AZM OILFIELD
Solutions for Oilfield needs

AZM OILFIELD TECHNOLOGIES

WE OFFER COMPLETION TOOLS FOR
OIL AND GAS DRILLING OPERATION

www.azmoilfield.com

Introduction of AZM Group

AZM oilfield Technologies is promoted by a team of highly skilled Oil and Gas sector experts to offer seamless services for Oilfield drilling needs.

AZM has full fledged oilfield tools manufacturing unit which focusses on manufacture of Centralizer, Stop collars, Float equipment, Cement Plugs, Reamer shoe, Completion tools and other downhole tools confirming to API requirements.

We are also the authorized marketing agent for API Certified pipe mills from India, China, Russia, Ukraine, Spain, Singapore and Japan.

Our group has attained an unassailable position of leadership in supply and service and established our reputation as a reliable partner for manufacture and supply of OCTG items, Centralizers, Float Equipment, Completion tools Offering full range of items under one group makes it easy for procurement and drilling team by improving response time ,ensuring faster delivery and execution of every job.

We are working as a de facto procurement department for a number of service companies in Middle east and Africa by executing orders worth 27 million USD in last two years.

What makes AZM different?

AZM oilfield Technologies is promoted by a team of highly skilled Oil and Gas sector experts to offer seamless services for Oilfield drilling needs.

We have a team of Expat Drilling Engineers with more than 100 years of Field experience in Cementing, and Completion operations with top Service providers/Exploration companies in Jordan, Kuwait, Azerbaijan, Abu Dhabi, Iraq, Nigeria and India.
These Technical experts are able to assist you with the correct selection of equipments and best practices for your well based on operational challenges.

Apart from Technical support we also have expert field engineers who can visit your place to assist you with repair , setting and running full range of Completion tools.

Responsiveness and expertise of our technical experts have established our reputation as a reliable partner to go for Completion tools needs.

Our capability to Offer full range of items under one shop with 24 x 7 technicals support makes us stand apart from other manufacturers iby offering solutions for new challenges. It also helps procurement and drilling team by improving response time ,ensuring faster delivery and execution of every job.

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Bridge Plug

AZM Bridge Plug is designed to have excellent running characteristics and securely sets in any grade casing including P-110.

AZM Bridge Plug could be set using various available wireline pressure setting tools and could also be run and set using hydraulic setting tool how ever utilizing the available wireline adaptor kit.

The grey cast iron construction allows rapid drill-out while maintaining sufficient strength when set.

AZM Bridge Plug is rated to 10,000 Psi. Suitable up to 350 F temperature rating.

Assorted elastomers i.e. HNBR, Viton, Aflas are also available for high temperature applications.

APPLICATIONS :-

- Well abandonment
- Temporary and permanent zonal isolation
- Squeeze cementing
- Fracturing

FEATURES :-

- Field-proven design
- Constructed of drillable materials
- Standard packing element rated at 400 F
- One-piece slips
- Top set with shear stud

Bridge Plug

CASING				PLUG		
SIZE (IN)	WEIGHT (LB/FT)	MIN. I.D. (IN.)	MAX. ID. (IN)	PRESSURE RATING (PSI)	O.D. (IN.)	SET FORCE (LB-kg)
2-3/8	4.0 - 5.8	1.780	2.074	10,000	1.750	9,000
2-7/8	6.4 - 6.5	2.340	2.525	10,000	2.220	9,000
3-1/2	5.75 - 10.3	2.867	3.258	10,000	2.750	9,000
4	5.6 - 14.0	3.340	3.732	10,000	3.140	20,000
4-1/2	9.5 - 15.1	3.826	4.090	10,000	3.562	33,000
5	11.5 - 20.8	4.154	4.560	10,000	3.937	33,000
5-1/2	13.0 - 23.0	4.580	5.044	10,000	4.312	33,000
5-3/2	14.0 - 25.2	4.890	5.290	10,000	4.700	33,000
6-5/8	17.0 - 32.0	5.595	6.135	10,000	5.375	50,000
7	17.0 - 35.0	6.000	6.538	10,000	5.687	50,000
7	17.0 - 29.0	6.088	6.629	10,000	5.900	50,000
7-5/8	20.0 - 39.0	6.625	7.125	10,000	6.312	50,000
8-5/8	24.0 - 49.0	7.310	8.097	10,000	7.144	50,000
9-5/8	29.3 - 58.4	8.297	9.083	8,000	8.125	50,000
10-3/4	32.7 - 60.7	9.525	10.325	5,000	9.440	50,000
11-3/4	38.0 - 60.0	10.641	11.284	4,000	10.437	50,000
	60.0 - 83.0	10.368	10.935	4,000	9.937	50,000
13-3/8	48.0 - 84.5	12.202	12.879	3,000	11.880	50,000
16.0	65.0 -118.0	14.576	15.444	2,000	14.125	50,000
18-5/8	87.5	17.480	18.000	2000	17.125	50,000
20	94.0 - 133.0	18.537	19.364	2,000	18.375	50,000

