

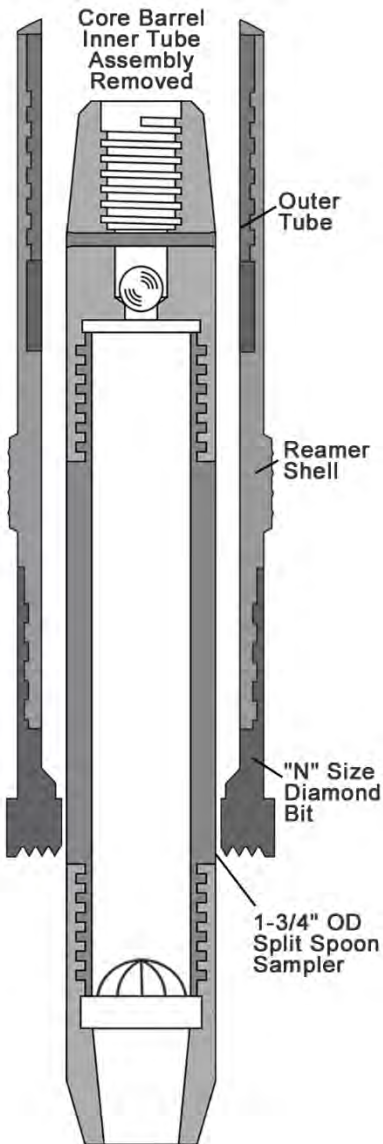
Soil Sampling





CME Soil Sampling

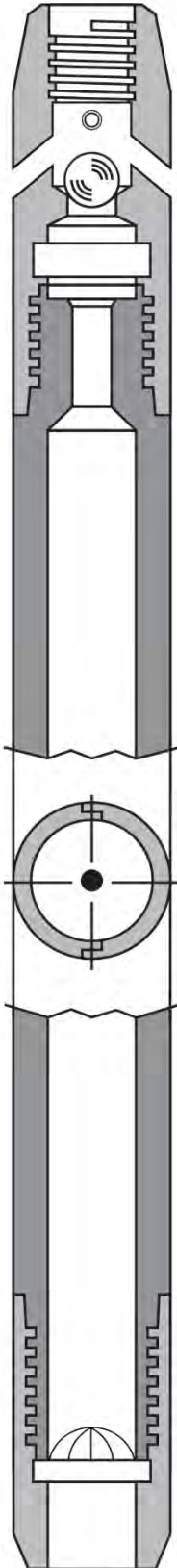
| | |
|---|------|
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SPLIT SPOON SAMPLER STANDARD, 1.75" OD FOR WIRELINE CORE BARREL

| Part No. | Conn | Description |
|----------|------|--|
| 220023 | AW | Split spoon sampler assembly, 1-3/4" x 18" x AW |
| 34387 | AW | Split spoon sampler assembly, 1-3/4" x 24" x AW |
| 220024 | AW | Head assembly, 1-3/4" x AW |
| 220420 | AWJ | Split spoon sampler assembly, 1-3/4" x 18" x AWJ |
| 221170 | AWJ | Split spoon sampler assembly, 1-3/4" x 24" x AWJ |
| 221275 | AWJ | Head assembly, 1-3/4" x AWJ |
| 220026 | | Split barrel, 1-3/4" x 18" 8 TPI |
| 221276 | | Split barrel, 1-3/4" x 24" 8 TPI |
| 220025 | | Shoe 1-3/4" 8 TPI |
| 221264 | | Basket retainer-steel 1-3/4" |
| 221331 | | Spacer 1-3/4" |

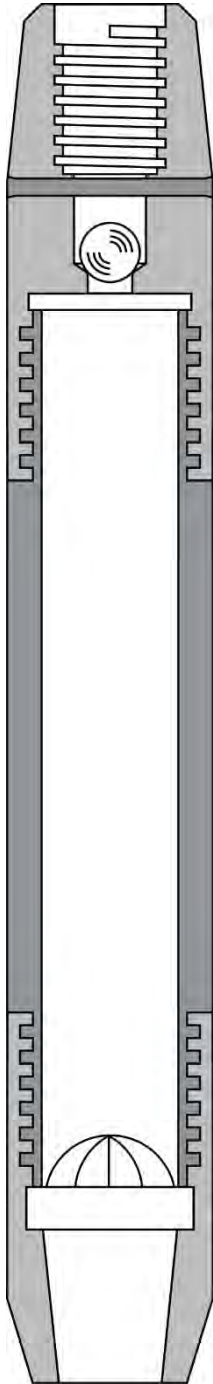
NOTE: 1) All samplers are 8 T.P.I.



SPLIT SPOON SAMPLER LYNAC – HEAVY DUTY, 2"

| 4 tpi Part No. | 8 tpi Part No. | Conn | Description |
|----------------|----------------|------|--|
| 34460 | 34462 | AW | Split spoon sampler, HD, 2" x 18" |
| 34463 | 34465 | AWJ | Split spoon sampler, HD, 2" x 18" |
| 34621 | 34620 | NWJ | Split spoon sampler, HD, 2" x 18" |
| 34382 | 34461 | AW | Split spoon sampler, HD, 2" x 24" |
| 34384 | 34464 | AWJ | Split spoon sampler, HD, 2" x 24" |
| 34466 | 34606 | NWJ | Split spoon sampler, HD, 2" x 24" |
| 34381 | 34381 | AW | Split spoon sampler head assembly |
| 34383 | 34383 | AWJ | Split spoon sampler head assembly |
| 34467 | 34467 | NWJ | Split spoon sampler head assembly |
| 34367 | 34149 | | Split barrel, HD, 2" x 1.5" x 18" |
| 34368 | 34150 | | Split barrel, HD, 2" x 1.5" x 24" |
| 34366 | 34144 | | Shoe, 2" blunt, 1.375" ID (six pack note) |
| 34148 | 34350 | | Shoe, 2" sharp, 1.375" ID |
| 34195 | 34195 | | Spacer, 2" |

NOTE: *(8) = 8 threads per inch shoe
*(4) = 4 threads per inch shoe



SPLIT SPOON SAMPLER STANDARD, 2" OD

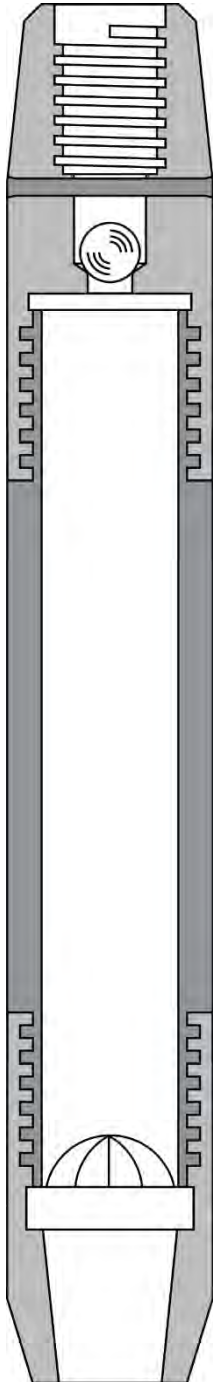
| 4 tpi Part No. | 8 tpi Part No. | Conn | Description |
|----------------|----------------|------|--|
| 34439 | 34121 | AW | Split spoon sampler, std, 2" x 18" |
| 34633 | 34124 | AW | Split spoon sampler, std, 2" x 24" |
| 34634 | 34122 | AWJ | Split spoon sampler, std, 2" x 18" |
| 34391 | 34125 | AWJ | Split spoon sampler, std, 2" x 24" |
| 34440 | 34184 | AW | Split spoon sampler head assembly |
| 34393 | 34185 | AWJ | Split spoon sampler head assembly |
| 34445 | 34161 | | Split barrel, std, 2" x 18" |
| 34392 | 34162 | | Split barrel, std, 2" x 24" |
| 34366 | 34144 | | Shoe, 2" <i>(Note: CME six pack also available.)</i> |
| 34148 | 34350 | | Shoe, 2" sharp |
| 34195 | 34195 | | Spacer, 2" |
| 34441 | 34455 | | Trash barrel, 2" x 6" |

NOTE: *(8) = 8 threads per inch shoe and head
 *(4) = 4 threads per inch shoe and head
 Also available in stainless steel

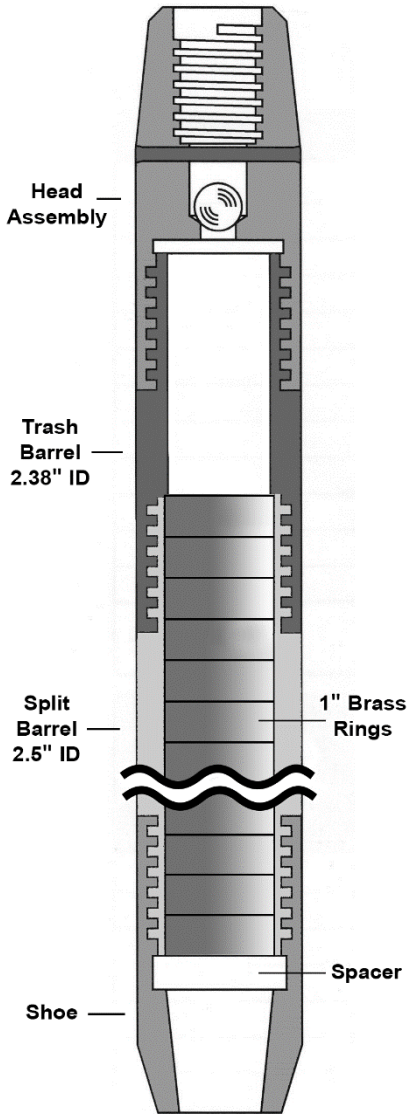
SPLIT SPOON SAMPLER STANDARD, 2.5" OD

| 4 tpi Part No. | 8 tpi Part No. | Conn | Description |
|----------------|----------------|------|--------------------------------------|
| 34635 | 34127 | AW | Split spoon sampler, std, 2.5" x 18" |
| 34625 | 34130 | AW | Split spoon sampler, std, 2.5" x 24" |
| 34636 | 34128 | AWJ | Split spoon sampler, std, 2.5" x 18" |
| 34600 | 34131 | AWJ | Split spoon sampler, std, 2.5" x 24" |
| 34626 | 34187 | AW | Split spoon sampler head assembly |
| 34602 | 34188 | AWJ | Split spoon sampler head assembly |
| 34637 | 34163 | | Split barrel, std, 2.5" x 18" |
| 34601 | 34164 | | Split barrel, std, 2.5" x 24" |
| 34603 | 34145 | | Shoe, 2.5" |
| 34356 | 34356 | | Spacer, 2.5" |
| 34639 | 34437 | | Trash barrel, 2.5" x 6" |

NOTE: *(8) = 8 threads per inch shoe and head
 *(4) = 4 threads per inch shoe and head



