

# Soil Sampling





## VIEWING OPTIONS:

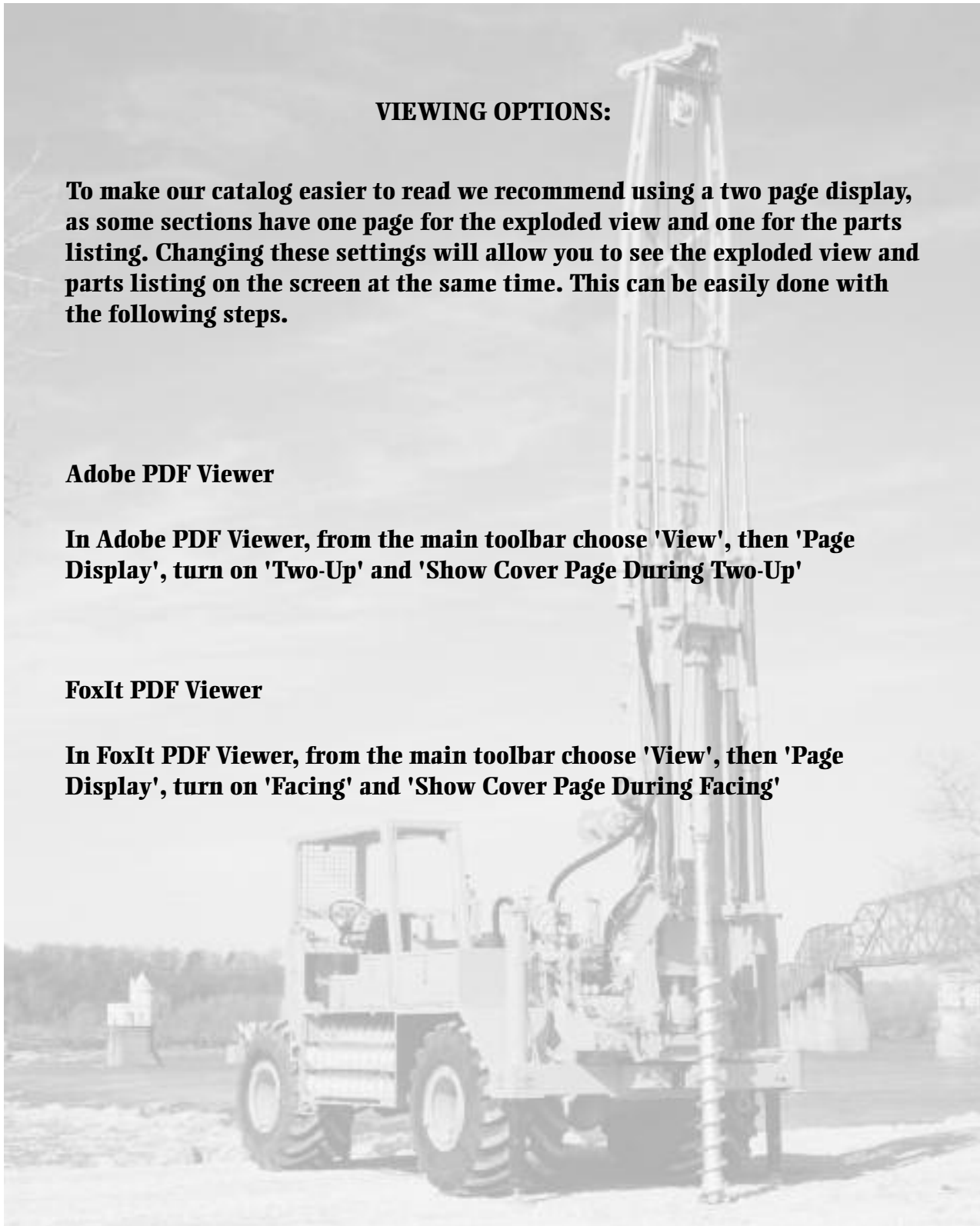
**To make our catalog easier to read we recommend using a two page display, as some sections have one page for the exploded view and one for the parts listing. Changing these settings will allow you to see the exploded view and parts listing on the screen at the same time. This can be easily done with the following steps.**

### **Adobe PDF Viewer**

**In Adobe PDF Viewer, from the main toolbar choose 'View', then 'Page Display', turn on 'Two-Up' and 'Show Cover Page During Two-Up'**

### **FoxIt PDF Viewer**

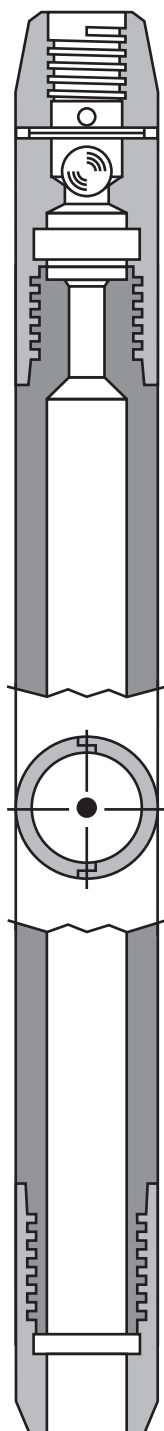
**In FoxIt PDF Viewer, from the main toolbar choose 'View', then 'Page Display', turn on 'Facing' and 'Show Cover Page During Facing'**



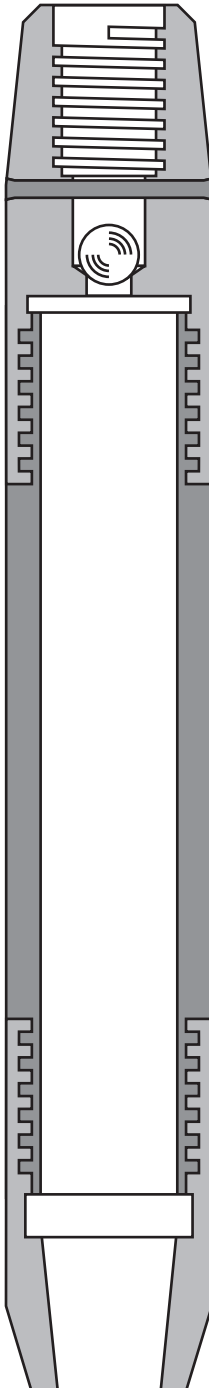


## CME Soil Sampling

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SPLIT SPOON SAMPLER LYNAC - HEAVY DUTY, 2"		
Part No.	Conn	Description
34091	AW	Split spoon sampler, HD, 2" x 18" (8)*
34362	AW	Split spoon sampler, HD, 2" x 18" (4)*
34092	AWJ	Split spoon sampler, HD, 2" x 18" (8)*
34363	AWJ	Split spoon sampler, HD, 2" x 18" (4)*
34094	AW	Split spoon sampler, HD, 2" x 24" (8)*
34364	AW	Split spoon sampler, HD, 2" x 24" (4)*
34095	AWJ	Split spoon sampler, HD, 2" x 24" (8)*
34365	AWJ	Split spoon sampler, HD, 2" x 24" (4)*
34172	AW	Split spoon sampler head assembly
34173	AWJ	Split spoon sampler head assembly
34149		Split barrel, HD, 2" x 1.5" x 18" (8)*
34367		Split barrel, HD, 2" x 1.5" x 18" (4)*
34150		Split barrel, HD, 2" x 1.5" x 24" (8)*
34368		Split barrel, HD, 2" x 1.5" x 24" (4)*
34144		Shoe, 2" blunt, 1.375" ID (8)*
34350		Shoe, 2" sharp (ASTM) 1.375" ID (8)*
34366		Shoe, 2" blunt, 1.375" ID (4)*
34148		Shoe, 2" sharp (ASTM) 1.375" ID (4)*
<p><b>NOTE:</b>      *(8) = 8 threads per inch shoe.                              *(4) = 4 threads per inch shoe.</p>		

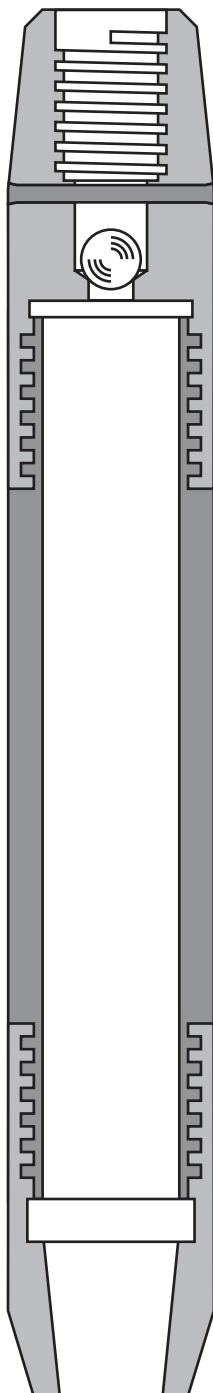


## SPLIT SPOON SAMPLER STANDARD, 2" OD

Part No.	Conn	Description
34121	AW	Split spoon sampler, std, 2" x 18"
34124	AW	Split spoon sampler, std, 2" x 24"
34122	AWJ	Split spoon sampler, std, 2" x 18"
34125	AWJ	Split spoon sampler, std, 2" x 24"
34184	AW	Split spoon sampler head assembly
34185	AWJ	Split spoon sampler head assembly
34161		Split barrel, std, 2" x 18"
34162		Split barrel, std, 2" x 24"
34144		Shoe, 2"
34350		Shoe, 2" sharp
<b>NOTE:</b> 1) All samplers are 8 T.P.I. 2) Also available in stainless steel		

## SPLIT SPOON SAMPLER STANDARD, 2.5" OD

Part No.	Conn	Description
34127	AW	Split spoon sampler, std, 2.5" x 18"
34130	AW	Split spoon sampler, std, 2.5" x 24"
34128	AWJ	Split spoon sampler, std, 2.5" x 18"
34131	AWJ	Split spoon sampler, std, 2.5" x 24"
34187	AW	Split spoon sampler head assembly
34188	AWJ	Split spoon sampler head assembly
34163		Split barrel, std, 2.5" x 18"
34164		Split barrel, std, 2.5" x 24"
34145		Shoe, 2.5"
<b>NOTE:</b> 1) All samplers are 8 T.P.I.		

