ALFRA®

Passion for Tools

APPLICATION SOLUTIONS
STEEL AND METAL CONSTRUCTION

SOLUTIONS BY PRACTITIONERS FOR PRACTITIONERS

Tools are our passion
ALFRA develops and produces tools and machines. Our promise: quality "made in Germany". Solutions are therefore created by practitioners for practitioners on our sites in Hockenheim, Berlin/Stahnsdorf and Herborn– perfectly tailored to the requirements of our customers from the switchboard construction, machining, magnetic technology and metalworking industries.

After over five decades of experience, a long period as the sole supplier of metal core drilling machines in Europe, as a manufacturer, we have been shaping the entire production process since the mid-70s – with professional expertise and passion.

We speak your language
Is your specific application dependent on details? No problem! Our staff are always close to the development and manufacturing processes in our company. They therefore speak your "technical" language. We will find a solution that works for you.

The dedicated ALFRA team looks forward to your call.

Metal core drilling without limits
We listen to you. Our developers are therefore continuously working on further improving ALFRA products. An example: since 2014, drill stands from the ALFRA "SP" model range (see page 32) have facilitated drilling on sheet metals with reliable adhesion even from a material thickness of three millimetres. The basis: our patented, permanent magnetic technology not only guarantees extreme holding force but also functions independently of the power source in the place of use – the drill stand remains stuck to the material even in the case of a power failure. This means greater safety for the user.

WE THINK AHEAD

Certified energy awareness at ALFRA

Our products ensure smooth processes in the working environment of our customers. We are proud of this. However, it is not only quality that counts for us but also how we get there. Sustainability is therefore not an empty phrase for ALFRA; our commitment with regard to energy awareness has been certified in accordance with the ISO standard since 1997.

400 tonnes fewer CO_2 emissions

The figures prove it: we "are not just talking about it". With 400 tonnes fewer CO_2 emissions in four years, we are making our contribution in the fight against climate change.

600 megawatt hours of electricity for our own needs

As a manufacturer, we determine the entire production process in accordance with our philosophy. Specifically: ALFRA relies on alternative energies wherever this makes sense, for example with electricity from photovoltaics. 600 megawatt hours of energy from solar cells facilitate almost climate-neutral production.

We feel responsible – for the satisfaction of our customers and for environmentally friendly production. The aim: to do our best for both every day.

MADE IN GERMANY

GREEN ENERGY

TÜVRheinland® CERT ISO 9001

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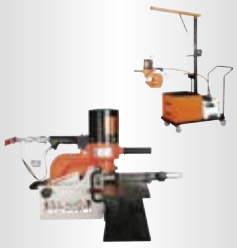

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ALFRA sets new standards in magnet technology!

Our permanent magnets are activated according to a patented principle, completely independent from the power supply – 100% safe and permanently stable!

ALFRA is worldwide licensee of this patented system that allows you to drill, lift, position and transport 3 mm material thickness...

TML

US Patent no. 8350663B1

MAGNETIC SYSTEMS PATENTED US Patent Nr. 8350663B1

MADE IN GERMANY

LIFTING

CORE DRILLING

SPECIAL/PROBLEM SOLUTIONS

POSITIONING

THE ALFRA-ROTABEST®-FAMILY – METAL CORE DRILLING IN EVERY POSITION

SP-LINE

The independent ones with permanent magnet

How do you imagine your ideal partner? Reliable in every situation and still independent? Then our core drilling machines from the SP-line are the perfect match for you. The basis: the patented permanent magnet with a safety sensor adheres horizontal and vertical, autonomous from power supply. Crashes are nearly impossible – and more: our premium products are holding nicely in your hand, too.

- Our premium line is convincing due to a permanent magnet with safety sensor to check the holding force – for maximum occupational safety.
- because of the patented magnetics technology the drill stand adheres from only 3 mm material thickness – for applications in every position.
- Hard facts, soft factors – the models from the SP-line are unifying all performance characteristics of metal core drilling with an ergonomically optimized operating comfort and sophisticated equipment.
- Core drill dimensions-Ø: 12 - 80 mm

RL-E-LINE

The robust ones with the twist

The Rotabest models from the RL-E-line can do better than merely drilling holes. Because the solid ones with right/left run do not only work precisely, they are tapping threads, too. Furthermore they are very user friendly.

- Our professional line with right/left run for metal workers includes two reliable working devices with left/right run for coredrilling, thread tapping, counterboring and spiral drilling.
- The automatic safety cut off by MPI-system is stopping the machine as soon as the incorporated sensor is detecting that the magnet is not adhering on the material. The result: outstanding occupational safety.
- All at a glance: the clear operating concept is self-explanatory. Confusion or application errors are almost excluded.
- Core drill dimensions-Ø: 12 - 100 mm

X-LINE

The versatile ones with an extra

Would you like something extra? The Alfra metal core drilling machines from the X-line are a version of our Basic-line equipped with some special fittings. Devices made by Alfra are keeping up with the requirements of your work routine.

- As an „extra“ the models with an „X“ have a membrane keypad to ensure easy operability.
- Work safety all at a glance: the led-sensor is indicating, if the material has the required thickness to make the magnetic drill stand adhere reliably
- Core drill dimensions-Ø: 12 - 80 mm

B-LINE

The solid ones with the strong price

The models from our Alfra Basic-line are real endurance runners. Unbeatable when it comes to service life, they are also standing out because of an exceptional price-performance. These advantages are delivering you to the line.

- Our Basic-line is combining proven Alfra-quality with an attractive purchase price. So you get good value for money and you remain economically flexible.
- No matter how many hours a core drilling machine from the Basic-line is in use for your business – the device is going to complete the task steadily. The winning combination: sturdiness and precision.
- Our Rotabest 130 B – when size matters. The XXL Version amongst our Alfra core drilling machines is the perfect match for metalworkers, who need more: More power, more drillhole diameter, more cutting depth. For cutting depths up to 130 mm.
- Core drill dimensions-Ø: 12 - 130 mm

S-LINE

The duo for special operations

The „S“ in the name says it all: Core drilling machines belonging to our S-line are specialists – for example when things are literally getting tight. May we present: our super-heroes for particular challenges.

- V32: flat design for high demands. The compact model is operating at full capacity even in working areas which are difficult to access. For example when it comes to drilling close to vehicle frames, inside narrow T-beams and when core drilling machines with standard measures are running into their limits.
- SP-V: One for all: the slimly designed drill stand SP-V with a permanent magnet is adhering from a material thickness of only 3 mm. Furthermore: Due to the 43 mm Euro standard collar, the lightweight is combinable with a broad variety of core drilling machines
- You haven’t found what you’ve been looking for? There’s a suitable core drilling machine for every challenging project. Please don’t hesitate to ask for further solutions for your special applications.
- Core drill dimensions-Ø: 12 - 35 mm
- More Dimensions

ALFRA ROTABEST®
CORE DRILLING MACHINES WITH PERMANENT MAGNET

MADE IN GERMANY

SP-LINE

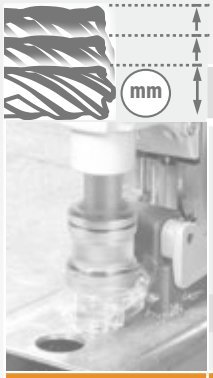
	Ø35	Ø 50	Ø 80
			
	RB 35 SP	RB 50 SP	RB 80 SP RL-E
Page	16 -17	18	19
Prod.-No.	230 V: 18801 / 110 V: 18801.110	230 V: 18851 / 110 V: 18851.110	230 V: 18628 / 110 V: 18628.110
Core drill dimensions	Ø 12.0 - 35.0 mm	Ø 12.0 - 50.0 mm	Ø 12.0 - 80.0 mm / Ø 20.0 - 50.0 mm (cutting depth 110 mm)
Cutting depth	50.0 mm	50.0 mm	50.0 mm / 110.0 mm
Twist drill	Ø 1.0 - 13.0 mm	Ø 1.0 - 20.0 mm	Ø 1.0 - 16.0 mm with drill chuck up to Ø 32.0 mm with MT3 DIN 345
Counterboring	Ø 10.0 - 40.0 mm	Ø 10.0 - 40.0 mm	Ø 10.0 - 55.0 mm
Tapping	-	-	with taping chuck: up to M30 with tapping attachment: up to M30
Arbor	Quick-release chuck	MT2	MT3
Stroke	105 mm	100 mm	190 mm
Height adjustment	80 mm	47 mm	60 mm
Gearbox - on-load speed	450 rpm	1. Step 250 rpm 2. Step 450 rpm	right/left 1. Step 50 - 110 rpm 2. Step 75 - 175 rpm 3. Step 105 - 245 rpm 4. Step 165 - 385 rpm
Power consumption	1,100 W	1,200 W	1,800 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz	230 V 50/60 Hz 110 V 50/60 Hz	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic holding force	17,000 N	17,000 N	22,000 N
Tool-Force (10 mm)*	2,800 N	2,800 N	2,500 N
Min. material thickness	from 3 mm	from 3 mm	from 3 mm
Magnetic base	72 x 190 mm	72 x 190 mm	94 x 255 mm
Weight	9.9 kg	11.5 kg	22.6 kg
Motor			
Smooth start	✔	✔	✔
Hybrid relay	✔	✔	-
Right/left run	-	-	✔
Overload protection	✔	✔	✔
Motor emergency stop	✔	✔	-
Oil bath gearbox	-	✔	✔
Mechanical slipping clutch	-	-	✔
Slide			
Stepless adjustment	✔	✔	✔
Self-adjusting guide	✔	✔	✔
Operation			
Soft-touch grips	✔	✔	✔
Membrane keyboard	✔	✔	-
Holder for Allen key	✔	✔	-
Cord length 5 m	✔	✔	✔
Magnet			
Sensor/LED	✔	✔	-
Permanent magnet	✔	✔	✔
TiN-coating	✔	✔	✔

* Lift-off force directly on the tool/core drill machine

ALFRA ROTABEST®
CORE DRILLING MACHINES WITH ELECTROMAGNET WITH R/L-RUN

MADE IN GERMANY

RL-E-LINE



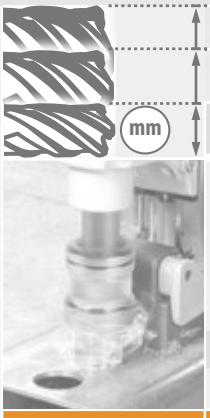
	Ø 50	Ø 80	Ø 100
			
	RB 50 B RL-E	RB 80 B RL-E	RB 100 RL-E
Page	20	21	22
Prod.-No.	230 V: 18612 / 110 V: 18612.110	230 V: 18629 / 110 V: 18629.110	230 V: 18634 / 110 V: 18634.110
Core drill dimensions	Ø 12.0 - 50.0 mm	Ø 12.0 - 80.0 mm / Ø 20.0 - 50.0 mm (cutting depth 110 mm)	Ø 12.0 - 100.0 mm / Ø 20.0 - 50.0 mm (cutting depth 110 mm)
Cutting depth	50.0 mm	50.0 mm / 110.0 mm	50.0 mm / 110.0 mm
Twist drill	Ø 1.0 bis 16.0 mm with quick-release chuck MT2 up to Ø 20.0 mm with MT2 DIN 345 direct	Ø 1.0 - 16.0 mm with drill chuck up to Ø 32.0 mm with MT3 DIN 345	Ø 1.0 - 16.0 mm with drill chuck up to Ø 32.0 mm with MT3 DIN 345
Counterboring	Ø 10.0 - 40.0 mm	Ø 10.0 - 55.0 mm	Ø 10.0 - 55.0 mm
Tapping	with tapping chucks: M3 - M14 with tapping attachment: M3 - M20	with tapping chucks: up to M30 with tapping attachment: up to M30	with tapping chucks: up to M30 with tapping attachment: up to M30
Arbor	MT2	MT3	MT3
Stroke	170 mm	190 mm	245 mm
Height adjustment	100 mm	60 mm	116 mm
Gearbox - on-load speed	right/left 1. Step 100 - 250 rpm 2. Step 180 - 450 rpm	right/left 1. Step 50 - 110 rpm 2. Step 75 - 175 rpm 3. Step 105 - 245 rpm 4. Step 165 - 385 rpm	right/left 1. Step 50 - 150 rpm 2. Step 75 - 230 rpm 3. Step 100 - 310 rpm 4. Step 160 - 490 rpm
Power consumption	1,200 W	1,800 W	2,500 W (230 V) 2,400 W (110 V)
Voltage	230 V 50/60 Hz 110 V 50/60 Hz	230 V 50/60 Hz 110 V 50/60 Hz	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic holding force	16,000 N	20,000 N	20,000 N
Tool-Force (10 mm)*	3,800 N	4,200 N	4,000 N
Min. material thickness	10 mm	10 mm	10 mm
Magnetic base	92 x 238 mm	92 x 238 mm, 30° adjustable right and left, 10 mm front and back	92 x 238 mm, 30° adjustable right and left, 10 mm front and back
Weight	16.0 kg	22.0 kg	28.0 kg
Motor			
Smooth start	-	-	✔
Full-wave control electronics	-	-	✔
Right/left run	✔	✔	✔
Overload protection	-	-	✔
Motor emergency stop	-	-	-
Oil bath gearbox	✔	✔	✔
Mechanical slipping clutch	-	✔	✔
Slide			
Stepless adjustment	✔	✔	✔
Operation			
Soft-touch grips	✔	✔	✔
Membrane keyboard	✔	✔	✔
Holder for Allen key	-	-	-
Cord length 5 m	✔	✔	✔
Magnet			
Sensor/LED	-	-	-
Metal rings	✔	✔	✔

* Abdrückkraft direkt am Werkzeug/Kernbohrer

ALFRA ROTABEST®
CORE DRILLING MACHINES WITH ELECTROMAGNET

MADE IN GERMANY

X-LINE



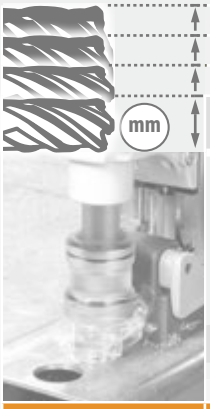
	Ø35	Ø 50	Ø 80
			
	RB 35/50 X PICCOLO	RB 50 X	RB 80 X
Page	23	24	25
Prod.-No.	230 V: 18701 / 110 V: 18701.110	230 V: 18751 / 110 V: 18751.110	230 V: 18781 / 110 V: 18781.110
Core drill dimensions	Ø 12.0 - 35.0 mm	Ø 12.0 - 50.0 mm	Ø 12.0 - 80.0 mm / Ø 20.0 - 50.0 mm (cutting depth 110 mm)
Cutting depth	50.0 mm	50.0 mm	50.0 mm / 110.0 mm
Twist drill	Ø 1.0 - 13.0 mm	Ø 1.0 to 16.0 mm with quick-release chuck MT 2 up to Ø 20.0 mm with MT2 DIN 345 direct	Ø 1.0 - 16.0 mm with drill chuck up to Ø 32.0 mm with MT3 DIN 345
Counterboring	Ø 10.0 - 40.0 mm	Ø 10.0 - 40.0 mm	Ø 10.0 - 55.0 mm
Tapping	-	with tapping attachment: M3 - M20	with tapping attachment: up to M30
Arbor	Quick-release chuck	MT2	MT3
Stroke	129 mm	190 mm	190 mm
Height adjustment	86 mm	100 mm	100 mm
Gearbox – on-load speed	450 rpm	1. Step 250 rpm 2. Step 450 rpm	1. Step 110 rpm 2. Step 175 rpm 3. Step 245 rpm 4. Step 385 rpm
Power consumption	1,100 W	1,200 W	1,800 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz	230 V 50/60 Hz 110 V 50/60 Hz	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic holding force	10,000 N	12,000 N	16,000 N
Tool-Force (10 mm)*	2,100 N	3,500 N	4,000 N
Min. material thickness	6 mm	6 mm	10 mm
Magnetic base	70 x 185 mm	92 x 220 mm	92 x 220 mm
Weight	11.5 kg	15.0 kg	21.8 kg
Motor			
Motor emergency stop	✔	✔	✔
Oil bath gearbox	-	✔	✔
Mechanical slipping clutch	-	-	✔
Slide			
Stepless adjustment	✔	✔	✔
Self-adjusting guide	✔	✔	✔
Operation			
Soft-touch grips	✔	✔	✔
Membrane keyboard	✔	✔	✔
Holder for Allen key	✔	✔	✔
Cord length 5 m	✔	✔	✔
Magnet			
Sensor/LED	✔	✔	✔
Metal rings	✔	✔	✔

* Lift-off force directly on the tool/core drill machine

ALFRA ROTABEST®
CORE DRILLING MACHINES WITH ELECTROMAGNET

MADE IN GERMANY

B-LINE



	Ø 35		Ø 50	Ø 80	Ø 130
					
	RB 35 B	RB 35/50 B PICCOLO	RB 50 B	RB 80 B	RB 130 B
Page	26	27	28	29	30
Prod.-No.	230 V: 18400 / 110 V: 18400.110	230 V: 18401 / 110 V: 18401.110	230 V: 18451 / 110 V: 18451.110	230 V: 18481 / 110 V: 18481.110	230 V: 18646
Core drill dimensions	Ø 12.0 - 35.0 mm	Ø 12.0 - 35.0 mm	Ø 12.0 - 50.0 mm	Ø 12.0 - 80.0 mm / Ø 20.0 - 50.0 mm (cutting depth 110 mm)	Ø 12.0 - 130.0 mm / Ø 20.0 - 50.0 mm (cutting depth 110 mm)
Cutting depth	50.0 mm	50.0 mm	50.0 mm	50.0 mm / 110.0 mm	50.0 mm / 110.0 mm
Twist drill	Ø 1.0 - 13.0 mm DIN 1897 short	Ø 1.0 - 13.0 mm DIN 1897 short	Ø 1.0 to 16.0 mm with quick-release chuck MT 2 up to Ø 20.0 mm with MT2 DIN 345 direct	Ø 1.0 - 16.0 mm with drill chuck up to Ø 32.0 mm with MT3 DIN 345	up to Ø 45.0 mm with MT4 DIN 345
Counterboring	Ø 10.0 - 40.0 mm	Ø 10.0 - 40.0 mm	Ø 10.0 - 40.0 mm	Ø 10.0 - 55.0 mm	Ø 10.0 - 80.0 mm
Tapping	-	-	with tapping attachment: M3 - M20	with tapping attachment: up to M30	with tapping attachment: up to M42
Arbor	19 mm Weldon shank	19 mm Weldon shank	MT2	MT3	MT4
Stroke	120 mm	129 mm	190 mm	190 mm	230 mm
Height adjustment	-	86 mm	100 mm	100 mm	100 mm
Gearbox – on-load speed	450 rpm	450 rpm	1. Step 250 rpm 2. Step 450 rpm	1. Step 110 rpm 2. Step 175 rpm 3. Step 245 rpm 4. Step 385 rpm	1. Step 30 - 80 rpm 2. Step 50 - 120 rpm 3. Step 130 - 350 rpm 4. Step 210 - 550 rpm
Power consumption	1,100 W	1,100 W	1,200 W	1,800 W	2,500 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz	230 V 50/60 Hz 110 V 50/60 Hz	230 V 50/60 Hz 110 V 50/60 Hz	230 V 50/60 Hz 110 V 50/60 Hz	230 V 50/60 Hz
Magnetic holding force	10,000 N	10,000 N	12,000 N	16,000 N	33,000 N
Tool-Force (10 mm)*	2,100 N	2,100 N	3,500 N	4,000 N	5,000 N
Min. material thickness	6 mm	6 mm	6 mm	10 mm	10 mm
Magnetic base	70 x 185 mm	70 x 185 mm	92 x 220 mm	92 x 220 mm	90 x 400 mm
Weight	10.6 kg	11.5 kg	15.0 kg	19.5 kg	37.0 kg
Motor					
Oil bath gearbox	-	-	✔	✔	✔
Mechanical slipping clutch	-	-	-	✔	✔
Slide					
Stepless adjustment	-	✔	✔	✔	-
Self-adjusting guide	✔	✔	✔	✔	-
Operation					
Soft-touch grips	✔	✔	✔	✔	✔
Membrane keyboard	-	-	-	✔	✔
Holder for Allen key	-	-	-	✔	-
Cord length 5 m	✔	✔	✔	✔	✔
Magnet					
Sensor/LED	-	-	-	✔	-
Metal rings	✔	✔	✔	✔	✔

* Lift-off force directly on the tool/core drill machine

MADE IN GERMANY

S-LINE

mm

Ø32

	DRILL STAND SP-V	V32	
Seite	32 - 33	31	
Prod.-No.	18343	230 V: 18710	110 V: 18710.110
Core drill dimensions	-	Ø 12.0 - 32.0 mm	
Cutting depth	-	30.0 mm	
Twist drill	Ø depending on the respective drilling machine used	-	
Counterboring	-	Ø 10.0 - 32.0 mm	
Tapping	-	-	
Arbor	Ø 43 mm Euro Neck, Ø 48.6 mm Ø 61.7 mm	19 mm Weldon shank	
Stroke	105 mm	45 mm	
Height adjustment	80 mm	-	
Gearbox – on-load speed	-	450 rpm	
Power consumption	-	900 W	
Voltage	-	230 V 50/60 Hz 110 V 50/60 Hz	
Magnetic holding force	17,000 N	16,000 N	
Tool-Force (10 mm)*	2,800 N	2,100 N	
Min. material thickness	from 3 mm	6 mm	
Magnetic base	72 x 190 mm	95 x 200 mm	
Weight	6.8 kg	12.5 kg	

Motor		
Smooth start	-	**Compact, lying**
Hybrid relay	-	
Full-wave control electronics	-	
Right/left run	-	
Overload protection	-	
Motor emergency stop	-	
Oil bath gearbox	-	**Compact mitre gear**
Mechanical slipping clutch	-	
Slide		
Stepless adjustment	-	**2-sided column guide**
Self-adjusting guide	-	
Operation		
Soft-touch grip	✔	**Space-saving – through ratchet**
Membrane keyboard	-	
Holder for Allen key	-	
Cord length 5 m	-	✔
Magnet		
Metal rings	-	✔
TiN-coating	✔	-

* Lift-off force directly on the tool/core drill machine

Core drilling with

ALFRA ROTABEST®

POWER GLOSSARY

Motor		
1	**Temperature sensor**	The LED signal informs about a motor overheating due to overload. After cooling down, the motor can be activated again.
2	**Carbon brush wear control**	The motor LED flashes as soon as the carbon brushes are worn through mechanical abrasion. The motor continues to run.
3	**Drive unit**	Height adjustable allows a larger, multiple stroke range.
4	**Smooth start**	Protects the motor and extends its lifetime.
5	**PUR Control line**	Remains flexible even at low temperatures and is optimally protected against external influences.
Gearboxes		
6	**Special gearbox**	The wear of the gearbox wheels is reduced significantly even under extreme conditions.
Operation		
7	**Soft-touch grips**	Abrasion resistant for perfect grip. Including integrated Allen key tray
8	**Double dovetail slide**	Self-adjusting through innovative clamping system

Operation		
9	**Activation lever for magnet**	Ergonomic and easy to use. With perforated grip zone for perfect grip.
10	**5 metre PUR connection cable**	Remains flexible even at low temperatures and is optimally protected against external influences.
11	**Membrane keyboard**	The keypad has been ergonomically designed and further offset in the housing so that it is less sensitive to moisture and mechanical influences.
12	**Circuit board with hybrid relay**	Extra long life. Voltage spikes are intercepted.
13	**Quick-release chuck**	Weight-optimised to reduce the imbalance to a minimum. Is compatible for all core drills with standard Weldon arbor.
Permanent magnet		
14	**Permanent magnet**	100% reliability (also in case of power failure) - already can be used from 3 mm thickness
15	**LED for magnetic/ adhesive power indicator**	This shows various function statuses - "continuous green" for OK - "red flashing" with holding force which is just sufficient - "continuous red" with low holding force - (motor turns off automatically)
16	**TiN coated magnetic undersurface**	Scratch-resistant and resistant to external influences.

MADE IN GERMANY

“Our company has used core drilling machines by ALFRA for over 30 years.

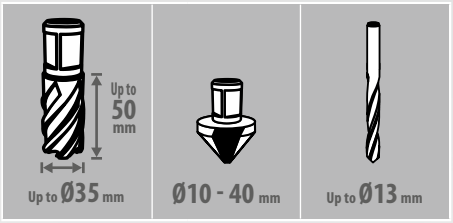
Tools and equipment are top!
The new machine with a permanent magnet is awesome!

Finally, I can also drill thin-walled profiles, from as little as 3 mm material thickness!

...and all that made in Germany!”

ALFRA ROTABEST® – RB 35 SP

Can be used with a permanent magnet from 3 mm material thickness



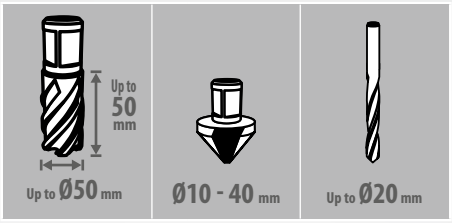
RB 35 SP	
Core drill dimensions	Ø 12.0 - 35.0 mm
Cutting depth	50.0 mm
Twist drill	Ø 1.0 - 13.0 mm
Counterboring	Ø 10.0 - 40.0 mm
Arbors	Quick-release chuck
Stroke	105 mm
Height adjustment	80 mm
Gearbox - on-load speed	450 rpm
Power consumption	1,100 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Tool Force (10 mm) / Magnetic adhesion force	2,800 N/17,000 N
Tool force (6 mm S235)	2,300 N
Magnetic base	72 x 190 mm
Weight	9.9 kg
Motor	
Smooth start	✔
Hybrid relay	✔
Overload protection	✔
Motor emergency stop	✔
Slide	
Infinitely adjustable	✔
Self-adjusting guide	✔
Operation	
Soft-touch grips	✔
Membrane keyboard	✔
Holder for Allen key	✔
Cable length 5 m	✔
Magnet	
Sensor/LED	✔
Metal rings	✔
Performance and weight optimisation	✔
Made in Germany	✔

Scope of delivery

- Metal core drilling machine RB 35 SP with quick-release chuck
- Carrying case
- Seat belt
- Coolant device
- Operating Instructions
- **incl. 1 core drill free**

		Prod.-No.
ALFRA Rotabest® RB 35 SP	230 Volt	18801
ALFRA Rotabest® RB 35 SP	110 Volt	18801.110

ALFRA ROTABEST® – RB 50 SP



RB 50 SP

Core drill dimensions	Ø 12.0 - 50.0 mm
Cutting depth	50.0 mm
Twist drill	Ø 1.0 - 20.0 mm
Counterboring	Ø 10.0 - 40.0 mm
Arbors	MT2
Stroke	100 mm
Height adjustment	47 mm
Gearbox - on-load speed	1. Step 250 rpm 2. Step 450 rpm
Power consumption	1,200 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Tool Force (10 mm) / Magnetic adhesion force	2,800 N/17,000 N
Tool force (6 mm S235)	2,000 N
Magnetic base	72 x 190 mm
Weight	11.5 kg
Motor	
Smooth start	✔
Hybrid relay	✔
Overload protection	✔
Motor emergency stop	✔
Oil bath gearbox	✔
Slide	
Infinitely adjustable	✔
Self-adjusting guide	✔
Operation	
Soft-touch grips	✔
Membrane keyboard	✔
Holder for Allen key	✔
Cable length 5 m	✔
Magnet	
Sensor/LED	✔
TiN-coating	✔
Performance and weight optimisation	✔
Made in Germany	✔

Scope of delivery

- Metal core drilling machine RB 50 SP
- Tool holder MT 2 with quick-release chuck, including internal cooling
- Carrying case
- Seat belt
- Coolant device
- Operating Instructions
- **incl. 1 core drill free**

MADE IN GERMANY

Can be used with a permanent magnet from 3 mm material thickness

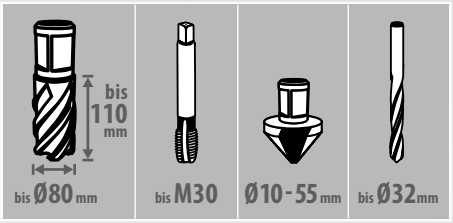
		Prod.-No.
ALFRA Rotabest® RB 50 SP	230 Volt	18851
ALFRA Rotabest® RB 50 SP	110 Volt	18851.110

ALFRA ROTABEST® – RB 80 SP RL-E

SP-LINE

MADE IN GERMANY

Can be used with a permanent magnet from 3 mm material thickness



RB 80 SP RL-E

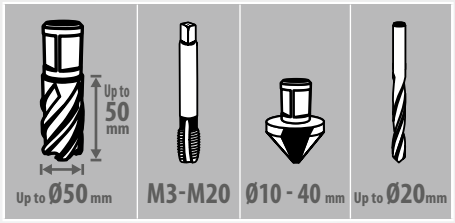
Core drill dimensions	Ø 12.0 - 80.0 mm / Ø 20.0 - 50.0 mm (cutting depth 110 mm)
Cutting depth	50.0 mm / 110.0 mm
Twist drill	Ø 1.0 - 16.0 mm with drill chuck up to Ø 32.0 mm with MT3 DIN 345
Counterboring	Ø 10 - 55.0 mm
Tapping	with tapping chucks: up to M30 with tapping attachment: up to M30
Arbor	MT3
Stroke	190 mm
Height adjustment	60 mm
4-speed gear	right/left 1. Step 50 - 110 rpm 2. Step 75 - 175 rpm 3. Step 105 - 245 rpm 4. Step 165 - 385 rpm
Power consumption	1.800 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic holding force	22,000 N
Tool-Force (10 mm)	2,500 N
Tool-Force (6 mm S235)	1,600 N
Magnetic base	94 x 255 mm
Weight	22.6 kg
Motor	
Smooth start	✔
Right/left run	✔
Overload protection	✔
Oil bath gearbox	✔
Mechanical slipping clutch	✔
Slide	
Stepless adjustment	✔
Self-adjusting guide	✔
Operation	
Soft-touch grips	✔
Cord length 5 m	✔
Magnet	
Permanent magnet	✔
TiN-coating	✔
Made in Germany	✔

Scope of delivery

- Metal core drilling machine RB 80 SP RL-E
- Coolant device
- MT3 tool holder with internal cooling
- Carrying case
- Drill spray
- Seat belt
- Operating Instructions
- **incl. 1 core drill free**

		Prod.-No.
ALFRA Rotabest® RB 80 SP RL-E	230 Volt	18628
ALFRA Rotabest® RB 80 SP RL-E	110 Volt	18628.110

ALFRA ROTABEST® – RB 50 B RL-E



RB 50 B RL-E

Core drill dimensions	Ø 12.0 - 50.0 mm
Cutting depth	50.0 mm
Twist drill	Ø 1.0 to 16.0 mm with quick-release chuck MT2 up to Ø 20.0 mm with MT 2 DIN 345 direct
Counterboring	Ø 10.0 - 40.0 mm
Tapping	with tapping chucks: M3 - M14 with tapping attachment M3 - M20
Arbors	MT2
Stroke	170 mm
Height adjustment	100 mm
2-speed gearbox	right / left 1. Step 100 - 250 rpm 2. Step 180 - 450 rpm
Power consumption	1,200 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic adhesion strength	16,000 N
Tool force (10 mm)	3,800 N
Magnetic base	92 x 238 mm
Weight	16.0 kg
Motor	
Right/left run	✔
Oil bath gearbox	✔
Slides	
Infinitely adjustable	✔
Operation	
Soft-touch grips	✔
Membrane keyboard	✔
Magnet	
Metal rings	✔
Made in Germany	✔