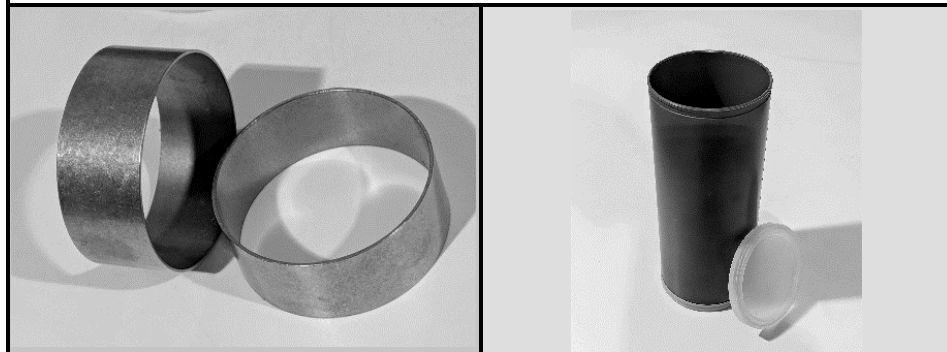
| SPLIT SPOON SAMPLER STANDARD, 3" OD | | | |
|---|----------------|------|------------------------------------|
| 4 tpi Part No. | 8 tpi Part No. | Conn | Description |
| 34638 | 34616 | AW | Split spoon sampler, std, 3" x 18" |
| 34640 | 34498 | AW | Split spoon sampler, std, 3" x 24" |
| 34454 | 34480 | AWJ | Split spoon sampler, std, 3" x 18" |
| 34376 | 34134 | AWJ | Split spoon sampler, std, 3" x 24" |
| 34442 | 34133 | NW | Split spoon sampler, std, 3" x 18" |
| 34641 | 34135 | NW | Split spoon sampler, std, 3" x 24" |
| 34642 | 34371 | NWJ | Split spoon sampler, std, 3" x 18" |
| 34643 | 34373 | NWJ | Split spoon sampler, std, 3" x 24" |
| 34644 | 34615 | AW | Split spoon sampler head assembly |
| 34377 | 34189 | AWJ | Split spoon sampler head assembly |
| 34443 | 34190 | NW | Split spoon sampler head assembly |
| 34379 | 34374 | NWJ | Split spoon sampler head assembly |
| 34446 | 34165 | | Split barrel, std, 3" x 18" |
| 34378 | 34166 | | Split barrel, std, 3" x 24" |
| 34380 | 34146 | | Shoe, 3" |
| 34645 | 34628 | | Shoe, 3" sharp |
| 34355 | 34355 | | Spacer, 3" |
| 34444 | 34428 | | Trash barrel, 3" x 6" |
| NOTE: *(8) = 8 threads per inch shoe and head | | | |
| *(4) = 4 threads per inch shoe and head | | | |



RING-LINED SPLIT BARREL SAMPLER, 3" OD (AKA CALIFORNIA SAMPLER)

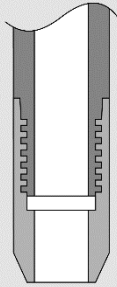
| Part No. | Conn | Description |
|----------|------|------------------------------------|
| 34133 | NW | Split spoon sampler, std, 3" x 18" |
| 34135 | NW | Split spoon sampler, std, 3" x 24" |
| 34371 | NWJ | Split spoon sampler, std, 3" x 18" |
| 34373 | NWJ | Split spoon sampler, std, 3" x 24" |
| 34480 | AWJ | Split spoon sampler, std, 3" x 18" |
| 34134 | AWJ | Split spoon sampler, std, 3" x 24" |
| 34616 | AW | Split spoon sampler, std, 3" x 18" |
| 34498 | AW | Split spoon sampler, std, 3" x 24" |
| 34190 | NW | Split spoon sampler head assembly |
| 34374 | NWJ | Split spoon sampler head assembly |
| 34189 | AWJ | Head assembly |
| 34615 | AW | Head assembly |
| 34427 | | Split barrel, std, 3" x 12" |
| 34165 | | Split barrel, std, 3" x 18" |
| 34166 | | Split barrel, std, 3" x 24" |
| 34146 | | Shoe, 3" |
| 34355 | | Spacer, 3" |
| 34428 | | Trash barrel, 3" x 6" |
| 34230 | | Brass Liner, 2.5" x 6" |
| 34332 | | Plastic Cap 2.5" |
| 34430 | | Brass ring, 2.5" x 1" |
| 34432 | | Soil sample can holds 6/34430 |

NOTE: 1) All samplers are 8 T.P.I.



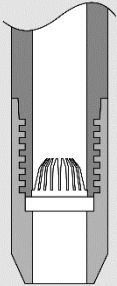


HEAT-TREATED SHOES SPLIT SPOON SAMPLER



| 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" | 4 Thread | 34603 | 2.5" | 4 Thread | N/A |
| 2.5" | 8 Thread | 34145 | 2.5" | 8 Thread | N/A |
| 3" | 4 Thread | 34380 | 3" | 4 Thread | 34645 |
| 3" | 8 Thread | 34146 | 3" | 8 Thread | 34628 |

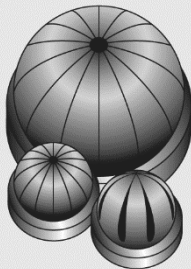
NOTE: 2.5" & 3" Shoes available in 4 TPI



SPRING TYPE SAMPLE RETAINERS

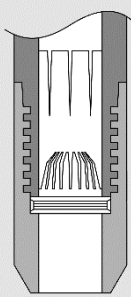
For 2" O.D. Samplers

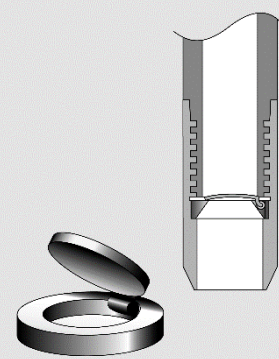
| Size | Springs | Adapter |
|------|---------|---------|
| 2" | 34201 | 34202 |

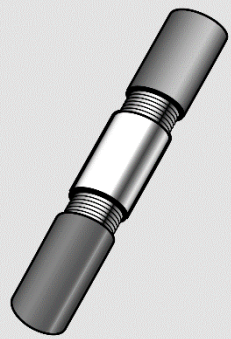


BASKET RETAINER FOR USE IN SPLIT SPOON SAMPLER

| Steel Spring Type | | Plastic Type | |
|-------------------|----------|--------------|----------|
| Size | Part No. | Size | Part No. |
| 2" | 34203 | 2" | 34208-T |
| 2.5" | 34204 | 2.5" | 34472 |
| 3" | 34205 | 3" | 34372 |


|  | L.A.D. SAMPLE RETAINER WITH POLYETHYLENE SLEEVE | | | | | |
|---|--|----------|--------|-------------------|----------------|--------------------------|
| | Size | Assembly | Spring | Retainer Ring Set | | Sleeve Bag Pack of 50 |
| | | | | Top Adapter | Bottom Adapter | |
| | 2" | 34211 | 34201 | 34209 | 34210 | 34212 |

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

|  | EXTENSION COUPLING | |
|---|----------------------------------|----------|
| | Used w/ Standard Sampler O.D. | Part No. |
| | 2" | 34196 |
| | 2.5" | 34197 |
| 3" | 34198 | |



LINER SPLIT SPOON SAMPLER

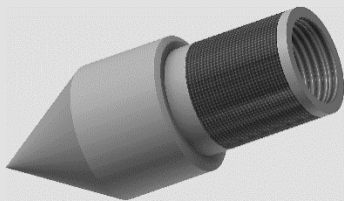
|  | Part No. | Description |
|---|----------|---|
| | 36477 | Brass 1.5" x 3" – for 2" sampler |
| | 34228 | Brass 1.5" x 6" – for 2" sampler |
| | 34229 | Brass 2" x 6" – for 2.5" sampler |
| | 34230 | Brass 2.5" x 6" – for 3" sampler |
| | 34430 | Brass 2.5" x 1" - .042 wall – for 3" sampler |
| | 34432 | Soil sample can w/lid – for 2.5" x 1" liner <i>Note: Holds six 1" liners. 34430 liners not included.</i> |
| | 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 |
| <p>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.</p> | | |

PLASTIC AND VINYL END CAPS



| Part No. | Description |
|----------|------------------|
| 34235 | 1.5" plastic cap |
| 34327 | 2" plastic cap |
| 34332 | 2.5" plastic cap |
| 34418 | 3" vinyl cap |
| 34419 | 5" vinyl cap |

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



TEXAS CONE PENETROMETER POINT

| Part No. | Description |
|----------|--------------------|
| 34318 | NWJ box connection |



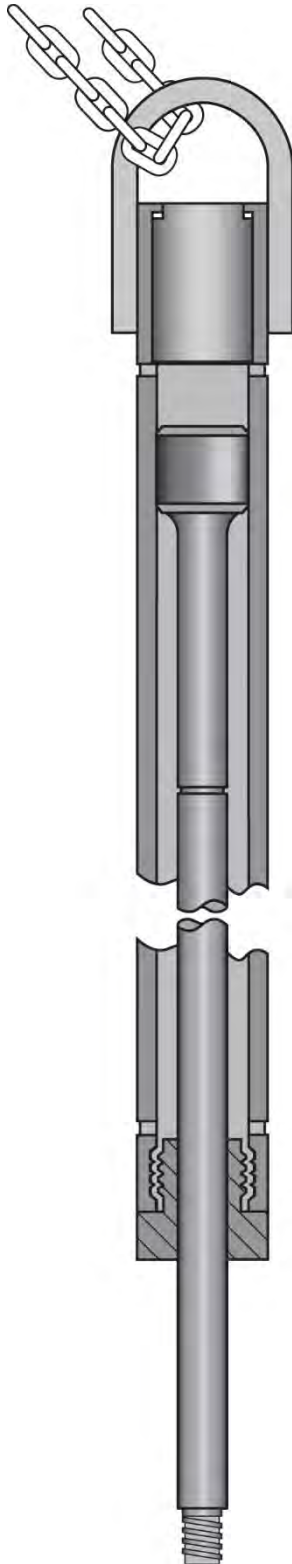
EXPENDABLE POINT PENETROMETER

| 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 |



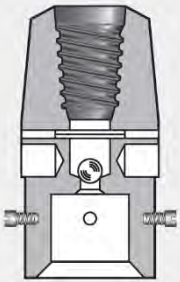

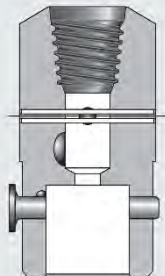

SAFETY HAMMER SUBS

| Part No. | Description |
|----------|----------------------------|
| 30678 | Sub-hammer AW Box A Pin |
| 30679 | Sub-hammer AW Box AW Pin |
| 30680 | Sub-hammer AW box AWJ Pin |
| 30681 | Sub-hammer AW Box BW Pin |
| 30682 | Sub-hammer AW Box BWJ Pin |
| 30683 | Sub-hammer AW Box N4 Pin |
| 30684 | Sub-hammer AW Box N3 Pin |
| 30686 | Sub-hammer AW Box NW Pin |
| 30687 | Sub-hammer AW Box NWJ Pin |
| 30688 | Sub-hammer NW Box A Pin |
| 30689 | Sub-hammer NW Box AW Pin |
| 30690 | Sub-hammer NW Box AWJ Pin |
| 30691 | Sub-hammer NW Box BW Pin |
| 30692 | Sub-hammer NW Box BWJ Pin |
| 30693 | Sub-hammer NW Box N4 Pin |
| 30694 | Sub-hammer NW Box N3 Pin |
| 30696 | Sub-hammer NW Box NW Pin |
| 30697 | Sub-hammer NW Box NWJ Pin |
| 30702 | Sub-hammer AWJ Box AWJ Pin |