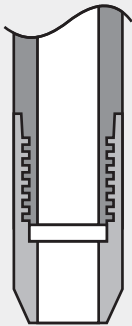


## SPLIT SPOON SAMPLER STANDARD , 3" OD

Part No.	Conn	Description
34133	NW	Split spoon sampler, std, 3" x 18"
34135	NW	Split spoon sampler, std, 3" x 24"
34371	NWJ	Split spoon sampler, std, 3" x 18"
34373	NWJ	Split spoon sampler, std, 3" x 24"
34190	NW	Split spoon sampler head assembly
34374	NWJ	Split spoon sampler head assembly
34165		Split barrel, std, 3" x 18"
34166		Split barrel, std, 3" x 24"
34146		Shoe, 3"
<b>NOTE: 1) All samplers are 8 T.P.I.</b>		

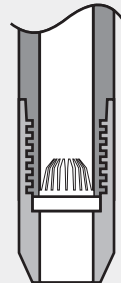


## HEAT - TREATED SHOES SPLIT SPOON SAMPLER



Blunt			Sharp		
Size	TPI	Part No.	Size	TPI	Part No.
2"	4 Thread	34366	2"	4 Thread	34148
2"	8 Thread	34144	2"	8 Thread	34350
2.5"	8 Thread	34145	2.5"	8 Thread	N/A
3"	8 Thread	34146	3"	8 Thread	N/A

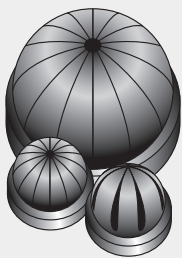
**NOTE: 2.5" & 3" Shoes available in 4 TPI**



## SPRING TYPE SAMPLE RETAINERS

**For 2" O.D. Samplers**

Size	Springs	Adapter
2"	34201	34202

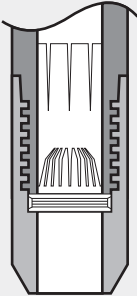


## BASKET RETAINER FOR USE IN SPLIT SPOON SAMPLER

Steel Spring Type		Plastic Type	
Size	Part No.	Size	Part No.
2"	34203	2"	34208
2.5"	34204	2.5"	N/A
3"	34205	3"	34372

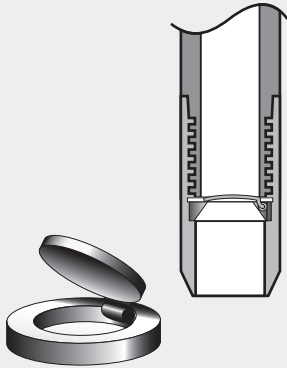


Size	Assembly	Spring	Retainer Ring Set		Sleeve Bag Pack of 50
			Top Adapter	Bottom Adapter	
			2"	34211	
2.5"	34274	34213	34271	34272	34273



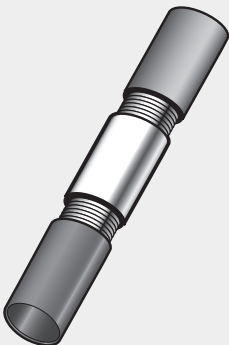
## L.A.D. SAMPLE RETAINER WITH POLYETHYLENE SLEEVE

Used w/ Sampler O.D.	Part No.
2"	34214
2.5"	34215
3"	34216



## TRAP VALVES

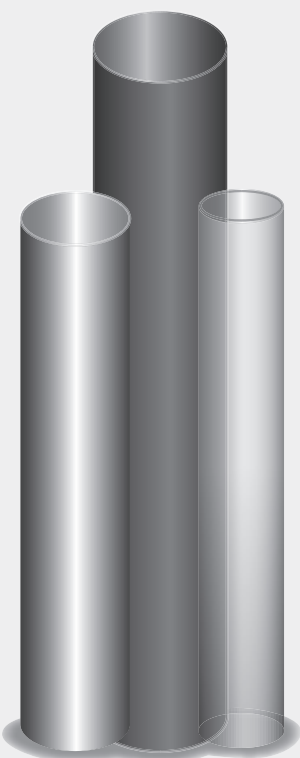
Used w/ Sampler O.D.	Part No.
2"	34196
2.5"	34197
3"	34198



## EXTENSION COUPLING



## LINER SPLIT SPOON SAMPLER



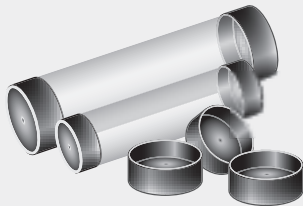
Part No.	Description
34228	Brass 1.5" x 6" - for 2" sampler
34229	Brass 2" x 6" - for 2.5" sampler
34230	Brass 2.5" x 6" - for 3" sampler
34231	Stainless steel 1.5" x 6" - for 2" sampler
34232	Stainless steel 2" x 6" - for 2.5" sampler
34233	Stainless steel 2.5" x 6" - for 3" sampler
34224	Plastic 1.5" x 18" - for 2" sampler
34225	Plastic 2" x 18" - for 2.5" sampler
34226	Plastic 2.5" x 18" - for 3" sampler
34234	Plastic 1.5" x 24" - for 2" sampler
34227	Plastic 2" x 24" - for 2.5" sampler
34237	Plastic 2.5" x 24" - for 3" sampler

**NOTE: Other lengths available on special order.**

These liners are used for quickly removing the sample from the sampler. Each end of the liner is covered with plastic caps to keep the sample intact.

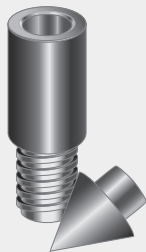


## PLASTIC END CAPS



Part No.	Description
34235	1.5" plastic cap
34327	2" plastic cap
34332	2.5" plastic cap
34236	4" Teflon squares (100 ct.)

**NOTE:** These caps are for split spoon sampler liners.  
See "Thin Wall Shelby Tube and Accessories" for additional caps. (Pg.58)



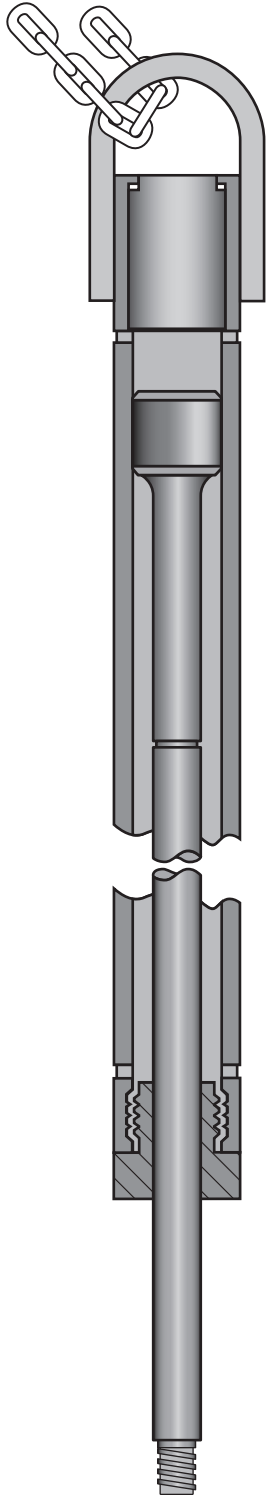
## EXPENDABLE POINT PENETROMETER

Conn.	Point Diameter		Point Only Part No.	Coupling Only Part No.
	Inches	mm		
AW	2"	50.8	34411	34412



## POCKET PENETROMETER

Part No.	Description
214045	Pocket penetrometer



## DRIVE HAMMER SAFETY TYPE

Part No.	Conn	Description
34001	AW	140 pound safety hammer
34005	AW	300 pound safety hammer
34009	AW	350 pound safety hammer
34003	NW	140 pound safety hammer
34007	NW	300 pound safety hammer
34011	NW	350 pound safety hammer

