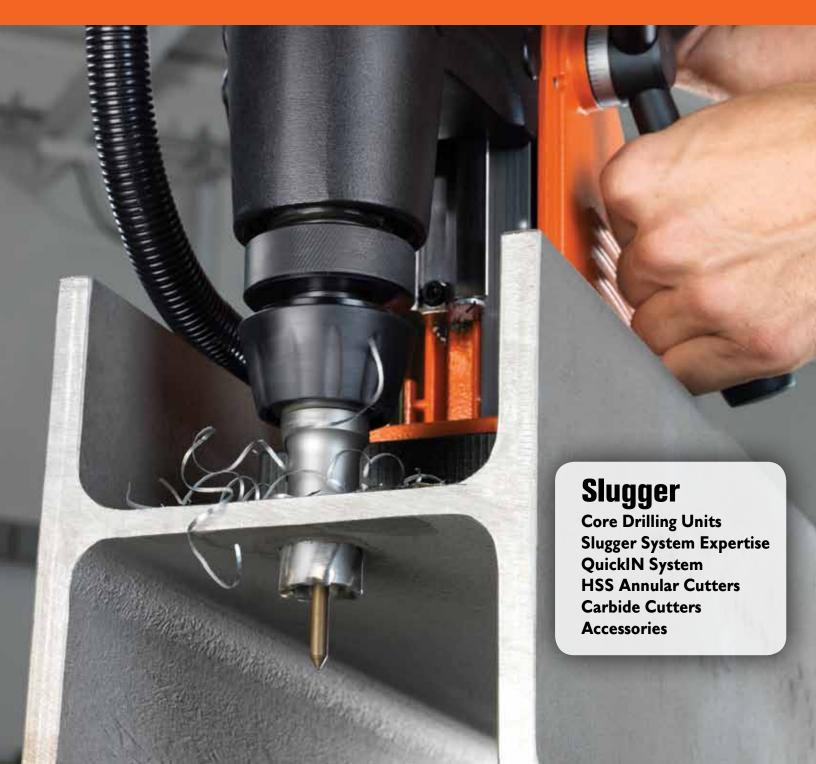


# **Slugger Metal Core Drilling**User-oriented solutions from the specialist





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## **Profit from Slugger system expertise.**

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

Slugger offers you a core drilling system for metal in which machines, annular cutters and accessories are precisely matched to each other. Premium quality, first class materials and excellent workmanship make Slugger 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 annular cutters and system accessories, we are ready with the correct solution for every application.

The Slugger 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, lowa, 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 world's 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, which develops and produces application solutions for the metalworking, interior construction, and automotive sectors, 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.

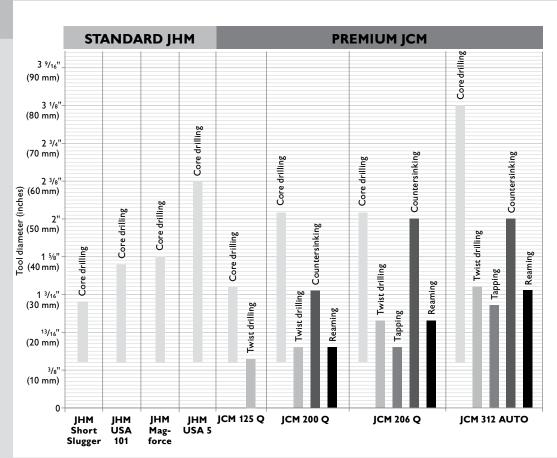
FEIN products are distributed worldwide through 17 international subsidiaries and more than 50 agents.



# **Overview - Slugger Core Drill Line**

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

Work more efficiently, whether metal fabrication, structural steel, bridge building, machinery manufacturing or container production, with Slugger core drilling units you will always achieve the best drilling results! Core drilling with the Slugger 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 cutter in a single system delivers the ultimate in performance. Core drilling with Slugger brings you important economic advantages.



### Slugger 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

### **Slugger 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



Reaming

# **JCM CORE DRILLS**









## **Slugger JCM Core Drills**

Model	JCM 125 Q	JCM 200 Q
Includes	Case, safety strap, coolant pump, 1 QuicklN Weldon adaptors, chip hook, ½" 3-jaw chuck, chip guard, 4 centering pins	Case, safety strap, coolant pump, 1 QuickIN Weldon adaptors, chip hook, 5/8" 3-jaw chuck, chip guard, 4 centering pins
Model	JCM 206 Q	JCM 312 AUTO
Includes	Case, safety strap, coolant tank, 1 QuicklN Weldon adaptors, chip hook, <sup>5</sup> /8" 3-jaw chuck, drift, chip guard, 4 centering pins	Case, coolant tank, safety strap, chip hook, <sup>1</sup> / <sub>2</sub> " 3-jaw chuck, drift, QuicklN adapter for M18 × 6 P 1.5, chip guard, 1 QuicklN MT3 arbor, 2 centering pins

# JCM 125 Q - Compact core drilling unit with high mobility for installation work.

### **Slugger 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 1/4" (32 mm)



# JCM 206 Q - Universal core drilling unit with two-speed gear box for versatile work on-site.

### **Slugger 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
- Speed-controlled tacho electronics
- Powerful electromagnet

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

CORE DRILLING UNIT UP TO 2 1/16" (52 mm)





## Slugger JCM Series: for versatile applications and optimum speed!

### **Features & Benefits**

Slugger 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



# JCM 200 Q - Core drilling unit with two-speed gear box for efficient drilling on-site.

### **Slugger Advantages**

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

Use of 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
- Tacho electronic variable speed-control
- Powerful electromagnet
- Self-start lock

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

CORE DRILLING UNIT UP TO 2 1/16" (52 mm)



# JCM 312 AUTO – Fully automatic core drilling unit for outstanding efficiency in the workshop.

### **Slugger 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 capability
- QuickIN MAX / QuickIN fast change system
- Extra long stroke
- Reversible
- 3 speed mechanical gear box with tacho electronic variable speed control
- Electronic magnet holding force increases when drilling begins
- Fine drill spindle adjustment
- Automatic coolant supply
- Speed setting memory
- Electronic overload protection
- Powerful electromagnet