SAFETY HAMMER CATHEAD ROPE

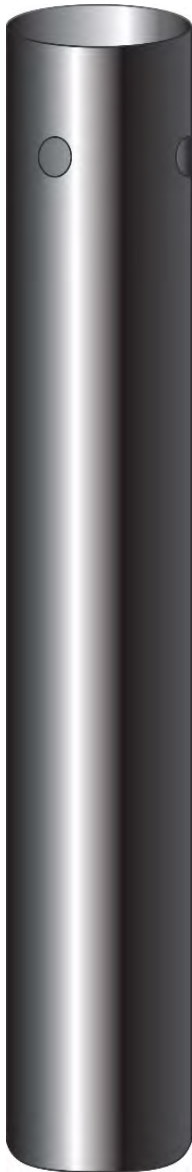
| Part No. | Description |
|----------|--|
| 34352 | Manila rope w/ hook 1" x 65' long |
| 34353 | Manila rope 1" x 65' long w/o hook |
| 69638 | Manila rope 1" diameter (sold by the foot) |



| THIN WALL "SHELBY" TUBE HEADS | | | |
|---|---|--|---|
| Click pin Part No. | Cap Screw Part No. | Conn | Description |
| 34281 | 34240 | AW | 2" head assembly |
| 34282 | 34241 | AWJ | 2" head assembly |
| 34284 | 34243 | AW | 3" head assembly |
| 34285 | 34244 | AWJ | 3" head assembly |
| 34288 | 34247 | NW | 3" head assembly |
| 34289 | 34248 | NWJ | 3" head assembly |
| N/A | 34252 | NWJ | 5" head assembly |
| N/A | 34330 | | Cap Screw 2" head (4 req'd) |
| N/A | 34331 | | Cap Screw 3" head (4 req'd) |
| 34321 | N/A | | Click pin 2" head (1 req'd) |
| 34322 | N/A | | Click pin 3" & 5" head (1 req'd) |
| Note: Heads include four cap screws or one click pin. | | | |
| Cap Screw Head | Cap Screw | Click Pin Head | Click Pin |
|  |  |  |  |



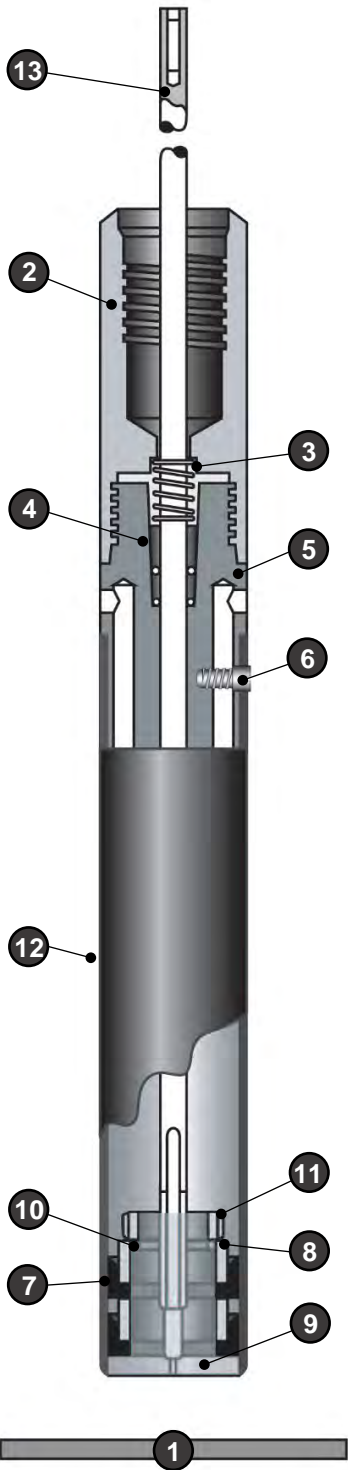
| THIN WALL "SHELBY" TUBES | | |
|---|--|---|
| Part No. Steel | Part No. Galvanized | Description |
| 34253 | 34254 | Tube, 2" x 30", 25/box |
| 34456 | 34457 | Tube, 3" x 24", 12/box |
| 34256 | 34257 | Tube, 3" x 30", 12/box |
| 34265 | 34266 | Tube, 3" x 36", 12/box |
| 34259 | 34260 | Tube, 5" x 30" |
| 34277 | 34278 | Tube, 5" x 54" |
| "SHELBY" TUBE ACCESSORIES | | |
| Part No. | Description | |
| 34327 | Plastic End Cap 2" | |
| 34417 | Vinyl Cap 2" | |
| 34328 | Plastic End Cap 3" | |
| 34418 | Vinyl Cap 3" | |
| 34325 | Soil Seal 3" | |
| 34419 | Vinyl Cap 5" | |
| 34326 | Soil Seal 5" | |
| 34410 | Sealing Wax, 11 pound | |
| Note: Other sizes available on special order. | | |
| Plastic Caps | Soil Seal | Sealing Wax |
|  |  |  |



THICK WALL HD "SHELBY" TUBES, HEADS AND ACCESSORIES

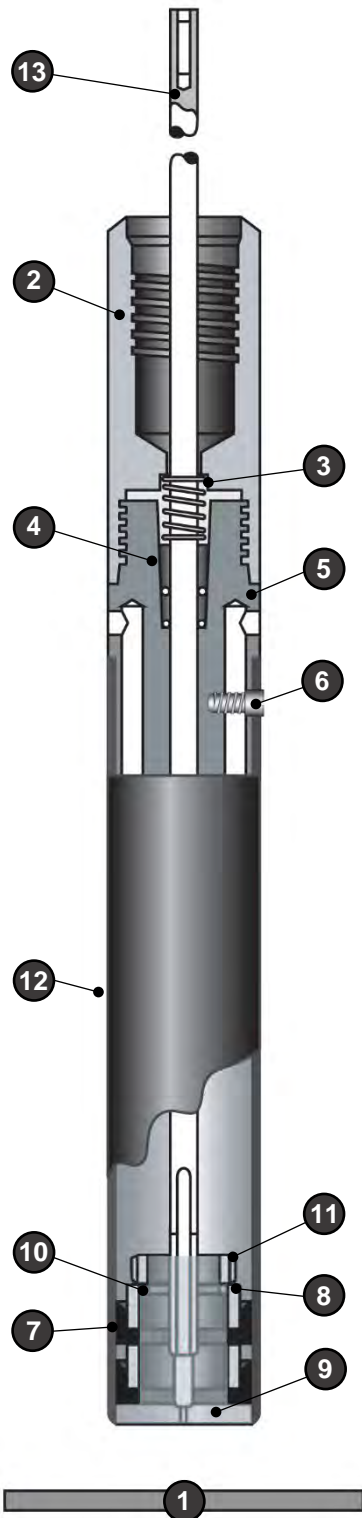
| Part No. | Description |
|----------|---|
| 34319 | Tube, HD 3" x 24", steel, 1/8" wall, 12/box |
| 34320 | Tube, HD 3" x 30", steel, 1/8" wall |
| 34470 | 3" HD NWJ head assembly, click pin style |
| 34471 | 3" HD AWJ head assembly, click pin style |
| 34316 | 3" HD NWJ head assembly, cap screw style |
| 34317 | 3" HD AWJ head assembly, cap screw style |
| 34328 | Plastic cap 3" |
| 34418 | Vinyl cap 3" |
| 34482 | Soil seal 3" HD |
| 34410 | Sealing wax, 11 pound |

| Plastic Caps | Soil Seal | Sealing Wax |
|---|--|---|
|  |  |  |





STATIONARY PISTON SAMPLER – 2 INCH AND ACCESSORIES

| 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) Shelby Tube |
| 2 | 37204 | Head – AW Rod Box |
| 3 | 37205 | Clamp Spring |
| 4 | 37206 | Cone Clamp Assembly |
| 5 | 37207 | Plug |
| 6 | 34330 | 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. |
| | 37249 | Eye Bolt w/shoulder |



STATIONARY PISTON SAMPLER – 3 INCH AND ACCESSORIES

| Ref. No. | 3" O.D. NW 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) Shelby Tube |
| 2 | 37219 | Head – NW Rod Box |
| 3 | 37205 | Clamp Spring |
| 4 | 37206 | Cone Clamp Assembly |
| 5 | 37220 | Plug |
| 6 | 34331 | 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. |
| | 37249 | Eye Bolt w/shoulder |

| STANDARD HAND AUGER | | WINDOWED HAND AUGER | |
|--|--------------------------------|---|---------------------------------------|
| Part No. | Description | Part No. | Description |
| 32465 | 3-1/4" Hand Auger Std Assy | 32444 | 3-1/4" Hand Auger Window Assy |
| 32466* | 3-1/4" Head Std w/ connector | 32470* | 3-1/4" Head Window w/ connector |
| 32467* | Tee Handle w/ connector | 32467* | Tee Handle w/ connector |
| 32468* | 36" Extension w/ connector | 32468* | 36" Extension w/ connector |
| 32489 | 2-1/4" Auger Head w/ connector | 32443 | 2-1/4" Auger Head Window w/ connector |
| 32469 | Quick connector | 32469 | Quick connector |
| * Items included in standard assembly 32465 | | * Items included in window assembly 32444 | |
| <p>Windowed Auger Head Standard Auger Head</p>  | | <p>Standard Assembly with Tee Handle & 36" Extensions</p>  | |