## SAFETY HAMMER PARTS

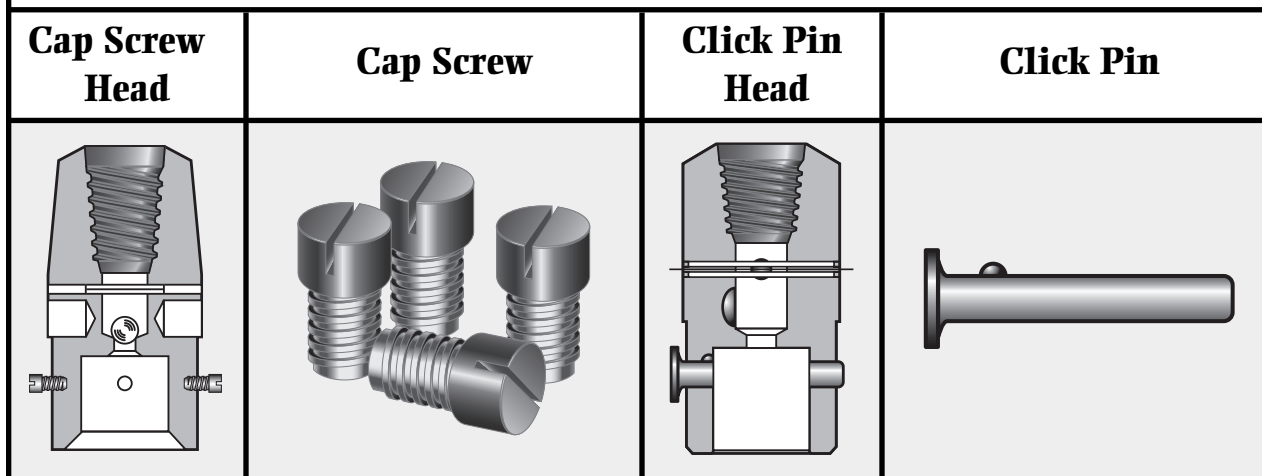
Part No.	Conn Size	Description
34016	AW	Impact rod (same for 140#, 300#, 350#)
34018	NW	Impact rod (same for 140#, 300#, 350#)
34020	AW	End cap
34021	NW	End cap
34013	140#	Safety hammer barrel
34014	300#	Safety hammer barrel
34015	350#	Safety hammer barrel
30679	-	Heat treated Hammer Subs, Solid (AW Box to AW Pin)
30680	-	Heat treated Hammer Subs, Solid (AW Box to AWJ Pin)
30696	-	Heat treated Hammer Subs, Solid (NW Box to NW Pin)
30697	-	Heat treated Hammer Subs, Solid (NWJ Box to NWJ Pin)

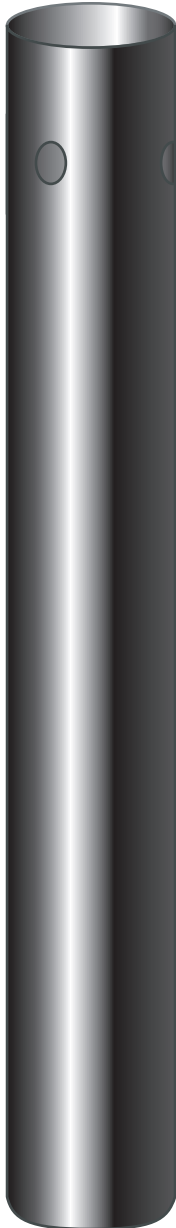


## THIN WALL "SHELBY" TUBE HEADS

Part No.	Conn.	Description
34240	AW	2" head assembly, cap screw style
34241	AWJ	2" head assembly, cap screw style
34281	AW	2" head assembly, click pin style
34282	AWJ	2" head assembly, click pin style
34243	AW	3" head assembly, cap screw style
34244	AWJ	3" head assembly, cap screw style
34247	NW	3" head assembly, cap screw style
34248	NWJ	3" head assembly, cap screw style
34284	AW	3" head assembly, click pin style
34285	AWJ	3" head assembly, click pin style
34288	NW	3" head assembly, click pin style
34289	NWJ	3" head assembly, click pin style
34330	-	Cap screw 2" head (4 req'd.)
34331	-	Cap screw 3" head (4 req'd.)
34321	-	Click pin 2" head (1 req'd.)
34322	-	Click pin 3" head (1 req'd.)

**NOTE: Heads include four cap screws or one click pin.**





## THIN WALL "SHELBY" TUBES AND ACCESSORIES

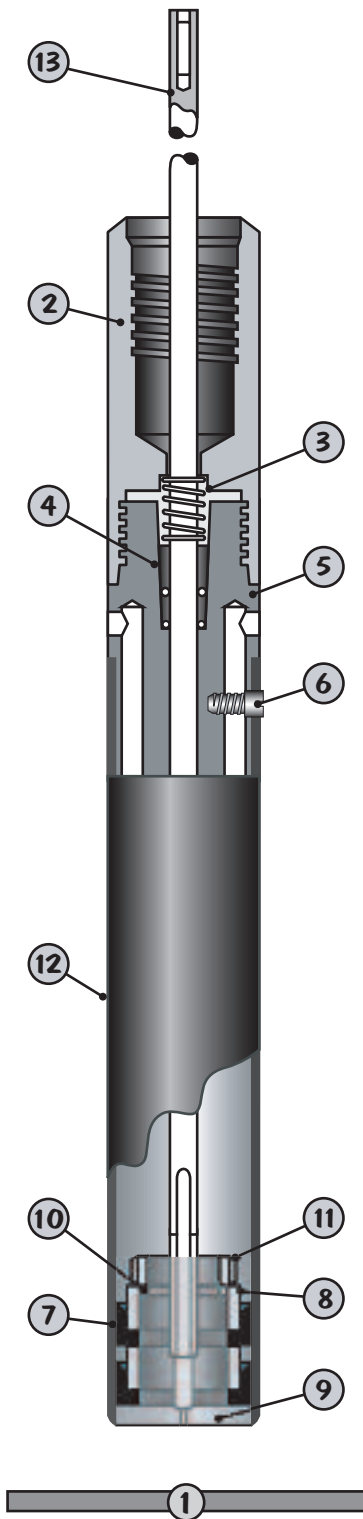
Part No.	Description
34253	Tube, steel, 2" x 30"
34254	Tube, galvanized, 2" x 30"
34456	Tube, steel, 3" x 24"
34457	Tube, galvanized, 3" x 24"
34256	Tube, steel, 3" x 30"
34257	Tube, galvanized, 3" x 30"
34266	Tube, galvanized, 3" x 36"
34327	Plastic cap 2"
34328	Plastic cap 3"
34417	Vinyl cap 2"
34418	Vinyl cap 3"
34325	Soil seal 3"
34410	Sealing wax, 10 pound

**NOTE: Other sizes available on special order.**

Plastic Caps	Soil Seal	Sealing Wax

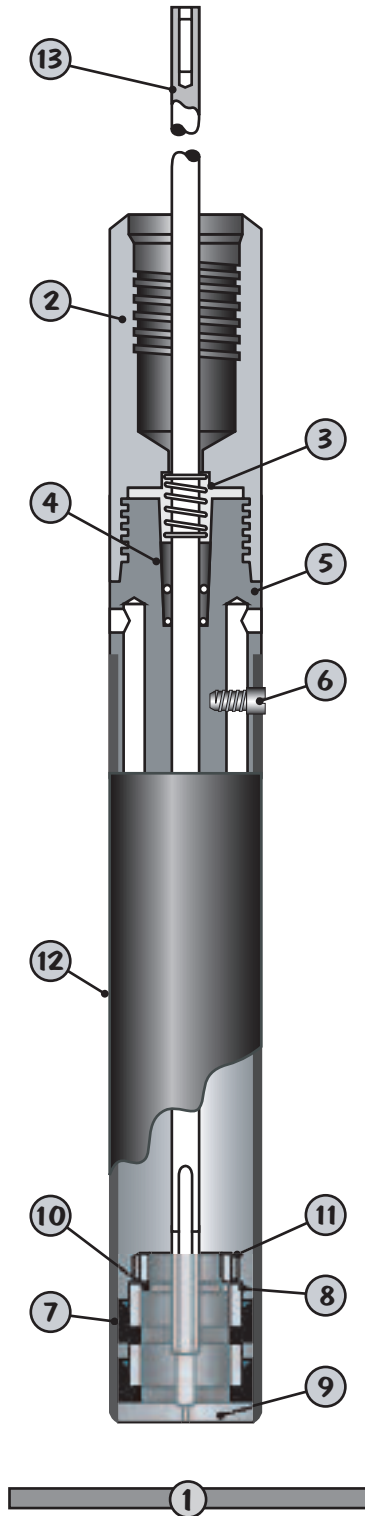


# Soil Sampling



## STATIONARY PISTON SAMPLER - 2 INCH OPTIONS AND SPARE PARTS

Ref. No.	2" O.D. AW Part No.	Description
1	37203	Stationary Piston Sampler Assembly 2" OD x 1.875" ID (50.8 x 47.6mm) with 30" (762.0 mm) Sample Tube
2	37204	Head
3	37205	Clamp Spring
4	37206	Cone Clamp Assembly
5	37207	Plug
6	37208	Socket Head Cap Screw (4 req'd.)
7	37209	Packing Cup (2 req'd.)
8	37210	Piston Spacer (2 req'd.)
9	37211	Piston
10	37212	Lock washer
11	37213	Lock nut
12	34253	Steel Tube - 30"
12	34254	Galvanized Tube - 30"
13	37214	Piston Rod - Master
	37215	Actuating Rod - 2 Ft.
	37216	Actuating Rod - 5 Ft.
	37217	Actuating Rod - 10 Ft.