Cement Retainer

AZM Cement Retainer can also be set on tubing/drill pipe/coil tubing using Hydraulic Setting Tool and wireline adapter kit (WLAK).

Opposing slips are carburized wicker type One-piece slips located above and below the rubber packing elements. The slips keep the cement retainer securely set-in high hardness alloy grade casings including P-110.

The packing elements are contained by back-up rings that eliminate extrusion of the elements at high temperatures and pressures.

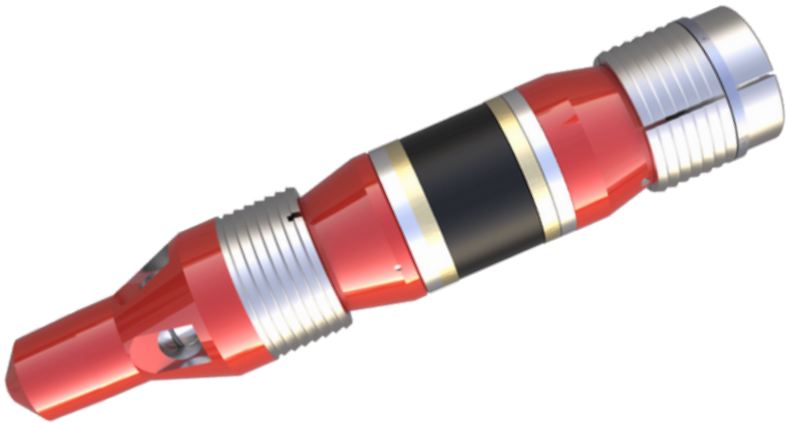
Once set, a stringer is run on tubing/drill pipe or coil tubing in second trip and stung into the Well Secure Cement Retainer.

Squeeze operation can now begin, and the operator controls the two-way valve from the surface to hold the final squeeze pressure under the retainer or test tubing or keep hydrostatic pressure off the squeeze by manipulating the stringer assembly.

Straight pick up closes the valve and set dow weight open the valve. This retainer is ideal for where squeeze cementing operation are being performed

FEATURES :-

- Cast iron drillable design
- Simple, surface-controlled valve automatically close when the stinger is removed
- Converts between mechanical or wireline set by changing top slip
- Components rotationally locked for easy drill out
- Converts to a Bridge Plug
- Temperature rating to 400 ° Fahrenheit



Cement Retainer

Casing				TOOL
OD (in)	Weight (Lbs./ft.)	MIN. I.D. (IN.)	Max. O.D. (in)	Max. O.D. (in)
4-1/2	9.5-15.1	3.826	4.090	3.593
5	11.5-18.0	4.276	4.560	3.937
5.1/2	13.-23.0	4.670	5.118	4.312
5-3/4	14.0-25.2	4.890	5.290	4.700
6-5/8	17-.0-34.5	5.575	6.135	5.375
7	17.0-34.0	6.004	6.538	5.688
7-5/8	20.0-39.0	6.625	7.125	6.312
8-5/8	24.0-49.0	7.511	8.097	7.125
9-5/8	29.3-61.1	8.375	9.063	8.125
40-3/4	32.75-60.7	9.660	10.192	9.440
11-3/4	60.0-83.0	10.192	10.772	9.937
11-3/4	38.0-60.0	10.772	11.150	10.440
13-3/8	48.0-72.0	12.347	12.715	12.000
16	65.0-128.0	14.438	15.250	14.125
18	70.58-87.5	17.088	17.250	16.650
18-5/8	87.5	17.480	18.000	17.125
20	94.0-133.0	18.330	19.124	18.375
30	157-73-.310.0	28.000	29.000	27.500

Hydro-mechanical bridge plug

AZM Hydro-mechanical bridge plug is a drillable, high-pressure plug run on tubing or drillpipe to isolate the lower part of a wellbore.