Scope of delivery

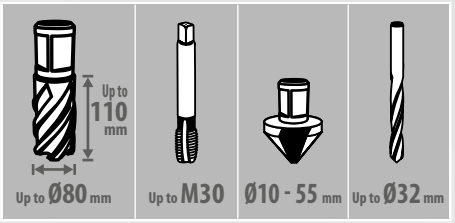
- Metal core drilling machine RB 50 B RL-E
- Coolant device
- MT2 tool holder with internal cooling
- Quick-release chuck for twist drills
- Carrying case
- Drill spray
- Chip hook
- Seat belt
- Operating Instructions
- **incl. 1 core drill free**

		Prod.-No.
ALFRA Rotabest® RB 50 B RL-E	230 Volt	18612
ALFRA Rotabest® RB 50 B RL-E	110 Volt	18612.110

ALFRA ROTABEST® – RB 80 B RL-E

RL-E-LINE

MADE IN GERMANY



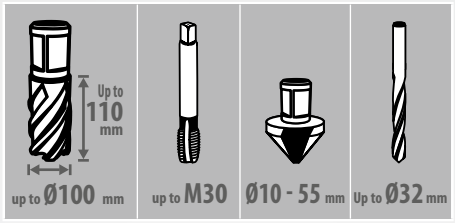
RB 80 B RL-E	
Core drill dimensions	Ø 12.0 - 80.0 mm/ Ø 20.0 - 50.0 mm (cutting depth 110 mm)
Cutting depth	50.0 mm / 110.0 mm
Twist drill	Ø 1.0 - 16.0 mm with drill chuck Up to Ø 32.0 mm with MT3 DIN 345
Counterboring	Ø 10 - 55.0 mm
Tapping	with tapping chucks: Up to M30 with tapping attachment: Up to M30
Arbors	MT3
Stroke	190 mm
Height adjustment	60 mm
4-speed gearbox	right / left 1. Step 50 - 110 rpm 2. Step 75 - 175 rpm 3. Step 105 - 245 rpm 4. Step 165 - 385 rpm
Power consumption	1,800 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic adhesion strength	20,000 N
Tool force (10 mm)	4,200 N
Magnetic base	92 x 238 mm, 30° adjustable right and left, 10 mm front and back
Weight	22.0 kg
Motor	
Right/left run	✔
Oil bath gearbox	✔
Mech. Slip clutch	✔
Slides	
Infinitely adjustable	✔
Operation	
Soft-touch grips	✔
Membrane keyboard	✔
Magnet	
Metal rings	✔
Made in Germany	✔

Scope of delivery

- Metal core drilling machine RB 80 B RL-E
- Coolant device
- MT3 tool holder with internal cooling
- Quick-release chuck for twist drills
- Carrying case
- Drill spray
- Chip hook
- Seat belt
- Operating Instructions
- **incl. 1 core drill free**

		Prod.-No.
ALFRA Rotabest® RB 80 B RL-E	230 Volt	18629
ALFRA Rotabest® RB 80 B RL-E	110 Volt	18629.110

ALFRA ROTABEST® – RB 100 RL-E



RB 100 RL-E

Core drill dimensions	Ø 12.0 - 100.0 mm/ Ø 20.0 - 50.0 mm (cutting depth 110 mm)
Cutting depth	50.0 mm / 110.0 mm
Twist drill	Ø 1.0 - 16.0 mm with drill chuck Up to Ø 32.0 mm with MT3 DIN 345
Counterboring	Ø 10.0 - 55.0 mm
Tapping	with tapping chucks: Up to M30 with tapping attachment: Up to M30
Arbors	MT3
Stroke	245 mm
Height adjustment	116 mm
4-speed gearbox	right / left 1. Step 50 - 150 rpm 2. Step 75 - 230 rpm 3. Step 100 - 310 rpm 4. Step 160 - 490 rpm
Power consumption	2,500 W (230 V) 2,400 W (110 V)
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic adhesion strength	20,000 N
Tool force (10 mm)	4,000 N
Magnetic base	92 x 238 mm, 30° adjustable right and left, 10 mm front and back
Weight	28.0 kg
Motor	
Smooth start	✔
Full-wave control electronics	✔
Right/left run	✔
Overload protection	✔
Oil bath gearbox	✔
Mech. Slip clutch	✔
Slides	
Infinitely adjustable	✔
Operation	
Soft-touch grips	✔
Membrane keyboard	✔
Magnet	
Metal rings	✔
Made in Germany	✔

Scope of delivery

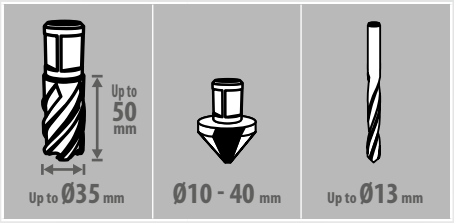
- Metal core drilling machine RB 100 RL-E
- Coolant device
- MT3 tool holder with internal cooling
- Carrying case
- Chip hook
- Seat belt
- Drill spray
- **incl. 1 core drill free**

		Prod.-No.
ALFRA Rotabest® RB 100 RL-E	230 Volt	18634
ALFRA Rotabest® RB 100 RL-E	110 Volt	18634.110

ALFRA ROTABEST® – RB 35/50 X PICCOLO

X-LINE

MADE IN GERMANY



RB 35/50 X PICCOLO

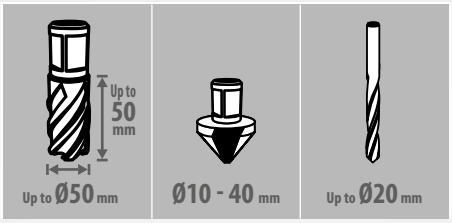
Core drill dimensions	Ø 12.0 - 35.0 mm
Cutting depth	50.0 mm
Twist drill	Ø 1.0 - 13.0 mm
Counterboring	Ø 10.0 - 40.0 mm
Arbors	Quick-release chuck
Stroke	129 mm
Height adjustment	86 mm
Gearbox - on-load speed	450 rpm
Power consumption	1,100 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic adhesion strength	10,000 N
Tool force (10 mm)	2,100 N
Magnetic base	70 x 185 mm
Weight	11.5 kg
Motor	
Motor emergency stop	✔
Slides	
Stepless adjustment	✔
Self-adjusting guide	✔
Operation	
Soft-touch grips	✔
Membrane keyboard	✔
Holder for Allen key	✔
Cable length 5 m	✔
Magnet	
Sensor/LED	✔
Metal rings	✔
Performance and weight optimisation	✔
Made in Germany	✔

Scope of delivery

- Metal core drilling machine RB 35/50 X Piccolo
- Coolant device and quick-release chuck with internal cooling
- Carrying case
- Seat belt
- Operating Instructions
- **incl. 1 core drill free**

	Prod.-No.
ALFRA Rotabest® RB 35/50 X Piccolo 230 Volt	18701
ALFRA Rotabest® RB 35/50 X Piccolo 110 Volt	18701.110

ALFRA ROTABEST® – RB 50 X



RB 50 X

Core drill dimensions	Ø 12.0 - 50.0 mm
Cutting depth	50.0 mm
Twist drill	Ø 1.0 to 16.0 mm with quick-release chuck MT2 up to Ø 20.0 mm with MT 2 DIN 345 direct
Counterboring	Ø 10.0 - 40.0 mm
Tapping	with tapping attachment M3 - M20
Arbors	MT2
Stroke	190 mm
Height adjustment	100 mm
2-speed gearbox Load speed	1. Step 250 rpm 2. Step 450 rpm
Power consumption	1,200 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic adhesion strength	12,000 N
Tool force (10 mm)	3,500 N
Magnetic base	92 x 220 mm
Weight	15.0 kg
Motor	
Motor emergency stop	✔
Oil bath gearbox	✔
Slides	
Infinitely adjustable	✔
Self-adjusting guide	✔
Operation	
Soft-touch grips	✔
Membrane keyboard	✔
Holder for Allen key	✔
Cable length 5 m	✔
Magnet	
Sensor/LED	✔
Metal rings	✔
Performance and weight optimisation	✔
Made in Germany	✔

Scope of delivery

- Metal core drilling machine RB 50 X
- Coolant device
- MT2 tool holder with internal cooling
- Carrying case
- Drill spray
- Seat belt
- Operating Instructions
- **incl. 1 core drill free**

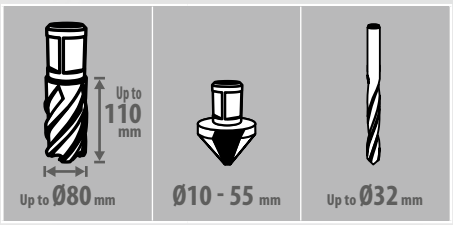
MADE IN GERMANY

		Prod.-No.
ALFRA Rotabest® RB 50 X	230 Volt	18751
ALFRA Rotabest® RB 50 X	110 Volt	18751.110

ALFRA ROTABEST® – RB 80 X

X-LINE

MADE IN GERMANY



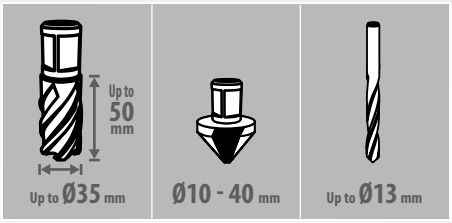
RB 80 X	
Core drill dimensions	Ø 12.0 - 80.0 mm/ Ø 20.0 - 50.0 mm (cutting depth 110 mm)
Cutting depth	50.0 mm / 110.0 mm
Twist drill	Ø 1.0 - 16.0 mm with drill chuck Up to Ø 32.0 mm with MT3 DIN 345
Counterboring	Ø 10 - 55.0 mm
Tapping	with tapping attachment: Up to M30
Arbors	MT3
Stroke	190 mm
Height adjustment	100 mm
4-speed gearbox Load speed	1. Step 110 rpm 2. Step 175 rpm 3. Step 245 rpm 4. Step 385 rpm
Power consumption	1,800 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic adhesion strength	16,000 N
Tool force (10 mm)	4,000 N
Magnetic base	92 x 220 mm
Weight	21.8 kg
Motor	
Motor emergency stop	✔
Oil bath gearbox	✔
Mech. Slip clutch	✔
Slides	
Infinitely adjustable	✔
Self-adjusting guide	✔
Operation	
Soft-touch grips	✔
Membrane keyboard	✔
Holder for Allen key	✔
Cable length 5 m	✔
Magnet	
Sensor/LED	✔
Metal rings	✔
Performance and weight optimisation	✔
Made in Germany	✔

Scope of delivery

- Metal core drilling machine RB 80 X
- Coolant device
- MT3 tool holder with internal cooling
- Carrying case
- Drill spray
- Seat belt
- Operating Instructions
- **incl. 1 core drill free**

		Prod.-No.
ALFRA Rotabest® RB 80 X	230 Volt	18781
ALFRA Rotabest® RB 80 X	110 Volt	18781.110

ALFRA ROTABEST® – RB 35 B



RB 35 B

Core drill dimensions	Ø 12.0 - 35.0 mm
Cutting depth	50.0 mm
Twist drill	Ø 1.0 - 13.0 mm DIN 1897 short
Counterboring	Ø 10.0 - 40.0 mm
Arbors	19 mm Weldon shank
Stroke	120 mm
Gearbox - on-load speed	450 rpm
Power consumption	1,100 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic adhesion strength	10,000 N
Tool force (10 mm)	2,100 N
Magnetic base	70 x 185 mm
Weight	10.6 kg
Slide	
Self-adjusting guide	✔
Operation	
Soft-touch grips	✔
Ergonomic switch keyboard	✔
Cable length 5 m	✔
Magnet	
Metal rings	✔
Performance and weight optimisation	✔
Made in Germany	✔

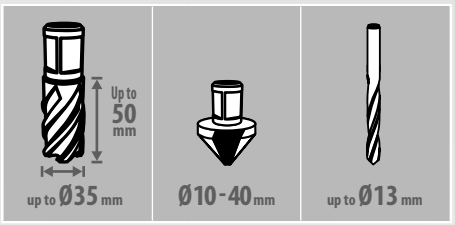
Scope of delivery

- Metal core drilling machine RB 35 B
- Coolant device
- Carrying case
- Seat belt
- Operating Instructions
- **incl. 1 core drill free**

		Prod.-No.
ALFRA Rotabest® RB 35 B	230 Volt	18400
ALFRA Rotabest® RB 35 B	110 Volt	18400.110

ALFRA ROTABEST® – RB 35/50 B PICCOLO

B-LINE



RB 35/50 B PICCOLO

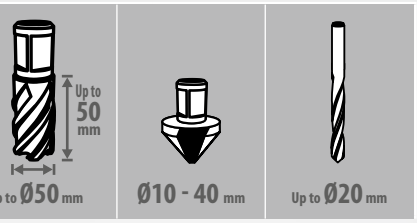
Core drill dimensions	Ø 12.0 - 35.0 mm
Cutting depth	50.0 mm
Twist drill	Ø 1.0 - 13.0 mm
Counterboring	Ø 10.0 - 40.0 mm
Arbors	19 mm Weldon shank
Stroke	129 mm
Height adjustment	86 mm
Gearbox – on-load speed	450 U/min,
Power consumption	1,100 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic adhesion strength	9,000 N
Tool force (10 mm)	2,100 N
Magnetic base	70 x 185 mm
Weight	11.5 kg
Motor	
Grease drive	✔
Slides	
Infinitely adjustable	✔
Self-adjusting guide	✔
Operation	
Soft-touch grips	✔
Ergonomic switch keyboard	✔
Cable length 5 m	✔
Magnet	
Metal rings	✔
Performance and weight optimisation	✔
Made in Germany	✔

Scope of delivery

- Metal core drilling machine RB 35/50 B Piccolo
- Coolant device
- Carrying case
- Seat belt
- Operating Instructions

	Prod.-No.
ALFRA Rotabest® RB 35/50 B Piccolo 230 Volt	18401
ALFRA Rotabest® RB 35/50 B Piccolo 110 Volt	18401.110

ALFRA ROTABEST® – RB 50 B



RB 50 B

Core drill dimensions	Ø 12.0 - 50.0 mm
Cutting depth	50.0 mm
Twist drill	Ø 1.0 to 16.0 mm with quick-release chuck MT2 up to Ø 20.0 mm with MT 2 DIN 345 direct
Counterboring	Ø 10.0 - 40.0 mm
Tapping	with tapping attachment M3 - M20
Arbors	MT2
Stroke	190 mm
Height adjustment	100 mm
2-speed gearbox Load speed	1. Step 250 rpm 2. Step 450 rpm
Power consumption	1,200 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic adhesion strength	12,000 N
Tool force (10 mm)	3,500 N
Magnetic base	92 x 220 mm
Weight	15.0 kg
Motor	
Oil bath gearbox	✔
Slides	
Infinitely adjustable	✔
Self-adjusting guide	✔
Operation	
Soft-touch grips	✔
Ergonomic switch keyboard	✔
Holder for Allen key	✔
Cable length 5 m	✔
Magnet	
Metal rings	✔
Performance and weight optimisation	✔
Made in Germany	✔

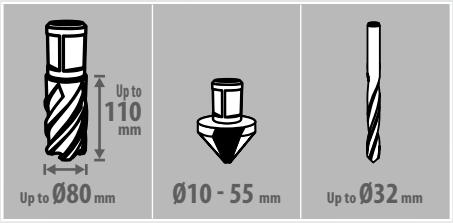
Scope of delivery

- Metal core drilling machine RB 50 B
- Coolant device
- MT2 tool holder with internal cooling
- Carrying case
- Drill spray
- Seat belt
- Operating Instructions
- **incl. 1 core drill free**

MADE IN GERMANY

		Prod.-No.
ALFRA Rotabest® RB 50 B	230 Volt	18451
ALFRA Rotabest® RB 50 B	110 Volt	18451.110

ALFRA ROTABEST® – RB 80 B



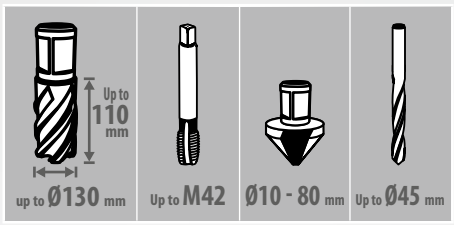
RB 80 B	
Core drill dimensions	Ø 12.0 - 80.0 mm/ Ø 20.0 - 50.0 mm (cutting depth 110 mm)
Cutting depth	50.0 mm / 110.0 mm
Twist drill	Ø 1.0 - 16.0 mm with drill chuck Up to Ø 32.0 mm with MT3 DIN 345
Counterboring	Ø 10 - 55.0 mm
Tapping	with tapping attachment: Up to M30
Arbors	MT3
Stroke	190 mm
Height adjustment	100 mm
4-speed gearbox Load speed	1. Step 110 rpm 2. Step 175 rpm 3. Step 245 rpm 4. Step 385 rpm
Power consumption	1,800 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic adhesion strength	16,000 N
Tool force (10 mm)	4,000 N
Magnetic base	92 x 220 mm
Weight	21.8 kg
Motor	
Motor emergency stop	✔
Oil bath gearbox	✔
Mech. Slip clutch	✔
Slides	
Infinitely adjustable	✔
Self-adjusting guide	✔
Operation	
Soft-touch grips	✔
Membrane keyboard	✔
Holder for Allen key	✔
Cable length 5 m	✔
Magnet	
Sensor/LED	✔
Metal rings	✔
Performance and weight optimisation	✔
Made in Germany	✔

Scope of delivery

- Metal core drilling machine RB 80 B
- Coolant device
- MT3 tool holder with internal cooling
- Carrying case
- Drill spray
- Seat belt
- Operating Instructions
- **incl. 1 core drill free**

		Prod.-No.
ALFRA Rotabest® RB 80 B	230 Volt	18481
ALFRA Rotabest® RB 80 B	110 Volt	18481.110

ALFRA ROTABEST® – RB 130 B



RB 130 B

Core drill dimensions	Ø 12.0 - 130.0 mm/ Ø 20.0 - 50.0 mm (cutting depth 110 mm)
Cutting depth	50.0 mm / 110.0 mm
Twist drill	Up to Ø 45.0 mm with MT4 DIN 345 direct
Counterboring	Ø 10.0 - 80.0 mm
Tapping	with tapping attachment Up to M42
Arbors	MT4
Stroke	230 mm
Height adjustment	100 mm
4-speed gearbox	1. Step 30 - 80 rpm 2. Step 50 - 120 rpm 3. Step 130 - 350 rpm 4. Step 210 - 550 rpm
Power consumption	2,500 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic adhesion strength	33,000 N
Tool force (10 mm)	5,000 N
Magnetic base	90 x 400 mm
Weight	37.0 kg
Motor	
Smooth start	✔
Oil bath gearbox	✔
Mech. Slip clutch	✔
Operation	
Soft-touch grips	✔
Membrane keyboard	✔
Magnet	
Metal rings	✔
Made in Germany	✔

Scope of delivery

- Metal core drilling machine RB 130
- Coolant device
- Reduction sleeve MT4/3
- Transportation packing
- Drill spray
- Chip hook
- Seat belt
- Operating instructions

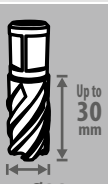
MADE IN GERMANY

		Prod.-No.
ALFRA Rotabest® RB 130 B	230 Volt	18646

ALFRA ROTABEST® – V 32

S-LINE

MADE IN GERMANY



V 32	
Core drill dimensions	Ø 12.0 - 32.0 mm
Cutting depth	30.0 mm
Counterboring	Ø 10.0 - 32.0 mm
Arbors	19 mm Weldon shank
1-speed gearbox	450 rpm
Stroke	45 mm
Power consumption	900 W
Voltage	230 V 50/60 Hz 110 V 50/60 Hz
Magnetic adhesion strength	16,000 N
Tool force (10 mm)	2,100 N
Magnetic base	95 x 200 mm
Weight	12.5 kg
Motor	
Compact, lying	
Compact mitre gear	
Slide	
2-sided column guide	
Operation	
Space-saving - through ratchet	
Magnet	
Metal rings	✔
Performance and weight optimisation	✔
Made in Germany	✔

Scope of delivery

- Metal core drilling machine V 32
- Coolant pressure bottle
- Carrying case
- Allen key for Weldon arbor
- Seat belt
- Ejector pin 6.35 x 74 mm (specially for Rotabest® V32)
- Operating instructions
- **incl. 1 core drill free**

		Prod.-No.
ALFRA Rotabest® V32	230 Volt	18710
ALFRA Rotabest® V32	110 Volt	18710.110


“Compact, lightweight and always 100% adhesive reliability – even on thin sheet metals. The new SP-V is a must on every construction site!”
Already from 3 mm material thickness
SP-V
SP-V

ALFRA – UNIVERSAL-MAGNETIC DRILL STAND SP-V

S-LINE

Through variable mountings, different drilling machines can be used. Even cordless drill machines can be used as a cordless combination with the permanent magnetic stand for a virtually unlimited range of applications – from 3 mm thickness!

Can be used with a permanent magnet from 3 mm material thickness

MADE IN GERMANY

US Patent No. 8350663B1

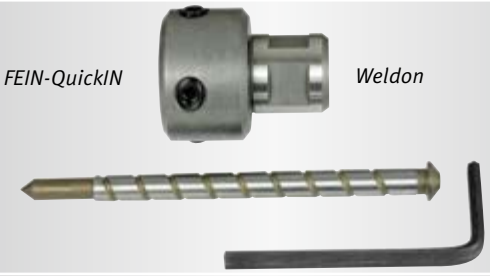
SP-V	
Twist drill	Ø depending on the used drill
Arbor	Ø 43 mm Euro Neck, Ø 48.6 mm Ø 61.7 mm
Stroke	105 mm
Height adjustment	80 mm
Magnetic adhesion force	17,000 N
Tool-Force (10 mm S235)	2,800 N
Tool force (6 mm S235)	2,300 N
Magnetic base	72 x 190 mm
Weight	6.8 kg
Magnet	
TiN-coating	✔
Performance and weight optimisation	✔
Made in Germany	✔
Scope of delivery	
• Universal Magnetic Drill Stand SP-V • Carrying case • Operating instructions	

	Prod.-No.
ALFRA universal magnetic drill stand SP-V	18343

ACCESSORIES – ARBORS

Description	Prod.-No.	RB 35 B RB 35/50 X Piccolo	RB 50 SP RB 50 X RB 50 B RB 50 B RL-E	RB 80 X RB 80 B RL-E	RB 100 RL-E	RB 130	RB 130 B	Figure
Quick-release tool holder **Rota-Quick®** • Morse taper 2 • with automatic internal cooling • suitable for all machines with drill spindle MT 2 • Application range to 40 mm core drill Ø	**18650**	-	✔	-	-	-	-	
Quick-release tool holder **Rota-Quick®** • Morse taper 3 • with automatic internal cooling • suitable for all machines with drill spindle MT 3 • Application range to 40 mm core drill Ø	**18651**	-	-	✔	✔	-	-	
Quick-release chuck with Weldon arbor for twist drills • Ø 1 -13 mm	**18107**	✔	-	-	-	-	-	
Quick-release chuck with Morse taper 2 for twist drills • Ø 1 - 16 mm	**18008**	-	✔	-	-	-	-	
Quick-release chuck with Morse taper 3 for twist drills • Ø 1 - 16 mm	**18009**	-	-	✔	✔	-	-	
Tool holder **AMT-2** - Morse taper 2 for core drills • with Weldon shank • Ø 12 - 60 mm • with automatic internal cooling • suitable for all machines with drill spindle MT 2	**18003**	-	✔	-	-	-	-	
Tool holder **AMT-2** - extended version • with Weldon shank • Ø 12-50 mm, cutting depth 110 mm • with automatic internal cooling • suitable for all machines with drill spindle MT 2	**18003L**	-	✔	-	-	-	-	
Tool holder **AMT-2** without internal cooling	**18001**	-	✔	-	-	-	-	
Adapter sleeve MT 3/2	**18023**	-	-	✔	✔	-	-	
Adapter sleeve MT 4/3	**18027**	-	-	-	-	-	combined with 18002 & 18025 & 18025 L	
Tool holder **AMT-3** without internal cooling	**18002**	-	-	✔	✔	-	-	
Tool holder **AMT-3** - Morse taper 3 for core drills • with Weldon shank • Ø 12 - 60 mm • with automatic internal cooling • suitable for all machines with drill spindle MT 3	**18025**	-	-	✔	✔	-	-	
Tool holder **AMT-3** - extended version • with Weldon shank • Ø 12-50 mm, cutting depth 110 mm • with automatic internal cooling • suitable for all machines with drill spindle MT 3	**18025L**	-	-	✔	✔	-	-	
Tool holder **AL3** - Morse taper 3 • for core drills heavy duty version • Ø 51-100 mm with keyway with automatic internal cooling	**20230**	-	-	✔	✔	-	-	
Tool holder AL 4 - Morse taper 4 • for core drills heavy duty version • Ø 51-100 mm with keyway with automatic internal cooling • with Ejector pin • suitable for RB 130 B	**20240**	-	-	-	-	✔	✔	

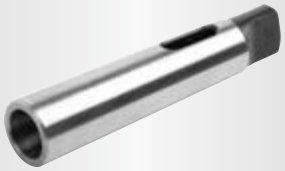
ACCESSORIES – ADAPTERS

Description	Prod.-No.	Figure
Adapter with female thread M18 x 6 p 1.5 Adapter for use on Rotabest® HSS-Co Eco and HSS-Co RQX core drills of Ø 12.0 mm to 32.0 mm and Rotabest® carbide core drills of Ø 14.0-32.0 mm on: FEIN core drilling machines of the type KBM 542	20201	
Adapter with external thread (including ejector pin) Adapter for use of FEIN core drills with internal thread M18 x 6 p 1.5 on metal core drill machines with Weldon shank.	20202	
Ejector pin suitable for Prod.-No. 20202 - single	20203	
Adapters Adapter for use of all core drills with a Weldon shank on FEIN Quick IN quick-release system. This adapter is eliminated when you use our HSS-Eco core drill of series Prod.-No. 1909... and 2009...	20204	
Adapter Adapter for use of all core drills with a Weldon shank on ALFRA-Rota-Quick® und Nitto quick-release systems. (incl. 2 Ejector pins Prod.-No. 1950500 and 1975500 + Allen key)	20205	
Ejector pin for HSS core drills cutting depth 30 mm, also suitable for adapter Prod.-No. 20204 among others	1926500	
Ejector pin for HSS core drills cutting depth 50 mm, also suitable for adapter Prod.-No. 20204 among others	1950500	
Extension adapter With Weldon shank and ejector pin. For use on core drills 25 - 30 – 35 – 50 mm cutting depth in cases when the surface of the material to be drilled is deeper than the stand space of the machine. The first ejector pin triggers the second ejector pin; the coolant flows through the borehole to the core drill. Total length adapters: 80 mm Diameter: 30 mm Ejector pin: 6.35 x 77 mm Prod.-No. 1926500	20206	
Adapter complete with ejector pin + Allen key Adapter for use on core drills with FINE-Quick IN shaft on metal core drill machines with Weldon arbor.	20210	
Replacement ejector pin (only for adapters) 6.35 x 125 mm	1936501	
Adapter for carbide hole saws, e.g. type MBS on metal core drill machines with Weldon arbor (incl. ejector pin Prod.-No. 1950500)	060WD	

ACCESSORIES – COOLANT

Description	Prod.-No.	Figure
Coolant system for RB 40 RL-E, RB 60 RL-E, RB 100 RL-E, RB 130, suitable for tool holder with internal cooling AMT-2 (Prod.-No. 18003) and AMT-3 (Prod.-No. 18025)	18104	
Coolant system for RB 35 B	189311241	
Coolant system for RB 35/50 X Piccolo, RB 35 SP, RB 50 SP, RB 35/50 B Piccolo, RB 50 B, RB 50 X, 80 X, 80 SP and 80 SP RL-E, suitable for tool holder with internal cooling AMT-2 (Prod.-No. 18003) and AMT-3 (Prod.-No. 18025)	189412029	
Coolant pressure bottle 0.5 l, suitable for Rotabest® V32	18103	
ALFRA 2000 Cutting and drilling spray 250 ml can	21010	
ALFRA 4000 High performance cutting oil spray 300 ml can	21040	
High performance wax stick. Ideal for core drill boreholes on the wall or ceiling (overhead drilling), as paste adheres to the cutting edge.	09012	

ACCESSORIES – TAPPING

Description	Shaft	Prod.-No.	All models with MT2 arbor	All models with MT3 arbor	
Tapping attachment M3 - M12 Scope of delivery: with Rota-Quick® and MT2, interchangeable, Plastic case, manual	MT2 + RotaQuick®	18652	✔	✔ With reduction sleeve MT 3/2	
Tapping attachment M10 - M20 Scope of delivery: with Rota-Quick® and MT2, interchangeable, Plastic case, manual	MT2 + RotaQuick®	18653	✔	✔ With adapter sleeve MT 3/2	
Reduction sleeve for tapping attachment – from MT3 to MT2		18023			
Tapping quick-release chuck **size 1** MT2, single, suitable for RB 50 B RL-E		18661			
Tapping quick-release chuck **size 2** MT 3, single, suitable for RB 80 B RL-E and RB 100 RL-E		18681	 *Prod.-No. 18681 - Installation instructions*		

Quick change inserts with clutch

		Shank-Ø	Square	Tap drill	Prod.-No.
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

ALFRA – MAGNETIC CHIP REMOVER

In a stainless steel round rod, you can move a magnet back and forth. The strong magnet attracts the metal chips – pull knob, chips fall out. For more cleanliness in the workplace.

	Prod.-No.
ALFRA magnetic chip remover, length 400 mm	18654

Prod.-No. 18654

ALFRA – CHIP BRUSH

1. **Adjustable telescopic handle**
2. **Up to 9 kg load capacity**

- For practical cleaning of floors in various work areas
- Load capacity up to 9 kg
- Easy removal of picked up metal parts by simple release mechanism on a rod
- Sweeping with 400 mm
- 750-1050 mm adjustable telescopic handle

	Prod.-No.
ALFRA chip brush	18655

ROTABEST®– VACUUM SYSTEM VACUBEST

Use on **non-magnetic** surfaces such as copper, aluminium, brass, stainless steel, plastics and textured subsurface (e.g. corrugated and chequer plate)

Suction capacity:	1.5 m³/h – 25l/min
Max. vacuum mbar (abs.):	200
Overpressure mbar:	300
Dimensions suction plate:	400 x 200 mm

Scope of delivery:
Pump (230 V, 50 Hz), vacuum plate, 3, mtr. suction pipe

Description	Prod.-No.
Vacuum system Vacubest	18150

Pump

Vacuum plate

TIP:
Name your application problem –
we will be happy to advise you.