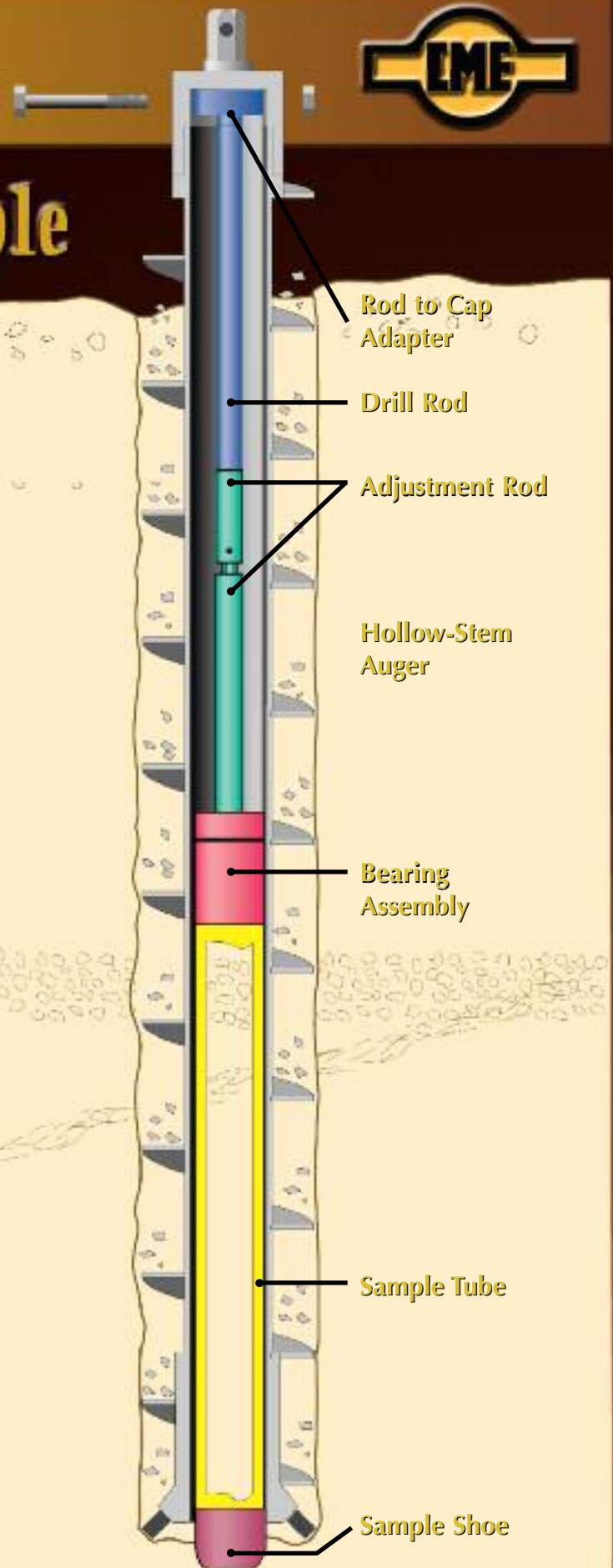


STATIONARY PISTON SAMPLER - 3 INCH OPTIONS AND SPARE PARTS		
Ref. No.	3" O.D. AW Part No.	Description
1	37218	Stationary Piston Sampler Assembly 3" OD x 2.875" ID (76.2 x 73.0mm) with 30" (762.0 mm) Sample Tube
2	37219	Head
3	37205	Clamp Spring
4	37206	Cone Clamp Assembly
5	37220	Plug
6	37221	Socket Head Cap Screw (4 req'd.)
7	37222	Packing Cup (2 req'd.)
8	37223	Piston Spacer (2 req'd.)
9	37224	Piston
10	37225	Lock washer
11	37226	Lock nut
12	34256	Steel Tube - 30"
12	34257	Galvanized Tube - 30"
13	37214	Piston Rod - Master
	37215	Actuating Rod - 2 Ft.
	37216	Actuating Rod - 5 Ft.
	37217	Actuating Rod - 10 Ft.

# Bearing Head



# Continuous Sample Tube System



# Bearing Head



Continuous Sample Tube System provides an efficient method for sampling soil and weak rock simultaneously while drilling with hollow augers.

## High Quality Samples

This system consistently recovers high quality samples in many augerable materials such as glacial till, hard clays, shales, mine tailings, lignite, peat and loess. The sealed bearing assembly conveys thrust during drilling to the tube and sampler shoe while isolating them from rotation of the center stem and augers. The undisturbed specimen enters the sample barrel as the augers are advanced. No drilling fluid or air is required.

A bearing head sampler system is available for 2 1/4", 2 3/4", 3 1/4", 3 3/4", 4 1/4" and 6 1/4" I.D. CME hollow-stem augers. System components include a drill rod to drive cap adapter and 5 foot sections of AW or NW threaded drill rod. An adjustment rod connects the drill rod to the bearing assembly and 5 foot capacity sample tube. This center stem string positions a solid or spit-tube sampler within the lead auger.



## Adjustable Sample Tube Extension

The adjustment rod allows you to adjust the extension of the sample tube. For sampling soft materials, the tube can be positioned beyond the auger teeth. In harder materials, such as shales, it can be positioned behind the auger teeth.



Sampler retracted for hard material      Sampler extended for soft material

## Clear Plastic Liners Available

Clear plastic liners can be run inside split tube samplers. Upon removal from the sample tube, the liners containing samples can be sealed with plastic end-caps. These liners allow visual inspection of the sample in the field, while keeping it intact for transport to a lab for further analysis.



## Sample Shoe with Basket Retainer

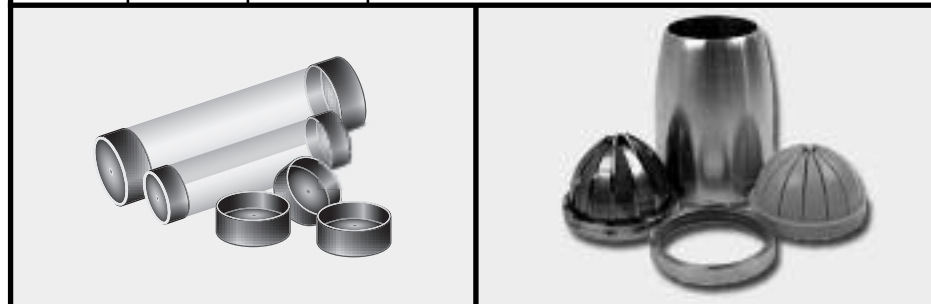
A sample shoe with basket retainer is also available. The basket helps contain the specimen within the sampler as it is withdrawn from the borehole.





## CME 2" BEARING HEAD CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 2.25" HSA

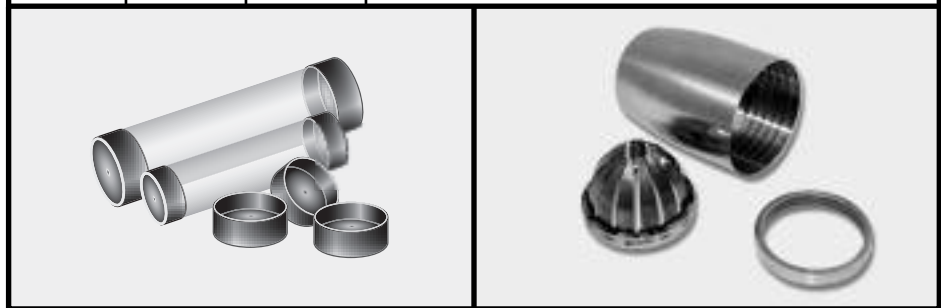
Ref. No.	Part No.	HSA	Description
1	--	2.25"	Adjustment rod, (see pg. 4.22 for connections)
2	15506	2.25"	Bearing head, 2" OD AW RH
3	15509	2.25"	Split tube, 2" OD x 5' RH
4	15511	2.25"	Sample Shoe, 2" OD 1.25" ID RH
4	15711	2.25"	Sample Shoe for liner, 2" OD 1.062" ID RH
	15712	2.25"	Plastic liner, 1.5" OD x 30"
	15713	2.25"	Plastic Cap for 1.5" OD liner
4	15717	2.25"	Sample Shoe for basket retainer, 2" OD 1.25" ID RH
	34195	2.25"	Spacer for 15717 shoe
	34208	2.25"	Basket retainer, 2" OD - Plastic
	34203	2.25"	Basket retainer, 2" OD - Steel





## CME 2.5" BEARING HEAD CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 2.75" HSA

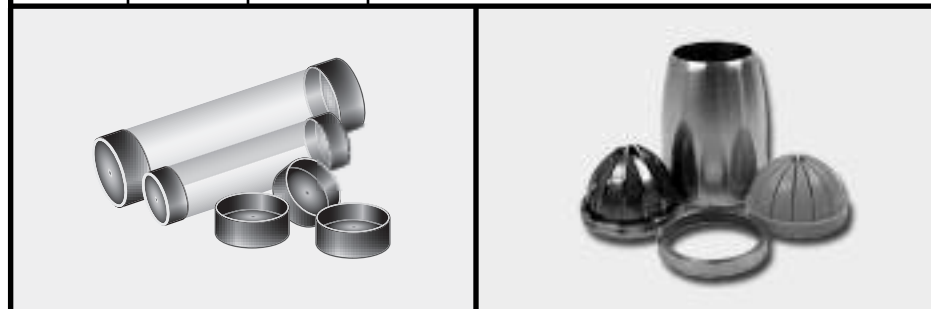
Ref. No.	Part No.	HSA	Description
1	--	2.75"	Adjustment rod, (see pg. 4.22 for connections)
2	15507	2.75"	Bearing head, 2.5" OD AW RH
2	15553	2.75"	Bearing head, 2.5" OD AWJ RH
3	15510	2.75"	Split tube, 2.5" OD x 5' RH
3	15375	2.75"	Solid tube, 2.5" OD x 5' RH
4	15512	2.75"	Sample shoe, 2.5" OD 1.75" ID RH
4	15741	2.75"	Sample Shoe for liner, 2.5" OD 1.5" ID RH
	15149	2.75"	Plastic liner, 2" OD x 30"
	34327	2.75"	Plastic Cap for 2" OD liner
4	15627	2.75"	Sample Shoe for basket retainer, 2.5" OD 1.75" ID RH
	34356	2.75"	Spacer for 15627 shoe
	34204	2.75"	Basket retainer, 2.5" OD - Steel





