072
73,0	2 7/8"	10	0760073
74,0		10	0730074
75,0	2 15/16"	10	0730075

As from Ø 76 mm (3") we recommend our Rotabest® TCT Cutters type AL when cutting stainless steel. (Art.-Nr. 200205....)

76,0	3"	10	0760076
77,0		12	0760077
78,0	3 1/16"	12	0760078
79,0	3 1/8"	12	0760079
80,0		12	0760080
81,0	3 3/16"	12	0760081
82,0		12	0760082
83,0	3 1/4"	12	0760083
84,0	3 5/16"	12	0760084
85,0		12	0760085
86,0	3 3/8"	14	0760086
87,0	3 7/16"	14	0760087
88,0		14	0760088
89,0	3 1/2"	14	0760089
90,0	3 9/16"	14	0760090
91,0		14	0760091
92,0	3 5/8"	14	0760092
93,0		14	0760093
94,0	3 11/16"	14	0760094
95,0	3 3/4"	14	0760095
96,0		14	0760096
97,0	3 13/16"	14	0760097
98,0	3 7/8"	14	0760098
99,0		14	0760099
100,0	3 15/16"	14	0760100

### HSS-Spare Drill

with tapered center tip

from Ø 18,0 - 60,0	Ø 6 mm	0732680
from Ø 61,0 - 100,0	Ø 8 mm	0732880



### Tool Holder as from Ø 31,0 mm

MT-2 (up to Ø 100 mm)	0734002
MT-3 (up to Ø 150 mm)	0734003

### Coolant ALFRA

<b>ALFRA BIO 2000</b>	
For mild steel St 37, 405 ml	
21010	
<b>ALFRA 3000</b>	
For stainless steel	
520 ml	21030

### Sales Displays

Ask for our catalogue „World of Displays“



Drilling structured sheet metals



Drilling tubes



Drilling flat steels

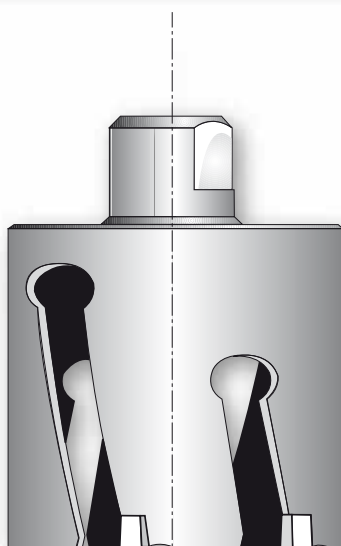


Displays for point of sale.



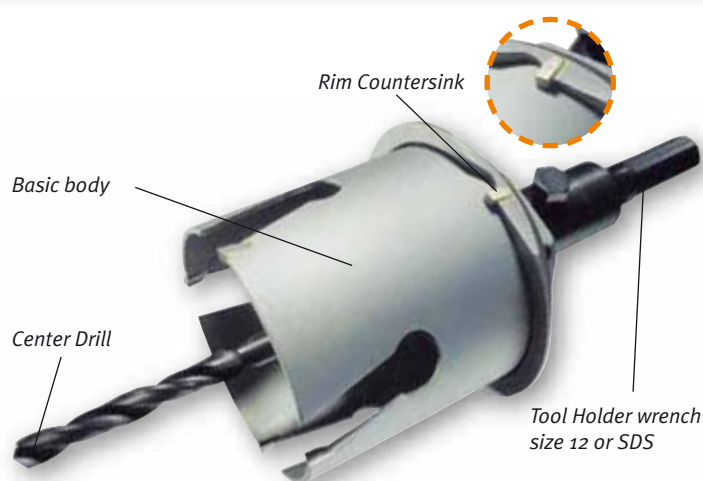
## ALFRA TCT-HOLE SAWS – FRP type

Made in Germany by ALFRA

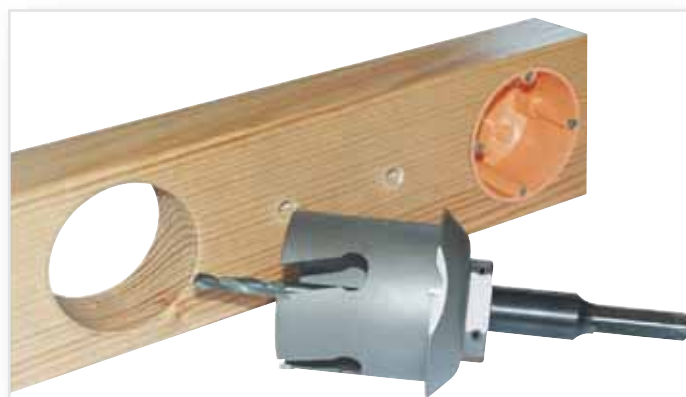


### Cutting depth 60 mm (2 3/8")

- Specially designed for wood, plain, laminated and coated chip board, plywood, paper-base laminate, PVC, glass fibre reinforced plastic, gas concrete, Ytong stone, plasterboard, hollow gauged brick/stones.
- No blocking due to optimal cutting geometry.
- Simple drill core removal based on new chip space design.
- In the event of a tooth breaking, it can easily be replaced and re-sharpened.
- Only use when rotating, switch off hammer action.
- Ideal for electricians, plumbers and heating engineers, carpenters and cabinet makers, stair construction and kitchen furniture fitter.

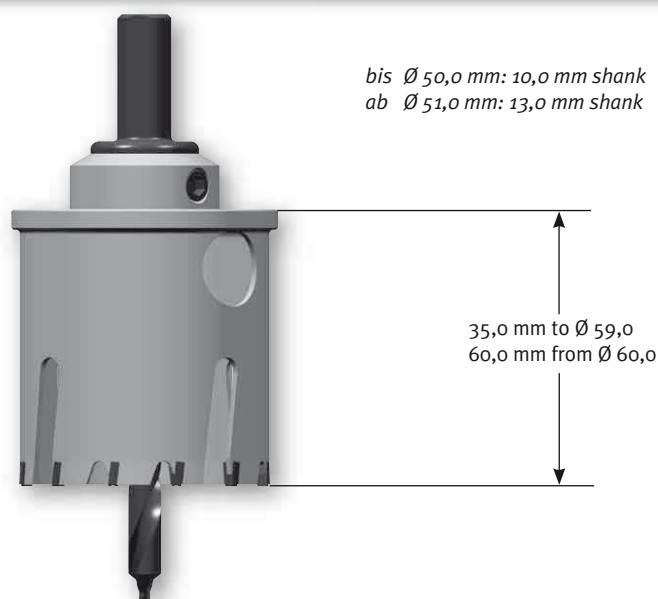


Art.-Nr. 0740068060 – FRP Hole Saw Ø 68 mm with rim countersink



Perfect assembly of sockets in e.g. wood, gypsum plaster board,...

## ALFRA TCT-HOLE SAWS – FRP Multi-Tooth



### with arbor shank

- Cutting Depth 35,0/60,0 for sandwich-composite material, wood and chipboard coated with insulation and sheet metal (also stainless), e.g. counters and refrigerators.



**Please indicate material and thickness.**





**B**



# ALFRA TCT-HOLE SAWS – FRP type

Made in Germany by ALFRA

Ø mm	Ø inch	TCT-Hole Saws FRP single drill bit, cutting depth 60 mm	Prod.-No.
25,0		Sanitary and heating pipes	0740025060
30,0		Sanitary and heating pipes	0740030060
35,0	1 3/8"	Sanitary and heating pipes Cavity wall branch box, halogen reflector lamp	0740035060
40,0	1 9/16"	Sanitary drain pipes	0740040060
45,0	1 3/4"	Water and heating pipes	0740045060
50,0	1 15/16"	with insulation	0740050060
55,0		Recessed light Ø 55 mm	0740055060
58,0		Recessed light Ø 58 mm	0740058060
60,0	2 3/8"	Recessed light Ø 60 mm	0740060060
63,0		Switch box Ø 60 mm	0740063060
65,0		Cavity wall box Ø 65 mm	0740065060
68,0		Cavity wall box Ø 68 mm	0740068060
70,0	2 3/4"	Cavity wall branch box Ø 70 mm	0740070060
74,0		Cavity wall branch box Ø 74 mm	0740074060
80,0		Junction boxes, cable gland covers, Recessed lights Ø 80 mm	0740080060
85,0		Recessed lights Ø 85 mm	0740085060
90,0	3 3/8"	Recessed lights Ø 90 mm	0740090060
105,0	4 1/8"	Discharge air pipes	0740105060

Ø mm	Ø inch	TCT-Hole Saws FRP Multi-tooth No series production. Delivery on request. with arbor, cutting depth 35/60 mm.	Prod.-No.
40,0	1 9/16"	Sanitary drain pipes	0750040040
45,0	1 3/4"	Water and heating pipes	0750045040
50,0	1 15/16"	with insulation	0750050040
55,0			0750055040
60,0	2 3/8"		0750060060
63,0		Switch boxes, Diameter 60 mm	0750063060
65,0			0750065060
68,0		socket drill	0750068060
70,0	2 3/4"		0750070060
74,0		Junction boxes, Diameter 70 + 74 mm	0750074060
75,0			0750075060
80,0		Junction boxes	0750080060
85,0			0750085060
90,0	3 9/16"		0750090060
95,0	3 3/4"		0750095060
100,0	3 15/16"		0750100060
105,0	4 1/8"	Discharge air pipes Intermediate sizes and other cutting depths on request	0750105060 0759 ... ..