ALFRA ROTABEST® HSS CORE DRILLS

GRINDED SHARP – ALFRA HSS CORE DRILLS LOVE HEAVY METAL

Core drill against metal – a daily challenge on constuction sites or in metal construction. ROTABEST® core drills are made of high tensile tool steel. Due to the model they ensure accurate holes with diametres from 12 mm up to 60 mm – with a cutting depth from 30 mm to 110 mm.

1. **Product features**
   e.g. pre- and post-cutter
2. **Product number**
3. **Quality**
   - HSS-CO RQX
   - HSS-CO ECO
   - HSS-Basic
4. **Diameter**
5. **Cutting depth**
6. **Arbor typ**
   - WELDON
   - FEIN QUICK-IN
   - UNIVERSAL / NITTO KOHKI

More than just a shell
The high quality products belonging to our HSS-core-drill-family deserve a package, which is offering more than protection from enviromental influences. On the label you find all important informations about our core drills „Made in Germany“ at a glance.

Thought-out packages with extra information:
Our core drills are easy on the eye. That’s why the sturdy package is offering you a look at the content. Special characteristics of the plastic case: It’s transparent, informative and a guarantor regarding quality assurance.

Your advantage:
- The potential buyers are not tempted to open the package any more.
- For this reason the risk for contamination is diminishing. Furthermore the drills are not going to be damaged by drying-out.
- The label also serves as a sealing, guaranteeing original packaging when it’s intact.
- Due to the Alfra-colour code, your customers can see at a glance, which type of the HSS CORE DRILL is inside the package.

DOWN-TO-EARTH INDIVIDUALISTS – ALFRA ROTABEST® CORE DRILLS

Within the ROTABEST core drill family everyone has their own strengths – but still the same roots: Passion for Tools, made by Alfra.

WELDON | **HSS-BASIC**

The solid one: Weldon HSS-BASIC
Reliable, robust, accurate – our ROTABEST® basis model is convincing with a solid performance at a small price.

- With Weldon shank 19.0 mm, 2 driving surfaces
- Internal bore 6.35 mm
- Steel quality: Special super high speed steel
- Polished section: with pre- and post-cutter

WELDON HSS-CO-ECO

The all-purpose-weapon: Weldon HSS-CO-ECO
The ROTABEST ECO-models are genuine golden boys – not only from a visual viewpoint. Due to the Weldon shank they are perfect partners for all core drilling machines with a weldon toolholder. Another advantage is the long service life

- With Weldon shank 19.0 mm, 2 driving surfaces
- Internal bore: 6.35 mm,
  cutting depth ø 110 mm: 8 mm
- Steel quality: Special super high speed steel cobalt
- Polished section: with pre- and post-cutter

FEIN-QUICKIN HSS-CO-ECO

The compatible one : FEIN-QUICKIN HSS-CO-ECO
For those, who doesn't like renouncing:
You are working with a Fein-metal core drilling device with QuickIn tool holder? Due to the ROTABEST ECO-models with FEIN-QUICKIN shank you can rely on proven Alfra-quality.

- Suitable for FEIN magnetic drilling machines with Quick-IN arbor.
- Special shank, 18.0 mm with 4 bearing recesses
- Steel quality: Special super high speed steel cobalt
- Internal hole 6.4 mm

UNIVERSAL / NITTO KOHKI HSS-CO-ECO

The universal one: UNIVERSAL/NITTO KOHKI HSS-CO-ECO
One for all: Because of the universal shank our allrounder is fitting with a variety of tool-holder-designs and especially with Nitto One Touch devices.

- New Combi universal shank specially for Nitto one touch machines
- Also suitable for all magnetic drilling machines with Weldon shank
- Internal bore up to Ø 17.0 mm: Ø 6.35 mm; from 18.0 mm: Ø 8.0 mm
- Steel quality: Special super high speed steel cobalt
- Polished surface: with pre- and post-cutter

WELDON HSS-CO-RQX

The endurance runner: WELDON HSS-CO-RQX
When it's getting hot: The specially coated RQX Models are providing full performance even when the temperature is rising up to 1000 ° C. For example when it comes to long lasting drilling processes or horizontal drilling without coolant.

- With Weldon shank 19.0 mm, 2 driving surfaces
- Internal bore 6.35 mm
- Steel quality: Special super high speed steel cobalt, coated
- Polished section: with pre- and post-cutter

The solid one:
Core drill Weldon HSS-BASIC

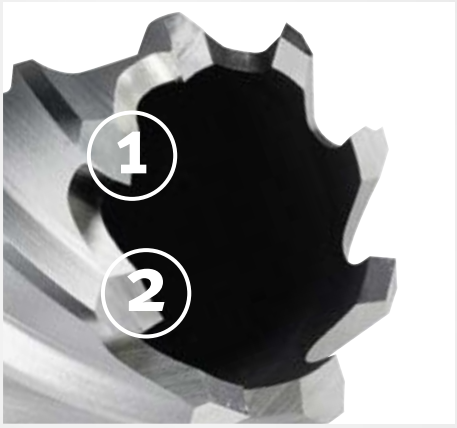
- With Weldon shank 19.0 mm, 2 driving surfaces
- Internal bore 6.35 mm
- Steel quality: Special super high speed steel
- Polished section: with pre- and post-cutter

Suitable on:
ALFRA Rotabest®, BDS, Bux, Ruko, Magnetor, Euroboor, Universal, Nitto, Jancy, Hougen, Magtron, Promac, Rotabroach and all other magnetic drills with Weldon shank.

	Cutting depth	
	30 mm	50 mm
Ø in mm	Prod.-No.	Prod.-No.
12.0	1907012025	1907012050
13.0	1907013025	1907013050
13.5	1907013525	1907013550
14.0	1907014025	1907014050
15.0	1907015025	1907015050
15.5	1907015525	1907015550
16.0	1907016025	1907016050
17.0	1907017025	1907017050
17.5	1907017525	1907017550
18.0	1907018025	1907018050
19.0	1907019025	1907019050
19.5	1907019525	1907019550
20.0	1907020025	1907020050
21.0	1907021025	1907021050
22.0	1907022025	1907022050
23.0	1907023025	1907023050
24.0	1907024025	1907024050
25.0	1907025025	1907025050
26.0	1907026025	1907026050
26.5	1907026525	1907026550
27.0	1907027025	1907027050
28.0	1907028025	1907028050
29.0	1907029025	1907029050
30.0	1907030025	1907030050
31.0	1907031025	1907031050
32.0	1907032025	1907032050
33.0	1907033025	1907033050
34.0	1907034025	1907034050
35.0	1907035025	1907035050
36.0	1907036025	1907036050
37.0	1907037025	1907037050
38.0	1907038025	1907038050
39.0	1907039025	1907039050
40.0	1907040025	1907040050

	Cutting depth	
	30 mm	50 mm
Ø in mm	Prod.-No.	Prod.-No.
41.0	1907041025	1907041050
42.0	1907042025	1907042050
43.0	1907043025	1907043050
44.0	1907044025	1907044050
45.0	1907045025	1907045050
46.0	1907046025	1907046050
47.0	1907047025	1907047050
48.0	1907048025	1907048050
49.0	1907049025	1907049050
50.0	1907050025	1907050050
51.0	–	1907051050
52.0	1907052025	1907052050
53.0	–	1907053050
54.0	–	1907054050
55.0	1907055025	1907055050
56.0	–	1907056050
57.0	–	1907057050
58.0	–	1907058050
59.0	–	1907059050
60.0	1907060025	1907060050
Ejector pin	1926500	1950500
Dimension	6.35 x 77 mm	6.35 x 102 mm

Weldon



Heavy duty serration with pre- (1) and post-cutter (2)

HSS BASIC Core Drill Sets

- A range of the most commonly used core drills clearly arranged in a sturdy plastic case.
- Absolute protection of the teeth tips in the rough usage operation at installation and in the workshop.
- On request, we can assemble individual sets in 12.0 to 30.0 mm diameters.

Ø mm	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0
Prod.-No.	**Cutting depth 30 mm**							
1907125	**3 pc. HSS BASIC core drill set:** incl. 1 ejector pin Prod.-No. 1926500							
		●		●		●		
1907003025	**6 pc. HSS BASIC core drill set:** incl. 1 ejector pin Prod.-No. 1926500							
	●	●	●	●	●	●		
1907001025	**10 pc. HSS BASIC core drill set:** incl. 2 ejector pins Prod.-No. 1926500							
	●●	●●	●	●●	●	●●		
	Cutting depth 50 mm							
1907003050	**6 pc. HSS BASIC core drill set:** incl. 1 ejector pin Prod.-No. 1950500							
		●	●	●	●	●		●
1907001050	**10 pc. HSS BASIC core drill set:** incl. 2 ejector pins Prod.-No. 1950500							
		●●	●	●●	●	●●	●	●

The all-purpose-weapon:
Core drill Weldon HSS-CO-ECO

- With Weldon shank 19.0 mm, 2 driving surfaces
- Internal bore: 6.35 mm
- Steel quality: Special super high speed steel cobalt
- Polished section: with pre- and post-cutter

Suitable on:
ALFRA Rotabest®, BDS, Bux, Ruko, Magnetor, Euroboor, Universal, Nitto, Jancy, Hougen, Magtron, Promac, Rotabroach and all other magnetic drills with Weldon shank.

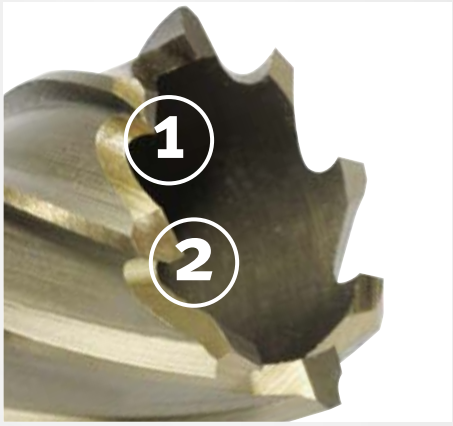
	Cutting depth	
	30 mm	50 mm
Ø in mm	Prod.-No.	Prod.-No.
12.0	1901012025	1901012050
13.0	1901013025	1901013050
13.5	1901013525	1901013550
14.0	1901014025	1901014050
15.0	1901015025	1901015050
15.5	1901015525	1901015550
16.0	1901016025	1901016050
17.0	1901017025	1901017050
17.5	1901017525	1901017550
18.0	1901018025	1901018050
19.0	1901019025	1901019050
19.5	1901019525	1901019550
20.0	1901020025	1901020050
21.0	1901021025	1901021050
22.0	1901022025	1901022050
23.0	1901023025	1901023050
24.0	1901024025	1901024050
25.0	1901025025	1901025050
26.0	1901026025	1901026050
26.5	1901026525	1901026550
27.0	1901027025	1901027050
28.0	1901028025	1901028050
29.0	1901029025	1901029050
30.0	1901030025	1901030050
31.0	1901031025	1901031050
32.0	1901032025	1901032050
33.0	1901033025	1901033050
34.0	1901034025	1901034050
35.0	1901035025	1901035050
36.0	1901036025	1901036050
37.0	1901037025	1901037050
38.0	1901038025	1901038050
39.0	1901039025	1901039050
40.0	1901040025	1901040050
41.0	1901041025	1901041050
42.0	1901042025	1901042050
43.0	1901043025	1901043050
44.0	1901044025	1901044050
45.0	1901045025	1901045050
46.0	1901046025	1901046050
47.0	1901047025	1901047050
48.0	1901048025	1901048050
49.0	1901049025	1901049050
50.0	1901050025	1901050050
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

	Cutting depth
	110 mm
Ø in mm	Prod.-No.*
20.0	1901020110
22.0	1901022110
24.0	1901024110
25.0	1901025110
26.0	1901026110
28.0	1901028110
30.0	1901030110
32.0	1901032110
35.0	1901035110
40.0	1901040110
45.0	1901045110
50.0	1901050110

* **Caution:** HSS-Co Eco core drill cutting depth 110 mm can only be used with tool holder AMT 2 L (Prod.-No. 18003 L) or AMT 3 L (Prod.-No. 18025 L).

Ejector pin at cutting depth		
30 mm	50 mm	110 mm
Prod.-No.	Prod.-No.	Prod.-No.*
1926500	1950500	2001502
(6.35 x 77 mm)	(6.35 x 102 mm)	(6.35 x 160 mm)

Weldon



Heavy duty serration with pre- (1) and post-cutter (2)

HSS-Co Eco Core Drill Sets

- A range of the most commonly used core drills clearly arranged in a sturdy plastic case.
- Absolute protection of the teeth tips in the rough usage operation at installation and in the workshop.
- On request, we can assemble individual sets in 12.0 to 30.0 mm diameters.

Ø mm	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0
Prod.-No.	**Cutting depth 30 mm**							
1901125	**3 pc. HSS-Co Eco core drill set:** incl. 1 ejector pin Prod.-No. 1926500							
		●		●		●		
1901003025	**6 pc. HSS-Co Eco core drill set:** incl. 1 ejector pin Prod.-No. 1926500							
	●	●	●	●	●	●		
1901001025	**10 pc. HSS-Co Eco core drill set:** incl. 2 ejector pins Prod.-No. 1926500							
	●●	●●	●	●●	●	●●		
	Cutting depth 50 mm							
1901003050	**6 pc. HSS-Co Eco core drill set:** incl. 1 ejector pin Prod.-No. 1950500							
		●	●	●	●	●		●
1901001050	**10 pc. HSS-Co Eco core drill set:** incl. 2 ejector pins Prod.-No. 1950500							
		●●	●	●●	●	●●	●	●

The endurance runner:
Core drill WELDON HSS-CO-RQX

- With Weldon shank 19.0 mm, 2 driving surfaces
- Internal bore 6.35 mm
- Steel quality: Special super high speed steel cobalt, coated
- polished section: with pre- and post-cutter

Suitable on:
ALFRA Rotabest®, BDS, Bux, Ruko, Magnetor, Euroboor, Universal, Nitto, Jancy, Hougen, Magtron, Promac, Rotabroach and all other magnetic drills with Weldon shank.

Cutting depth 30 mm	
Ø in 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

Cutting depth 50 mm	
Ø in 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

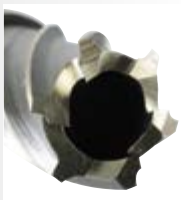
Weldon

Heavy duty serration with pre- (1) and post-cutter (2)

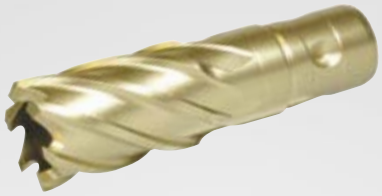
HSS-Co RQX Core Drill Sets

- A range of the most commonly used core drills clearly arranged in a sturdy plastic case.
- Absolute protection of the teeth tips in the rough usage operation at installation and in the workshop.
- On request, we can assemble individual sets in 12.0 to 30.0 mm diameters.

Ø mm	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0
Prod.-No.	Cutting depth 30 mm							
1902003025	**Set of 6 HSS-Co core drill RQX:** incl. 1 ejector pin Prod.-No. 1926500							
	●	●	●	●		●		●
1902001025	**Set of 10 HSS-Co core drill RQX:** incl. 2 ejector pins Prod.-No. 1926500							
	●●	●●	●	●●		●●		●
	Cutting depth 50 mm							
1902003050	**Set of 6 HSS-Co core drill RQX:** incl. 1 ejector pin Prod.-No. 1950500							
		●	●	●	●	●		●
1902001050	**Set of 10 HSS-Co core drill RQX:** incl. 2 ejector pins Prod.-No. 1950500							
		●●	●	●●	●	●●	●	●



HSS-Co core drills with special geometry for the machining of superimposed metal plates (multi-layer drill) upon request! (Standard core drills are unsuitable for this.)



The compatible one:
Core drill FEIN-QUICKIN HSS-CO-ECO
Are you are using FEIN magnetic drilling machines and don't want to do without your ALFRA-Rotabest® core drill? Take a look at our selection of HSS and carbide-tipped core drills suitable for the various types of FEIN machines.

- Suitable for FEIN magnetic drilling machines with Quick-IN arbor.
- Special shank, 18.0 mm with 4 bearing recesses
- Steel quality: Special super high speed steel cobalt
- Internal hole 6.4 mm

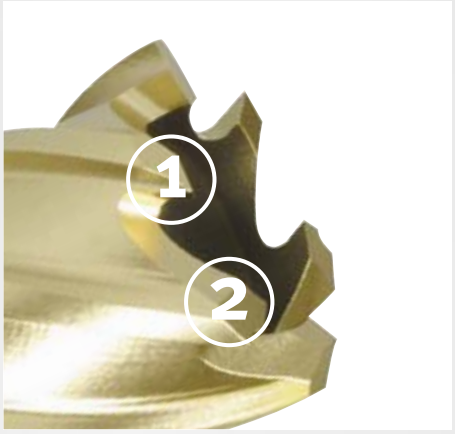
Cutting depth 35 mm

Ø in 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

FEIN-QUICKIN



Heavy duty serration with pre- (1) and post-cutter (2)

The universal one:
Core drill UNIVERSAL/NITTO KOHKI HSS-CO-ECO

- New Combi universal shank specially for Nitto one touch machines
- Also suitable for all magnetic drilling machines with Weldon shank
- Internal bore up to Ø 17.0 mm: Ø 6.35 mm; from 18.0 mm: Ø 8.0 mm
- Steel quality: Special super high speed steel cobalt
- Polished surface: with pre- and post-cutter

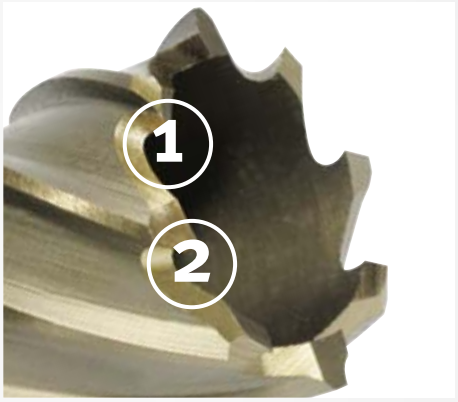
Suitable on:
ALFRA, ALFRA-RQ models with quick-change system, BDS (incl. keyless system), Bux, Ruko, Magnetor, Euroboor, Jancy, Hougen, Magtron, ProMag, Rotabroach, Jepson, Metallkraft, etc.

Cutting depth 30 mm

Ø in mm	Prod.-No.
12.0	1913012025
13.0	1913013025
14.0	1913014025
15.0	1913015025
16.0	1913016025
17.0	1913017025
18.0	1913018025
19.0	1913019025
20.0	1913020025
21.0	1913021025
22.0	1913022025
23.0	1913023025
24.0	1913024025
25.0	1913025025
26.0	1913026025
27.0	1913027025
28.0	1913028025
29.0	1913029025
30.0	1913030025
31.0	1913031025
32.0	1913032025
33.0	1913033025
34.0	1913034025
35.0	1913035025
36.0	1913036025
37.0	1913037025
38.0	1913038025
39.0	1913039025
40.0	1913040025
41.0	1913041025
42.0	1913042025
43.0	1913043025
44.0	1913044025
45.0	1913045025
46.0	1913046025
47.0	1913047025
48.0	1913048025
49.0	1913049025
50.0	1913050025
52.0	1913052025
55.0	1913055025
60.0	1913060025
Ejector pin 6.35 x 77 mm	1926500

Cutting depth 50 mm

Ø in mm	Prod.-No.
12.0	1913012050
13.0	1913013050
13.5	–
14.0	1913014050
15.0	1913015050
15.5	–
16.0	1913016050
17.0	1913017050
17.5	–
18.0	1913018050
19.0	1913019050
20.0	1913020050
21.0	1913021050
22.0	1913022050
23.0	1913023050
24.0	1913024050
25.0	1913025050
26.0	1913026050
27.0	1913027050
28.0	1913028050
29.0	1913029050
30.0	1913030050
31.0	1913031050
32.0	1913032050
33.0	1913033050
34.0	1913034050
35.0	1913035050
36.0	1913036050
37.0	1913037050
38.0	1913038050
39.0	1913039050
40.0	1913040050
41.0	1913041050
42.0	1913042050
43.0	1913043050
44.0	1913044050
45.0	1913045050
46.0	1913046050
47.0	1913047050
48.0	1913048050
49.0	1913049050
50.0	1913050050
51.0	1913051050
52.0	1913052050
53.0	1913053050
54.0	1913054050
55.0	1913055050
56.0	1913056050
57.0	1913057050
58.0	1913058050
59.0	1913059050
60.0	1913060050
Ejector pin 6.35 x 102 mm	1950500



Heavy duty serration with pre- (1) and post-cutter (2)

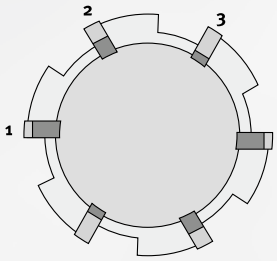
TCT CORE DRILLS
ALFRA ROTABEST®

ALFRA ROTABEST® – TCT CORE DRILLS

Applicable on magnetic and column drills. For structural steels, hard-to-machine materials such as chrome-nickel stainless steels and non-ferrous metals such as aluminium and CuZn alloy and many more.

Advantages of the ALFRA ROTABEST® Tungsten carbide-tipped core drills:

- **High concentricity due to solid design**
- **CAD-optimised cutting geometry for steady flow of chips**
- **Uniquely shaped chip grooves to prevent chip jamming**
- **Instant centring**
- **No running off centre**
- **Small torque**
- **Low energy consumption**
- **Rapid drill core removal by ejector pin**
- **Extended tool life**



ALFRA "Chip-Breaker System"
Extremely precise drilling in 3 simple steps.
1 Pre-cutter
2 Middle cutter
3 Post-cutter

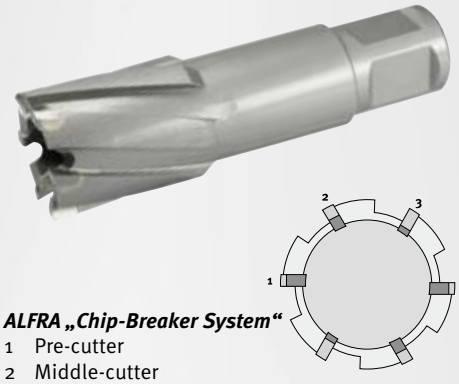
ALFRA ROTABEST® – TCT CORE DRILLS

- with Weldon shank 19.0 mm
- Internal bore: Ø 12 mm = 5.0 mm
  Ø 14 - 17 mm = 6.35 mm
  Ø 18 - 50 mm = 8.0 mm
- Polished section: Pre- Middle - Post cutter
- For the highest standards in cutting and lifespan.

Suitable on:
all magnetic drilling machines with Weldon shank. ALFRA-Rotabest® (Weldon), ALFRA-Rota-Quick® Quick-change system, for BDS, Bux, Ruko, Magnetor, Euroboor, Universal, Jancy, Hougen, Magtron, Promac, Rotabroach, among others.

Ø in mm	cutting depth 35 mm	Prod.-No.
12.0		2003012035
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
Ejector pin for Ø 12 mm, 5 x 87 mm		1934500
Ejector pin for Ø 14 - 17 mm, 6.35 x 87 mm		1935500
Ejector pin for 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 for Ø 14 - 17 mm, 6.35 x 102 mm		1950500
Ejector pin for Ø 18 - 50 mm, 8 x 102 mm		2001501



ALFRA „Chip-Breaker System“
1 Pre-cutter
2 Middle-cutter
3 Post-cutter

On request with shank for NITTO One-Touch

ALFRA ROTABEST® – TCT CORE DRILLS WITH KEYWAY AND FEATHER KEY

- Heavy industrial version **with keyway and feather key**
- Long-term tests series have shown that this specialised design with keyway and feather key has proven outstanding compared to a standard 32 mm Weldon shank. Optimal containment of high torsion forces.
- Polished section: Pre- Middle - Post cutter
- Required: Tool holder with internal cooling

AL 3	MT3	Prod.-No. 20230
AL 4	MT4	Prod.-No. 20240
AL 5	MT5	Prod.-No. 20250

- Upon request, cutting depth of 100 mm with ejector pin 8 x 160 mm Prod.-No. 2001502

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

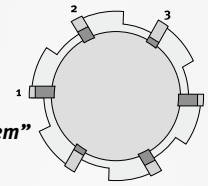
Ejector pin 8 x 102 mm	2001501
Tool holder AL 2/MT 2	20220
Tool holder AL 3/MT 3	20230
Tool holder AL 4/MT 4	20240
Tool holder AL 5/MT 5	20250

Not suitable for automatic feed!

Shorter and more robust tool construction.
ALFRA design.
High concentricity.

Advantages ALFRA carbide-tipped core drills "Heavy industrial version"

- Perfect gating behaviour - even at the first drill hole
- Excellent centring properties
- Low cutting pressure - low power usage
- Vibration-free working
- Chip distribution – no chip jamming
- Drilling depth can be reached in a single operation
- Drill core can be easily ejected



ALFRA "Chip-Breaker System"
1 Pre-cutter
2 Middle cutter
3 Post-cutter

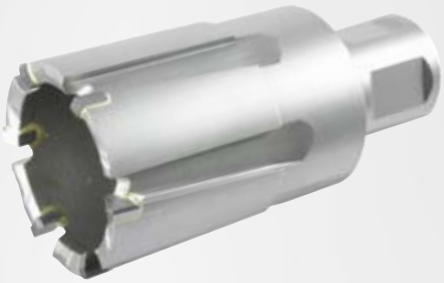
Prod.-No. 20230

ALFRA ROTABEST® – TCT RAIL CORE DRILLS FOR RAILWAY TRACKS

- With Weldon shank 19.0 mm
- Internal bore 6.35 mm
- For highest requirements in cutting and durability when drilling railway tracks
- Polished surface: Pre – Middle – Post cutter

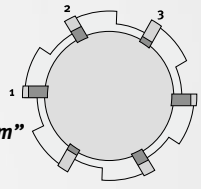
Suitable for:
all portable magnetic drilling machines with 19 mm Weldon shank, especially for rail drilling units from the following manufacturers:

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

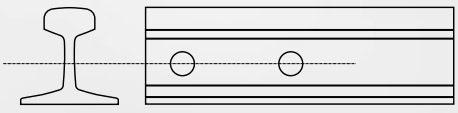


Ø in mm	cutting depth 25 mm	Prod.-No.
19.0		2005019025
20.0		2005020025
21.0		2005021025
22.0		2005022025
23.0		2005023025
24.0		2005024025
25.0		2005025025
26.0		2005026025
27.5		2005027525
28.0		2005028025
30.0		2005030025
31.0		2005031025
32.0		2005032025
33.0		2005033025
34.0		2005034025
36.0		2005036025
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



ALFRA "Chip-Breaker System"
1 Pre-cutter
2 Middle-cutter
3 Post-cutter



ALFRA ROTABEST® – TCT CORE DRILLS SUITABLE FOR FEIN + HITACHI

- **2008... with threaded arbor internal thread M18 x 6 p 1.5**
- **Also suitable for Hitachi machines**

- **2009... with Quick-IN arbor**
- **Suitable on FEIN magnetic drilling machines with Quick-IN arbor**

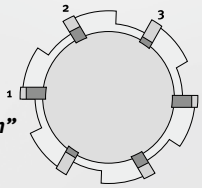
Prod.-No. 2008...

Ø in mm	Prod.-No. M18 x 6P 1.5 Cutting depth 50 mm	Prod.-No. Quick IN Cutting depth 35 mm
12.0	2008012050	2009012035
13.0	2008013050	2009013035
14.0	2008014050	2009014035
15.0	2008015050	2009015035
16.0	2008016050	2009016035
17.0	2008017050	2009017035
18.0	2008018050	2009018035
19.0	2008019050	2009019035
20.0	2008020050	2009020035
21.0	2008021050	2009021035
22.0	2008022050	2009022035
23.0	2008023050	2009023035
24.0	2008024050	2009024035
25.0	2008025050	2009025035
26.0	2008026050	2009026035
27.0	2008027050	2009027035
28.0	2008028050	2009028035
29.0	2008029050	2009029035
30.0	2008030050	2009030035
31.0	2008031050	2009031035
32.0	2008032050	2009032035
33.0	2008033050	2009033035
34.0	2008034050	2009034035
35.0	2008035050	2009035035
36.0	2008036050	2009036035
37.0	2008037050	2009037035
38.0	2008038050	2009038035
39.0	2008039050	2009039035
40.0	2008040050	2009040035
41.0	2008041050	2009041035
42.0	2008042050	2009042035
43.0	2008043050	2009043035
44.0	2008044050	2009044035
45.0	2008045050	2009045035
46.0	2008046050	2009046035
47.0	2008047050	2009047035
48.0	2008048050	2009048035
49.0	2008049050	2009049035
50.0	2008050050	2009050035
51.0	2008051050	2009051035
52.0	2008052050	2009052035
53.0	2008053050	2009053035
54.0	2008054050	2009054035
55.0	2008055050	2009055035
57.0	2008057050	2009057035
58.0	2008058050	2009058035
59.0	2008059050	2009059035
60.0	2008060050	2009060035
61.0	2008061050	2009061035
62.0	2008062050	2009062035
63.0	2008063050	2009063035
64.0	2008064050	2009064035
65.0	2008065050	2009065035
Ejector pin 6.35 x 106 mm	-	1936500

Threaded arbor M18 x 6P1.5

Prod.-No. 2009...