Hydraulic pressure and tubing tension set the plug. A built-in hydraulic setting tool in the top of the plug sets the top slips. Tubing tension combined with the pressure is applied to complete the setting.

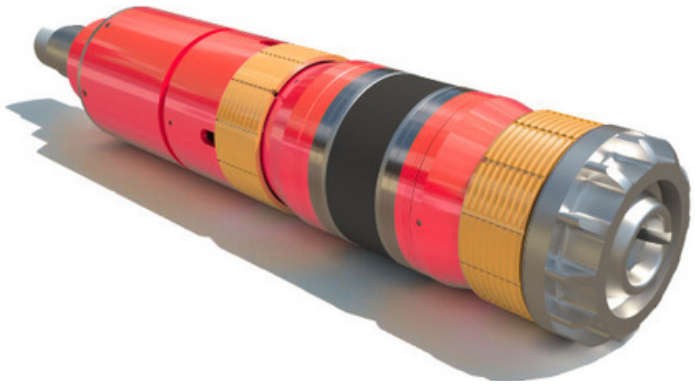
Then the tool automatically shears off for retrieval from the well. Alternatively, right rotation can release the tubing.

APLICATIONS:-

- Deviated and horizontal wells
- Temporary and permanent plugging
- Abandonment

FEATURES :-

- The compact design enables use in deviated wells.
- The full-circle slips provide a large contact area to minimize casing damage.
- The expanding full-circle rings support the plug to prevent element extrusion.
- The shear or rotational release provides options for releasing the plug after deployment.
- Construction with drillable materials enables the plug to be milled or drilled out to save the time and expense of retrieval.



Hydro-mechanical bridge plug

Casing				TOOL
Size	Weight (lb/ft)	MIN. I.D. (IN.)	Max. O.D. (in)	Max. O.D. (in)
4-1/2	9.5 to 15.1	3.826	4.090	3.593
5-1/2	13.0 to 23.0	4.670	5.044	4.312
7	17.0 to 38.0	5.920	6.538	5.688
7-5/8	20.0 to 39.0	6.625	7.125	6.312
9-5/8	29.3 to 61.1	8.375	9.063	8.125
10-3/4	32.8 to 60.7	9.660	10.192	9.437
13-3/8	48.0 to 72.0	12.347	12.715	12.000
20	94.0 to 175.0	18.314	19.124	18.000

Composite Bridge Plug

AZM Composite Bridge Plug (CBP) is a nonmetallic high-quality tool primarily used for temporary isolation in Intervention wells (thrutubing), multi-stage vertical or horizontal completion operations. Comprised of proprietary composite material for use in high temperature applications, the bridge plug can be quickly and easily milled and circulated back to surface.

APPLICATIONS :-

- Temporary or Permanent well abandonment
- Temporary or Permanent zonal isolation
- Operations where rapid removal is desired
- High-Pressure/High-Temperature wells

FEATURES & BENEFITS:-

- Consistent drill times of 30 minutes or less
- Can be set on wireline or coiled tubing using conventional setting tools
- Can be milled or drilled with coiled tubing or a rig
- Positive seal after setting
- Maximum surge potential of formation after perforating
- High differential pressure rating
- Low temp and high temp materials conducive to a wide range of environments
- Setting is done via a universal setting sleeve and adapter

Composite Bridge Plug

Casing Details			Tool Details				
Casing Size (IN.)	**Weight (LBS/FT)**	**Casing ID Range (IN.)**	**OD (IN.)**	**Length (IN.)**	**Setting Tool**	**Maximum Temperature (°F)**	**Maximum Pressure (PSI)**
2-3/8	4.7	1.992 - 1.995	1.75	16.38	#5 WLAK / Long Stroke or Multi Stage Setting Tool	300/400	10,000
2-7/8	6.4 - 7.9	2.32 - 2.44	2.44	17.5			
3-1/2	12.95	2.75	2.5				
	9.3 - 10.2	2.92 - 2.99	2.73				
	7.7	3.07	2.83				
4	9.5 - 11.0	3.48 - 3.55	3.19	23.88	#10 WLAK / Long Stroke or Multi Stage Setting Tool		
4-1/2	18.8 - 20.0	3.64	3.38				
	15.1 - 17.1	3.75 - 3.83	3.44				
	9.5 - 13.5	3.92 - 4.09	3.57				
5	23.2	4.04	3.57				
	11.5 - 18.0	4.28 - 4.56	3.92				
5-1/2	23.0 - 26.8	4.50 - 4.67	4.13	23.8	#20 WLAK / Long Stroke or Multi Stage Setting Tool		
	15.5 - 20.0	4.78 - 4.95	4.3				
	14	5.01	4.6				
7	23.0 - 32.0	6.09 - 6.37	5.75	24			
	17.0 - 20.0	6.46 - 6.54	5.95				
7-5/8	24.0 - 33.7	6.77 - 7.03	6.25				

