FEIN. Unverwüstliche Elektrowerkzeuge.



# FEIN METAL CORE DRILLING

**User-oriented solutions from the specialist** 



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#### **FEIN KBM Premium Series:**

Core drilling system with high quality standards for versatile applications and optimum speed for carbide cutters.

#### **FEIN KBB Standard Series:**

Ideal for workshop and installation jobs. Reliable and economical with optimum speed for HSS annular cutters.

#### FEIN KBH Hand-held:

Drilling reinvented with the world's first hand-held metal core drilling system.



# Profit from FEIN system expertise.

No other power tool manufacturer offers you as much experience in the core drilling field. FEIN knowledge has been built up over decades, and built into every aspect of FEIN core drilling.

FEIN offers you a core drilling system for metal in which machine, core bits, and accessories are precisely matched to each other. Premium quality, first class materials and excellent workmanship make FEIN core drilling units durable in the truest sense of the word.

Whether you are drilling steel, stainless steel, or aluminum: with our extensive range of core bits and system accessories, we are ready with the correct solution for every application.

The FEIN core drilling system will revolutionize your work!



# **FEIN Brand**

For over 140 years, the FEIN brand has stood for application solutions and premium quality. FEIN continues to manufacture the highest quality drills and electric power tools; products specifically designed for intensive daily use in industry and skilled trades. Each and every FEIN high performance power tool meets the challenge of solving an application with an operator-oriented approach, and lives up to the FEIN reputation for durability and performance.

On January 31, 2011, C. & E. FEIN GmbH of Germany, inventor of the world's first power tool, acquired the global operations of Jancy Engineering. Located in Davenport, Iowa, Jancy Engineering is recognized as a key player in the development and production of HSS annular cutters and magnetic drills (marketed under the Slugger brand) as well as other specialty products for metalworking. Their product development, technical capabilities, and close relationships with professional users made Jancy Engineering an excellent fit for FEIN.

With this acquisition, FEIN expanded its capabilities in the important field of metal core drilling applications and reinforced its global presence as "the core drill specialist".

### THE COMPANY

C. & E. FEIN GmbH was founded by Wilhelm Emil Fein in 1867 as a workshop for physics and electric instruments. After numerous inventions and technical successes, FEIN invented the first power tool – the electric hand drill – in 1895. Today this long-established company is a power tool manufacturer with an international reputation. This first class German manufacturer develops and produces application solutions for the metalworking, interior construction, and automotive sectors and is the specialist for professional and extremely reliable power tools for industry and trades. FEIN holds more than 800 active property rights including approximately 500 patents and patent applications.

FEIN products are distributed worldwide through 17 international subsidiaries and more than 50 agents. FEIN has been represented in Canada by the FEIN Canadian Power Tool Company for almost 50 years.





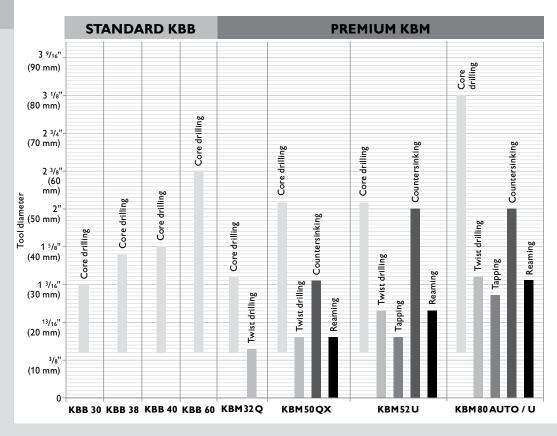




### **Overview - FEIN Core Drill Line**

Core drilling, twist drilling, tapping, countersinking, reaming – FEIN core drilling units cover all popular application fields.

Work more efficiently; whether metal fabrication, structural steel, bridge building, machinery manufacturing, or container production, with FEIN core drilling units you'll always achieve the best drilling results! Core drilling with the FEIN core drilling system gives you precise drilling results in considerably less time and the cost per hole is significantly less than with conventional methods. A perfect interaction between the core drilling unit and core bit in a single system delivers the ultimate in performance. Core drilling with FEIN brings you important economic advantages.



#### **FEIN Advantages**

• Special features allow for fast work progress

• No pre-drilling or tool changes: Up to 40% reduction in work time

 The smaller cutting area reduces power usage and the feed effort required

#### **FEIN Results**

- Dimensionally accurate hole formation, practically burr free
- Impressive speed

#### **Applications**

Core drilling



Twist drilling with chuck or MT 3 holder



Tapping with fast change tapping chuck



Countersinking



4

Reaming



# KBM 80 AUTO Core Drill Unit

FEINOLOGY



A company in Western Canada that builds and repairs bridges was concerned about the amount of time and money it was taking to core drill thousands of holes in the deck of a bridge that was being repaired. The foreman for the job contacted his local FEIN distributor who made a trip to the jobsite in order to view the procedure personally. He observed that the person doing the drilling would determine the drilling location from drawings, measure and mark the location to be drilled, position the core drill appropriately and then drill the hole. Layout time took about 3-4 minutes and drilling time approximately 5 minutes. The company was looking to FEIN for a way to reduce the amount of time that this process took.

The answer - FEIN KBM 80 AUTO, the world's first fully automatic magnetic core drill. Operation of the KBM 80 AUTO is easy and efficient; it sets new standards in core drilling technology. The user simply lines up the cutter where the hole is to be drilled, engages the magnet, lowers the cutter to the surface of the plate, pushes the button to turn on the automatic coolant supply, pulls out on the handles and lets the automatic functions do all of the work. The drill will automatically drill the hole, stop when the cutter breaks through the material and then automatically return to the start position all by itself. While the hole is being drilled, the operator has ample time to lay out the location for his next hole or to operate another machine.

Its QuickIN MAX fast change system reduces time spent changing cutters and accessories. 3 speeds and a "Memory function" speed storage allows the drill to memorize the speed change made while cutting or tapping a hole. This provides speed repeatability which in turn results in a perfectly tapped hole.

The employee was trained to utilize the time that the KBM 80 AUTO freed up to do the layout of the next hole location. By using the KBM 80 AUTO this company increased hole drilling productivity by at least 50%. Increased productivity that turned into increased profitability.



# **KBM CORE DRILLS**





### **FEIN KBM Core Drills**

Model	KBM 32 Q	KBM
Includes	Case, safety strap, coolant pump, 2 QuickIN Weldon adaptors, chip hook, 1/2" 3-jaw chuck, chip guard, 4 centering pins	Case, 2 Quie 5/8" 3- 4 cent
Model	KBM 52 U	KBM
Includes	Case, safety strap, coolant tank, 2 QuickIN Weldon adaptors, chip hook, <sup>5</sup> /a" 3-jaw chuck , drift, chip guard, 4 centering pins	Case, hook, adapte Quick

#### KBM 50 QX

Case, safety strap, coolant pump, QuickIN Weldon adaptors, chip hook, /8" 3-jaw chuck, chip guard, centering pins

#### (BM 80 AUTO

Case, coolant tank, safety strap, chip hook, <sup>1</sup>/2" 3-jaw chuck, drift, QuicklN adapter for M18 × 6 P 1.5, chip guard, 2 QuicklN MT3 arbors, 2 centering pins

# KBM 32 Q – Compact core drilling unit with high mobility for installation work.

#### **FEIN Advantages**

Small, extremely light core drill with outstanding handling for vertical and overhead use Use of full length twist drills without removal of the machine from the work piece due to flexible stroke range

- High torque, high performance motor
- Powerful electromagnet
- Weighs only 23 lbs (10.5 kg)

- Integrated cooling lubrication device
- Electronic overload protection
- Self-start lock

### CORE DRILLING UNIT UP TO 1<sup>1</sup>/4" (32 mm)



**CORE DRILLING UNIT** 

UP TO 2<sup>1</sup>/<sub>16</sub>" (52 mm)

# KBM 52 U – Universal core drilling unit with two-speed gear box for versatile work on-site.

#### **FEIN Advantages**

Optimal speed when drilling, tapping, reaming and countersinking due to mechanical two-speed gear box , variable speed reduction and speed memory function.

Flexible tool insertion and highly accurate concentricity using a combination of QuickIN and MT 3 mount

Use of long drilling tools without removal of the machine from the work piece due to double dovetail guides

- Compact design, ideal power to weight ratio
- Reversible
- High torque, high performance motor
- 2 speeds with electronic speed control
- Powerful electromagnet

- "Memory Function" speed storage
- Gravity-fed cooling lubrication device
- One handed ease of use
- Electronic overload protection
- Self-start lock





### FEIN KBM Series: for versatile applications and optimum speed!

#### **Features & Benefits**

FEIN QuickIN rapid attachment system, change tools in seconds

Robust and precise double dovetail guide with extra large stroke range

High torque, high performance motors

High magnetic holding force

Precision drilling results Flexible stroke range Compact lightweight design Magnet monitoring system Work safely in every position Fully adjustable stroke, tool-free change

QuickIN tapping attachment



# KBM 50 QX – Core drilling unit with two-speed gear box for efficient drilling on-site.

#### **FEIN Advantages**

Expanded applications and possibilities for uses such as countersinking and reaming due to two-speed mechanical gear box with two electronic speed settings

Use of long drilling tools without removal of the machine from the work piece due to flexible stroke range

- Compact design, ideal power to weight ratio
- High torque, high performance motor
- Speed-controlled tacho electronics
- Powerful electromagnet
- Self-start lock

- Electronic magnetic hold increases when drilling begins
- Integrated cooling lubrication devices
- Electronic overload protection



**CORE DRILLING UNIT** 

**UP TO 2<sup>1</sup>/16**" (52 mm)

# KBM 80 AUTO – Fully automatic core drilling unit for outstanding efficiency in the workshop.

#### **FEIN Advantages**

Time and cost savings during large volume drilling due to a digitally controlled auto drill feed that provides uniform work progress in all materials combined with low tool wear

Predictable work times on contract and serial work due to repeatable and consistent drilling times

Excellent job safety due to an extensive safety package with torque slip clutch, visual magnet holding power gauge, and "Viseo Touch Pad" controls

- MT 3 mount
- QuickIN MAX / QuickIN fast change system
- Extra long stroke
- Reversible
- 3 speeds with electronic speed control
- Powerful electromagnet

- Electronic magnet holding force increases when drilling begins
- Fine drill spindle adjustment
- Automatic coolant supply
- Speed setting memory
- Electronic overload protection

# CORE DRILLING UNIT UP TO 31/8" (80 mm) FULLY AUTOMATIC FEED - SPEED - REVERSE



Note: Model KBM 80 U (without auto-feed) available by special order



# **KBM Core Drills - Technical Information**

<b>Technical Specification</b>	ons				Technical Specifications		
Model / Item #		KBM 32 Q	KBM 50 QX	KBM 52 U	Model / Item #	KBM 80	AUTO
Core bit max. dia.	in (mm)	1 <sup>1</sup> / <sub>4</sub> " (32)	2 <sup>1</sup> / <sub>16</sub> " (52)	2 1/16" (52)	Carbide-tipped core bit max. dia.	in (mm)	3 1/8" (80)
Core drill max. drilling	in (mm)	2" (50)	2" (50)	2" (50)	HSS core bit max. dia.	in (mm)	3" (75)
depth					Core drill max. drilling depth	in (mm)	2" (50)
Twist drill max. dia.	in (mm)	1/2" (13)	<sup>5</sup> /8" (16)	7/8" (23)	Twist drill max. dia.	in (mm)	1 <sup>1</sup> /4" (32)
Tapping max.	in (mm)			<sup>5</sup> /8" (16)	Tapping max.	in (mm)	1 <sup>1</sup> /8" (27)
Countersinking max. dia.	in (mm)		1 3/16" (31)	2" (50)	Countersinking max. dia.	in (mm)	2" (50)
Reaming max. dia.	in (mm)		<sup>5</sup> /8" (16)	<sup>7</sup> /8" (23)	Reaming max. dia.	in (mm)	1 <sup>3</sup> /16" (31)
Power consumption	Watts	700	1200	1200	Input current	A	15
Output	Watts	450	680	640	Load speed: 1st gear	rpm	110 to 180
Load speed	rpm	440			2nd gear	rpm	160 to 260
1st gear	rpm		160 / 260	130 to 260	3rd gear	rpm	350 to 580
2nd gear	rpm		320 / 520	260 to 520	Core bit holder		/ QuickIN MAX
Core bit holder		QuickIN	QuickIN	QuickIN	Tool holder	Quiciant	MT 3
Tool holder				MT 3	Stroke	in (mm)	5 <sup>11</sup> / <sub>16</sub> " (145)
Stroke	in (mm)	5 5/16" (135)	5 5/16" (135)	5 5/16" (135)	Total stroke range	in (mm)	11 <sup>3</sup> / <sub>16</sub> " (285)
Total stroke range	in (mm)	10 <sup>1</sup> /4" (260)	12 <sup>3</sup> /16" (310)	12 <sup>3</sup> /16" (310)	Drill stand fine adjustment range	in (mm)	± <sup>5</sup> / <sub>32</sub> " (4.25)
Magnetic holding force	lbs (N)	1980 (9000)	2420 (11000)	2420 (11000)	Drill stand angular adj. range		± 11°
Magnetic base dimensions	in (mm)	6 <sup>5</sup> / <sub>16</sub> " × 3 <sup>1</sup> / <sub>8</sub> " (160 × 80)	7 <sup>3</sup> / <sub>32</sub> " × 3 <sup>9</sup> / <sub>16</sub> " (180 × 90)	7 <sup>3</sup> / <sub>32</sub> " × 3 <sup>9</sup> / <sub>16</sub> " (180 × 90)	Magnetic holding force	lbs (N)	4050 (18000)
Cable with plug	ft (m)	13' (3.8)	13' (3.8)	13' (3.8)	Magnetic base dimensions	in (mm)	10 <sup>11</sup> / <sub>16</sub> " × 3 <sup>9</sup> / <sub>16</sub> " (270 × 90)
Weight according to EPTA	lbs (kg)	23 (10.5)	28 (12.8)	31.3 (14.2)	Cable with plug	ft (m)	13' (3.8)
					Weight according to EPTA	lbs (kg)	58.2 (26.4)

# FEINOLOGY

# KBM 52 U Core Drill Unit

A steel fabrication company approached FEIN with a common yet demanding scenario. The need to drill a large number of holes and to tap each hole. They had tried other competitive mag drills but with an excessive amount

of time to complete each hole. Change out times were eating up any profit that the job should be generating. Plus their current drill had to be removed from the work piece in order to attach a tapping head, the taps sometimes did not line up properly with the holes when the drill was repositioned. They were concerned that missing the deadline would jeopardize future business from their

client. The FEIN KBM 52U mag drill had all the features necessary to complete this job efficiently and quickly:

- QuickIN rapid-change system, to quickly and easily change QuickIN cutters, chucks, tapping chucks and other accessories. Up to 4 times faster than with a Weldon shank, this one feature alone paid for itself in time saved.
- The core bit and tapping chuck can be exchanged without the need to remove and re-centre the mag drill ensuring that the taps always entered the holes precisely and tapped a perfect thread. Fewer holes were spoiled, saving time and money.
- Since the KBM 52U has a reversible motor with continuous variable electronic speed reduction, there was no need to
- purchase an expensive tapping head. • The "Memory function" speed storage feature on the KBM 52U allows the drill to memorize the speed change made while cutting or tapping a hole. This guarantees speed repeatability which in turn results in a perfectly tapped hole.