## HSS spare drill for FRP Multi-tooth

Ø 30,0 - 59,0 mm = 8 x 80	0752880
Ø 61,0 - 105,0 mm = 8 x 100	0752800



**Rim countersink** for Ø 68 mm 0741068000



**Tool Holder** wrench size 12 0742000001



**Tool Holder** SDS 0742000002



**Spare center drill** HSS 7.2 mm 0742000003

## FRP Hole Saw Set Electrician

Content:	0743000001
1 each of Ø 35/ 68/74	
1 Tool Holder wrench size 12	
1 HSS drill	

## FRP Hole Saw Set Lights

Content:	0743000002
1 each of Ø 35/ 60/ 68/80/ 85	
1 Tool Holder wrench size 12	
1 HSS drill	



Prod.-No. 0743000001



Prod.-No. 0743000002



# **ALFRA** – PRECISION MULTI-STEP DRILL

- ▶ ACCORDING TO ITS CORRESPONDING STEP DIAMETER, EACH STEP IS AXIAL AND RADIAL RELIEF-GROUND
- ▶ LASER SCALING IN THE CHIPPING SPACE
- ▶ SPECIAL DRILL TIP ENABLES A CENTERING AND CUTTING OF EVEN THIN-WALLED MATERIALS
- ▶ BURR-FREE DRILLING WITHOUT DEFORMING THE SHEET METAL
- ▶ REGRINDABLE







# B



## MULTI-STEP DRILLS – HSS DM 05

Exact hole-Ø through cylindrical steps, deburring of the boring through the next stage.

### Application area:

The ideal tool for sheet metal forming, for the electrical industry, HVAC or the common engineering or the switchboard industry.

Suitable for all materials such as nonferrous metals, stainless steel sheets, thermoplastic and thermosetting plastics, as well as for steel sheets up to a max. material thickness of 4 mm.

With the Multi-Step Drills, sheet metals can be centered, drilled and subsequently deburred in one work step.

### Advantages:

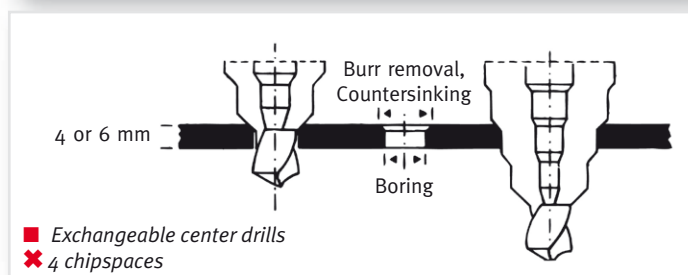
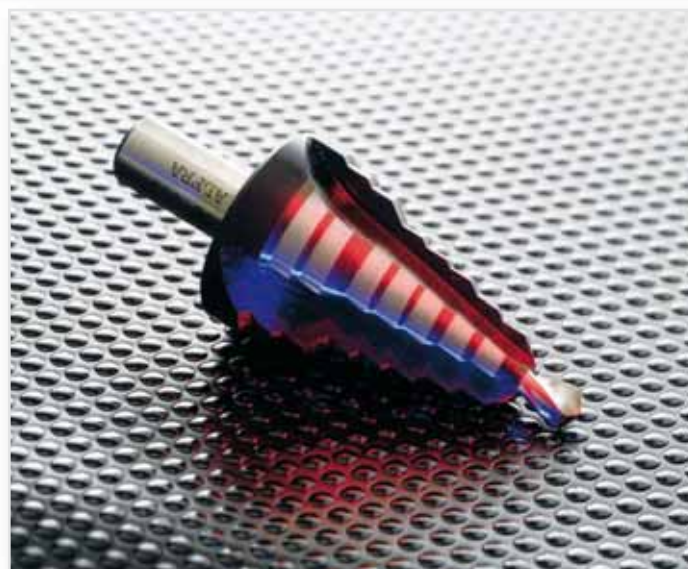
- Exchangeable center drills crucially prolongs the tool life of this Multi-Step Drill. A break of the drill tip mostly occurs through high feed forces at the start of the drilling operation.
- 4 chip spaces guarantee an absolute running smoothness and a high cutting capacity.
- Each stage is equipped with a radially adjusted relief grinding corresponding to its diameter.
- Each stage is with an axial relief grinding and a relief angle on its cutting edge.

### Tip:

The tool life can be considerably prolonged by using of ALFRA Cutting Spray or ALFRA Coolant Stick.

### Advantages:

- All step diameters are laser marked on the tool.



Description	Shank Ø	Prod.-No.
<b>AM</b> For general machine construction, drills circular holes in metals up to 4 mm thickness, through application with hand drills, indispensable on the work-site. <b>Steps Ø 9 - 12 - 15 - 18 - 21 - 24 - 27 - 30 - 33 - 36 mm</b>	10,0	08001
<b>AM-TiN-coated</b> Sequential size of AM Diameter range up to 58 mm. Drills directly into the solid. <b>Steps Ø 25 - 28 - 31 - 34 - 37 - 40 - 43 - 46 - 49 - 52 - 55 - 58 mm</b>	10,0	08037
<b>AM 1</b> Sequential size of AM Diameter range up to 58 mm. Drills directly into the solid. <b>Steps Ø 25 - 28 - 31 - 34 - 37 - 40 - 43 - 46 - 49 - 52 - 55 - 58 mm</b>	12,0	08002
<b>PVD</b> For the <b>electrical industry</b> , balanced on <b>clearance holes</b> for armoured conduit threads, considerably time-saving when producing borings for <b>PG-sizes</b> . <b>Steps Ø PG 7 - PG 9 - PG 11 - PG 13 - PG 16 - PG 21 - 33 mm - PG 29 - 40 mm</b>	10,0	08003



Prod.-No. 08001 ■ ✗



Prod.-No. 08037 ■ ✗



Prod.-No. 08002 ■ ✗



Prod.-No. 08003 ■ ✗



## MULTI-STEP DRILLS – HSS DM 05

Exact hole-Ø through cylindrical steps, deburring of the boring through the next stage.

Description	Shank Ø	Prod.-No.
<b>PVD-TiN-coated</b>	10,0	08004
<b>PVK</b> As PVD, but for armoured conduit thread <b>core hole PG</b> <b>Steps Ø PG 7 - PG 9 - PG 11 - PG 13 - PG 16 - PG 21</b>	10,0	08005
<b>SVB</b> Pre-Drill for Punches & Dies <b>Steps Ø 8,5 - 11,5 - 12,5 - 16,5 - 21,0</b>	10,0	08016
<b>DKI</b> For metric borings acc. to EN 50262 <b>Core- and clearance holes M 10 - M 40</b> <b>Steps Ø 10,5 - 12,5 - 14,5 - 16,5 - 18,5 - 20,5 - 23,5 - 25,5 - 32,5 - 38,5 - 40,5</b>	10,0	08030
<b>DKI-VA</b> made of HSS Co 5 steel for stainless steel up to appr. 3 mm material thickness. <b>Core - and clearance holes M 10 - M 40</b> <b>Steps Ø 10,5 - 12,5 - 14,5 - 16,5 - 18,5 - 20,5 - 23,5 - 25,5 - 32,5 - 38,5 - 40,5</b>	10,0	08032
<b>DKS 32</b> With keyway and edge breaker, fixed drill tip (deburr with low rpm) Overall length 96 mm. <b>Clearance holes Ø 12,5 - 16,5 - 20,5 - 25,5 - 32,5</b> <b>Core holes Ø 10,5 - 14,5 - 18,5 - 23,5 - M12 - M16 - M20 - M25 - M32</b>	12,0	08060
<b>Spare center drill</b> Suitable for AM -AM1 - PVD - PVK - DKI		08007



Prod.-No. 08004 ■ ✕



Prod.-No. 08005 ■ ✕



Prod.-No. 08016



Prod.-No. 08030 ■ ✕



Prod.-No. 08032 ■ ✕



Prod.-No. 08060



Prod.-No. 08007

■ Exchangeable center drills  
✕ 4 chipspaces





# B



## MULTI-STEP DRILLS – HSS DM 05

Exact hole-Ø through cylindrical steps, deburring of the boring through the next stage.

### Standard execution with 2 chip spaces

- Exact hole diameter through cylindrical steps
- Immediate deburring through the next step
- Drilling of thinnest sheet metals (up to 4 mm) possible.
- Use coolant stick!

Description	Range mm	Shank Ø	Prod.-No.
<b>AM-12</b>	4 - 12 mm	6,0	08009
<b>AM-20</b>	6 - 20 mm	9,0	08010
<b>AM-30</b>	6 - 30 mm	10,0	08011

Set in tin box with coolant stick

Content:

1 of each Type AM-12/AM-20/AM-30, 1 coolant stick

### Standard values for the use of ALFRA Multi-step drills

These drills were especially developed to drill perfectly round and simultaneously deburred holes in sheet metals of 4-6 mm. The radius transition simultaneously deburrs or bevels the hole. While conical one-lip bits drill slightly conical holes, cylindrical holes can be drilled with ALFRA Multi-step drills. The tools are axial-radially relief ground and can be re-sharpened at the breast of the cutting tooth.

We recommend the use of pillar drilling machines, however, the small ALFRA Multi-step drills can be used on adjustable hand drilling machines. Imperatively use sufficient cooling (**ALFRA coolant stick or bore emulsion**).

### Speed chart rpm

Type		sheet steel St37	sheet steel V2A	non-ferrous metals	plastics (soft)
AM	drill	800	360	1000	1000
	countersink	500 - 180	50 - 70	800 - 400	1000 - 400
AM-1	drill	800	360	1000	1000
	countersink	200 - 100	100 - 50	500 - 200	600 - 250
PVD+PVK+DKI	drill	800	360	1000	1000
PVD-VA + SVB	countersink	400 - 200	200 - 100	800 - 500	1000 - 600



Prod.-No. 08011



Prod.-No. 08012

## SPECIAL-SINGLE-CUT TAPS – HSS DM 05

- For metric ISO-fine pitch thread DIN 13
- To be used with ratchet (not included in scope of supply)

Thread	Wrench size mm	Prod.-No.
M12 x 1,5	8,0	08050
M16 x 1,5	10,0	08051
M20 x 1,5	13,0	08052
M25 x 1,5	13,0	08053
M32 x 1,5	13,0	08054



Prod.-No. 08052



## PRECISION CONICAL ONE-LIP BITS – HSS DM 05

With laser-marking

ALFRA Precision Conical One-Lip Bits are the ideal tools for the general sheet metal forming. Fields of applications are HVAC, electronic industries, engineering and panel building.