# CORE DRILLING UNIT UP TO 3 1/8" (80 mm)



Note: Model JHM 312 U (without auto-feed) available by special order



# **JCM Core Drills - Technical Information**

Technical Specifications				
Model / Item #		JCM 125 Q	JCM 200 Q	JCM 206 Q
Annular cutter max. dia.	in (mm)	1 1/4" (32)	2 1/16" (52)	2 1/16" (52)
Core drill max. drilling depth	in (mm)	2" (50)	2" (50)	2" (50)
Twist drill max. dia.	in (mm)	1/2" (13)	5/8" (16)	<sup>7</sup> /8" (23)
Tapping max.	in (mm)			5/8" (16)
Countersinking max. dia.	in (mm)		1 3/16" (31)	2" (50)
Reaming max. dia.	in (mm)		5/8" (16)	<sup>7</sup> /8" (23)
Power consumption	Watts	700	1200	1200
Output	Watts	450	680	640
Load speed	rpm	440		
1st gear	rpm		160 / 260	130 to 260
2nd gear	rpm		320 / 520	260 to 520
Cutter holder		QuickIN	QuickIN	QuickIN
Tool holder				MT 3
Stroke	in (mm)	5 5/16" (135)	5 5/16" (135)	5 5/16" (135)
Total stroke range	in (mm)	10 1/4" (260)	12 3/16" (310)	12 3/16" (310)
Magnetic holding force	lbs (N)	1980 (9000)	2420 (11000)	2420 (11000)
Magnetic base dimensions	in (mm)	6 <sup>5</sup> / <sub>16</sub> "×3 <sup>1</sup> / <sub>8</sub> " (160 × 80)	$7^{3/32}$ " × $3^{9/16}$ " (180 × 90)	$7^{3/32}$ " × $3^{9/16}$ " (180 × 90)
Cable with plug	ft (m)	13' (3.8)	13' (3.8)	13' (3.8)
Weight according to EPTA	lbs (kg)	23 (10.5)	28 (12.8)	31.3 (14.2)

Technical Specifications			
Model / Item #	JCM 312 AUTO		
Carbide-tipped annular cutter max. dia.	in (mm)	3 1/8" (80)	
HSS core bit max. dia.	in (mm)	3" (75)	
Core drill max. drilling depth	in (mm)	2" (50)	
Twist drill max. dia.	in (mm)	1 1/4" (32)	
Tapping max.	in (mm)	1 1/8" (27)	
Countersinking max. dia.	in (mm)	2" (50)	
Reaming max. dia.	in (mm)	1 3/16" (31)	
Input current	Α	15	
Load speed: 1st gear	rpm	110 to 180	
2nd gear	rpm	160 to 260	
3rd gear	rpm	350 to 580	
Cutter holder	QuickIN / QuickIN MAX		
Tool holder		MT 3	
Stroke	in (mm)	5 11/16" (145)	
Total stroke range	in (mm)	11 3/16" (285)	
Drill stand fine adjustment range	in (mm)	± 5/32" (4.25)	
Drill stand angular adj. range		± 11°	
Magnetic holding force	lbs (N)	4050 (18000)	
Magnetic base dimensions	in (mm)	10 <sup>11</sup> / <sub>16</sub> "×3 <sup>9</sup> / <sub>16</sub> " (270 x 90)	
Cable with plug	ft (m)	13' (3.8)	
Weight according to EPTA	lbs (kg)	58.2 (26.4)	



# For instant accessory changes the Slugger QuickIN system is simple and fast

Change tools quickly and easily; a click is enough with Slugger 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 cutter change will be four times faster than it would be, for example, with a Weldon holder. In addition, Slugger QuickIN offers you even more advantages: existing cutter and accessories with a M 18 × 6 or a Weldon mount that can be used with an adaptor. The perfect system for tool changes in a flash.

### Adaptors/chucks

### Adaptor with QuickIN

For M 18 × 6 P 1.5 drive



Item number

6 39 01 020 00 6

### 3/4" Weldon adaptor



Item number

6 39 01 021 01 4

### 3/4" Weldon adaptor

Specially for competitors' core bits with a pilot hole larger than 1/4". (6.4 mm) - ringed.



Item number

6 39 01 024 01 9

### QuickIN adaptor 1/2"-20 UNF

For threaded chucks



Item number

6 39 01 022 00 8

### QuickIN B16 drive

For Slugger chucks



Item number

6 39 01 023 00 2

### Adaptor with QuickIN Max to QuickIN Drive



6 39 01 045 01 0

## Adaptor with Weldon shank

For conversion to QuickIN shank (competitors).



ltem number

6 39 01 027 01 0

### 3-jaw chuck with QuickIN shank



Capacity in. (mm) 1/16" - 1/2" (1.5 - 13)

Item number 6 39 01 023 02 0



Capacity in. (mm) 3/64" - 5/8" (1 - 16)

Item number 6 39 01 023 01 1

### **Mounting Shafts \***

### QuickIN adaptor shaft

For using Slugger cutters on bench and column drilling machines as well as all other core drilling units with MT fitting. Includes hand pump and centering pin for external cooling lubricant supply.



Ø Taper in (mm)

Item number

MT3 7/16" - 2 9/16" 6 39 01 019 01 3 (12 - 65)

7/16" - 1 3/8" 6 39 01 018 01 9 (12 - 35)

### MT 3 Mounting Shafts \*

### MT3 QuickIN drive

For retrofitting JCM 312 Auto (U) with integrated cooling lubricant supply. For all QuickIN cutters 7/16" to 2 <sup>9</sup>/<sub>16</sub>" (12 – 65 mm) dia.



Item number

6 39 01 039 02 0

\* Mounting shafts can be adapted for HSS annular

### MT3 QuickIN MAX drive

For retrofitting all Slugger QuickIN MAX carbide cutters

2" - 3 1/8" (50-80 mm) dia.



6 39 01 038 02 0

### MT3 11/4" Weldon standard

drive Especially for cutters with screw flats offset by 90°. Maximum drilling depth 2" (50 mm).



Item number

6 39 01 041 01 0

### MT3 11/4" Weldon drive

Screw flats in line. Maximum drilling depth 3" (75 mm), especially for core bits by:



Hougen

6 39 01 042 01 0 6 39 01 040 01 0 Jancy

### MT 3 adaptor shaft extension to MT 3 drive

Especially for countersinking



Item number

6 33 04 005 00 0

### **Centering Pins**

### Length: 4 1/8" (105 mm)

Cutters Drilling depth Holder Carbide HM Ultra 2" QuickIN 2" 1" HSS Nova 1" Item number 3 02 17 332 00 9

### Length: 4 11/16" (125 mm)

Cutters Holder Drilling depth Carbide OuickIN HM Ultra 2' MAX Weldon Competitor (with adaptor 6 39 01 021 01 4)

Item number 3 02 17 333 00 3

### Length: 5 5/16" (135mm)

Cutters Holder Drilling depth Carbide HM Ultra 2" 2" OuickIN (with adapter 6 39 01 045 01 0) Competitor Weldon (with adaptor 6 39 01 021 01 4)

3 02 17 355 00 0 Item number

Length: 3 3/8" (85 mm)

Holder Drilling depth HSS Nova 1" OuickIN 7/16" dia.