The time saved as a result of these FEIN product advantages paid for the tool in this one job. Additionally, their client was so impressed with the fabrication shop's ability to make the deadline that they immediately rewarded the fab shop by releasing the next phase of the project to them. The FEIN KBM 52U is the most cost efficient mag drill available for drilling and tapping applications.



## For instant accessory changes the FEIN QUICKIN system is simple and fast

Change tools quickly and easily; a click is enough with FEIN QuickIN – and the tool is perfectly seated in the holder. The advantage for you: efficient, cost-effective work and precise results. Without keys, without moving from the drilling position, and without re-centering. With it, your core bit change will be 4 times faster than it would be, for example, with a Weldon holder. In addition, FEIN QuickIN offers you even more advantages: existing core bits and accessories with a M 18  $\times$  6 or a Weldon mount that can be used with an adaptor. The perfect system for tool changes in a flash.



# **KBM ACCESSORIES**



### **General Accessories** Extension

For use on confined, deep, or layered surfaces. Through holes 1 7/16" (36 mm) dia. or larger are possible. QuickIN, length 4" (100 mm), incl. centering pin.



Item number

6 31 06 016 01 0

#### Suction plate For non-magnetizable materials, $9^{3}/_{16} \times 13 \times 4^{5}/_{16}$ (250 × 330 × 110 mm)



Not useable with KBM 80 9 26 02 054 01 6 Item number

#### Pipe drilling device

Including clamping strap, allows drilling of tubes from 2 3/8" to 11 13/16" (60 to 300 mm) diameter, 8  $^{11}/_{16}$ " × 5  $^{1}/_{8}$ "  $(220 \times 130 \text{ mm})$ 



Item number

9 26 02 055 01 0

Gravity cooling lubricant unit Capacity approximately 16  $^{1\!/_2}$  fl.oz. (500 ml). Exact flow control using the ball valve.

Suitable for KBM 32 Q, KBM 50 QX, and KBM 52 U built after 2006.



6 39 01 036 01 0 Item number

#### Hand pump

15 fl.oz. (450 ml) capacity. Suitable for KBM 32 Q, KBM 50 QX, KBM 52 U.



Contact & chip guard Prevents unintended contact with

rotating parts. Increases passive safety.



6 39 01 037 01 0 Item number

# FEIN QUICKIN MAX CUTTERS

### FOR FEIN KBM 80 Auto (U)

FEIN Carbide Ultra 2" core bits with "QUICKIN MAX", long service life and outstanding cutting performance.



CARBID	CARBIDE - 2" DEPTH (50 mm)				
Size Inch	Item Number	Size Inch	Item Number		
2"	6 31 27 437 01 0	2 <sup>5</sup> /8"	6 31 27 447 01 0		
2 1/16"	6 31 27 438 01 0	2 <sup>11</sup> /16"	6 31 27 448 01 0		
2 <sup>1</sup> /8"	6 31 27 439 01 0	2 <sup>3</sup> /4 "	6 31 27 449 01 0		
2 <sup>3</sup> /16"	6 31 27 440 01 0	2 <sup>13</sup> /16"	6 31 27 450 01 0		
2 1⁄4"	6 31 27 441 01 0	2 7/8"	6 31 27 451 01 0		
2 5/16"	6 31 27 442 01 0	2 <sup>15</sup> / <sub>16</sub> "	6 31 27 452 01 0		
2 <sup>3</sup> /8"	6 31 27 443 01 0	3"	6 31 27 453 01 0		
2 7/16"	6 31 27 444 01 0	3 ¼16"	6 31 27 454 01 0		
<b>2</b> ½"	6 31 27 445 01 0	3 1/8"	6 31 27 455 01 0		
2 %16"	6 31 27 446 01 0				

Also available in metric sizes.

Electric tapping is not only faster and physically less demanding than tapping by hand. It also offers clear advantages in terms of precision. FEIN offers you an extensive accessory selection: from tapping equipment and fast-change chucks to collets for blind and through holes.



to tapping.

Order a FEIN tapping chuck to fit your mag-drill or use a FEIN "Tapper" designed specifically for tapping holes (see page 14). Tapping

#### Fast-change tapping chucks



#### For KBM 52 U

Only useable on core drilling units with reverse rotation. Size 2, with QuickIN shaft, for taps, in combination with collets with or without safety clutch, from 5/16" to 5/8" (M 6 - M 16).

For KBM 80

Only useable on core drilling units with reverse rotation. Size 3, with QuickIN MAX shaft, for taps, in combination with collets with or without safety clutch, from 3/4" to 1 1/8" (M22 - M27).

Item number

Item number

#### 9 26 02 082 01 0

#### Reducing collet 3/2

For KBM 80 to accept size 2 Bilz type collets  $^{5}\text{/}_{16}\text{" to }^{11}\text{/}_{16}\text{"}$  (M 6 – M 20) in the size 3 tapping chuck (9 26 02 082 01 0).





380

275

225

Competitor W

# Why FEIN QUICKIN Cutters?

- The most cost-effective solution for all drilling applications.
- Specially designed to optimize cutting performance and life.
- Extremely long-lasting and ultra-efficient.
- Range of sizes and types provides versatility and range.
- FEIN QUICKIN is the fastest way to change core bits, in seconds. Needs no key or adaptor.
- Also for use with QUICKIN Morse taper mounting shafts on core drills, conventional magnetic or stationary drill presses with Morse taper mount.

## **QUICKIN CUTTERS**

#### FOR FEIN KBM 32 Q, KBM 50 QX, KBM 52 U

**FEIN HM ULTRA CARBIDE-TIPPED OUICKIN CUTTERS -2" DEPTH** 



Exceptionally suitable for continuous use in industry, workshop and trades. High quality carbide tips and a special cutting geometry allow for long service life and outstanding cutting performance.

Size Inch	ltem #	2" Depth	Size Inch	ltem #	2" Depth
1/2 <b>"</b>	6 31 27	383 01 0	1 <sup>5</sup> ⁄16"	6 31 27	396 01 0
%16"	6 31 27	384 01 0	1 3/8"	6 31 27	397 01 0
<sup>5</sup> /8"	6 31 27	385 01 0	1 <sup>7</sup> /16"	6 31 27	398 01 0
<sup>11</sup> / <sub>16</sub> "	6 31 27	386 01 0	1 1/2"	6 31 27	399 01 0
3/ <sub>4</sub> "	6 31 27	387 01 0	1 %16"	6 31 27	400 01 0
<sup>13</sup> / <sub>16</sub> "	6 31 27	388 01 0	1 5/8"	6 31 27	401 01 0
<sup>7</sup> /8"	6 31 27	389 01 0	<b>1</b> <sup>1</sup> / <sub>16</sub> "	6 31 27	402 01 0
<sup>15</sup> / <sub>16</sub> "	6 31 27	390 01 0	1 <sup>3</sup> / <sub>4</sub> "	6 31 27	403 01 0
1"	6 31 27	391 01 0	<b>1</b> <sup>13</sup> / <sub>16</sub> "	6 31 27	404 01 0
<b>1</b> ½16"	6 31 27	392 01 0	1 7/8"	6 31 27	405 01 0
1 <sup>1</sup> /8"	6 31 27	393 01 0	<b>1</b> <sup>15</sup> / <sub>16</sub> "	6 31 27	406 01 0
<b>1</b> <sup>3</sup> /16"	6 31 27	394 01 0	2"	6 31 27	407 01 0
1 1⁄4"	6 31 27	395 01 0	2 1/16"	6 31 27	408 01 0
		6", 11/16", 1 ng pin, case	3/16",	6 31 27	384 02 0

FEIN OUICKIN Cutters are also available in metric sizes.

Competitor M

**EXAMPLE OF** 

400 350

300 holes

250 5 200

100

50 0

FEIN

Number 150

PERFORMANCE

CUTTING

FEIN

Competitor M

Competitor W

Cutter Set



6 31 27 384 02 0

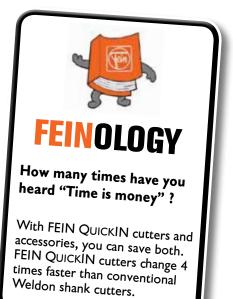
#### FEIN HSS PRIMA COBALT **OUICKIN CUTTERS -1" DEPTH**



5% cobalt alloy for long life. Also for use with QuickIN Morse Taper Mounting Shafts on core drills and conventional magnetic or stationary stands with Morse taper mount.

> \* 7/16" Prima cutter requires centering pin 3 02 17 338 00 0

Size Inch	ltem #	1" Depth	Size Inch	ltem #	1" Depth
<sup>7</sup> / <sub>16</sub> " *	6 31 27	409 01 0	<b>1</b> <sup>5</sup> ⁄16"	6 31 27	423 01 0
1/2"	6 31 27	410 01 0	1 <sup>3</sup> /8"	6 31 27	424 01 0
<sup>9</sup> ⁄16"	6 31 27	411 01 0	1 7/16"	6 31 27	425 01 0
<sup>5</sup> /8"	6 31 27	412 01 0	1 1/2"	6 31 27	426 01 0
<sup>11</sup> / <sub>16</sub> "	6 31 27	413 01 0	1 %16"	6 31 27	427 01 0
3/4 "	6 31 27	414 01 0	1 <sup>5</sup> /8"	6 31 27	428 01 0
<sup>13</sup> / <sub>16</sub> "	6 31 27	415 01 0	<b>1</b> <sup>11</sup> / <sub>16</sub> "	6 31 27	429 01 0
7/8 <b>"</b>	6 31 27	416 01 0	1 <sup>3</sup> / <sub>4</sub> "	6 31 27	430 01 0
<sup>15</sup> / <sub>16</sub> "	6 31 27	417 01 0	<b>1</b> <sup>13</sup> / <sub>16</sub> "	6 31 27	431 01 0
1"	6 31 27	418 01 0	1 <sup>7</sup> /8"	6 31 27	432 01 0
1 1/16"	6 31 27	419 01 0	<b>1</b> <sup>15</sup> / <sub>16</sub> "	6 31 27	433 01 0
1 <sup>1</sup> /8"	6 31 27	420 01 0	2"	6 31 27	434 01 0
1 <sup>3</sup> /16"	6 31 27	421 01 0	2 1/16"	6 31 27	435 01 0
1 1⁄4"	6 31 27	422 01 0			
SET: 4 cutt 15/16	ers - 9/16' ", centerin		/16",	6 31 27	411 02 0



# Jein

# KBH 25 – Hand-held core drilling system, new drilling technology for fast, flexible operation

#### CORE DRILLING UP TO 1" (25 mm)

The world's first hand-held core drilling system for metal, the FEIN KBH 25 combines the advantages of high performance power drills and carbide-tipped core bits in a single system. The new drilling technology enables rapid work progress with considerably less effort and allows you to work up to five times faster when core drilling. Even in tight, difficult-to-reach locations, the FEIN KBH 25 plays off its strengths, a result of long experience and the enormous development edge that FEIN has as the inventor of the power drill.

#### FEIN KBH 25 - Advantages

- Convenient operation that is up to five times faster, due to new drilling technology and specially-developed core bit tooth geometry
- Hand-held drilling of holes up to 1 in (25 mm) diameter in steel up to  $\frac{3}{4}$  in (19 mm) thick using carbide bits
- Hand-held drilling of holes up to 2  $_{1/8}$  in (54 mm) diameter in steel up to  $_{5/32}$  in (4 mm) thick using carbide hole saws
- A drilling system with the highest quality materials and workmanship, combined with tungsten carbide bits optimized for long service life.

**Pilot bits** 

**3-Jaw tapping chuck** For direct tap insertion

Range 1/8 - 3/8" (2.8 - 9mm) with key

Prevents contact with hot, sharp edged

Oty.

1

5

Qty.

Chip guard

chips.

1

• Forward and reverse rotation

Accessories for KBH 25

# Includes: KBH 25 core drilling machine Pilot bit, Accessory handle Cutting spray Plastic tool case

Technical Specifications		
Model / Item #		KBH 25
Power consumption	Watts	1200
Output	Watts	680
Load speed	rpm	0 - 520
Hole Ø steel carbide core bit	in (mm)	<sup>9/16</sup> - 1 (14 -25)
Hole Ø aluminum carbide core bit	in (mm)	<sup>9</sup> / <sub>16</sub> - 1 <sup>3</sup> / <sub>16</sub> (14 - 30)
Hole Ø steel carbide hole saw	in (mm)	<sup>9</sup> / <sub>16</sub> - 2 <sup>1</sup> / <sub>8</sub> (14 - 54)
Corner clearance	in (mm)	11/16 (27)
Cable with plug	ft (m)	13 (4)
Weight according to EPTA	lbs (kg)	7.3 (3.3)

#### QuickIN Plus adaptor for B16 mount

ltem	number	

6 39 01 047 00 0

Keyed jaw chuck with B16 mount Capacity  $1/_{16} - 1/_2$  in (1.5–13 mm)

Item number 6 32 02 030 01 5

Keyless drill chuck with B16 mount Capacity <sup>1</sup>/<sub>32</sub> – <sup>1</sup>/<sub>2</sub> in (1–13 mm)

ltem number

6 32 04 032 00 6

# Cutting spray 10 oz (300 ml) pump spray for long tool service life, optimal cutting and chipping performance and improved chip extraction. Qty. Item number 1 3 21 32 031 00 0 Extension For use in narrow, deep, or stepped surfaces. QuickIN-PLUS attachment, 4 in (100 mm) length, includes adapter for pilot bits.

Qty. 1

ltem number 6 31 06 017 01 0

mber Qty. 01 0 1

ltem number 3 21 74 013 01 0

Item number

Item number

6 32 06 018 01 0

6 31 14 038 01 0

6 31 14 038 02 0

# **KBH CUTTERS**



# Carbide core bits with QUICKIN-PLUS attachment

Maximum service life, thanks to carbide teeth. Outstanding cutting performance in all common metals. Inch dimensions, drilling depth <sup>3</sup>/<sub>4</sub> in.