Wireline Adapter Kit

Wireline Adapter Kit (WLAK) for AZM Cement Retainers and Bridge Plugs is used to set Cement Retainers and Bridge Plugs on electric wireline or with a hydraulic setting assembly on tubing.

The WLAK automatically disconnects from the Bridge Plug during packer setting to be easily retrieved and prepared to run again.

Sizes (In)	Tool OD (inches)	Wireline setting Tool Box Up
4-1/2	3.500	BAKER E-4, #10
5-1/2	4.000	BAKER E-4, #20
7	5.688	BAKER E-4, #20
9-5/8	8.125	BAKER E-4, #20

Mechanical Setting Tool (MST)

AZM Mechanical Setting Tool (MST) is designed to run and mechanically set a Cement Retainer or converted Bridge Plug at any depth on tubing or drill pipe.

AZM MST is used anytime it is advantage to run a Cement Retainer or Bridge Plug on tubing or drill pipe. Cement Retainer can be set, pressure tested and squeezed in a single trip.

AZM MST and Cement Retainer or Bridge Plug are shear pinned together and the slips are held in a retracted position for safer running.

APPLICATIONS :-

- Setting cement retainers or bridge plugs on tubing or drill pipe.
- Squeeze cementing.
- Well abandonment.
- Temporary and permanent zone isolation.

FEATURES :-

- Allows single run for squeeze cementing.
- Locked to cement retainer or bridge plug to avoid premature setting or loss.
- Top slips partially covered to protect from accidental damage and pre- set.
- Will set other manufactures cement retainer and bridge plug.

Mechanical Setting Tool (MST)

CASING		DRAG BLOCK		MST SETTING TOOL	
SIZE (IN)	WEIGHT (LB/FT)	EXPANDED (IN.)	COLLAPSE D (IN)	MIN. I.D. (IN.)	THREAD CONNECTIO
					BOX UP
4-1/2	9.5 - 13.5	4.283	3.750	0.75	2-3/8" EU 8 RD
5.00	18.0 - 21.0	4.375	3.815	0.75	2-3/8" EU 8 RD
	15.0 - 18.0	4.490	4.015	0.75	2-3/8" EU 8 RD
	11.5 - 15.0	4.660	4.230	0.75	2-3/8" EU 8 RD
5-1/2	17.0 - 234.0	5.150	4.500	0.75	2-3/8" EU 8 RD
	13.0 - 17.0	5.250	4.600	0.75	2-3/8" EU 8 RD
6-5/8	24.0 - 32.0	6.355	5.500	1.250	2-7/8" EU 8 RD
7.00	29.0 - 38.0	6.355	5.500	1.250	2-7/8" EU 8 RD
	17.0 - 32.0	6.93	5.920	1.250	2-7/8" EU 8 RD
7-5/8	24.0 - 45.3	7.325	6.370	1.250	2-7/8" EU 8 RD
8-5/8	28,0 - 52.0	8.19	7.235	1.250	2-7/8" EU 8 RD
9-5/8	32.0 - 61.0	9.19	8.235	1.250	2-7/8" EU 8 RD
10-3/4	51.0 - 81.0	10.065	9.110	1.250	2-7/8" EU 8 RD
	32.75 - 60.7	10.425	9.470	1.250	2-7/8" EU 8 RD
11-3/4	38.0 - 65.0	11.5	10.545	1.250	2-7/8" EU 8 RD
13-3/8	48.0 - 72.0	13.45	12.110	1.250	2-7/8" EU 8 RD
16.000	84.0 - 118.0	15.19	14.000	1.250	4-1/2" IF

Hydraulic Setting Tool

AZM Hydraulic Setting Tool can be set on tubing or drillpipe using a wireline adapter kit and a hydraulic setting assembly. These setting assemblies are particularly useful for setting permanent packers in high-angle, deviated wells such as those drilled offshore.