To be used on non-ferrous metals, stainless steels, thermo- and duroplastic plastics, as well as on all common sheet steels up to a material thickness of max. 4 mm. With ALFRA Conical One-Lip Bits, you can center, spot drill and bore in one work step.

Multiply regrindable, when handled with care.

The tool life can considerably be prolonged by using ALFRA Cutting Oil or Coolant Stick.

**Packing:** separately in plastic box with operation manual.

Size	Range	Shank-Ø	Prod.-No.
1	3,0 - 14,0	6,0	09001
2	6,0 - 20,0	8,0	09002
3	16,0 - 30,5	10,0	09003
4	26,0 - 40,0	12,0	09004
5	35,0 - 50,0	12,0	09005
6	46,0 - 60,0	13,0	09006
7 L	4,0 - 30,5	10,0	09007
8*	6,0 - 22,5	8,0	09008
Set 1	Gr. 1 + 2 + 3 + Coolant Stick		09009
Coolant Stick, separate			09011

### \*Special Antenna-Bit

- Conical One-Lip Bit with cylindrical end section to drill holes for car antennas.
- Burr-free, no deformation, no countersinking, dimensional accuracy
- Sizes 6.5 - 22.5 mm

### Precision Conical One-Lip Bit Set

Prod.-No.  
09009

Content:  
1 x Size 1  
1 x Size 2  
1 x Size 3  
1 x Coolant Stick



Prod.-No. 09001

Prod.-No. 09002

Prod.-No. 09003



Prod.-No. 09004

Prod.-No. 09005



Prod.-No. 09006

Prod.-No. 09007

Prod.-No. 09008

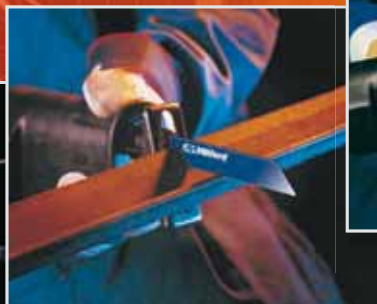


Prod.-No. 09009



# ALFRA - SABRE SAW BLADES

## FOR PROFESSIONALS





## ORIGINAL ASTROFLEX® – Sabre Saw Blades

**For Rockwell, Makita, Black & Decker, Bosch, Holz-Her, Atlas Copco, Rems, Roller, Milwaukee, Hilti and others.**

- A new range of sabre saw blades with improved cutting performance and precision ground teeth. **Cobalt** alloyed teeth.
- The HSS-Bi-Metal blade is almost unbreakable and suitable for all materials and applications.
- This sabre saw blade stands for **highest quality** and **durability**.

### For Metal



Application Range	Material thickness in mm	Steel- Quality	Length	Width	Thickness	Teeth inch	Milford Prod.-No.	Alfra Prod.-No.
<b>Metal processing</b>								
Metal processing; soft metals copper-, aluminium-, brass-cables, wires and pipes	> 3 mm	HSS-Bi	100 mm	16 mm	0,9 mm	14	88161	30255
Metal processing; soft metals copper-, aluminium-, brass-cables, wires and pipes	> 1 mm	HSS-Bi	100 mm	16 mm	0,9 mm	18	88162	30256
All kind of metals, stainless steel steel pipes, cast iron, alloys, etc.	> 3 mm	HSS-Bi	150 mm	16 mm	0,9 mm	14	88177	30259
All kind of metals, stainless steel steel pipes, cast iron, alloys, etc.	> 1 mm	HSS-Bi	150 mm	16 mm	0,9 mm	18	88178	30260
All kind of metals, stainless steel steel pipes, cast iron, alloys, etc.	3-6 mm	HSS-Bi	150 mm	16 mm	0,9 mm	10/14 Combo	88216	30262
All kind of metals, stainless steel steel pipes, cast iron, alloys, etc.	> 6 mm	HSS-Bi	200 mm	16 mm	0,9 mm	10	88174	30263
All kind of metals, stainless steel steel pipes, cast iron, alloys, etc.	> 3 mm	HSS-Bi	200 mm	16 mm	0,9 mm	14	88186	30264
All kind of metals, stainless steel steel pipes, cast iron, alloys, etc.	> 1,15 mm	HSS-Bi	200 mm	16 mm	0,9 mm	18	88187	30265
All kind of metals, stainless steel steel pipes, cast iron, alloys, etc.	3-6 mm	HSS-Bi	200 mm	16 mm	0,9 mm	10/14 Combo	88217	30266
Special Sabre Saw Blade flexible type for cast iron- and steel pipes	3-10 mm	HSS-Bi	290 mm	16 mm	0,9 mm	10/14 Combo	88218	30272

### For Wood



Special Sabre Saw Blade for Wood with nails, especially for the refurbishing		HSS-Bi	150 mm	16 mm	1,2 mm	6	88142	30285
Special Sabre Saw Blade for Wood - curved cuts -		HSS-Bi	150 mm	16 mm	1,2 mm	4/6 Combo	88143	30286
Special Sabre Saw Blade for Wood - Refurbishing -		HSS-Bi	210 mm	16 mm	1,2 mm	6	88144	30287
Special Sabre Saw Blade for Wood - Refurbishing -		HSS-Bi	290 mm	16 mm	1,2 mm	6	88145	30288





# ORIGINAL ASTROFLEX® – HSS-Bi-Metal Sabre Saw Blades



## For Rems- and Roller Sabre Sawing Machines

ALFRA-Special-Sabre-Saw Blades can be used problem-free on this machines.  
Made of HSS-Bi-Metal, heat treated to the point.

- Made of high alloy HSS-Bi-Metal
- Heat treated to the point
- Highest heat hardness and wear resistance
- Tothing in crossed version

## For pipes



Application range	Steel quality	Length	Width	Thickness	Teeth per inch	Blade No.	Alfra Prod.- No.
Pipes up to Ø 2"	HSS-Bi-Metal	140 mm	25 mm	1,6 mm	8	88140-8	30089
Pipes up to Ø 4"	HSS-Bi-Metal	200 mm	25 mm	1,6 mm	8	88200-8	30092

## for free-hand and flush cutting



For free-hand and flush cutting	HSS-Bi-Metal	150 mm	25 mm	1,1 mm	14		30105
	HSS-Bi-Metal	200 mm	25 mm	1,1 mm	14		30103
e. g. refurbishing, on walls and overhead	HSS-Bi-Metal	300 mm	25 mm	1,1 mm	14		30104

Packaging unit: 5 pieces

## ALFRA – Jigsaw Blades

Suitable for pneumatic saws as e. g. SIG and Flex-sheet Metal-Tiger Saws

Made of HSS Bi-Metal for a burr and distortion-free cutting of thin sheet metals and plates, as well as for pipes in ventilation and air condition constructions. Precise crossing, highest endurance.



Prod.-No. 31014 - 31017



Prod.-No. 31018 - 31021

Application range	Length mm	Thickness mm	Width mm	Teeth inch	Prod.-No.
For sheet metals as from 1,1 mm thickness, plastic up to 3 mm, wood up to 5 mm	96	0,6	12,5	14	31014
	96	0,6	12,5	18	31015
For sheet metals 0,7 - 1,1 mm thickness	96	0,6	12,5	24	31016
For sheet metals up to 0,7 mm thickness	96	0,6	12,5	32	31017
For sheet metals as from 1,1 mm thickness, plastic up to 3 mm, wood up to 5 mm	97	0,6	12,5	14	31018
	97	0,6	12,5	18	31019
For sheet metals 0,7 - 1,1 mm thickness	97	0,6	12,5	24	31020
For sheet metals up to 0,7 mm thickness	97	0,6	12,5	32	31021

Attention: do not use any pressure, feed only with dead weight of machine.



## ALFRA – Metal Hacksaw Blades



### HSS-SS-flexible

- Flexible saw blades with broad range of application.
- Corrugated saw blades suitable for thin profiles and pipes.
- Crossed saw blades suitable for thicker profiles and solid materials.

### HSS-Bi-Metal

- The safety saw blade
- Unbreakable
- Excellent cutting performance due to HSS-blade.



Quality	Teeth/Inch	Prod.-No.
HSS-flexible gold	18 Z crossed	33001
	24 Z crossed	33003
HSS-Bi-Metal	24 Z corrugated	33002

Customer brand execution in colour, imprint packaging as from 5000 pieces possible

VE: 100 pieces

## ALFRA MACHINE SAW BLADES – HSS DM 05

### For Hacksawing machines

- You can use the efficiency of the whole machine with these machine saw blades.
- For sawing solid material, pipes and profiles of all strengths.
- Also for high-strength steels**
- With parabolic tooth against early break
- Sharp-edged and wear-resistant, with fine carbide repartition in micro structure
- Straightened by master hand
- For all types of machines



Dimension mm	available toothing tpt				Prod.-No.
300 x 25 x 1.5	8	10	14		33010
350 x 30 x 1.5	6	8	10	14	33011
350 x 30 x 2.0	4	6	8	10	33012
400 x 30 x 1.5	6	8	10	14	33013
400 x 30 x 2.0	4	6	8	10	33014
450 x 30 x 2.0	4	6	8	10	33015
450 x 35 x 2.0	4	6	8	10	33016
450 x 40 x 2.0K	4	6	8	10	33017
500 x 40 x 2.0	4	6	8	10	33018
575 x 50 x 2.5K	3	4	6		33019
650 x 55 x 2.5K	3	4	6		33020
700 x 55 x 2.5K	3	4	6		33021

Prod.-No. 33...