3 02 17 338 00 0 Item number

Length: 4 15/16" (125 mm)

Cutters Drilling depth

Competitor 7/16" dia.

Weldon

(with adaptor 6 39 01 021 01 4)

Item number 3 02 17 337 00 2

Competitors' Weldon cutters with a pilot hole  $> \frac{1}{4}$ " (6.4 mm) require adaptor 6 39 01 024 01 0



### **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), including centering pin.



Item number

6 31 06 016 01 0

#### Suction plate For non-magnetizable materials $9^{3/16} \times 13 \times 4^{5/16}$ "

 $(250 \times 330 \times 110 \text{ mm})$ 



Not useable with JCM 312 AUTO 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 JCM 125 Q, JCM 200 Q, and JCM 206 Q built after 2006.



Item number

6 39 01 036 01 0

#### Hand pump

15 fl.oz. (450 ml) capacity. Suitable for JCM 125 Q, JCM 200 Q, JCM 206 Q.



Item number

3 21 32 022 00 7

### Contact & chip guard

Prevents unintended contact with rotating parts. Increases passive safety.



Item number

6 39 01 037 01 0

# Slugger QuickIN MAX CUTTERS

## **FOR Slugger JCM 312 Auto**

Slugger Carbide Ultra 2" cutters with "QuickIN MAX," long service life and outstanding cutting performance.







CARBIDE - 2" DEPTH (50 mm)				
Size Inch	Item Number	Size Inch	Item Number	
2"	6 31 27 437 01 0	2 5/8"	6 31 27 447 01 0	
2 1/16"	6 31 27 438 01 0	2 11/16"	6 31 27 448 01 0	
2 1/8"	6 31 27 439 01 0	2 3/4"	6 31 27 449 01 0	
2 3/16"	6 31 27 440 01 0	2 13/16"	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 15/16"	6 31 27 452 01 0	
2 3/8"	6 31 27 443 01 0	3"	6 31 27 453 01 0	
2 7/16"	6 31 27 444 01 0	3 1/16"	6 31 27 454 01 0	
2 1/2"	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.

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

### **Tapping**

### Fast-change tapping chucks



### For JCM 206 Q

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 JCM 312 AUTO

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

9 26 02 082 01 0

#### Reducing collet 3/2

For JCM 312 AUTO to accept size 2 Bilz type collets  $\frac{5}{16}$ " to  $\frac{11}{16}$ " (M 6 – M 20) in the size 3 tapping chuck (9 26 02 082 01 0).



Item number

6 32 06 125 01 0

Item number

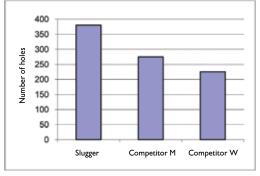
9 26 02 079 01 0



## Why Slugger 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.
- Slugger QuickIN is the fastest way to change cutters, in seconds.
   Needs no key or adaptor.
- Also use with QuickIN Morse taper mounting shafts on core drills, conventional magnetic or stationary drill presses with Morse taper mount.





## **QuickIN CUTTERS**

# Slugger HM ULTRA CARBIDE-TIPPED QuickIN 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.

## FOR Slugger JCM 125 Q, JCM 200 Q, JCM 206 Q

Size Inch	Item #	2" Depth	Size Inch	ltem #	2" Depth
1/2"	6 31 27	383 01 0	1 5/16"	6 31 27	396 01 0
9/16"	6 31 27	384 01 0	1 3/8"	6 31 27	397 01 0
5/8"	6 31 27	385 01 0	1 7/16"	6 31 27	398 01 0
11/16"	6 31 27	386 01 0	1 1/2"	6 31 27	399 01 0
3/4"	6 31 27	387 01 0	1 %16"	6 31 27	400 01 0
13/16"	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	1 11/16"	6 31 27	402 01 0
15/16"	6 31 27	390 01 0	1 3/4"	6 31 27	403 01 0
1"	6 31 27	391 01 0	1 13/16"	6 31 27	404 01 0
1 1/16"	6 31 27	392 01 0	1 7/8"	6 31 27	405 01 0
1 1/8"	6 31 27	393 01 0	1 15/16"	6 31 27	406 01 0
1 3/16"	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
	ters - %16" ering pin, c	', <sup>11</sup> / <sub>16</sub> ", <sup>13</sup> / <sub>16</sub> " ase	, <sup>15</sup> / <sub>16</sub> ",	6 31 27	384 02 0

Slugger QuickIN Cutters are also available in metric sizes.

Cutter Set





6 31 27 384 02 0

### Slugger HSS PRIMA COBALT QuickIN CUTTERS -1" DEPTH







M42 cobalt tool steel for long life. Also for use with QuickIN Morse Taper mounting shafts on core drills and conventional magnetic or stationary stands with Morse Taper 3 mounts.

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

Size Inch	ltem #	1" Depth	Size Inch	Item #	1" Depth
<sup>7</sup> /16"*	6 31 27	409 01 0	1 5/16"	6 31 27	423 01 0
1/2"	6 31 27	410 01 0	1 3/8"	6 31 27	424 01 0
9/16"	6 31 27	411 01 0	1 7/16"	6 31 27	425 01 0
5/8"	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 5/8"	6 31 27	428 01 0
13/16"	6 31 27	415 01 0	1 11/16"	6 31 27	429 01 0
<sup>7</sup> /8 <b>''</b>	6 31 27	416 01 0	1 3/4"	6 31 27	430 01 0
<sup>15</sup> / <sub>16</sub> "	6 31 27	417 01 0	1 13/16"	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	1 15/16"	6 31 27	433 01 0
1 1/8"	6 31 27	420 01 0	2"	6 31 27	434 01 0
1 3/16"	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 cut	ters - %6" ering pin, c		, <sup>15</sup> / <sub>16</sub> ",	6 31 27	411 02 0

# JHM CORE DRILLS









## **Slugger JHM Core Drills**

### Includes:

Tool case Coolant tank Safety strap Chip hook

Guard

2 centering pins 5mm hex key



# JHM Short Slugger – Core drilling unit Very compact core drilling unit for drilling on-site

### Slugger Advantages

A powerful small drill, the JHM Short Slugger 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 with 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 3/16" (30 mm)



# JHM USA 101 – Core drilling unit Durable, dependable workhorse for on-site drilling

### **Slugger Advantages**

Effective on-site or in the shop, the JHM USA 101 is an upgrade of one of the true work-horse core drills available over the last 20 years – the JHM USA 101. The JHM USA 101 has made a truly good core drill even better.

