CME Augers

CME Hollow Stem Augers

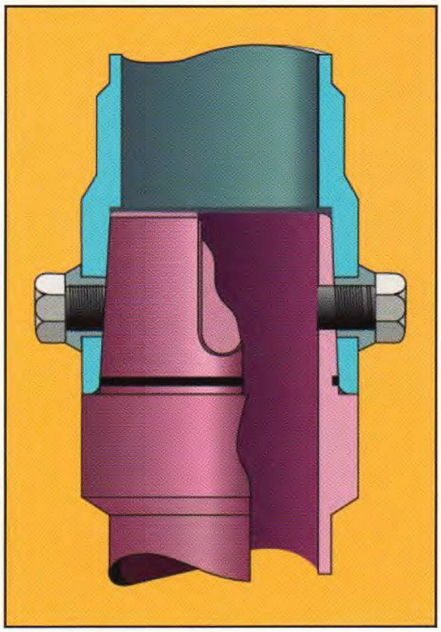
Strength, Simplicity and Durability

The key is in the coupler

The two most important features of an auger coupling are strength and simplicity. CME gives you both.

Our field-proven dual key coupler provides a strong connection you can depend on. The simplicity of the design means quicker connections for greater overall drilling efficiency. The dual key coupler also allows you to reverse the augers in the hole without worrying about joints coming apart.

Connections are quickly and easily made by simply sliding the joints together and installing the auger connector bolts. To uncouple, just unscrew the bolts and slide the joints apart. And every CME hollow auger pin and box coupling, every CME auger key, connector bolt and threaded insert is manufactured in our St. Louis factory so you can count on quality and consistency from every CME hollow auger tool.



Patented O-ring seal helps isolate the annulus of the auger column

Each connection features a patented O-ring seal which provides two major benefits. First, the seal helps prevent material on the outside of the auger column from leaking into the annulus of the auger column. That means your samples are less likely to be contaminated by material from outside the targeted sampling zone.

Secondly, in fluid circulation drilling applications, the seal helps contain drilling mud or water inside the auger column.

Field-proven design and construction

CME augers are tough enough to tackle the most challenging drilling conditions. That's because we use only premium grade steel for all components. We also hardsurface the outside edge of the entire auger flight for maximum durability.

Auger flighting dimensions, including outside diameter and pitch, are designed to efficiently convey soil cuttings with a minimum amount of drilling torque.

Heavy-duty and extra-heavy-duty augers give you an extra edge

CME heavy-duty and extra-heavy-duty augers give you the extra edge you need for today's highly competitive drilling industry. The heavy-duty augers feature larger keys and larger auger connector bolts. The couplings have thicker walls and are tapered so they slide together and apart even easier. This is especially advantageous when you're drilling in fine sands or silts.

CME extra-heavy-duty augers have all the features of our heavy-duty augers, plus even thicker tube walls and thicker flighting for maximum strength. These augers are designed for high-torque rigs. They'll handle the most demanding job with confidence.

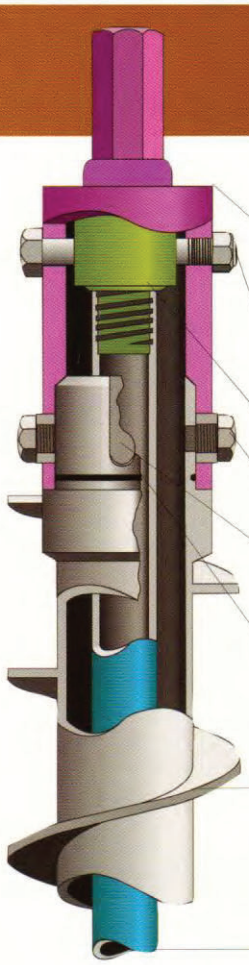
Custom augers can solve special drilling problems

Our double and triple flight lead augers provide extra strength and weight for starting holes in abrasive or cobble filled formations where maintaining initial hole diameter can be difficult.

If your rig has especially high retract capa-bilities, you might be interested in our 4 1/4" or 6 1/4" XHDS hol-low augers. They have oversized connector bolts which provide more surface contact area for withstanding extreme pullback forces.

These are just a few examples of things we do to help make your drilling program more efficient and therefore more profitable.