K = Kasto with displaced side holes

Other dimensions and toothings on request.

Length measured from hole center to center.

Packaging unit: 10 pieces





**B**

# COOLANT – Cutting-, Drilling-, Broaching Oils

## **RIXOL-2000**

### **Coolant concentrate**

- Universal use for sawing and drilling of steel, stainless steel, cast iron, nonferrous metal and aluminium alloys.
- Water emulsible, contains mineral oil, rot-proof, stable solution.
- Provides good rust protection and lubrication. Causes no irritation of the skin.
- No smoke development and no coagulation.
- Factor I for hand refractometer.
- Mixture: Cutters 8 - 10%, Circular saws 5 - 12%, Band saws 6 - 20 %

**Prod.-No.**

10 kg plastic container

21002

*Prod.-No. 21002*

## **ALFRA BIO 2000**

### **High performance cutting oil, biologically degradable**

- ALFRA BIO 2000 is an entirely synthetic cutting oil, developed for the metal working industry for core drilling, turning, drilling, milling, reaming, countersink, rubbing, tapping
- Ideally qualified for all steel and steel alloys, chrome-nickel steel, copper, aluminium alloys.
- ALFRA BIO 2000 doesn't contain any hydrocarbon and is chlorine free.
- With special high pressure and anti wear additives.
- With corrosion and rust protection.
- Increases tool life up to 200 % and shortens operating time, reduces the number of rejects.
- Biologically degradable according to the EWG standard: CEC L-33-T-94

**Prod.-No.**

Can 405 ml

21010

5 kg plastic container

21012

60 kg drum

21021

## **ALFRA 3000**

### **High performance Cutting Oil Spray**

- For the most difficult working procedures like core drilling, drilling, turning, tapping, reaming, countersink, rubbing
- With special high pressure and anti wear additives.
- For usage of high alloyed stainless steel, chrome-nickel steel and its alloys, titanium and manganese carbon steel.
- Qualified for non-ferrous- and light metals.
- Increases tool life up to 200 %, shortens operating time. Reduces the number of rejects.
- Sticks on surfaces, therefore it's qualified for "over head works" on walls and ceilings.

**Prod.-No.**

Can 520 ml

21030

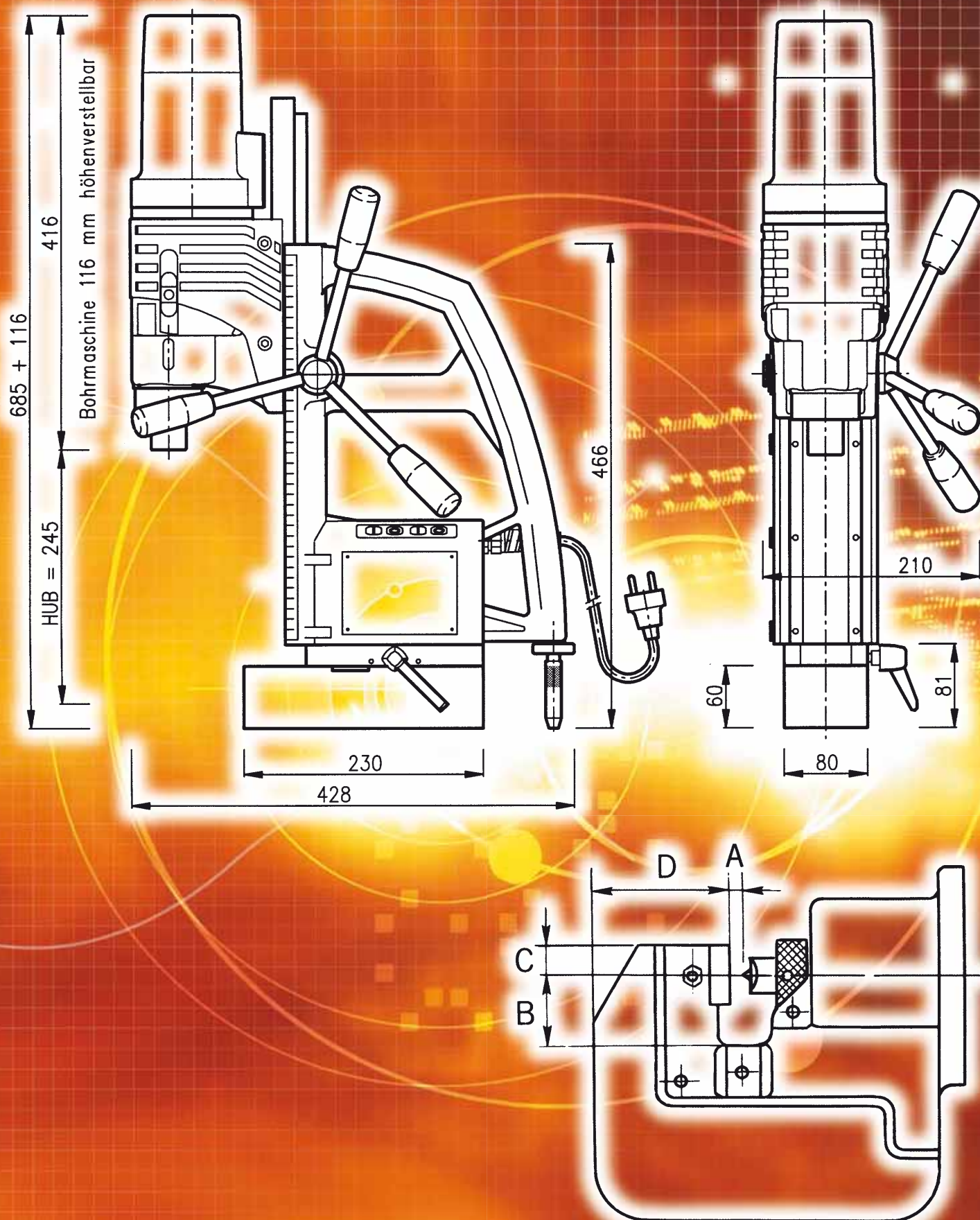
5 kg plastic container

21031

60 kg drum

21032

*Prod.-No. 21010**Prod.-No. 21030*





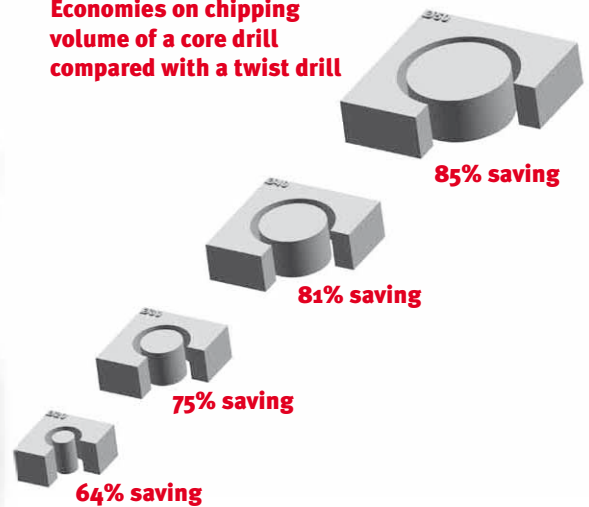
## THE CORE DRILLING PRINCIPLE

- Core Drills machine only a fraction of the material at the same bore diameter than a twist drill
- The remaining core is ejected after finishing the drilling process.
- Thereby minor power and feed pressures are required.
- When using twist drills, it is possibly required to pre-drill. This is entirely omitted when using core drills, you can directly drill with the requested diameter.

The primary drilling time is abbreviated considerably depending on the cutting diameter.



**Economies on chipping volume of a core drill compared with a twist drill**



## ADHESION OF THE MAGNET FEET – Important tip

Of ALFRA Magnetic Drilling Machines of the RQ Series

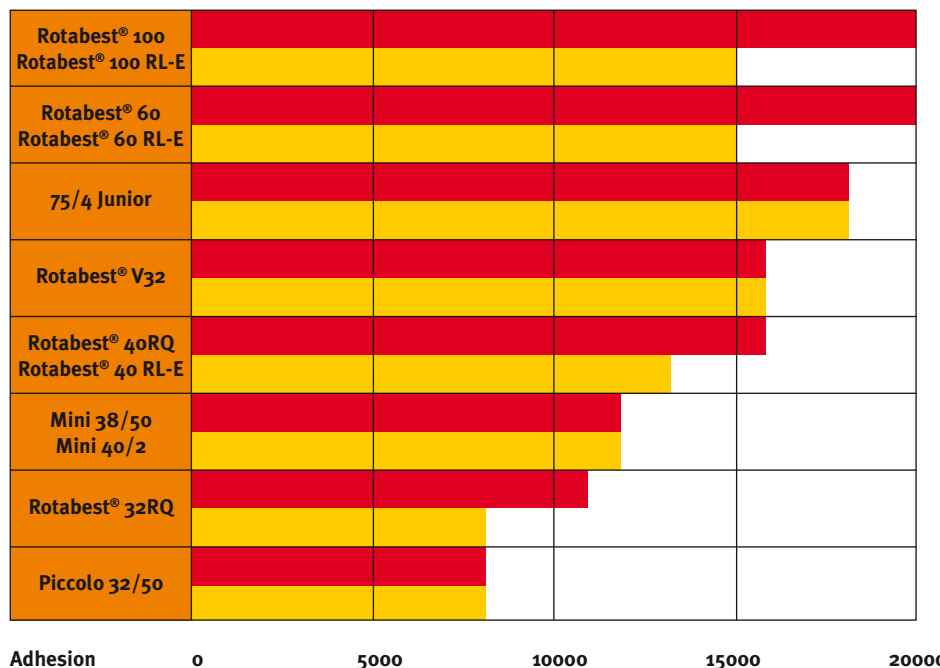


Magnetic Feet with 3 instead of 2 coils and with the new M.P.I. magnet system

**MPI - Magnet System (Magnetic Power Increase)**  
Magnetic increase at the start of drilling operating when strongest adhesion is required (for an even higher protection of end user and tool)