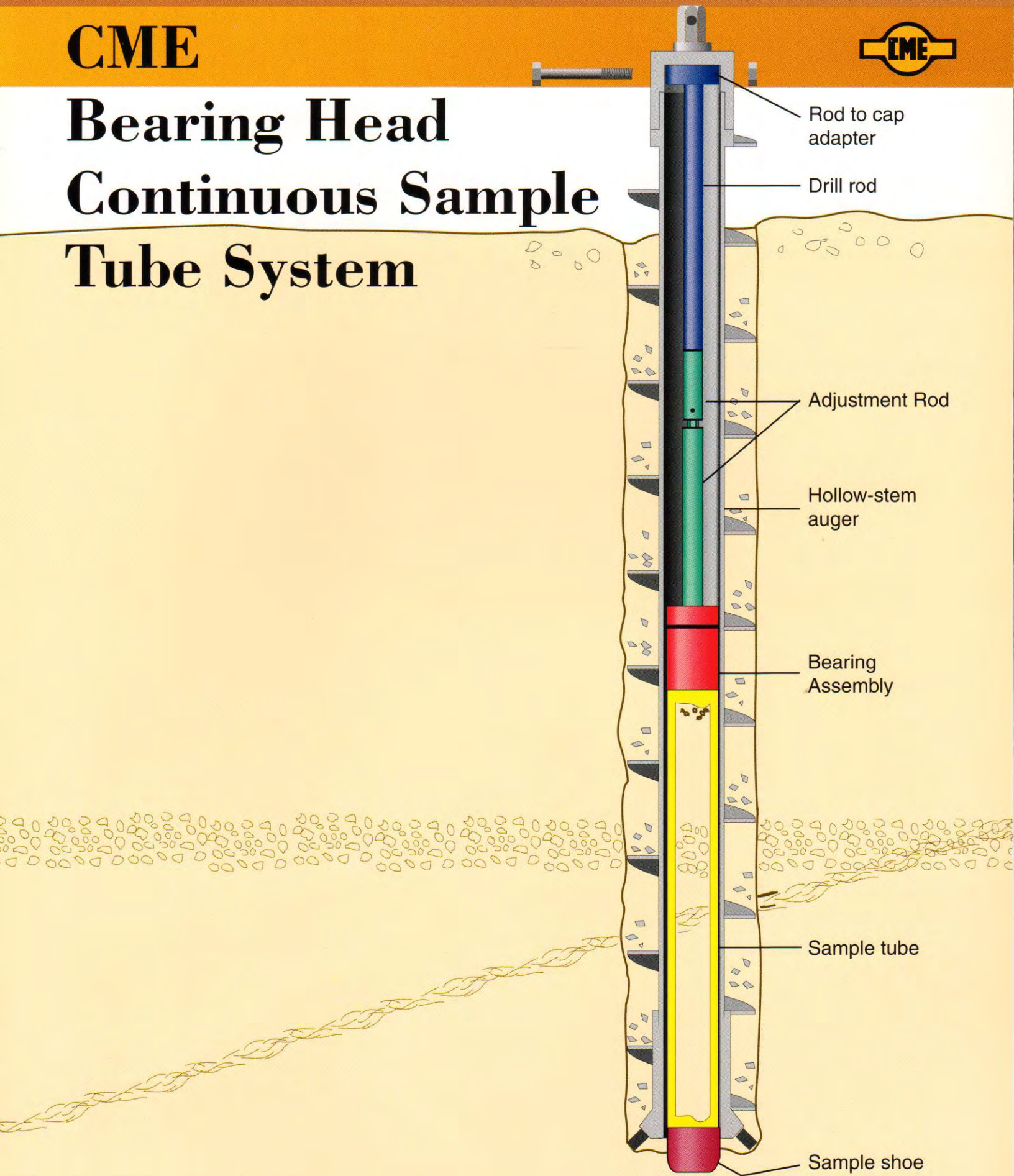


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CME



Bearing Head Continuous Sample Tube System



The CME Bearing Head



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

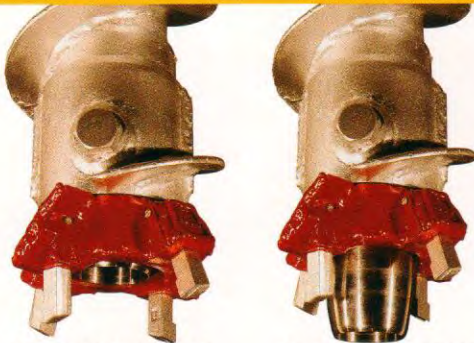
High quality samples

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



Sampler retracted for hard material

Sampler extended for soft material

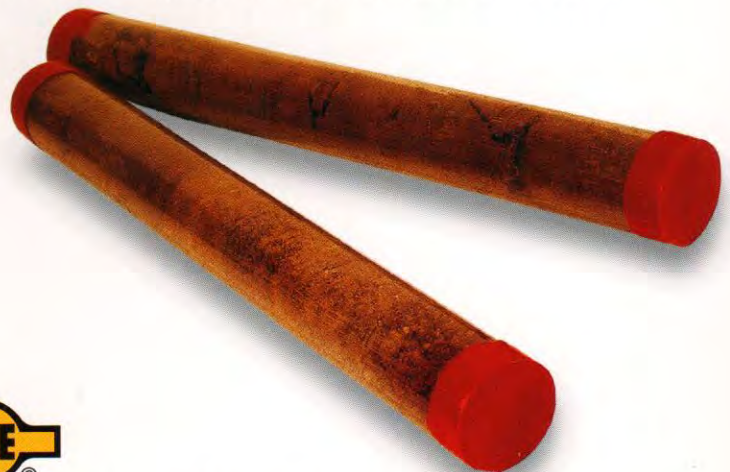
The adjustment rod allows you to adjust the extension of the sample tube. For sampling soft materials, the tube can be positioned beyond the auger teeth. In harder materials, such as shales, it can be positioned behind the auger teeth.

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.

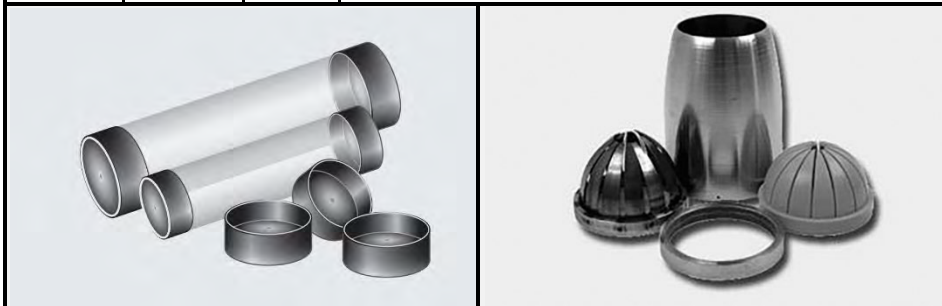


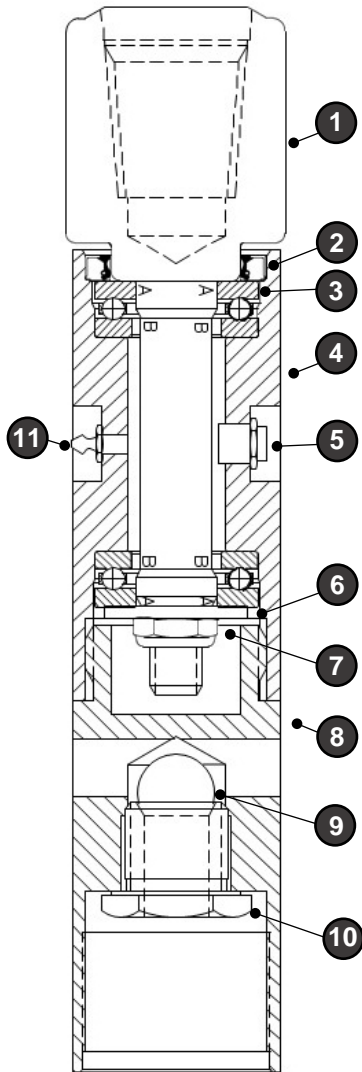
CENTRAL MINE EQUIPMENT COMPANY



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

| Ref. No. | Part No. | HSA | Description |
|----------|----------|-------|--|
| 1 | -- | 2.25" | Adjustment rod (see pg. 4.34 for connections) |
| 2 | 15506 | 2.25" | Bearing head, 2" OD AW RH (see next page) |
| 2 | 15806 | 2.25" | Bearing head, 2" OD AWJ RH (see next page) |
| 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" |
| | 34235 | 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-T | 2.25" | Basket retainer, 2" OD – Plastic |
| | 34203 | 2.25" | Basket retainer, 2" OD - Steel |





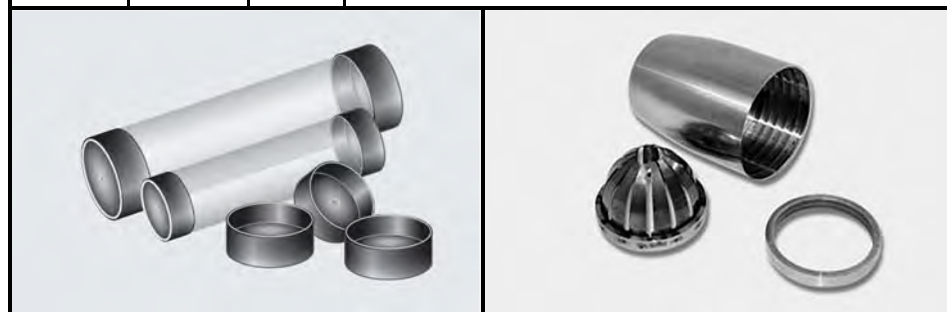
2" BEARING HEADS

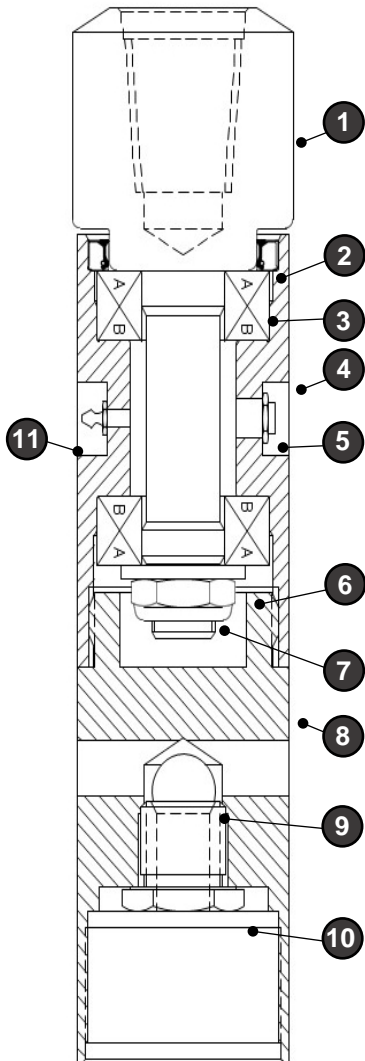
| Ref. No. | Part No. | Qty. | Description |
|----------|-----------|------|-------------------------------------|
| * | 15504 | - | Bearing head assembly 2 O.D. A RH |
| * | 15506 | - | Bearing head assembly 2 O.D. AW RH |
| * | 15806 | - | Bearing head assembly 2 O.D. AWJ RH |
| 1 | 12451 | 1 | Shaft A |
| | 12461 | 1 | Shaft AW |
| | 15807 | 1 | Shaft AWJ |
| 2 | 12454 | 1 | Seal |
| 3 | 12452 | 2 | Bearing |
| 4 | 12450 | 1 | Housing |
| 5 | 41215 | 1 | Breather-relief valve |
| 6 | 66600-050 | 1 | Washer |
| 7 | 66034-050 | 1 | Nut elastic |
| 8 | 12453 | 1 | Tube adaptor |
| 9 | 12035 | 1 | Steel ball |
| 10 | 12390 | 1 | Ball plug |
| 11 | 69582 | 1 | Grease fitting |



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

| Ref. No. | Part No. | HSA | Description |
|----------|----------|-------|--|
| 1 | -- | 2.75" | Adjustment rod (see pg. 4.34 for connections) |
| 2 | 15507 | 2.75" | Bearing head, 2.5" OD AW RH (see next page) |
| 2 | 15553 | 2.75" | Bearing head, 2.5" OD AWJ RH (see next page) |
| 3 | 15510 | 2.75" | Split tube, 2.5" OD x 5' RH |
| 3 | 15735 | 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 |
| | 34472 | 2.75" | Basket retainer, 2.5" OD - Plastic |