Hollow Stem Auger Assembly



Drive cap - *The CME hollow auger drive cap has a shank to fit the drill spindle adaptor assembly and a keyed auger box coupling that fits over a hollow auger pin coupling.*

Drive cap bolt and nut - *Connects drive cap to rod-to-cap adaptor.*

Rod-to-cap adaptor - *Connects top center rod to drive cap.*

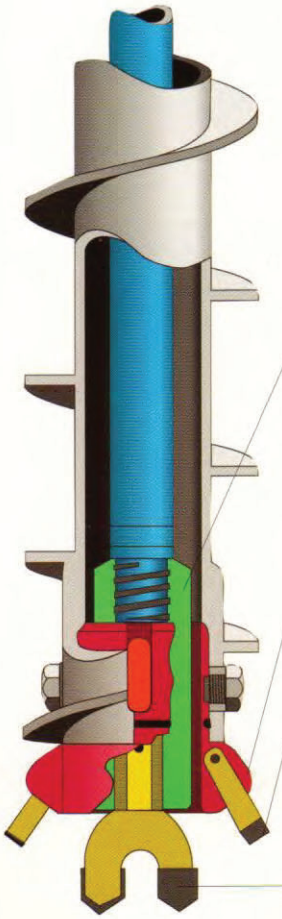
Auger connector bolt - *Secures each hollow auger connection.*

Key-way - *Allows augers to be rotated in forward or reverse under full rotary power while applying down pressure or retract forces to the auger column.*

Patented O-ring seal - *O-ring seal installed in groove on auger pin helps prevent contaminates from leaking into the auger column and drilling fluids from leaking out.*

Hollow stem auger section - *Auger flighting diameters and pitch are designed for maximum conveyance of soil cuttings with minimum drilling torque. Entire length of flighting is hardsurfaced for long-term abrasive wear resistance.*

Drill rods - *Threaded drill rods connect rod-to-cap adaptor to pilot assembly with center head.*

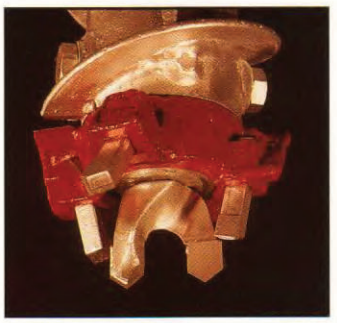


Pilot assembly - *Includes center head and connects to first center rod.*

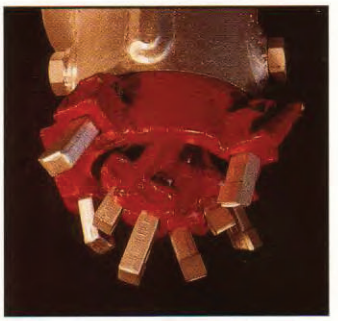
Auger head - *Multi-use hollow auger head with replaceable forged steel, tungsten carbide tipped teeth.*

Replaceable carbide insert tooth - *Easily changeable forged steel, tungsten carbide tipped teeth are designed with the ultimate combination of hardness, durability and size for optimum cutting efficiency and long life.*

Center head - *Center heads used with 2 1/4" (5.7 cm) through 3 3/4" (9.5 cm) ID hollow augers are completely replaceable. Center heads used with 4 1/4" (10.8 cm) ID hollow augers can be either completely replaceable or have replaceable teeth. Center heads used with larger hollow augers have replaceable teeth.*



Completely replaceable center head



Center head with replaceable teeth

Center Hexagon Drive System

For large diameter holes and tough drilling conditions

If your drilling operations include large diameter auger jobs…or, if you're frequently drilling in especially difficult formations, CME's center hexagon drive system can save you time and money.

Large diameter auger drilling or tough drilling conditions can over-torque threaded connections on center drill rods. Over-torqued connections can be extremely difficult and time consuming to break-out. Excessive torque can also shorten the life of threaded drill rod connections.

CME's center hexagon drive system has no threaded connections. You simply slide the box and pin hex ends together and install the drive pin. When coming out of the hole, a slide connector allows you to separate the hollow auger connection and access the hexagon rod connection inside. You simply knock out the drive pin and slide the rods apart.