## MAGNET ADHESION POWER (IN N) – Comparison

Of ALFRA Magnetic Drilling Machines of the RQ and Eco-Series



### Legend:

- = Motor switched on
- = Magnet on

## FOR ALFRA CUTTERS – RPM-Chart

For HSS-Co-Eco and HSS Cobalt RQX Cutter

For TCT Cutter



Material	Unalloyed steel up to 700 N/mm <sup>2</sup>	Alloyed steel up to 1000 N/mm <sup>2</sup>	Alu- alloy
Vc=m/min Lubricants Ø mm    Ø inch	30 Cutting oil rpm	20 Cutting oil rpm	30 Cutting oil rpm

### Not suitable for automatic feed!

12	$\frac{15}{32}$	796	531	796
13	$\frac{33}{64}$	735	490	735
14	$\frac{35}{64}$	682	455	682
15	$\frac{19}{32}$	637	425	637
16	$\frac{5}{8}$	597	398	597
17	$\frac{43}{64}$	562	375	562
18	$\frac{45}{64}$	531	354	531
19	$\frac{3}{4}$	503	335	503
20	$\frac{25}{32}$	478	318	478
21	$\frac{53}{64}$	455	303	455
22	$\frac{7}{8}$	434	290	434
23	$\frac{29}{32}$	415	277	415
24	$\frac{15}{16}$	398	265	398
25	$\frac{63}{64}$	382	255	382
26	1 $\frac{1}{32}$	367	245	367
27	1 $\frac{1}{16}$	354	236	354
28	1 $\frac{3}{32}$	341	227	341
29	1 $\frac{9}{64}$	329	220	329
30	1 $\frac{3}{16}$	318	212	318
31	1 $\frac{7}{32}$	308	205	308
32	1 $\frac{17}{64}$	299	199	299
33	1 $\frac{19}{64}$	290	193	290
34	1 $\frac{11}{32}$	281	187	281
35	1 $\frac{3}{8}$	273	182	273
36	1 $\frac{27}{64}$	265	177	265
37	1 $\frac{29}{64}$	258	172	258
38	1 $\frac{1}{2}$	251	168	251
39	1 $\frac{17}{32}$	245	163	245
40	1 $\frac{37}{64}$	239	159	239
41	1 $\frac{39}{64}$	233	155	233
42	1 $\frac{21}{32}$	227	152	227
43	1 $\frac{11}{16}$	222	148	222
44	1 $\frac{47}{64}$	217	145	217
45	1 $\frac{25}{32}$	212	142	212
46	1 $\frac{13}{16}$	208	138	208
47	1 $\frac{55}{64}$	203	136	203
48	1 $\frac{57}{64}$	199	133	199
49	1 $\frac{15}{16}$	195	130	195
50	1 $\frac{31}{32}$	191	127	191
60	2 $\frac{3}{8}$	159	106	159

While drilling Hardox, we recommend the use of our ASP 30/ASP 60 cutters. Please use while drilling Hardox, pure cutting oil and reduce the rotation speed by 10%. Consult the column „alloyed steel“ until 1.000 N/mm<sup>2</sup>. Please, use only magnet drilling machines with a high adhesion force or pillar drilling machines or milling machines.

Material	Unalloyed steel up to 700 N/mm <sup>2</sup>	Alloyed steel up to 1000 N/mm <sup>2</sup>	Alu- alloy
Vc=m/min Lubricants Ø mm    Ø inch	50 Cutting oil rpm	35 Cutting oil rpm	60 Cutting oil rpm

### Not suitable for automatic feed!

18	$\frac{45}{64}$	885	619	1062
19	$\frac{3}{4}$	838	587	1006
20	$\frac{25}{32}$	796	557	955
21	$\frac{53}{64}$	758	531	910
22	$\frac{7}{8}$	724	507	869
23	$\frac{29}{32}$	692	485	831
24	$\frac{15}{16}$	663	464	796
25	$\frac{63}{64}$	637	446	764
26	1 $\frac{1}{32}$	612	429	735
27	1 $\frac{1}{16}$	590	413	708
28	1 $\frac{3}{32}$	569	398	682
29	1 $\frac{9}{64}$	549	384	659
30	1 $\frac{3}{16}$	531	372	637
31	1 $\frac{7}{32}$	514	360	616
32	1 $\frac{17}{64}$	498	348	597
33	1 $\frac{19}{64}$	483	338	579
34	1 $\frac{11}{32}$	468	328	562
35	1 $\frac{3}{8}$	455	318	546
36	1 $\frac{27}{64}$	442	310	531
37	1 $\frac{29}{64}$	430	301	531
38	1 $\frac{1}{2}$	419	293	503
39	1 $\frac{17}{32}$	408	286	490
40	1 $\frac{37}{64}$	398	279	478
41	1 $\frac{39}{64}$	388	272	466
42	1 $\frac{21}{32}$	379	265	455
43	1 $\frac{11}{16}$	370	259	444
44	1 $\frac{47}{64}$	362	253	434
45	1 $\frac{25}{32}$	354	248	425
46	1 $\frac{13}{16}$	346	242	415
47	1 $\frac{55}{64}$	339	237	407
48	1 $\frac{57}{64}$	332	232	398
49	1 $\frac{15}{16}$	325	227	390
50	1 $\frac{31}{32}$	318	223	382
55	2 $\frac{5}{32}$	290	203	347
60	2 $\frac{3}{8}$	265	186	318
65	2 $\frac{9}{16}$	245	171	294
70	2 $\frac{3}{4}$	227	159	273
75	2 $\frac{61}{64}$	212	149	255
80	3 $\frac{5}{32}$	199	139	239
85	3 $\frac{11}{32}$	187	131	225
90	3 $\frac{35}{64}$	177	124	212
95	3 $\frac{47}{64}$	168	117	201
100	3 $\frac{15}{16}$	159	111	191



## TAPPING – Recommended dimensions (ISO 26H-tolerance)

Recommended characteristics for the use of drills with tapping attachments

Tapping: the tap must be adjusted on the prepared boring in the workpiece. Put down spindle, until the tap touches the surface and the process can be started. Please comply with below chart for metric ISO thread.

### Bore Hole Chart metric ISO-thread

Dimension	Thread Pitch	drill-Ø
M3	0,5	2,5
M4	0,7	3,3
M5	0,8	4,2
M6	1	5
M8	1,25	6,8
M10	1,5	8,5
M12	1,75	10,2
M14	2	12
M16	2	14
M18	2,5	15,5
M20	2,5	17,5

### Metric Fine Thread

Dimension	Thread Pitch	drill-Ø
M8x1	1	7
M10x1	1	9
M12x1	1	11
M12x1,5	1,5	10,5
M14x1	1	13
M14x1,5	1,5	12,5
M16x1	1	15
M16x1,5	1,5	14,5
M20x1	1	19
M20x1,5	1,5	18,5

### Tips for tapping

#### 1. Clearance Hole

For Clearance Holes we recommend alongside mentioned taps, which safely conveys the chips out of the hole. The specially shaped grinding guarantees a safe re-mounting, when the tap opted out of the thread hole and returns in left hand rotation.

#### 2. Tapped Blind Holes

For Tapped Blind Holes we recommend alongside mentioned taps. The chips are conveyed out of the hole contrary to the cutting direction. Important: do not run aground with tap, as otherwise the automatic re-turn run won't be activated. A correspondingly larger pre-drilling depth must be carried out.

In case of a disregard, the tap must be manually released.

#### 3. Pocket Holes up to 1,5 x D

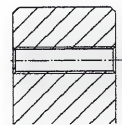
Taps according to alongside mentioned image are suitable. Here as well, the chips are conveyed out of the hole contrary to the cutting direction. Important: do not run aground with tap. A correspondingly larger pre-drilling depth must be carried out.

In case of a disregard, the tap must be manually released.

**Beside our taps with reinforced shanks, other taps according to DIN 376 with taper shank are suitable as well**

**Please work with sufficient recommended for tapping by the corresponding manufacturer.**

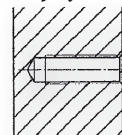
#### Chip ejection downwards trough the bore



DIN 371 with reinforced shank Shape B, with spiral face inclination, 3,5 to 5 convolutions.

DIN 376 with taper shank  
Tap depth 3 x D

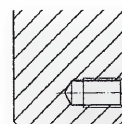
#### Chip ejection alongside the tool



DIN 371 with reinforced shank spiral grooved, ca. 35° right hand twist, Section chape C, ca. 3 convolutions

DIN 376 with taper shank  
Tap depth 2,5 x D

#### Chip ejection alongside the tool



DIN 371 with reinforced shank spiral grooved, ca. 17° right hand twist, Selection C, ca. 2 to 3 convolutions

DIN 376 with taper shank  
Tap depth 1,5 x D

### Clearance Angle

Is the angle between the TCT tooth and the material to be cut.  
ALFRA TCT Cutters are equipped with several clearance angles at a cutting edge.

### Cutting Depth

Is the maximum material thickness which might be cut with the particular tool (not to be mistaken with the constructive height of the tool).

### Chip Flute

Takes the generated chips and advances this out of the bore.

### Chip Forwarding Pitch

Forwards the chips from the TCT tooth to the chip flute.

### Chip Surface

On this surface the chip is formed.

### Chip Angle

Is the angle between tool axis and chip surface.

### Tooth Excess Length

Is the carbide excess to the basic body.

### Tooth Height Difference

Acts as a chip breaker.