CARBIDE CUTTERS		
Size Inch	Item Number	
%16 <b>"</b>	6 31 30 200 01 0	
<sup>5</sup> /8"	6 31 30 201 01 0	
<sup>11</sup> / <sub>16</sub> "	6 31 30 202 01 0	
<sup>3</sup> /4 "	6 31 30 203 01 0	
<sup>13</sup> / <sub>16</sub> "	6 31 30 204 01 0	
<sup>7</sup> /8"	6 31 30 205 01 0	
<sup>15</sup> / <sub>16</sub> "	6 31 30 206 01 0	
1"	6 31 30 207 01 0	
<b>1</b> ¼16"	6 31 30 208 01 0	
1 <sup>1</sup> /8"	6 31 30 209 01 0	
<b>1</b> <sup>3</sup> /16"	6 31 30 210 01 0	

# Carbide core bits, TiAIN coated, with QUICKIN-PLUS attachment

Maximum service life, thanks to carbide teeth. Outstanding cutting performance in all common metals, 20% faster work progress, reduced cutting and feed force due to TiAIN coating. Inch dimensions, drilling depth <sup>3</sup>/<sub>4</sub> in.



CARBIDE	CARBIDE CUTTERS - TIAIN COATED		
Size Inch	Item Number		
%16 <b>"</b>	6 31 30 300 01 0		
<sup>5</sup> /8"	6 31 30 301 01 0		
<sup>11</sup> / <sub>16</sub> "	6 31 30 302 01 0		
<sup>3</sup> /4 "	6 31 30 303 01 0		
<sup>13</sup> / <sub>16</sub> "	6 31 30 304 01 0		
7/8"	6 31 30 305 01 0		
<sup>15</sup> /16"	6 31 30 306 01 0		
1"	6 31 30 307 01 0		
1 ½16"	6 31 30 308 01 0		
1 <sup>1</sup> /8"	6 31 30 309 01 0		
1 <sup>3</sup> /16"	6 31 30 310 01 0		



#### Carbide hole saw with QuickIN-PLUS attachment

Carbide-tipped with optimal service life for cost-effective drilling work in sheet metal up to  $5/_{32}$  in (4 mm) in thickness. Inch dimensions, drilling depth  $5/_{32}$  in (4 mm).



CARBIDE	HOLE SAW			
<sup>5</sup> /32" <b>DEPTH (4 mm)</b>				
Size Inch	Item Number			
<sup>9</sup> ⁄16"	6 31 31 200 01 0			
<sup>5</sup> /8"	6 31 31 201 01 0			
<sup>11/</sup> 16"	6 31 31 202 01 0			
<sup>3</sup> /4 "	6 31 31 203 01 0			
<sup>13</sup> / <sub>16</sub> "	6 31 31 204 01 0			
<sup>7</sup> /8"	6 31 31 205 01 0			
<sup>15</sup> / <sub>16</sub> "	6 31 31 206 01 0			
1"	6 31 31 207 01 0			
<b>1</b> <sup>1</sup> / <sub>16</sub> "	6 31 31 208 01 0			
1 <sup>1</sup> /8"	6 31 31 209 01 0			
<b>1</b> <sup>3</sup> / <sub>16</sub> "	6 31 31 210 01 0			
1 1⁄4"	6 31 31 211 01 0			
<b>1</b> <sup>5</sup> /16"	6 31 31 212 01 0			
1 <sup>3</sup> /8"	6 31 31 213 01 0			
<b>1</b> <sup>7</sup> / <sub>16</sub> "	6 31 31 214 01 0			
1 ½"	6 31 31 215 01 0			
1 %16"	6 31 31 216 01 0			
1 <sup>5</sup> /8"	6 31 31 217 01 0			
<b>1</b> <sup>11</sup> / <sub>16</sub> "	6 31 31 218 01 0			
1 <sup>3</sup> /4 "	6 31 31 219 01 0			
<b>1</b> <sup>13</sup> / <sub>16</sub> "	6 31 31 220 01 0			
1 7/8"	6 31 31 221 01 0			
<b>1</b> <sup>15</sup> / <sub>16</sub> "	6 31 31 222 01 0			
2"	6 31 31 223 01 0			
2 1/16"	6 31 31 224 01 0			
2 1/8"	6 31 31 225 01 0			

# Carbide hole saw for pipes with QuickIN-PLUS attachment

Carbide teeth with optimal service life when used on pipe materials and arched surfaces with up to 5/32 in (4 mm) wall thickness. Inch dimensions, drilling depth 5/32 in (4 mm).



CARBIDE	HOLE SAW FOR PIPES				
5/32" DE	<sup>5</sup> / <sub>32</sub> " <b>DEPTH (4 mm)</b>				
Size Inch	Item Number				
7/8"	6 31 31 605 01 0				
<sup>15</sup> /16"	6 31 31 606 01 0				
1"	6 31 31 607 01 0				
<b>1</b> <sup>1</sup> /16"	6 31 31 608 01 0				
1 <sup>1</sup> /8"	6 31 31 609 01 0				
<b>1</b> <sup>3</sup> /16"	6 31 31 610 01 0				
1 1/4"	6 31 31 611 01 0				
<b>1</b> <sup>5</sup> ⁄16"	6 31 31 612 01 0				
1 3/8"	6 31 31 613 01 0				
1 1/16"	6 31 31 614 01 0				
1 1/2"	6 31 31 615 01 0				
1 %16"	6 31 31 616 01 0				
1 5/8"	6 31 31 617 01 0				
1 <sup>11</sup> /16"	6 31 31 618 01 0				
1 <sup>3</sup> /4 "	6 31 31 619 01 0				
1 <sup>13</sup> /16"	6 31 31 620 01 0				
1 7/8"	6 31 31 621 01 0				
1 <sup>15</sup> ⁄16"	6 31 31 622 01 0				
2"	6 31 31 623 01 0				
<b>2</b> <sup>1</sup> / <sub>16</sub> "	6 31 31 624 01 0				
2 1/8"	6 31 31 625 01 0				

#### Metric sizes also available





# Tapping made easy. More efficient and precise than doing it manually.

Compared with working by hand, electric tappers are faster, require less physical effort, and produce more precise results. This is especially true when it comes to FEIN tappers, which allow you to work very smoothly without interruption. This avoids the risk of high torsional forces and the associated risk of cutting tool breakage. The significant amount of time saved is what gives you the real added efficiency – with FEIN tappers you can work up to 90% faster than tapping by hand. High performance precise tappers that provide fast results and superb service life.



# **KBB CORE DRILLS**



Martin Martin Land



#### **KBB 38 MAG DRILL**

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Kees ..

A customer required a mag drill that could be set up to repeatedly drill 2 holes 4 inches apart. Since the handles on the KBB 38 Mag Drill are reversible it could be quickly and easily positioned to do the job faster and more efficiently.

# **KBB CORE DRILLS**





### **FEIN KBB Core Drills**

#### Includes:

Tool case Coolant tank Safety strap Chip hook Guard 2 centering pins 5mm hex key



## KBB 30 – Core drilling unit Very compact core drilling unit for drilling on-site

#### CORE DRILLING UNIT UP TO 1<sup>3</sup>/16" (30 mm)

#### **FEIN Advantages**

A powerful small drill, the KBB 30 packs an unexpected punch in a compact 22 pound (10 kg) package.

- Thru spindle coolant
- Spring ejection arbor for 3/4" Slugger® shank cutters
- Safety guard / chip breaker
- "Smart Magnet®" circuitry
- 1.75 HP motor

- Control panel w/ illuminated switches
- Patented internal motor cord
- Integrated MagBot<sup>™</sup> magnetic coolant bottle
- Rail Slide system
- All metal construction



**CORE DRILLING UNIT** 

UP TO 1<sup>1</sup>/<sub>2</sub>" (38 mm)

## KBB 38 – Core drilling unit Durable, dependable workhorse for on-site drilling

#### **FEIN Advantages**

Effective on-site or in the shop, the KBB 38 is an upgrade of one of the true workhorse core drills available over the last 20 years – the JM101. The KBB 38 has made a truly good core drill even better.

- Thru spindle coolant
- Positive slug ejection for 3/4" Slugger® shank cutters
- Redesigned safety guard / chip breaker
- "Smart Magnet®" circuitry
- Dovetail guide system
- 1.75 HP Motor

- Control panel w/ illuminated switches
- Patented internal motor cord
- Integrated MagBot<sup>™</sup> magnetic coolant bottle
- 1/2" tapping capacity with attachment
- Reversible handle





## FEIN KBB Series: the right tool for every job!

### **Features & Benefits**

Basic core drilling function

Speed-optimised for HSS core drill bits

Concealed motor wiring and integrated gravity-fed cooling lubrication system in drill jig

Positive slug ejection allows the "slug" to be removed easily eliminating costly downtime

Sturdy construction for tough applications

Thru spindle coolant improves cutter efficiency by providing cutting fluid to the entire cutting surface, not just the outside of the cutting area

### KBB 40 – Compact core drilling unit For drilling operations in tight spaces

#### **FEIN Advantages**

The FEIN KBB 40 is the industry's best solution any time drilling with space constraints are a problem. Since the KBB40 uses a unique quill system, the drill height never changes.

- Ultra compact 11-3/8" working height
- Adjustable cutter guard with built in chip breaker
- Through spindle coolant system with removable reservoir
- Permanent quill system requires no adjustments
- Stationary motor
- Lightweight only 29 pounds
- "Smart Magnet®" circuitry
- Positive slug ejection arbor for 3/4" Slugger® shank cutters
- 3/4" drive twist drill set available



**CORE DRILLING UNIT** 

UP TO 1<sup>5</sup>/8" (40 mm)

### KBB 60 – Core drilling unit With two-speed gear box for workshop jobs

#### **FEIN Advantages**

The rugged KBB 60 for use in the workshop, has some big capabilities for a drill that stands just 23" tall and weighs in at 53 lbs (24 kg). Capable of drilling holes up to 2-3/8" diameter through material up to 3" thick, the rugged KBB 60 will handle the most challenging hole cutting situations.

- Two-speed gear box
- 2-3/8" diameter through 3" material
- 3/4" twist drill capacity and tapping options
- Patented Internal Motor Cord (Pat# 5,415,503)

- Internal coolant system
- Positive slug ejection
- "Smart Magnet<sup>®</sup>" circuitry

#### CORE DRILLING UNIT UP TO 2<sup>3</sup>/8" (60 mm)





# **KBB Core Drills - Technical Information**

Technical Specifications					
Model / Item #		KBB 30	KBB 38	KBB 40	KBB 60
Weight according to EPTA	lbs (kg)	22 (10)	32 (14.4)	29 (13.1)	53 (24)
Power consumption	Watts	750	1050	1100	1400
Power output	Watts	430	530	610	770
Speed - Load	rpm	430	330	280	180/340
Speed - No load	rpm	680	480	450	330/660
Stroke	in (mm)	2 1/2" (65)	2 1/2" (65)	2 <sup>1</sup> /2" (65)	3 5/8" (92)
Core bit holder		Weldon	Weldon	Weldon	Weldon
Magnet base dimensions	in (mm)	3 <sup>3</sup> /4 x 7" (95 x 178)	3 x 6 <sup>1</sup> /4" (75 x 159)	4 x 6 <sup>1</sup> /2" (102 x 165)	4 x 7 <sup>1</sup> / <sub>2</sub> " (102 x 191)
Magnetic holding force	lbs (N)	1800 (8000)	2025 (9000)	2025 (9000)	2475 (11000)
Slugger cutter dia. (max.)	in (mm)	1 3/16" (30)	1 1/2" (38)	1 5/8" (40)	2 3/8" (60)
Slugger cutter D.O.C. (max.)	in (mm)	2" (50)	2" (50)	2" (50)	3" (75)
Cable with plug	ft (m)	13' (3.8)	13' (3.8)	13' (3.8)	13' (3.8)



Are space constraints too tight to allow you to turn the handle of your FEIN mag drill?

With the FEIN KBB 28, KBB 38 or KBB 40, you can remove the handle and drill using a ratchet with a 9/16" socket to feed the cutter.

#### FEIN KBB Core Drills at a Glance



KBB 30 Very compact core drilling unit for drilling on-site



KBB 38 Durable, dependable workhorse for on-site drilling



KBB 40 Compact core drilling unit for drilling operations in tight spaces



KBB 60 Core drilling unit with two-speed gear box for workshop jobs, cutting depth up to 3" (75mm)

	KBB 30	KBB 38	KBB 40	KBB 60
Core drilling in metal, up to 30mm diameter				
Core drilling in metal, up to 40mm diameter				
Core drilling in metal, up to 60mm diameter				
Use of HSS core drill bits				
Use of carbide core drill bits				
Working in tight spaces				
Working with one hand				
Working overhead				
Installation work				
Workshop jobs				

▲ Suitable ▲▲ Very suitable

# **SLUGGER CUTTERS**



## **SLUGGER Cutters**

For performance tips, and SLUGGER accessories, see page 24

HSS NOVA: High Speed Steel Cutters High Speed Steel (M2) is the standard material used in Slugger cutters. 3/4" Weldon shank. Long service life.	P2
<b>HSS DURA: Titanium Nitride (TiN) Cutters</b> TiN coatings improve tool life by increasing surface hardness of the tool and providing greater lubricity. TiN coated cutters are ideal for applications where the material being cut is difficult to machine, or when extended tool life is desired.	P2
HM ULTRA: Carbide Cutters Carbide tipped cutters for cutting materials that are hard to machine and for drilling at higher RPM rates when increased hole making production is desired.	P2
<b>TAP SIZE CUTTERS</b> For tapping your holes after you drill, Slugger cutters are available in various tap size configurations.	P2
<b>SHEET METAL CUTTERS</b> Thin metal cutters for sheet metal, light tubing, rubber, fiber materials and select plastics. Designed for use with hand-held drilling equipment. In HSS and carbide.	P2
SHORT SLUGGERS Cutters capable of drilling materials up to 3/4" thick.	P3



#### **1NDUSTRIAL ARBORS**

P28

Industrial arbors quickly and easily adapt Slugger cutters to most types of conventional drill press and CNC machinery.

#### **Cutter Coatings and Specialty Cutters**

Additional options for Slugger Cutters to increase efficiency when cutting specific materials.

#### Titanium Carbonitride (TICN)

TICN coated cutters are practical in drilling highly abrasive or gummy materials such as brass and aluminum alloys.

#### M42 Cobalt Steel

Cobalt cutters are effective when drilling material with inconsistent composition. They are also valuable when increased feed rates are necessary and extending tool life between sharpenings is desirable.

#### **ID Sharpened for Stack Drilling**

ID-style cutters are convenient when drilling through multiple layers.

#### **Pipe-Style Geometry**

For Pipe and Tube Drilling Applications Cutters with pipe-style geometry are advantageous when drilling holes on curved or uneven surfaces.

#### **Truck Frame**

Truck frames are usually multi-layered and manufactured to retain extraordinary strength and durability. Frame materials are more difficult to drill so an effective way to combat this problem is to use an ID-style cutter that is also TiN coated. Combined, the resulting cutter simultaneously permits continuous drilling through layers, enhances cutting performance and extends tool life.

#### **Rail Cutters**

Specifically designed for rail drilling. Their unique design and specially developed coating allow for faster drilling and longer life, even in the toughest rail.

