

# BLUE DEMON

FOR WATER WELL, QUARRY, CONSTRUCTION, AND SEISMIC APPLICATIONS



REPLACEABLE DRAG BIT



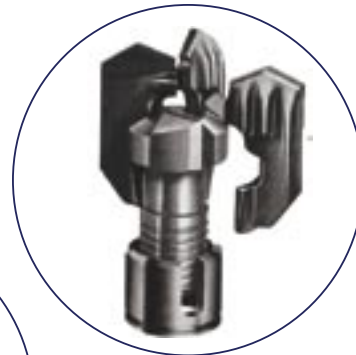
UNITIZED CHEVRON BIT



UNITIZED STEP BIT



ECONOMY STEP BIT



ECONOMY CHEVRON BIT



REPLACEABLE PDC BIT



BLUE DEMON COMPANY, INC.



# BLUE DEMON

Blue Demon manufactures replaceable blades, rotary drag bits, and PDCs for water well, quarry, seismic, shallow oil, and directional pilot bits and reamers for horizontal boring.

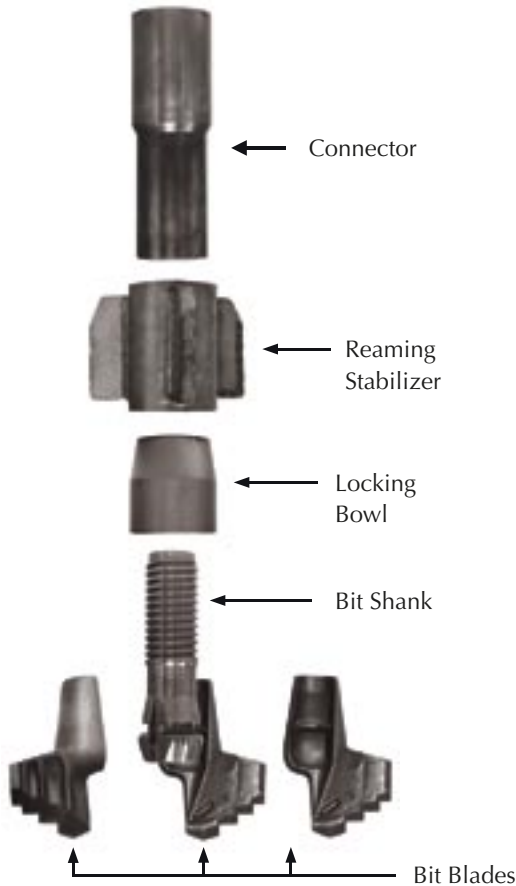
Blue Demon company was started in 1948 by Herb Hawthorne as the Hawthorne Bit company. It was the first company to develop a replaceable drag bit for use in drilling water wells, shallow oil and gas wells, and construction holes with a mud rotary drill rig. They were awarded a patent for this product in 1948.

The company continued through the 1950s and in 1960 the company was sold to Hughes Tool Company where it remained a part of this company until 1987 when it was sold to Sandvik Rock Tools. In 1992 the company was purchased by former employees

of Hughes and at that time the product name also became the company name.

The production facility was ultimately moved to Sedalia, Missouri where it continues to produce the original replaceable blade bits, unitized drag bits, PDCs, BD drill heads (originally developed by Austin Powder), as well as directional pilot bits and replaceable backreamer bits which we supply to numerous OEMs and distributors.

Outside of our own product line, we also produce carbide parts for a number of manufacturers in allied businesses. If you have questions, don't hesitate to contact us by e-mail, phone, or fax and we will be happy to assist you.



## Four Series with Two Types of Interchangeable Blades for Efficient Drilling in a Wide Range of Formations

**COMPLETE SIZE RANGE:**  
**1<sup>7</sup>/<sub>8</sub>" (47.6mm) THROUGH 30" (762mm)**



BLUE DEMON Series MP-200  
 (with reamer) 1<sup>7</sup>/<sub>8</sub>" - 3<sup>1</sup>/<sub>4</sub>" (47.6mm - 82mm)  
 for drilling with light weights



BLUE DEMON Series DB-400  
 (with reamer) 3" - 4<sup>1</sup>/<sub>4</sub>" (76.2mm - 108mm)  
 for drilling with medium weights



BLUE DEMON Series AC-600  
 (with reamer) 3<sup>7</sup>/<sub>8</sub>" - 6<sup>3</sup>/<sub>4</sub>" (98.4mm - 171.4mm)  
 for drilling with heavy weights



BLUE DEMON Series SH-800  
 (with reamer) 5<sup>5</sup>/<sub>8</sub>" - 30" (142.9mm - 762mm)  
 for drilling with extra heavy weights

Blue Demon replaceable blade bits are effective and efficient all-purpose, blade-type bits for shot hole, exploration, slim hole, blast hole, and water well drilling. The four bit bodies providing a complete range of sizes from 1<sup>7</sup>/<sub>8</sub>" (47.6mm) through 30" (762mm), use low cost expendable blades which are designed to be completely worn out and thrown away. Available in Series MP-200, DB-400, AC-600, SH-800 sizes, these bit bodies become a permanent part of the drilling equipment and are used with many sets of long-lasting replaceable bit blades. Replaceable blades are changeable in any fractional size within the range of each bit body. A complete assembly consists of tool joint connector, optional reaming stabilizer, locking bowl, bit shank, and a set of replaceable bit blades.

All Blue Demon bit parts in the same series are interchangeable, allowing any part to be replaced as it becomes worn. Each assembled bit may be used with or without reamers (reaming stabilizers cannot be used when using connectors having breakout lugs), as dictated by drilling conditions. All Blue Demon bits are designed for use with air, water, or mud.

Connectors are available, threaded with box or pin connection, to fit directly on any common drill rod used with portable drilling equipment. Used in conjunction with shank and locking bowl to complete assembly.



Each type of Blue Demon bit blade has the ability to efficiently cut all the formations in the range for which it is recommended, as well as all softer formations. Your selection of the proper type of

blade discussed below, depends upon the degree of hardness of formations encountered in a particular drilling application.



## Rock Cutter Blades FOR SOFT FORMATIONS

Rock Cutter blades are low-cost, replaceable blades for soft formations and are forged of tough alloy steel. They are hardfaced on the cutting surfaces with tungsten carbide particles of maximum hardness made to Blue Demon specifications. These heat-treated blades are highly efficient in abrasive formations because of their self-sharpening characteristics. This permits maximum drilling speed until the blade fingers are completely worn away, without loss of gage. The fingers are designed to chip and peel out the formation for fast penetration and speedy cuttings removal.