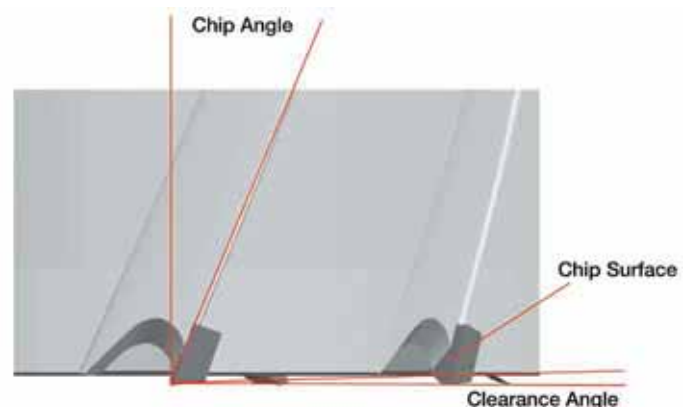
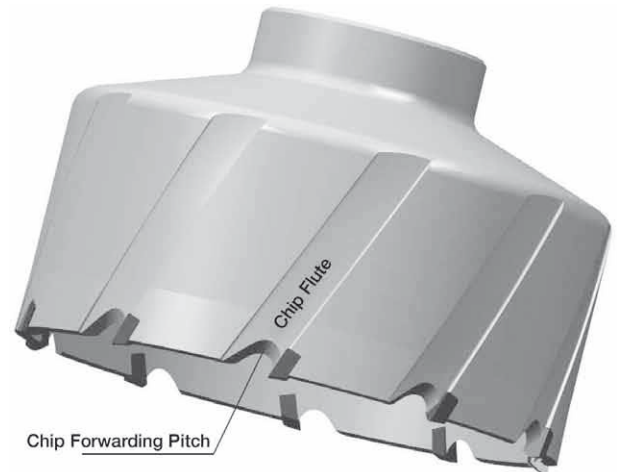
### RPM, cutting speed and feed (approximate value)

#### Rotabest®-TCT cutter

#### Not suitable for automatic feed

Material	m/min	mm/rpm
Constructional steel 50 kp/m <sup>2</sup>	40-60	0.08-0.12
Steel 50-70 kp/m <sup>2</sup>	30-50	0.08-0.12
Stainless steel	18-45	0.8-0.10
Cast iron	65-95	0.12-0.20
Non-ferrous metals, Aluminium	100-550	0.22-0.45
Exotic alloys	10-30	0.05-0.08

Exactness (approximate value)/input/± 0,10 mm Output /±0 mm



## ALFRA PUNCHING UNITS APS – Working Area

Material St. 42

Sheet thickness mm	Required Pressure in kN: 10 kn appr. 1 ton appr. 1 Mp at hole diameter (mm)																				26 on request
	5	6,3	7	8	9	10	11	12,5	13	14	15	16	17	18	19	20	21	22	23	24	
5	37	40	45	50	55	60	70	80	83	90	95	100	108	110	120	125	130	140	145	150	165
6	45	48	54	60	66	72	84	96	104	117	120	126	135	140	151	158	164	176	183	189	208
7	53	56	63	70	77	84	98	112	115	126	133	140	150	154	168	175	182	196	203	210	231
8		64	72	80	88	96	112	128	132	144	152	160	170	176	192	200	208	224	232	240	264
9			72	80	90	99	108	126	144	148	162	171	180	193	198	216	225	234	253	261	297
10					100	110	120	140	160	165	180	190	200	215	220	240	250	260	280	290	330
11						124	138	152	173	180	194	210	21	235	249	263	276	290	304	318	359
12							151	166	188	196	211	226	241	256	271	286	301	316	331	347	392
13								180	204	212	219	245	261	277	294	310	327	343	359	376	425
14									224	230	250	266	280	300	308	336	350	364	392	406	462
15										250	270	285	300	320	330	360	375	390	420	435	495
16											265	290	304	320	345	352	384	400	416	448	528

### Legend:

- = OK
- = Limit Area
- = Critical Area
- = Unuseable Area

### Factor for following materials:

- Al = 0,6
- St 50 = 1,3 > Utilization only after approval of the manufacturer
- St 70 = 1,7 > Utilization only after approval of the manufacturer
- Inox Steels = 1,9 > Utilization only after approval of the manufacturer



# PUNCHING UNIT APS 60/70/120 – Notes on use

How to select the correct ratio of material thickness to tool size

The choice of the proper tool size at a given material thickness is a usual question in daily practice.

**For customary punch models, an old rule says that the minimum tool size is the material thickness.**

**This rule is no more valid for our hydraulically actuated punches.**

The rule only still applies for fast moving mechanical presses: Thicker materials could cause the punch to break.

With our ALFRA PRESS APS-punches, the process is carried out by a smooth, slow motion allowing the punching of holes with a diameter smaller than the material thickness.

**But still, a certain minimum diameter has to be respected. For that reason, we have carried out tests, and the results are demonstrated in fig.1. Example:**

**You want to punch holes into a steel plate made from St 37. Which is the correct ratio of material thickness to tool size?**

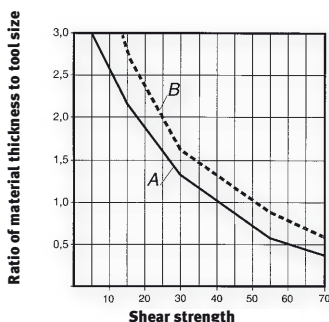
**The shear strength of the material is at 30 kg/mm<sup>2</sup> approx. The recommended ratio is represented by line A. The corresponding value on the ordinate is 1.3.**

**Result: The recommended ratio is 1.3.**

The **upper** tolerance limit for that ratio is represented by line B which at this point gives an ordinate value of 1.7. Hence, it is possible to punch holes with a diameter of only 1/1.7 of the material thickness. You may use this tolerance value for exception, but the service life of the tool will be significantly reduced.

**We would like to remind you only to use line A for the correct determination of the ratio of material thickness to hole size.**

## Proper ratio at a given shear strength



1

## Minimum tool size at a given material thickness

At a given material thickness, fig. 2 can be used for the rapid determination of the tool size. The values for Al, Cu, St 37 and St 70 are indicated.

### Example:

You want to punch holes into a steel plate of St 37; the material thickness is 20 mm. Which is the minimum hole diameter to be punched?

Look for the corresponding value on the solid line.

Result: Minimum hole diameter is 15 mm.

The dashed line represents the upper tolerance values, which can be used only for exception (reduced tool life).

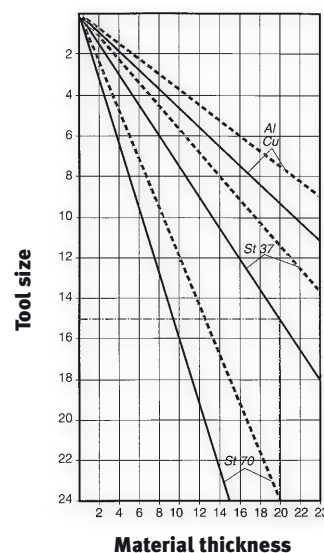
**We recommend you to select the hole size by means of the solid line.**

**ALFRA punches and dies are made of high-quality materials. But still, sometimes a tool may break.**

### The following reasons have to be taken into account:

1. Incorrect selection of the ratio of tool size to material thickness.
2. The material is not aligned straight on the die.
3. Disturbing movements during the punch process.
4. The hold-down is damaged, or its height is not adjusted correctly, so that the material will be tilted during the removing of the punch.
5. The distance between hold-down and tool is too large. Thin sheets can be bended during the removing of the punch. In such cases, the tool breaks at the cutting edge in the form of thin leaves.

In that case we recommend the hold-down to be equipped with a bridge or the utilization of a special hold-down.



2

Our precision high performance motors are continuously adjustable. We recommend to start with a low engine speed and to raise it continuously when milling.

The optimal engine speed can be detected by the running noise of the milling cutter and by the infeed.

The tool depending cutting speed, can be found out with the help of a well known formula and therefore the revolution can be adjusted in advance:

$$n = \frac{V_c \cdot 1000}{d \cdot 3,14} \text{ U/min} \quad d = \text{cutter-}\varnothing, n = \text{rpm}, 3,14 = \text{Pi}$$

Responsible for the milling cutter speed (N) and the cutting speed (Vc) are first of all the used material, the bevel height and the cutting geometry of the solid carbide-milling cutter.

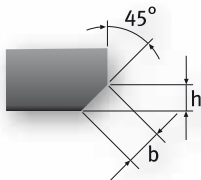
### The bevel height (h)

For choosing the right solid carbide-milling cutter the bevel height is determining. When using the table based models KFT 250 and KFT 500 it must be considered, that the tool needs to be hold and controlled manually. If the milling power is too high, especially for little work pieces, the bevel height should be reached by several production steps.

**Don't do bigger bevels in one go!**

### Bevel width (b)

The bevel width can be measured by use of the formula ( $b = h \times 1,414$ )



### Rotating direction

When machining the work pieces on the table based models, the rotating direction must be obeyed.

When using the hand operated models (KFH 150, KFH 250) the running direction (compare arrow) must be considered. Synchronous milling is only applicable for a very small bevel height.

### Surface finish

The surface finish of the bevel is depending on the used solid carbide milling cutter and the material as well as on the chosen infeed. If the chips start to glow, the infeed was too high or the milling cutters too thin.

### Tool saving costs

In combination with the above mentioned models also standard solid carbide-end mill with face grinding can be used. By moving the milling cutter inside the arbor, the milling cutter can be consumed totally.