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

- Control panel with illuminated switches
- Patented internal motor cord
- Integrated MagBot<sup>™</sup> magnetic coolant bottle
- ½" tapping capacity with attachment
- Reversible handle

CORE DRILLING UNIT UP TO 1 1/2" (38 mm)





## Slugger JHM Series: the right tool for every job!

### **Features & Benefits**

Basic core drilling function

Speed-optimized 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

# JHM Magforce - Compact core drilling unit For drilling operations in tight spaces

## **Slugger Advantages**

The Slugger JHM Magforce is the industry's best solution, any time drilling with space constraints are a problem. Since the JHM Magforce 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" Weldon shank cutters
- 3/4" drive twist drill set available

CORE DRILLING UNIT UP TO 1 5/8" (40 mm)



# JHM USA 5 – Core drilling unit With two-speed gear box for workshop jobs

### **Slugger Advantages**

The rugged JHM USA 5, 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  $2\,\%$ " diameter through material up to 3" thick, the rugged JHM USA 5 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

- Internal coolant system
- Positive slug ejection
- "Smart Magnet®" circuitry

CORE DRILLING UNIT UP TO 2 3/8" (60 mm)





# **JHM Core Drills - Technical Information**

Technical Specifications					
Model / Item #		JHM Short Slugger	JHM USA 101	JHM Magforce	JHM USA 5
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 1/2" (65)	3 5/8" (92)
Cutter holder		Weldon	Weldon	Weldon	Weldon
Magnet base dimensions	in (mm)	3 <sup>3</sup> / <sub>4</sub> x 7" (95 x 178)	3 x 6 <sup>1</sup> / <sub>4</sub> " (75 x 159)	4 x 6 <sup>1</sup> / <sub>2</sub> " (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)

## Slugger JHM Core Drills at a Glance



JHM Short Slugger Very compact core drilling unit for drilling on-site



JHM USA 101 Durable, dependable workhorse for on-site drilling



JHM Magforce Compact core drilling unit for drilling operations in tight spaces



JHM USA 5 Core drilling unit with two-speed gear box for workshop jobs, cutting depth up to 3" (75mm)

	JHM Short Slugger	JHM USA 101	JHM Magforce	JHM USA 5
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 cutters	**	**	**	**
Use of carbide cutters	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
Working in tight spaces	**		**	
Working with one hand		**		**
Working overhead				<b>A</b>
Installation work	**	**	**	<b>A</b>
Workshop jobs	**	**	**	**

▲ Suitable ▲▲ Very suitable

# **Slugger JHM ACCESSORIES**



### **TAPPING HEADS**

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



Item #	Description
6 42 98 190 18 0	Complete tapping unit for JHM USA 5
6 42 98 702 09 0	Collet for #10 to ½" tap size
6 42 98 702 10 0	Collet for $\frac{1}{2}$ " to $\frac{3}{4}$ " tap size
6 42 98 702 50 0	Backjaws
6 42 98 190 11 0	Complete tapping unit for JHM USA 101
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

### **CHUCKS & ADAPTORS**

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



Item #	Descriptionn	
6 42 98 190 10 0	1/2" chuck and adaptor for JHM USA 101	
6 42 98 102 15 3	<sup>3</sup> / <sub>4</sub> " chuck and adaptor for JHM USA 5	

### 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.

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

### **CUTTER EXTENSIONS**

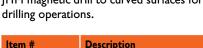
Extends the reach of Slugger cutters in drilling applications.
Consult customer service for application information. 1 5/16" arbor body diameter.

Item #	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 JHM magnetic drill to curved surfaces for



Item #	Description	
9 07 98 190 20 0	Chain base for JHM USA 101	
9 07 98 541 48 0	Chain base for JHM Magforce, JHM USA 5	

### **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 build-up when drilling.

Item #	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.

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

### **COUNTERSINKS**

Countersinks to produce a precision chamfer in pre-existing holes. All countersinks are 82°.

Item #	Description
6 42 98 100 82 0	1" countersink - 3/4" Weldon shank
6 42 98 150 82 0	1 ½" countersink - ¾" Weldon shank
6 42 98 200 82 0	2" countersink - 3/4" Weldon shank



## **Slugger Cutters**

### **HSS NOVA: High Speed Steel Cutters**

pg 18

High Speed Steel (M2) is the standard material used in Slugger Cutters. 3/4" Weldon shank. Long service life.

# HSS DURA, High Speed Steel, TiN-Coated Cutters

pg 20

High Speed Steel (M2) with Titanium - Nitride coating improves tool life through increased surface hardness and enhanced lubrication properties. HSS DURA cutters are ideal for applications where material being cut is difficult to machine or extended tool life is desired. 3/4" Weldon shank. Extended service life.

### **HM ULTRA: Carbide Cutters**

pg 21

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.

### **TAP SIZE CUTTERS**

pg 22

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

#### SHEET METAL CUTTERS

pg 23

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.

## INDUSTRIAL ARBORS

pg 25

## SHORTSLUGGER Cutters pg 27

Cutters capable of drilling materials up to 3/4" thick.

Industrial arbors quickly and easily adapt Slugger cutters to most types of conventional drill presses 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 Multi-Layer 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 FEIN customer service or your local FEIN representative.