## 3-Blade Type Premium Insert Blades FOR MEDIUM FORMATIONS

Special high quality tungsten carbide inserts are used on the cutting surfaces of these tough, forged alloy steel blades. These carbide inserts are manufactured under rigid Blue Demon specifications for the maximum in toughness and abrasion resistance. The inserts are bonded to the blades by a special brazing process. A unique grinding procedure produces a superior cutting edge for fast drilling. These Premium Insert Blades are designed for fast drilling in medium hard formations and are equally efficient in softer formations.



## SERIES MP-200

**Blade Sizes 1<sup>7</sup>/<sub>8</sub>" (47.6mm) through 3<sup>1</sup>/<sub>4</sub>" (82.5mm) for use with air, water or mud**

The Type MP-200 bit was developed specifically for mineral exploration, coal test, foundation test and grout hole drilling. Also commonly used for drilling inside small diameter tubing in both the oil and water well industries.

The MP-200 Series bits are designed for use on lightweight drilling equipment. The Rock Cutter Blades perform best in soft formations. The carbide Insert Blades are designed for use in medium-hard formations that are stronger than those drilled by the Rock Cutter type.

These bits are available in the 3-blade insert type or the 3-blade Rock Cutter type.

Stocks are regularly maintained in common sizes corresponding to diamond drill specifications, with the AX size ground to 1<sup>7</sup>/<sub>8</sub>" (47.6mm), BX to 2<sup>1</sup>/<sub>32</sub>" (59.5mm), and the NX to 2<sup>3</sup>/<sub>32</sub>" (75.4mm). These bits are used to drill inside standard diamond drill casing and should be ordered by the letter designation.

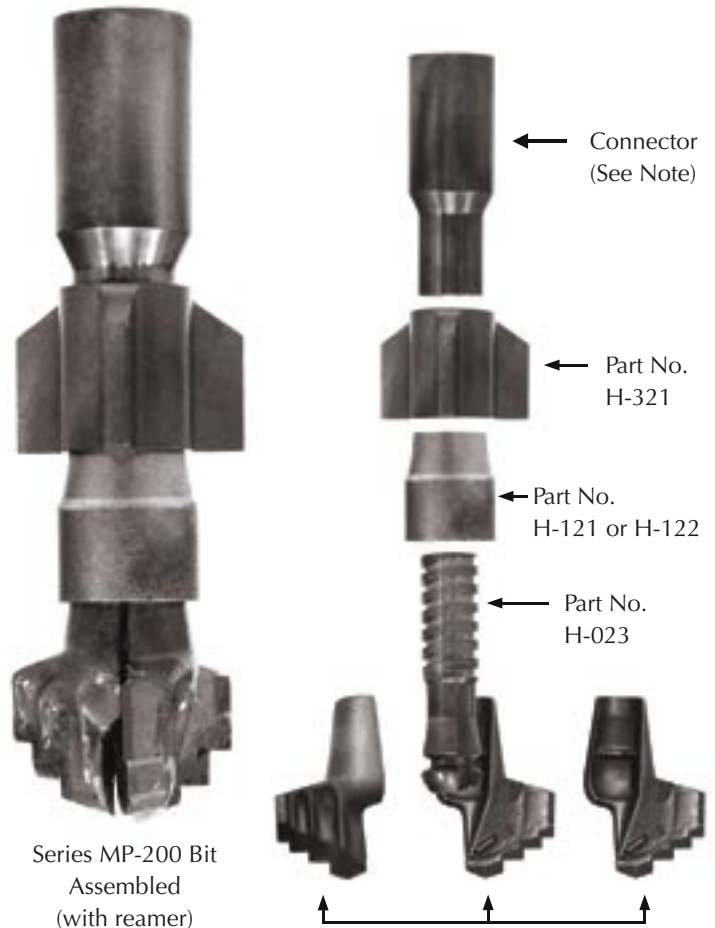
### BODY PARTS—SERIES MP-200

Part Number	Part Name	Approximate Wt.	
		Lbs.	Kg.
H023	Bit shank, 3-Blade . . . . .	.7	.32
H121	1 <sup>5</sup> / <sub>8</sub> " (41.3mm) O.D. Locking Bowl for use with 1 <sup>7</sup> / <sub>8</sub> " (47.6mm and 2" (50.8mm) size bit blades . . . . .	.3	.14
H122	1 <sup>3</sup> / <sub>16</sub> " (46mm) O.D. Locking Bowl for use with 2 <sup>1</sup> / <sub>8</sub> " (54mm) and larger size bit blades . . . . .	.3	.14
H321	3-Blade Reaming Stabilizer (slip-on, friction-held, no threads). Reamers should conform to bit blade size.		
	1 <sup>7</sup> / <sub>8</sub> " thru 3" (47.6 - 76.2mm) . . . . .	1.2	.54
	3 <sup>1</sup> / <sub>8</sub> " (79.4mm) and 3 <sup>1</sup> / <sub>4</sub> " (82.5mm) . . . . .	1.4	.63
H223-0032	United Geophysical Box Connector . . . . .	1	.45
H223-0033	E-Rod Box Connector . . . . .	.8	.36
H223-0034	EW-Rod Box Connector . . . . .	.8	.36
H224-0053	1" (25.4mm) Line Pipe Male (Pin) Connector . . . . .	.8	.36
H223-0035	A-Rod Box Connector . . . . .	1	.45
H223-0036	AW-Rod Box Connector . . . . .	1	.45
H224-0054	1 <sup>1</sup> / <sub>4</sub> " (31.7mm) Line Pipe Male (Pin) Connector . . . . .	1	.45
H223-0037	B-Rod Box Connector . . . . .	1.2	.54
H223-0038	BW-Rod Box Connector . . . . .	1.2	.54

\*Popular sizes carried in stock. Other sizes available on short notice.

BLADE SIZE		APPROXIMATE Weight—BOX of 12 SETS			
Inches	mm	Rock Cutter 3-Blade		Carbide Insert 3-Blade	
		Lbs.	Kg.	Lbs.	Kg.
AX (1 <sup>7</sup> / <sub>8</sub> )"	47.6	8½	3.9	8½	3.9
BX (2 <sup>1</sup> / <sub>32</sub> )"	59.5	10	4.5	10	4.5
NX (2 <sup>3</sup> / <sub>32</sub> )"	75.4	11	5.0	11	5.0
2	50.8	8½	4.0	8½	4.0
2 <sup>1</sup> / <sub>8</sub> "*	54.0	8½	4.0	8½	4.0
2 <sup>1</sup> / <sub>4</sub> "*	57.1	8½	4.0	8½	4.0
2 <sup>3</sup> / <sub>8</sub> "*	60.3	10	4.5	10	4.5
2 <sup>1</sup> / <sub>2</sub> "*	63.5	10	4.5	10	4.5
2 <sup>5</sup> / <sub>8</sub> "	66.7	10	4.5	10	4.5
2 <sup>3</sup> / <sub>4</sub> "*	69.9	10	4.5	10	4.5
2 <sup>7</sup> / <sub>8</sub> "*	73.0	11	5.0	11	5.0
3"	76.2	11	5.0	11	5.0
3 <sup>1</sup> / <sub>8</sub> "*	79.4	11¼	5.1	11¼	5.1
3 <sup>1</sup> / <sub>4</sub> "*	82.5	11¼	5.1	11¼	5.1

\*Popular sizes carried in stock. Other sizes available on short notice. Available in 1/8" increments.