#### Cost reduction:

*The bigger part of the End Mill's cutting range can be used by moving the End Mill in the collet.*

## ALFRA BEVEL MILLING MACHINE – SKF 63-15

#### Material

General construction steels up to 850 N/mm<sup>2</sup>  
 Hardened steels over 850 N/mm<sup>2</sup>  
 Stainless and acid-proof steels up to 600 N/mm<sup>2</sup>  
 Steel casting up to 450 N/mm<sup>2</sup>  
 Cast iron up to 400 N/mm<sup>2</sup>  
 Aluminium  
 (special indexable inserts required, available on separate request)

#### Advance Recommendation

0,8 - 1,0 m/min  
 0,75 m/min  
 0,5 m/min  
 0,6 m/min  
 0,8 - 1,0 m/min  
 0,4 m/min

### ALFRA – Carbide Milling Plates for Bevel Milling Machine SKF-63-15

#### Prod.-No.

#### Prod.-No.

Carbide Milling plates, TiAlN/TiN-PVD multilayer coating  
 Universal for steel and stainless steel  
 Clearance angle 11°

25013

Carbide Milling plates, TiAlN/TiN-PVD multilayer coating  
 for steel < 1400 N/mm<sup>2</sup>; stainless steel < 900 N/mm<sup>2</sup>  
 Clearance angle 11°

25010.15036E

Carbide Milling plates, TiAlN/TiN-PVD multilayer coating  
 for steel < 850 N/mm<sup>2</sup>; stainless steel < 900 N/mm<sup>2</sup>  
 Clearance angle 20°

25010.15036B

Carbide Milling plates, high gloss polished  
 for aluminium and NE-metals  
 Clearance angle 11°

25010.15036.C

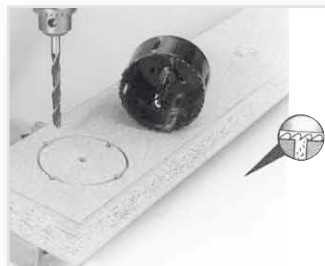


# HSS BI METAL HOLE SAWS – Notes on use

## To achieve the best results:

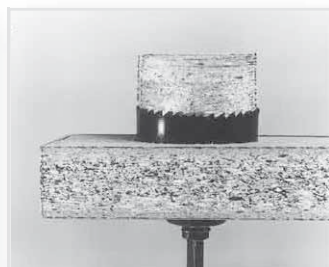
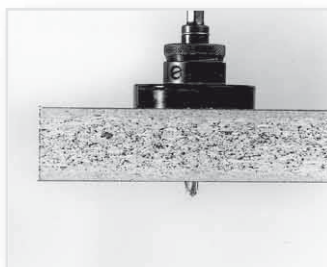
1. Use the hole saws at the recommended cutting speed, see guide table on the packaging.
2. Do not apply excess pressure. Apply a little more pressure for a harder material and less pressure for a softer material.
3. In order to achieve good centring, the centre drill must project approximately 6 mm beyond the teeth. It is recommended that the hole is first predrilled with a twist drill and then the centre drill is used in the adapter as a centring pin.
4. Use a good cutting oil when drilling metal. This extends the hole saw's service life and prevents premature blunting of the tooth tips.
5. The arbor of the adapter must be firmly clamped with the flattened sides correctly seated in the chuck.
6. The hole saw must cut into the workpiece at a right angle. Avoid tilting. Risk of accident.
7. If large hole saw diameters are used in hand-held drills, the hand-held drill must be held particularly firmly. A drill stand should be used where possible.
8. The adapter must be firmly screwed into the hole saw with all its thread and the driver pins must be firmly seated in the driver holes.
9. Secure the driver pins with the rotating ring or lock in the case of a quick-change adapter.
10. Wear protective goggles when working with the bi-metal hole saws and keep hands away in case saw runs out. Never attempt to stop with your hands a saw that is running off.
11. Lift the saw clear frequently, especially when cutting timber, chipboard and wood substitutes and remove the sawdust and chips. If this is not done, the tooth tips can burn and the hole saw will jam in the cut.
12. We recommend the following procedure when drilling timber, chipboard and wood substitutes:

Drill a number of holes immediately inside the cut. This helps carry the chips away and avoids frequent interruptions in cutting to clean the tooth tips.



## If the workpiece is especially thick ...

... it is also recommended that you cut from both sides, or drill a number of holes immediately inside the circular cut. This helps carry the chips away and avoids frequent interruptions in cutting to clean the tooth tips.



## Enlarging existing holes

Existing holes 32 mm (1 1/4") or more in diameter may be enlarged with a simple trick: Take a 32 mm diameter hole saw and screw this inside the hole saw on the projecting thread of the A2 adapter. The inner hole saw then acts as a kind of guiding hole saw for extending existing holes, see photo.



## What you absolutely must avoid:

1. Drilling at too fast or too slow a cutting speed. The teeth will glide over the material and become prematurely blunt.
2. Avoid bringing the saw teeth abruptly down on the workpiece, the teeth will break off.
3. Never cut metallic materials dry. Always use a cutting oil.
4. Never bring the saw up to the workpiece on a slant. There is a risk of injury when hand drills are used. The saw can break up or the arbor could be damaged.
5. Ensure that the hole saw is running true. Check the chuck as necessary.
6. Never screw the adapter's guide pins only partially into the hole saw guide holes. The thread of the hole saw could be torn out.
7. Never regrind the hole saw freely by hand. Have hole saws reground by a specialist. Care must be taken to ensure sufficient residual setting and a uniform tooth height.
8. If the tool arbor is pushed into the chuck or if the arbor shears off, the advance pressure is too great.
9. If the hole saw is unevenly worn on the outside, then the saw is not running true or the material to be sawn was not correctly clamped.
10. If the tooth tips are blued, the saw has been used without cutting oil, or at too high a cutting speed.

## HSS BI METAL HOLE SAWS – Speed Chart

Recommended Speed for various materials (RPM)

Diameter mm	Mild Steel	Cast Iron	Tool steel + stainless steels	Brass	Aluminium	Wood
14	580	400	300	790	900	3000
16	550	365	275	730	825	3000
17	500	330	250	665	750	3000
19	460	300	230	600	690	3000
20	440	290	220	580	660	3000
21	425	280	210	560	635	3000
22	390	260	195	520	585	3000
24	370	245	185	495	555	3000
25	350	235	175	470	525	2700
27	325	215	160	435	480	2700
29	300	200	150	400	450	2700
30	285	190	145	380	425	2400
32	275	180	140	380	410	2400
33	260	175	135	345	390	2400
35	250	165	125	330	375	2400
37	240	160	120	315	360	2400
38	230	150	115	300	345	2400
40	220	145	110	290	330	2100
41	210	140	105	280	315	2100
43	205	135	100	270	305	2100
44	195	130	95	260	295	2100
46	190	125	95	250	285	2100
48	180	120	90	240	270	2100
51	170	115	85	230	255	2000
52	165	110	80	220	245	2000
54	160	105	80	210	240	2000
57	150	100	75	200	225	2000
59	145	100	75	195	225	2000
60	140	95	70	190	220	2000
64	135	90	65	180	205	1800
65	130	85	65	175	200	1800
67	130	85	65	170	195	1800
70	125	80	60	160	185	1800
73	120	80	60	160	180	1800
76	115	75	55	150	170	1500
79	110	70	55	140	165	1500
83	105	70	50	140	155	1500
86	100	65	50	130	150	1200
89	95	65	45	130	145	1200
92	95	60	45	120	140	1200
95	90	60	45	120	135	1200
98	90	60	45	120	135	1200
102	85	55	40	110	130	1000
105	80	55	40	110	120	1000
108	80	55	40	110	120	900
111	80	50	40	100	120	900
114	75	50	35	100	105	900
121	75	50	35	95	95	900
127	65	45	30	90	90	800
133	60	40	25	86	85	800
140	60	40	25	85	85	800
146	55	35	25	75	75	800
152	55	35	25	75	75	800



These speeds are benchmarks. The speed can be higher or lower, this depends on the material type and the cutting behaviour.

Attention: Do not use cutting oil, if you are cutting cast iron. If you are cutting aluminium use paraffin wax or paraffin.

### Calculation of the Cutting Speed

$n$  = Speed (1/min)

$v_c$  = Cutting speed (m/min)

$d$  = Tool diameter (mm)

$$v_c = \frac{\pi \times d \times n}{1000}$$



# TCT-HOLE SAWS – Speed Chart

## Speed calculation

n = Speed (1/min)

$v_c$  = Cutting Speed (m/min)

d = Tool diameter (mm)