# **Slugger CUTTERS - HSS NOVA**



CUTTER DIAMETER	Decimal Equiv.	1" DEPTH Item #	2" DEPTH	3" DEPTH Item #	4" DEPTH Item #
					iteili #
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	-	-
%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	
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	
15/1"	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	0.9449	6 31 34 240 00 1	6 31 34 239 00 2	6 31 34 240 00 3	6 31 34 240 00 4
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
1"	1.0000	6 31 34 254 00 1	6 31 34 254 00 2	6 31 34 254 00 3	6 31 34 254 00 4
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 34 309 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 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 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 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		3 31 34 304 00 3	3 3 1 3 4 3 3 4 0 0 4
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 ½"	1.5000	6 31 34 379 00 1	6 31 34 379 00 2	6 31 34 379 00 3	6 31 34 379 00 4
					0 31 34 301 00 4
39mm	1.5350	6 31 34 389 00 1	6 31 34 389 00 2	6 31 34 389 00 3	6 24 24 206 00 4
1 %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

# 3/4" SHANK CUTTERS

Cutters 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	
1/16"	.6875	
13/16"	.8125	
15/16"	.9375	
1 1/16"	1.062	
1" pilot %16" to 1 1/16"		
Cutter Case		

Item #: 6 31 34 999 02 0

Cutter Diameter	Decimal Equivalent		
7/6"	.4375		
1/2"	.5000		
9/16"	.5625		
5/8"	.6250		
1/16"	.6875		
3/4"	.7500		
13/16"	.8125		
7/8"	.8750		
1 5/16"	.9375		
1"	1.000		
1 1/16"	1.062		
1" pilot <sup>7</sup> / <sub>16</sub> " to <sup>1</sup> / <sub>2</sub> "			
1" pilot %16" to 1 1/16"			
Cutter Case			



Set # 6 31 34 999 02 0

**6" DEPTH AVAILABLE ON REQUEST** 

1 1/4" 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		
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
1 11/16"	1.6870	6 31 34 428 00 1	6 31 34 428 00 2	6 31 34 428 00 3	6 31 34 428 00 4
43mm	1.6920	6 31 34 429 00 1	6 31 34 429 00 2	6 31 34 429 00 3	
44mm	1.7320	6 31 34 439 00 1	6 31 34 439 00 2	6 31 34 439 00 3	6 31 34 439 00 4
1 3/4"	1.7500	6 31 34 444 00 1	6 31 34 444 00 2	6 31 34 444 00 3	6 31 34 444 00 4
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		
1 1/8"	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 %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

Cutter with Weldon holder. Long service life. Imperial and metric dimensions.

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

Item #: 63134999015

Cutter Diameter	Decimal Equivalent	
<sup>9</sup> / <sub>16</sub> "	.5625	
11/16"	.6875	
13/16"	.8125	
15/16"	.9375	
1 1/16"	1.062	
2" pilot %16" to 1 1/16"		
Cutter Case		

Item #: 6 31 34 999 02 6

Cutter Diameter	Decimal Equivalent		
<sup>7</sup> / <sub>16</sub> "	.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 1/16" to 1/2"			
2" pilot %16" to 1 1/16"			
Cutter Case			



### **PILOT PIN FUNCTIONS**

- Allows coolant to flow to center of cutter during drilling cycle.
- Ejects slug from center of cutter after the drilling cycle.
- Aligns Slugger Cutters to desired drilling position.

Item #	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, %6" diameter and larger
6 31 34 998 00 4	2" depth of cut, 91/6" 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

# **Slugger CUTTERS - HSS DURA**



## **TIN-COATED CUTTERS**

3/4" shank

CUTTER	Decimal	1" DEPTH	2" DEPTH
DIAMETER	Equiv.	Item #	Item #
<sup>7</sup> /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 %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 %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 COATINGS**

High Speed Steel (M2) with Titanium - Nitride coating improves tool life through increased surface hardness and enhanced lubrication properties. HSS DURA cutters are ideal for applications where material being cut is difficult to machine or extended tool life is desired.

3/4" Weldon shank. Extended service life.

# Metric sizes available on request





# JHM Magforce and Slugger TiN Coated ID CUTTERS

Slugger solution for difficult drilling applications

Truck frame drilling can be demanding and expensive when dealing with multiple layers of high strength/tensile steels and space constraints. If the required holes are behind the wheels, the process is even more time consuming and costly. Generic cutters and standard twist drills often break as they go through the laminated layers of steel. Using standard twist drills is a slow, cumbersome process that can be dangerous when using hand-held drills; removal of wheels is also required.

Truck frame drilling is just one example where the lightweight, ultra-compact JHM Magforce drill, along with ID sharpened Titanium-Nitride Coated Annular Cutters, provide a time-saving, more cost effective, and safer solution. Combined, the JHM Magforce drill and TiN ID-grind Slugger cutters provide the ideal solution for drilling multiple layers of high strength steel in confined spaces. Slugger TiN Coated Cutters have increased surface hardening for extreme drilling applications. The ID-grind allows for easy transition from one layer of steel to the next, eliminating cutter breakage and permitting time saving, continuous drilling.

Slugger magnetic base drills and specialty cutters are your key to efficient hole making in all situations and materials.

# **Slugger CUTTERS - HM ULTRA**



## **CARBIDE-TIPPED CUTTERS**

3/4" shank and threaded drives

### **CARBIDE-TIPPED CUTTER FEATURES**

- Produces accurate holes without pilot drilling.
- · 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