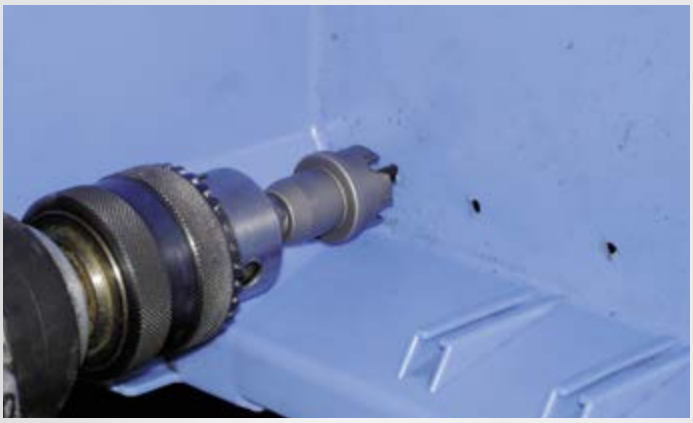
Prod.-No. 1936500



ALFRA "Chip-Breaker System"
1 Pre-cutter
2 Middle-cutter
3 Post-cutter

TCT-HOLE SAWS IN USE

TCT-Hole Saws – short-/long type



Plastic

TCT-Hole Saws – FRP type

Poroton brick stone

Stainless steel

EDELSTAHL
STAINLESS STEEL

TCT-Hole Saws – MBS type

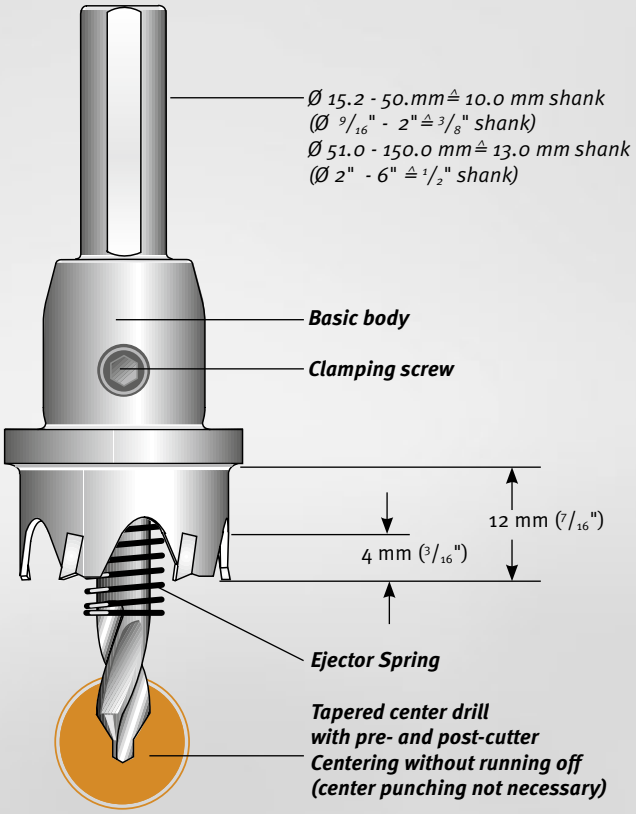
Sanitary pipes – type SML

Checker plate (stainless steel)

EDELSTAHL
STAINLESS STEEL

MBS Pro
Use on Rotabest Magnetic Drilling Machine
with MT3 – Arbor Prod.-No.: 0734003

ALFRA TCT-HOLE SAWS – SHORT TYPE

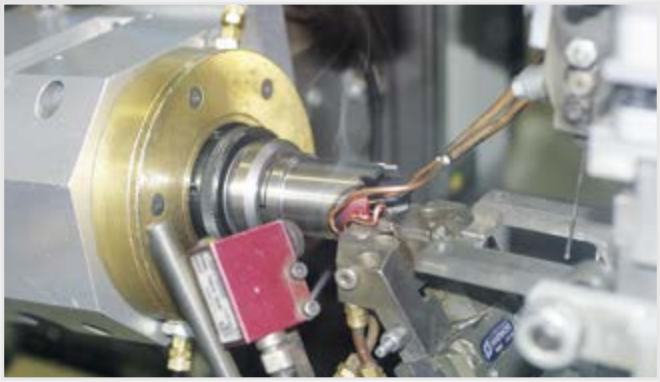


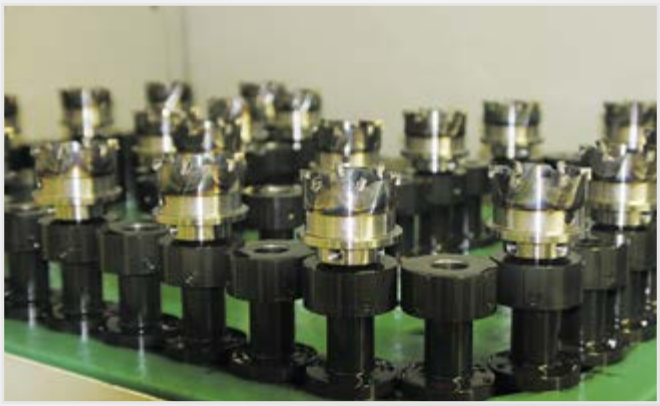
The application area of TCT Hole Saws differs from HSS-Bi-Metal Hole Saws. With ALFRA TCT Hole Saws, suitable to economically process stainless steel up to 2 mm (1/16"), unalloyed steels up to 4 mm (3/16"), plastics, PVC, aluminium, zinc, gypsum plaster boards and lightweight building boards, as well as asbestos. Do not use automatic feed, when working with pillar drilling machines. 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 150 mm (5-29/32") Ø.
- Carbide tipping enables repeated re-grinding.
- ALFRA hole saws are repairable. In the event of a tooth breaking, it can easily be replaced and resharpened.
- Exchangeable center pin.
- Use of MT tool holders from Ø 31 mm (1-7/32").
- For use on hand drilling machines (recommended up to max. Ø 40 mm; 1-9/16") or stationary machines.

Tips:
- At thicker materials: cut 2-3 mm (1/16" - 7/64") 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 parrafin instead of oil when cutting aluminium.
- **Keep in mind: Always wear safety goggles.**

Another special technical feature:
From Ø 15.2 mm (3/16") to 30.0 mm (1-1/8"), the hole saw is made of one piece.
From Ø 31.0 mm (1-3/16") we use specially hardened tool holders to compensate for 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.





ALFRA TCT-HOLE SAWS – SHORT TYPE

Ø mm	Ø Inches	No. of teeth	Prod.-No.
Ø 15.2		4	0600152
Ø 16.0	5/8"	4	0600160
Ø 17.0		4	0600170
Ø 18.0	11/16"	4	0600180
Ø 18.6		4	0600186
Ø 19.0	3/4"	4	0600190
Ø 20.0		5	0600200
Ø 20.4		5	0600204
Ø 21.0	13/16"	5	0600210
Ø 22.0		5	0600220
Ø 22.5		5	0600225
Ø 23.0	7/8"	5	0600230
Ø 24.0	15/16"	5	0600240
Ø 25.0		5	0600250
Ø 26.0	1"	5	0600260
Ø 27.0	1-1/16"	5	0600270
Ø 28.0		5	0600280
Ø 28.3		5	0600283
Ø 29.0	1-1/8"	5	0600290
Ø 30.0	1-3/16"	5	0600300
Ø 31.0		6	0600310
Ø 32.0	1-1/4"	6	0600320
Ø 33.0		6	0600330
Ø 34.0	1-5/16"	6	0600340
Ø 35.0	1-3/8"	6	0600350
Ø 36.0		6	0600360
Ø 37.0	1-7/16"	7	0600370
Ø 38.0		7	0600380
Ø 39.0	1-1/2"	7	0600390
Ø 40.0	1-9/16"	7	0600400
Ø 41.0		8	0600410
Ø 42.0	1-5/8"	8	0600420
Ø 43.0	1-11/16"	8	0600430
Ø 44.0		8	0600440
Ø 45.0	1-3/4"	8	0600450
Ø 46.0		8	0600460
Ø 47.0	1-13/16"	9	0600470
Ø 48.0	1-7/8"	9	0600480
Ø 49.0		9	0600490
Ø 50.0	1-15/16"	9	0600500
Ø 51.0	2"	9	0600510
Ø 52.0		10	0600520
Ø 53.0	2-1/16"	10	0600530
Ø 54.0	2-1/8"	10	0600540
Ø 55.0		10	0600550
Ø 56.0	2-3/16"	10	0600560
Ø 57.0	2-1/4"	10	0600570
Ø 58.0		10	0600580
Ø 59.0	2-5/16"	10	0600590
Ø 60.0	2-3/8"	10	0600600
Ø 61.0		11	0600610
Ø 62.0	2-7/16"	11	0600620
Ø 63.0		11	0600630
Ø 64.0	2-1/2"	11	0600640
Ø 65.0		11	0600650
Ø 66.0	2-9/16"	12	0600660
Ø 67.0	2-5/8"	12	0600670
Ø 68.0		12	0600680
Ø 69.0	2-11/16"	12	0600690
Ø 70.0	2-3/4"	12	0600700
Ø 71.0		12	0600710
Ø 72.0	2-13/16"	13	0600720
Ø 73.0	2-7/8"	13	0600730
Ø 74.0	2-15/16"	13	0600740
Ø 75.0		13	0600750
Ø 76.0	3"	13	0600760
Ø 77.0		13	0600770
Ø 78.0	3-1/16"	14	0600780
Ø 79.0	3-1/8"	14	0600790
Ø 80.0		14	0600800
Ø 81.0	3-3/16"	14	0600810
Ø 82.0		14	0600820
Ø 83.0	3-1/4"	14	0600830
Ø 84.0	3-5/16"	15	0600840
Ø 85.0		15	0600850
Ø 86.0	3-3/8"	15	0600860
Ø 87.0	3-7/16"	15	0600870
Ø 88.0		15	0600880
Ø 89.0	3-1/2"	16	0600890
Ø 90.0	3-9/16"	16	0600900
Ø 91.0		16	0600910
Ø 92.0	3-5/8"	16	0600920
Ø 93.0		16	0600930
Ø 94.0	3-11/16"	16	0600940
Ø 95.0	3-3/4"	17	0600950
Ø 96.0		17	0600960
Ø 97.0	3-13/16"	17	0600970
Ø 98.0	3-7/8"	17	0600980
Ø 99.0		17	0600990
Ø 100.0	3-15/16"	17	0601000
Ø 105.0	4"	18	0601050
Ø 110.0		18	0601100
Ø 115.0	4-1/2"	20	0601150
Ø 120.0		20	0601200
Ø 125.0		20	0601250
Ø 130.0	5"	20	0601300
Ø 135.0		24	0601350
Ø 140.0	5-1/2"	24	0601400
Ø 145.0		24	0601450
Ø 150.0		24	0601500

HSS-Spare Drill

with tapered center tip

from Ø 15.2 - 100.0	Ø 6x50 mm	0602650
from Ø 101.0 - 150.0	Ø 8x50 mm	0602850

MT Arbors

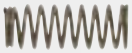
MT-2 (Ø 31.0 - 100.0 mm)	0734002
MT-3 (Ø 31.0 - 150.0 mm)	0734003

SDS Arbor

SDS arbor shank (for use with Ø 31.0 - 100.0 mm)	060sds6

Spare Ejector

from Ø 15.2 - 150.0 Ø 6 mm	0602006



Coolant ALFRA

ALFRA 2000

For mild steel DIN S233, 250 ml	21010

ALFRA 4000

For titanium and manganese-carbon steels

300 ml	21040

Prod.-No. 0600001

Set Metric

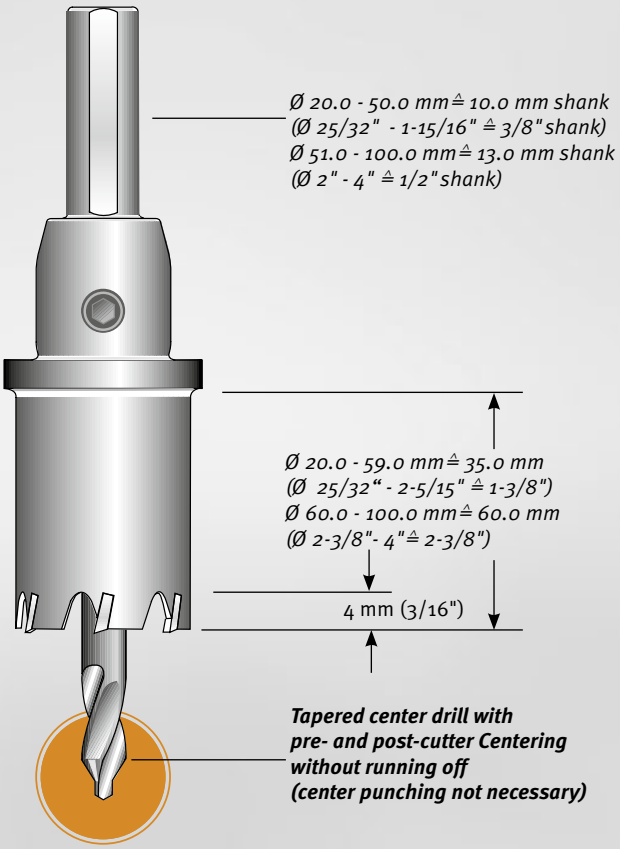
	Prod.-No.
Set Metric	0600001

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

Prod.-No. 21010

Prod.-No. 21040

ALFRA TCT-HOLE SAWS – LONG TYPE



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 (3/16"), 2 mm (1/16") stainless steel.
- For use on hand drilling machines, recommended up to max. Ø 40 mm (1-9/16") or stationary machines.

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

ALFRA TCT-HOLE SAWS – LONG TYPE

Ø mm	Ø Inches	No. of teeth	Prod.-No.
Ø 16.0	5/8"	4	0700160
Ø 17.0		4	0700170
Ø 18.0	11/16"	4	0700180
Ø 19.0	3/4"	4	0700190
Ø 20.0		5	0700200
Ø 21.0	13/16"	5	0700210
Ø 22.0		5	0700220
Ø 23.0	7/8"	5	0700230
Ø 24.0	15/16"	6	0700240
Ø 25.0		6	0700250
Ø 26.0	1"	6	0700260
Ø 27.0	1-1/16"	6	0700270
Ø 28.0		6	0700280
Ø 29.0	1-1/8"	6	0700290
Ø 30.0	1-3/16"	6	0700300
Ø 31.0		8	0700310
Ø 32.0	1-1/4"	8	0700320
Ø 33.0		8	0700330
Ø 34.0	1-5/16"	8	0700340
Ø 35.0	1-3/8"	8	0700350
Ø 36.0		8	0700360
Ø 37.0	1-7/16"	8	0700370
Ø 38.0		8	0700380
Ø 39.0	1-1/2"	8	0700390
Ø 40.0	1-9/16"	10	0700400
Ø 41.0		10	0700410
Ø 42.0	1-5/8"	10	0700420
Ø 43.0	1-11/16"	10	0700430
Ø 44.0		10	0700440
Ø 45.0	1-3/4"	10	0700450
Ø 46.0		10	0700460
Ø 47.0	1-13/16"	10	0700470
Ø 48.0	1-7/8"	10	0700480
Ø 49.0		10	0700490
Ø 50.0	1-15/16"	12	0700500
Ø 51.0	2"	12	0700510
Ø 52.0		12	0700520
Ø 53.0	2-1/16"	12	0700530

Ø mm	Ø Inches	No. of teeth	Prod.-No.
Ø 54.0	2-1/8"	12	0700540
Ø 55.0		12	0700550
Ø 56.0	2-3/16"	12	0700560
Ø 57.0	2-1/4"	12	0700570
Ø 58.0		12	0700580
Ø 59.0	2-5/16"	12	0700590
Ø 60.0	2-3/8"	14	0700600
Ø 61.0		14	0700610
Ø 62.0	2-7/16"	14	0700620
Ø 63.0		14	0700630
Ø 64.0	2-1/2"	14	0700640
Ø 65.0		14	0700650
Ø 66.0	2-9/16"	14	0700660
Ø 67.0	2-5/8"	16	0700670
Ø 68.0		16	0700680
Ø 69.0	2-11/16"	16	0700690
Ø 70.0	2-3/4"	16	0700700
Ø 71.0		16	0700710
Ø 72.0	2-13/16"	16	0700720
Ø 73.0	2-7/8"	16	0700730
Ø 74.0	2-15/16"	16	0700740
Ø 75.0		16	0700750
Ø 76.0	3"	18	0700760
Ø 77.0		18	0700770
Ø 78.0	3-1/16"	18	0700780
Ø 79.0	3-1/8"	18	0700790
Ø 80.0		18	0700800
Ø 81.0	3-3/16"	18	0700810
Ø 82.0		18	0700820
Ø 83.0	3-1/4"	18	0700830
Ø 84.0	3-5/16"	20	0700840
Ø 85.0		20	0700850
Ø 86.0	3-3/8"	20	0700860
Ø 87.0	3-7/16"	20	0700870
Ø 88.0		20	0700880
Ø 89.0	3-1/2"	20	0700890
Ø 90.0	3-9/16"	20	0700900
Ø 91.0		20	0700910

Ø mm	Ø Inches	No. of teeth	Prod.-No.
Ø 92.0	3-5/8"	20	0700920
Ø 93.0		20	0700930
Ø 94.0	3-11/16"	22	0700940
Ø 95.0	3-3/4"	22	0700950
Ø 96.0		22	0700960
Ø 97.0	3-13/16"	22	0700970
Ø 98.0	3-7/8"	22	0700980
Ø 99.0		22	0700990
Ø 100.0	3-15/16"	22	0701000

HSS-Spare Drill

with tapered center tip

from Ø 20.0 - 59.0 Ø 6x80 mm	0702680
from Ø 60.0 - 100.0 Ø 8x100 mm	0702800

MT Arbors

MT-2 (from Ø 31.0)	0734002
MT-3 (from Ø 31.0)	0734003

SDS Arbor

SDS arbor shank (for use with Ø 31 - 59 mm)	060sds6

HIGHLY RECOMMENDET ACCESSORIES – COOLANT AND LUBRICANT!

ALFRA 2000

ALFRA 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, stainless steel, copper, aluminium and their alloys.
ALFRA 2000 is free of hydrocarbon, sulphur and chlorine.

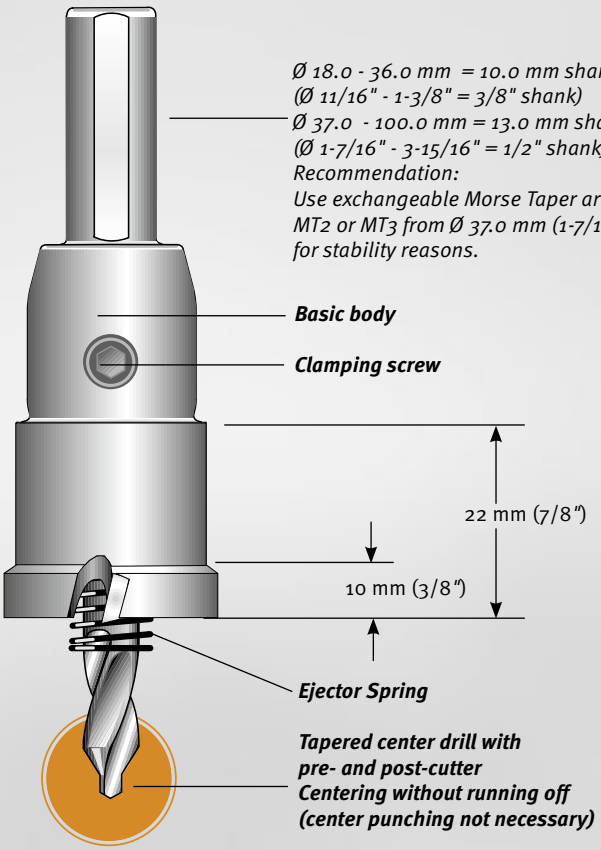
Prod.-No.	
Aerosol can 250 ml	21010
5 ltr. Plastic container	21012
60 ltr. Barrel	21021

ALFRA 4000

Suitable for core drilling applications with ALFRA cutters. Also ideal for twist drilling, thread tapping, reaming, countersinking, and difficult cutting applications. It meets to the requirements of work hygiene and safety.
ALFRA 4000 is a pump spray, free from propellant gas ideal for drilling and tapping of high-alloy, stainless steels; chromium nickel steels; titanium and manganese-carbon steels

	Prod.-No.
Aerosol can 300 ml	21040

ALFRA TCT-HOLE SAWS – MBS-LIGHT



Cutting geometries
Variable teeth, less Vibration, longer tool life, smoother cutting.

MBS – for almost limitless use

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. Cutting of overlapping holes is possible.

For use on stationary and hand drilling machines (recommended up to max. Ø 40 mm; 1-9/16").

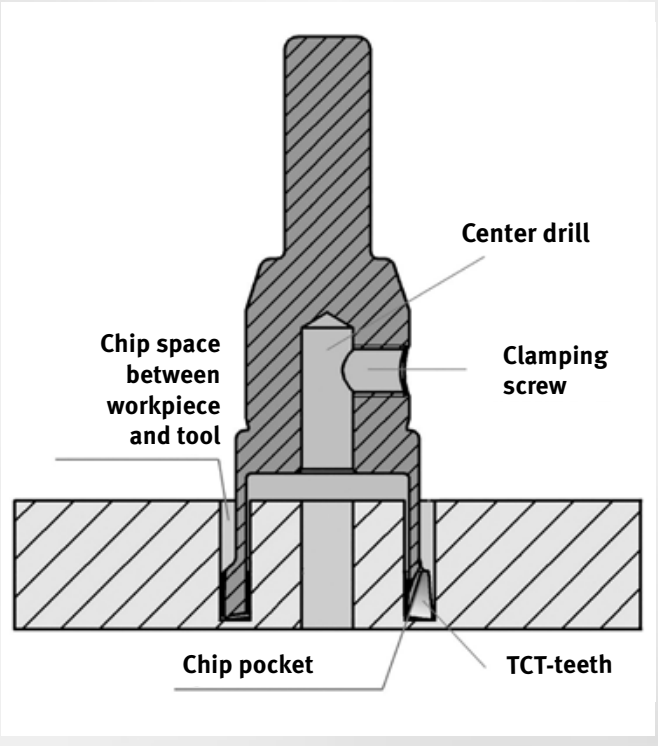
- **Portable drilling Machines:** **up to 4 mm (1/8") material thickness**
- **Stationary drilling Machines:** **up to 10 mm (3/8") material thickness (for material thickness over 6 mm (15/64"), it is necessary to settle and empty the chips several times).**

In case of heavy operation, we recommend Morse Taper Tool Holders, which are suitable from Ø 37 mm (1-7/16").

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

Another special technical feature:
From Ø 37 mm (1-7/16"), specially hardened tool holders are used to compensate for 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.

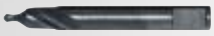


ALFRA TCT-HOLE SAWS – MBS-LIGHT

Ø mm	Ø Inches	No. of teeth	Prod.-No.
Ø 18.0	11/16"	4	0730018
Ø 18.6		4	07300186
Ø 19.0	3/4"	4	0730019
Ø 20.0		4	0730020
Ø 20.4		4	07300204
Ø 21.0	13/16"	4	0730021
Ø 22.0		4	0730022
Ø 22.5		4	07300225
Ø 23.0	7/8"	4	0730023
Ø 24.0	15/16"	4	0730024
Ø 25.0		4	0730025
Ø 26.0	1"	6	0730026
Ø 27.0	1-1/16"	6	0730027
Ø 28.0		6	0730028
Ø 29.0	1-1/8"	6	0730029
Ø 30.0	1-3/16"	6	0730030
Ø 31.0		6	0730031
Ø 32.0	1-1/4"	6	0730032
Ø 33.0		6	0730033
Ø 34.0	1-5/16"	6	0730034
Ø 35.0	1-3/8"	6	0730035
Ø 36.0		6	0730036
From Ø 37.0 mm (1-7/16") we recommend the use of MT arbors			
Ø 37.0	1-7/16"	6	0730037
Ø 38.0		6	0730038
Ø 39.0	1-1/2"	6	0730039
Ø 40.0	1-9/16"	6	0730040
Ø 41.0		6	0730041
Ø 42.0	1-5/8"	6	0730042
Ø 43.0	1-11/16"	6	0730043
Ø 44.0		6	0730044
Ø 45.0	1-3/4"	6	0730045
Ø 46.0		6	0730046
Ø 47.0	1-13/16"	6	0730047
Ø 48.0	1-7/8"	6	0730048
Ø 49.0		6	0730049
Ø 50.0	1-15/16"	6	0730050
Ø 51.0	2"	6	0730051
Ø 52.0		6	0730052
Ø 53.0	2-1/16"	6	0730053
Ø 54.0	2-1/8"	6	0730054
Ø 55.0		6	0730055
Ø 56.0	2-3/16"	6	0730056
Ø 57.0	2-1/4"	6	0730057
Ø 58.0		6	0730058
Ø 59.0	2-5/16"	6	0730059
Ø 60.0	2-3/8"	8	0730060
Ø 61.0		8	0730061
Ø 62.0	2-7/16"	8	0730062
Ø 63.0		8	0730063
Ø 64.0	2-1/2"	8	0730064
Ø 65.0		8	0730065
Ø 66.0	2-9/16"	8	0730066
Ø 67.0	2-5/8"	8	0730067
Ø 68.0		8	0730068
Ø 69.0	2-11/16"	8	0730069
Ø 70.0	2-3/4"	8	0730070
Ø 71.0		10	0730071
Ø 72.0	2-13/16"	10	0730072
Ø 73.0	2-7/8"	10	0730073
Ø 74.0	2-15/16"	10	0730074
Ø 75.0		10	0730075
Ø 76.0	3"	10	0730076
Ø 77.0		12	0730077
Ø 78.0	3-1/16"	12	0730078
Ø 79.0	3-1/8"	12	0730079
Ø 80.0		12	0730080
Ø 81.0	3-3/16"	12	0730081
Ø 82.0		12	0730082
Ø 83.0	3-1/4"	12	0730083
Ø 84.0	3-5/16"	12	0730084
Ø 85.0		12	0730085
Ø 86.0	3-3/8"	14	0730086
Ø 87.0	3-7/16"	14	0730087
Ø 88.0		14	0730088
Ø 89.0	3-1/2"	14	0730089
Ø 90.0	3-9/16"	14	0730090
Ø 91.0		14	0730091
Ø 92.0	3-5/8"	14	0730092
Ø 93.0		14	0730093
Ø 94.0	3-11/16"	14	0730094
Ø 95.0	3-3/4"	14	0730095
Ø 96.0		14	0730096
Ø 97.0	3-13/16"	14	0730097
Ø 98.0	3-7/8"	14	0730098
Ø 99.0		14	0730099
Ø100.0	3-15/16"	14	0730100

HSS-Spare Drill

with tapered center tip



from Ø 18.0 - 60.0 Ø 6x50 mm	0602650
from Ø 61.0 - 100.0 Ø 8x50 mm (old design)	0602850

MT Arbors

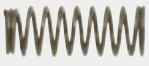
MT-2 (from Ø 37.0 mm)	0734002
MT-3 (from Ø 37.0 mm)	0734003

Weldon adaptor

from Ø 37.0 mm (incl. ejector pin Prod. No. 1950500)	060WD

Spare Ejector

For tapered center drill



from Ø 18.0 - 60.0 mm Ø 6 mm	0732006
from Ø 61.0 - 100.0 mm Ø 8 mm	0732008

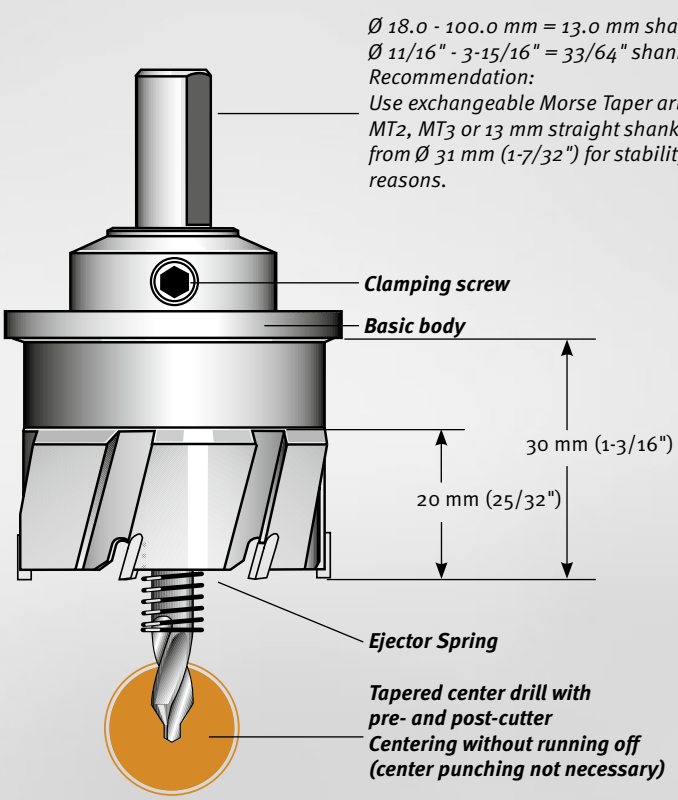
Drilling in checker sheet

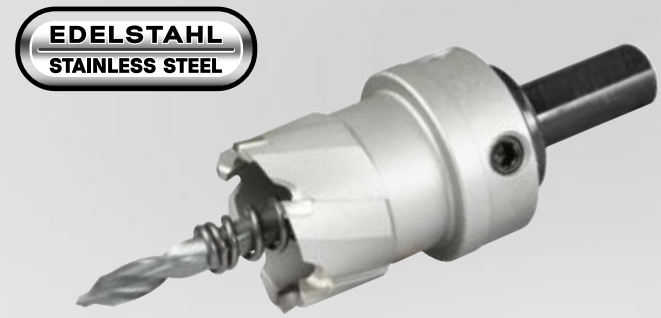
Drilling in square profiles

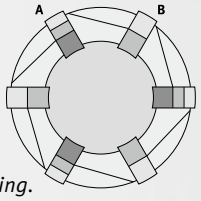
Drilling in flat steel

Drilling in pipes

ALFRA TCT-HOLE SAWS – MBS-PRO







Cutting geometries
Variable teeth, less Vibration, longer tool life, smoother cutting.

MBS-Multirange Hole Saws for universal use. **Max. cutting depth 20 mm (25/32")**

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.

For use on stationary and portable drilling machines
(recommended up to max. Ø 40 mm; 1-9/16")

- **Portable drilling Machines: up to 6 mm (15/64") material thickness**
- **Stationary drilling Machines: up to 20 mm (25/32") material thickness at cutting depths from 6 mm (15/64") we recommend clearing the chips.**

MBS hole saws can be resharpened, 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:
From Ø 31 mm (1-7/32"), we use specially hardened tool holders to compensate for 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.

MBS – for almost limitless use

e.g., on Rotabest Magnetic Drilling Machine (with MT2 or MT3 – arbors) and Weldon adaptor Prod.-No. 060WD on Machines with Weldon Shank.