A big advantage in wet sands

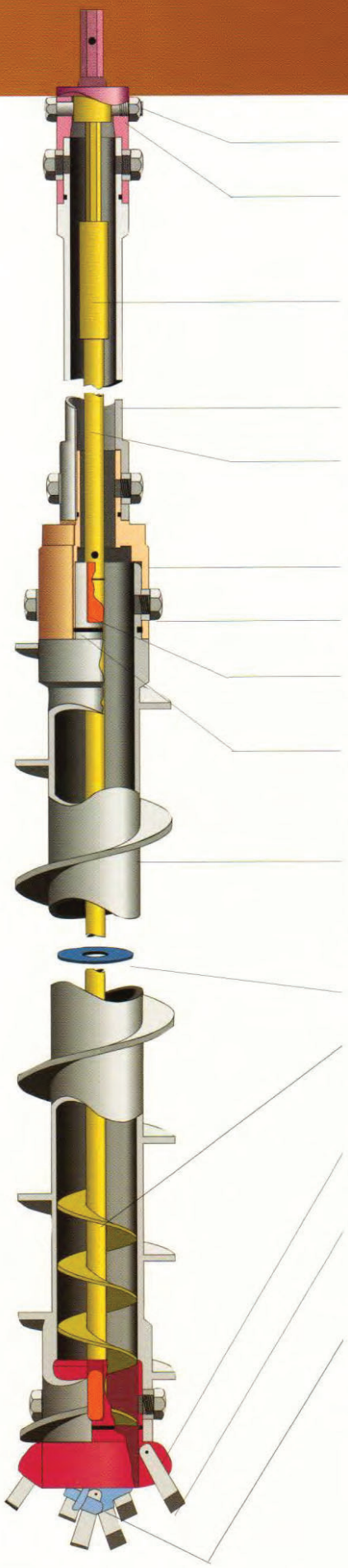
Drilling and sampling in wet sands can be a real challenge. During drilling operations, sand tends to pass between the pilot assembly and the inside diameter of the hollow auger. The sand can bridge the annulus of the auger above the pilot assembly and form a plug. This plug will not only make it difficult to pull the center rod string, it will also cause a vacuum to form below the center head. As you raise the center rod string, even more sand will be drawn up inside the center of the augers.

CME's center hexagon drive system with reverse flighting lead stem provides an open area between the center head and the inside wall of the hollow auger. This helps to prevent sand from bridging in the annulus of the auger. The reverse flighting on the lead center stem also works against sand trying to move up inside the auger column.

Special alloy steel for maximum durability

CME's hexagon rods are made from special alloy steel and are heat treated for maximum strength and durability. Center hexagon rod systems are available for use with all CME hollow stem augers 3 1/4" (8.3 cm) I.D. and larger.

Hexagon Drive Assembly



Drive cap bolt and nut - *Connects drive cap to slide connector.*

Drive cap - *The CME hollow auger drive cap has a shank to fit the drill spindle adaptor assembly and a keyed auger box coupling that fits over a hollow auger pin coupling.*

Slide connector - *Connects drive cap to internal hex rod assembly. When an auger coupling is disconnected, the slide connector allows you to raise the auger above the joint and access the internal hex rod connection.*

Auger stem - *Extension which connects the drive cap to the auger sub.*

Hex rod drill stem - *Drill stem with hexagon pin and box connections which are secured with a drive pin. Since it has no threads, hexagon connection will not unscrew during reverse rotation.*

Auger sub - *Adapts auger stem to larger diameter hollow auger.*

Auger connector bolt - *Secures hollow auger connections.*

Key-way - *Allows augers to be rotated in forward or reverse under full rotary power while applying down pressure or retract forces to the auger column.*

Patented O-ring seal - *O-ring seal installed in groove on auger pin helps prevent contaminates from leaking into the auger column and drilling fluids from leaking out.*

Hollow stem auger section - *Auger flighting diameters and pitch are designed for maximum conveyance of soil cuttings with a minimum of drilling torque. Entire length of flighting is hardsurfaced for long-term abrasive wear resistance.*

Guide ring - *Keeps drill stem centered inside hollow stem auger column.*

Lead center stem - *Drill stem with unique reverse flighting helps prevent cuttings from plugging the bottom of the auger column. If cuttings do enter the auger column, reverse flighting allows you to rotate and easily pull out.*

Auger head - *Multi-use hollow auger head with replaceable forged steel, tungsten carbide tipped teeth.*

Replaceable carbide insert tooth - *Easily changeable forged steel, tungsten carbide tipped teeth feature the best combination of hardness and durability for optimum cutting efficiency and long life.*

Center head - *Center heads used with 2 1/4" (5.7 cm) through 3 3/4" (9.5 cm) ID hollow augers are completely replaceable. Center heads used with 4 1/4" (10.8 cm) ID hollow augers can be either completely replaceable or have replaceable teeth. Center heads used with larger hollow augers have replaceable teeth.*

Accessory Tools and Components

Hollow Auger Retriever

For recovery of augers lost in the hole. Heavy spiral rotates onto flighting of lost augers.