2.5" BEARING HEADS

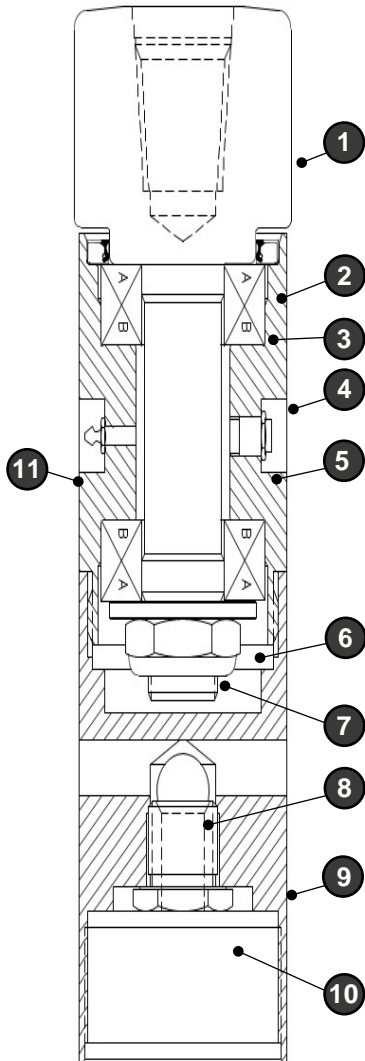
| Ref. No. | Part No. | Qty. | Description |
|----------|-----------|------|---------------------------------------|
| * | 15505 | - | Bearing head assembly 2.5 O.D. A RH |
| * | 15507 | - | Bearing head assembly 2.5 O.D. AW RH |
| * | 15553 | - | Bearing head assembly 2.5 O.D. AWJ RH |
| 1 | 12456 | 1 | Shaft A |
| | 12460 | 1 | Shaft AW |
| | 12485 | 1 | Shaft AWJ |
| 2 | 12459 | 1 | Seal |
| 3 | 12457 | 2 | Bearing |
| 4 | 12455 | 1 | Housing |
| 5 | 41215 | 1 | Breather-relief valve |
| 6 | 66600-075 | 1 | Washer |
| 7 | 66039-075 | 1 | Nut elastic |
| 8 | 12458 | 1 | Tube adaptor |
| 9 | 12035 | 1 | Steel ball |
| 10 | 12390 | 1 | Ball plug |
| 11 | 69582 | 1 | Grease fitting |



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

| Ref. No. | Part No. | HSA | Description |
|----------|----------|-------|--|
| 1 | -- | 3.25" | Adjustment rod (see pg. 4.34 for connections) |
| 2 | 15436 | 3.25" | Bearing head, 3" OD AW RH (see next page) |
| 2 | 15606 | 3.25" | Bearing head, 3" OD AWJ RH (see next page) |
| 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 |





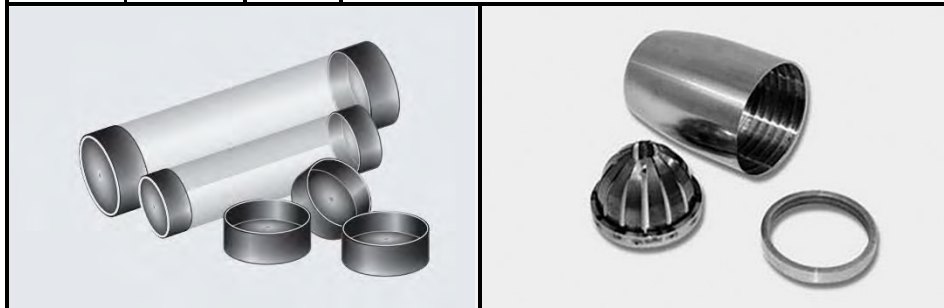
3" BEARING HEADS

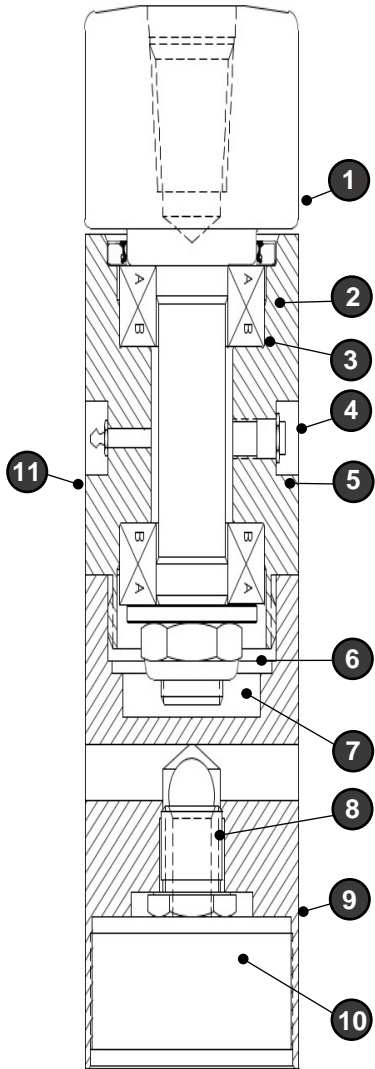
| Ref. No. | Part No. | Qty. | Description |
|----------|-----------|------|-------------------------------------|
| * | 15436 | - | Bearing head assembly 3 O.D. AW RH |
| * | 15606 | - | Bearing head assembly 3 O.D. AWJ RH |
| 1 | 12404 | 1 | Shaft AW |
| | 12690 | 1 | Shaft AWJ |
| 2 | 12405 | 1 | Seal |
| 3 | 12406 | 2 | Bearing |
| 4 | 12407 | 1 | Housing |
| 5 | 41215 | 1 | Breather-relief valve |
| 6 | 12409 | 1 | Washer |
| 7 | 66053-100 | 1 | Nut elastic |
| 8 | 12035 | 1 | Steel ball |
| 9 | 12408 | 1 | Tube adaptor |
| 10 | 12390 | 1 | Ball plug |
| 11 | 69582 | 1 | Grease fitting |



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

| Ref. No. | Part No. | HSA | Description |
|----------|----------|-------|--|
| 1 | -- | 3.75" | Adjustment rod (see pg. 4.34 for connections) |
| 2 | 15400 | 3.75" | Bearing head, 3.5" OD AW RH (see next page) |
| 2 | 15595 | 3.75" | Bearing head, 3.5" OD AWJ RH (see next page) |
| 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 |





3.5" BEARING HEADS

| Ref. No. | Part No. | Qty. | Description |
|----------|-----------|------|---------------------------------------|
| * | 15400 | - | Bearing head assembly 3.5 O.D. AW RH |
| * | 15595 | - | Bearing head assembly 3.5 O.D. AWJ RH |
| 1 | 12410 | 1 | Shaft AW |
| | 12548 | 1 | Shaft AWJ |
| 2 | 12405 | 1 | Seal |
| 3 | 12406 | 2 | Bearing |
| 4 | 12411 | 1 | Housing |
| 5 | 41215 | 1 | Breather-relief valve |
| 6 | 12409 | 1 | Washer |
| 7 | 66053-100 | 1 | Nut elastic |
| 8 | 12035 | 1 | Steel ball |
| 9 | 12412 | 1 | Tube adaptor |
| 10 | 12390 | 1 | Ball plug |
| 11 | 69582 | 1 | Grease fitting |

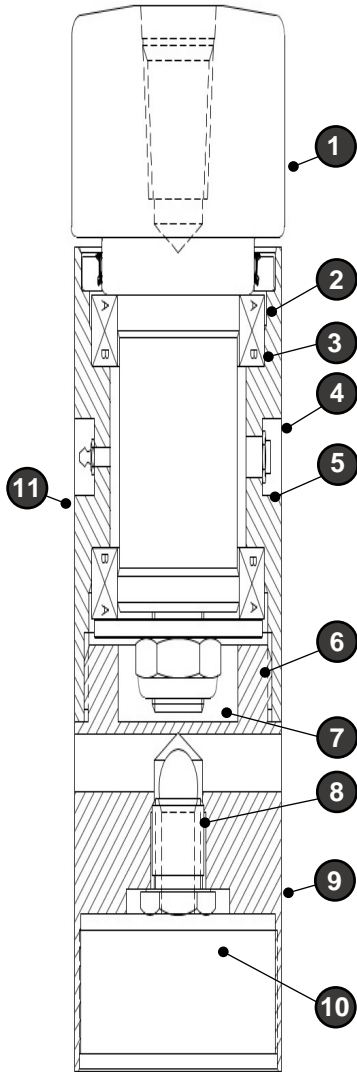


CME 4" BEARING HEAD CONTINUOUS SAMPLE TUBE SYSTEM FOR 4.25" HSA

| Ref. No. | Part No. | HSA | Description |
|----------|----------|-------|--|
| 1 | -- | 4.25" | Adjustment rod (see pg. 4.34 for connections) |
| 2 | 15458 | 4.25" | Bearing head, 4" OD NW RH (see next page) |
| 2 | 15612 | 4.25" | Bearing head, 4" OD NWJ RH (see next page) |
| 2 | 15633 | 4.25" | Bearing head, 4" OD AWJ RH (see next page) |
| 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 |





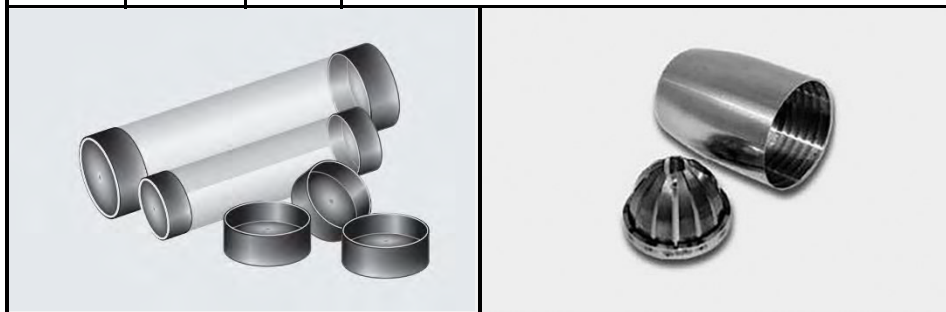


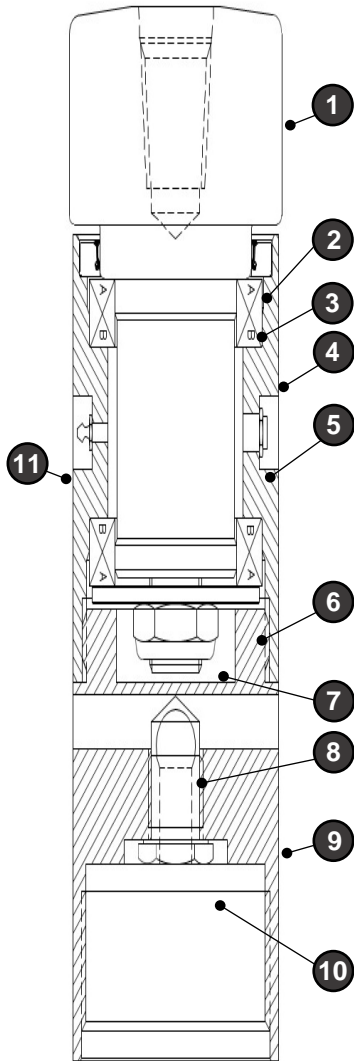
| 4" BEARING HEADS | | | |
|------------------|-----------|------|-------------------------------------|
| Ref. No. | Part No. | Qty. | Description |
| * | 15633 | - | Bearing head assembly 4 O.D. AWJ RH |
| * | 15458 | - | Bearing head assembly 4 O.D. NW RH |
| * | 15612 | - | Bearing head assembly 4 O.D. NWJ RH |
| 1 | 12841 | 1 | Shaft AWJ |
| | 12420 | 1 | Shaft NW |
| | 12844 | 1 | Shaft NWJ |
| 2 | 12421 | 1 | Seal |
| 3 | 12422 | 2 | Bearing |
| 4 | 12423 | 1 | Housing |
| 5 | 41215 | 1 | Breather-relief valve |
| 6 | 12424 | 1 | Washer |
| 7 | 66053-100 | 1 | Nut elastic |
| 8 | 12035 | 1 | Steel ball |
| 9 | 12425 | 1 | Tube adaptor |
| 10 | 12390 | 1 | Ball plug |
| 11 | 69582 | 1 | Grease fitting |