The hydraulic setting tool assembly and packer are run to setting depth on the tubing string and a ball is dropped to the ball seat in the setting tool. Sufficient tubing pressure is then applied to set and pack off the packer.

The pressure or combined pressure and tubing tension, parts the release stud in the adapter kit and frees the setting assembly from the packer for retrieval. The HSThas a bottom connection that accepts common wireline-setting tool adapter kits.

APPLICATIONS: -

- Deviated or horizontal wells
- Large-casing packers
- Wireline-set seal bore packer completions

FEATURES: -

- The HST accepts common wireline adapter kits, enabling it to set all AZM permanent and retrievable seal bore packers
- The HST enables the well to be circulated before the packer is set, preventing debris accumulation
- The heavy-duty HST construction enables the packer assembly to be pushed into place in high-angle and horizontal wells, enabling the packer to be set where wireline deployment is difficult or impractical

Stage Cementing Collar (Hydraulic)

AZM Slim Hole Stage Cementing Collar has been designed for stage cementing applications where the annular spaces dictate the use of a reduced OD stage collar.

The design features two internal sleeves that shift during the stage cementing operations. The bottom sleeve is shifted open hydraulically by increasing the pressure within the casing; opening pressure is field adjustable.

Closing of the stage cementing collar is achieved through the pumping of a closing plug behind second stage cement and applying pressure upon completing displacement. This Type ca also be used in liner applications when the closing plug has been adapted to fit the closing seat in the stage collar.

Stage tool drill-out materials are all PDC drillable aluminum, rubber and phenolic.

Stage Cementing Collar (Hydraulic)

Casing Size	Max Diameter	Weig-ht	Drill out I.D	Overall Length	Opening		Closing		Opening pressure /FREE-FALL DEVICE P.S.I
					Pressure P.S.I	Force L.B.S	Pressure P.S.I	Force L.B.S	
5”	6.125	15-18	4.400	29” (approx)	3000	14,000	1500	25,000	1100
7”	8.275	26-29	6.200	31” (approx)	2600	28,000	1500	57,000	1000
9 5/8”	11.125	43.5-53.5	8.600	32” (approx)	2400	50,000	1500	111,000	1000
13 3/8”	15.000	61-72	12.375	33” (approx)	2100	83,000	1500	19500	900

Stage Cementing Collar (Mechanical)

AZM Mechanical Stage collar allows cementing of casing string in two stages.

These collar set the standard for reliability, cost effectiveness, and ease of use with outstanding built-in features and quality. They are the collars of choice when drilling requirements call for proven technology and low risk.

The compact, simple design minimizes the number of moving parts and makes the tools easier to handle.

The collar's clear opening and closing indications at the surface accommodate the hydraulic conditions of the well for safer, more efficient operations. The internal sleeves increase reliability and prevent premature opening from formation restrictions on applied pressures.

It reduces total pumping pressure in long casing strings.

Stage Cementing Collar (Mechanical)

Casing Size	Max Diameter	Weight	Drill out I.D	Overall Length	Closing		Opening pressure/ Free Fall Device (P.S.I)
					Pressure PSI	Force LBS	
5”	6.125	15-18	4.400	29” (approx)	1500	25,000	1100
7”	8.275	26-29	6.200	31” (approx)	1500	57,000	1000
9 5/8”	11.125	43.5-53.5	8.600	32” (approx)	1500	111,000	1000
13 3/8”	15.000	61-72	12.375	33” (approx)	1500	19500	900

R-Landing Nipple & RN-Landing Nipple

AZM-R Bottom No-Go Non-Ported Landing Nipple is a tubing nipple for use with bottom no-go locking devices only. These Landing Nipples are typically located at the bottom of the tubing string as the last profile, with only a slickline re-entry guide lower in the tubing string. AZM-R nipple locates, seals, and retains flow control accessories that have a bottom no-go locking device.

AZM-RN no-go landing nipples are designed for use in single nipple installations or as the bottom nipple in a series of AZM landing nipples. These landing nipples have the same packing bore ID for a particular tubing size and weight and are designed for use with standard weight tubing.

APPLICATIONS:-

- Used to Land Blanking Plugs.
- Used to Land Injection Valves.
- Used to Land Instrument(Bomb) Hangers.
- Used to Land Check (Standing) Valves.
- Used to Land Chokes.