Rod Slips

For holding center drill stem or drill rods within a hollow auger column while tripping in or out of the hole.

Water Tee

When drilling fluid is circulated inside the hollow augers, the water tee directs returning or excess fluid to the side.

Hoisting Socket

For lifting and handling hex rods or continuous flight augers.

Auger Handling Hook

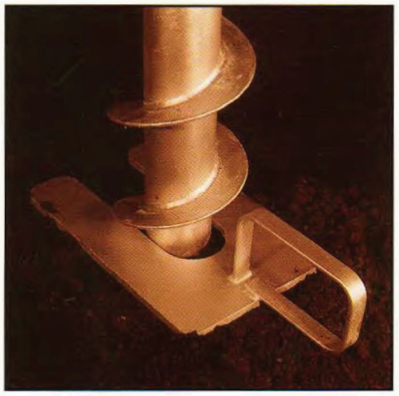
For lifting or handling an auger with a hoist line or rope. (Not to be used for pulling or suspending columns of augers.)

Hollow Auger Head with Expendable Disc

Used during installation of various groundwater observation devices.

Conical Auger Head

For consolidated soils and hard formations



Auger Fork

Supports non-rotating auger column remaining in hole while disconnected from the drill.

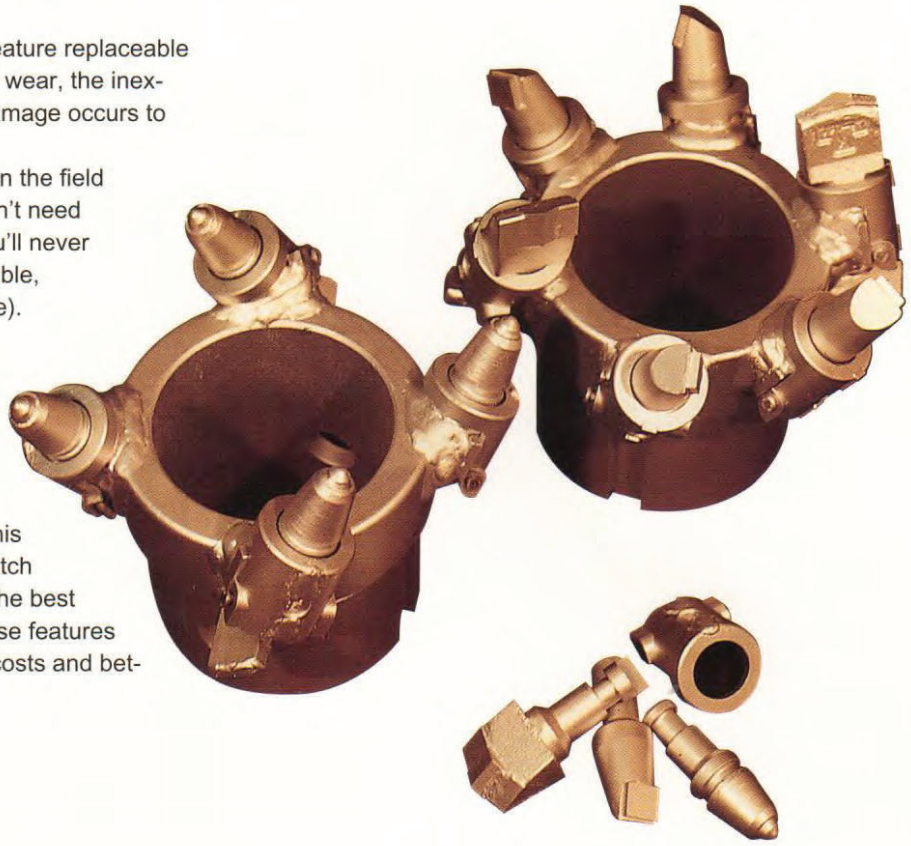
S-Series Cutter Heads

Replaceable shields mean longer head life, less wear damage to augers and big savings

Our new, patented S-Series cutter heads feature replaceable shields that fit over the bit pockets. After normal wear, the inexpensive shields can be replaced before wear damage occurs to the outside edge of the bit pockets themselves.

Since these S-Series heads can be rebuilt in the field by simply replacing the shields or teeth, you won't need as many cutter heads in your inventory. And you'll never have to start a hole with a head that's questionable, (which could mean big trouble if it fails downhole). Just install a new set of shields and teeth and you're ready to go.

Another benefit of these new S-series cutter heads is their interchangeable teeth. Depending on the material you are drilling, you can use conical, large conical with protective skirt, spade or 5S teeth…in any combination. This versatility also allows you to change teeth to match the formation as it changes. That way, you get the best penetration rates and longer tooth life. All of these features add up to substantial savings in annual tooling costs and better drilling efficiency.