ALFRA TCT-HOLE SAWS – MBS-PRO

Ø mm	Ø Inches	No. of teeth	Prod.-No.
Ø 18.0	11/16"	6	0760018
Ø 18.6		6	07600186
Ø 19.0	3/4"	6	0760019
Ø 20.0		6	0760020
Ø 20.4		6	07600204
Ø 21.0	13/16"	6	0760021
Ø 22.0		6	0760022
Ø 22.5		6	07600225
Ø 23.0	7/8"	6	0760023
Ø 24.0	15/16"	6	0760024
Ø 25.0		6	0760025
Ø 26.0	1"	6	0760026
Ø 27.0	1-1/16"	6	0760027
Ø 28.0		6	0760028
Ø 28.3		6	07600283
Ø 29.0	1-1/8"	6	0760029
Ø 30.0	1-3/16"	6	0760030
As from Ø 31.0 mm (1-7/32") we recommend the use of MT arbors			
Ø 31.0		6	0760031
Ø 32.0	1-1/4"	6	0760032
Ø 33.0		6	0760033
Ø 34.0	1-5/16"	6	0760034
Ø 35.0	1-3/8"	6	0760035
Ø 36.0		6	0760036
Ø 37.0	1-7/16"	6	0760037
Ø 38.0		6	0760038
Ø 39.0	1-1/2"	6	0760039
Ø 40.0	1-9/16"	6	0760040
Ø 41.0		6	0760041
Ø 42.0	1-5/8"	6	0760042
Ø 43.0	1-11/16"	6	0760043
Ø 44.0		6	0760044
Ø 45.0	1-3/4"	6	0760045
Ø 46.0		6	0760046
Ø 47.0	1-13/16"	6	0760047
Ø 48.0	1-7/8"	6	0760048
Ø 49.0		6	0760049
Ø 50.0	1-15/16"	6	0760050
Ø 51.0	2"	6	0760051
Ø 52.0		6	0760052
Ø 53.0	2-1/16"	6	0760053
Ø 54.0	2-1/8"	6	0760054
Ø 55.0		6	0760055
Ø 56.0	2-3/16"	6	0760056
Ø 57.0	2-1/4"	6	0760057
Ø 58.0		6	0760058
Ø 59.0	2-5/16"	6	0760059
Ø 60.0	2-3/8"	8	0760060
Ø 61.0		8	0760061
Ø 62.0	2-7/16"	8	0760062
Ø 63.0		8	0760063
Ø 64.0	2-1/2"	8	0760064
Ø 65.0		8	0760065
Ø 66.0	2-9/16"	8	0760066
Ø 67.0	2-5/8"	8	0760067
Ø 68.0		8	0760068
Ø 69.0	2-11/16"	8	0760069
Ø 70.0	2-3/4"	8	0760070
Ø 71.0		10	0760071
Ø 72.0	2-13/16"	10	0760072
Ø 73.0	2-7/8"	10	0760076
Ø 74.0	2-15/16"	10	0760074
Ø 75.0		10	0760075

Ø mm	Ø Inches	No. of teeth	Prod.-No.
For drilling stainless steel from Ø 76.0 mm we recommend using Rotabest AL cutters (Prod.-No. 200207...)			
Ø 76.0	3"	10	0760076
Ø 77.0		12	0760077
Ø 78.0	3-1/16"	12	0760078
Ø 79.0	3-1/8"	12	0760079
Ø 80.0		12	0760080
Ø 81.0	3-3/16"	12	0760081
Ø 82.0		12	0760082
Ø 83.0	3-1/4"	12	0760083
Ø 84.0	3-5/16"	12	0760084
Ø 85.0		12	0760085
Ø 86.0	3-3/8"	14	0760086
Ø 87.0	3-7/16"	14	0760087
Ø 88.0		14	0760088
Ø 89.0	3-1/2"	14	0760089
Ø 90.0	3-9/16"	14	0760090
Ø 91.0		14	0760091
Ø 92.0	3-5/8"	14	0760092
Ø 93.0		14	0760093
Ø 94.0	3-11/16"	14	0760094
Ø 95.0	3-3/4"	14	0760095
Ø 96.0		14	0760096
Ø 97.0	3-13/16"	14	0760097
Ø 98.0	3-7/8"	14	0760098
Ø 99.0		14	0760099
Ø 100.0	3-15/16"	14	0760100

HSS-Spare Drill

with tapered center tip

from Ø 18.0 - 60.0 Ø 6x80 mm	0732680
from Ø 61.0 - 100.0 Ø 8x80 mm (old design)	0732880

MT Arbors

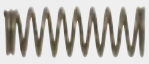
MT-2 (Ø 31.0 - 100.0 mm)	0734002
MT-3 (Ø 31.0 - 100.0 mm)	0734003

Weldon adapter

from Ø 31.0 mm (incl. ejector pin Prod. No. 1950500)	060WD

Spare Ejector

For tapered center drill



from Ø 15.2 - 60.0 Ø 6 mm suitable for spare drill Ø 6 mm	0762006

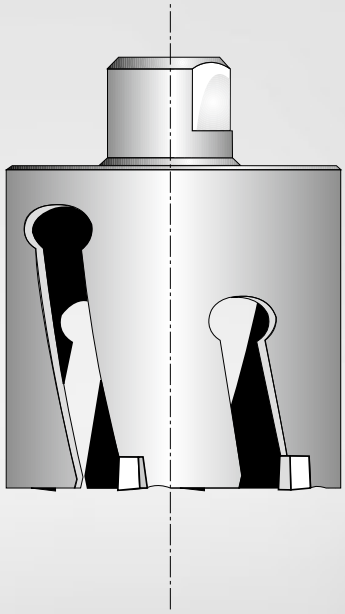
Drilling structured sheet metals

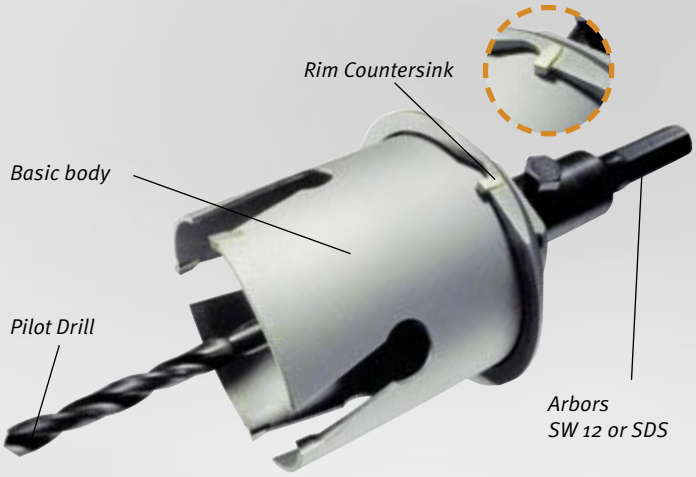
Drilling tubes

Drilling flat steels

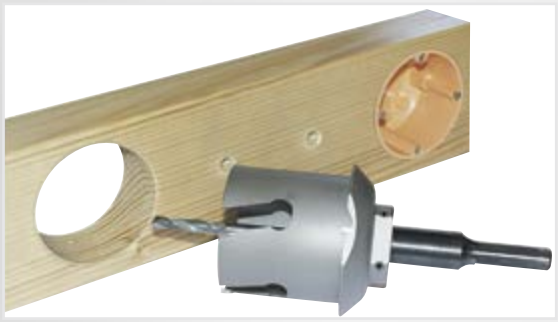
Free-hand drilling up to Ø 30 mm

ALFRA TCT-HOLE SAWS – FRP TYPE





Prod.-No. 0740068060 – FRP Ø 68 mm with tool holder and rim countersink



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

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 fitters.

Ø mm	TCT-Hole Saws FRP inch single drill bit, cutting depth 60 mm	Prod.-No.
	Sanitary and heating pipes	0740025060
30.0	Sanitary and heating pipes	0740030060
35.0	Sanitary and heating pipes	0740035060
	Cavity wall branch box, halogen reflector lamp	
40.0	Sanitary drain pipes	0740040060
45.0	Water and heating pipes	0740045060
50.0	with insulatio0740050060	
55.0	Recessed lights Ø 55 mm	0740055060
58.0	Recessed lights Ø 58 mm	0740058060
60.0	Recessed lights 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	Cavity wall branch boxes Ø 70 mm	0740070060
74.0	Cavity wall branch boxes 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	Recessed lights Ø 90 mm	0740090060
105.0	Discharge air pipes	0740105060

Rim countersink for Ø 68 mm — 0741068000

Tool Holder wrench size 12 — 0742000001

Arbor SDS — 0742000002

Spare center drill HSS 7.2 mm — 0742000003

FRP Hole Saw Set Electrician

Content: 0743000001

1 each of Ø 35 / 68 / 74 mm
1 Tool Holder wrench size 12
1 HSS drill

FRP Hole Saw Set Lighting

Content: 0743000002

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

ALFRA HSS-BI-METAL HOLE SAWS

Features:

- High concentricity.
- With solid base plate, thus more threads and higher stability as well as concentric running exactness.
- For material from 2 mm – with positive chipping and cutting angles as well as combi-toothing 4/6 tpi. 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/mm²), 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.

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

...designed to work on softwoods.

EDELSTAHL
STAINLESS STEEL

ALFRA – HSS-BI-METAL HOLE SAWS

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.
- With positive chipping and cutting angles as well as combi-toothing 4/6 tpi. 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/mm²), 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.

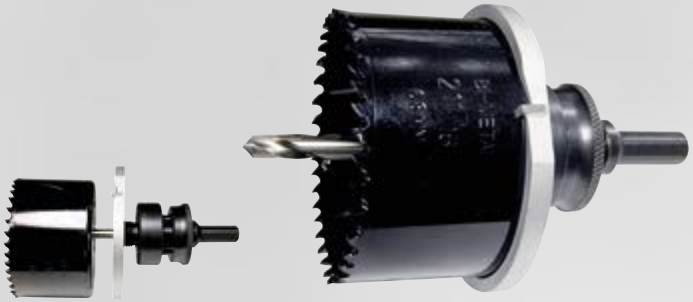
Combi toothing 4/6 tpi

from Ø 14.0 to 210 mm available

Saw-Ø mm	Inches	Prod.-No.
14.0	9/16"	0500014
16.0	5/8"	0500016
17.0	11/16"	0500017
19.0	3/4"	0500019
20.0	15/19"	0500020
21.0	13/16"	0500021
22.0	7/8"	0500022
24.0	15/16"	0500024
25.0	1"	0500025
27.0	11/16"	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	2-5/16"	0500059
60.0	2-3/8"	0500060
64.0	2-1/2"	0500064
65.0	2-9/16"	0500065
67.0	2-5/8"	0500067
68.0	2-11/16"	0500068
70.0	2-3/4"	0500070
73.0	2-7/8"	0500073

ALFRA – HSS BI-METAL HOLE SAWS

Saw Ø mm	Inches	Prod.-No.
74.0	2-11/12"	0500074
76.0	3"	0500076
79.0	3-1/8"	0500079
83.0	3-1/4"	0500083
86.0	3-3/8"	0500086
89.0	3-1/2"	0500089
92.0	3-5/8"	0500092
95.0	3-3/4"	0500095
98.0	3-7/8"	0500098
102.0	4"	0500102
105.0	4-1/8"	0500105
108.0	4-1/4"	0500108
111.0	4-3/8"	0500111
114.0	4-1/2"	0500114
121.0	4-3/4"	0500121
127.0	5"	0500127
140.0	5-1/2"	0500140
152.0	6"	0500152
From Ø 160.0 mm only suitable for wood and wood substitutes.		
160.0	6-5/16"	0500160
168.0	6-10/16"	0500168
177.0	7"	0500177
210.0	8-5/16"	0500210



Prod.-No. 0501013 with bi-metal hole saw Ø 68 mm + A2-SS

Arbors

with pilot drill

Saw-Ø mm	Saw-Ø inch	Type	Shank-Ø		Prod-No.
14 - 30	9/16" - 1-3/16"	A 6-SS	9.5	hexago	0501001
14 - 30	9/16" - 1-3/16"	A 6-SDS	SDS		0501002
32 - 152	1-1/4" - 6"	A 2-SS	9.5	hexago	0501003
32 - 152	1-1/4" - 6"	A 2-SDS	SDS		0501005
32 - 210	1-1/4" - 8-5/16"	A 3-SS	11.11	hexago	0501006
32 - 210	1-1/4" - 8-5/16"	A 5-SS	16.0	hexago	0501008

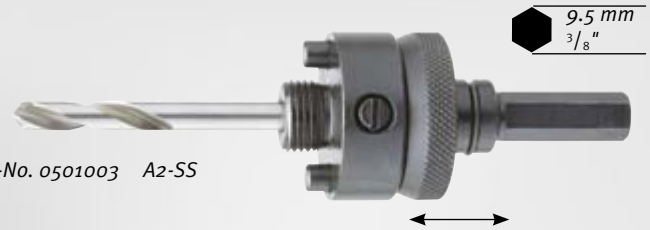
Accessories:

Rim countersink for Ø 68 mm (with TCT-teeth)	0501013
Extension shaft 300 mm x 9.5 mm for A 6-SS + A 2-SS, A3-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 position when using SDS-shanks!

Prod.-No. 0501001 A6-SS

Prod.-No. 0501002 A6-SDS



Prod.-No. 0501003 A2-SS

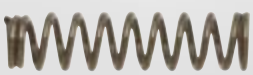
Prod.-No. 0501005 A2-SDS

Prod.-No. 0501006 A3-SS

Prod.-No. 0501013

Prod.-No. 0501010

Prod.-No. 0502001



Prod.-No. 0502004

ALFRA – HSS BI-METAL HOLE SAW SETS

HSS Bi-Metal Hole Saw Sets

- 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.
- All sets are delivered in a robust and practical plastic case
- Incl. Arbor A6-SS. Arbor A2-SS. Spare Twist Drill

Ø mm	16.0	19.0	22.0	24.0	25.0	29.0	32.0	35.0	38.0	44.0	51.0	52.0	57.0	64.0	67.0	68.0	76.0
Ø Inch	5/8"	3/4"	7/8"	15/16"	1"	1-1/8"	1-1/4"	1-3/8"	1-1/2"	1-3/4"	2"	2-1/16"	2-1/4"	2-1/2"	2-5/8"	2-11/16"	3"
Prod.-No.																	
0503006	**Hole Saw Set Standard**																
	●	●	●			●		●		●		●	●		●		
0503007	**Hole Saw Set Professional**																
	●	●	●		●	●	●	●	●	●	●			●			●
0503008	**Hole Saw Set Electro**																
			●			●		●		●	●			●		●	
0503009	**Hole Saw Set Sanitary**																
	●	●		●		●			●	●			●		●		

MULTI-STEP DRILLS – HSS DM 05

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 6 mm.

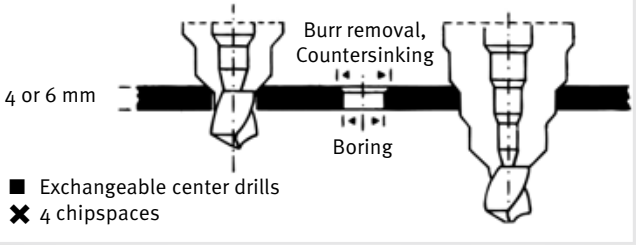
With the Multi-Step Drills, sheet metals can be centered, drilled and subsequently deburred in one work step.

- A break of the drill tip mostly occurs through high feed forces at the start of the drilling operation. Multi-step drills with fixed drill tips are worthless then. A broken center drill in an ALFRA multi-step drill can be easily replaced. This more than compensates for the higher price.
- Each stage is equipped with a radially adjusted relief grinding corresponding to its diameter.
- Each stage is provided with an axial relief grinding and a relief angle on its cutting edge.
- All step diameters are laser marked on the tool.

Benefits of multi-step drills with keyway and 3 cutting edges:
- The keyway allows the drill to make a chipping cut during drilling for better chip removal.
- The special keyway geometry, arranged around the drill, makes for a longer cutting edge compared to the usual straight groove and noticeably easier cutting.
- Spiral cut chip spaces guarantee an absolute running smoothness and a high cutting capacity.

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

Advantages of TiAlN hard coating:
- Suitable for use on very hard materials (VA).
- Offers optimal tool life with the same use at the highest cutting speeds.
- Very high microhardness HV 0.05 of 3200 – so that the blue-black hard coating is more than 20% harder than conventional gold-yellow TIN coating.
- Maximum working temperature: 800°C.



■ Exchangeable center drills
✖ 4 chipspaces

DescriptioShank Ø		Prod.-No.
Multi-Step Drill – AMS	10.0	08080

For general machine construction, drills circular holes in metals up to 4 mm thick, through application with hand drills, indispensable on the work-site.
3 chip spaces, spiral grooved, replaceable center drill
Steps Ø 9 - 12 - 15 - 18 - 21 - 24 - 27 - 30 - 33 - 36 mm
(Step "40" is for deburring)

Prod.-No. 08080 ■

Multi-Step Drill – AMS – TiAlN coated	10.0	08081

3 chip spaces, spiral grooved, replaceable center drill TiAlN coated
Steps Ø 9 - 12 - 15 - 18 - 21 - 24 - 27 - 30 - 33 - 36 mm
(Step "40" is for deburring)

Prod.-No. 08081 ■

Multi-Step Drill – AM 1	12.0	08082

Steps Ø 25 - 28 - 31 - 34 - 37 - 40 - 43 - 46 - 49 - 52 - 55 - 58 mm

Multi-Step Drill – PVD	10.0	08003

For the **electrical industry**, matched to holes for armoured conduit thread clearance holes, saves considerable time when producing borings for PG
Steps Ø PG 7 - PG 9 - PG 11 - PG 13 - PG 16 - PG 21 - 33 mm - PG 29 - 40 mm

Prod.-No. 08002 ■ ✖

Prod.-No. 08003 ■ ✖

MULTI-STEP DRILLS – HSS DM 05

Description	Shank Ø	Prod.-No.
Multi-Step Drill – PVD-TiN-coated	10.0	08004
Steps Ø PG 7 – PG 9 – PG 11 – PG 13 – PG 16 – PG 21 - 33 mm – PG 29 - 40 mm		
Multi-Step Drill – SVB	10.0	08016
Pre-drill specifically for punches & dies		
Steps Ø 8.5 - 11.5 - 12.5 - 16.5 - 21.0		
Multi-Step Drill – DKS 40	10.0	08084
3 chip spaces, spiral grooved, replaceable center drill, for metric borings acc. to EN,		
Core - and clearance holes M 10 - M 40		
Steps Ø 10.5 - 12.5 - 14.5 - 16.5 - 18.5 - 20.5 - 25.5 - 32.5 - 38.5 - 40.5		
Multi-Step Drill – DKS 40-VA	10.0	08032
4 chip spaces, replaceable center drill of HSS-Co 5 steel. For stainless steel to 3 mm thick		
Core - and clearance holes M 10 - M 40		
Steps Ø 10.5 - 12.5 - 14.5 - 16.5 - 18.5 - 20.5 23.5 - 25.5 - 32.5 - 38.5 - 40.5		
Spare center drill TiN-beschichtet		08006
suitable for AMS – PVD – PVK – DKI – DKS		
Spare center drill		08007
suitable for AMS – PVD – PVK – DKI – DKS		
Spare center drill TiAlN coated		08008
suitable for AMS – PVD – PVK – DKI – DKS		

Prod.-No. 08004 ■ ✖

Pre-drill specifically for punches & dies

Prod.-No. 08016

Prod.-No. 08084 ■

Prod.-No. 08032 ■ ✖

Prod.-No. 08007

Prod.-No. 08008

■ *Replaceable center drill*
✖ *With 4 chip spaces*

MULTI-STEP DRILLS – HSS DM 05

Standard execution with 2 chip spaces, spiral grooved.

- More precise hole diameter through cylindrical steps.
- Immediate deburring through the next step.
- Drilling of sheet metals as thin as 4 mm possible.
- Use coolant stick!
- The keyway allows the drill to make a chipping cut during drilling for better chip removal.
- Longer cutting edge compared to the usual straight groove and noticeably easier cutting.
- Laser-etched scale in the chip space to indicate the bore diameter achieved.

Descriptio	Bore range	Shank Ø	Length	Prod.-No.
AM-12	4 - 12 mm x 1 mm	6.0	70 mm	08070
AM-20	4 - 20 mm x 2 mm	9.0	77 mm	08071
AM-30	6 - 30 mm x 2 mm	10.0	98 mm	08072
Set in plastic case				08073
Content: 1 of each Type AM-12/AM-20/AM-30				
High-performance coolant stick				09012

Prod.-No. 08072

Prod.-No. 09012

Prod.-No. 08073

Standard values for the use of ALFRA Multi-step drills

This drill was developed to bore perfectly round and deburred holes in sheet metal from 4 - 6 mm thick. The transition forms a radius which serves to deburr or bevel the hole at the same time. While conical one-lip bits drill a slightly tapered hole, our ALFRA multi-step drill achieves a cylindrical hole. The tools have axial-radial relief grindings and can be lightly reground on 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. Sufficient cooling using **ALFRA coolant stick** or a bore emulsion is imperative.

R.P.M. Guiding Values

Type		sheet steel S235	V2A sheets	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
DKS + SVB	countersink	400 - 200	200 - 100	800 - 500	1000 - 600

PRECISION CONICAL ONE-LIP BITS – HSS DM 05

ALFRA Precision Conical One-Lip Bits are the ideal tools for general sheet metal working. Fields of applications include 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 up in one work step.

If treated carefully, can be reground many times.

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

Packing: separately in plastic box with operation manual.

Size	Bore Range mm	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	Size 1 + 2 + 3 + Stick		09009
Coolant stick, separately			09012

***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
- Size 6.0 - 22.5 mm.

Precision Conical One-Lip Bit Set

	Prod.-No.
Tin box	09009

Content:
1 x Size 1
1 x Size 2
1 x Size 3

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 PROFESSIONAL USE

ORIGINAL MILFORD SABRE SAW BLADES – EXKLUSIVE BY ALFRA

for Metal flexible version

Application Range Metal processing	Material thickness mm	Steel-Quality	Length	Width	Thickness	Teeth Inch	Milford Prod.-No.	Alfra Prod.-No.
Metal processing; soft metals, Copper-, aluminium-, brass-cables, wires and pipes	> 3 mm	HSS-Bi-Metal	100 mm	16 mm	0.9 mm	14	88161	30055
Metal processing; soft metals, Plastic, laminate and wood with nails	> 3 mm	HSS-Bi-Metal	150 mm	16 mm	0.9 mm	8/12	88215	30040
All kind of metals, stainless steel, Steel pipes, cast iron, alloys, etc.	> 6 mm	HSS-Bi-Metal	150 mm	16 mm	0.9 mm	10	88176	30058
All kind of metals, stainless steel, Steel pipes, cast iron, alloys, etc.	> 3 mm	HSS-Bi-Metal	150 mm	16 mm	0.9 mm	14	88177	30059
All kind of metals, stainless steel, Steel pipes, cast iron, alloys, etc.	> 1,15 mm	HSS-Bi-Metal	150 mm	16 mm	0.9 mm	18	88178	30060
All kind of metals, stainless steel, Steel pipes, cast iron, alloys, etc. With universal toothing	3-6 mm	HSS-Bi-Metal	150 mm	16 mm	0.9 mm	10/14	88216	30062
Metal processing; soft metals, Plastic, laminate and wood with nails	> 3 mm	HSS-Bi-Metal	225 mm	16 mm	0.9 mm	8/12	88219	30041
All kind of metals, stainless steel, Steel pipes, cast iron, alloys, etc.	> 6 mm	HSS-Bi-Metal	225 mm	16 mm	0.9 mm	10	88174	30063
All kind of metals, stainless steel, Steel pipes, cast iron, alloys, etc.	> 3 mm	HSS-Bi-Metal	225 mm	16 mm	0.9 mm	14	88186	30064
All kind of metals, stainless steel, Steel pipes, cast iron, alloys, etc.	> 1,15 mm	HSS-Bi-Metal	225 mm	16 mm	0.9 mm	18	88187	30065
All kind of metals, stainless steel, Steel pipes, cast iron, alloys, etc. With universal toothing	3-6 mm	HSS-Bi-Metal	225 mm	16 mm	0.9 mm	10/14	88217	30066
All kind of metals, stainless steel, Steel pipes, cast iron, alloys, etc. With universal toothing	> 6 mm	HSS-Bi-Metal	290 mm	16 mm	0.9 mm	10/14	88218	30072

Metal processing; soft metals, plastic, laminate an wood with nails – particular for pallets	> 3 mm	HSS-Bi-Metal	228 mm	19 mm	0.9 mm	10/14	88226	30045

ORIGINAL MILFORD SABRE SAW BLADES – EXKLUSIVE BY ALFRA

For Wood

Application Range Meta processing	Material	Steel-	Length	Width	Thickness	Teeth	Milford	Alfra
Special sabre saw for wood with nails; plasterboard In particular for the refurbishing		HSS-Bi-Metal	150 mm	19 mm	0.9 mm	5/8	88142	30085
Special sabre saw for wood Plastics or Laminates -curve sections-		HSS-Bi-Metal	150 mm		0.9 mm	4/6	88143	30086
Special sabre saw for wood, plasterboard In particular for the refurbishing		HSS-Bi-Metal	210 mm	19 mm	0.9 mm	6	88144	30087
Special sabre saw for wood, plasterboard In particular for the refurbishing		HSS-Bi-Metal	290 mm	19 mm	0.9 mm	6	88145	30088

For wood (coated)

Special sabre saw for wood With a special lamination for minimum frictio	HSS-Bi-Metal	228 mm	19 mm	1.0 mm	7	87960	30031


“I never have been able to bore holes so quickly and easily in steel beams!!
With the APS 120 and the new pump, I finished my project ahead of time.”

ALFRA PRESS

- Easily portable, fully automatic, hydraulic punching equipment for steel, bridge, container, crane and metal construction
- Mobile usage, no material transport
- Virtually noiseless punching
- Easy positioning through stop function of the punch

ALFRA-PRESS HYDRAULIC PUNCHES – OVERVIEW

APS 70

Page	**82**
Prod.-No.	23002
Max. hole-Ø	22 mm 7/8"
Max. oblong hole	22 x 14 mm 7/8" x 9/16"
Max. material thickness (S235)	13 mm 1/2"
Overall punch time with pump ...	AHP-M: approx. 5 sec. AHP-L: approx. 3 sec.
Jaw depth	70 mm 2-3/4"
Max. pressure	700 bar 10,150 psi
Punching force	30 t
Punch stroke	18 mm 11/16"
Weight	29.9 kg / 65.9 lbs
Scope of delivery	Hose assembly 5 m/spanner Punch/die Ø 18 mm Depth adjustment, suspension bracket

HYDRAULIC PUMP FOR APS 70 / 120

AHP-M

Page	**87**
Prod.-No.	23189
Max. pressure	700 bar
Maximum pumping capacity:	1.1 l/min
Motor performance	1300 W, 230 v (50 Hz)
Fill volume	3.2 l
Weight incl. oil fill volume	29 kg

APS 120

83
23004
25 mm 1-1/16"
25 x 18 mm 1” x 11/16"
16 mm 5/8"
AHP-M: approx. 10 sec. AHP-L: approx. 7 sec.
110 mm 4-3/8"
700 bar 10,150 psi
44 t
25 mm 15/16"
47.3 kg / 104.2 lbs
Hose assembly 5 m/spanner Punch/die Ø 22 mm Depth adjustment, suspension bracket

HYDRAULIC PUMP FOR APS 70 / 120

AHP-L

87
23190
700 bar
1.7 l/min
2,200 W, 230 v (50 Hz)
3.0 l
34 kg

ALFRA-PRESS – HYDRAULIC PUNCHING

ALFRA-Press - Hydraulic puncher APS 70

	Prod.-No.
Hydraulic punching unit with Automatic return using neoprene spring	23002

Technical specifications:

Max. hole Ø mm	22 mm
Max. oblong hole	22 x 14 mm
Max. material thickness as per DIN S275	13 mm
Total punch time with pump AHP-M	5 sec.
with pump AHP-L	3 sec.
Jaw depth	70 mm
Max. pressure	700 bar (10,150 psi)
Punching force	30 t
Punching stroke	18 mm
Weight	29.9 kg

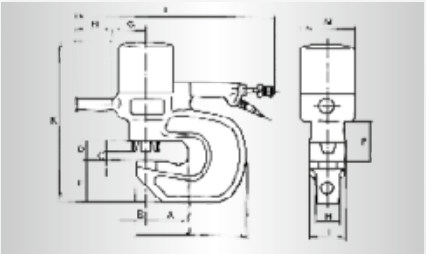
Scope of delivery:
Punching unit, control cable, hydraulic hose 5 m, spanner,
1 x punch and die each Ø 18 mm, 1 depth adjustment, 1 suspension bracket

Prod.-No. 23002

Acessories

	Prod.-No.
Replacement HP connection hose, **5 m** complete with control cable and coupling	23015
Replacement HP connection hose, **10 m** complete with control cable and coupling	23016
Replacement HP connection hose, ***15 m** complete with control cable and coupling	23017

***Note:**
The pressure build-up extends at 10 m to approx. 4 sec., and at 15 m to approx. 6 sec.



Important technical note:

Standard punching units are not normally suitable for punching high strength tooling steel, stainless steels or boiler-plate steel.
Refer to us for technical advice for punching work in this application range.

Type	A	B	C	D	E	F	G	H	I	J	K	L	M	N
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

ALFRA-Press - Hydraulic puncher APS 120

	Prod.-No.
Hydraulic punching unit with Automatic return using neoprene spring	23004

Technical specifications

Max. hole Ø mm	25 mm
Max. oblong hole	25 x 18 mm
Max. material thickness as per DIN S275	16 mm
Total punch time	
with pump AHP-M	10 sec.
with pump AHP-L	7 sec.
Jaw depth	110 mm
Max. pressure	700 bar (10,150 psi)
Punching force	44 t
Punching stroke	25 mm
Weight`	47.3 kg

Scope of delivery:
Punching unit, control cable, hydraulic hose 5 m, spanner, 1 x punch and die each Ø 22 mm, 1 depth adjustment, 1 suspension bracket

Prod.-No. 23004

Accessories

	Prod.-No.
Replacement HP connection hose, **5 m** complete with control cable and coupling	23015
Replacement HP connection hose, **10 m** complete with control control cable and coupling	23016
Replacement HP connection hose, ***15 m** complete with control cable and coupling	23017

***Note:**
The pressure build-up extends at 10 m to approx. 4 sec., and at 15 m to approx. 6 sec.

ALFRA – APS PUNCHES AND DIES

Punch for

APS 120	APS 70	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 lock nut, Prod.-No. 23004-056 B

Prod.-No. 23-01-..

Dies for

APS 120	APS 70	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

When selecting your tool, please note:
For material DIN S233: maximum material thickness = 0.8 x hole Ø
For material DIN S275: maximum material thickness = 0.5 x hole Ø

Prod.-No. 23-02-..

Tip:
Punches and dies can be replaced and used for Nitto / Selfer Punching systems.

Tip:
Please oil punch from time to time, when material is heavily oxidized.

ALFRA – APS PUNCHES AND DIES

5°-bevelled dies for

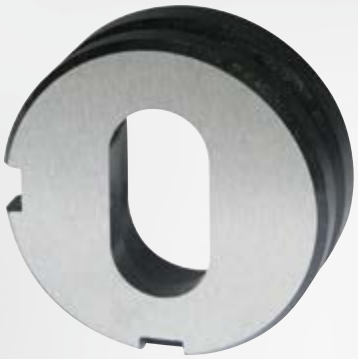
APS 120	APS 70	Ø mm	Prod.-No.
■	■	10	23-04-10
■	■	11	23-04-11
■	■	12	23-04-12
■	■	13	23-04-13
■	■	14	23-04-14
■	■	15	23-04-15
■	■	16	23-04-16
■	■	17	23-04-17
■	■	18	23-04-18
■	■	19	23-04-19
■	■	20	23-04-20
■	■	21	23-04-21
■	■	22	23-04-22
■	-	23	23-04-23
■	-	24	23-04-24
■	-	25	23-04-25

Prod.-No. 23-04-.. (For carriers with angled flange)

Oblong punches for

mm	APS 120	APS 70	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 lock nut, Prod.-No. 23004-56B



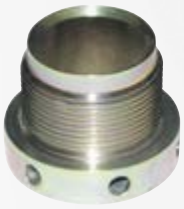
Prod.-No. 23-02-..

Prod.-No. 23-01-..

Replacement parts

	Prod.-No.
Lock nut for punch Ø 7 - 24 mm	23004-056A
Lock nut for punch Ø 25 mm (only APS 120)	23004-056B
Lock nut for punch Ø 26 mm (upon request)	23004-056C.