Series MP-200 Bit Assembled (with reamer)

Series MP-200 Bit Disassembled

NOTE: Please specify type of connector thread to fit your drill rod, and whether box or pin.



3-Blade Rock Cutter Bit



3-Blade Insert Bit





## SERIES DB-400

**Blade Sizes 2 31/32" (75.4mm) through 4 1/4" (108mm) for use with air, water or mud**

The Series DB-400 bits with blade sizes from 2 31/32" (75.4mm) through 4 1/4" (108mm) designed to be used on light or medium weight drilling equipment which normally employs N-rods 2 3/8" O.D. (60.3mm) or equivalent size drill pipe. For larger pipe, it is recommended that Type AC-600 bits be used.

### BODY PARTS—SERIES DB-400

Part Number	Part Name	Approximate Wt.	
		Lbs.	Kg.
H043	Bit shank, 3-Blade . . . . .	1.9	.86
H142	2 7/8" OD Locking Bowl . . . . .	1.4	.63
H341	3-Blade Reaming Stabilizer (slip-on, friction-held, no threads). Reamers should conform to bit blade size. (Not to be used when using connectors with breakout lugs) . . . . .	2.7	1.22
H241-0012	2 3/8" Mayhew Regular Tool Joint Box Connector with breakout lugs . . . . .	6.6	2.99
H241-0014	2 3/8" Failing Exploration Tool Joint Box Connector with breakout lugs . . . . .	6.7	3.04
H241-1614	2 3/8" Failing CFD-1 16" (406.4mm) Length Tool Joint Box Connector with breakout lugs . . . . .	14	6.35
H241-1314	2 3/8" Failing CFD-2 13" (330.2mm) Length Tool Joint Box Connector with breakout lugs . . . . .	13	5.90
H242-0001	2 3/8" Failing A.P.I. Regular Tool Joint Pin Connector with breakout lugs . . . . .	11	4.99
H241-0011	Mayhew Junior Tool Joint Box Connector with breakout lugs . . . . .	6.6	2.99
H243-0069	Carey Midget Tool Joint Box Connector * . . . . .	2.9	1.31
H243-0045	3-Thread N-Rod Box Connector * . . . . .	3	1.36
H243-0045	4-Thread N-Rod Box Connector * . . . . .	3	1.36

\*Without lugs

\*\*Popular sizes carried in stock. Other sizes available on short notice.

BLADE SIZE		APPROXIMATE Weight—BOX of 12 SETS			
Inches	mm	Rock Cutter 3-Blade		Carbide Insert 3-Blade	
		Lbs.	Kg.	Lbs.	Kg.
NX (2 31/32)"	75.4	36	16.3	36	16.3
3*	76.2	36	16.3	36	16.3
3 1/8	79.4	36	16.3	36	16.3
3 1/4*	82.5	38	17.2	8	17.2
3 3/8	85.7	38	17.2	8	17.2
3 1/2*	88.9	40	18.1	40	18.1
3 5/8	92.1	40	18.1	40	18.1
3 3/4*	95.2	40	18.1	40	18.1
3 7/8	98.4	40	18.1	40	18.1
4*	101.6	42	19	42	19
4 1/8	104.8	42	19	42	19
4 1/4*	108	42	19	42 <td 19	

\*Popular sizes carried in stock. Other sizes available on short notice.

Available in 1/8" increments.



Series DB-400 Bit Assembled (with reamer)

NOTE: Please specify type of connector thread to fit your drill rod, and whether box or pin.

3 Blades  
Series DB-400 Bit Disassembled



3-Blade Rock Cutter Bit



3-Blade Insert Bit



## SERIES AC-600

**Blade Sizes 3<sup>7</sup>/<sub>8</sub>" (98.4mm) through 6<sup>3</sup>/<sub>4</sub>" (171.4mm) for use with air, water or mud**

The Series AC-600 bit is designed for heavy weight drilling, usually employing the use of 2<sup>3</sup>/<sub>8</sub>" (60.3mm) or 2<sup>7</sup>/<sub>8</sub>" (73mm) tool joint or heavy-duty drill pipe to drill holes from 4<sup>1</sup>/<sub>4</sub>" (108mm) through 5<sup>5</sup>/<sub>8</sub>" (142.9mm).

While drilling through shale and other formations of similar strength with 6" (152.4mm) or larger bits using 3<sup>1</sup>/<sub>2</sub>" (88.9mm) and 4<sup>1</sup>/<sub>2</sub>" (114.3mm) drill pipe, it is recommended that Type SH-800 bits be used. The AC-600 bits in sizes 3<sup>7</sup>/<sub>8</sub>" (98.4mm) through 4<sup>1</sup>/<sub>8</sub>" (104.8mm) are for air drilling only.