To order the specialty cutters or coatings, please contact the FEIN order desk or your local FEIN representative.

# **SLUGGER CUTTERS - HSS NOVA**



CUTTER	Decimal	1" DEPTH	2" DEPTH	3" DEPTH	4" DEPTH
DIAMETER	Equiv.	ltem #	ltem #	ltem #	ltem #
7/16"	0.4375	6 31 34 111 00 1	6 31 34 110 00 2	-	-
1/2"	0.5000	6 31 34 127 00 1	6 31 34 127 00 2	-	-
13mm	0.5118	6 31 34 129 00 1	6 31 34 129 00 2	-	-
14mm	0.5512	6 31 34 140 00 1	6 31 34 139 00 2	-	-
9/16"	0.5625	6 31 34 142 00 1	6 31 34 142 00 2	_	-
15mm	0.5906	6 31 34 150 00 1	6 31 34 149 00 2	_	_
5/8"	0.6250	6 31 34 158 00 1	6 31 34 158 00 2	_	_
16mm	0.6299	6 31 34 159 00 1	6 31 34 159 00 2	_	_
17mm	0.6693	6 31 34 170 00 1	6 31 34 169 00 2	_	_
11/16"	0.6875	6 31 34 174 00 1	6 31 34 174 00 2	-	_
18mm	0.7087	6 31 34 180 00 1	6 31 34 179 00 2	_	_
19mm	0.7480	6 31 34 189 00 1	6 31 34 189 00 2	_	_
3/4"	0.7500	6 31 34 190 00 1	6 31 34 190 00 2	6 31 34 190 00 3	_
20mm	0.7874	6 31 34 199 00 1	6 31 34 199 00 2	6 31 34 199 00 3	_
13/16"	0.8125	6 31 34 206 00 1	6 31 34 206 00 2	6 31 34 206 00 3	6 31 34 206 00 4
21mm	0.8268	6 31 34 210 00 1	6 31 34 209 00 2	6 31 34 210 00 3	5 5 7 5 7 200 00 4
22mm	0.8661	6 31 34 219 00 1	6 31 34 219 00 2	6 31 34 219 00 3	6 31 34 219 00 4
7/8"	0.8750	6 31 34 222 00 1	6 31 34 222 00 2	6 31 34 222 00 3	6 31 34 222 00 4
23mm	0.9055	6 31 34 229 00 1	6 31 34 229 00 2	6 31 34 229 00 3	0 31 34 222 00 4
15/16"	0.9375	6 31 34 238 00 1	6 31 34 237 00 2	6 31 34 238 00 3	6 31 34 237 00 4
24mm	0.9373	6 31 34 240 00 1	6 31 34 239 00 2	6 31 34 240 00 3	6 31 34 240 00 4
2411111 25mm	0.9843	6 31 34 250 00 1	6 31 34 249 00 2	6 31 34 250 00 3	6 31 34 249 00 4
23mm 1"		6 31 34 254 00 1			6 31 34 254 00 4
	1.0000		6 31 34 254 00 2	6 31 34 254 00 3	
26mm	1.0230	6 31 34 259 00 1	6 31 34 259 00 2	6 31 34 259 00 3	6 31 34 259 00 4
1-1/16"	1.0620	6 31 34 269 00 1	6 31 34 269 00 2	6 31 34 269 00 3	6 31 34 269 00 4
27mm	1.0630	6 31 34 270 00 1	6 31 34 270 00 2	6 31 34 270 00 3	6 31 34 270 00 4
28mm	1.1020	6 31 34 279 00 1	6 31 34 279 00 2	6 31 34 279 00 3	6 31 34 279 00 4
1-1/8"	1.1250	6 31 34 285 00 1	6 31 34 285 00 2	6 31 34 285 00 3	6 31 34 285 00 4
29mm	1.1410	6 31 34 289 00 1	6 31 34 289 00 2	6 31 34 289 00 3	
30mm	1.1810	6 31 34 299 00 1	6 31 34 299 00 2	6 31 34 299 00 3	6 31 34 299 00 4
1-3/16"	1.1870	6 31 34 301 00 1	6 31 34 301 00 2	6 31 34 301 00 3	6 31 34 301 00 4
31mm	1.2200	6 31 34 309 00 1	6 31 34 310 00 2	6 31 34 309 00 3	6 31 34 309 00 4
1-1/4"	1.2500	6 31 34 317 00 1	6 31 34 317 00 2	6 31 34 317 00 3	6 31 34 317 00 4
32mm	1.2590	6 31 34 319 00 1	6 31 34 319 00 2	6 31 34 319 00 3	6 31 34 319 00 4
33mm	1.2990	6 31 34 329 00 1	6 31 34 329 00 2	6 31 34 329 00 3	6 31 34 329 00 4
1-5/16"	1.3120	6 31 34 333 00 1	6 31 34 333 00 2	6 31 34 333 00 3	6 31 34 333 00 4
34mm	1.3380	6 31 34 339 00 1	6 31 34 339 00 2	6 31 34 339 00 3	6 31 34 339 00 4
1-3/8"	1.3750	6 31 34 349 00 1	6 31 34 349 00 2	6 31 34 349 00 3	6 31 34 349 00 4
35mm	1.3770	6 31 34 350 00 1	6 31 34 350 00 2	6 31 34 350 00 3	6 31 34 350 00 4
36mm	1.4170	6 31 34 359 00 1	6 31 34 359 00 2	6 31 34 359 00 3	6 31 34 359 00 4
1-7/16"	1.4370	6 31 34 364 00 1	6 31 34 364 00 2	6 31 34 364 00 3	6 31 34 364 00 4
37mm	1.4560	6 31 34 369 00 1	6 31 34 369 00 2		
38mm	1.4960	6 31 34 379 00 1	6 31 34 379 00 2	6 31 34 379 00 3	6 31 34 379 00 4
1-1/2"	1.5000	6 31 34 381 00 1	6 31 34 381 00 2	6 31 34 381 00 3	6 31 34 381 00 4
39mm	1.5350	6 31 34 389 00 1	6 31 34 389 00 2	6 31 34 389 00 3	
1-9/16"	1.5620	6 31 34 396 00 1	6 31 34 396 00 2	6 31 34 396 00 3	6 31 34 396 00 4

### 20

# 3/4" SHANK CUTTERS

Core bits with Weldon holder. Long service life. Imperial and metric dimensions.

### SETS: 1" depth, 3/4" shank

#### Item #: 6 31 34 999 01 0

Cutter Diameter	Decimal Equivalent		
9/16"	.5625		
11/16"	.6875		
13/16"	.8125		
15/16"	.9375		
1-1/16"	1.062		
1" pilot 9/16" to 1-1/16" Cutter Case			

#### Item #: 6 31 34 999 02 0

Cutter Diameter	Decimal Equivalent	
7/16"	.4375	
1/2"	.5000	
9/16"	.5625	
5/8"	.6250	
11/16"	.6875	
3/4"	.7500	
13/16"	.8125	
7/8"	.8750	
15/16"	.9375	
1"	1.000	
1-1/16"	1.062	
1" pilot 7/16" t		
1" pilot 9/16" to 1-1/16"		
Cutter Case		



Set # 6 31 34 999 02 0

#### 6" DEPTH AVAILABLE ON REQUEST

1¼" SHANK CUTTERS AVAILABLE ON REQUEST

# **SLUGGER CUTTERS - HSS NOVA**



CUTTER DIAMETER	Decimal Equiv.	1" DEPTH Item #	2" DEPTH Item #	3" DEPTH Item #	4" DEPTH Item #
40mm	1.5740	6 31 34 399 00 1	6 31 34 399 00 2	6 31 34 399 00 3	6 31 34 399 00 4
41mm	1.6140	6 31 34 409 00 1	6 31 34 409 00 2	0 31 31 377 00 3	0 31 31 377 00 1
1-5/8"	1.6250	6 31 34 412 00 1	6 31 34 412 00 2	6 31 34 412 00 3	6 31 34 412 00 4
42mm	1.6540	6 31 34 420 00 1	6 31 34 420 00 2	6 31 34 420 00 3	6 31 34 420 00 4
42000 1-11/16"	1.6870	6 31 34 428 00 1 6 31 34 428 00 1	6 31 34 420 00 2 6 31 34 428 00 2	6 31 34 420 00 3 6 31 34 428 00 3	6 31 34 428 00 4
43mm	1.6920	6 31 34 429 00 1	6 31 34 428 00 2 6 31 34 429 00 2	6 31 34 429 00 3	0 31 34 420 00 4
43mm	1.7320	6 31 34 439 00 1	6 31 34 429 00 2 6 31 34 439 00 2	6 31 34 429 00 3 6 31 34 439 00 3	6 31 34 439 00 4
_	1.7500				6 31 34 444 00 4
1-3/4"		6 31 34 444 00 1	6 31 34 444 00 2	6 31 34 444 00 3	
45mm	1.7710	6 31 34 449 00 1	6 31 34 449 00 2	6 31 34 449 00 3	6 31 34 449 00 4
46mm	1.8110	6 31 34 459 00 1	6 31 34 459 00 2	6 31 34 459 00 3	6 31 34 459 00 4
1-13/16"	1.8120	6 31 34 461 00 1	6 31 34 461 00 2	6 31 34 461 00 3	6 31 34 461 00 4
47mm	1.8500	6 31 34 469 00 1	6 31 34 469 00 2	( <u>)</u> ( ) ( <del>,</del> ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	
1-7/8"	1.8750	6 31 34 476 00 1	6 31 34 476 00 2	6 31 34 476 00 3	6 31 34 476 00 4
48mm	1.8890	6 31 34 479 00 1	6 31 34 479 00 2	6 31 34 479 00 3	6 31 34 479 00 4
49mm	1.9290	6 31 34 489 00 1	6 31 34 489 00 2		
1-15/16"	1.9370	6 31 34 491 00 1	6 31 34 491 00 2	6 31 34 491 00 3	6 31 34 492 00 4
50mm	1.968	6 31 34 499 00 1	6 31 34 499 00 2	6 31 34 499 00 3	6 31 34 499 00 4
2"	2.000	6 31 34 508 00 1	6 31 34 508 00 2	6 31 34 508 00 3	6 31 34 508 00 4
51mm	2.007	6 31 34 509 00 1	6 31 34 509 00 2	6 31 34 510 00 3	6 31 34 509 00 4
52mm	2.047	6 31 34 519 00 1	6 31 34 519 00 2	6 31 34 519 00 3	6 31 34 519 00 4
2-1/16"	2.062	6 31 34 523 00 1	6 31 34 523 00 2	6 31 34 523 00 3	6 31 34 523 00 4
2-1/8"	2.125	6 31 34 539 00 1	6 31 34 539 00 2	6 31 34 539 00 3	6 31 34 539 00 4
2-3/16"	2.187	6 31 34 555 00 1	6 31 34 555 00 2	6 31 34 555 00 3	6 31 34 555 00 4
2-1/4"	2.250	6 31 34 571 00 1	6 31 34 571 00 2	6 31 34 571 00 3	6 31 34 571 00 4
2-5/16"	2.312	6 31 34 587 00 1	6 31 34 587 00 2	6 31 34 587 00 3	6 31 34 587 00 4
2-3/8"	2.375	6 31 34 603 00 1	6 31 34 603 00 2	6 31 34 603 00 3	6 31 34 603 00 4
2-7/16"	2.437	6 31 34 618 00 1	6 31 34 618 00 2	6 31 34 618 00 3	6 31 34 618 00 4
2-1/2"	2.500	6 31 34 635 00 1	6 31 34 635 00 2	6 31 34 635 00 3	6 31 34 635 00 4
2-9/16"	2.562	6 31 34 650 00 1	6 31 34 651 00 2	6 31 34 650 00 3	
2-5/8"	2.625	6 31 34 666 00 1	6 31 34 666 00 2	6 31 34 666 00 3	6 31 34 666 00 4
2-11/16"	2.687	6 31 34 682 00 1	6 31 34 682 00 2	6 31 34 682 00 3	
2-3/4"	2.750	6 31 34 698 00 1	6 31 34 698 00 2	6 31 34 698 00 3	6 31 34 698 00 4
2-13/16"	2.812	6 31 34 714 00 1	6 31 34 714 00 2	6 31 34 714 00 3	
2-7/8"	2.875	6 31 34 731 00 1	6 31 34 731 00 2	6 31 34 731 00 3	6 31 34 731 00 4
2-15/16"	2.937	6 31 34 745 00 1	6 31 34 745 00 2	6 31 34 745 00 3	
3"	3.000	6 31 34 762 00 1	6 31 34 762 00 2	6 31 34 762 00 3	6 31 34 762 00 4

# 3/4" SHANK CUTTERS

Core bits with Weldon holder. Long service life. Imperial and metric dimensions.