## CME 3" BEARING HEAD CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 3.25" HSA

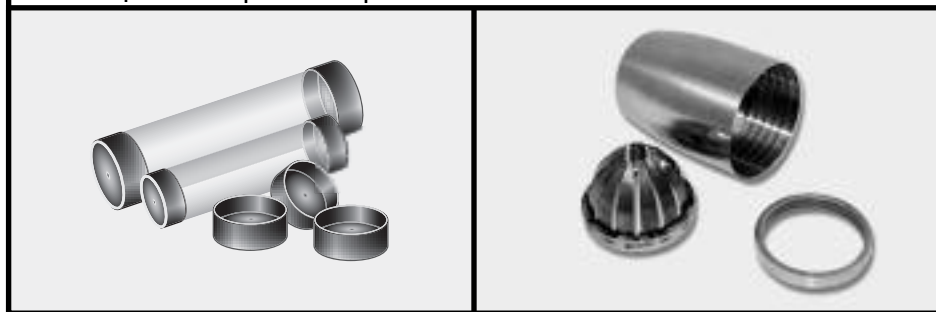
Ref. No.	Part No.	HSA	Description
1	--	3.25"	Adjustment rod, (see pg. 4.22 for connections)
2	15436	3.25"	Bearing head, 3" OD AW RH
2	15606	3.25"	Bearing head, 3" OD AWJ RH
3	15437	3.25"	Split tube, 3" OD x 5' RH
3	15441	3.25"	Solid tube, 3" OD x 5' RH
4	15438	3.25"	Sample shoe, 3" OD 2.25" ID RH
4	15440	3.25"	Sample Shoe for liner, 3" OD 2" ID RH
	15026	3.25"	Plastic liner 2.5" OD x 30"
	34332	3.25"	Plastic cap for 2.5" OD liner
4	15475	3.25"	Sample Shoe for basket retainer, 3" OD 2.19" ID RH
	15242	3.25"	Spacer for 15475 shoe
	34205	3.25"	Basket retainer, 3" OD - Steel
	34372	3.25"	Basket retainer, 3" OD - Plastic

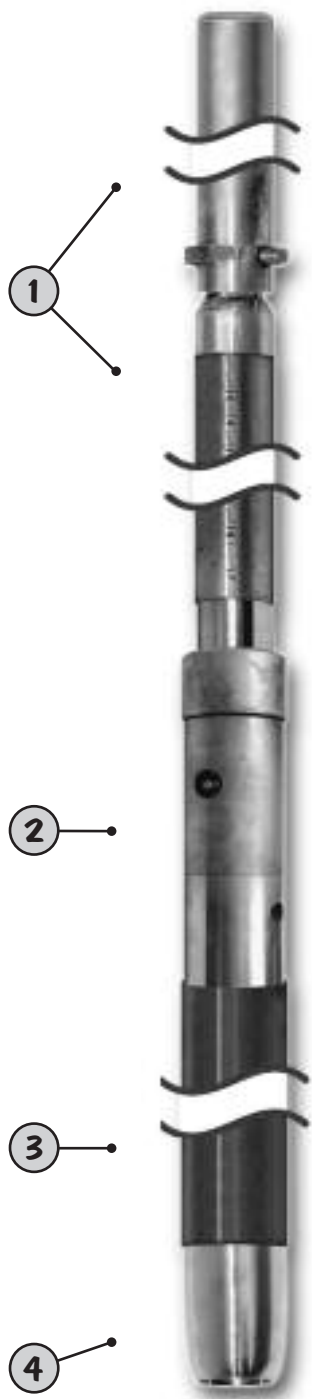




## CME 3.5" BEARING HEAD CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 3.75" HSA

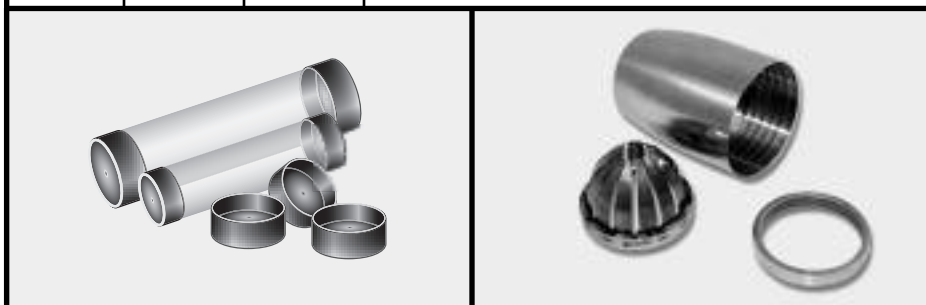
Ref. No.	Part No.	HSA	Description
1	- -	3.75"	Adjustment rod, (see pg. 4.22 for connections)
2	15400	3.75"	Bearing head, 3.5" OD AW RH
2	15595	3.75"	Bearing head, 3.5" OD AWJ RH
3	15401	3.75"	Split tube, 3.5" OD x 5' RH
3	15405	3.75"	Solid tube, 3.5" OD x 5' RH
4	15402	3.75"	Sample shoe, 3.5" OD 2.75" ID RH
4	15403	3.75"	Sample shoe for liner, 3.5" OD 2.5" ID RH
	15054	3.75"	Plastic liner 3" OD x 30"
	34328	3.75"	Plastic cap for 3" OD liner
4	15404	3.75"	Sample Shoe for basket retainer, 3" OD 2.63" ID RH
	15135	3.75"	Spacer for 15404 shoe
	34206	3.75"	Basket retainer, 3.5" OD - Steel





## CME 4" BEARING HEAD CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 4.25" HSA

Ref. No.	Part No.	HSA	Description
1	--	4.25"	Adjustment rod, (see pg. 4.22 for connections)
2	15458	4.25"	Bearing head, 4" OD NW RH
2	15612	3.75"	Bearing head, 4" OD NWJ RH
3	15460	4.25"	Split tube, 4" OD x 5' RH
3	15540	4.25"	Solid tube, 4" OD x 5' RH
4	15461	4.25"	Sample shoe, 4" OD 3.25" ID RH
4	15462	4.25"	Sample shoe for liner, 4" OD 3" ID RH
	15209	4.25"	Plastic liner 3.5" OD x 30"
	34333	4.25"	Plastic cap for 3.5" OD liner
4	15463	4.25"	Sample Shoe for basket retainer, 4" OD 3.25" ID RH
	15246	4.25"	Spacer for 15463 shoe
	15245	4.25"	Basket retainer, 4" OD - Steel





## CME 4" HEAVY DUTY BEARING HEAD CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 4.25" HSA

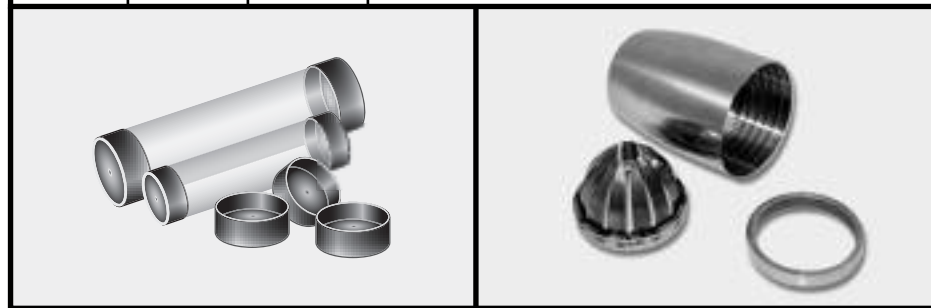
Ref. No.	Part No.	HSA	Description
1	- -	4.25"	Adjustment rod, (see pg. 4.22 for connections)
2	15802	4.25"	Bearing head, 4" OD NW RH
3	15800	4.25"	Split tube, 4" OD x 5' RH
4	15801	4.25"	Sample Shoe for basket retainer, 4" OD 2.63" ID RH
	34206	4.25"	Basket retainer, 4" OD - Steel





## CME 6" BEARING HEAD CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 6.25" HSA

Ref. No.	Part No.	HSA	Description
1	--	6.25"	Adjustment rod, (see pg. 4.22 for connections)
2	15443	6.25"	Bearing head, 6" OD NW RH
3	15447	6.25"	Split tube, 6" OD x 5' RH
4	15445	6.25"	Sample shoe, 6" OD 5.13" ID RH
4	15464	6.25"	Sample shoe for liner, 6" OD x 4.88 ID RH
	15229	6.25"	Plastic liner 5.38" OD x 30"
	34334	6.25"	Plastic cap for 5.38" OD liner
4	15446	6.25"	Sample Shoe for basket retainer, 6" OD 5.13" ID RH
	15255	6.25"	Spacer for 15446 shoe
	15254	6.25"	Basket retainer, 6" OD - Steel



