

# Wellhead Recovery System

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The wellhead system that fits the  
application.

(Patent Pending)

The concept of this system was brought on by the need to cap casing along with the ability to put back needed tension into the tubing all during a single operation. The uniqueness of the design allows the user to quickly install the head, pack off, test and lock onto the casing along with enabling them to pull tension, set slips and seal off on the tubing relatively in one operation. The unique locking system allows the user to apply pressure around from the outside of the head which energizes the wedge lock ring onto the casing. Once locked on, the head will have very limited upward motion until such time that the tightness overcomes the pressure. The more it tries to move upward the tighter the lock becomes.

The jacking system at this time can be removed if needed and a dry hole cap can be slipped over the bowl assembly to secure the top of the head.

Once the head is secured, a tubing cap can be installed and anchored down to the dry hole cap and at this time the well bore is secured until further work is required.

The tubing cap can be placed on the top of the tubing as far away as needed (4' or better) to allow the tubing to be exposed in order to allow for ease of handling upon return for decompleteing.

All major component pieces have interchangeable bushings to allow them fit a variety of casing/tubing combinations. (13 3/8, 10 3/4, 9 5/8, 7 5/8 casings / 3 1/2, 2 7/8, 2 3/8 tubing's)

# Multiple applications

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- Well bore capping for cementing
- Well bore capping for testing
- Quick loc double wedge locking system
- Interchangeable casing bushings
- Dry hole cap with interchangeable bushings
- Crown cap with interchangeable bushings

# SA Wellhead System

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- Single Annuli
- Multiple tubing sizes
- Multiple casing sizes
- Removable jack assembly
- 90 ton pulling capacity @ 3000psi
- (Patent Pending)



# Conventional Wellhead Adaptable

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- Tensioning jack utilized on conventional wellhead to pull stretch in tubing.
- (Patent Pending)



# Wellhead adapter

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# Lower slip bowl assembly

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- DHCVL capable.
- Hardened interchangeable slip assemblies
- Diver friendly cable handling
- Hold down pins
- Interchangeable slip bowl assembly



# DA Wellhead System

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- Dual annulus head which enables the capacity to work two casings with the same head.
- (Patent Pending)





# DA Casing Centralizer

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- To be utilized before installing the DA head
- (Patent Pending)



# Wellhead Recovery System Basic Operation

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- This head is designed with P & A low pressure completion in mind. It has the ability to be installed quickly and the ability to isolate 1 or 2 zones.
- Installation of the ported centralizers should be installed prior to installing the head for 2 annuli. This will ensure concentric pipe when slipping the head down on the casing. Centralizers will slip down tubing, casing, etc. and into the annuli. They will shoulder out on top of casing.
- The Tensional Jack of this system can be used to push them down if needed.



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- Once centralized, the head is to be slipped over the tubing and set down on the top of the casing. The upper & lower slips can be put in after this is done or left in place as it is being slipped down.

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- Once it sets on the casing, the cylinders should be energized to start pulling the tubing upward with the upper slips and it will push down the head onto the casing until it shoulders out inside of the head.
- At this time you will need to pack off the p-seals in the casing head assy. (use provided packing gun)

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- Once this is accomplished and a test on the seals have been achieved, energizing the lower lock ring screw to lock the head on, must be done at this time.
- You will begin to pull tension on the tubing.
- ) The upper & lower slips work together with the stroke of the cylinders. The cylinders have 18" of stroke in a ratcheting effect to set tension out the tubing and also lock the head down against the shoulder of the head.

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- ) In the event of a tubing collar coming in contact with the lower slips during the process, the slips are able to ride up and out of the bowl. They are split to allow them to open out and around the collar to allow it to pass through the bowl.
- Then it can be reinstalled below the collar to grip the pipe.

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- The seals on the casing head section would need to be packed off w/ liquid o-ring in order to seal on the casing.
- The tension pulling downward will compress the tubing seal. This will seal off the void between the casing and the tubing. This is a specially designed seal which will not over compress regardless of the downward force.