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

| Ref. No. | Part No. | HSA | Description |
|----------|----------|-------|---|
| 1 | -- | 4.25" | Adjustment rod (see pg. 4.34 for connections) |
| 2 | 15802 | 4.25" | Bearing head, HD 4" OD NW RH (see next page) |
| 2 | 15803 | 4.25" | Bearing head, HD 4" OD NWJ RH (see next page) |
| 2 | 15819 | 4.25" | Bearing head, HD 4" OD AWJ RH (see next page) |
| 3 | 15800 | 4.25" | Split tube, HD 4" OD x 5' RH |
| 4 | 15801 | 4.25" | Sample shoe HD for basket retainer, 4" OD 2.63" ID RH |
| | 15135 | 4.25" | Spacer for 15801 shoe |
| | 34206 | 4.25" | Basket retainer, 4" OD - Steel |





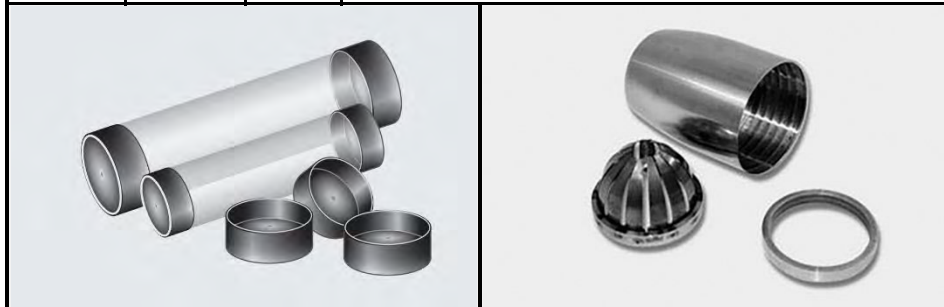
4" BEARING HEADS – HEAVY DUTY

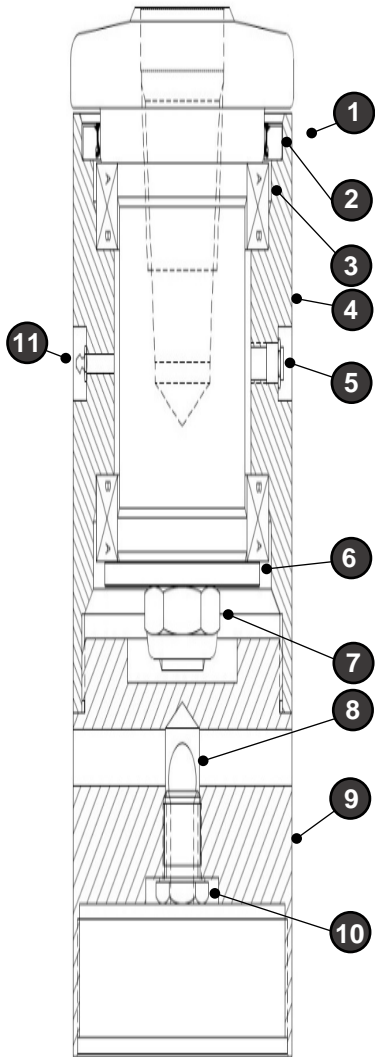
| Ref. No. | Part No. | Qty. | Description |
|----------|-----------|------|--|
| * | 15819 | - | Bearing head assembly 4 O.D. AWJ RH – HD |
| * | 15802 | - | Bearing head assembly 4 O.D. NW RH - HD |
| * | 15803 | - | Bearing head assembly 4 O.D. NWJ RH - HD |
| 1 | 12841 | 1 | Shaft AWJ |
| | 12420 | 1 | Shaft NW |
| | 12844 | 1 | Shaft NWJ |
| 2 | 12421 | 1 | Seal |
| 3 | 12422 | 2 | Bearing |
| 4 | 12423 | 1 | Housing |
| 5 | 41215 | 1 | Breather-relief valve |
| 6 | 12424 | 1 | Washer |
| 7 | 66053-100 | 1 | Nut-elastic |
| 8 | 12035 | 1 | Steel ball |
| 9 | 12877 | 1 | Tube adaptor |
| 10 | 12390 | 1 | Ball plug |
| 11 | 69582 | 1 | Grease fitting |



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

| Ref. No. | Part No. | HSA | Description |
|----------|----------|-------|--|
| 1 | -- | 6.25" | Adjustment rod (see pg. 4.34 for connections) |
| 2 | 15443 | 6.25" | Bearing head, 6" OD NW RH (see next page) |
| 2 | 15820 | 6.25" | Bearing head, 6" OD NWJ RH (see next page) |
| 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 |





6" BEARING HEADS

| Ref. No. | Part No. | Qty. | Description |
|----------|-----------|------|-------------------------------------|
| * | 15443 | - | Bearing head assembly 6 O.D. NW RH |
| * | 15820 | - | Bearing head assembly 6 O.D. NWJ RH |
| 1 | 12388 | 1 | Shaft NW |
| | 15821 | 1 | Shaft NWJ |
| 2 | 12393 | 1 | Seal |
| 3 | 12392 | 2 | Bearing |
| 4 | 12387 | 1 | Housing |
| 5 | 41215 | 1 | Breather-relief valve |
| 6 | 12391 | 1 | Washer |
| 7 | 66039-125 | 1 | Nut elastic |
| 8 | 12035 | 1 | Steel ball |
| 9 | 12389 | 1 | Tube adaptor |
| 10 | 12390 | 1 | Ball plug |
| 11 | 69582 | 1 | Grease fitting |



| ADJUSTMENT ROD BEARING HEAD CONTINUOUS SAMPLE TUBE SYSTEM | | | | |
|--|----------------|-------|-------|-------|
| Pin Connection | Box Connection | | | |
| | AW | AWJ | NW | NWJ |
| AW | 15399 | 15539 | 15544 | 15508 |
| AWJ | -- | 15563 | -- | 15823 |
| NW | 15603 | 15546 | 15448 | 15564 |
| NWJ | -- | -- | -- | 15611 |

CME 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.

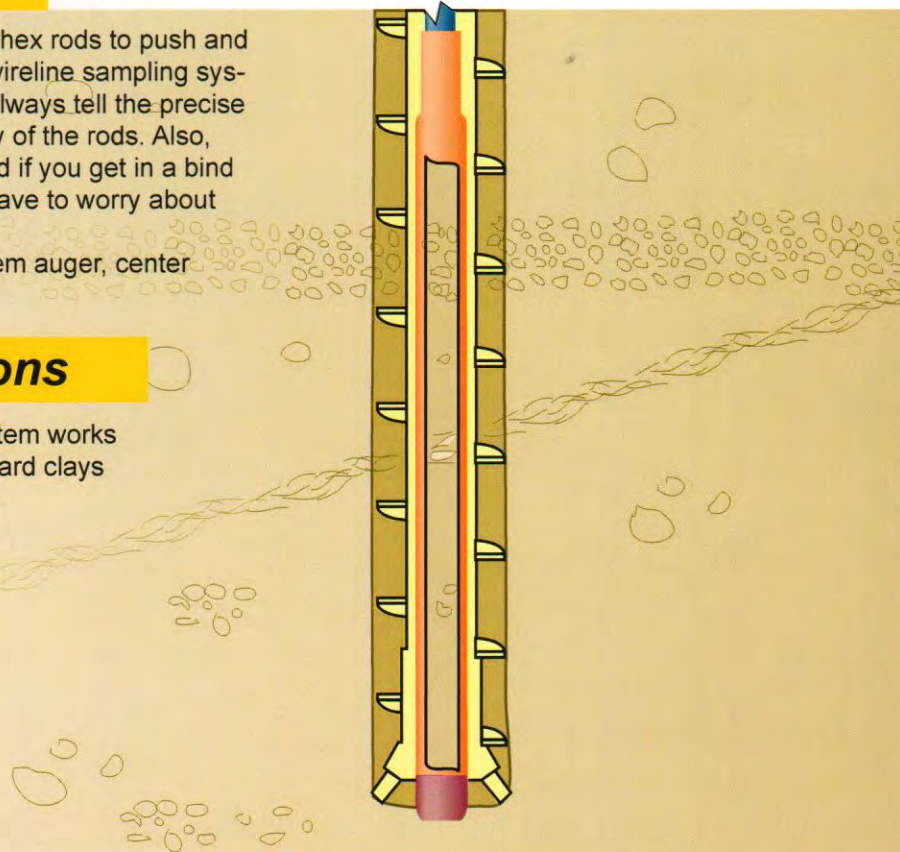
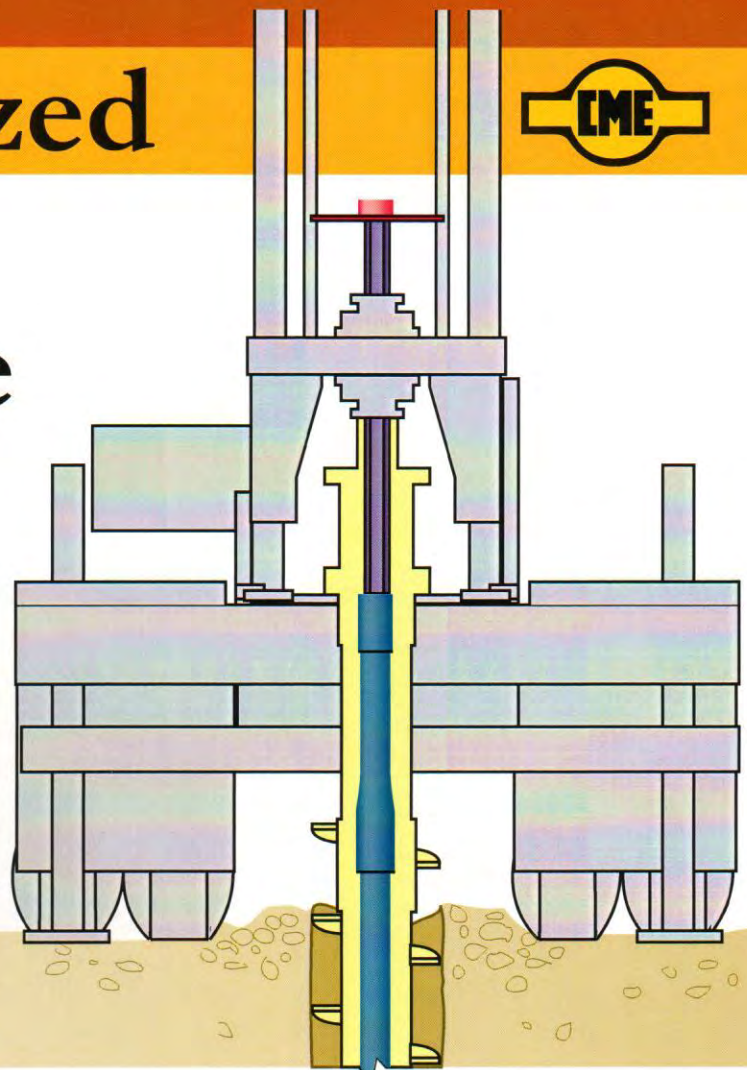
Positive sample retrieval

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 patented 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