11/16"	CUTTER	Decimal	1" DEPTH	2" DEPTH
3/4"	DIAMETER	Equiv.	Item #	Item #
13/16"	111			
7/6"		.7500	6 31 34 190 03 0	6 31 34 189 03 0
15/16"	<sup>13</sup> / <sub>16</sub> "	.8125	6 31 34 205 03 0	6 31 34 204 03 0
1" 1.000 6 31 34 253 03 0 6 31 34 252 03 0  1 ½16" 1.062 6 31 34 267 03 0 6 31 34 266 03 0  1 ½8" 1.125 6 31 34 285 03 0 6 31 34 284 03 0  1 ¾6" 1.187 6 31 34 300 03 0 6 31 34 302 03 0  1 ¼1" 1.250 6 31 34 317 03 0 6 31 34 316 03 0  1 ¾16" 1.312 6 31 34 333 03 0 6 31 34 332 03 0  1 ¾16" 1.375 6 31 34 348 03 0 6 31 34 347 03 0  1 ¾16" 1.437 6 31 34 365 03 0 6 31 34 363 03 0  1 ½2" 1.500 6 31 34 380 03 0 6 31 34 379 03 0  1 ¾16" 1.562 6 31 34 396 03 0 6 31 34 379 03 0  1 ¾16" 1.687 6 31 34 412 03 0 6 31 34 411 03 0  1 ¼1/6" 1.687 6 31 34 428 03 0 6 31 34 447 03 0  1 ¾1/46" 1.687 6 31 34 444 03 0 6 31 34 443 03 0  1 ¾1/46" 1.812 6 31 34 460 03 0 6 31 34 445 03 0  1 ¼1/6" 1.812 6 31 34 476 03 0 6 31 34 475 03 0	<sup>7</sup> /8''	.8750	6 31 34 222 03 0	6 31 34 221 03 0
1 ½" 1.062 6 31 34 267 03 0 6 31 34 266 03 0 1 ½" 1.125 6 31 34 285 03 0 6 31 34 284 03 0 1 ¾" 1.187 6 31 34 300 03 0 6 31 34 302 03 0 1 ½" 1.250 6 31 34 317 03 0 6 31 34 316 03 0 1 ½" 1.312 6 31 34 333 03 0 6 31 34 332 03 0 1 ¾" 1.375 6 31 34 348 03 0 6 31 34 347 03 0 1 ½" 1.437 6 31 34 365 03 0 6 31 34 363 03 0 1 ½" 1.500 6 31 34 380 03 0 6 31 34 379 03 0 1 ¾" 1.562 6 31 34 396 03 0 6 31 34 395 03 0 1 ¾" 1.562 6 31 34 412 03 0 6 31 34 411 03 0 1 ¼" 1.687 6 31 34 428 03 0 6 31 34 447 03 0 1 ¾" 1.750 6 31 34 444 03 0 6 31 34 443 03 0 1 ¼" 1.875 6 31 34 476 03 0 6 31 34 475 03 0	15/16"	.9375	6 31 34 237 03 0	6 31 34 236 03 0
1 1/8" 1.125 6 31 34 285 03 0 6 31 34 284 03 0  1 3/16" 1.187 6 31 34 300 03 0 6 31 34 302 03 0  1 1/4" 1.250 6 31 34 317 03 0 6 31 34 316 03 0  1 5/16" 1.312 6 31 34 333 03 0 6 31 34 332 03 0  1 3/8" 1.375 6 31 34 348 03 0 6 31 34 347 03 0  1 7/16" 1.437 6 31 34 365 03 0 6 31 34 363 03 0  1 1/2" 1.500 6 31 34 380 03 0 6 31 34 379 03 0  1 1/16" 1.562 6 31 34 396 03 0 6 31 34 395 03 0  1 5/8" 1.625 6 31 34 412 03 0 6 31 34 411 03 0  1 11/16" 1.687 6 31 34 428 03 0 6 31 34 427 03 0  1 3/4" 1.750 6 31 34 444 03 0 6 31 34 443 03 0  1 13/16" 1.812 6 31 34 460 03 0 6 31 34 475 03 0	1"	1.000	6 31 34 253 03 0	6 31 34 252 03 0
1 ¾16" 1.187 6 31 34 300 03 0 6 31 34 302 03 0  1 ¼4" 1.250 6 31 34 317 03 0 6 31 34 316 03 0  1 ¾16" 1.312 6 31 34 348 03 0 6 31 34 347 03 0  1 ¾16" 1.437 6 31 34 365 03 0 6 31 34 363 03 0  1 ¾16" 1.500 6 31 34 380 03 0 6 31 34 379 03 0  1 ¾16" 1.562 6 31 34 396 03 0 6 31 34 395 03 0  1 ¾16" 1.625 6 31 34 412 03 0 6 31 34 411 03 0  1 ¼16" 1.687 6 31 34 428 03 0 6 31 34 427 03 0  1 ¾16" 1.750 6 31 34 444 03 0 6 31 34 443 03 0  1 ¾16" 1.812 6 31 34 460 03 0 6 31 34 459 03 0  1 ¾16" 1.875 6 31 34 476 03 0 6 31 34 475 03 0	1 1/16"	1.062	6 31 34 267 03 0	6 31 34 266 03 0
1 ¼" 1.250 6 31 34 317 03 0 6 31 34 316 03 0 1 5/16" 1.312 6 31 34 333 03 0 6 31 34 332 03 0 1 3/8" 1.375 6 31 34 348 03 0 6 31 34 347 03 0 1 7/16" 1.437 6 31 34 365 03 0 6 31 34 363 03 0 1 1/2" 1.500 6 31 34 380 03 0 6 31 34 379 03 0 1 9/16" 1.562 6 31 34 396 03 0 6 31 34 395 03 0 1 5/8" 1.625 6 31 34 412 03 0 6 31 34 411 03 0 1 11/16" 1.687 6 31 34 428 03 0 6 31 34 427 03 0 1 3/4" 1.750 6 31 34 444 03 0 6 31 34 443 03 0 1 13/16" 1.812 6 31 34 460 03 0 6 31 34 475 03 0	1 1/8"	1.125	6 31 34 285 03 0	6 31 34 284 03 0
1 <sup>5</sup> /16" 1.312 6 31 34 333 03 0 6 31 34 332 03 0  1 <sup>3</sup> /8" 1.375 6 31 34 348 03 0 6 31 34 347 03 0  1 <sup>7</sup> /16" 1.437 6 31 34 365 03 0 6 31 34 363 03 0  1 <sup>1</sup> /2" 1.500 6 31 34 380 03 0 6 31 34 379 03 0  1 <sup>9</sup> /16" 1.562 6 31 34 396 03 0 6 31 34 395 03 0  1 <sup>5</sup> /8" 1.625 6 31 34 412 03 0 6 31 34 411 03 0  1 <sup>1</sup> /1/6" 1.687 6 31 34 428 03 0 6 31 34 427 03 0  1 <sup>3</sup> /4" 1.750 6 31 34 444 03 0 6 31 34 443 03 0  1 <sup>13</sup> /16" 1.812 6 31 34 460 03 0 6 31 34 475 03 0  1 <sup>17</sup> /8" 1.875 6 31 34 476 03 0 6 31 34 475 03 0	1 3/16"	1.187	6 31 34 300 03 0	6 31 34 302 03 0