### BODY PARTS—SERIES AC-600

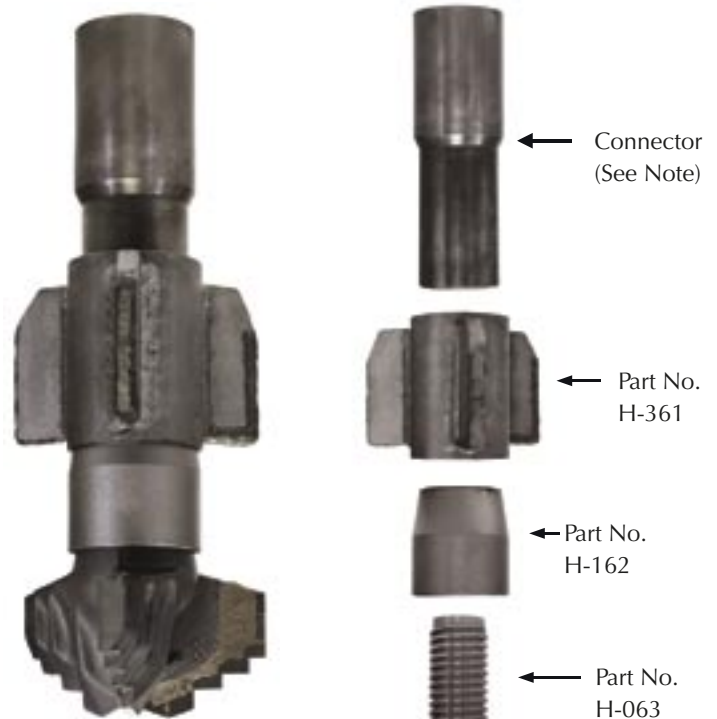
Part Number	Part Name	Approximate Wt.	
		Lbs.	Kg.
H063	Bit shank, 3-Blade	4	1.81
H064	Bit shank, 4-Blade	4	1.81
H162	3 <sup>1</sup> / <sub>4</sub> " OD Locking Bowl	3.5	1.59
H164	3 <sup>3</sup> / <sub>8</sub> " OD Extra Heavy-Duty Locking Bowl*	3.8	1.72
H361	3-Blade Reaming Stabilizer (slip-on, friction-held, no threads). Reamers should conform to bit blade size. (Not to be used when using connectors with breakout lugs)	6	2.72
H262-0002	2 <sup>7</sup> / <sub>8</sub> " A.P.I. Regular Tool Joint Pin Connector with breakout lugs	16	7.26
H261-0015	2 <sup>7</sup> / <sub>8</sub> " A.P.I. Failing Exploration Tool Joint Box Connector with breakout lugs	10	4.54
H261-0013	2 <sup>7</sup> / <sub>8</sub> " A.P.I. Mayhew Full-Hole Tool Joint Box Connector with breakout lugs	12	5.44
H261-0012	2 <sup>3</sup> / <sub>8</sub> " A.P.I. Mayhew Regular Tool Joint Box Connector with breakout lugs	9.5	4.31
H261-0014	2 <sup>3</sup> / <sub>8</sub> " A.P.I. Failing Exploration Tool Joint Box Connector with breakout lugs	9.5	4.31
H261-1614	2 <sup>3</sup> / <sub>8</sub> " A.P.I. Failing DFD-2 16" (406.4mm) length Tool Joint Box Connector with breakout lugs	16	7.26
H261-1314	2 <sup>3</sup> / <sub>8</sub> " A.P.I. Failing DFD-2 13" (330.2mm) length Tool Joint Box Connector with breakout lugs	15	6.80
H261-0001	2 <sup>3</sup> / <sub>8</sub> " A.P.I. Regular Tool Joint Pin Connector with breakout lugs	9.5	4.31
H261-0016	2 <sup>3</sup> / <sub>8</sub> " A.P.I. Hughes Acme Tool Joint Box Connector with breakout lugs	9.5	4.31
H261-0006	2 <sup>3</sup> / <sub>8</sub> " A.P.I. Internal Floosh Tool Joint Box Connector with breakout lugs	10	4.54
H261-0011	Mayhew Junior Tool Joint Box Connector (without lugs)	6.5	2.95
H263-0045	3-Thread N-Rod Box Connector (without lugs)	6	2.72
H263-0039	4-Thread N-Rod Box Connector (without lugs)	6	2.72

\*Use only with heavy-duty 4-Blade Insert Blades.

\*\*Popular sizes carried in stock. Other sizes available on short notice.

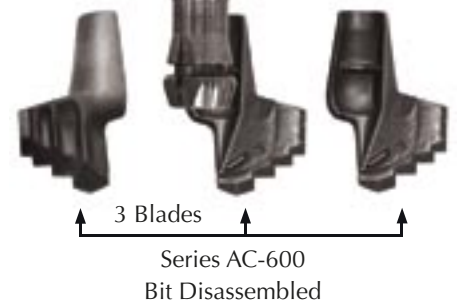
BLADE SIZE		APPROXIMATE Weight—BOX of 12 SETS			
Inches	mm	Rock Cutter 3-Blade		Carbide Insert 3-Blade	
		Lbs.	Kg.	Lbs.	Kg.
3 <sup>7</sup> / <sub>8</sub>	98.4			63	28.6
4	101.6			63	28.6
4 <sup>1</sup> / <sub>8</sub>	104.8			63	28.6
4 <sup>1</sup> / <sub>4</sub> *	108	63	28.6	63	28.6
4 <sup>3</sup> / <sub>8</sub>	111.1	63	28.6	63	28.6
4 <sup>1</sup> / <sub>2</sub> *	114.3	64	29	64	29
4 <sup>5</sup> / <sub>8</sub>	117.5	64	29	64	29
4 <sup>3</sup> / <sub>4</sub> *	120.6	65	29.5	65	29.5
4 <sup>7</sup> / <sub>8</sub>	123.8	65	29.5	65	29.5
5*	127	67	30.4	67	30.4
5 <sup>1</sup> / <sub>8</sub>	130.2	68	30.8	68	30.8
5 <sup>1</sup> / <sub>4</sub> *	133.3	70	31.7	70	31.7
5 <sup>1</sup> / <sub>2</sub>	139.7	73	33.1	73	33.1
5 <sup>5</sup> / <sub>8</sub>	142.9	76	34.5	76	34.5
6	152.4	82	37.2	82	37.2
6 <sup>1</sup> / <sub>4</sub> *	158.7	82	37.2	82	37.2
6 <sup>1</sup> / <sub>2</sub> *	165.1	90	40.8	90	40.8
6 <sup>3</sup> / <sub>4</sub> *	171.4	99	44.9	99	44.9

\*Popular sizes carried in stock. Other sizes available on short notice. Available in 1/8" increments.



Series AC-600 Bit Assembled (with reamer)

NOTE: Please specify type of connector thread to fit your drill rod, and whether box or pin.





## SERIES SH-800

### BODY PARTS—SERIES SH-800

Part Number	Part Name	Approximate Wt.	
		Lbs.	Kg.
H083	Bit shank, 3-Blade . . . . .	11	4.99
H182	4 1/2" (114.3mm) O.D. Locking Bowl for use with 5 7/8" (149.2mm) and smaller size bit blades. . . . .	8	3.63
H183	4 7/8" (123.8mm) O.D. Locking Bowl for use with 6" (152.4mm) and larger size bit blades. . . . .	8	3.63
H381	3-Blade Reaming Stabilizer (slip-on, friction-held, no threads). Reamers should conform to bit blade size. 5 5/8" thru 5 7/8" (142.9 - 149.2mm) . . . . .	11	4.99
	6" thru 6 7/8" (152.4 - 174.6mm) . . . . .	13	5.90
	7" thru 8" (177.8 - 203.2mm) . . . . .	15	6.80
	8 1/8" thru 8 7/8" (206.4 - 225.4mm) . . . . .	17	7.71
	9" thru 10" (228.6 - 254mm) . . . . .	19	8.62
	10 1/8" thru 11" (257.2 - 279.4mm) . . . . .	21	9.52
H283-0001	2 3/8" A.P.I. Regular Tool Joint Box Connector . . . . .	26	11.79
H284-0001	2 3/8" A.P.I. Regular Tool Joint Pin Connector . . . . .	26	11.79
H283-0002	2 7/8" A.P.I. Regular Tool Joint Box Connector . . . . .	28	12.70
H284-0002	2 7/8" A.P.I. Regular Tool Joint Pin Connector . . . . .	28	12.70
H283-0003	3 1/2" A.P.I. Regular Tool Joint Box Connector . . . . .	32	14.51
H284-0003	3 1/2" A.P.I. Regular Tool Joint Pin Connector . . . . .	31	14.06
H284-0004	4 1/2" A.P.I. Regular Tool Joint Pin Connector . . . . .	52	23.59

\*Popular sizes carried in stock. Other sizes available on short notice.