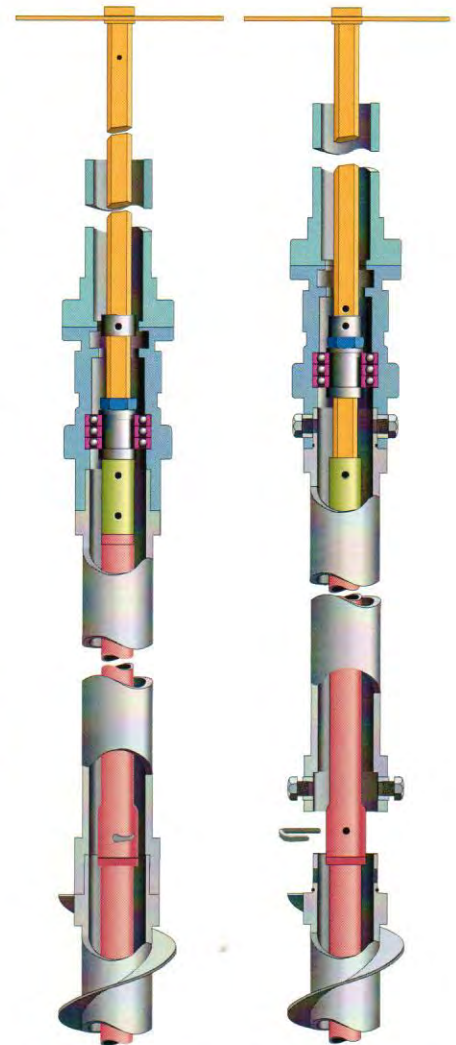
Positively prevents sampler from rotating



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

Bearing assembly in drilling position

Bearing assembly in raised position

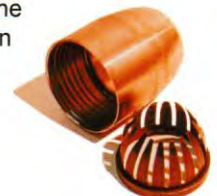
Clear plastic liners available

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 retainer helps contain the specimen within the sampler as it is withdrawn from the bore-hole.



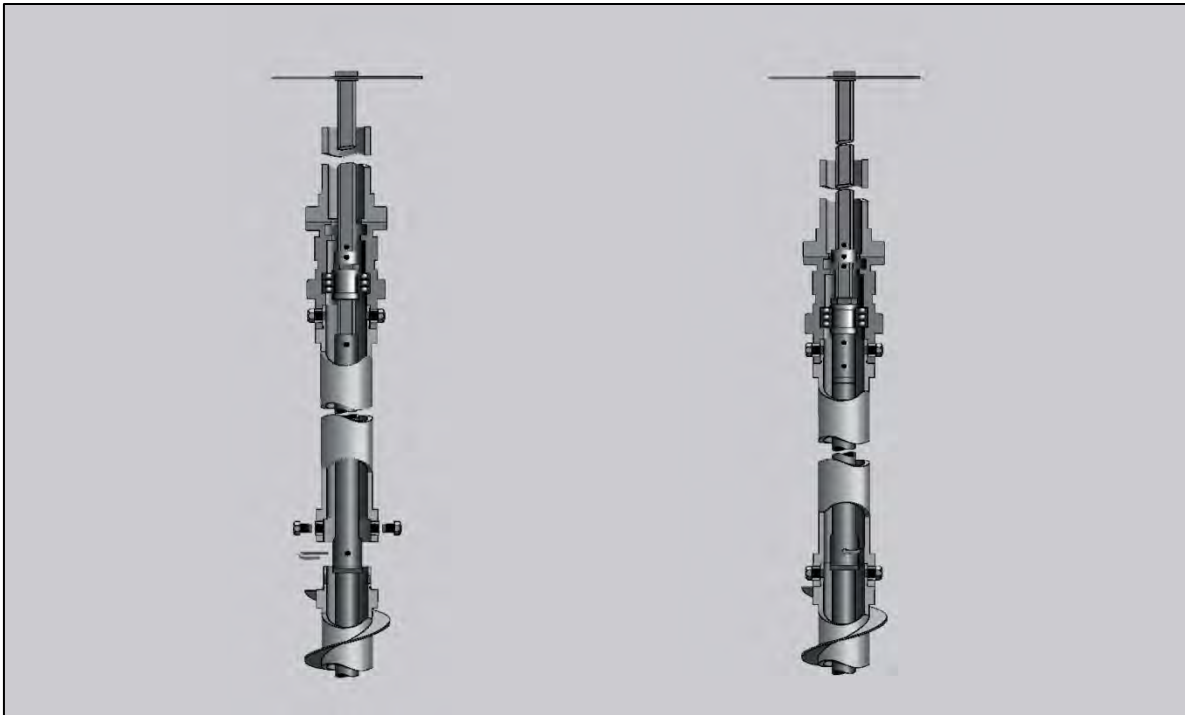
CENTRAL MINE EQUIPMENT COMPANY

4215 Rider Trail North, Earth City (St. Louis), Missouri, 63045 USA
Phone: 314-291-7700 • 1-800-325-8827 • FAX: 314-291-4880

E-mail: info@cmeco.com Website: www.cmeco.com

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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.

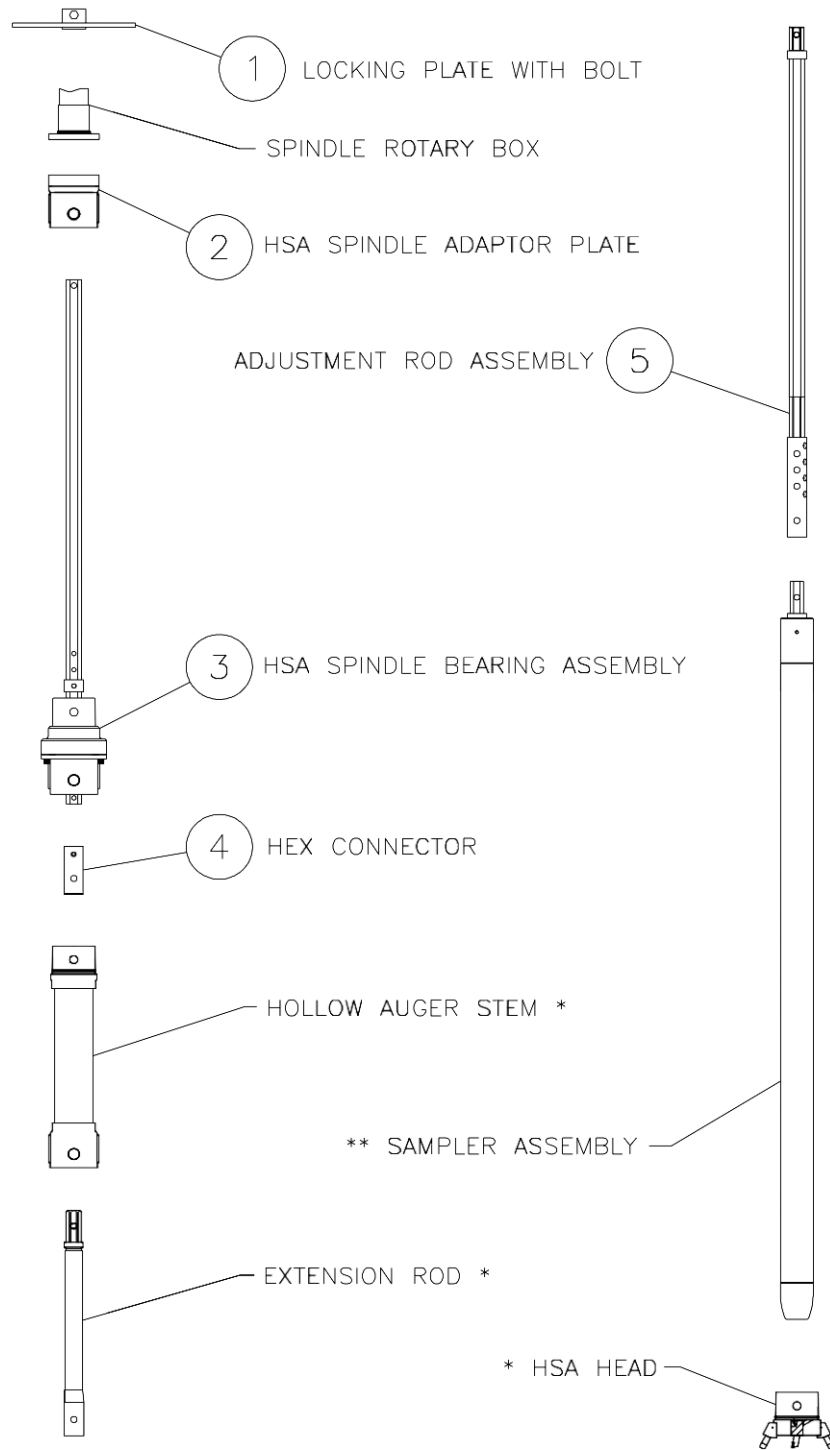
The stabilization of the sample tube, the tube extension adjustments and the clearance ratio of the cutting shoe with the sample tube are all important to sample recovery and sample quality. Tube stabilization has proven to be very important in providing the most consistent and highest quality sample.

The sampler tube is available in several sizes according to the size of the CME hollow augers it is used with. Clear plastic 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.



* REFERENCE AUGER SECTION

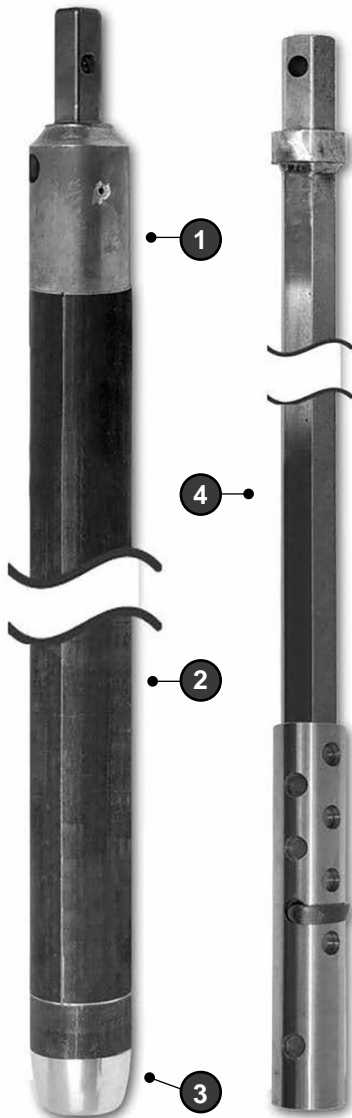
** REFERENCE PAGES 4.38 - 4.44



CME STABILIZED CONTINUOUS SAMPLE TUBE SYSTEM COMPONENTS

| Ref. No. | Part No. | Description |
|----------|----------|--|
| 1 | 15002 | Locking plate with hex bolt 1-5/8" hex-CME 55 |
| 1 | 15003 | Locking plate with hex bolt 1-5/8" hex-CME 75 |
| 2 | 51895 | Locking rod extension for use with Angle Drill |
| 2 | 70495 | Spindle Plate 3.25 STD 2.75" spindle |
| 2 | 73207 | Spindle Plate 3.25 HD 2.75" spindle |
| 2 | 72323 | Spindle Plate 3.75 STD 2.75" spindle |
| 2 | 73217 | Spindle Plate 3.75 HD 2.75" spindle |
| 2 | 72325 | Spindle Plate 4.25 STD 2.75" spindle |
| 2 | 54786 | Spindle Plate 4.25 HD 2.75" spindle |
| 2 | 72333 | Spindle Plate 3.25 STD 3.75" Spindle |
| 2 | 73208 | Spindle Plate 3.25 HD 3.75" Spindle |
| 2 | 72330 | Spindle Plate 3.75 STD 3.75" Spindle |
| 2 | 73213 | Spindle Plate 3.75 HD 3.75" Spindle |
| 2 | 73220 | Spindle Plate 4.25 STD 3.75" Spindle |
| 2 | 73252 | Spindle Plate 4.25 HD 3.75" Spindle |
| 3 | 15001 | Spindle Bearing Assembly 3.25 STD |
| 3 | 15327 | Spindle Bearing Assembly 3.25 HD |
| 3 | 15039 | Spindle Bearing Assembly 3.75 STD |
| 3 | 15336 | Spindle Bearing Assembly 3.75 HD |
| 3 | 15530 | Spindle Bearing Assembly 4.25 STD |
| 3 | 15380 | Spindle Bearing Assembly 4.25 HD |
| 4 | 15027 | Hex connector with roll pin 1-5/8" hex |
| 5 | 15032 | Adjustment rod assembly 1-5/8" hex |