1 3/6" 1.375 6 31 34 348 03 0 6 31 34 347 03 0 1 7/16" 1.437 6 31 34 365 03 0 6 31 34 363 03 0 1 1/2" 1.500 6 31 34 380 03 0 6 31 34 379 03 0 1 3/16" 1.562 6 31 34 396 03 0 6 31 34 395 03 0 1 5/8" 1.625 6 31 34 412 03 0 6 31 34 411 03 0 1 11/16" 1.687 6 31 34 428 03 0 6 31 34 427 03 0 1 3/4" 1.750 6 31 34 444 03 0 6 31 34 443 03 0 1 13/16" 1.812 6 31 34 460 03 0 6 31 34 459 03 0 1 7/6" 1.875 6 31 34 476 03 0 6 31 34 475 03 0	1 1/4"	1.250	6 31 34 317 03 0	6 31 34 316 03 0
1 7/16" 1.437 6 31 34 365 03 0 6 31 34 363 03 0 1 1/2" 1.500 6 31 34 380 03 0 6 31 34 379 03 0 1 9/16" 1.562 6 31 34 396 03 0 6 31 34 395 03 0 1 5/8" 1.625 6 31 34 412 03 0 6 31 34 411 03 0 1 11/16" 1.687 6 31 34 428 03 0 6 31 34 427 03 0 1 3/4" 1.750 6 31 34 444 03 0 6 31 34 443 03 0 1 13/16" 1.812 6 31 34 460 03 0 6 31 34 459 03 0 1 17/8" 1.875 6 31 34 476 03 0 6 31 34 475 03 0	1 5/16"	1.312	6 31 34 333 03 0	6 31 34 332 03 0
1 ½" 1.500 6 31 34 380 03 0 6 31 34 379 03 0  1 ¾6" 1.562 6 31 34 396 03 0 6 31 34 395 03 0  1 ¾6" 1.625 6 31 34 412 03 0 6 31 34 411 03 0  1 ¼6" 1.687 6 31 34 428 03 0 6 31 34 427 03 0  1 ¾4" 1.750 6 31 34 444 03 0 6 31 34 443 03 0  1 ¼6" 1.812 6 31 34 460 03 0 6 31 34 459 03 0  1 ¾6" 1.875 6 31 34 476 03 0 6 31 34 475 03 0	1 3/8"	1.375	6 31 34 348 03 0	6 31 34 347 03 0
1 %16" 1.562 6 31 34 396 03 0 6 31 34 395 03 0 1 5%" 1.625 6 31 34 412 03 0 6 31 34 411 03 0 1 11/16" 1.687 6 31 34 428 03 0 6 31 34 427 03 0 1 3/4" 1.750 6 31 34 444 03 0 6 31 34 443 03 0 1 13/16" 1.812 6 31 34 460 03 0 6 31 34 475 03 0 1 7%" 1.875 6 31 34 476 03 0 6 31 34 475 03 0	1 7/16"	1.437	6 31 34 365 03 0	6 31 34 363 03 0
1 5%" 1.625 6 31 34 412 03 0 6 31 34 411 03 0 1 11/16" 1.687 6 31 34 428 03 0 6 31 34 427 03 0 1 3/4" 1.750 6 31 34 444 03 0 6 31 34 443 03 0 1 13/16" 1.812 6 31 34 460 03 0 6 31 34 459 03 0 1 7%" 1.875 6 31 34 476 03 0 6 31 34 475 03 0	1 1/2"	1.500	6 31 34 380 03 0	6 31 34 379 03 0
1 11/16"       1.687       6 31 34 428 03 0       6 31 34 427 03 0         1 3/4"       1.750       6 31 34 444 03 0       6 31 34 443 03 0         1 13/16"       1.812       6 31 34 460 03 0       6 31 34 459 03 0         1 7/8"       1.875       6 31 34 476 03 0       6 31 34 475 03 0	1 %16"	1.562	6 31 34 396 03 0	6 31 34 395 03 0
1 3/4"       1.750       6 31 34 444 03 0       6 31 34 443 03 0         1 13/16"       1.812       6 31 34 460 03 0       6 31 34 459 03 0         1 7/8"       1.875       6 31 34 476 03 0       6 31 34 475 03 0	1 5/8"	1.625	6 31 34 412 03 0	6 31 34 411 03 0
1 13/16"       1.812       6 31 34 460 03 0       6 31 34 459 03 0         1 7%"       1.875       6 31 34 476 03 0       6 31 34 475 03 0	1 11/16"	1.687	6 31 34 428 03 0	6 31 34 427 03 0
1 7%" 1.875 6 31 34 476 03 0 6 31 34 475 03 0	1 3/4"	1.750	6 31 34 444 03 0	6 31 34 443 03 0
	1 13/16"	1.812	6 31 34 460 03 0	6 31 34 459 03 0
1 15/16" 1.937 6 31 34 491 03 0 6 31 34 492 03 0	1 1/8"	1.875	6 31 34 476 03 0	6 31 34 475 03 0
	1 15/16"	1.937	6 31 34 491 03 0	6 31 34 492 03 0
2" 2.000 6 31 34 507 03 0 6 31 34 506 03 0	2"	2.000	6 31 34 507 03 0	6 31 34 506 03 0
2 1/16" 2.062 6 31 34 523 03 0 6 31 34 522 03 0	2 1/16"	2.062	6 31 34 523 03 0	6 31 34 522 03 0
2 1/8" 2.125 6 31 34 539 03 0 6 31 34 538 03 0	2 1/8"	2.125	6 31 34 539 03 0	6 31 34 538 03 0
2 3/16" 2.187 6 31 34 556 03 0 6 31 34 555 02 7	2 3/16"	2.187	6 31 34 556 03 0	6 31 34 555 02 7
2 1/4" 2.250 6 31 34 571 03 0 6 31 34 570 03 0	2 1/4"	2.250	6 31 34 571 03 0	6 31 34 570 03 0
2 1/2" * 2.500 6 31 34 635 02 7 6 31 34 636 03 3	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	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" *	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 1/4" *	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 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 3/4" *	3.750		6 31 34 953 03 3
4" * 4.000 6 31 34 004 03 3 6 31 34 006 03 3	4" *	4.000	6 31 34 004 03 3	6 31 34 006 03 3