### SETS: 2" depth, 3/4" shank

#### Item #: 6 31 34 999 01 5

Cutter Diameter	Decimal Equivalent	
9/16"	.5625	
11/16"	.6875	
13/16"	.8125	
15/16"	.9375	
1-1/16"	1.062	
2" pilot 9/16" to 1-1/16"		
Cutter Case		

#### Item #: 6 31 34 999 02 6

Cutter Diameter	Decimal Equivalent	
7/16"	.4375	
1/2"	.5000	
9/16"	.5625	
5/8"	.6250	
11/16"	.6875	
3/4"	.7500	
13/16"	.8125	
7/8"	.8750	
15/16"	.9375	
1"	1.000	
1-1/16"	1.062	
2" pilot 7/16"	to 1/2"	
2" pilot 9/16" to 1-1/16"		
Cutter Case		



### **PILOT PIN FUNCTIONS**

- Allow coolant flow to center of cutter during drilling cycle.
- Eject slug from center of cutter after the drilling cycle.
- Align Slugger cutters to desired drilling position.

ltem #	Pilot Pin Description
6 31 34 998 00 1	1" depth of cut, 1/2" diameter and smaller (including 13mm & 14mm)
6 31 34 998 00 2	2" depth of cut, 1/2" diameter and smaller (including 13mm & 14mm)
6 31 34 998 00 3	1" depth of cut, 9/16" diameter and larger
6 31 34 998 00 4	2" depth of cut, 9/16" diameter and larger
6 31 34 998 00 5	All standard 3" depth of cut, 3/4" diameter and larger
6 31 34 998 01 0	4" depth of cut
6 31 34 998 01 2	6" depth of cut

# **TIN-COATED CUTTERS**

3/4" shank

CUTTER DIAMETER	Decimal Equiv.	1" DEPTH Item #	2" DEPTH Item #
7/16"	0.4375	6 31 34 111 11 3	6 31 34 110 10 6
1/2"	0.5000	6 31 34 127 10 8	6 31 34 127 11 3
9/16"	0.5625	6 31 34 142 11 5	6 31 34 142 10 7
5/8"	0.6250	6 31 34 158 10 8	6 31 34 158 11 4
11/16"	0.6875	6 31 34 174 12 0	6 31 34 174 10 5
3/4"	0.7500	6 31 34 190 11 1	6 31 34 190 11 7
13/16"	0.8125	6 31 34 206 11 5	6 31 34 206 12 0
7/8"	0.8750	6 31 34 222 11 0	6 31 34 222 11 7
15/16"	0.9375	6 31 34 238 11 7	6 31 34 237 10 4
1"	1.0000	6 31 34 254 11 1	6 31 34 254 11 7
1-1/16"	1.0620	6 31 34 269 11 1	6 31 34 269 11 7
1-1/8"	1.1250	6 31 34 285 10 9	6 31 34 285 11 4
1-3/16"	1.1870	6 31 34 301 11 0	6 31 34 301 11 4
1-1/4"	1.2500	6 31 34 317 11 3	6 31 34 317 11 9
1-5/16"	1.3120	6 31 34 333 10 5	6 31 34 333 11 1
1-3/8"	1.3750	6 31 34 349 10 9	6 31 34 349 11 5
1-7/16"	1.4370	6 31 34 364 10 3	6 31 34 364 10 7
1-1/2"	1.5000	6 31 34 381 11 1	6 31 34 381 11 7
1-9/16"	1.5620	6 31 34 396 10 4	6 31 34 396 10 7
1-5/8"	1.6250	6 31 34 412 10 9	6 31 34 412 11 2
1-11/16"	1.6870	6 31 34 428 10 5	6 31 34 428 10 8
1-3/4"	1.7500	6 31 34 444 10 7	6 31 34 444 11 1
1-13/16"	1.8120	6 31 34 461 10 4	6 31 34 461 10 6
1-7/8"	1.8750	6 31 34 476 10 4	6 31 34 476 10 6
1-15/16"	1.9370	6 31 34 491 10 5	6 31 34 491 10 8
2"	2.000	6 31 34 508 11 2	6 31 34 508 11 7
2-1/16"	2.062	6 31 34 523 10 5	6 31 34 523 10 9
2-1/8"	2.125	6 31 34 539 10 2	6 31 34 539 10 3
2-3/16"	2.187	6 31 34 555 10 2	6 31 34 555 10 4
2-1/4"	2.250	6 31 34 565 10 2	6 31 34 571 11 0
2-5/16"	2.312	6 31 34 587 10 6	
2-3/8"	2.375	6 31 34 603 10 4	6 31 34 603 10 3
2-7/16"	2.437	6 31 34 618 10 2	
2-1/2"	2.500	6 31 34 635 10 1	6 31 34 635 10 4
2-9/16"	2.562	6 31 34 650 10 1	6 31 34 650 10 3
2-5/8"	2.625	6 31 34 666 10 3	6 31 34 666 10 6
2-11/16"	2.687	6 31 34 682 10 1	
2-3/4"	2.750	6 31 34 698 10 2	6 31 34 698 10 6
2-13/16"	2.812	6 31 34 714 10 1	
2-7/8"	2.875	6 31 34 731 10 1	
2-15/16"	2.937	6 31 34 745 10 1	
3"	3.000	6 31 34 762 10 2	6 31 34 762 10 4

#### **TITANIUM NITRIDE (TiN)**

TiN coatings improve tool life by increasing surface hardness of the tool and providing greater lubricity. TiN coated cutters are generally used in applications where the material being cut is difficult to machine, or when extended tool life is desired.

METRIC SIZES AVAILABLE ON REQUEST





#### **KBB 40 and ID CUTTERS**

Nothing is quite as demanding and costly as trying to drill holes on truck and trailer frames, dealing with hi-tensile steels, laminated layers of steel and space constraints. If the required holes are located behind the rear wheels of the truck, the process is even more costly and time consuming. Often, the wheels must be completely removed before any work can be done. Even then, cutters often snap as they go through the laminated layers of steel.

The shop foreman of a truck repair centre contacted FEIN looking for a cost-saving time-reduction solution to these problems.

The lightweight, ultra-compact FEIN KBB 40 Mag Drill used in conjunction with ID sharpened, Titanium-Nitride Coated Annular Cutters provided the efficiency boosting solution the shop foreman was looking for. **CARBIDE-TIPPED CUTTER FEATURES** • Produces accurate holes without pilot drilling.



## **CARBIDE-TIPPED CUTTERS**

3/4" shank and threaded drives

# • Ideal for select drilling applications. • Multiple cutting edge geometry increases productivity. • Adapts quickly to most drill presses or magnetic based drills. Low cost with increased hole drilling productivity. **3 INCH & 4 INCH DEPTH AVAILABLE ON REQUEST** Cutters smaller than 21/2" diameter have 3/4" straight shank drives. Cutters 21/2" diameter and larger have M18 x 1.5 threaded drives.

Not available in TiN, TC or Cobalt.





• Only 12" in height, the FEIN KBB 40 operates using a quill style cutter feed system, so it can easily fit between the wheels and frame allowing the holes to be cut without costly time being wasted removing wheels.

• Titanium Nitride coating on IDTN cutters increases the lubricity of the cutter, allowing chips and filings to exit the cutting area more easily thus increasing the likelihood that the cutters will not break.

• ID sharpening of the cutters allowed the user to cut through multiple layers of steel without damaging or breaking the cutters.

The truck repair centre was able to all but eliminate the need to remove wheels in order to drill a hole in truck frames, resulting in considerable savings in labour costs. The shop foreman was thrilled with the fact that the truck repair centre was able to drill holes in 50% of the time that it previously took, and broken cutters are now a thing of the past. This substantial reduction in labour cost accompanied by the savings in equipment costs allowed the truck repair centre to improve it's competitiveness in a very price driven market.