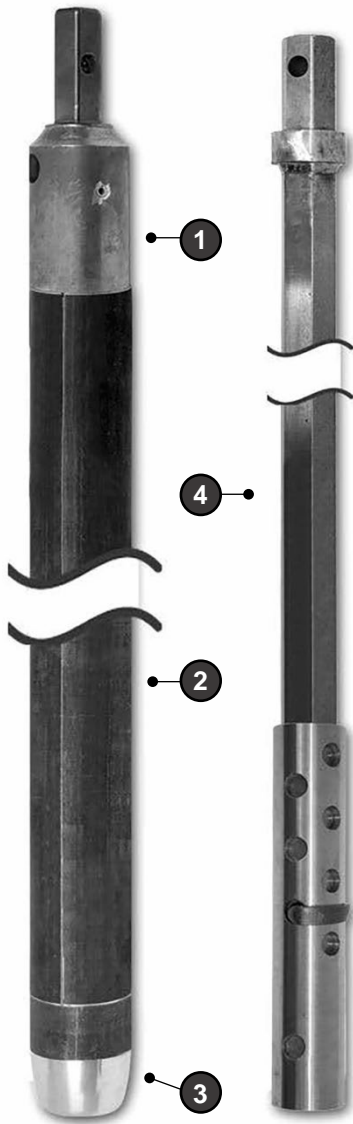
NOTE: Drill stem is to be the same length as the hollow auger stem when using a hollow auger sub. It is to be 6" shorter when not using a sub.



CME 3" STABILIZED CONTINUOUS SAMPLE TUBE SYSTEM FOR 3.25" HSA

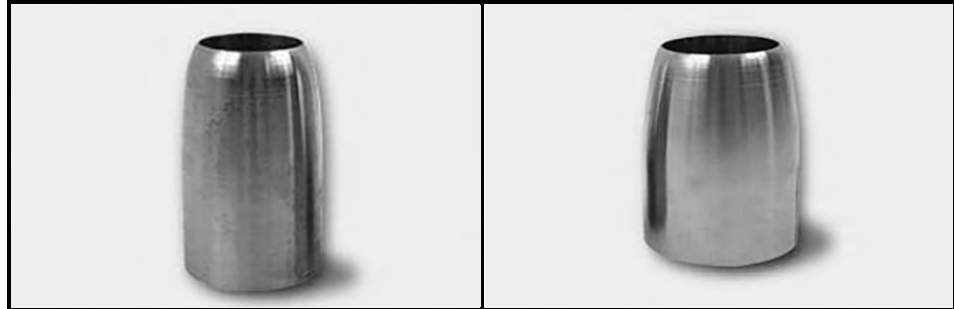
| Ref. No. | Part No. | HSA | Description |
|----------|----------|-------|--|
| 1 | 15038 | 3.25" | Sample tube head assembly, 3" OD 1.625" hex |
| 2 | 15023 | 3.25" | Split tube, 3" OD 2.5" ID x 5' LH |
| 2 | 15560 | 3.25" | Solid tube, 3" OD 2.5" ID x 5' LH |
| 3 | 15024 | 3.25" | Sample shoe, 3" 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 |

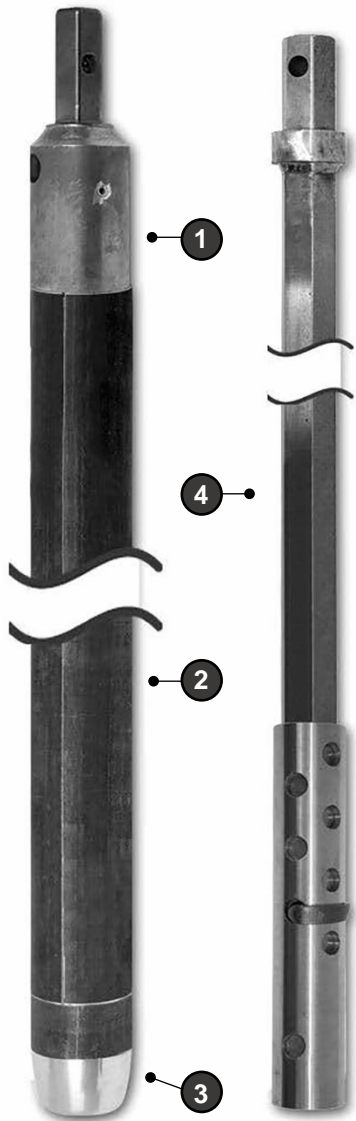




CME 3" HEAVY DUTY STABILIZED CONTINUOUS SAMPLE TUBE SYSTEM FOR 3.25" HSA

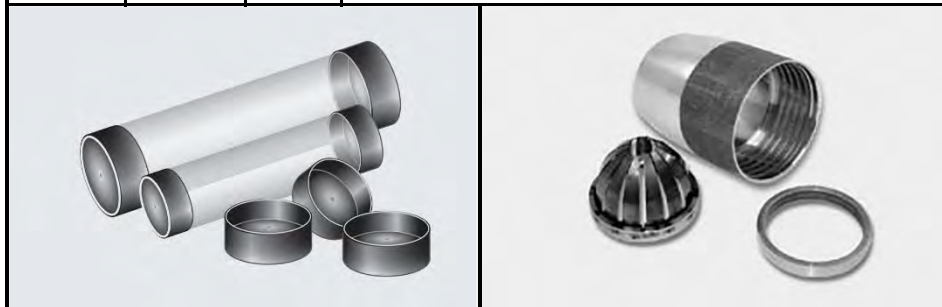
| Ref. No. | Part No. | HSA | Description |
|----------|----------|-------|---|
| 1 | 15767 | 3.25" | Sample tube head assembly, HD 3" OD 1.625" hex LH |
| 2 | 15768 | 3.25" | Split tube, HD 3" OD 2" ID x 5' LH |
| 3 | 15769 | 3.25" | Sample shoe, HD 3" OD 1.75" ID LH |
| 3 | 15770 | 3.25" | Sample shoe, HD 3" OD 1.5" ID LH |
| | 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 |

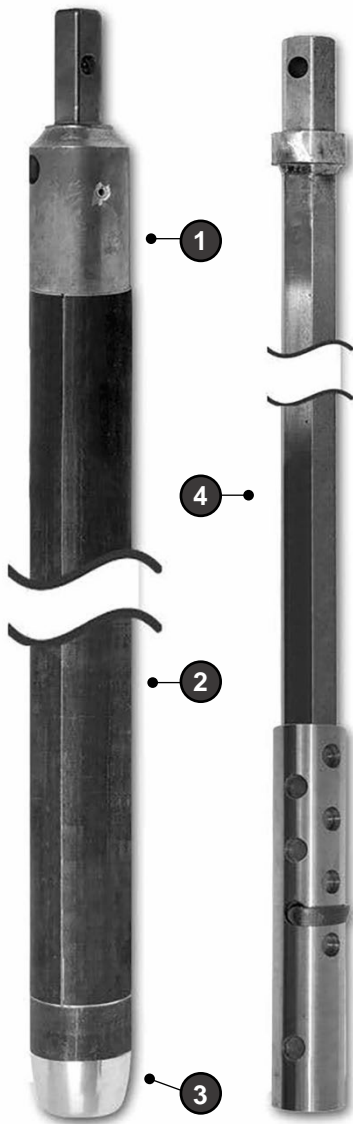




CME 3.5" STABILIZED CONTINUOUS SAMPLE TUBE SYSTEM FOR 3.75" HSA

| 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 |

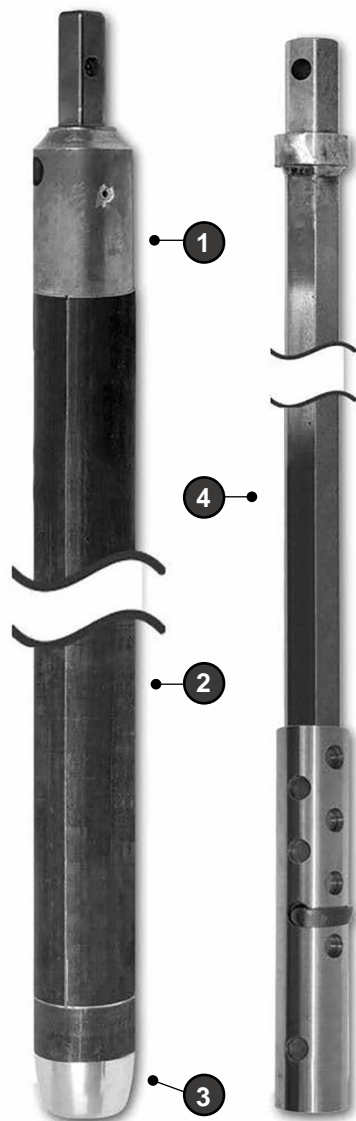




CME 3.5" HEAVY DUTY STABILIZED CONTINUOUS SAMPLE TUBE SYSTEM FOR 3.75" HSA

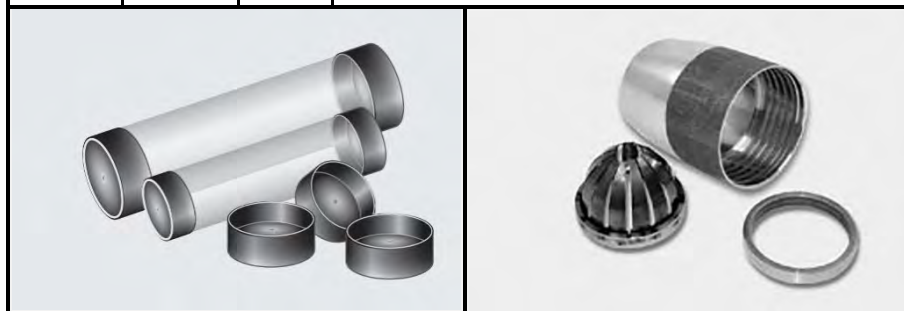
| Ref. No. | Part No. | HSA | Description |
|----------|----------|-------|---|
| 1 | 15696 | 3.75" | Sample tube head assembly, HD 3.5" OD 1.625" hex LH |
| 2 | 15697 | 3.75" | Split tube, HD 3.5" OD 2.5" ID x 5' LH |
| 3 | 15698 | 3.75" | Sample shoe, HD 3.5" OD 2.25" ID LH |
| 3 | 15700 | 3.75" | 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 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 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 |
| | 15135 | 4.25" | Spacer for 15613 shoe |
| | 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 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 |
| 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 |