Item #	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

<sup>\*</sup> Note: Cutter shanks have internal thread system.

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

# **Slugger CUTTERS - TAP SIZE**



## **TAP SIZE CUTTERS**

3/4" shank

TAP SIZE	DITCH	FORM	CUTTER	Decimal	1" DEPTH	2" DEPTH
	PITCH	FORM	DIAMETER	Equiv.	Item #	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
<sup>7</sup> /8 <b>''</b>	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	1"	.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 Slugger "Tappers," drills designed specifically to tap holes, available in either 5/16" or 1/2" capacity.



# **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 Slugger cutting fluid or paste.



## **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, contact customer service.

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%" 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 × 1.0 × 6 SSS, M5 × .8 × 5 DIN 916
6 31 34 161 36 0 Arbor fits $\frac{5}{6}$ " to $\frac{13}{6}$ " cutters and $\frac{3}{8}$ " 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 $7\%$ " to 1 $3\%$ " cutters and $3\%$ " 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 $\frac{7}{6}$ " to 3" cutters and $\frac{1}{2}$ " 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
<sup>7</sup> / <sub>16</sub> "	.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
DIAMETER	Equivalent	Item #
6mm	.2362	6 31 34 006 02 5
1/4"	.2500	6 31 34 063 02 5
7mm	.2750	6 31 34 070 02 5
9/32"	.2810	6 31 34 071 02 5
5/16"	.3125	6 31 34 079 02 5
8mm	.3149	6 31 34 080 02 5
1 1/32"	.3438	6 31 34 087 02 5
9mm	.3543	6 31 34 089 02 5
3/8"	.3750	6 31 34 095 02 5
10mm	.3937	6 31 34 100 02 5
13/32"	.4062	6 31 34 103 02 5
27/62"	.4219	6 31 34 107 02 5
11mm	.4330	6 31 34 109 02 5
7/16"	.4375	6 31 34 110 02 5
15/32"	.4688	6 31 34 118 02 5
12mm	.4724	6 31 34 120 02 5
1/2"	.5000	6 31 34 127 02 5
13mm	.5118	6 31 34 129 02 5
17/32"	.5312	6 31 34 134 02 5
14mm	.5518	6 31 34 139 02 5
9/16"	.5625	6 31 34 142 02 5
15mm	.5905	6 31 34 149 02 5
5/8"	.6250	6 31 34 158 02 5
16mm	.6299	6 31 34 159 02 5
17mm	.6692	6 31 34 169 02 5
11/16"	.6875	6 31 34 174 02 5
18mm	.7086	6 31 34 179 02 5
23/32"	.7188	6 31 34 182 02 5
19mm	.7480	6 31 34 189 02 5
3/4"	.7500	6 31 34 190 02 5

CLITTER	D	4/411 DOG
CUTTER DIAMETER	Decimal Equivalent	1/4" DOC Item #
20mm	.7874	6 31 34 199 02 5
13/16"	.8125	6 31 34 206 02 5
7/8"	.8750	6 31 34 222 02 5
15/16"	.9375	6 31 34 222 02 5
1"	1.000	6 31 34 254 02 5
	1.062	
1 1/16"		6 31 34 269 02 5
1 1/8"	1.125	6 31 34 285 02 5
1 3/16"	1.187	6 31 34 301 02 5
1 11/4"	1.250	6 31 34 317 02 5
1 5/16"	1.312	6 31 34 333 02 5
1 3/8"	1.375	6 31 34 349 02 5
1 7/16"	1.437	6 31 34 365 02 5
1 1/2	1.500	6 31 34 381 02 5
1 %16"	1.562	6 31 34 396 02 5
1 5/8"	1.625	6 31 34 412 02 5
1 3/4"	1.750	6 31 34 444 02 5
1 13/16"	1.812	6 31 34 460 02 5
1 "	1.875	6 31 34 476 02 5
2"	2.000	6 31 34 508 02 5
2 1/16"	2.062	6 31 34 523 02 5
2 1/8"	2.125	6 31 34 539 02 5
2 1/4"	2.250	6 31 34 571 02 5
2 5/16"	2.312	6 31 34 587 02 5
2 3/8"	2.375	6 31 34 603 02 5
2 1/2"	2.500	6 31 34 635 02 5
2 %16"	2.562	6 31 34 651 02 5
2 5/8"	2.625	6 31 34 666 02 5
2 3/4"	2.750	6 31 34 698 02 5
2 1/8"	2.875	6 31 34 731 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  $\frac{1}{2}$ " 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
<sup>7</sup> /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 1/16"	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

Item #	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
Shank	#2MT	#2MT	#3MT	#3MT	#4MT	#4MT
Arbor bore	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Outside diameter	1 3/8"	2" *	1 3/8"	2" *	2"	2 3/8" *
Overall length	8 5/8"	8 5/8"	6 %16"	6 %6"	7 1/8"	7 1/8"
Shank length	3 1/4"	3 1/4"	3 1/8"	3 1/8"	4 7/8"	4 1/8"
Coolant collar *		Yes		Yes		Yes

Item #	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 <sup>13</sup> / <sub>16</sub> "	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 1/8"	7 1/8"	7 3/4"	7 3/4"	10 1/8"	10 1/8"
Overall shank	3 1/8"	3 1/8"	4 1/8"	4 1/8"	6 1/8"	6 1/8"
Coolant collar *		Yes		Yes		Yes

Item #	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

<sup>\*</sup> Coolant Collar increases outside diameter

# **INDUSTRIAL ARBORS**



### 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

Item #	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"	<sup>3</sup> / <sub>4</sub> " shank drive CT cutters, Thru spindle coolant
3 34 98 294 76 0	3"	<sup>3</sup> / <sub>4</sub> " shank drive CT cutters, Thru spindle coolant
3 34 98 294 78 0	4"	<sup>3</sup> / <sub>4</sub> " 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



## SHORTSLUGGER CUTTERS

ShortSlugger Series Cutters - available in standard sizes from 1/2" to 1 1/16", 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
1 3/16"	.8125	6 31 34 206 13 0
7/8 <b>"</b>	.8750	6 31 34 222 12 8
1 5/16"	.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"	.5000 .5625 .6250 .6875 .7500 .8125 .8750
1 5/16" 1" 1 1/16" Pilot pin Arbor assembly Hex key Set screw Carrying case	.9375 1.000 1.062

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

Cutter Diameter	Equivalent
1 <sup>1</sup> /16" 1 <sup>3</sup> /16" 1 <sup>5</sup> /16"	.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.

Item #	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	•

 $\frac{1}{2}$ " -  $\frac{3}{4}$ " Arbor Assembly for Drill Press Adapts to most drill presses in seconds.

Item #	Contents	
3 34 98 294 10 0	6 31 34 998 04 5 4 30 98 708 04 0	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
1 7/32"	.5312
5/8"	.6250
21/32"	.6562
3/4"	.7500
<sup>7</sup> /8"	.8750
Pilot pin	
Arbor assembly	

ShortSlugger cutters are TiN coated and ID sharpened.

<u>Slugger</u>

## **FEIN Expertise**

FEIN is the specialist when it comes to professional and extremely reliable power tools and special application 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 ensure that they can handle the toughest continuous use. In addition, there is an extensive range of special accessories that is precisely matched to pre-defined applications and guarantees the best possible results.

## Slugger Mobile Showrooms

Slugger Mobile Showrooms feature the FEIN and Slugger product lines and provide training on the fly for busy distributors and end users. Slugger vehicles feature self-sufficient electrical systems to allow for full demonstration of FEIN and Slugger Tools and Abrasives. Well organized and well outfitted, the demonstration area is surprisingly roomy despite the large range of products and accessories carried onboard. Slugger Mobile Showrooms travel across the United States highlighting FEIN and Slugger products and technical expertise. Contact us for more information.



Your specialist distributor will be happy to help.