DIAMETEREquiv.Item #Item #11/16".68756 31 34 173 03 06 31 34 172 03 03/4".75006 31 34 190 03 06 31 34 189 03 013/16".81256 31 34 205 03 06 31 34 204 03 07/8".87506 31 34 222 03 06 31 34 221 03 015/16".93756 31 34 237 03 06 31 34 226 03 01"1.0006 31 34 253 03 06 31 34 226 03 01-1/16"1.0626 31 34 267 03 06 31 34 284 03 01-1/16"1.0626 31 34 285 03 06 31 34 284 03 01-3/16"1.1876 31 34 300 03 06 31 34 316 03 01-3/16"1.1876 31 34 317 03 06 31 34 316 03 01-5/16"1.3126 31 34 313 03 06 31 34 332 03 01-5/16"1.3126 31 34 438 03 06 31 34 379 03 01-7/16"1.4376 31 34 436 03 06 31 34 437 03 01-7/16"1.4376 31 34 430 06 31 34 437 03 01-7/16"1.6256 31 34 412 03 06 31 34 437 03 01-5/8"1.6256 31 34 412 03 06 31 34 410 30 01-11/16"1.6876 31 34 420 03 06 31 34 427 03 01-3/4"1.7506 31 34 420 03 06 31 34 427 03 01-3/4"1.8126 31 34 420 03 06 31 34 427 03 01-11/16"1.8876 31 34 420 03 06 31 34 427 03 01-13/16"1.8126 31 34 420 03 06 31 34 427 03 01-13/16"1.8126 31 34 420 03 06 31 34 427 03 01-15/16"	CUTTER	Decimal	1" DEPTH	2" DEPTH
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1-5/16"1.3126 31 34 333 03 06 31 34 332 03 01-3/8"1.3756 31 34 348 03 06 31 34 347 03 01-7/16"1.4376 31 34 365 03 06 31 34 363 03 01-1/2"1.5006 31 34 380 03 06 31 34 379 03 01-9/16"1.5626 31 34 496 03 06 31 34 495 03 01-5/8"1.6256 31 34 412 03 06 31 34 427 03 01-11/16"1.6876 31 34 428 03 06 31 34 427 03 01-3/4"1.7506 31 34 444 03 06 31 34 445 03 01-3/4"1.7506 31 34 446 03 06 31 34 459 03 01-13/16"1.8126 31 34 476 03 06 31 34 459 03 01-15/16"1.9376 31 34 491 03 06 31 34 492 03 02"2.0006 31 34 523 03 06 31 34 520 03 02-1/16"2.0626 31 34 539 03 06 31 34 520 03 02-1/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/4"2.2506 31 34 637 03 36 31 34 636 03 32-3/4" *2.7506 31 34 697 03 36 31 34 630 32-3/4" *2.7506 31 34 697 03 36 31 34 636 03 33" *3.0006 31 34 697 03 36 31 34 697 03 33-1/4" *3.2506 31 34 824 03 36 31 34 826 03 33-1/4" *3.5006 31 34 889 03 36 31 34 890 03 33-3/4" *3.7506 31 34 890 03 3	1-3/16"	1.187	6 31 34 300 03 0	6 31 34 302 03 0
1-3/8"1.3756 31 34 348 03 06 31 34 347 03 01-7/16"1.4376 31 34 365 03 06 31 34 363 03 01-1/2"1.5006 31 34 380 03 06 31 34 379 03 01-9/16"1.5626 31 34 396 03 06 31 34 495 03 01-5/8"1.6256 31 34 412 03 06 31 34 427 03 01-11/16"1.6876 31 34 428 03 06 31 34 427 03 01-3/4"1.7506 31 34 440 306 31 34 427 03 01-3/4"1.7506 31 34 440 306 31 34 459 03 01-13/16"1.8126 31 34 460 03 06 31 34 459 03 01-15/16"1.8756 31 34 476 03 06 31 34 475 03 01-15/16"1.9376 31 34 491 03 06 31 34 492 03 02"2.0006 31 34 507 03 06 31 34 506 03 02-1/16"2.0626 31 34 539 03 06 31 34 522 03 02-1/8"2.1256 31 34 539 03 06 31 34 555 02 72-1/4"2.2506 31 34 635 02 76 31 34 636 03 32-1/2" *2.5006 31 34 635 02 76 31 34 636 03 32-3/4" *2.7506 31 34 637 03 36 31 34 636 03 33.1/4" *3.0006 31 34 762 03 36 31 34 764 03 33.1/4" *3.5006 31 34 889 03 36 31 34 890 03 33.1/4" *3.5006 31 34 889 03 36 31 34 890 03 33.3/4" *3.7506 31 34 953 03 3	1-1/4"	1.250	6 31 34 317 03 0	6 31 34 316 03 0
1-7/16"1.4376 31 34 365 03 06 31 34 363 03 01-1/2"1.5006 31 34 380 03 06 31 34 379 03 01-9/16"1.5626 31 34 396 03 06 31 34 395 03 01-5/8"1.6256 31 34 412 03 06 31 34 411 03 01-11/16"1.6876 31 34 428 03 06 31 34 427 03 01-3/4"1.7506 31 34 440 306 31 34 427 03 01-3/4"1.7506 31 34 440 306 31 34 443 03 01-13/16"1.8126 31 34 476 03 06 31 34 459 03 01-7/8"1.8756 31 34 476 03 06 31 34 475 03 01-15/16"1.9376 31 34 491 03 06 31 34 492 03 02"2.0006 31 34 507 03 06 31 34 506 03 02-1/16"2.0626 31 34 539 036 31 34 506 03 02-1/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/4"2.2506 31 34 637 03 36 31 34 636 03 32-3/4" *2.7506 31 34 635 02 76 31 34 636 03 33.1/4" *3.0006 31 34 637 03 36 31 34 636 03 33-1/4" *3.5006 31 34 824 03 36 31 34 764 03 33-1/2" *3.5006 31 34 889 03 36 31 34 890 03 33-3/4" *3.7506 31 34 890 36 31 34 953 03 3	1-5/16"	1.312	6 31 34 333 03 0	6 31 34 332 03 0
1-1/2"1.5006 31 34 380 03 06 31 34 379 03 01-9/16"1.5626 31 34 396 03 06 31 34 395 03 01-9/16"1.5626 31 34 412 03 06 31 34 411 03 01-5/8"1.6256 31 34 412 03 06 31 34 427 03 01-11/16"1.6876 31 34 428 03 06 31 34 427 03 01-3/4"1.7506 31 34 440 306 31 34 443 03 01-3/4"1.7506 31 34 440 03 06 31 34 459 03 01-13/16"1.8126 31 34 460 03 06 31 34 459 03 01-7/8"1.8756 31 34 476 03 06 31 34 475 03 01-15/16"1.9376 31 34 491 03 06 31 34 492 03 02"2.0006 31 34 507 03 06 31 34 506 03 02-1/16"2.0626 31 34 523 03 06 31 34 522 03 02-1/16"2.0626 31 34 539 03 06 31 34 538 03 02-3/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/2"2.5006 31 34 635 02 76 31 34 636 03 32-3/4"2.7506 31 34 697 03 36 31 34 636 03 32-3/4"3.0006 31 34 762 03 36 31 34 764 03 33"*3.0006 31 34 762 03 36 31 34 826 03 33-1/4"*3.2506 31 34 889 03 36 31 34 890 03 33-3/4"*3.7506 31 34 889 03 36 31 34 953 03 3	1-3/8"	1.375	6 31 34 348 03 0	6 31 34 347 03 0
1.9/16"1.5626 31 34 396 03 06 31 34 395 03 01-9/16"1.6256 31 34 412 03 06 31 34 411 03 01-5/8"1.6256 31 34 428 03 06 31 34 427 03 01-11/16"1.6876 31 34 428 03 06 31 34 427 03 01-3/4"1.7506 31 34 440 306 31 34 443 03 01-13/16"1.8126 31 34 460 03 06 31 34 459 03 01-13/16"1.8126 31 34 476 03 06 31 34 459 03 01-15/16"1.8756 31 34 470 306 31 34 475 03 01-15/16"1.9376 31 34 491 03 06 31 34 492 03 02"2.0006 31 34 507 03 06 31 34 506 03 02-1/16"2.0626 31 34 507 03 06 31 34 506 03 02-1/16"2.0626 31 34 539 03 06 31 34 555 02 72-3/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/2" *2.5006 31 34 635 02 76 31 34 636 03 32-3/4" *2.7506 31 34 637 03 36 31 34 636 03 33.1/4" *3.0006 31 34 762 03 36 31 34 764 03 33-1/4" *3.2506 31 34 824 03 36 31 34 826 03 33-1/2" *3.5006 31 34 889 03 36 31 34 890 03 33-3/4" *3.7506 31 34 889 03 36 31 34 953 03 3	1-7/16"	1.437	6 31 34 365 03 0	6 31 34 363 03 0
1-5/8"1.6256 31 34 412 03 06 31 34 411 03 01-11/16"1.6876 31 34 428 03 06 31 34 427 03 01-3/4"1.7506 31 34 444 03 06 31 34 443 03 01-3/4"1.7506 31 34 440 03 06 31 34 443 03 01-13/16"1.8126 31 34 460 03 06 31 34 459 03 01-7/8"1.8756 31 34 476 03 06 31 34 475 03 01-7/8"1.8756 31 34 476 03 06 31 34 492 03 02"2.0006 31 34 507 03 06 31 34 506 03 02"2.0006 31 34 507 03 06 31 34 502 03 02-1/16"2.0626 31 34 523 03 06 31 34 522 03 02-1/8"2.1256 31 34 556 03 06 31 34 555 02 72-3/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/2" *2.5006 31 34 635 02 76 31 34 636 03 32-3/4" *2.7506 31 34 635 02 76 31 34 636 03 33" *3.0006 31 34 627 03 36 31 34 636 03 33-1/4" *3.2506 31 34 824 03 36 31 34 764 03 33-1/4" *3.5006 31 34 824 03 36 31 34 826 03 33-1/2" *3.5006 31 34 889 03 36 31 34 900 3 33-3/4" *3.7506 31 34 953 03 3	1-1/2"	1.500	6 31 34 380 03 0	6 31 34 379 03 0
1-11/16"1.6876 31 34 428 03 06 31 34 427 03 01-3/4"1.7506 31 34 444 03 06 31 34 443 03 01-3/4"1.7506 31 34 440 03 06 31 34 443 03 01-13/16"1.8126 31 34 460 03 06 31 34 459 03 01-7/8"1.8756 31 34 476 03 06 31 34 475 03 01-15/16"1.9376 31 34 491 03 06 31 34 492 03 02"2.0006 31 34 507 03 06 31 34 506 03 02-1/16"2.0626 31 34 523 03 06 31 34 522 03 02-1/8"2.1256 31 34 539 03 06 31 34 538 03 02-3/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/2"2.5006 31 34 635 02 76 31 34 636 03 32-1/2"2.5006 31 34 635 02 76 31 34 636 03 32-3/4"2.7506 31 34 677 03 36 31 34 636 03 33"3.0006 31 34 762 03 36 31 34 764 03 33-1/4"3.2506 31 34 824 03 36 31 34 826 03 33-1/2"3.5006 31 34 889 03 36 31 34 890 03 33-3/4"3.7506 31 34 889 03 36 31 34 953 03 3	1-9/16"	1.562	6 31 34 396 03 0	6 31 34 395 03 0
1-3/4"1.7506 31 34 444 03 06 31 34 443 03 01-3/16"1.8126 31 34 460 03 06 31 34 459 03 01-7/8"1.8756 31 34 476 03 06 31 34 475 03 01-7/8"1.8756 31 34 476 03 06 31 34 475 03 01-15/16"1.9376 31 34 491 03 06 31 34 492 03 02"2.0006 31 34 507 03 06 31 34 506 03 02"2.0016 31 34 507 03 06 31 34 506 03 02-1/16"2.0626 31 34 523 03 06 31 34 522 03 02-1/8"2.1256 31 34 539 03 06 31 34 538 03 02-3/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/4"2.2506 31 34 571 03 06 31 34 636 03 32-3/4" *2.7506 31 34 637 03 36 31 34 636 03 33" *3.0006 31 34 697 03 36 31 34 764 03 33-1/4" *3.2506 31 34 824 03 36 31 34 826 03 33-1/2" *3.5006 31 34 889 03 36 31 34 890 03 33-3/4" *3.7506 31 34 953 03 3	1-5/8"	1.625	6 31 34 412 03 0	6 31 34 411 03 0
1-13/16"1.8126 31 34 460 03 06 31 34 459 03 01-7/8"1.8756 31 34 476 03 06 31 34 475 03 01-7/8"1.8756 31 34 476 03 06 31 34 472 03 01-15/16"1.9376 31 34 491 03 06 31 34 492 03 02"2.0006 31 34 507 03 06 31 34 506 03 02-1/16"2.0626 31 34 523 03 06 31 34 522 03 02-1/8"2.1256 31 34 539 03 06 31 34 538 03 02-3/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/2"2.5006 31 34 571 03 06 31 34 570 03 02-1/2"2.5006 31 34 635 02 76 31 34 636 03 32-3/4" *2.7506 31 34 697 03 36 31 34 699 03 33" *3.0006 31 34 762 03 36 31 34 764 03 33-1/4" *3.2506 31 34 889 03 36 31 34 890 03 33-1/2" *3.5006 31 34 889 03 36 31 34 953 03 3	1-11/16"	1.687	6 31 34 428 03 0	6 31 34 427 03 0
1-7/8"1.8756 31 34 476 03 06 31 34 475 03 01-15/16"1.9376 31 34 491 03 06 31 34 492 03 02"2.0006 31 34 507 03 06 31 34 506 03 02"2.0026 31 34 507 03 06 31 34 506 03 02-1/16"2.0626 31 34 523 03 06 31 34 522 03 02-1/8"2.1256 31 34 539 03 06 31 34 538 03 02-3/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/4"2.2506 31 34 571 03 06 31 34 637 03 02-1/2" *2.5006 31 34 635 02 76 31 34 636 03 32-3/4" *2.7506 31 34 697 03 36 31 34 699 03 33" *3.0006 31 34 762 03 36 31 34 764 03 33-1/4" *3.2506 31 34 889 03 36 31 34 890 03 33-1/2" *3.5006 31 34 889 03 36 31 34 953 03 3	1-3/4"	1.750	6 31 34 444 03 0	6 31 34 443 03 0
1-15/16"1.9376 31 34 491 03 06 31 34 492 03 02"2.0006 31 34 507 03 06 31 34 506 03 02-1/16"2.0626 31 34 523 03 06 31 34 522 03 02-1/8"2.1256 31 34 539 03 06 31 34 538 03 02-3/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/4"2.2506 31 34 571 03 06 31 34 636 03 32-1/2" *2.5006 31 34 635 02 76 31 34 636 03 32-3/4" *2.7506 31 34 697 03 36 31 34 699 03 33" *3.0006 31 34 762 03 36 31 34 764 03 33-1/4" *3.2506 31 34 824 03 36 31 34 826 03 33-1/2" *3.5006 31 34 889 03 36 31 34 953 03 3	1-13/16"	1.812	6 31 34 460 03 0	6 31 34 459 03 0
2"2.0006 31 34 507 03 06 31 34 506 03 02-1/16"2.0626 31 34 523 03 06 31 34 522 03 02-1/8"2.1256 31 34 539 03 06 31 34 538 03 02-3/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/4"2.2506 31 34 571 03 06 31 34 570 03 02-1/2" *2.5006 31 34 635 02 76 31 34 636 03 32-3/4" *2.7506 31 34 677 03 36 31 34 699 03 33" *3.0006 31 34 762 03 36 31 34 764 03 33-1/4" *3.2506 31 34 824 03 36 31 34 826 03 33-1/2" *3.5006 31 34 889 03 36 31 34 953 03 3	1-7/8"	1.875	6 31 34 476 03 0	6 31 34 475 03 0
2-1/16"2.0626 31 34 523 03 06 31 34 522 03 02-1/8"2.1256 31 34 539 03 06 31 34 538 03 02-3/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/4"2.2506 31 34 571 03 06 31 34 570 03 02-1/2" *2.5006 31 34 635 02 76 31 34 636 03 32-3/4" *2.7506 31 34 697 03 36 31 34 699 03 33" *3.0006 31 34 762 03 36 31 34 764 03 33-1/4" *3.2506 31 34 824 03 36 31 34 826 03 33-1/2" *3.5006 31 34 889 03 36 31 34 953 03 3	1-15/16"	1.937	6 31 34 491 03 0	6 31 34 492 03 0
2-1/8"2.1256 31 34 539 03 06 31 34 538 03 02-3/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/4"2.2506 31 34 571 03 06 31 34 570 03 02-1/2" *2.5006 31 34 635 02 76 31 34 636 03 32-3/4" *2.7506 31 34 697 03 36 31 34 699 03 33" *3.0006 31 34 762 03 36 31 34 764 03 33-1/4" *3.2506 31 34 824 03 36 31 34 826 03 33-1/2" *3.5006 31 34 889 03 36 31 34 950 03 3	2"	2.000	6 31 34 507 03 0	6 31 34 506 03 0
2-3/16"2.1876 31 34 556 03 06 31 34 555 02 72-1/4"2.2506 31 34 571 03 06 31 34 570 03 02-1/2" *2.5006 31 34 635 02 76 31 34 636 03 32-3/4" *2.7506 31 34 697 03 36 31 34 699 03 33" *3.0006 31 34 762 03 36 31 34 764 03 33-1/4" *3.2506 31 34 824 03 36 31 34 826 03 33-1/2" *3.5006 31 34 889 03 36 31 34 890 03 33-3/4" *3.750-6 31 34 890 33	2-1/16"	2.062	6 31 34 523 03 0	6 31 34 522 03 0
2-1/4"2.2506 31 34 571 03 06 31 34 570 03 02-1/2" *2.5006 31 34 635 02 76 31 34 636 03 32-3/4" *2.7506 31 34 697 03 36 31 34 699 03 33" *3.0006 31 34 762 03 36 31 34 764 03 33-1/4" *3.2506 31 34 824 03 36 31 34 826 03 33-1/2" *3.5006 31 34 889 03 36 31 34 890 03 33-3/4" *3.750	2-1/8"	2.125	6 31 34 539 03 0	6 31 34 538 03 0
2-1/2" *     2.500     6 31 34 635 02 7     6 31 34 636 03 3       2-3/4" *     2.750     6 31 34 697 03 3     6 31 34 699 03 3       3" *     3.000     6 31 34 762 03 3     6 31 34 764 03 3       3-1/4" *     3.250     6 31 34 824 03 3     6 31 34 826 03 3       3-1/2" *     3.500     6 31 34 889 03 3     6 31 34 890 03 3       3-3/4" *     3.750     6 31 34 890 03 3     6 31 34 953 03 3	2-3/16"	2.187	6 31 34 556 03 0	6 31 34 555 02 7
2-3/4" *     2.750     6 31 34 697 03 3     6 31 34 699 03 3       3" *     3.000     6 31 34 762 03 3     6 31 34 764 03 3       3-1/4" *     3.250     6 31 34 824 03 3     6 31 34 826 03 3       3-1/2" *     3.500     6 31 34 889 03 3     6 31 34 890 03 3       3-3/4" *     3.750     E     6 31 34 953 03 3	2-1/4"	2.250	6 31 34 571 03 0	6 31 34 570 03 0
3" *   3.000   6 31 34 762 03 3   6 31 34 764 03 3     3-1/4" *   3.250   6 31 34 824 03 3   6 31 34 826 03 3     3-1/2" *   3.500   6 31 34 889 03 3   6 31 34 890 03 3     3-3/4" *   3.750   6 31 34 953 03 3	2-1/2" *	2.500	6 31 34 635 02 7	6 31 34 636 03 3
3-1/4" *     3.250     6 31 34 824 03 3     6 31 34 826 03 3       3-1/2" *     3.500     6 31 34 889 03 3     6 31 34 890 03 3       3-3/4" *     3.750     6 31 34 953 03 3	2-3/4" *	2.750	6 31 34 697 03 3	6 31 34 699 03 3
3-1/2" *     3.500     6 31 34 889 03 3     6 31 34 890 03 3       3-3/4" *     3.750     6 31 34 953 03 3	3"*	3.000	6 31 34 762 03 3	6 31 34 764 03 3
3-3/4" * 3.750 6 31 34 953 03 3	3-1/4" *	3.250	6 31 34 824 03 3	6 31 34 826 03 3
	3-1/2" *	3.500	6 31 34 889 03 3	6 31 34 890 03 3
4" * 4.000 6 31 34 004 03 3 6 31 34 006 03 3	3-3/4" *	3.750		6 31 34 953 03 3
	4"*	4.000	6 31 34 004 03 3	6 31 34 006 03 3

ltem #	Pilot Pin Description
6 31 34 998 10 0	Pilot pin for 1" cutters
6 31 34 998 00 4	Pilot pin for 2" cutters

\* Note: Cutter shanks have internal thread system. See page 29 for 3MT threaded drive arbor options.

Pilot pins come with the "EW" arbors for cutters 2<sup>1</sup>/<sub>2</sub>" diameter and larger.

### Slugger

## **TAP SIZE CUTTERS**

3/4" shank

TAP SIZE	РІТСН	FORM	CUTTER DIAMETER	Decimal Equiv.	1" DEPTH Item #	2" DEPTH Item #
1/2"	13	NC	27/64"	.4219	6 31 34 107 00 1	6 31 34 106 00 2
1/2"	20	NF	29/64"	.4531	6 31 34 115 00 1	6 31 34 115 00 2
9/16"	12	NC	31/64"	.4843	6 31 34 123 00 1	6 31 34 122 00 2
9/16"	18	NF	1/2"	.5000	6 31 34 127 00 1	6 31 34 127 00 2
5/8"	11	NC	17/32"	.5312	6 31 34 134 00 1	6 31 34 134 00 2
5/8"	18	NF	9/16"	.5625	6 31 34 142 00 1	6 31 34 142 00 2
11/16"	11	NS	19/32"	.5938	6 31 34 151 00 1	6 31 34 150 00 2
11/16"	16	NS	5/8"	.6250	6 31 34 158 00 1	6 31 34 158 00 2
3/4"	10	NC	21/32"	.6562	6 31 34 166 00 1	6 31 34 166 00 2
3/4"	16	NF	11/16"	.6875	6 31 34 174 00 1	6 31 34 174 00 2
7/8"	9	NC	49/64"	.7656	6 31 34 194 00 1	6 31 34 194 00 2
7/8"	14	NF	51/64"	.7969		6 31 34 202 00 2
1"	8	NC	7/8"	.8750	6 31 34 222 00 1	6 31 34 222 00 2
1"	12	NF	59/64"	.9219	6 31 34 234 00 1	6 31 34 233 00 2
1"	14	NS	59/64"	.9219	6 31 34 234 00 1	6 31 34 233 00 2
1-1/8"	7	NC	25mm	.9843	6 31 34 250 00 1	6 31 34 249 00 2
1-1/8"	12	NF	1-1/32"	1.032	6 31 34 261 00 1	6 31 34 261 00 2
1-1/4"	7	NC	1-7/64"	1.109		6 31 34 279 00 2
1-1/4"	12	NF	1-11/64"	1.171		6 31 34 297 00 2
1-1/2"	6	NC	1-11/32"	1.343		6 31 34 341 00 2
1-1/2"	12	NF	1-27/64"	1.421		6 31 34 361 00 2
1-3/4"	5	NC	1-9/16"	1.562	6 31 34 396 00 1	6 31 34 396 00 2
2"	4-1/2	NC	1-25/32"	1.781		6 31 34 452 00 2

If you are tapping your holes after you drill, Slugger cutters are available in various tap size configurations.

Note: If you are tapping many holes, look to FEIN "Tappers". Drills designed specifically to tap holes, available in either 5/16" or 1/2" capacity. See page 14.