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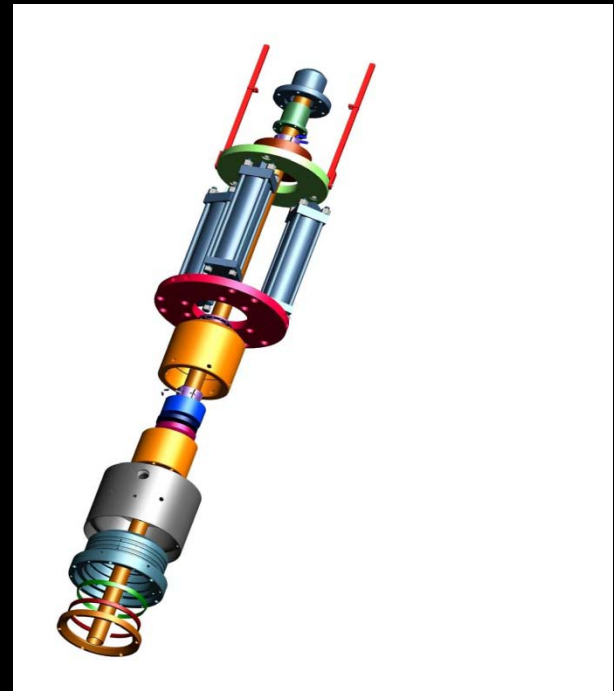
- Once these steps have been done and all seal tests have been performed, P & A operation can begin.



# SA Wellhead 3-D Breakdown

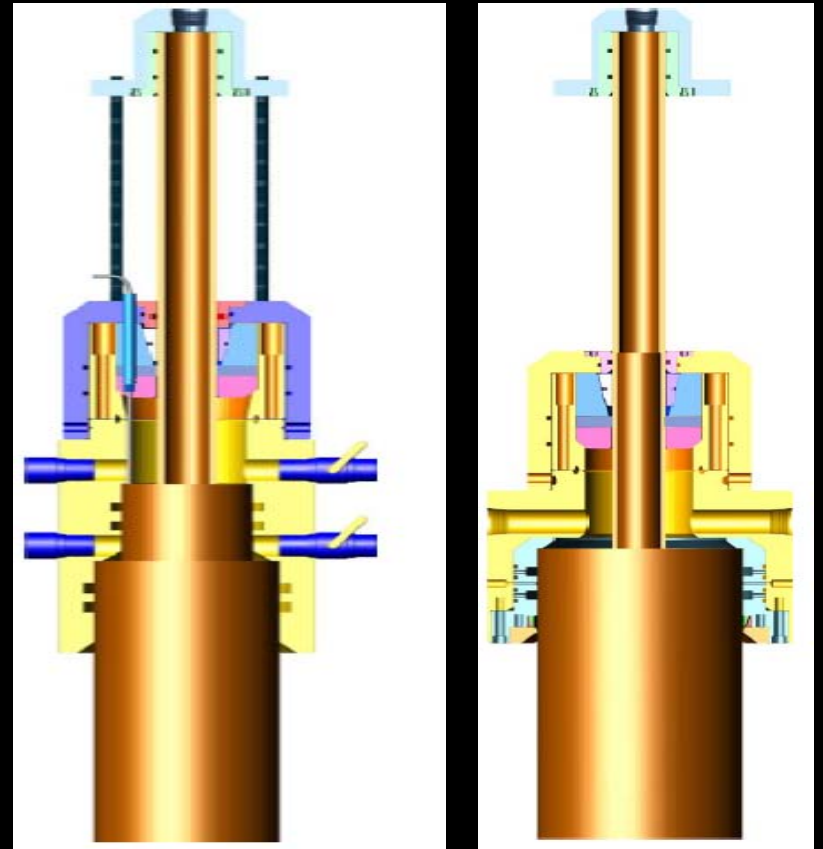
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- SA head with bushings
- Shown complete with all components



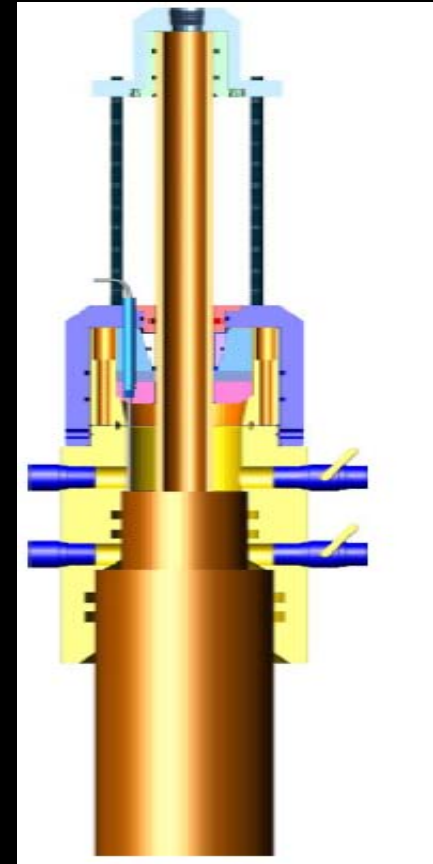
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- DA Head set complete
- Control line terminated through hanger body
- Capable of terminating through side outlet