BLADE SIZE		APPROXIMATE Weight—BOX of 12 SETS			
Inches	mm	Rock Cutter 3-Blade		Carbide Insert 3-Blade	
		Lbs.	Kg.	Lbs.	Kg.
5 5/8*	142.9	45	20.4	45	20.4
5 3/4	146	45	20.4	45	20.4
5 7/8	149.2	47	21.3	47	21.3
6*	152.4	52	23.6	52	23.6
6 1/8	155.6	54	24.5	54	24.5
6 1/4*	158.7	56	25.4	56	25.4
6 3/8	161.9	56	25.4	56	25.4
6 1/2*	165.1	56	25.4	56	25.4
6 5/8	168.3	56	25.4	56	25.4
6 3/4*	171.4	56	25.4	56	25.4
6 7/8	174.6	56	25.4	56	25.4
7	177.8	58	26.3	58	26.3
7 1/8	181	58	26.3	58	26.3
7 1/4*	184.1	58	26.3	58	26.3
7 3/8*	187.3	58	26.3	58	26.3
7 1/2*	190.5	58	26.3	58	26.3
7 5/8	193.7	60	27.2	60	27.2
7 3/4	196.8	60	27.2	60	27.2
7 7/8*	200	60	27.2	60	27.2
8	203.2	60	27.2	60	27.2
8 1/4	209.5	62	28.1	62	28.1
8 1/2	215.9	62	28.1	62	28.1
8 3/4*	222.2	64	29	64	29
8 7/8	225.4	64	29	64	29
9	228.6	66	29.9	66	29.9
9 1/8*	250.8	68	30.8	68	30.8
10	254	68	30.8	68	30.8
11	279.4	72	32.6	72	32.6
12	304.8	80	36.3	80	36.3
13*	330.2	100	45.3		
14	355.6	120	54.4		
16	406.4	144	65.3		

\*Popular sizes carried in stock. Other sizes available on short notice. Available in 1/8" increments.

**When ordering blades, please specify:**

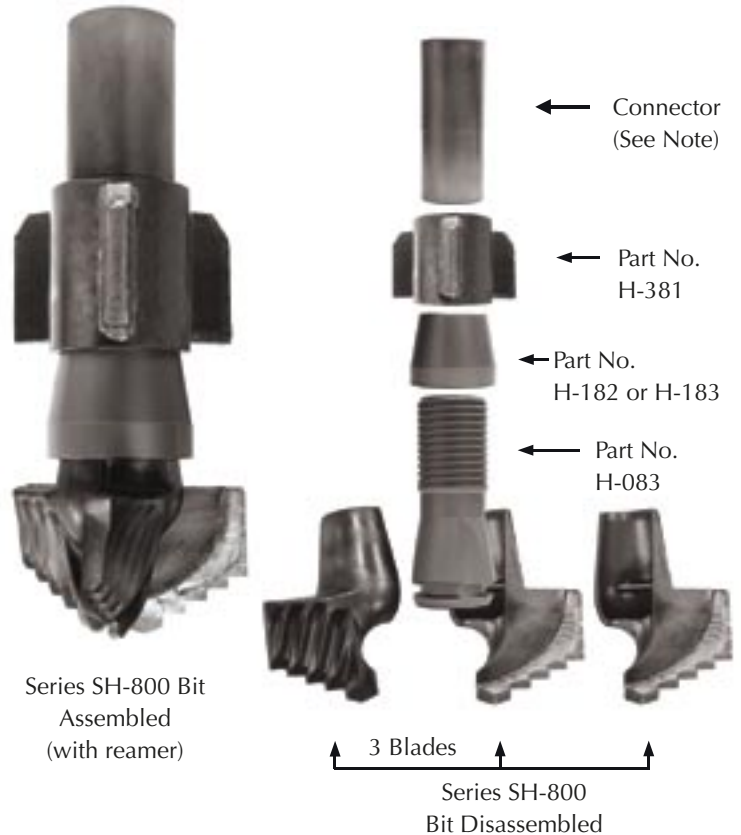
- 1) Diameter of cutters required • 2) Series (MP-200, DB-400, AC-600, or SH-800)
- 3) Premium Insert Blades (Carbide) or Rock Cutter (hardfacing only)

**When ordering connectors, please specify:** Box or pin connector

### Blade Sizes 5 5/8" (142.9mm) through 30" (762mm) for use with air, water or mud

The Type SH-800 bit is primarily designed for drilling with extra-heavy weights. Such drilling equipment generally uses up to 3 1/2" (88.9mm) or 4 1/2" (114.3mm) drill pipe.

In formations predominantly shale where hard stringers are encountered, the 5 5/8" (142.9mm) through 8 3/4" (222.2mm) Insert Blades are most successful. In softer formations where 3 1/2" (88.9mm) or larger drill pipe is commonly used, Insert Blades through 30" (762mm).



NOTE: Please specify type of connector thread to fit your drill rod, and whether box or pin.







## BLUE DEMON DIGGING REAMERS

The digging reamer, interchangeable with reaming stabilizer on standard Blue Demon bit bodies, serves as a two-step type of water well bit.

The digging reamer consists of insert reaming blades welded to a sleeve type body, which is locked into the bit assembly between the threaded connector and locking bowl, and is friction held when the bit shank is tightened into the threaded connector. Tungsten carbide inserts are applied to the cutting and reaming edges.

Water well drillers, using Type AC bit and 2 3/8" (60.3mm) O.D. drill rods on light weight equipment, ordinarily drilling water wells using 2" (50.8 - 101.6mm) to 4" casing, occasionally use the Type AC digging reamer. When the driller wishes to drill a larger hole for 6" (152.4mm) casing, ordinarily requiring Type SH bit, the driller

can use an 8 3/4" (222.2mm) digging reamer on the regular Type AC assembly with 4 3/4" (120.6 - 152.4mm) to 6" blades, which serve as a pilot bit for the digging reamer. Similarly, water well drillers regularly using the Type SH bit can use the Type SH digging reamers as shown in the parts list, in sizes to 26" (660.4mm).