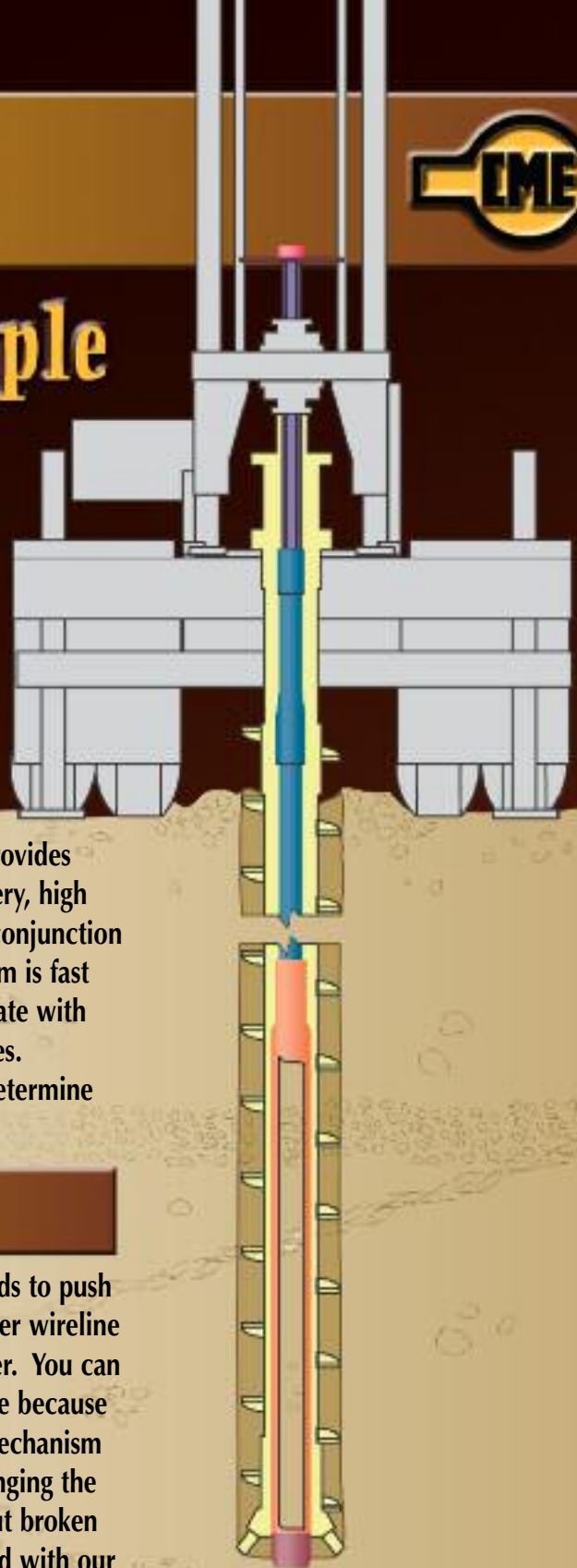


ADJUSTMENT ROD BEARING HEAD CONTINUOUS SAMPLE TUBE SYSTEM				
Pin Connection	Box Connection			
	AW	AWJ	NW	NWJ
AW	15399	15539	15544	15508
AWJ	--	15563	--	--
NW	15603	15546	15448	15564
NWJ	--	--	--	15611

# Stabilized



# Continuous Sample Tube System



## High Quality Samples

The patented CME Continuous Sample Tube System provides an extremely positive method for obtaining full recovery, high quality soil samples. Since sampling is performed in conjunction with the hollow stem auger drilling process, this system is fast and efficient. The sample tube positively does not rotate with the augers, so you get excellent, representative samples. You can even document the sample orientation and determine directional trends of fractures or contaminates.

## Positive Sample Retrieval

The CME Continuous Sample Tube System uses hex rods to push and retrieve the sampler. It has several advantages over wireline sampling systems that use cable to retrieve the sampler. You can always tell the precise depth of the sampler in the hole because of the rigidity of the rods. Also, there's no latching mechanism to cause problems. And if you get in a bind while bringing the sampler out of the hole, you don't have to worry about broken cables and lost samples. The hex rods can also be used with our hollow stem auger, center hexagon drive system.

## Effective in Difficult Formations

The CME Continuous Sample Tube System works well in many difficult formations such as glacial drift, hard clays and shales, lignite, peat, coal, mine tailings and loess.



# Continuous Sample Tube System

## Positively Prevents Sampler from Rotating



The sample tube is connected to a string of hex rods that extends up through the augers and the bearing assembly. A locking rod at the top of the string is attached to a horizontal locking plate. This plate fits between the feed pull-down rods and positively prevents the sample tube from rotating as the augers turn. Downward pressure is transferred from the drill rotary box through a bearing assembly attached to the bottom of the spindle. The locking rod, which extends through this bearing assembly, can slide approximately 6 inches (15.2 cm) axially.

As drilling advances and augers and rods must be added, you simply uncouple an auger connection and raise the feed system 6 inches (15.2 cm). The auger connection will separate, giving you access to the hex rod connection inside the auger column.



## Adjustable Sample Tube Extension

A 5 foot (1.5 m) capacity solid or split-tube sample barrel fits within the lead auger of the hollow auger column. The extension of the sample tube is adjustable. For sampling soft materials, the tube can be positioned beyond the auger teeth. In harder materials, such as shales, it can be positioned behind the auger teeth.

The positioning is accomplished through an adjustment rod that connects the sampler to the hex rods. A drive pin locks the parts together at the desired length. Adjustments are available in one inch (2.5 cm) increments.



Sampler retracted for hard material

Sampler extended for soft material

## Clear Plastic Liners Available

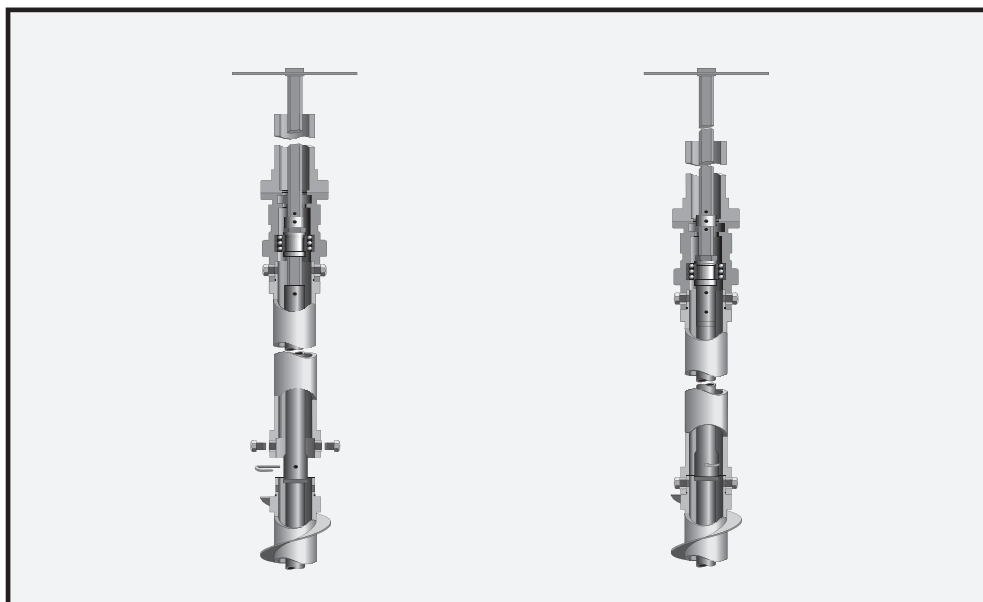
Clear plastic liners can be run inside split tube samplers. Upon removal from the sample tube, the liners containing samples can be sealed with plastic end-caps. These liners allow visual inspection of the sample in the field, while keeping it intact for transport to a lab for further analysis.



## Sample Shoe with Basket Retainer

A sample shoe with basket retainer is also available. The basket helps contain the specimen within the sampler as it is withdrawn from the borehole.





## CME Stabilized Continuous Sample Tube System

The patented CME Continuous Sample Tube System is a sampling device that was developed to provide continuous sampling when drilling with hollow-stem augers. The specimen enters the sampler barrel as the augers are advanced. Drilling fluids or air are not required.

The CME Continuous Sample Tube System consists of a 5 foot sample tube with a cutting shoe that extends below the auger cutter head. The sample tube is operated on a hexagonal shank-and-socket drill stem column. The shank-and-socket drill stems are connected through a bearing assembly to the drill rig feed system and to a stabilizer plate to positively prevent rotation of the sample tube with rotation of the hollow stem augers. The first drill stem in the column has an adjustable length for varying the amount the sampler protrudes below the auger cutter head.

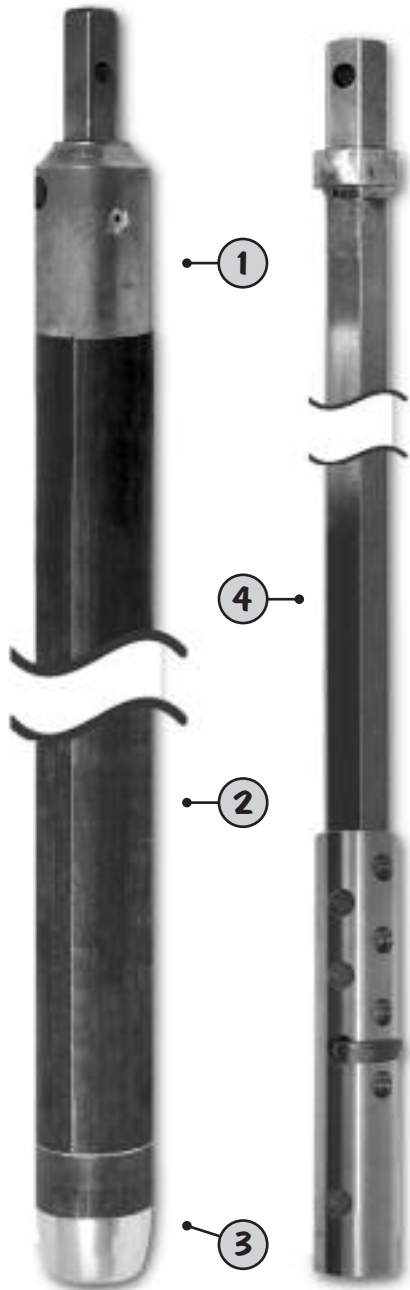
The stabilization of the sample tube, the tube extension adjustments and the clearance ratio of the cutting shoe with the sample tube are all important to sample recovery and sample quality. Tube stabilization has proven to be very important in providing the most consistent and highest quality sample.