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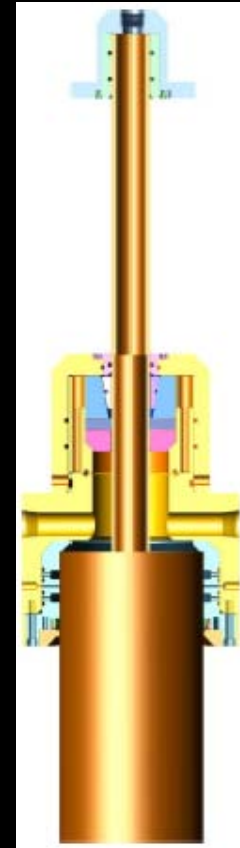
- DA
- Interchangeable bushed bowl and top cap
- Specific casing bottom
- Diver friendly locking top and bottom
- CCL ported thru cap



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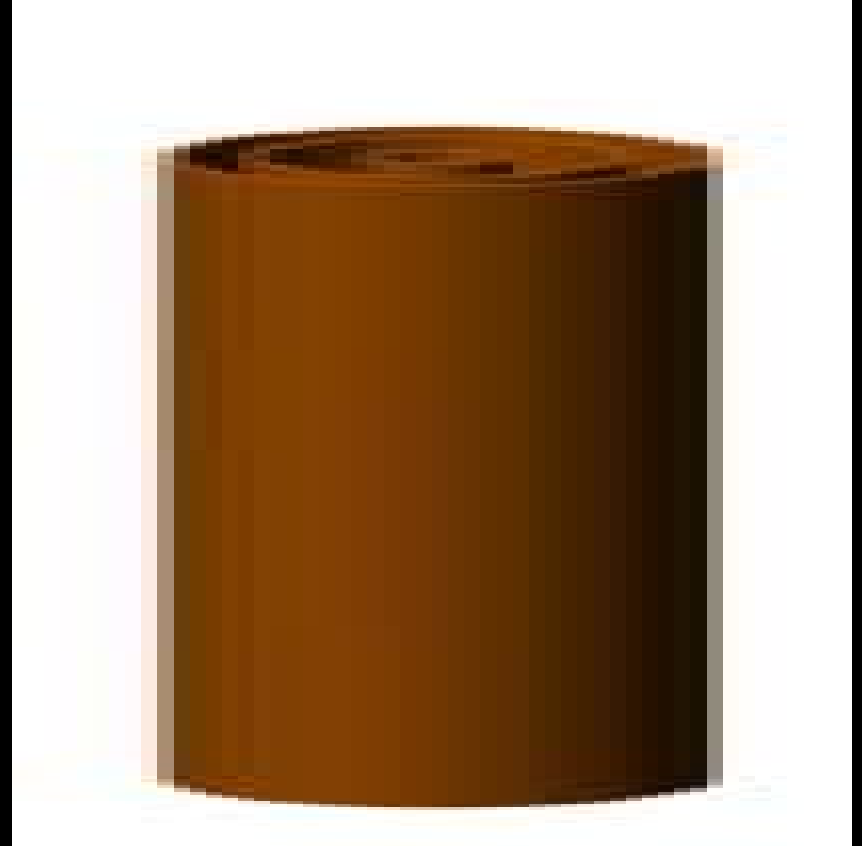
- SA rental head
- Interchangeable bottom bushings
- Interchangeable cap and tubing bushings
- Diver friendly assembly
- CCL same as DA