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



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

ALFRA ELECTRIC HYDRAULIC PUMPS

1. **Powerful, hydraulic drive unit for maximum punching performance and speed**
2. **Additional fan allows continuous use - even in warmer regions**
3. **Light housing made of impact-resistant plastic**
4. **Extra large, non-slip carrying handles on which the power cord can be wrapped**
5. **Extremely space-saving thanks to compact design**

ALFRA ELECTRIC HYDRAULIC PUMP AHP-M

Technical specifications:

Max. pressure:	700 bar
Max. pumping capacity:	1.1 l/min
Oil type:	HLP 46
Fill volume:	3.2 l
Active volume:	2.2 l
Weight:	29 kg
Operating voltage:	230 V / 50 Hz
Rating:	1.3 kW
Power consumption:	5.65 A
Motor speed:	2800 1/min

	Prod.-No.
Electric hydraulic pump AHP M	23189

ALFRA ELECTRIC HYDRAULIC PUMP AHP-L

Technical specifications:

Max. pressure:	700 bar
Max. pumping capacity:	1.7 l/min
Oil type:	HLP 46
Fill volume:	3.0 l
Active volume:	2.2 l
Weight:	34 kg
Voltage, frequency:	230 V / 50 Hz
Rating:	2.2 kW
Power consumption:	9.8 A
Motor speed:	2860 1/min

	Prod.-No.
Electric hydraulic pump AHP L	23190

Not available in 110V

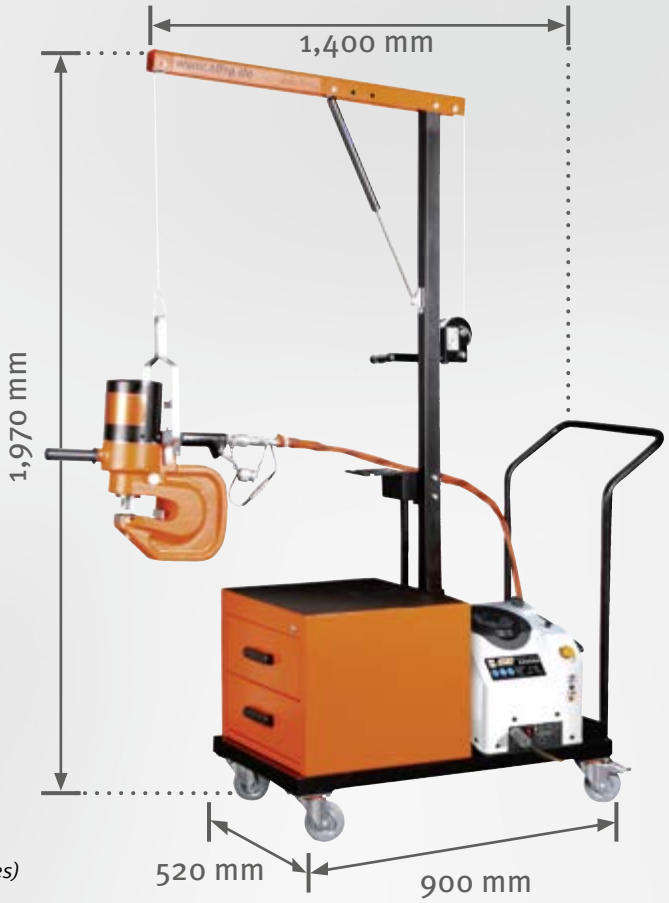
SERVICE-BOY

For hydraulic punching units APS of all types

This practical, time and energy-saving trolley makes handling of our ALFRA Press hydraulic punching units much easier.
Absolutely necessary for every steel and metal worker wherever punching units are already in use.

- Gas pressure shock absorbers allow the easy positioning of the punching head on the steel bar
- The hydraulic pump remains on the trolley, and must not be dragged along behind you
- Work tool cabinet with drawers for the clear arrangement of punching work tools and accessories
- Solid and secure – and more cost-effective than any "DIY-build"
- Dimensions (L x W x H): 900 x 520 x 1,970 mm

	Prod.-No.
Service-Boy Complete with tool cabinet and drawers	23160



Prod.-No. 23160 (without punching unit / pump + accessories)

APS GO

For all types of APS hydraulic punching units

APS GO enables you to easily move our punching units over the steel bar

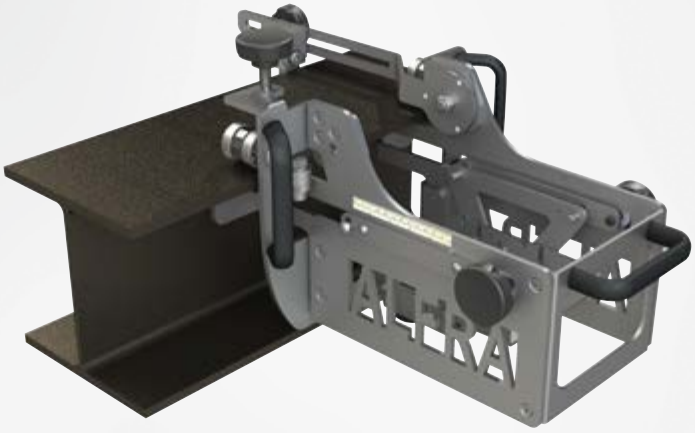
An adapter plate connects the punching unit to the moving system, and allows this to be removed at any time.

This generates enormous time savings, especially when punching at identical space intervals, as the measurement needs only to be set once, and the interval lengths are easy to measure.

Massive, solid heavy-duty rollers and the side-mounted hand grips enable completely effortless movement over the steel bar.

Dimensions (L x W x H): 700 x 355 x 280 mm
Weight: 14 kg / 30.8 lbs

	Prod.-No.
APS Go	23155



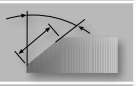
ALFRA DEBURRING TECHNOLOGY

- **Edge-Milling and Deburring Devices for universal use**

ALFRA EDGE-MILLING AND DEBURRING DEVICES – OVERVIEW

KFV

KFH 150

	KFV	KFH 150
Pages	**94 - 95**	**96 - 97**
Prod.-No.	25260	25100
Prism mounting	–	L = 150 mm / W = 20/40 mm
End mill Ø	45° or straight Ø 6 mm or 8 mm	TCT as per DIN, Ø 8 mm
Max. bevel width ► in multiple work steps 	1 - 3 mm	1 - 5 mm, depending on material, with fine adjustment
Edge angle	45° and radii	45°
High-performance motor	✔	✔
Motor performance	500 watt	1,050 watt
Infinitely variable speed control	11,000 - 25,000 min^{-1} with smooth start	8,000 - 25,000 min^{-1}
Full-wave control electronics	✔	✔
Clamping neck Ø	43 mm	43 mm
Voltage	230 V, 50 – 60 Hz + 110 V, 50 – 60 Hz	230 V, 50 – 60 Hz + 110 V, 50 – 60 Hz
Weight	1.8 kg	3.5 kg
Dimensions: (L x W x H)	260 x 190 x 150 mm	340 x 150 x 110 mm
Cable length	3.0 m	3.0 m

MOTORS

Prod.-No.	230V: 25193	110V: 25193.110	230V: 25191	110V: 25191.110

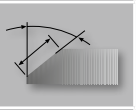
	KFT 250	KFH 250	KFT 500
			
	98 - 99	**100 - 101**	**102 - 103**
	25110	25130	25140
	L = 250 mm / W = 40 mm	L = 250 mm / W = 70 mm	L = 500 mm / W = 70 mm
	TCT as per DIN, Ø 8 mm	TCT as per DIN, Ø 12 mm	TCT as per DIN, Ø 12 mm
	1 - 5 mm, depending on material,	14 mm DIN S233-S235 6.5 mm stainless steel	1.5 - 14 mm
	45°	adjustable 30° - 45°- 30° swivelling right and left for 60° welding bevel. also for radii R = 3.0 4.0 and 5.0 using radius TCT milling cutter	45°
	✔	✔	✔
	1,050 watt	1,800 watt	1,800 watt
	8,000 – 25,000 min^{-1}	2,500 – 23,500 min^{-1}	2,500 – 23,500 min^{-1}
	✔	✔	✔
	43 mm	63 mm	63 mm
	230 V, 50 – 60 Hz + 110 V, 50 – 60 Hz	230 V, 50 – 60 Hz + 110 V, 50 – 60 Hz	230 V, 50 – 60 Hz + 110 V, 50 – 60 Hz
	5.0 kg	12.8 kg	18 kg
	360 x 250 x 110 mm	480 x 315 x 145 mm	450 x 500 x 160 mm
	3.0 m	3.0 m	3.0 m

MOTORS

					
	230V: 25191	110V: 25191.110	230V: 25192	110V: 25192.110	230V: 25192	110V: 25192.110

ALFRA EDGE-MILLING AND DEBURRING DEVICES – OVERVIEW

KFK 5

Pages	**106 - 107**
Prod.-No.	25200
Prism mounting	–
End mill Ø	Inserts
Max. bevel width **► in multiple work steps** 	45°: Steel 0 - 5 mm, aluminium 0 - 8 mm 30°: Steel 0 - 4 mm, aluminium 0 - 6 mm
Edge angle	45° (optional 30°, 60°) Radii R = 2.5
High-performance motor	✔
Motor performance	1,530 watt
Infinitely variable speed control	4,200 - 11,000 min^{-1} with Smooth start
Full-wave control electronics	✔ with thermal and overload protection
Right/left run	–
Voltage	230 V, 50 – 60 Hz + 110 V, 50 – 60 Hz
Weight	4.2 kg
Dimensions: (L x W x H)	L = 450 mm
Cable length	3.0 m

SKF 63-15

108 - 109
25010
Guide mounting with rollers 240 x 80 mm / 220 x 75 mm
Inserts
15 mm max
15° - 20° - 30° - 45° - 60° adjustable
✔
1,100 watt
2,870 min^{-1}
✔ with thermal and overload protection
–
230 V, 50 Hz + 110 V, 50 – 60 Hz
21.0 kg
440 x 200 x 280 mm
3.0 m

ALFRA EDGE DEBURRING UNIT KFV

4 applications – 1 device

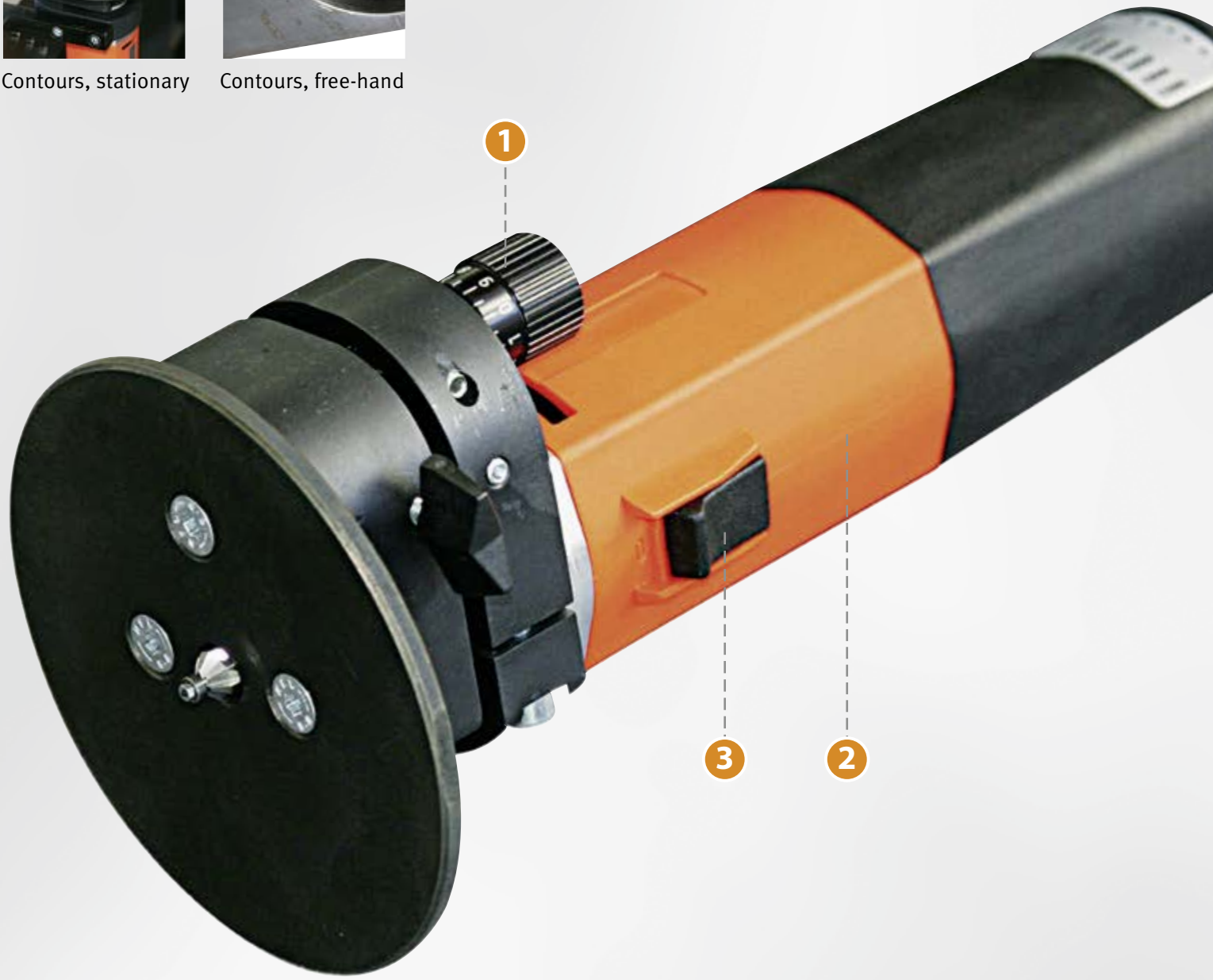
Prisms, free-hand

Prisms, stationary

Contours, stationary

Contours, free-hand

1. **Infinitely variable bevel width setting using scale**
2. **With thermal and overload protection**
3. **On/Off switch**



ALFRA EDGE MILLING UNIT – KFV

Drive motor (with clamping flange Ø 43 mm) 500 watts, speed control 11,000-25,000 rpm, quick-change fitting on the arbor of the attachments.

- Contour milling fitting with support table, 72 x 64 mm
- Table milling fitting with support plate, Ø 120 mm
- Tool-less bevel height setting.
- Handy and powerful.
- For structural steel, stainless steel, aluminium and other materials.
- Also for radii

Initial drill holes from:
Ø 3.0 mm for pin cutters
Ø 5.0 mm in spherical cutters

Technical specifications:

Bevel angle:	45°
Bevel width 45°:	1-3 mm infinitely adjustable
Radius:	R = 1.0 - 1.5 - 2.0
Motor voltage:	230 V 50-60Hz; 110V 50-60Hz
Rating:	500 W
Rotational speed:	11,000 - 25,000 min^{-1} with Smooth start with thermal and overload protection
Feed:	manual
Weight:	1.8 kg

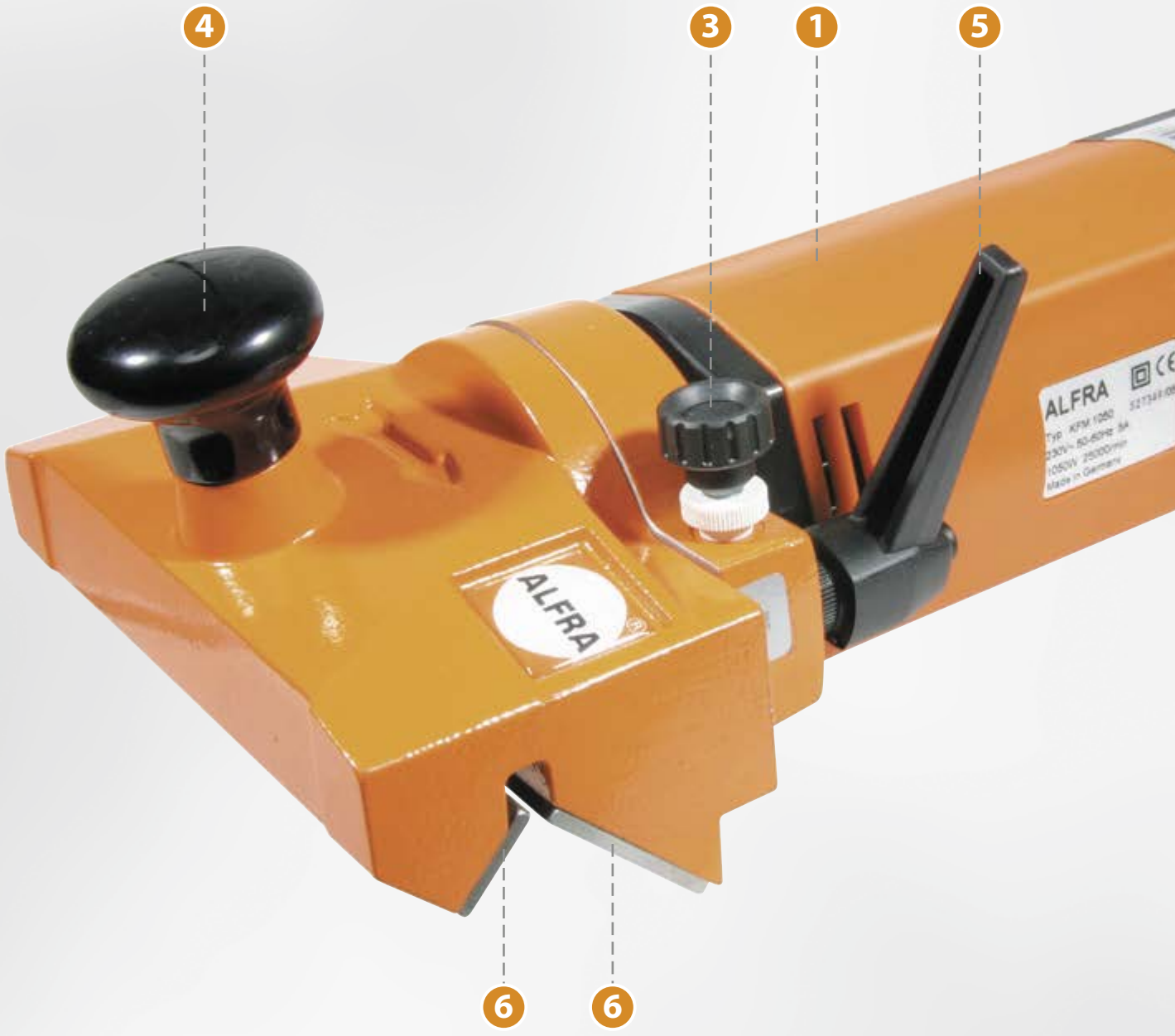
Scope of delivery:

- KFV deburring and bevelling device, drive motor with clamping flange Ø 43 mm
- Quick-change fitting for use with attachments
- Contour milling fitting with support table, 72 x 64 mm
- Table milling fitting with support plate, Ø 120 mm
- Prism milling fitting with guide rails 150 mm length
- Clamping shank for vice
- Collet 6 mm (mounted), collet 8 mm (included)
- 1 set of operating tools
- Carrying case
- Guide stop for outer edges

		Prod.-No.
Edge deburring unit, KFV complete	230V 50-60 Hz	25260
Edge deburring unit, KFV complete	110V 50-60 Hz	25260.110

ALFRA EDGE DEBURRING UNIT
KFH 150

1. High-performance motor with double-bearing-mounted milling spindle
2. Full-wave control electronics
3. Fine adjustment to milling depth/bevel width
4. Guidance handle
5. Clamping handle for quick adjustment
6. Guide rails made of high-strength special steel



ALFRA EDGE DEBURRING UNIT – KFH 150

The unit enables work pieces to be worked wherever machined edge milling is too expensive.

Hand-operated model for 45° deburring of larger work pieces, profiles, supports, sheet metal panels, with 90° mounting.

- Hand-operated, for 45° bevels
- Optimal guidance and safe handling
- Commercially available solid carbide cutter Ø 8 mm

Technical specifications:

Prism mounting 45°:	L = 150 mm W = 20/40 mm
End mill:	Solid carbide as per DIN, 8 mm Ø
Max. bevel width:	1 - 5 mm, depending on material, with fine adjustment
High-performance motor	with full-wave control electronics
Motor voltage:	230 V 50-60Hz; 110V 50-60Hz
Motor performance:	1,050 W
Electronics:	8,000 – 25,000 min^{-1}
Clamping neck Ø:	43 mm
Weight:	3.5 kg

Scope of delivery:

- Edge deburring unit KFH 150
- 1 set of guide rails
- 1 collet 8 mm Ø and clamping nut
- 1 Operating instructions

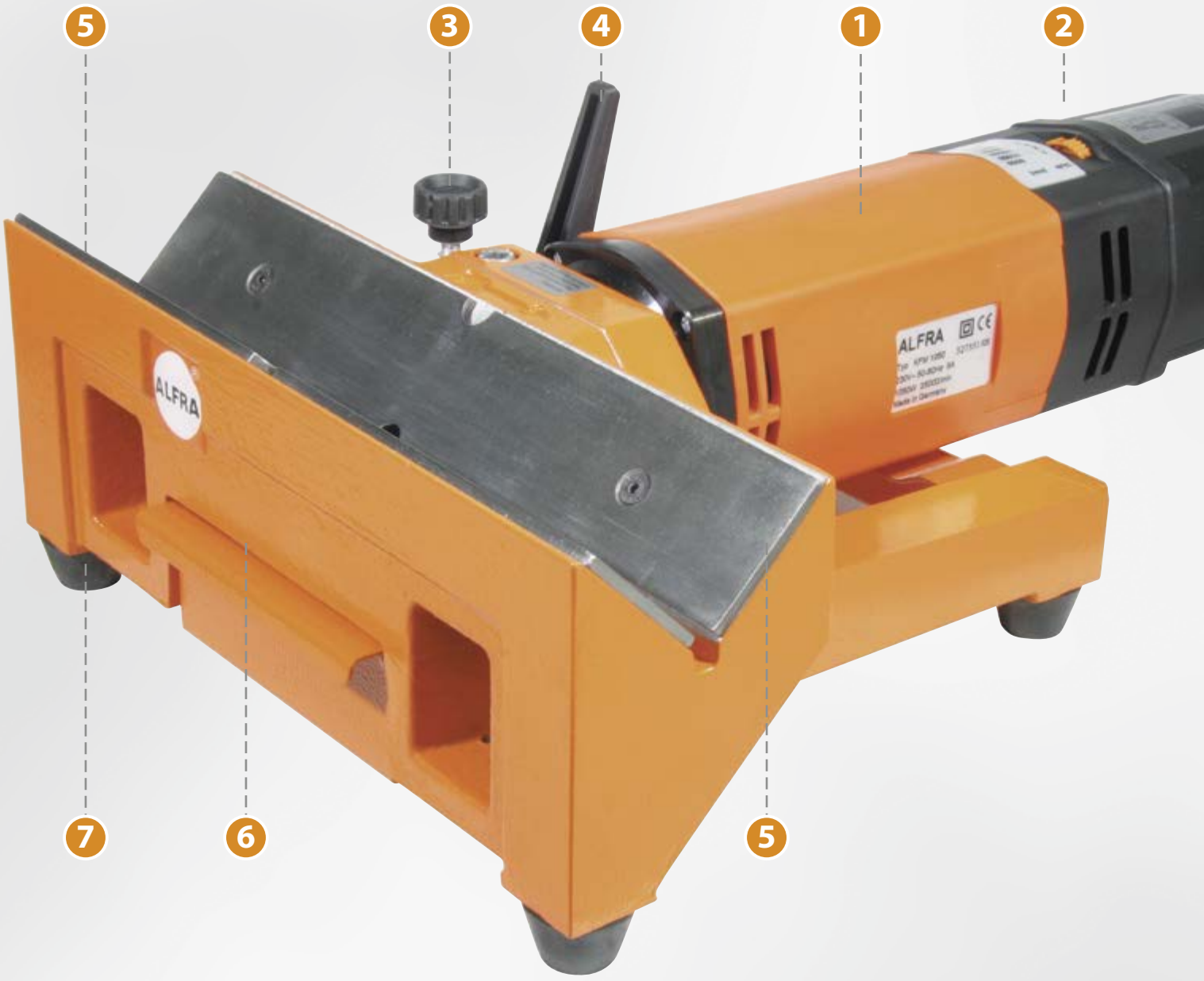
		Prod.-No.
Edge deburring unit, KFH 150	230V 50-60 Hz	25100
Edge deburring unit, KFH 150	110V 50-60 Hz	25100.110
Adapter head for edge deburring unit KFH 150		25109

Cost reduction:
Most of the cutting area can be accessed by moving the milling cutter in the collet.

ALFRA EDGE DEBURRING UNIT

KFT 250

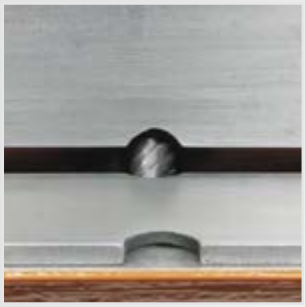
1. High-performance motor with double-bearing-mounted milling spindle
2. Full-wave control electronics
3. Fine adjustment to milling depth/bevel width
4. Clamping handle for quick adjustment
5. Guide rails made of high-strength special steel
6. Chip collection container
7. Rubber feet for smooth operation and excellent stability



ALFRA EDGE DEBURRING UNIT – KFT 250

Simple, cost-effective deburring unit for light to medium use.

To obtain perfectly milled surfaces with DIN 6527 solid carbide end mills in rolling sections with no secondary milling



Position I: Material thickness from 4.5 mm

Position II: Material thickness from 1.0 mm

Cost reduction:
Most of the cutting area can be accessed by moving the milling cutter in the collet.

Technical specifications:

Deburring area:	Bevel angle 45°
Prism mounting position I:	Material thickness from 4.5 mm
position II:	Material thickness from 1.0 mm
Prism mounting:	L = 250 mm
Guide rail:	W = 40 mm
Max. bevel width:	5 mm, depending on material. Also for stainless steel when selecting a suitable-milling cutter and RPM control, and cuts (spray edges with cutting oil).
Weight:	5.0 kg
High-performance drive motor:	1,050 W

Triple bearing
Double bearing-mounted milling spindle
Spindle bearings with high-speed lubrication

Standard clamping flange Ø:	43 mm
Infinitely variable speed control:	8,000 - 25,000 min^{-1}
Motor voltage:	230 V 50-60Hz; 110V 50-60Hz

Full-wave control electronics
When under load, the tachogenerator provides additional power.

Foot switch (optional)
Prod.-No. 25116

Scope of delivery:

- Edge deburring unit KFT 250, with fine milling depth adjustment
- 1 set of guide rails
- 1 collet 8 mm Ø and clamping nut
- 1 chip collection container
- 1 set of operating tools
- 1 Operating instructions

		Prod.-No.
Edge deburring unit, KFT 250	230V 50-60 Hz	25110
Edge deburring unit, KFT 250	110V 50-60 Hz	25110.110
Table for edge deburring unit KFT 250		25111
Special accessories:		
ALFRA foot switch with device cable socket	230V	25116
ALFRA foot switch with device cable socket	110V	25116.110

ALFRA EDGE DEBURRING UNIT
KFH 250

1. High-performance motor with double-bearing-mounted milling spindle
2. Full-wave control electronics
3. Fine adjustment to milling depth/bevel width
4. 30° – 45° – 30° swivelling
5. Ergonomically shaped guide hand grip
6. Clamping handle for quick adjustment
7. Guide rails made of high-strength special steel
8. Guide rollers facilitate feeding

ALFRA EDGE DEBURRING UNIT – KFH 250

Hand-held model specially developed for working on edges (visible edges) and bevelling up to 60° on large rectangular work pieces.

- A vital accessory for mechanical engineering
- Wide speed range for different materials
- Individually adjustable milling depth
- Easy to handle and guide with two support rollers

Fine adjustment to milling depth/bevel width

Cost reduction:
Most of the cutting area can be accessed by moving the milling cutter in the collet.

Technical specifications:

Prism mounting:	L = 250 mm W = 70 mm
End mill Ø:	12 mm DIN 6527
Max. bevel width:	14 mm (depending on the material)
Edge angle:	infinitely adjustable swivelling right and left. Also for radii r = 3.0, 4.0, 5.0 using radii solid-carbide milling cutter
Rating:	1,800 W (high-quality motor for difficult deburring tasks)
Infinitely variable speed control:	2,500 – 23,500 min^{-1}
Full-wave control electronics When under load, the tachogenerator provides additional power.	
Clamping neck Ø:	63 mm
Motor voltage:	230 V 50-60Hz; 110V 50-60Hz
Weight:	12.8 kg

Scope of delivery:

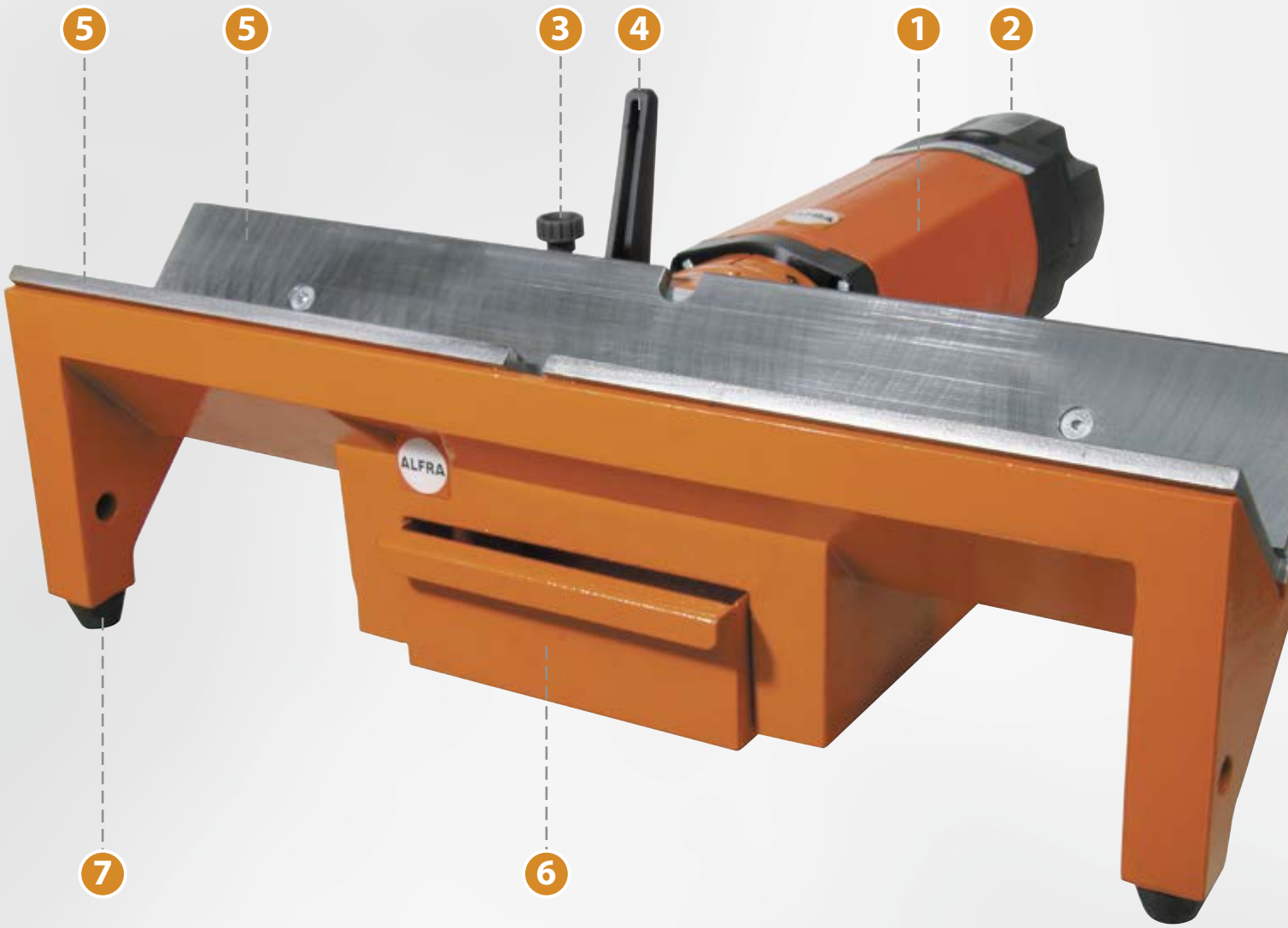
- Edge deburring unit KFH 250, with fine milling depth adjustment
- 1 set of guide rails with two support rollers
- 1 collet Ø 12 mm and clamping nut
- 1 set of operating tools
- 1 Operating instructions

		Prod.-No.
Edge deburring unit, KFH 250	230V 50-60 Hz	25130
Edge deburring unit, KFH 250	110V 50-60 Hz	25130.110
Adapter head for edge deburring unit KFH 250		25131

Prism mounting and support rollers made of wear-resistant plastic upon request.