CME S-Series Cutter Heads			
Auger Size	**Pockets**	**Auger Size**	**Pockets**
2.25" STD	4	4.25" STD	6
2.75" STD	4	4.25" HD	4
3.25" STD	4	4.25" HD	6
3.25" HD	4	6.25" STD	8
3.75" STD	4	6.25" HD	8
3.75" HD	4	8.25" HD	10
4.25" STD	4	10.25" HD	12

CME Auger Sizes

Hollow Stem Augers

INSIDE DIAMETER	MODEL	FLIGHT O.D.	AUGER HEAD SIZE (hole size)	CENTER ROD SYSTEM
2 1/4" (5.7 cm)	**Std.**	**5 5/8"** (14.3 cm)	**6 1/4"** (15.9 cm)	drill rod
2 3/4" (7.0 cm)	**Std.**	**6 1/8"** (15.6 cm)	**6 3/4"** (17.1 cm)	drill rod
3 1/4" (8.3 cm)	**Std.**	**6 5/8"** (16.8 cm)	**7 1/4"** (18.4 cm)	drill rod or hex rod
3 1/4" (8.3 cm)	**H.D.**	**6 5/8"** (16.8 cm)	**7 1/4"** (18.4 cm)	drill rod or hex rod
3 3/4" (9.5 cm)	**Std.**	**7 1/8"** (18.1 cm)	**7 3/4"** (19.7 cm)	drill rod or hex rod
3 3/4" (9.5 cm)	**H.D.**	**7 1/8"** (18.1 cm)	**7 3/4"** (19.7 cm)	drill rod or hex rod
4 1/4" (10.8 cm)	**Std.**	**7 5/8"** (19.4 cm)	**8 1/4"** (21.0 cm)	drill rod or hex rod
4 1/4" (10.8 cm)	**H.D.**	**8 1/8"** (20.6 cm)	**9"** (22.9 cm)	drill rod or hex rod
4 1/4" (10.8 cm)	**X.H.D.**	**8 1/4"** (21.0 cm)	**9"** (22.9 cm)	drill rod or hex rod
6 1/4" (15.9 cm)	**Std.**	**9 5/8"** (24.4 cm)	**10 1/2"** (26.7 cm)	drill rod or hex rod
6 1/4" (15.9 cm)	**H.D.**	**10 1/4"** (26.0 cm)	**11"** (27.9 cm)	drill rod or hex rod
6 1/4" (15.9 cm)	**X.H.D.**	**10 1/4"** (26.0 cm)	**11"** (27.9 cm)	drill rod or hex rod
7 1/4" (18.4 cm)	**X.H.D.**	**11 1/4"** (28.6 cm)	**12"** (30.5 cm)	hex rod
8 1/4" (21.0 cm)	**H.D.**	**12 1/4"** (31.1 cm)	**13"** (33.0 cm)	drill rod or hex rod
10 1/4" (26.0 cm)	**H.D.**	**14"** (35.6 cm)	**14 3/4"** (37.5 cm)	hex rod
12 1/4" (31.1 cm)	**H.D.**	**17 1/4"** (43.8 cm)	**18 1/2"** (47.0 cm)	hex rod

1500 Series Continuous Flight Augers

Hole size	**3"** (7.6 cm)	**3 1/8"** (7.9 cm)	**4 1/2"** (11.4 cm)	**5"** (12.7 cm)	**6"** (15.2 cm)
Auger O.D.	**2 1/2"** (6.4 cm)	**3"** (7.6 cm)	**4"** (10.1 cm)	**4 1/2"** (11.4 cm)	**5 1/2"** (14 cm)

2000 Series Continuous Flight Augers

Hole size	**4 1/2"** (11.4 cm)	**5"** (12.7 cm)	**6"** (15.2 cm)	**6 3/4"** (17.1 cm)	**8 1/4"** (21.0 cm)
Auger O.D.	**4"** (10.2 cm)	**4 1/2"** (11.4 cm)	**5 1/2"** (14.0 cm)	**6"** (15.2 cm)	**7"** (17.8 cm)

2875 Series Continuous Flight Augers

Hole size	**9"** (22.9 cm)	**10"** (25.4 cm)	**12"** (30.5 cm)
Auger O.D.	**7 7/8"** (20.0 cm)	**8 7/8"** (22.5 cm)	**11"** (27.9 cm)

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