The sampler tube is available in several sizes according to the size of the CME hollow augers it is used with. Both clear plastic liners and steel liners can be used inside the sample tube to retain the sample. The use of the clear plastic liners allows you to visually examine the sample in the field and yet keep it contained for transport to a lab and later testing. The clear plastic liners can be reused several times.

The CME Continuous Sample Tube System has been used very successfully on many projects for various purposes in a variety of soil types. With this sample system, very efficient continuous sampling can be performed to provide a complete soil profile. Obtaining 95 to 100 percent recovery is more the rule than the exception. The variety of materials that can be sampled include silt, clay, some granular soils, glacial till, coal, shale, mine tailings and others.

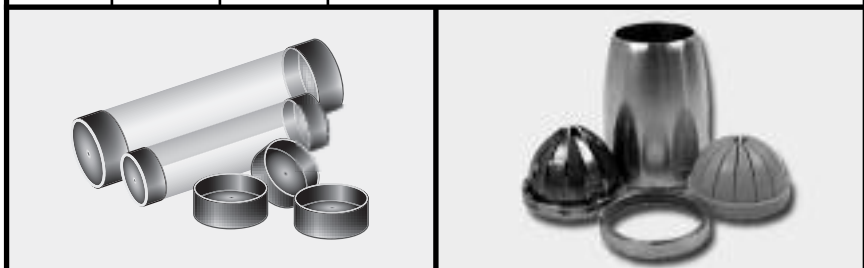
One type of project where the continuous sample is used extensively is environmental projects where chemical or radiological contamination is suspected. Most of these projects desire or require high quality continuous samples and this can be achieved very adequately with the continuous samplers.

***Drill Rig specific, consult factory for additional information.***

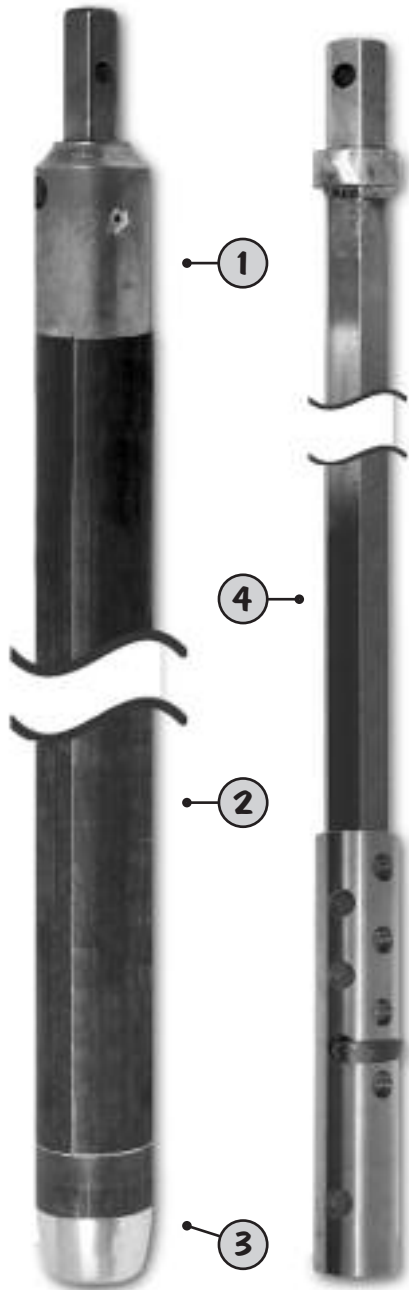


## CME 3" STABILIZED CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 3.25" HSA

Ref. No.	Part No.	HSA	Description
1	15038	3.25"	Sample tube head assembly, 3" OD 1.625" hex
2	15023	3.25"	Split tube, 3" OD 2.5" ID x 5' LH
2	15560	3.25"	Solid tube, 3" OD 2.5" ID x 5' LH
3	15024	3.25"	Sample Shoe, 3" OD 2.25" ID LH
3	15125	3.25"	Sample Shoe for liner, 3" OD 2" ID LH
	15026	3.25"	Plastic liner 2.5" OD x 30"
	34332	3.25"	Plastic cap for 2.5" OD liner
3	15241	3.25"	Sample Shoe for basket retainer, 3" OD 2.19" ID LH
	34205	3.25"	Basket retainer, 3" OD - Steel
	34372	3.25"	Basket retainer, 3" OD - Plastic
	15134	-	Locking chain wrench
4	15032	-	Adjustment Rod
	19240	-	Drill stem with drive pin, 1.625" hex x 5'
	15036	-	Drive pin DP2000 short
	19264	-	Hoisting socket 1.625" hex

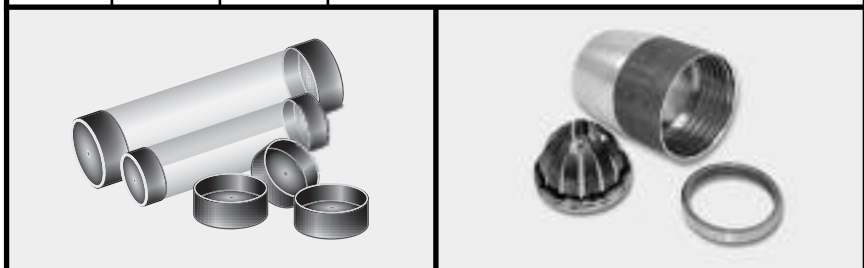


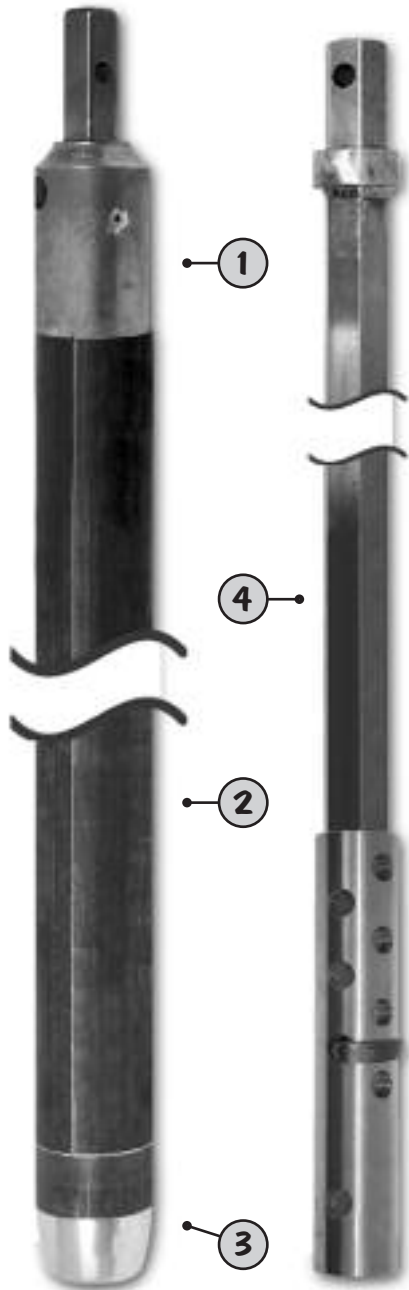




## CME 3.5" STABILIZED CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 3.75" HSA

Ref. No.	Part No.	HSA	Description
1	15059	3.75"	Sample tube head assembly, 3.5" OD 1.625" hex
2	15051	3.75"	Split tube, 3.5" OD 3" ID x 5' LH
2	15476	3.75"	Solid tube, 3.5" OD 3" ID x 5' LH
3	15052	3.75"	Sample Shoe, 3.5" OD 2.75" ID LH
3	15126	3.75"	Sample Shoe for liner, 3.5" OD 2.5" ID LH
	15054	3.75"	Plastic liner 3" OD x 30"
	34328	3.75"	Plastic cap for 3" OD liner
3	15133	3.75"	Sample Shoe for basket retainer, 3.5" OD 2.63" ID LH
	34206	3.75"	Basket retainer, 3" OD - Steel
	15134	-	Locking chain wrench
4	15032	-	Adjustment Rod
	19240	-	Drill stem with drive pin, 1.625" hex x 5'
	15036	-	Drive pin DP2000 short
	19264	-	Hoisting socket 1.625" hex