# **Achieving Top Performance from SLUGGER Cutters**

- **1.** Maintain a working knowledge of the material being machined. Different materials require different feeds, speeds and coolants.
- 2. Determine the condition of the machine tool and fixturing. Excessive machine spindle run out and loose fixturing directly affect performance and cutter life.
- **3.** Depth of cut can affect tool life. Consideration must be given to proper coolant supply and sufficient room for chip evacuation.
- 4. The desirable finish of the material after the cut is sometimes a consideration. It is possible to change hole finish by adjusting feed and speed rates.
- **5.** Coolant can be a factor when examining cutter performance. For optimal results, coolant should be provided to both the inside and outside of Slugger cutters using cutting fluid.

# **SLUGGER ACCESSORIES**



#### **TAPPING HEADS**

Tapping heads are available to mount on Slugger drills to tap pre-drilled holes.



ltem #	Description
6 42 98 190 18 0	Complete tapping unit for KBB 60
6 42 98 702 09 0	Collet for #10 to 1/2" tap size
6 42 98 702 10 0	Collet for 1/2" to 3/4" tap size
6 42 98 702 50 0	Backjaws
6 42 98 190 11 0	Complete tapping unit for KBB 38
6 42 98 702 21 0	Collet #0 to 1/4" tap size
6 42 98 702 22 0	Collet 1/4" to 1/2" tap size
6 42 98 702 49 0	Backjaws

#### **CHUCK & ADAPTORS**

Convert Slugger drilling machines into portable drill presses in seconds. Ideal for small and blind hole applications.



ltem #	Description
6 42 98 190 10 0	1/2" chuck and adaptor for KBB 38
6 42 98 102 15 3	3/4" chuck and adaptor for KBB 60

#### THE MAGBRUSH

Safely remove metal chips and debris from machinery and work areas using magnetic brushes. It features a

high grade, rare earth magnet with the most holding power for its size, outperforming similar magnetic pick-up tools. The Magbrush is a great time saver for both industrial use and the home workshop.

Item #	Description
6 42 01 002 98 0	Magbrush (15 inches long)
6 42 01 003 98 0	Super Magbrush (3 feet long)

#### **TWIST DRILL SETS**

All twist drills have 3/4" Weldon shanks, 2" depth of cut. Twist drill sets are availible to drill holes smaller than an annular cutter will allow.



Item #	Description
6 42 98 050 00 0	Standard: 1/4, 5/16, 3/8, & 7/16"
6 42 98 055 00 0	Metric: 6, 8, 10 , & 12mm

#### **VAC PAD**

Ideal for drilling on non-ferrous



materials. No special vacuum pump is needed. Only 85 psi required.

ltem #	Description
9 26 02 087 98 0	Pneumatic vacuum pad

#### **CUTTER EXTENSIONS**

Extends the reach of Slugger cutters in drilling applications. Consult the order desk for application



information. 1-5/16" arbor body diameter

ltem #	Description
6 31 06 020 98 0	2" arbor extension
6 31 06 021 98 0	3" arbor extension
6 31 06 022 98 0	4" arbor extension
6 31 06 023 98 0	6" arbor extension

#### **CHAIN BASE**

Designed for a variety of pipe and tube drilling applications. The chain base is used to attach your

KBB magnetic drill to curved surfaces for drilling operations.

ltem #	Description
9 07 98 190 20 0	Chain base for KBB 38
9 07 98 541 48 0	Chain base for KBB 40, KBB 60

#### **CUTTING FLUID & PASTE**

Cutting Fluid, used with Slugger cutters, is a water-based fluid designed to extend tool life, improve surface finish and reduce heat buildup when drilling.

ltem #	CUTTING FLUID
3 21 32 032 98 0	Quart
3 21 32 032 98 2	Case (12) Quarts
6 42 98 102 08 0	Gallon
6 42 98 102 08 4	Case (4) Gallons
6 42 98 102 09 0	5-gallon
6 42 98 102 09 5	55-gallon*

\*Check availability before ordering.



Cutting paste lubricates Slugger cutters when drilling in horizontal and inverted positions. The heat that is generated while drilling liquifies the cutting paste, providing coolant and extending cutter life.

ltem #	CUTTING PASTE
3 21 60 015 98 0	10 oz. tube
3 21 60 015 98 2	Case (12) 10 oz. tubes

#### **COUNTERSINKS**

chamfer in pre-existing

ltem #	Description
6 42 98 100 82 0	1" countersink - 3/4" Weldon shank
6 42 98 150 82 0	1½" countersink - 3/4" Weldon shank
6 42 98 200 82 0	2" countersink - 3/4" Weldon shank

# FEINOLOGY



Clean-up woes? Use the Magbrush, a magnetic wand, to pick up shavings and debris from around your work-stations.

Trying to drill a hole on a piece of plate below your mounting surface. Available in 2", 3", 4", and 6" lengths, Cutter Extensions solve this problem.

Need to countersink your holes? Countersinks are available in 82° configurations with a shank specifically designed for mag drills.



Countersinks to produce a precision

or	holes. All count	ersinks are 82°.
	Item #	Description
	6 42 98 100 82 0	1" countersink - 3/4
	6 42 98 150 82 0	1½" countersink - 3 shank

# **SHEET METAL CUTTERS**



### **SHEET METAL SLUGGER CUTTERS**

# Compare thin metal Slugger cutters to holesaws:

- Three times faster
- Superior tool life
- Accurate hole finish
- Precision ground
- Reduced grabbing and tearing
- Minimum material deformation



Not available in cobalt. For available coatings, call the order desk.

Slugger thin metal cutters are capable of accurately producing holes up to 3" diameter in sheet metal, light tubing, rubber, fiber materials and select plastics. Designed for use with hand-held drilling equipment, Slugger thin metal cutters drill up to three times faster than hole saws and have superior tool life. Center-free design eliminates deflection and leaves a smooth bore in work pieces. Provided arbor system quickly installs to most hand drills, accepting full range of cutters. Cutters lock securely into arbor, replacing inaccurate older style thread-on tools. Thin metal cutters are available individually from 6mm to 3" or in convenient

sets. Cutters are ideal for HVAC, PHCC, electrical and maintenance contractors. The 3/8" dia. is the perfect size for cutting sheet metal spotwelds.



## **SHEET METAL ARBOR ASSEMBLIES**

Item #	Contents	Description
6 31 34 161 34 0 Arbor fits 6mm cutters and 3/8" and larger drills	6 31 34 124 42 0 6 31 34 998 03 0 3 09 98 744 26 0 4 30 98 706 00 0 4 30 98 705 00 0	Arbor body only Pilot pin Spring SSS, M6 x 1.0 x 6 SSS, M5 x .8 x 5 DIN 916
6 31 34 161 36 0 Arbor fits 5/16" to 13/16" cutters and 3/8" and larger drills	6 31 34 124 42 0 6 31 34 998 03 4 3 09 98 744 26 0 4 30 98 706 00 0	Arbor body only Pilot pin Spring SSS, M6 x 1.0 x 6
3 34 98 294 64 0 Arbor fits 7/8" to 1-3/8" cutters and 3/8" and larger drills	3 34 98 223 56 0 6 31 34 998 04 4 3 34 98 220 20 0 4 30 98 706 00 0 3 13 42 621 16 3	Arbor body only 1/4" Pilot Cinch nut "LH thread" SSS, M6 x 1.0 x 6 Compression spring
3 34 98 294 62 0 Arbor fits 1-7/16" to 3" cutters and 1/2" and larger drills	3 34 98 223 54 0 6 31 34 998 04 4 3 34 98 220 18 0 4 30 98 706 00 0 3 13 42 621 16 3	Arbor body only 1/4" Pilot pin Cinch nut "LH thread" SSS, M6 x 1.0 x 6 Compression spring

### SETS: 1" depth cut

#### Item #: 6 31 34 999 04 4

Cutter Diameter	Decimal Equivalent
5/16"	.3125
3/8"	.3750
7/16"	.4375
1/2"	.5000
9/16"	.5625
5/8"	.6250
3/4"	.7500
Arbor assembly	
Pilot pin	
3mm hex key	
Carrying case	

#### Item #: 6 31 34 999 05 6 "ELECTRICIAN'S KIT"

Cutter Diameter	Decimal Equivalent
7/8"	.8750
1-1/8"	1.125
1-3/8"	1.375
1-3/4"	1.750
2"	2.000
2-1/2"	2.500
Pilot pin	
3mm hex key	
3/8" arbor assembly	
1/2" arbor assembly	
Carrying case	

#### Item #: 6 31 34 999 05 8

Cutter Diameter	Decimal Equivalent
7/8"	.8750
1"	1.000
1-1/4"	1.250
1-3/8"	1.375
1-5/8"	1.625
2-1/8"	2.125
3/8" arbor assembly	
1/2" arbor assembly	
3mm hex key	
Carrying case	



# SHEET METAL SLUGGER CUTTERS

#### 1/4" DEPTH OF CUT

CUTTER	Decimal 1/4" DOC		CUTTER	Decimal	1/4" DOC
DIAMETER	Equivalent	ltem #	DIAMETER	Equivalent	ltem #
6mm	.2362	6 31 34 006 02 5	20mm	.7874	6 31 34 199 02 5
1/4"	.2500	6 31 34 063 02 5	13/16"	.8125	6 31 34 206 02 5
7mm	.2750	6 31 34 070 02 5	7/8"	.8750	6 31 34 222 02 5
9/32"	.2810	6 31 34 071 02 5	15/16"	.9375	6 31 34 238 02 5
5/16"	.3125	6 31 34 079 02 5	1"	1.000	6 31 34 254 02 5
8mm	.3149	6 31 34 080 02 5	1-1/16"	1.062	6 31 34 269 02 5
11/32"	.3438	6 31 34 087 02 5	1-1/8"	1.125	6 31 34 285 02 5
9mm	.3543	6 31 34 089 02 5	1-3/16"	1.187	6 31 34 301 02 5
3/8"	.3750	6 31 34 095 02 5	1-1/4"	1.250	6 31 34 317 02 5
10mm	.3937	6 31 34 100 02 5	1-5/16"	1.312	6 31 34 333 02 5
13/32"	.4062	6 31 34 103 02 5	1-3/8"	1.375	6 31 34 349 02 5
27/64"	.4219	6 31 34 107 02 5	1-7/16"	1.437	6 31 34 365 02 5
11mm	.4330	6 31 34 109 02 5	1-1/2	1.500	6 31 34 381 02 5
7/16"	.4375	6 31 34 110 02 5	1-9/16"	1.562	6 31 34 396 02 5
15/32"	.4688	6 31 34 118 02 5	1-5/8"	1.625	6 31 34 412 02 5
12mm	.4724	6 31 34 120 02 5	1-3/4"	1.750	6 31 34 444 02 5
1/2"	.5000	6 31 34 127 02 5	1-13/16"	1.812	6 31 34 460 02 5
13mm	.5118	6 31 34 129 02 5	1-7/8"	1.875	6 31 34 476 02 5
17/32"	.5312	6 31 34 134 02 5	2"	2.000	6 31 34 508 02 5
14mm	.5518	6 31 34 139 02 5	2-1/16"	2.062	6 31 34 523 02 5
9/16"	.5625	6 31 34 142 02 5	2-1/8"	2.125	6 31 34 539 02 5
15mm	.5905	6 31 34 149 02 5	2-1/4"	2.250	6 31 34 571 02 5
5/8"	.6250	6 31 34 158 02 5	2-5/16"	2.312	6 31 34 587 02 5
16mm	.6299	6 31 34 159 02 5	2-3/8"	2.375	6 31 34 603 02 5
17mm	.6692	6 31 34 169 02 5	2-1/2"	2.500	6 31 34 635 02 5
11/16"	.6875	6 31 34 174 02 5	2-9/16"	2.562	6 31 34 651 02 5
18mm	.7086	6 31 34 179 02 5	2-5/8"	2.625	6 31 34 666 02 5
23/32"	.7188	6 31 34 182 02 5	2-3/4"	2.750	6 31 34 698 02 5
19mm	.7480	6 31 34 189 02 5	2-7/8"	2.875	6 31 34 731 02 5
3/4"	.7500	6 31 34 190 02 5	3"	3.000	6 31 34 762 02 5

#### **CARBIDE-TIPPED SHEET METAL CUTTERS**

- Excellent for hand held or drill press applications.
- Heavy-duty carbide tipped cutter outperforms high speed steel or bi-metal cutters in certain applications.
- Multiple cutting edge geometry increases productivity.
- Great for use in stainless steel, brass or structural steel.
- Easy slug ejection.
- Low cost with increased hole drilling productivity.
- 1/2" shanks with chucking flats for hand-held operations.
- For applications over 1/2" thickness, using a drill press is recommended.



Carbide-tipped sheet metal cutters are not available in TINI, TC or cobalt.

# CARBIDE-TIPPED SHEET METAL CUTTERS

3/16" DEPTH OF CUT							
CUTTER DIAMETER	Decimal Equivalent	3/16" DOC Item #					
5/8"	.6250	6 31 34 159 03 2					
11/16"	.6875	6 31 34 175 03 2					
3/4"	.7500	6 31 34 191 03 2					
13/16"	.8125	6 31 34 206 03 2					
7/8"	.8750	6 31 34 222 03 2S					
15/16"	.9375	6 31 34 237 03 2					
1"	1.000	6 31 34 254 03 2					
1-1/16"	1.062	6 31 34 269 03 2					
1-1/8"	1.125	6 31 34 286 03 2					
1-7/32"	1.218	6 31 34 309 03 2					
1-1/4"	1.250	6 31 34 318 03 2					
1-5/16"	1.312	6 31 34 333 03 2					
1-3/8"	1.375	6 31 34 349 03 2					
1-7/16"	1.437	6 31 34 364 03 2					
1-1/2"	1.500	6 31 34 381 03 2					
1-3/4"	1.750	6 31 34 445 03 2					
2"	2.000	6 31 34 508 03 2					
2-1/8"	2.125	6 31 34 539 02 9					
2-1/4"	2.250	6 31 34 571 02 9					
2-3/8"	2.375	6 31 34 603 02 9					
2-1/2"	2.500	6 31 34 636 02 9					
2-5/8"	2.625	6 31 34 667 02 9					
3"	3.000	6 31 34 762 02 9					
Use Pilot Pin		6 31 34 998 10 4					

#### 1" DEPTH OF CUT

CUTTER DIAMETER	Decimal Equivalent	1" DEPTH CUT Item #				
11/16"	.6875	6 31 34 175 03 1				
3/4"	.7500	6 31 34 191 03 1				
13/16"	.8125 S	6 31 34 206 03 1				
7/8"	.8750	6 31 34 222 03 1				
15/16"	.9375	6 31 34 237 03 1				
1"	1.000	6 31 34 254 03 1				
1-1/16"	1.062	6 31 34 270 02 8				
1-1/8"	1.125	6 31 34 286 03 1				
1-3/16"	1.187	6 31 34 306 03 1				
1-1/4"	1.250	6 31 34 318 02 8				
1-5/16"	1.312	6 31 34 333 02 8				
1-3/8"	1.375	6 31 34 349 02 8				
1-7/16"	1.437	6 31 34 364 03 1				
1-1/2"	1.500	6 31 34 381 03 1				
Use Pilot Pin		6 31 34 998 10 6				





# **SLUGGER INDUSTRIAL ARBORS**

Industrial arbors quickly and easily adapt Slugger cutters to most types of conventional and CNC machinery. Slugger arbors and cutters increase the versatility and capacities of many machines.