STANDARD DUTY DIGGING REAMERS		
SERIES	PART NO.	SIZE
AC-600	H362----	6 3/4" to 8 3/4" (171.4mm - 222.2mm)
SH-800	H382---	10" to 15" (254mm - 381mm)
Standard duty digging reamers are used with regular connectors without breakout lugs.		
HEAVY DUTY DIGGING REAMERS		
SERIES	PART NO.	SIZE
SH-800	H383---	13" to 26" (330.2mm - 664.4mm)
22" (558.8mm) EXTRA LONG CONNECTORS ARE REQUIRED FOR USE WITH HEAVY DUTY REAMERS PART NO. H2842203, with 3 1/2" API PIN CONNECTION PART NO. H2842204, with 4 1/2" API PIN CONNECTION		



Series SH-800 Bit with Heavy Duty Digging Reamer

Heavy duty digging reamers with carbide available on request.

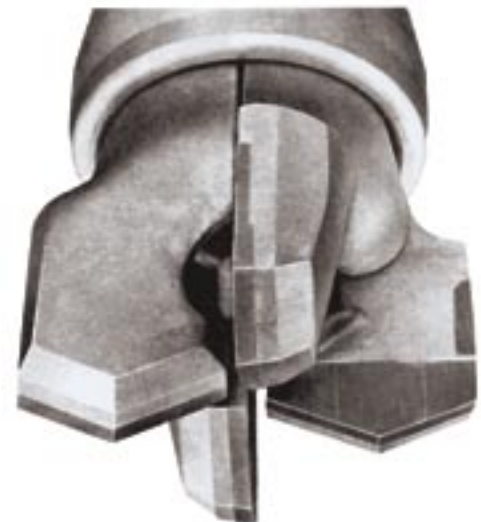
## BLUE DEMON HEAVY-DUTY 4-BLADE INSERT BIT

The Blue Demon replaceable 4-blade bit has been engineered for tough duty and performance.

This 4-blade Blue Demon has thicker, heavier forged steel blades with longer reamer inserts of high quality tungsten carbide which will insure full gage hole and reduce torque. The patented Blue Demon Deflector minimizes bit plugging.

The replaceable 4-blade bit is available in 4 1/4" (108mm), 4 1/2" (114.3mm), and 4 3/4" (120.6mm) sizes for use in series AC-600 assemblies which consist of the following parts:

1. AC-600 connector with box of pin threads to adapt to drill pipe and with or without breakout lugs. See page 7 for part numbers)
2. AC-600 4-blade bit shank — Blue Demon Part no. H064
3. AC-600 special heavy-duty locking bowl, Blue Demon Part No. H164. This special locking bowl cannot be used with other type AC-600 series Blue Demon replaceable blades.



BLADE SIZE		APPROX. WEIGHTS BOX OF 12 SETS	
In.	mm	Lbs.	Kg.
4 1/4"	108	90	41
4 1/2"	114.3	92	42
4 3/4"	120.6	94	43



# BLUE DEMON DRILL ROD THREAD INFORMATION

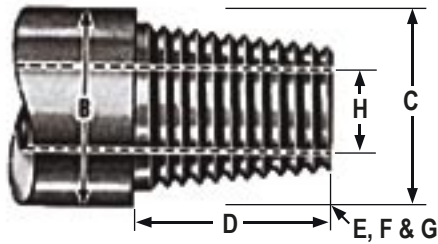
Here are listed the common thread connections as used with portable drilling equipment for seismic shot hole drilling, minerals prospecting or test hole drilling, blast hole, and water well drilling.

Blue Demon Bits are available with the following threaded connections. Dimensions are shown for field identification only and are not for machine shop reproduction.

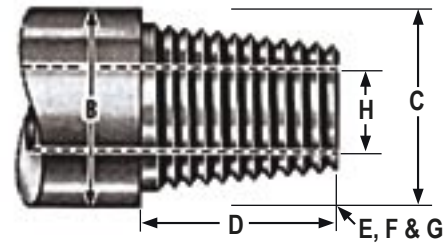
A — Nominal Pipe Size  
 B — Outside Diameter of tool joint  
 C — Major Thread Diameter or Diameter at Shoulder