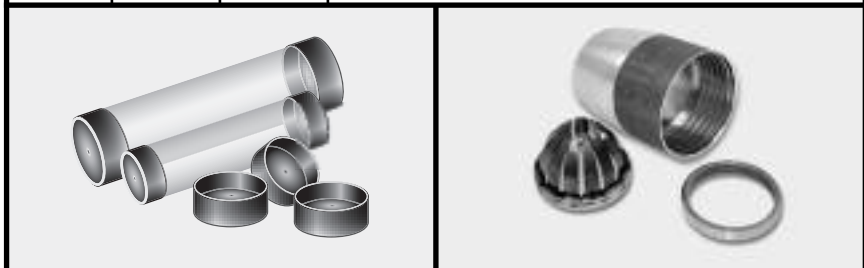


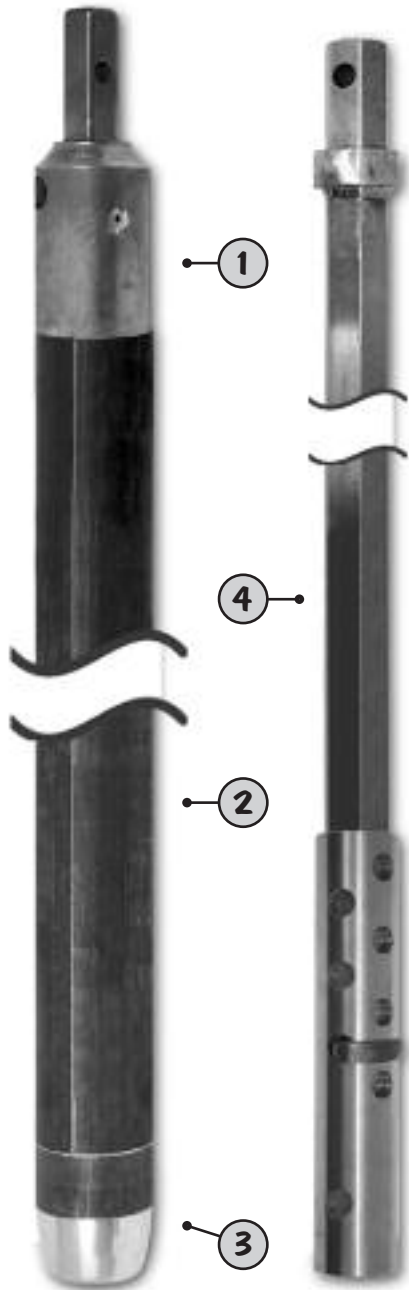
<b>CME 3.5" HEAVY DUTY STABILIZED CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 3.75" HSA</b>			
Ref. No.	Part No.	HSA	Description
1	15696	3.75"	Sample tube head assembly, HD 3.5" OD 1.625" hex LH
2	15697	3.75"	Split tube, HD 3.5" OD 2.5" ID x 5' LH
3	15698	3.75"	Sample Shoe, HD 3.5" OD 2.25" ID LH
3	15700	3.75"	Sample Shoe HD for liner, 3.5" OD 2" ID LH
	15026	3.75"	Plastic liner 2.5" OD x 30"
	34332	3.75"	Plastic cap for 2.5" OD liner
3	15699	3.75"	Sample Shoe HD for basket retainer, 3.5" OD 2.25" ID LH
	34205	3.75"	Basket retainer, HD 3.5" OD - Steel
	34372	3.75"	Basket retainer, HD 3.5" OD - Plastic
	15134	-	Locking chain wrench
4	15032	-	Adjustment Rod
	19240	-	Drill stem with drive pin, 1.625" hex x 5'
	15036	-	Drive pin DP2000 short
	19264	-	Hoisting socket 1.625" hex



## CME 4" STABILIZED CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 4.25" HSA

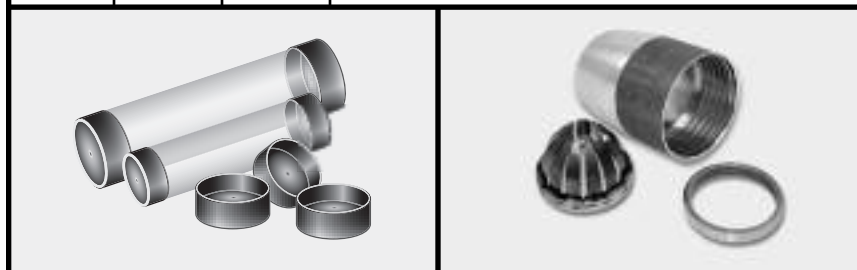
Ref. No.	Part No.	HSA	Description
1	15128	4.25"	Sample tube head assembly, 4" OD 1.625" hex
2	15034	4.25"	Split tube, 4" OD 3.5" ID x 5' LH
2	15558	4.25"	Solid tube, 4" OD 3.5" ID x 5' LH
3	15081	4.25"	Sample Shoe, 4" OD 3.25" ID LH
3	15247	4.25"	Sample Shoe for liner, 4" OD 3" ID LH
	15209	4.25"	Plastic liner 3.5" OD x 30"
	34333	4.25"	Plastic cap for 3.5" OD liner
3	15244	4.25"	Sample Shoe for basket retainer, 4" OD 3.25" ID LH
	15245	4.25"	Basket retainer, 4" OD - Steel
	15134	-	Locking chain wrench
4	15032	-	Adjustment Rod
	19240	-	Drill stem with drive pin, 1.625" hex x 5'
	15036	-	Drive pin DP2000 short
	15536	4.25"	Guide Ring
	19264	-	Hoisting socket 1.625" hex

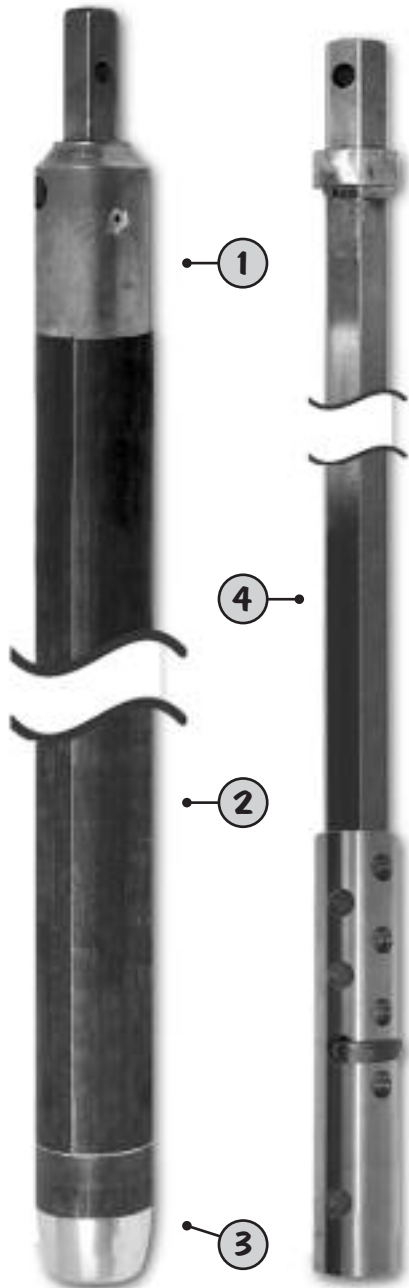




## CME 4" HEAVY DUTY STABILIZED CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 4.25" HSA

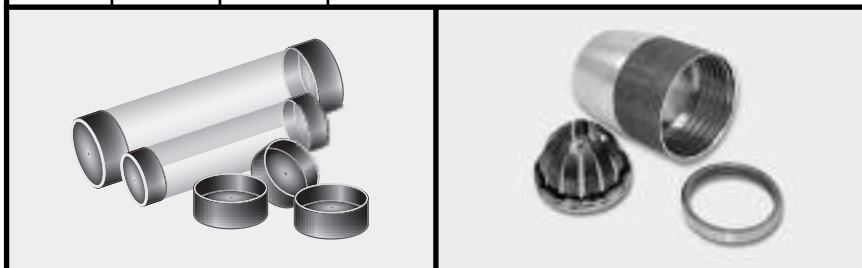
Ref. No.	Part No.	HSA	Description
1	15598	4.25"	Sample tube head assembly, HD 4" OD 1.625" hex
2	15599	4.25"	Split tube, HD 4" OD 3" ID x 5' LH
3	15600	4.25"	Sample Shoe, HD 4" OD 2.75" ID LH
3	15601	4.25"	Sample Shoe HD for liner, 4" OD 2.5" ID LH
	15054	4.25"	Plastic liner 3" OD x 30"
	34328	4.25"	Plastic cap for 3" OD liner
3	15613	4.25"	Sample Shoe HD for basket retainer, 4" OD 2.63" ID LH
	34206	4.25"	Basket retainer, 4" OD - Steel
	15134	-	Locking chain wrench
4	15032	-	Adjustment Rod
	19240	-	Drill stem with drive pin, 1.625" hex x 5'
	15036	-	Drive pin DP2000 short
	15536	4.25"	Guide Ring
	19264	-	Hoisting socket 1.625" hex





## CME 6" STABILIZED CONTINUOUS SAMPLE TUBE SYSTEM FOR USE IN 6.25" HSA

Ref. No.	Part No.	HSA	Description
1	15328	6.25"	Sample tube head assembly, 6" OD 1.625" hex
2	15330	6.25"	Split tube, 6" OD 5.38" ID x 5' LH
2	15580	6.25"	Solid tube, 6" OD 5.38" ID x 5' LH
3	15329	6.25"	Sample Shoe, 6" OD 5.13" ID LH
3	15334	6.25"	Sample Shoe for liner, 6" OD 4.88" ID LH
	15229	6.25"	Plastic liner 5.375" OD x 30"
	34334	6.25"	Plastic cap for 5.375" OD liner
3	15335	6.25"	Sample Shoe for basket retainer, 6" OD 5.13" ID LH
	15254	6.25"	Basket retainer, 6" OD - Steel
	15134	-	Locking chain wrench
4	15032	-	Adjustment Rod
	19240	-	Drill stem with drive pin, 1.625" hex x 5'
	15036	-	Drive pin DP2000 short
	15397	6.25"	Guide Ring 4.25"
	19264	-	Hoisting socket 1.625" hex





# Soil Sampling