ALFRA EDGE DEBURRING UNIT KFT 500

1. High-performance motor with double-bearing-mounted milling spindle
2. Full-wave control electronics
3. Fine adjustment to milling depth/bevel width
4. Clamping handle for quick adjustment
5. Guide rails made of high-strength special steel
6. Chip collection container
7. Rubber feet for smooth operation and excellent stability



ALFRA EDGE DEBURRING UNIT – KFT 500

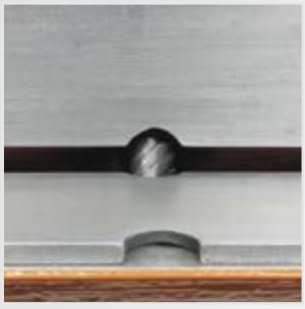
For medium- and large-sized work pieces.
Max. bevel width 14 mm

To obtain perfectly milled surfaces with solid carbide end mills in rolling sections with no secondary milling.

Precise deburring by rolling milling

Foot switch (optional)
Prod.-No. 25116

Fine adjustment to milling depth/bevel width



Position I: Material thickness 6-14 mm

Position II: Material thickness from 1.5 mm

Cost reduction:
Most of the cutting area can be accessed by moving the milling cutter in the collet.

Technical specifications:

Deburring area:	Bevel angle 45°
Prism mounting position I:	Material thickness 6-14 mm
position II:	Material thickness from 1.5 mm
Prism mounting:	L = 500 mm
Guide rail:	W = 70 mm
Max. bevel width:	14 mm, depending on material Also for stainless steel when selecting a suitable-milling cutter and RPM control, and cuts (spray edges with cutting oil). Also for radii R 3.0, 4.0, 5.0 using radius solid carbide cutter
High-performance drive motor:	1,800 W
Triple bearing, double bearing-mounted milling spindle	
Spindle bearings with high-speed lubrication	
Clamping neck Ø:	63 mm
Infinitely variable speed control:	2,500 – 23,500 min^{-1}
Motor voltage:	230 V 50-60Hz; 110V 50-60Hz
Full-wave control electronics	
When under load, the tachogenerator provides additional power.	
Weight:	18 kg

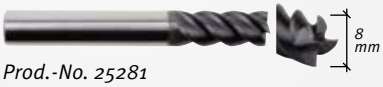
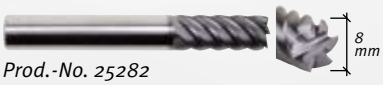
Scope of delivery:

- Edge deburring unit KFT 500, with fine milling depth adjustment
- 1 set of guide rails
- 1 collet Ø 12 mm and clamping nut DIN 6499
- 1 chip collection container
- 1 set of operating tools
- 1 Operating instructions

		Prod.-No.
Edge deburring unit, KFT 500	230V 50-60 Hz	25140
Edge deburring unit, KFT 500	110V 50-60 Hz	25140.110
Table for edge deburring unit KFT 500		25141
ALFRA foot switch with device cable socket	230V	25116
ALFRA foot switch with device cable socket	110V	25116.110

Shorter run times and motor-saving work.
Function: Foot switch pressed – socket is live
Foot switch released – power supply interrupted

ALFRA – SOLID CARBIDE MILLING CUTTERS FOR KFV

Description	Prod.-No.				
Solid carbide milling cutter 90° Ø 6 mm, tip Ø 2.5 mm, length 31 mm, 3 cuts Suitable for: stainless steel, cast iron	25270-A	■		■	 Prod.-No. 25270-A
Solid carbide milling cutter 90° Ø 6 mm, tip Ø 2.5 mm, length 31 mm, 5 cuts Suitable for: stainless steel, cast iron	25271-A	■	■		 Prod.-No. 25271-A
Solid carbide milling cutter radius R = 0.5 Ø 6 mm, tip Ø 2.9 mm, length 31 mm, 3 cuts Radius R = 0.5 Suitable for: stainless steel, cast iron	25272-A	■	■		 Prod.-No. 25272-A
Solid carbide milling cutter radius R = 1.0 Ø 6 mm, tip Ø 2.9 mm, length 31 mm, 3 cuts Suitable for: stainless steel, cast iron	25273-A	■	■		 Prod.-No. 25273-A
Solid carbide milling cutter radius R = 1.5 Ø 6 mm, tip Ø 2.9 mm, length 31 mm, 3 cuts Suitable for: stainless steel, cast iron	25274-A	■	■		 Prod.-No. 25274-A
Solid carbide milling cutter radius R = 1.0 Ø 10 mm, tip Ø 4.8 mm, length 30 mm, 6 cuts Suitable for: stainless steel, cast iron	25275-A	■	■		 Prod.-No. 25275
Solid carbide milling cutter radius R = 1.5 Ø 10 mm, tip Ø 4.8 mm, length 30 mm, 6 cuts Suitable for: stainless steel, cast iron	25276-A	■	■		 Prod.-No. 25276-A
Solid carbide milling cutter radius R = 2.0 Ø 10 mm, tip Ø 4.8 mm, length 30 mm, 6 cuts Suitable for: stainless steel, cast iron	25277-A	■	■		 Prod.-No. 25277-A
Solid carbide milling cutter 90° Ø 10 mm, tip Ø 4.8 mm, length 30 mm, 6 cuts Suitable for: stainless steel, cast iron	25278-A	■	■		 Prod.-No. 25278-A
Solid carbide milling cutter radius R = 2.0 Ø 10 mm, tip Ø 2.9 mm, length 30 mm, 3 cuts incl. thrust bearing Suitable for: stainless steel, cast iron	25284-A	■	■		 Prod.-No. 25284-A
Solid carbide milling cutter 45° Ø 10 mm, tip Ø 2.9 mm, length 30 mm, 3 cuts incl. thrust bearing Suitable for: stainless steel, cast iron	25285-A	■	■		 Prod.-No. 25285-A
Axes with thrust bearing Axes: Ø 1.5 mm - KL: Ø 3.0 mm) Suitable for deburring end mills with tips - Ø 2.5 - 2.9 mm	25279-A	■	■		 Prod.-No. 25279-A
Axes with thrust bearing Axes: Ø 1.5 mm - KL: Ø 5.0 mm) Suitable for deburring end mills with tips - 4.8 mm	25280-A	■	■		 Prod.-No. 25280-A
Solid carbide milling cutter with serration Ø 8 mm, 4 cuts Suitable for: Steel, stainless steel, cast iron	25281			■	 Prod.-No. 25281
Solid carbide milling cutter with serration Ø 8 mm, 6 cuts Suitable for: Steel, stainless steel, cast iron, brass, bronze	25282			■	 Prod.-No. 25282
Solid carbide milling cutter with serration Ø 8 mm, 12 cuts Suitable for: Steel, stainless steel, cast iron	25283			■	 Prod.-No. 25283

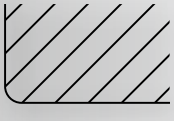
ALFRA – SOLID CARBIDE MILLING CUTTERS FOR KFH / KFT

ALFRA Solid Carbide Milling Cutters (similar to DIN 6527)

This solid carbide end mill was developed for perfect deburring

- The chips are removed from the motor spindle into the chip collection container or in the chip duct
- Total length 60 mm or 80 mm
- **Coated design**




	Ø	Cutting	Prod.-No.	Prod.-No.	Prod.-No.	Prod.-No.
Solid Carbide Milling Cutter End mill with larger chip spaces, suitable for large bevels on soft materials such as **aluminium** as well as brass, copper, and plastics. Universal application for steel and stainless steel.						
	8 mm	3	25150P	25150P		
	12 mm	3			25160P	25160P
Solid Carbide Milling Cutter End mill with larger chip spaces, suitable for larger bevels Universal application such as for **stainless steel**, as well as steel, cast iron, non-ferrous metals, plastics						
	8 mm	4	25151P	25151P		
	12 mm	4			25161P	25161P
Solid Carbide Milling Cutter Roughing, fine cord. For attaching welding bevels. For **steel**, as well as cast iron, stainless steel (universal milling cutter)						
	8 mm	4	25154P	25154P		
	12 mm	4			25163P	25163P
Solid carbide radius milling cutter* ■ Solid carbide radius end mill with 2 radius grooves for dual use ■ For rounding off work piece edges ■ Universally applicable. For hard materials, the radii should be created in successive steps with increasing milling depths ■ The fine adjustment of the contour of the radii to the edge of the work piece is achieved using the axial displacement of the motor in the clamping holes						
 	R 3.0	12 mm	5			25165	25165
	R 4.0	12 mm	5			25166	25166
	R 5.0	12 mm	5			25167	25167

*Delivery time upon request.

ALFRA EDGE DEBURRING UNIT KFK 5

1. High-performance motor with Smooth start
2. Infinitely variable bevel width setting using scale
3. Ergonomically shaped hand grip with on/off switch
4. With thermal and overload protection

ALFRA EDGE DEBURRING UNIT – KFK 5

For deburring inner and outer edges, bevelling metal parts, milling radii and holes from Ø 20 mm.
Specially developed to produce clean visible edges and weld preparation.

- Tool-less bevel height setting
- Handy and powerful
- For structural steel, stainless steel, aluminium and other materials
- Multiple insert holders 45° (optional 30°)
- Also for radii R = 2.5

Start holes from Ø 20 mm.

Technical specifications:

Bevel angle:	45° (optional 30°, 60°)
Bevel width 45°:	Steel 0 - 5 mm 400 N/mm² steel infinitely variable Steel 0 - 8 mm 250 N/mm² steel infinitely variable
Bevel width 30°:	Steel 0 - 4 mm 400 N/mm² steel infinitely variable Steel 0 - 6 mm 250 N/mm² steel infinitely variable
Radius:	R = 2.5
Motor voltage:	230 V 50-60Hz; 110V 50-60Hz
Rating:	1,530 W
Rotational speed:	4,200 - 11,000 min^{-1} with Smooth start with thermal and overload protection
Feed:	manual
Weight:	4 kg

Scope of delivery:

- KFK 5 - Deburring and bevelling unit
- 1 pc. 45° milling tool with inserts
- 1 tool set
- Carrying case
- 1 Operating instructions

Prod.-No. 25207

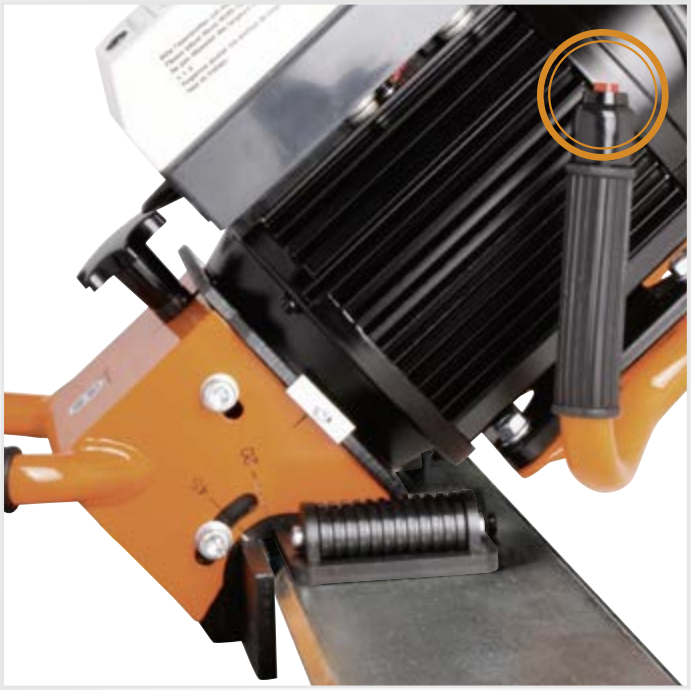
	Prod.-No.
Edge deburring unit KFK 5 - with 45° milling head 230V 50-60 Hz	25200
Edge deburring unit KFK 5 - with 45° milling head 110V 50-60 Hz	25200.110
Edge deburring unit KFK 5 - with 30° milling head 230V 50-60 Hz	25201
Edge deburring unit KFK 5 - with 30° milling head 110V 50-60 Hz	25201.110
Additional Accessories:	
45° replacement milling head/radius R=2.5 (no inserts)	25202
30° replacement milling head (no inserts)	25203
60° replacement milling head (no inserts) upon request	25213
Adjustable guide stop for outer edges	25207
Tools:	
Insert PM25M for steel 13.47 x 3 coated	25206
Radius insert 2.5 mm	25205
Insert K10 for aluminium/cast iron	25208
Insert BK84 for steel/stainless steel	25209
Torx screws, individual, for replacement inserts	25210

ALFRA BEVEL MILLING MACHINE

SKF 63-15

ALFRA BEVEL MILLING MACHINE – SKF 63-15

- **The ALFRA bevel milling machine was specially developed for weld preparation and for milling metallic materials.**
- **Universally applicable in construction areas thanks to its light weight and direct use on the work piece.**
- **Designed for one-man operation, the machine is placed on a 90° angle on the work piece, a light downward pressure applied, and guided along manually.**
- **The design of this side milling cutter, which uses commercially available inserts and a rotation speed of 2,870 rpm, guarantees chatter-free, uniform bevel milling.**
- **The roller guide rails are made of hardened steel and guarantee excellent feed rates.**
- **Simple, safe operation with overload protection and restart interlock.**
- **OFF switch integrated into the right-side hand grip (illustration).**
- **Pipes from Ø 160 mm to 390 mm can be externally milled by means of an additional device.**
- **Optional device for larger pipes, Ø of 1,000 - 1,500 - 2,000 mm upon request.**



Built-in OFF switch

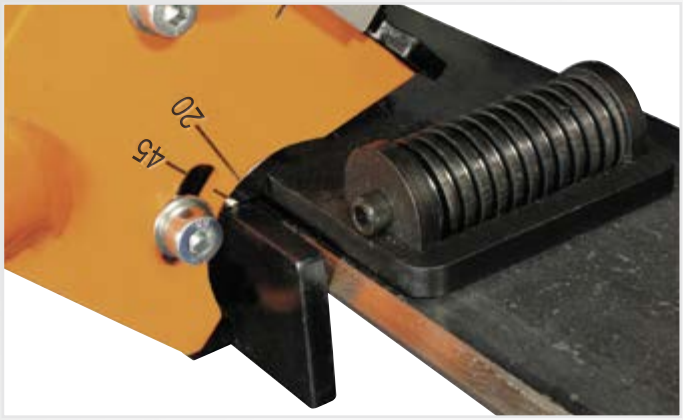
Technical specifications:

Motor voltage:	230 V 50Hz; 230 V 60Hz; 110V 50Hz; 110V 60Hz
Rating:	1,100 watt
Rotational speed:	2,870 min^{-1}
Bevel width:	15 mm; max.
Bevel angle:	15 - 20 - 30 - 45 - 60° adjustable
Weight:	21 kg
Dimensions (L x W x H):	440 x 200 x 280 mm

Scope of delivery:

- Edge deburring machine SKF 63-15
- 1 set of operating tools
- Operating instructions
- Carrying case

2 milling disks together with 6 inserts each



		Prod.-No.
Bevel milling machine SKF 63-15	230V 50 Hz	25010
Bevel milling machine SKF 63-15	230V 60Hz	25010.230-60Hz
Bevel milling machine SKF 63-15	110V 50Hz	25010.110-50Hz
Bevel milling machine SKF 63-15	110V 60Hz	25010.110-60Hz

Option:

SKF 63/15 with reduced rpm of 1,400 rpm for use on stainless steel available upon request.

Optional accessories:

Tube insert for processing tube outer bevelling from Ø 160 mm - 390 mm	25014

Optional device for larger Ø up to 1,000 - 1,500 - 2,000 mm upon request.

Replacement parts:

Replacement milling head	25011

Consisting of: 2 milling disks and 6 high-speed inserts

Replacement milling disks, individual, with no insert	25012
Carbide insert, TiAlN/TiN-PVD multi-layer coating	25013

Universal for steel and inox, clearance angle 11°

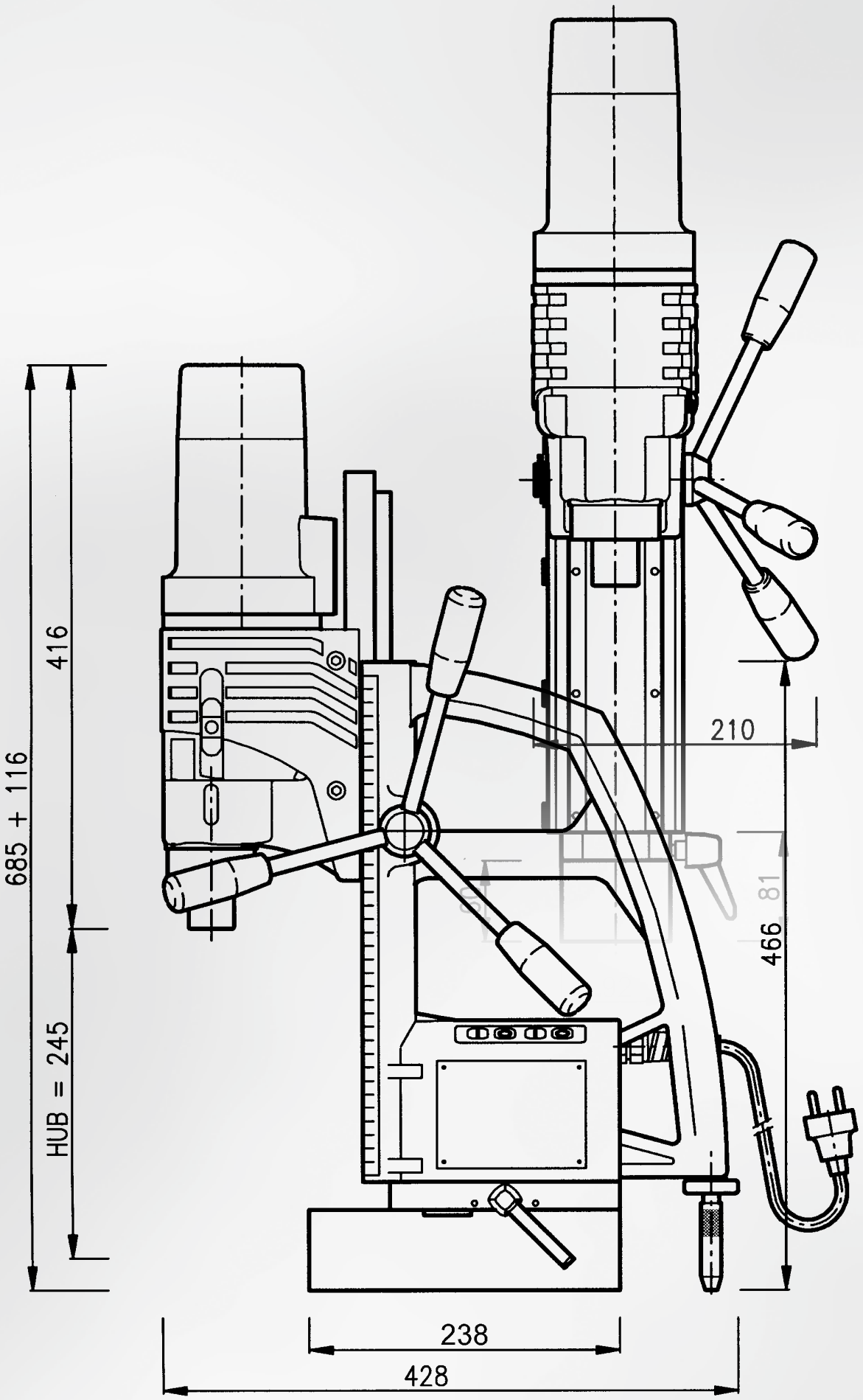
Carbide insert, TiAlN /TiN-PVD multi-layer coating	25010.15036B

For steel < 850 N/mm²; inox <> 900 N/mm², clearance angle 20°

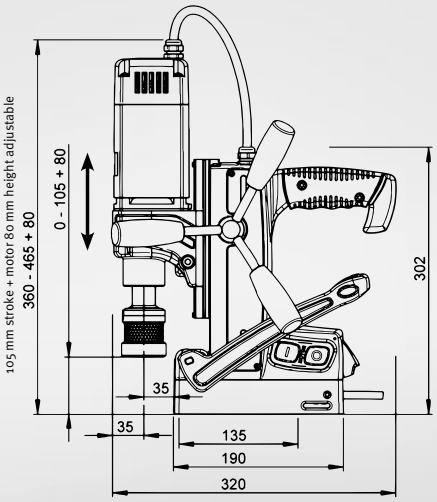
Carbide insert, TiAlN/TiN-PVD multi-layer coating	25010.15036E

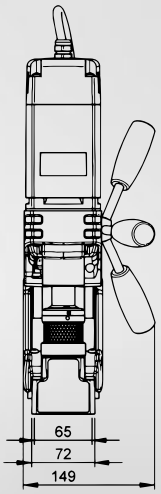
For steel < 1400 N/mm²; inox <> 900 N/mm², clearance angle 11°

TECHNICAL INFORMATION

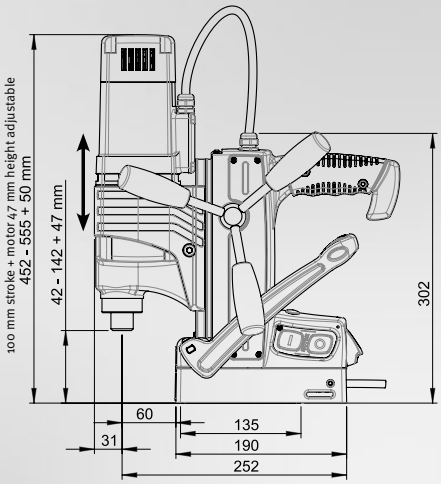


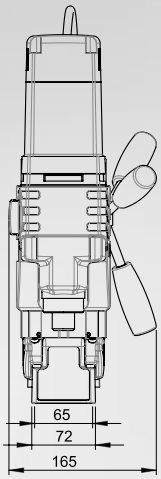
RB 35 SP





RB 50 SP





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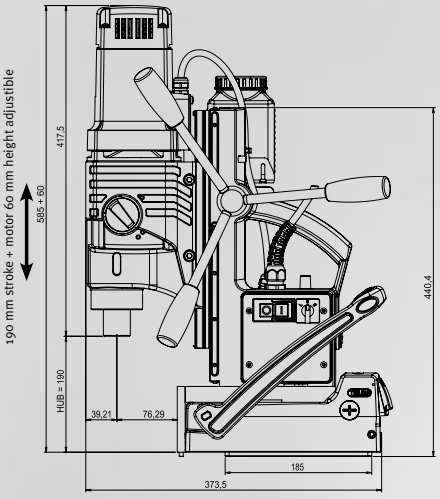

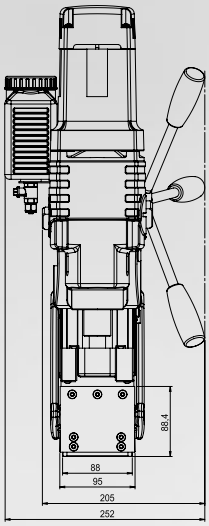

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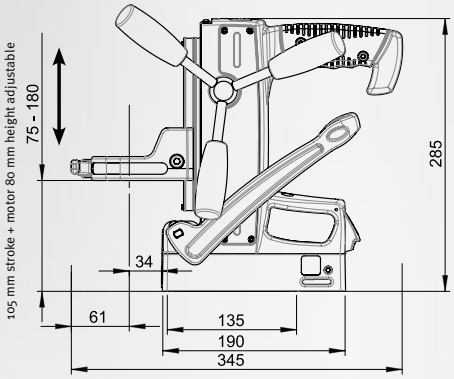

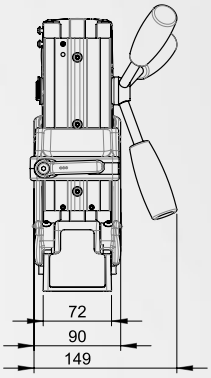

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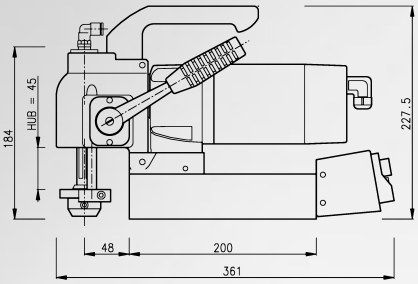

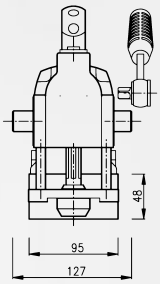

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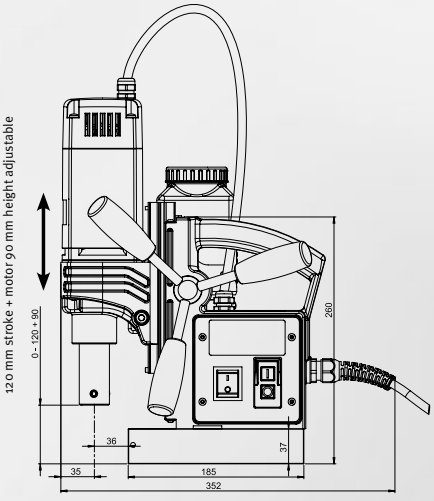

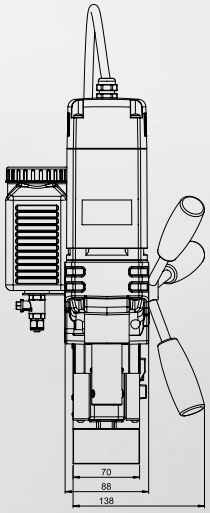

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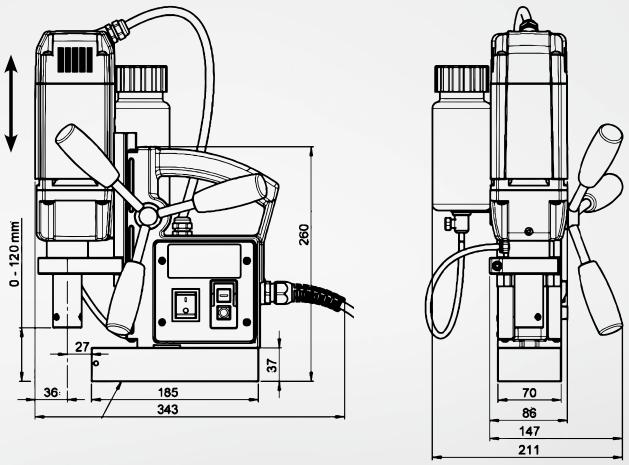

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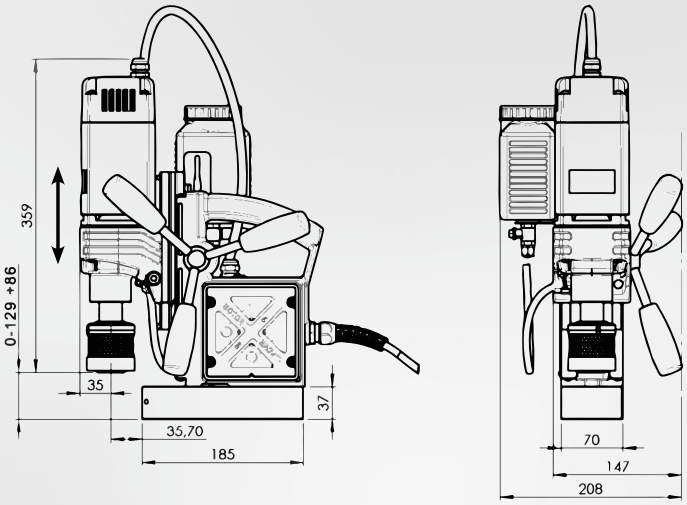

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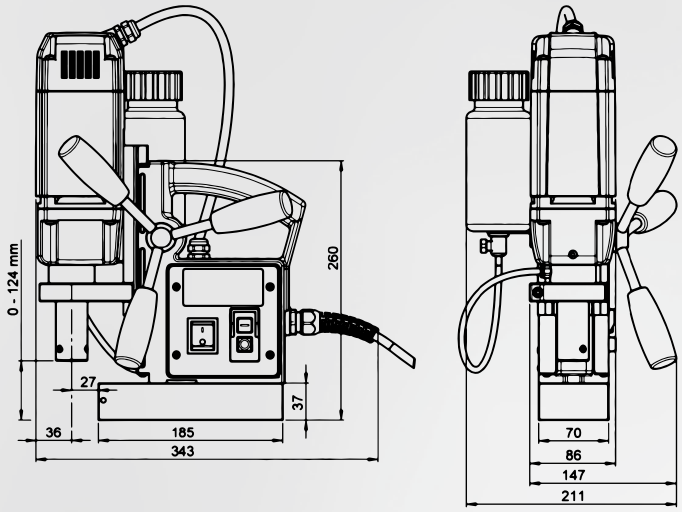

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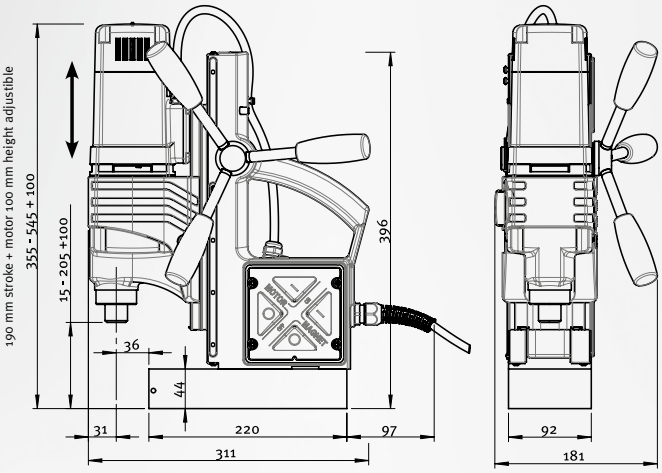

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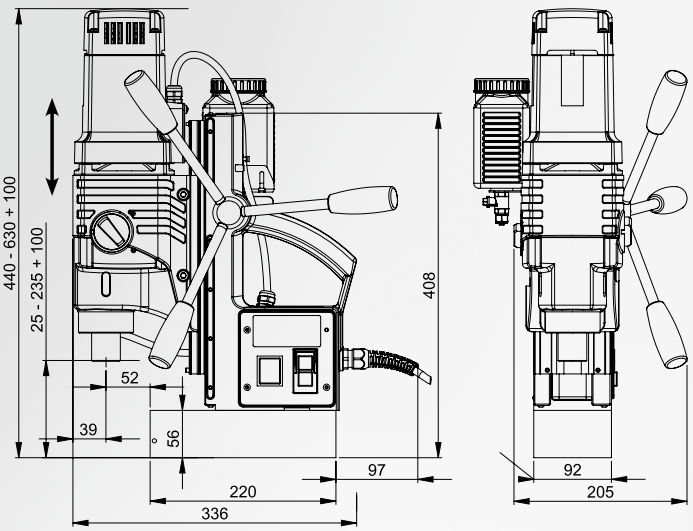