$$n = \frac{v_c \times 1000}{d \cdot \pi}$$

## Worked sample:

d = 20 mm

$v_c$  = 50 m/min

$$n = \frac{50000}{20 \cdot \pi} = 795,77 \text{ 1/min}$$

Tool Ø	Cutting speed (m/min)												
	Stainless steel material					Mild steel - ST material							
	20	25	30	35	40	45	50	55	60	65	70	75	80
16	398	498	597	697	796	896	995	1095	1194	1294	1393	1493	1592
18	354	442	531	619	708	796	885	973	1062	1150	1238	1327	1415
20	318	398	478	557	637	717	796	876	955	1035	1115	1194	1274
22	290	362	434	507	579	651	724	796	869	941	1013	1086	1158
24	265	332	398	464	531	597	663	730	796	863	929	995	1062
26	245	306	367	429	490	551	612	674	735	796	857	919	980
28	227	284	341	398	455	512	569	626	682	739	796	853	910
30	212	265	318	372	425	478	531	584	637	690	743	796	849
32	199	249	299	348	398	448	498	547	597	647	697	746	796
34	187	234	281	328	375	422	468	515	562	609	656	703	749
36	177	221	265	310	354	398	442	487	531	575	619	663	708
38	168	210	251	293	335	377	419	461	503	545	587	629	670
40	159	199	239	279	318	358	398	438	478	518	557	597	637
42	152	190	227	265	303	341	379	417	455	493	531	569	607
44	145	181	217	253	290	326	362	398	434	470	507	543	579
46	138	173	208	242	277	312	346	381	415	450	485	519	554
48	133	166	199	232	265	299	332	365	398	431	464	498	531
50	127	159	191	223	255	287	318	350	382	414	446	478	510
52	122	153	184	214	245	276	306	337	367	398	429	459	490
54	118	147	177	206	236	265	295	324	354	383	413	442	472
56	114	142	171	199	227	256	284	313	341	370	398	427	455
58	110	137	165	192	220	247	275	302	329	357	384	412	439
60	106	133	159	186	212	239	265	292	318	345	372	398	425
62	103	128	154	180	205	231	257	283	308	334	360	385	411
64	100	124	149	174	199	224	249	274	299	323	348	373	398
66	97	121	145	169	193	217	241	265	290	314	338	362	386
68	94	117	141	164	187	211	234	258	281	304	328	351	375
70	91	114	136	159	182	205	227	250	273	296	318	341	364
72	88	111	133	155	177	199	221	243	265	288	310	332	354
74	86	108	129	151	172	194	215	237	258	280	301	323	344
76	84	105	126	147	168	189	210	230	251	272	293	314	335
78	82	102	122	143	163	184	204	225	245	265	286	306	327
80	80	100	119	139	159	179	199	219	239	259	279	299	318
82	78	97	117	136	155	175	194	214	233	252	272	291	311
84	76	95	114	133	152	171	190	209	227	246	265	284	303
86	74	93	111	130	148	167	185	204	222	241	259	278	296
88	72	90	109	127	145	163	181	199	217	235	253	271	290
90	71	88	106	124	142	159	177	195	212	230	248	265	283
92	69	87	104	121	138	156	173	190	208	225	242	260	277
94	68	85	102	119	136	152	169	186	203	220	237	254	271
96	66	83	100	116	133	149	166	182	199	216	232	249	265
98	65	81	97	114	130	146	162	179	195	211	227	244	260
100	64	80	96	111	127	143	159	175	191	207	223	239	255

## FRP Hole Saws

Ø mm	Timber Chipboard	Plastics	Masonry	Wall tiles*
25/30/35	1000	800	800	500
40/45/50	800	600	700	400
58 to 74	600	400	600	400
80/105	400	300	300	300

\* Drilling in tiles only up to a scratch hardness of 6, mark centre, set the centre drill and drill through the glaze with at a low speed, allow the saw teeth to penetrate the glazing uniformly, running as smoothly and level as possible, so that the edge of the hole is made without chipping. Continue drilling at a normal drilling speed. Tiles with a scratch hardness greater than 6 may only be cut with diamond or carbide hole saws.

### Notes on use

- Use rotation only. Switch off impact or hammer drill.
- Impact and shock on the sharp, ground carbide cutters can lead to small carbide splinters and thus to a severe loss of performance.
- Do not tilt the hole saw in the hole.
- Remove the drill core after each operation. Remove the sawdust when drilling timber and timber products.

### Notes on use

For multipurpose hole saw with rim countersink

- The rim countersink is placed between hole saw and adapter and the carbide cutter is used to make a countersink in timber and timber substitutes. This makes it possible to fit sockets flush.

### Important notes on use

- The hole saw with rim countersink may not be stopped before it is removed.
- Advance with care, to prevent the cut edges tearing.





### ALFRA-Multi-step drills

These drills were especially to drill perfectly round and simultaneously deburred holes in sheet metals of 4 - 6 mm. The radius transition simultaneously deburrs or bevels the holes. While conical one-lip bits drill slightly conical holes, cylindrical holes can be drilled with ALFRA Multi-step drills. The tools are axial-radially relief ground and can be resharpened at the breast of the cutting tooth.

We recommend the use of pillar drilling machines, however, the small ALFRA Multi-step drills can be used on adjustable hand drilling machines. Imperatively use sufficient cooling (**ALFRA coolant stick or bore emulsion**)?

### ALFRA HSS DM 05 precision Multistep Drill

- Take notice of the cutting speed
- Grease the cutting lips in case of application

The holes are deburred on both sides by the multistep drills. The multistep drill drills holes in thin materials, enlarges existing holes, makes inclined holes, drills pipes, makes holes penetrating each other. Suitable for any hand drill. For steel — PVC — polystrol — polyester — Plexiglas — card — plywood and similar materials. Can be reground many times, if treated carefully.

Material	Mild steel ≤ 700 N/mm <sup>2</sup>	Mild steel > 700 N/mm <sup>2</sup>	Alloy steel ≤ 1000 N/mm <sup>2</sup>	Cast iron ≤ 250 N/mm <sup>2</sup>	Cast iron > 250 N/mm <sup>2</sup>	Stainless steel	CuZn alloy brittle	CuZn alloy tough	AL alloy ≤ 11% Si	Thermo- plastic	Duro- plastic	Wood
Material gauge	5,0 mm	5,0 mm	5,0 mm	5,0 mm	5,0 mm	3,0 mm	5,0 mm	5,0 mm	5,0 mm	5,0 mm	5,0 mm	25,0 mm
Lubricant	Drilling paste	Drilling paste	Drilling paste	Air	Air	Drilling paste	Air	Luft/Air	Drilling paste	H <sub>2</sub> O	Air	Air
Vc = m/min	25	20 - 25	20	15	10	5	60	35	30	20	15	> 40
Ø mm	rpm	rpm	rpm	rpm	rpm	rpm	rpm	rpm	rpm	rpm	rpm	rpm
4,0 - 12,0	1900 - 600	1700 - 580	1550 - 520	1190 - 400	800 - 250	400 - 130	4700 - 1550	2750 - 920	2350 - 790	1550 - 520	1190 - 400	3000 - 1000
4,0 - 20,0	1900 - 400	1700 - 350	1550 - 300	1190 - 240	800 - 160	400 - 80	4700 - 950	2750 - 550	2350 - 470	1550 - 300	1190 - 240	3000 - 650
12,0 - 20,0	600 - 400	600 - 350	520 - 300	400 - 240	250 - 160	130 - 80	1550 - 950	920 - 550	790 - 470	520 - 300	400 - 240	1000 - 650
4,0 - 24,0	1900 - 300	1700 - 280	1550 - 250	1190 - 200	800 - 130	400 - 65	4700 - 790	2750 - 460	2350 - 400	1550 - 250	1190 - 200	3000 - 550
6,0 - 30,0	1300 - 250	1200 - 230	1000 - 200	780 - 150	530 - 100	250 - 50	3150 - 630	1850 - 370	1590 - 310	1000 - 200	780 - 150	2100 - 420
20,0 - 30,0	400 - 250	350 - 230	300 - 200	230 - 150	160 - 100	80 - 50	950 - 630	550 - 370	470 - 310	300 - 200	230 - 150	650 - 420
6,0 - 36,0	1300 - 220	1200 - 200	1000 - 170	780 - 130	530 - 90	250 - 45	3150 - 530	1850 - 300	1590 - 260	1000 - 170	780 - 130	2100 - 350
30,0 - 40,0	250 - 200	230 - 180	200 - 150	150 - 120	100 - 80	50 - 40	630 - 470	370 - 280	310 - 240	200 - 150	150 - 120	420 - 310
40,0 - 50,0	200 - 160	180 - 140	150 - 125	120 - 90	80 - 65	40 - 30	470 - 380	280 - 220	240 - 190	150 - 125	120 - 90	310 - 250
50,0 - 60,0	160 - 130	140 - 110	125 - 100	90 - 80	65 - 50	30 - 25	380 - 310	220 - 185	190 - 150	125 - 100	90 - 80	250 - 210

## ALFRA PARTICIPATES IN MANY NATIONAL AND INTERNATIONAL EXHIBITIONS

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... INTERNATIONAL FAIRS AROUND THE WORLD







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- Cutters
- Magnetic Core Drilling Machines
- HSS-Co-Metal Hole Saws
- TCT Hole Saws
- Tools and Machines for the Switchboard Panel Builder and Electrical Industries



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available on request

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- Hole Saws + Core Drills
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- 80 x 200 mm



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Roll up Display	Size	Prod.-No.
Banner Deburring technology	1600 x 600 mm	991
Banner Deburring technology	2000 x 800 mm	992
Banner General view	1600 x 600 mm	993
Banner General view	2000 x 800 mm	994
Banner Rotabest®	1600 x 600 mm	995
Banner Rotabest®	2000 x 800 mm	996
Banner Cutters	1600 x 600 mm	997
Banner Cutters	2000 x 800 mm	998
Banner El-cabinett builders	1600 x 600 mm	999
Banner El-cabinett builders	2000 x 800 mm	9910

Flags	Size	Prod.-No.
Flag General view	2000 x 500 mm	9911
Flag El-cabinett builders	2000 x 500 mm	9912
Flag Rotabest®	2000 x 500 mm	9913
Flag Deburring technology	2000 x 500 mm	9914
Flag Cutters	2000 x 500 mm	9915



Prod.-No. 9911



Prod.-No. 9913



Prod.-No. 9914



Prod.-No. 9915



Prod.-No. 9912



Prod.-No. 991



Prod.-No. 992



Prod.-No. 995



Prod.-No. 996



Prod.-No. 999



Prod.-No. 9910



Prod.-No. 993



Prod.-No. 994



Prod.-No. 997



Prod.-No. 998



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Wintertime	Working coat/vest	L	9952
Wintertime	Working coat/vest	XL	9953
Summertime	Working coat/vest	S	9960
Summertime	Working coat/vest	M	9961
Summertime	Working coat/vest	L	9962
Summertime	Working coat/vest	XL	9963
Polo shirt		S	9920
Polo shirt		M	9921
Polo shirt		L	9922
Polo shirt		XL	9923
Tie-pin			9970
Baseball cap			9971
Pocketknife			9972
Annular cutter clock			9973
Folding rule			9974



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**A**

PUNCHING – BENDING – CUTTING



**B**

DRILLING – PUNCHING – CUTTING – DEBURRING