Industrial arbors have spring loaded slug ejection systems and are offered with optional coolant inducers to provide proper coolant to the interior of Slugger cutters. Arbors are available with R-8, 1"SS and #2 MT – #5MT shank configurations.

ARBOR BREAKDOWNS ARE AVAILABLE ON REQUEST.



For Slugger cutters with 3/4" shank drives

3 34 98 294 18 0	3 34 98 294 38 0	3 34 98 294 20 0	3 34 98 294 40 0	3 34 98 294 24 0	3 34 98 294 44 0
#2MT	#2MT	#3MT	#3MT	#4MT	#4MT
3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
1-3/8"	2"*	1-3/8"	2"*	2"	2-3/8" *
8-5/8"	8-5/8"	6-9/16"	6-9/16"	7-7/8"	7-7/8"
3-1/4"	3-1/4"	3-7/8"	3-7/8"	4-7/8"	4-7/8"
	Yes		Yes		Yes
	#2MT 3/4" 1-3/8" 8-5/8"	#2MT #2MT   3/4" 3/4"   1-3/8" 2" *   8-5/8" 8-5/8"   3-1/4" 3-1/4"	#2MT #2MT #3MT   3/4" 3/4"   1-3/8" 2" *   8-5/8" 6-9/16"   3-1/4" 3-7/8"	#2MT   #2MT   #3MT   #3MT     3/4"   3/4"   3/4"     1-3/8"   2" *   1-3/8"   2" *     8-5/8"   8-5/8"   6-9/16"   6-9/16"     3-1/4"   3-1/4"   3-7/8"   3-7/8"	#2MT   #3MT   #3MT   #4MT     3/4"   3/4"   3/4"   3/4"     1-3/8"   2" *   1-3/8"   2" *     8-5/8"   8-5/8"   6-9/16"   6-9/16"     3-1/4"   3-1/4"   3-7/8"   3-7/8"

ltem #	3 34 98 294 28 0	3 34 98 294 48 0	3 34 98 294 32 0	3 34 98 294 52 0	3 34 98 294 14 0	3 34 98 294 34 0
Shank	#5MT	#5MT	R8	R8	1"SS	1"SS
Arbor bore	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Outside diameter	2"	2-3/8" *	1-3/8"	2" *	1-3/8"	2"*
Overall length	8-5/8"	8-5/8"	7-3/4"	7-3/4"	5-13/16"	5-13/16"
Shank length	6-1/8"	6-1/8"	4-1/8"	4-1/8"	3-1/4"	3-1/4"
Coolant collar *		Yes		Yes		Yes

For Slugger cutters with 1-1/4" shank drives

item #	3 34 98 294 22 0	3 34 98 294 42 0	3 34 98 294 26 0	3 34 98 294 46 0	3 34 98 294 30 0	3 34 98 294 50 0
Shank	#3MT	#3MT	#4MT	#4MT	#5MT	#5MT
Arbor bore	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"
Outside diameter	2-1/4"	2-3/8" *	2-1/4"	2-3/8" *	2-1/4"	2-3/8" *
Overall length	7-7/8"	7-7/8"	7-3/4"	7-3/4"	10-1/8"	10-1/8"
Overall shank	3-7/8"	3-7/8"	4-7/8"	4-7/8"	6-1/8"	6-1/8"
Coolant collar *		Yes		Yes		Yes

ltem #	3 34 98 294 16 0	3 34 98 294 54 0	3 34 98 294 36 0
Shank	R8	R8	1"SS
Arbor bore	1-1/4"	1-1/4"	1-1/4"
Outside diameter	2-1/4"	2-3/8" *	2-3/8" *
Overall length	7-1/8"	7-1/8"	8-15/16"
Overall shank	4-1/8"	4-1/8"	3-1/4"
Coolant collar *		Yes	Yes

\* Coolant Collar increases outside diameter



#### **INFORMATION TO KNOW**

- Keep machine spindle and industrial arbor clean and free of chips and debris.
- Total spindle runout should not exceed .003 inches at arbor bore. (Total Indicator Runout)
- Use both set screws to lock down cutter in arbor.
- Supply coolant through arbor when possible. The thicker the material, the more critical coolant supply becomes.
- Keep coolant inducer from rotating.
- Clamp work securely. Do not allow it to shift during cut.
- Know your material for proper surface footage per minute and inches per revolution.
- Know machine's type, make, spindle size, horsepower and feed ranges.
- Sharpen cutters. Dull cutters will decrease productivity.
- Pilot can only retract 2" into arbor (on certain arbors) contact us for instructions for use in materials thicker than 2".
- Pilot pins eject slug, provide continuous coolant flow to cutting area and align the Slugger cutter.

EW style arbors for carbide-tipped cutters

\*All arbors are #3MT

	ltem #	DEPTH	Designed For
*	3 34 98 294 68 0	2"	Straight shank drive conversion drills, 3/4" shank & coolant inducer
	3 34 98 294 70 0	3"	Straight shank drive conversion drills, 3/4" shank & coolant inducer
	3 34 98 294 72 0	4"	Straight shank drive conversion drills, 3/4" shank & coolant inducer
	3 34 98 294 74 0	2"	3/4" shank drive CT cutters, Thru spindle coolant
	3 34 98 294 76 0	3"	3/4" shank drive CT cutters, Thru spindle coolant
	3 34 98 294 78 0	4"	3/4" shank drive CT cutters, Thru spindle coolant
	3 34 98 294 80 0	2"	Threaded drive CT cutters with pilot & coolant inducer
	3 34 98 294 82 0	3"	Threaded drive CT cutters with pilot & coolant inducer
	3 34 98 294 84 0	4"	Threaded drive CT cutters with pilot & coolant inducer
	3 34 98 294 86 0	2"	Threaded drive CT cutters, Thru spindle coolant, Threaded shank & Pilot
	3 34 98 294 88 0	3"	Threaded drive CT cutters, Thru spindle coolant, Threaded shank & Pilot
	3 34 98 294 90 0	4"	Threaded drive CT cutters, Thru spindle coolant, Threaded shank & Pilot





## INDUSTRIAL ARBORS

A major manufacturer of forklifts was step drilling a 2-1/16" diameter hole in 1" plate. In order to accomplish this with their drill press they were forced to drill 3 times with progressively larger drill bits. This process, including change-out and drilling time, took over 23 minutes. By using an industrial arbor with an annular cutter the manufacturer was able to reduce setup and drilling time to only 6 minutes, a 74% reduction in process time. This manufacturer has now changed over all of their large hole drilling to industrial arbors with annular cutters.

Industrial Arbor Assemblies provide users the most cost effective method of drilling large holes when using a drill press or milling machine. Using the industrial arbor in combination with an annular cutter allows you to make your hole in one pass, removing the need for expensive step drilling.

- Very cost effective as set up only has to be done one time
- Annular cutters cut holes at a rate many times higher than twist drills
- Annular cutters provide a precise, ream quality hole
- Annular cutters are available in many configurations including standard high-speed steel, carbide, coated versions to drill hardened steels, coated versions to drill aluminum and brass, and ID cutters to do stacked pieces of material
- Little or no run-out



## **SHORTSLUGGERS**

ShortSlugger<sup>®</sup> Series - available in standard sizes from 1/2" to 1<sup>1</sup>/<sub>16</sub>", these cutters are capable of drilling materials up to 3/4" thick. Unique cutting edge geometry reduces overall torque and horsepower requirements, improving drilling productivity. A new compact design with 1/2" shank drive conveniently slips into the drive arbor, adapting quickly to magnetic drills and stationary drill presses.

One pilot pin accommodates all cutter sizes and is accurately supported in the drive arbor shank.

Not available in cobalt.



CUTTER DIAMETER	Decimal Equivalent	3/4" DOC Item #
1/2"	.5000	6 31 34 127 12 0
9/16"	.5625	6 31 34 140 10 8
5/8"	.6250	6 31 34 142 12 1
11/16"	.6875	6 31 34 174 11 6
3/4"	.7500	6 31 34 190 12 7
13/16"	.8125	6 31 34 206 13 0
7/8"	.8750	6 31 34 222 12 8
15/16"	.9375	6 31 34 238 12 6
1"	1.000	6 31 34 254 12 8
1-1/16"	1.062	6 31 34 269 12 8
Use Pilot Pin		6 31 34 998 04 6

### SETS: 3/4" depth cut

Item #: 6 31 34 999 03 9 10 piece set

Cutter Diameter	Decimal Equivalent
1/2" 9/16" 5/8" 11/16" 3/4" 13/16" 7/8" 15/16" 1" 1-1/16" Pilot pin	.5000 .5625 .6250 .6875 .7500 .8125 .8750 .9375 1.000 1.062
Arbor assembly Hex key Set screw Carrying case	

#### Item #: 6 31 34 999 04 2 5 piece set

Cutter	Decimal
Diameter	Equivalent
9/16" 11/16" 13/16" 15/16" 1-1/16" Pilot pin Arbor assembly Hex key Set screw Carrying case	.5625 .6875 .8125 .9375 1.062

#### Don't pay more for a cutter than what you need... use ShortSlugger cutters!

- Low cost with increased hole drilling productivity.
- Drills up to three times faster than twist drills.
- Produces accurate holes without pilot drilling.
- One pilot accommodates all cutters.
- Pilot remains concentric with arbor drive.
- Adapts quickly to most drill presses or magnetic based drills.

#### SHORTSLUGGER ARBOR ASSEMBLIES

1/2" - 3/4" Arbor Assembly

Adapts to most magnetic based drills with 3/4" drive in seconds.

ltem #	Contents	
3 34 98 294 08 0	3 34 98 223 24 0 6 31 34 998 04 6 4 30 98 708 04 0	3/4" shank adaptor Pilot pin SSS, M8 x 1.25 x 8mm

#### 1/2" - 3/4" Arbor Assembly for Drill Press Adapts to most drill presses in seconds.

ltem #	Contents	
3 34 98 294 10 0	3 34 98 223 26 0 6 31 34 998 04 5 4 30 98 708 04 0 6 31 34 998 04 7	Arbor for drill press Pilot pin SSS, M8 x 1.25 x 8mm Compression spring



Set # 6 31 34 999 03 9

#### Item #: 6 31 34 999 03 8 Frame cutter set

Cutter Diameter	Decimal Equivalent
1/2"	.5000
17/32"	.5312
5/8"	.6250
21/32"	.6562
3/4"	.7500
7/8"	.8750
Pilot pin	
Arbor assembly	

ShortSlugger cutters are TiN coated and ID sharpened.



### FEIN, proven in metalworking

Grinders, Nibblers, Shears, Hacksaws, Hand drills, Screwdrivers, Balancers and more . In the metalworking industry, robustness is especially important. Metal and outstanding quality are two areas where FEIN excels. With a constantly growing range of industry-specific solutions for metalworking, FEIN is an expert and reliable partner who continuously strives to optimise our product range and help our industrial and trade customers achieve the maximum in efficiency and productivity.

### FEIN, high performance abrasives

State-of-the-art quality, high performance products made for serious industrial applications yet competitively priced. Made to the most stringent of safety standards to assure end users a level of quality and safety in their daily applications. A specially developed product line based on expertise gained from numerous years of extensive industry experience. FEIN Abrasives provide solutions to a wide realm of applications, and are especially ideal when used with FEIN high performance grinders and polishers.

### FEIN, belt grinding systems for professionals

GRIT, the modular belt grinder brand from FEIN, is a system based on the building block principle. Start with the full-fledged belt grinding machine unit and expand the range of capabilities as needed, using add-on modules. The GRIT line offers flexibility in grinding and notching pipe, square and rectangular tubing, bar stock and profiles, and efficient finishing of round stock. Tough, flexible and cost-effective, it's an ideal choice for steel and stainless fabricators.

### FEIN, the core drilling specialists

Core Drills, Cutters, Tappers: FEIN offers you a core drilling system for metal in which machine, core bits, and accessories are precisely matched to each other. Premium quality; first class materials and excellent workmanship make FEIN core drilling units robust and durable. Whether you are drilling steel, stainless steel, or aluminum: our extensive range of core bits and system accessories, can provide correct solution for every application.

### FEIN, the leader in finishing expertise

FEIN Polishers are the most powerful on the market and feature electronic speed control for constant speed and torque over the entire setting range. Whether inline finishing, stainless steel satin finishing, or mirror finish preparation, achieve excellent results in steel, stainless steel, sheet metal and other materials. FEIN Polishers, Belt Files and Pipe Sanders plus a wide range of polishing accessories including Pyramix discs and sleeves, grinding belts and bands, gum wheels, sinus wheels, buffs, compounds and more.

### FEIN, revolutionizing the renovation industry

Over 40 years of oscillating technology makes FEIN world leaders in oscillation and dust-free sanding. Application-oriented, versatile and powerful systems for construction and renovation are offered with an extensive selection of accessories. The FEIN Oscillating Line, FEIN Sanders and Dust Extractors are the choice for professionals.

### FEIN, tried and true specialty products

High-Frequency Systems, Pipemilling Tools, Balancers, and Build-On Motors are some of the specialty products offered by FEIN as solutions for specialized applications.











FEIN. Unverwüstliche Elektrowerkzeuge.



### **FEIN Expertise**

FEIN is the specialist when it comes to professional and extremely reliable power tools and special applications solutions in the metalworking, interior construction, and automotive industries. As the inventor of the electric hand drilling machine, FEIN has been developing innovative and unbeatably efficient solutions for practical applications for over 140 years. Time and again, our power tools prove themselves in the hands of professional craftsmen and in industrial settings. Through our close relationships with specialty distributors and intense contacts with the users of our products, we know exactly what matters when it comes to professional tools. The durability, reliability, quality, and precision of our power tools ensures that they can handle the toughest continuous use. In addition, there is an extensive range of special accessories that are precisely matched to pre-defined applications and guarantee the best possible results.

### **FEIN Mobile Training Centres**

FEIN Canada's Mobile Training Centres showcase the FEIN product line and provide training on the fly for busy distributors and end users. FEIN "MTC" vehicles feature diesel powered self-sufficient electrical systems to allow for full demonstration of FEIN Tools and Abrasives. Well organized and well outfitted, the demonstration area is surprisingly roomy despite the large range of products and accessories carried on board. FEIN MTC vehicles travel across Canada highlighting FEIN products and technical expertise. Contact us for more information.



#### **FEIN Warranty**



#### 3 year FEIN PLUS guarantee

Register your new core drilling unit online at www.fein.com within six weeks of purchase and you will immediately receive a warranty certificate. This, together with the sales receipt, will allow you to enjoy the 3-year FEIN PLUS extended warranty. For warranty details, visit www.fein.com.

Your specialist distributor will be happy to help.

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