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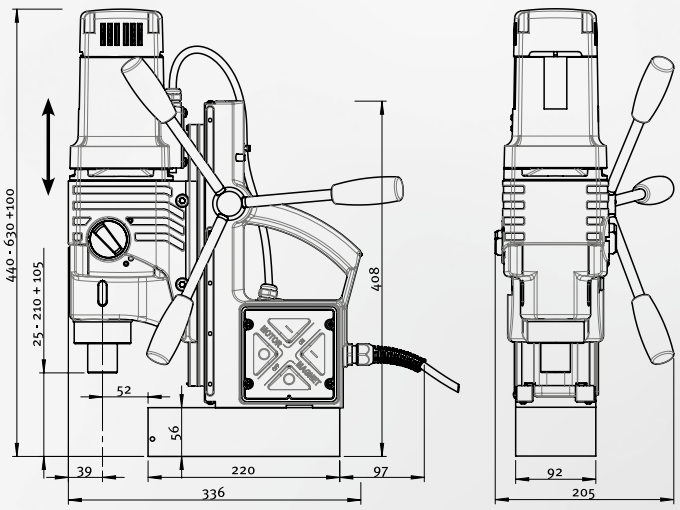
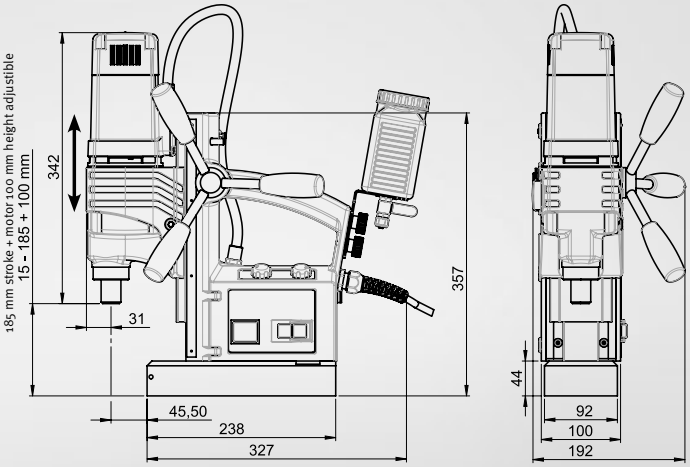


MACHINE DIMENSIONING – ALFRA ROTABEST®

RB 50 B RL-E



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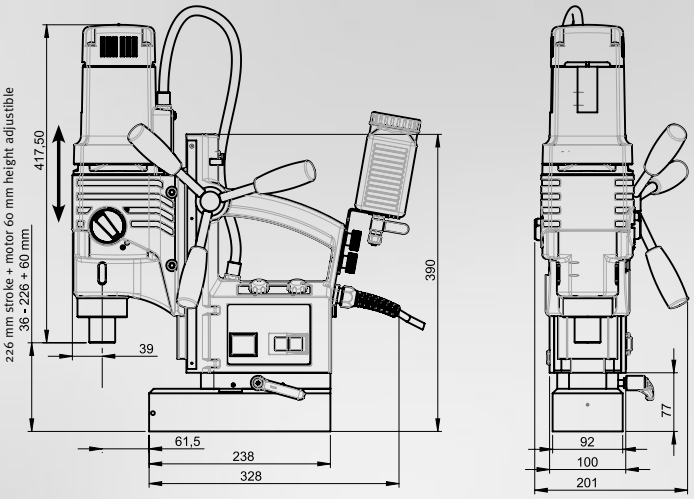
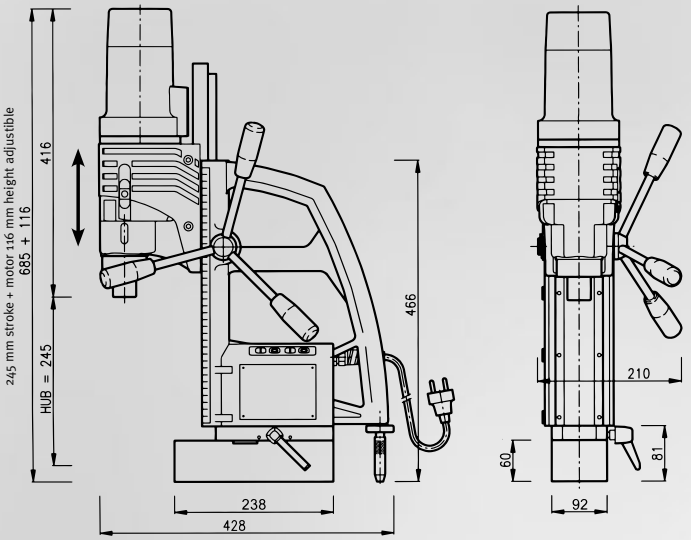


RB 100 RL-E



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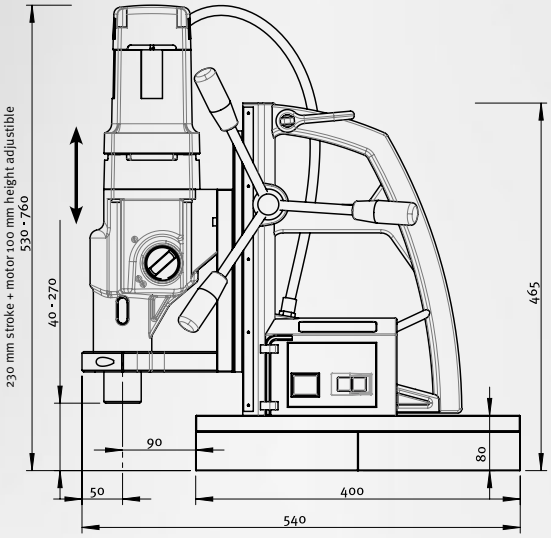
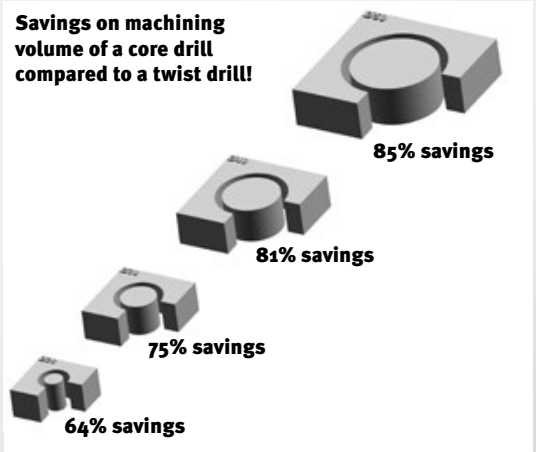


THE CORE DRILL PRINCIPLE

Metal core drilling in Germany was introduced by ALFRA

- Core drills only machine a fraction of the material which a twist drill machines with the same bore diameter.
- A drill core remains which is ejected unmachined after drilling.
- Therefore low drive power and feeding pressure are required.
- Pre-drilling must be done with twist drills which does not apply for core drilling and the desired diameter can be drilled directly.

The main drilling times are significantly reduced depending on the bore diameter.



ALFRA CORE DRILLS – SPEED OVERVIEW

FOR HSS AND HSS-CO CORE DRILLS

Material		unalloyed steel Up to 700 N/mm²	alloyed steel Up to 1000 N/mm²	aluminium alloy
Vc=m/min		30	20	30
Cooling lubricant		Cutter oil	Cutting oil	Cutting oil
Ø mm	Ø "	rpm	rpm	rpm
Not suitable for automatic feed!				
12	15/32	796	531	796
13	33/64	735	490	735
14	35/64	682	455	682
15	19/32	637	425	637
16	5/8	597	398	597
17	43/64	562	375	562
18	45/64	531	354	531
19	3/4	503	335	503
20	25/32	478	318	478
21	53/64	455	303	455
22	7/8	434	290	434
23	29/32	415	277	415
24	15/16	398	265	398
25	63/64	382	255	382
26	1 1/32	367	245	367
27	1 1/16	354	236	354
28	1 3/32	341	227	341
29	1 9/64	329	220	329
30	1 3/16	318	212	318
31	1 7/32	308	205	308
32	1 17/64	299	199	299
33	1 19/64	290	193	290
34	1 11/32	281	187	281
35	1 3/8	273	182	273
36	1 27/64	265	177	265
37	1 29/64	258	172	258
38	1 1/2	251	168	251
39	1 17/32	245	163	245
40	1 37/64	239	159	239
41	1 39/64	233	155	233
42	1 21/32	227	152	227
43	1 11/16	222	148	222
44	1 47/64	217	145	217
45	1 25/32	212	142	212
46	1 13/16	208	138	208
47	1 55/64	203	136	203
48	1 57/64	199	133	199
49	1 15/16	195	130	195
50	1 31/32	191	127	191
60	2 3/8	159	106	159

When drilling Hardox, we recommend using ASP 30 / ASP 60 core drills. Use pure cutting oil for the drilling of Hardox and reduce the speed by 10% appr., as in the column “Alloyed steel up to 1000 N/mm²”. Use only magnetic drills with high holding force or column drilling and milling machines.

FOR TCT CORE DRILLS

Material		unalloyed steel Up to 700 N/mm²	alloyed steel Up to 1000 N/mm²	aluminium alloy
Vc=m/min		50	35	60
Cooling lubricant		Cutter oil	Cutting oil	Cutting oil
Ø mm	Ø "	rpm	rpm	rpm
Not suitable for automatic feed!				
18	45/64	885	619	1062
19	3/4	838	587	1006
20	25/32	796	557	955
21	53/64	758	531	910
22	7/8	724	507	869
23	29/32	692	485	831
24	15/16	663	464	796
25	63/64	637	446	764
26	1 1/32	612	429	735
27	1 1/16	590	413	708
28	1 3/32	569	398	682
29	1 9/64	549	384	659
30	1 3/16	531	372	637
31	1 7/32	514	360	616
32	1 17/64	498	348	597
33	1 19/64	483	338	579
34	1 11/32	468	328	562
35	1 3/8	455	318	546
36	1 27/64	442	310	531
37	1 29/64	430	301	531
38	1 1/2	419	293	503
39	1 17/32	408	286	490
40	1 37/64	398	279	478
41	1 39/64	388	272	466
42	1 21/32	379	265	455
43	1 11/16	370	259	444
44	1 47/64	362	253	434
45	1 25/32	354	248	425
46	1 13/16	346	242	415
47	1 55/64	339	237	407
48	1 57/64	332	232	398
49	1 15/16	325	227	390
50	1 31/32	318	223	382
55	2 5/32	290	203	347
60	2 3/8	265	186	318
65	2 9/16	245	171	294
70	2 3/4	227	159	273
75	2 61/64	212	149	255
80	3 5/32	199	139	239
85	3 11/32	187	131	225
90	3 35/64	177	124	212
95	3 47/64	168	117	201
100	3 15/16	159	111	191

TAPPING – RECOMMENDED VALUES (TOLERANCE ACCORDING TO ISO 2 6H)

RECOMMENDED VALUES FOR USE OF MACHINE TAP DRILLS WITH TAPPING ATTACHMENTS ON MAGNETIC DRILLS

Tapping: The tap drill to be used must be matched to the core hole prepared in the work piece. Please refer to the enclosed borehole table for metric ISO threads.

Borehole table metric ISO threads

Dimensions	Stg.	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

Fine thread

Dimensions	Stg.	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 the production of threads

1. **Clearance hole**
   We recommend adjacent tap drills for the clearance holes which convey the chips out of the borehole in the cutting direction. The special polished section also allows a reliable re-threading when the tap drill is withdrawn from the tapped hole and moves back in an anticlockwise direction.

2. **Blind holes**
   We recommend adjacent tap drills for blind holes. The chips are guided out of the borehole against the direction of the cutting. It is particularly important to ensure that the tap drill does not run aground, because otherwise the automatic return can no longer be activated. A correspondingly large pre-borehole depth must be planned.

   If this is not done, the tap drill must be loosened manually.

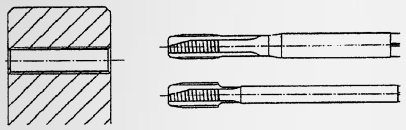
3. **Blind holes up to 1.5 x D**
   For this, our tap drills are suited to according to the adjacent figure. Also here, the chips are conveyed away out of the borehole against the cutting direction. Also here, it must be ensured that the tap drill does not run aground. A correspondingly large pre-borehole depth must be taken into account.

   If this is not done, the tap drill must be loosened manually.

Beside our tap drills with a reinforced shank, tap drills with a reduced shaft according to DIN 376 can, of course, also be used.

Please work with sufficient coolant that is recommended by the manufacturer for tapping.

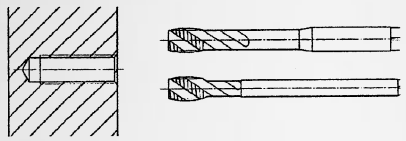
Chip ejection downward through the hole



DIN 371 with a reinforced shank form B, with spiral point, 3.5 to 5 pitches

DIN 376 with a reduced shaft, thread depth 3 x D

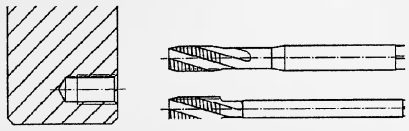
Chip ejection along the tool



DIN 371 with reinforced shank with a spiral groove, approx. 35° right-hand twist bevel C, approx. 3 pitches

DIN 376 with reduced shaft Thread depth 2.5 x D

Chip ejection along the tool



DIN 371 with reinforced shank with a spiral groove, approx. 17° right-hand twist, bevel C, approx. 2 to 3 pitches

DIN 376 with reduced shaft Thread depth 1.5 x D

TCT TOOLS – TECHNICAL TERMS

Clearance angle
is the angle between the carbide teeth and the material to be machined. ALFRA TCT core drills have several clearance angles on a cutting edge.

Cutting depth
is the maximum material thickness that can be machined with the respective tool (should not be confused with the construction height of the tool).

Chip flute
gathers up the chips generated or removes these from the borehole.

Chip breaker
directs the chips from the carbide tooth into the chip flute.

Cutting face
the chip is formed on this surface.

Angle of rake
is the angle between the tool axis and the cutting face.

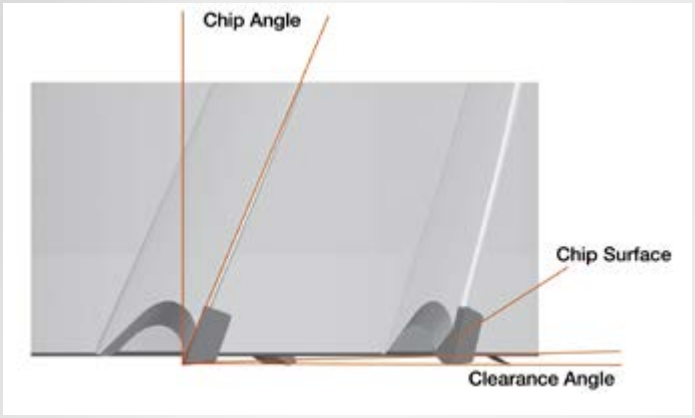
Tooth projection
is the carbide projection to the core.

Tooth height difference
is used for the chip splitting.

Speed, cutting speed and feed rate (typical values)
Rotabest®- TCT hole cutters
Not suitable for automatic feed

Material	m/min	mm/r
Construction steel 50 kp/m²	40-60	0.08-0.12
Steel 50-70 kp/m²	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

Accuracy (reference value) / Input / + 0.10 mm Output /± 0 mm



TCT-HOLE SAWS – SPEED CHART

Speed calculation

n = Speed (1/min)
v_c = Cutting Speed (m/min)
d = Tool diameter (mm)

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

Worked sample:

d = 20 mm
v_c = 50 m/min

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

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	14 15
20	318	398	478	557	637	717	796	876	955	1035	11 15	1194	1274
22	290	362	434	507	579	651	724	796	869	941	101 3	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	l114	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 bis 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.

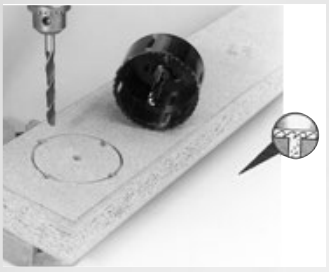
Notes on use
For multipurpose hole saw with rim countersink
- The rim countersink is placed between hole saw and adapter and the carbide cutter is used to make a countersink in timber and timber substitutes. This makes it possible to fit sockets flush.

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.

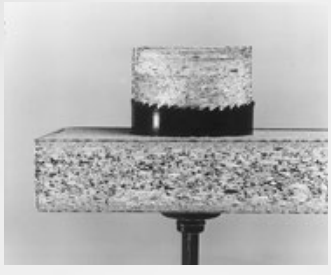
HSS BI METAL HOLE SAWS – NOTES ON USE

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

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 we 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)

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

SPEED CHART – MULTI-STEP DRILLS/CONICAL ONE-LIP BITS

ALFRA-Multi-step drills

These drills were especially to drill perfectly round and simultaneously deburred holes insheet metals of 3 - 6 mm. The radius transition simultaneously deburrs or bezels 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).**

Type		Stahl-blech S235	V2A Bleche	NE-Metalle	Kunst-stoff weich
AM	anbohren	800	360	1000	1000
	aufsenken	500 - 180	50 - 70	800 - 400	1000 - 400
AM-1	anbohren	800	360	1000	1000
	aufsenken	200 - 100	100 - 50	500 - 200	600 - 250
PVD, PVK, DKI PVD-VA + SVB	anbohren	800	360	1000	1000
	aufsenken	400 - 200	200 - 100	800 - 500	1000 - 600

ALFRA HSS DM 05 Precision Multi-step drills

- **Take notice of the cuttig 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	unalloyed Mild steel 700 N/mm²	Mild steel 1000 N/mm²	Alloy steel > 250 N/mm²	Stainless steel < 1000 N/mm²	Al. alloy up to 11% Si	Thermo-plastic	Duro-plastic	Wood
Material gauge	**4.0 mm**	**4.0 mm**	**4.0 mm**	**3.0 mm**	**4.0 mm**	**4.0 mm**	**4.0 mm**	**25.0 mm**
Drilling paste	**X**	**X**	**X**	**X**	**X**	**H_2O**	**Air**	
m/min	**20 - 25**	**10 - 16**	**8 - 12**	**5 - 12**	**10 - 16**	**12 - 25**	**8 - 12**	**40 - 100**
Ø mm	**U/min**	**U/min**	**U/min**	**U/min**	**U/min**	**U/min**	**U/min**	**U/min**
3.0 - 14.0	2600 - 600	2100 - 450	1060 - 230	500 - 300	2600 - 550	2100 - 450	1500 - 340	3000 - 1000
6.0 - 20.0	1500 - 400	1200 - 320	640 - 160	400 - 250	1590 - 400	1270 - 320	950 - 240	2800 - 1000
6.0 - 22.5	1500 - 250	1200 - 280	640 - 140	400 - 250	1500 - 350	1270 - 280	950 - 210	2000 - 800
16.0 - 30.0	300 - 200	400 - 210	200 - 100	150 - 80	500 - 260	400 - 210	300 - 160	1500 - 800
26.0 - 40.0	330 - 200	270 - 160	130 - 80	100 - 60	330 - 200	270 - 160	200 - 120	1000 - 400
36.0 - 50.0	220 - 160	180 - 130	90 - 60	80 - 40	220 - 160	180 - 130	130 - 100	600 - 200
46.0 - 60.0	200 - 130	160 - 100	80 - 50	40 - 20	200 - 130	160 - 100	120 - 80	500 - 100

PUNCHING UNITS APS 70/120 – USAGE INSTRUCTIONS

From the field, questions continue to be asked about the material thickness / hole diameter ratio (S/D = Ø ratio).

Intermediate material thickness and the smallest hole or punch diameter must be a certain ratio.

A specific ratio must exist between material thickness and the lowest hole or punch die Ø.

An old rule of thumb is that the punch die must be as big or even bigger than the thickness of the material to be cut. The material thickness must be but never be greater than the punch die Ø.

This rule no longer applies to our hydraulic punching units.

They are still used with fast-working, mechanical presses because the process takes place abruptly and the punch is loaded to the utmost.

For our ALFRA APS punching units, the punching process is carried out slowly and gently.

In this case, holes can also be punched the diameter of which is less than the thickness of the material to be cut.

Chart 1 clarifies the right thickness/diameter ratio. This is based on trials such as.:

Holes are to be punched in a steel plate made of S235. What is the recommended ratio?

The shear strength of S235 is about 30 kg/mm². At 30, move vertically upwards in the chart to line A, from there to the left to the S/D diameter ratio scale.

Result: The recommended ratio is 1:1.3.

The **upper limit** of the ratio is the dotted line B which specifies a ratio of 1:1.7. This would mean that the thickness of the material to be cut may be 1.7 times larger than the diameter of the punch die.

It goes without saying that the life expectancy of a punch with this diameter ratio should be considerably shorter than one with a ratio of 1: 1.3.

We therefore recommend only working to line A so that sufficient reliability exists.

Minimal punch die Ø with existing material thickness

With Chart 2, the smallest hole punch Ø can be easily determined.

Three varieties of material with different strength options are specified.

Another example:

Holes to be punched in a steel plate with a thickness of 20 mm made of S235. How large may the smallest punch die Ø be?

On the horizontal scale for material thickness, move vertically upward at 20 mm to the full line of S235. Then horizontally to the left up to the scale of the punch die Ø.

Result: = 15 mm Ø.

To get the breaking point of the stamp, move up to the second line.

It is therefore advisable only to proceed according to the first method.

ALFRA punch dies and matrices are made from high quality material. Nevertheless, it may happen that a stamp breaks.

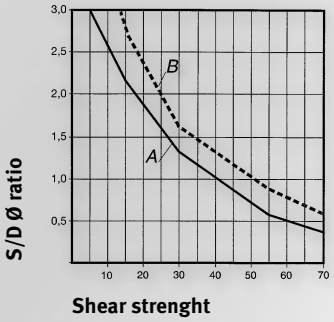
This is caused by:

1. S/D diameter ratio is not correct.
2. The material to be punched is not lying straight but wedged on the matrix.
3. The punching unit or the material is moved greatly during the punching process.
4. If the scraper is damaged or not properly set to the height, the material can be wedged when the punch die retracts.
5. The scraper is located too far from the punch die so that thin sheet metal bulges when scraping. In this case, the punch die breaks in flakes at the cutting edge.

In this case, we recommend providing the scraper with a bridge or possibly using a special change guide.

We hope that you work easily and reliably with the ALFRA Press punch units with these usage instructions.

Diameter of the punched holes/material thickness



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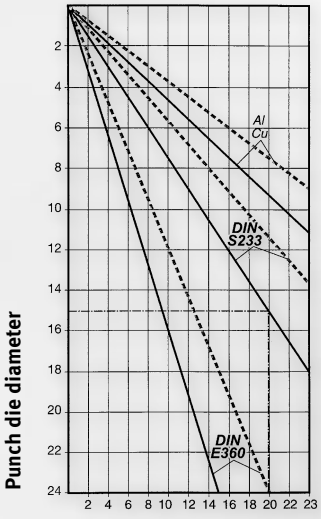


2

ALFRA PUNCHING UNITS APS – WORKING AREA

Material St. 42

	Material strength mm Material DIN S233	Force needed for punching [kN] (10 kN... approximately 1 ton) • Punch diameter (mm)																					
		7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
		APS 70															APS 120						
APS 70 (DIN S275)	3	25	28	32	35	39	43	46	50	53	57	60	64	67	71	74	78	82	85	89	92	96	99
	4	33	38	43	47	52	57	61	66	71	76	80	85	90	94	99	104	109	113	118	123	128	132
	5	41	47	53	59	65	71	77	83	89	94	100	106	112	118	124	130	136	142	148	154	159	165
	6	50	57	64	71	78	85	92	99	106	113	120	128	135	142	149	156	163	170	177	184	191	198
	7	58	66	74	83	91	99	107	116	124	132	141	149	157	165	174	182	190	198	207	215	223	232
	8		76	85	94	104	113	123	132	142	151	161	170	180	189	198	208	217	227	236	246	255	265
	9			96	106	117	128	138	149	159	170	181	191	202	213	223	234	245	255	266	276	287	298
	10				118	130	142	154	165	177	189	201	213	224	236	248	260	272	283	295	307	319	331
	11					143	156	169	182	195	208	221	234	247	260	273	286	299	312	325	338	351	364
	12						170	184	198	213	227	241	255	269	283	298	312	326	340	354	369	383	397
	13							200	215	230	246	261	276	292	307	322	338	353	369	384	399	415	430
APS 120 (DIN S275)	14								232	248	265	281	298	314	331	347	364	380	397	413	430	447	463
	15									266	283	301	319	337	354	372	390	408	425	443	461	478	496
	16										302	321	340	359	378	397	416	435	454	472	491	510	529
	17											341	361	382	402	422	442	462	482	502	522	542	562
	18												383	404	425	447	468	489	510	532	553	574	595

Actual punching force

APS	60	70	120	70D	110D
in kN	225	313	470	454	508

	DIN S233	DIN S275	DIN S355	DIN E335	C 25	C 35	C 45	C 60
Rm max (sheets)	470	510	630	710	600	700	800	900
Tau max = 0.85 * Rm max	376	408	504	568	480	560	640	720
coef. (Steel X / DIN S233)	1.00	1.09	1.34	1.51	1.28	1.49	1.70	1.91

Example 1: Punching unit APS 70, F max 454 = kN
Punch diameter Ø=20 mm
Material thickness T = 8 mm
Material C 45, R_m max=800 N/mm²

Calculation 1: F = F(DIN S233) * coef.(C 45/DIN S233)
F = 189 * 1.70 = 321.3 kN
F is less than F max, punch force sufficient

Example 2: Punching unit APS 70, F max = kN 313
Punch diameter Ø = 21 mm
Material thickness T = 12 mm
Material DIN S275, R_m max=510 N/mm²

Calculation 2: F = F(DIN S233) * coef.(DIN S275/DIN S233)
F = 298 * 1.09= 324.8 kN
F is greater than F max;
Punch power is not sufficient;
Please opt for our APS 120

CONVERSION – PRESSURE

- Pascal (pa) = 1 Newton (N)/m²
- 1 Bar (bar) = 10 to the power of 5 Pa = 10 to the power of 5 N/m² = 10 N/m² = 750.06 mercury column
- 1 bar = 1.019 kg/cm² = 0.1 N/mm² = 14.5 psi
- 1 kg/cm² (atm) = 0.981 bar = 0.0981 N/mm² = 14.2234 psi
- 1 bar = 1.02 technical atmospheres (at) = 1.02 kg/cm² = 10 N/cm²
- 1 physical atmosphere (atm) = 1.013 bar = 1.033 kg / cm2 = 760 mm mercury column = 760 torr
- 1 torr = 1.332 mbar
- 1 m water column (mH2O, = 0.0980665 bar)
- 1 mm H20 = 0.0980665 mbar = 9.80655 Pa
- 1 N/mm² = 10 bar = 10.19 kg/cm² = 145 psi
- 1 psi = 0.069 bar = 0.0703 kg/cm2 00.0069 N/mm²

CONVERSION TABLE – PRESSURE UNITS

Convert the pressure units “bar” and “psi”

Bar	psi	psi	bar
1	14.5	1	0.068965517
10	145	100	6.896551724
100	1450	100	6.896551724
500	7250	5000	344.8275862
1000	14500	10000	689.6551724
1200	17400	10500	724.137931

ALFRA – TIPS FOR CORRECT DEBURRING

FOR THE MODELS KFH 150, KFH 250, KFT 250, KFT 500

Our precision high performance drive motors are infinitely variable. It is advisable to first start at low motor rpm, then continuously increase it during the milling.

You can see when the ideal rpm is reached on the running noise of the milling cutter and the feed.

The work material-based cutting speed can also be determined using the famous formula and the pre-set speed:

$$N = \frac{V_c}{d \bullet \pi}$$

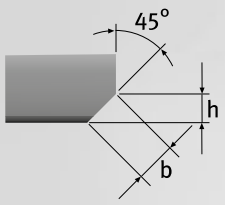
The type of material, the bevel height and the cutting edge geometry of the solid carbide milling cutters are primarily responsible for the The milling cutter speed (N), the cutting speed VC.

The bevel height (H)

The bevel height is decisive for the choice of the solid carbide milling cutter. With the KFT 250 and 500 KFT table models, it must be noted that the work piece must be grasped and guided by hand. If the milling performance is too great especially for smaller work pieces, the bevel height should be made with several infeeds.

The bevel width (B)

The bevel width can be calculated using the formula (B x H = 1.414).



Rotation direction

When guiding the work piece on the table models, it is important to note the direction of rotation.

With hand-guided models (KFH 150, KFH 250), the direction of rotation (see arrow) must be observed. Climb milling is only suitable for very small bevel heights.

Surface quality

The surface quality of the bevel is dependent on the solid carbide milling cutters used and the material as well as the selected feed rate. If the chips start to glow, the feed rate is too high or the milling cutters are too finely intermeshed.

Tool cost savings

In the above models, commercially available solid carbide end mills with front cut can be used. By moving the milling cutter in the spindle, the cutter can be used in the full working length.

Cost reduction:
The major part of the cutting area can be used by moving the cutter in the collet chuck!

ALFRA WELDING EDGE MILLING MACHINE – SKF 63-15

Material	Feed recommendations
General construction steel up to 850 N/mm²	0.8 - 1.0 m/min
Case-hardened steel over 850 N/mm²	0.75 m/min
Rust and acid-resistant steels up to 600 N/mm²	0.5 m/min
Cast steel up to 450 N/mm²	0.6 m/min
Cast iron up to 400 N/mm²	0.8 - 1.0 m/min
Aluminium	0.4 m/min

(Required: special inserts available on special request)

ALFRA – carbide inserts for the welding edge milling machine SKF-63-15

	Prod.-No.
Carbide insert, TiAlN/TiN-PVD multi-layer coating Universal for steel and stainless steel Clearance angle 11°	25013
Carbide insert, TiAlN/TiN-PVD multi-layer coating for steel ‹ 850 N/mm²; stainless steel ‹› 900 N/mm² Clearance angle 20°	25010.15036B
Carbide insert, TiAlN/TiN-PVD multi-layer coating for steel ‹ 1400 N/mm²; stainless steel ‹› 900 N/mm² Clearance angle 11°	25010.15036E

YOUR NOTES

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APPLICATION SOLUTIONS
CONTROL CABINET AND CONTROL ENGINEERING

APPLICATION SOLUTIONS
MAGNETICS AND LIFTING TECHNOLOGY

Alfra GmbH | 2. Industriestraße 10 | D-68766 Hockenheim | www.alfra.de | export@alfra.de
Phone: +49 (0) 62 05/30 51 - 0 | Fax: +49 (0) 62 05/30 51 - 135

MADE IN GERMANY

11/2021