D — Length of Pin  
 E — Threads per Inch  
 F — Taper per Foot

G — Threaded Form  
 H — Tool Joint Bore



**TOOL JOINT**



**FLUSH JOINT TAPERED THREAD**

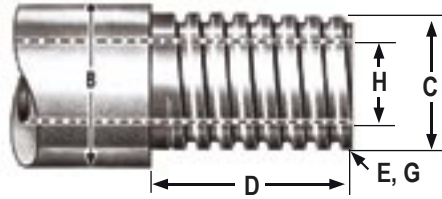
NAME	A	B	C	D	E	F	G	H
<b>TOOL JOINTS:<sup>1</sup></b>								
2 <sup>3</sup> / <sub>8</sub> API Regular	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	3	5	3	60° API	1
2 <sup>7</sup> / <sub>8</sub> API Regular	2 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	3	3 <sup>1</sup> / <sub>2</sub>	5	3	60° API	1 <sup>1</sup> / <sub>4</sub>
3 <sup>1</sup> / <sub>2</sub> API Regular	3 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	5	3	60° API	1 <sup>1</sup> / <sub>2</sub>
4 <sup>1</sup> / <sub>2</sub> API Regular	4 <sup>1</sup> / <sub>2</sub>	5 <sup>1</sup> / <sub>2</sub>	4 <sup>5</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>4</sub>	5	3	60° API	2 <sup>1</sup> / <sub>4</sub>
2 <sup>3</sup> / <sub>8</sub> API Internal Flush	2 <sup>3</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>8</sub>	3	4	2	60° API	1 <sup>3</sup> / <sub>4</sub>
2 <sup>7</sup> / <sub>8</sub> API Internal Flush	2 <sup>7</sup> / <sub>8</sub>	4 <sup>1</sup> / <sub>8</sub>	3 <sup>25</sup> / <sub>64</sub>	3 <sup>1</sup> / <sub>2</sub>	4	2	60° API	2 <sup>1</sup> / <sub>8</sub>
3 <sup>1</sup> / <sub>2</sub> API Internal Flush	3 <sup>1</sup> / <sub>2</sub>	4 <sup>3</sup> / <sub>4</sub>	4 <sup>1</sup> / <sub>64</sub>	4	4	2	60° API	2 <sup>11</sup> / <sub>16</sub>
2 <sup>3</sup> / <sub>8</sub> Mayhew Junior	2 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	2 <sup>21</sup> / <sub>64</sub>	2 <sup>1</sup> / <sub>4</sub>	4	2	60° Mod. API	1 <sup>1</sup> / <sub>2</sub>
2 <sup>3</sup> / <sub>8</sub> Mayhew Regular	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	2 <sup>35</sup> / <sub>64</sub>	3	4	1 <sup>1</sup> / <sub>2</sub>	60° Mod. API	1 <sup>5</sup> / <sub>8</sub>
2 <sup>7</sup> / <sub>8</sub> Mayhew Full Hole	2 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	3 <sup>3</sup> / <sub>64</sub>	3 <sup>3</sup> / <sub>8</sub>	4	1 <sup>1</sup> / <sub>2</sub>	60° Mod. API	2
2 <sup>3</sup> / <sub>8</sub> Failing Exploration	2 <sup>3</sup> / <sub>8</sub>	2 <sup>31</sup> / <sub>32</sub>	2 <sup>1</sup> / <sub>2</sub>	2 <sup>3</sup> / <sub>4</sub>	4	2	60° Mod. API	1 <sup>1</sup> / <sub>2</sub>
2 <sup>7</sup> / <sub>8</sub> Failing Exploration	2 <sup>7</sup> / <sub>8</sub>	3 <sup>3</sup> / <sub>4</sub>	3 <sup>1</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	4	2	60° Mod. API	1 <sup>7</sup> / <sub>8</sub>
2 <sup>3</sup> / <sub>8</sub> Hughes Acme Regular	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>8</sub>	2 <sup>19</sup> / <sub>32</sub>	3	4	3 <sup>3</sup> / <sub>8</sub>	29° Acme	1
2 <sup>3</sup> / <sub>8</sub> Winter Weiss	2 <sup>3</sup> / <sub>8</sub>	3 <sup>1</sup> / <sub>4</sub>	2 <sup>35</sup> / <sub>64</sub>	3	4	1 <sup>1</sup> / <sub>2</sub>	60° Mod. API	1 <sup>1</sup> / <sub>2</sub>
2 <sup>7</sup> / <sub>8</sub> Winter Weiss	2 <sup>7</sup> / <sub>8</sub>	3 <sup>7</sup> / <sub>16</sub>	2 <sup>35</sup> / <sub>64</sub>	3	4	1 <sup>1</sup> / <sub>2</sub>	60° Mod. API	1 <sup>1</sup> / <sub>2</sub>
3 <sup>1</sup> / <sub>2</sub> API Full Hole	3 <sup>1</sup> / <sub>2</sub>	4 <sup>5</sup> / <sub>8</sub>	4	3 <sup>3</sup> / <sub>4</sub>	5	3	60° Mod. API	2 <sup>7</sup> / <sub>16</sub>

<sup>1</sup>Pipe diameter smaller than joint diameter.  
 Dimension B for API Tool Joints is standard. Optional larger diameters are common in oilfield practices.

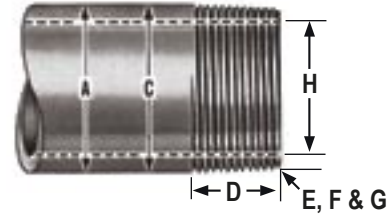
NAME	A	B	C	D	E	F	G	H
<b>FLUSH JOINT TAPERED THREAD<sup>2</sup></b>								
United Geophysical (1 <sup>11</sup> / <sub>16</sub> O.D.)	1 <sup>11</sup> / <sub>16</sub>	1 <sup>11</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>8</sub>	1	6	3	29° Acme	1

<sup>2</sup>Pipe diameter same as joint diameter.

\*Popular sizes carried in stock. Other sizes available on short notice.



**FLUSH JOINT STRAIGHT THREAD**



**LINE PIPE**

NAME	A	B	C	D	E	F	G	H
<b>FLUSH JOINT STRAIGHT THREAD<sup>3</sup></b>								
E-Rod <sup>4</sup>	1 <sup>5</sup> / <sub>16</sub>	1 <sup>5</sup> / <sub>16</sub>	1	1 <sup>1</sup> / <sub>2</sub>	3		Sq. Thd.	7 <sup>1</sup> / <sub>16</sub>
EW-Rod <sup>4</sup>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	1 <sup>9</sup> / <sub>16</sub>	3		Sq. Thd.	7 <sup>1</sup> / <sub>16</sub>
A-Rod <sup>4</sup>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>5</sup> / <sub>8</sub>	1 <sup>17</sup> / <sub>16</sub>	1 <sup>3</sup> / <sub>4</sub>	3		Sq. Thd.	9 <sup>1</sup> / <sub>16</sub>
AW-Rod <sup>4</sup>	1 <sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>4</sub>	1 <sup>3</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	3		Sq. Thd.	5 <sup>5</sup> / <sub>8</sub>
B-Rod <sup>4</sup>	1 <sup>29</sup> / <sub>32</sub>	1 <sup>29</sup> / <sub>32</sub>	1 <sup>13</sup> / <sub>32</sub>	1 <sup>7</sup> / <sub>8</sub>	5		Sq. Thd.	5 <sup>5</sup> / <sub>8</sub>
BW-Rod <sup>4</sup>	2 <sup>1</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	2 <sup>1</sup> / <sub>4</sub>	3		Sq. Thd.	3 <sup>3</sup> / <sub>4</sub>
N-Rod <sup>4</sup>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	4		Sq. Thd.	1
NW-Rod <sup>4</sup>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>5</sup> / <sub>8</sub>	2 <sup>7</sup> / <sub>32</sub>	2 <sup>3</sup> / <sub>4</sub>	3		Sq. Thd.	1 <sup>3</sup> / <sub>8</sub>
Carey Modified 3-Thd.	2 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	2 <sup>1</sup> / <sub>16</sub>	2 <sup>3</sup> / <sub>8</sub>	3		Sq. Thd.	1 <sup>1</sup> / <sub>2</sub>
N-Rod Failing Type	2 <sup>3</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>8</sub>	1 <sup>7</sup> / <sub>8</sub>	2 <sup>3</sup> / <sub>4</sub>	3		Sq. Thd.	1 <sup>1</sup> / <sub>8</sub>
Petty Geophysical	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>2</sub>	1 <sup>1</sup> / <sub>4</sub>	1 <sup>9</sup> / <sub>16</sub>	6		Sq. Thd.	3 <sup>3</sup> / <sub>4</sub>

<sup>3</sup>Pipe diameter same as joint diameter.