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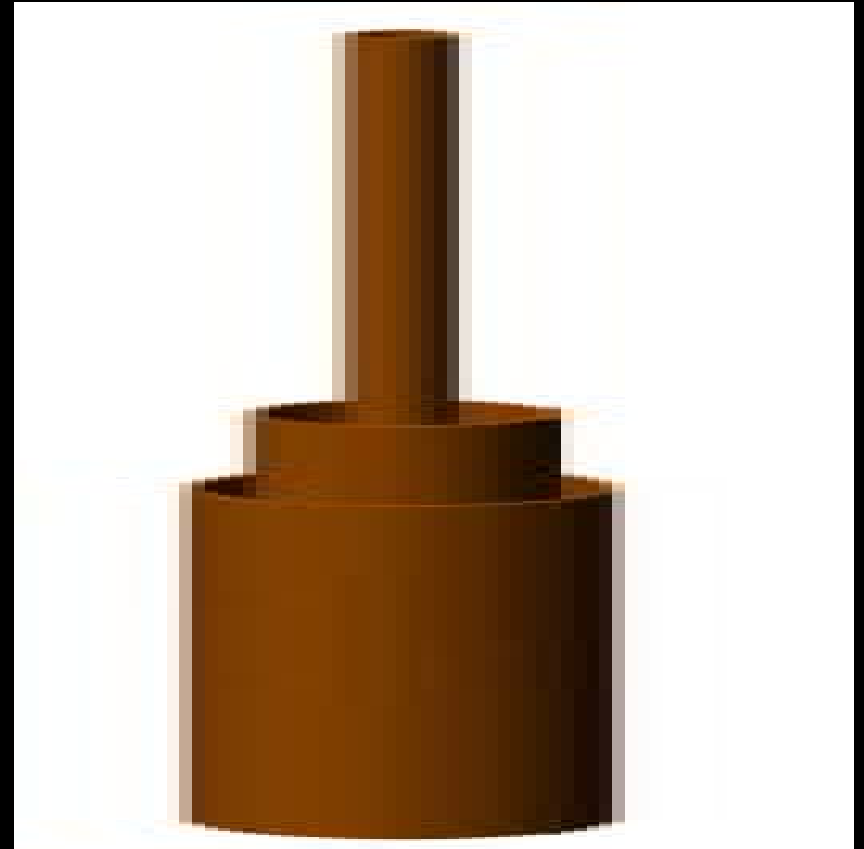
- Casing after diamond wire cutting



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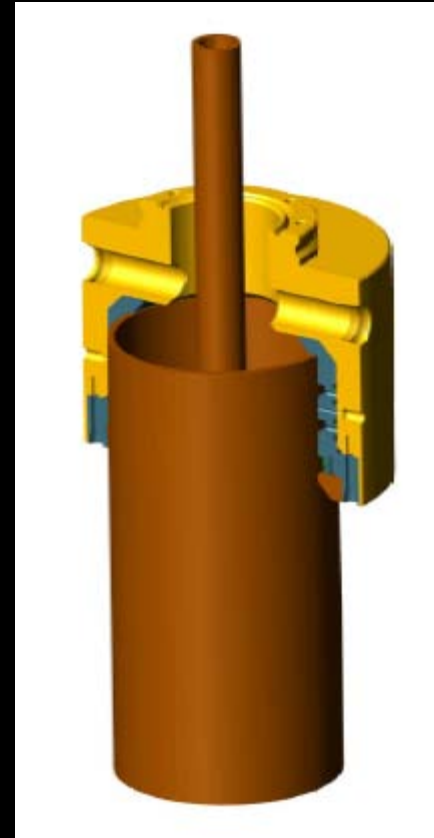
- Wedding caked to predetermined lengths to allow for head installation



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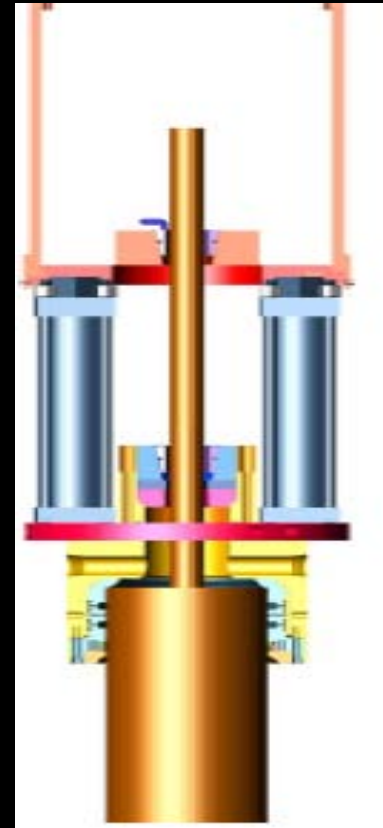
- SA head installed without bowl and hanger



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- SA head with tensioning jacks in place

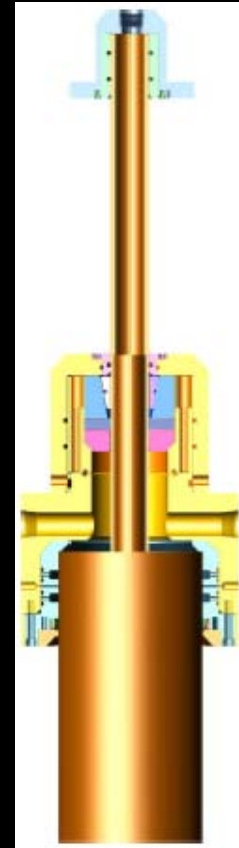




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- SA head completed ready to go to the next well.



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