<sup>4</sup>American Diamond core Drill Standards.

\*American Standards show 5 Modified Thread.

NAME	A	B	C	D	E	F	G	H
<b>API LINE PIPE</b>								
1" Line Pipe	1 <sup>5</sup> / <sub>16</sub>		1 <sup>5</sup> / <sub>16</sub>	6 <sup>3</sup> / <sub>64</sub>	11 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	60° Vee Thd.	1 <sup>3</sup> / <sub>64</sub>
1 <sup>1</sup> / <sub>4</sub> Line Pipe	1 <sup>21</sup> / <sub>32</sub>		1 <sup>21</sup> / <sub>32</sub>	1	11 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	60° Vee Thd.	1 <sup>3</sup> / <sub>8</sub>
1 <sup>1</sup> / <sub>2</sub> Line Pipe	1 <sup>29</sup> / <sub>32</sub>		1 <sup>29</sup> / <sub>32</sub>	1 <sup>1</sup> / <sub>32</sub>	11 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	60° Vee Thd.	1 <sup>39</sup> / <sub>64</sub>
2 Line Pipe	2 <sup>3</sup> / <sub>8</sub>		2 <sup>3</sup> / <sub>8</sub>	1 <sup>1</sup> / <sub>16</sub>	11 <sup>1</sup> / <sub>2</sub>	3 <sup>3</sup> / <sub>4</sub>	60° Vee Thd.	3 <sup>1</sup> / <sub>16</sub>
2 <sup>1</sup> / <sub>2</sub> Line Pipe	2 <sup>7</sup> / <sub>8</sub>		2 <sup>7</sup> / <sub>8</sub>	1 <sup>9</sup> / <sub>16</sub>	8	3 <sup>3</sup> / <sub>4</sub>	60° Vee Thd.	2 <sup>15</sup> / <sub>32</sub>
3 Line Pipe	3 <sup>1</sup> / <sub>2</sub>		3 <sup>1</sup> / <sub>2</sub>	1 <sup>5</sup> / <sub>8</sub>	8	3 <sup>3</sup> / <sub>4</sub>	60° Vee Thd.	3 <sup>1</sup> / <sub>16</sub>



## ECONOMY LINE DRAG BITS



**Step Type** blade bits are available in 3-way and 4-way step designs. They are made to deliver maximum drilling penetration in soft to medium formations. The blades are forged from high quality steel and use heavy duty tungsten carbide inserts that are brazed in place with a superior silver alloy.

**Chevron Type** bits are forged from high quality steel and use heavy duty tungsten carbide inserts that are brazed in place with a superior silver alloy. The Chevron blade bits are available in 3-way and 4-way design and are more suitable for drilling in hard formations.

3-WAY STEP BLADES															
Bit Size	3 7/8"	4"	4 1/8"	4 1/4"	4 1/2"	4 3/4"	5"	5 1/8"	5 1/4"	5 1/2"	5 5/8"	5 3/4"	6"	6 1/8"	6 1/4"
Weight Per Set of Blades	3 3/4 lbs.	4 lbs.	4 lbs.	4 lbs.	4 lbs.	4 1/4 lbs.	4 3/4 lbs.	4 3/4 lbs.	4 3/4 lbs.	5 lbs.	5 lbs.	5 1/2 lbs.	5 1/2 lbs.	5 1/2 lbs.	5 1/2 lbs.

3-WAY CHEVRON BLADES															
Bit Size	3 7/8"	4"	4 1/8"	4 1/4"	4 1/2"	4 3/4"	5"	5 1/8"	5 1/4"	5 1/2"	5 5/8"	5 3/4"	6"	6 1/8"	6 1/4"
Weight Per Set of Blades	4 lbs.	4 lbs.	4 lbs.	4 1/4 lbs.	4 1/2 lbs.	4 3/4 lbs.	4 3/4 lbs.	5 1/4 lbs.	5 1/4 lbs.	5 1/2 lbs.	5 1/2 lbs.	5 1/2 lbs.	5 1/2 lbs.	5 3/4 lbs.	6 lbs.

Available in 4-way, as well.

BIT HEADS (EA)	
3-way weight	4 Lbs - 3 ozs.
4-way weight	4 Lbs - 4 ozs.
Length x Diameter	6 1/2" L x 3 1/4" Dia.

LOCKING RINGS (EA)	
3-way weight	1 Lb - 12 ozs.
4-way weight	4 Lb - 10 ozs.
Length x Diameter	2 1/4" L x 3" Dia.





## BLUE DEMON UNITIZED BITS



Blue Demon manufactures its one piece unitized step type bits and chevron type bits from high quality alloy steel forgings that are heat treated to demanding specifications. They use heavy duty tungsten carbide inserts that are specially ground to produce superior cutting edges for faster drilling.

Use of high fluid volumes through a specially designed large water course gives speedy drilling

through sticky clay and shale. The results are less recutting of the drilled formations and faster removal of cuttings from the hole.

Blue Demon step type one piece unitized bits are manufactured in sizes from 1<sup>7</sup>/<sub>8</sub>" to 30" in 1/8" increments with either pin or box connection. Most connections are readily available.



Blue Demon chevron type one piece unitized bits are manufactured in sizes from 2<sup>1</sup>/<sub>2</sub>" to 9" in 1/8" increments with either pin or box connection. Most connections are readily available.

# NEW



## BLUE DEMON PDC DRILLING SYSTEM

Blue Demon Company now offers an American made, completely field replaceable PDC drilling system available in 4 blade from 3<sup>7</sup>/<sub>8</sub>" to 6<sup>3</sup>/<sub>4</sub>" diameter in 1/8" increments and in 3 blade from 3<sup>7</sup>/<sub>8</sub>" to 24".

Our PDCs utilize our replaceable tool technology that we patented in 1948. This technology uses high alloy heat treated steel forgings with durable high strength diamonds for faster penetration and longer life.

PDCs drill and penetrate as fast as a drag bit, but will allow you to drill in medium hard formations where a carbide drag bit will wear fairly quickly.

- **WORLD'S FIRST completely field replaceable PDC drilling system**
- **4 Blade - sizes 3 <sup>7</sup>/<sub>8</sub>" to 6 <sup>3</sup>/<sub>4</sub>" in 1/8" increments**
- **3 Blade - sizes 3 <sup>7</sup>/<sub>8</sub>" to 24" in 1/8" increments**



PDC 4 Blade  
Assembled

PDC 4 Blade  
Disassembled

# AMERICAN MADE



PDC 3 Blade  
Assembled



PDC 3 Blade - Disassembled

\* We also have 5 Blade  
and 6 Blade standard  
PDC bits. Call for price  
and availability.



## **BLUE DEMON COMPANY, INC.**

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