FEATURES:-

- The Bottom No-Go prevents the loss of wireline tools when they are inadvertently dropped or released during running or retrieving.
- The Bottom No-Go ensures simple and positive landing of wireline tools.

R-Landing Nipple & RN-Landing Nipple

Tubing O D	Seal Bore I D	Min O D Box x Pin Threads
1.66	1.187	1.875
	1.250	
1.9	1.437	2.109
	1.500	
2 1/16	1.562	2.25
	1.625	
2 3/8	1.781	2.56
	1.812	
	1.875	
2 7/8	2.062	3.109
	2.125	
	2.188	
	2.250	
	2.312	
3 1/2	2.562	3.678
	2.750	
	2.812	
4 1/2	3.688	5.2
	3.750	
	3.812	

X-Landing Nipple & XN-Landing Nipple

AZM-X landing nipples are selective by running tool and are run in the well on the completion tubing to provide a specific landing location for subsurface flow control equipment. These landing nipples feature common internal profiles. The AZM-X landing nipple is designed for use in standard weight tubing.

AZM-XN no-go landing nipples are designed for use in single nipple installations or as the bottom nipple in a series of AZM landing nipples. These landing nipples have the same packing bore ID for a particular tubing size and weight. AZM-XN landing nipples are designed for use with standard weight tubing.

APPLICATIONS:-

- Gauge hangers for bottomhole pressure/temperature surveys.
- Positive locator for straddle systems.
- Plugging under pressure.
- Almost unlimited locations for setting and locking subsurface flow controls.

FEATURES:-

- Large bore for minimum restriction.
- Universal nipple with one internal profile .

X-Landing Nipple & XN-Landing Nipple

Tubing O D	Seal Bore I D	Min O D Box x Pin Threads
1.660	1.187	1.875
	1.250	
1.900	1.437	2.109
	1.500	
2 1/16	1.562	2.250
	1.625	
2 3/8	1.781	2.560
	1.812	
	1.875	
2 7/8	2.062	3.109
	2.125	
	2.188	
	2.250	
	2.312	
3 1/2	2.562	3.678
	2.750	
	2.812	
4 1/2	3.688	5.200
	3.750	
	3.812	

R-Lock mandrel & RN-Lock mandrel

AZM R Lock Mandrel is a selective lock which can be installed in the chosen R landing nipple in a series of R nipples. It has retractable keys with straight shoulders and an integrated packing mandrel that allow the tool to lock into a profile nipple and create a seal. This allows the lock to create or hold pressure from above or below based on the equalizing assembly being used.

AZM RN Lock Mandrel is the non-selective version of the R Lock Mandrel. The keys have angled shoulders, and the lock is designed to stop against the No-Go diameter at the bottom of an RN Nipple. The RN lock is used in single installations in the bottom RN nipple in a series of R profile nipples. RN Locks have a higher pressure from above rating than R locks of the same size.

APPLICATIONS:-

- Isolating pressure from either above or below the lock during pressure testing.
- Plugging tubing strings for tubular snubbing operations.
- Restricting and regulating downhole flow.
- Subsurface safety valve systems.

FEATURES:-

- Available in a variety of sizes to work with new and existing R and RN profile nipples.
- Retractable locking keys with angled shoulders that provide reliable locking, and ease of retrieval.
- Compatible with standard weight tubing, ensuring ease of integration into diverse completion setups.

R-Lock mandrel

RN-Lock mandrel

X-Lock mandrel & XN-Lock mandrel

AZM X Lock is a selective lock which can be installed in the chosen X landing nipple in a series of X nipples. It has retractable keys and an integrated packing mandrel that allow the tool to lock into a profile nipple and create a seal. This allows the lock to create or hold pressure from above or below based on the equalizing assembly being used.

AZM XN Lock is the non-selective version of the X lock. The keys have an angled shoulder, and the lock is designed to stop against the No-Go diameter at the bottom of an XN Nipple. The XN lock is used in single installations or installed in the bottom XN nipple in a series of X profile nipples. XN Locks have a higher pressure from above rating than X locks of the same size.

Applications:-

- Isolating pressure from either above or below the lock during pressure testing.
- Plugging tubing strings for tubular snubbing operations.
- Restricting and regulating downhole flow.
- Subsurface safety valve systems.

Features:-

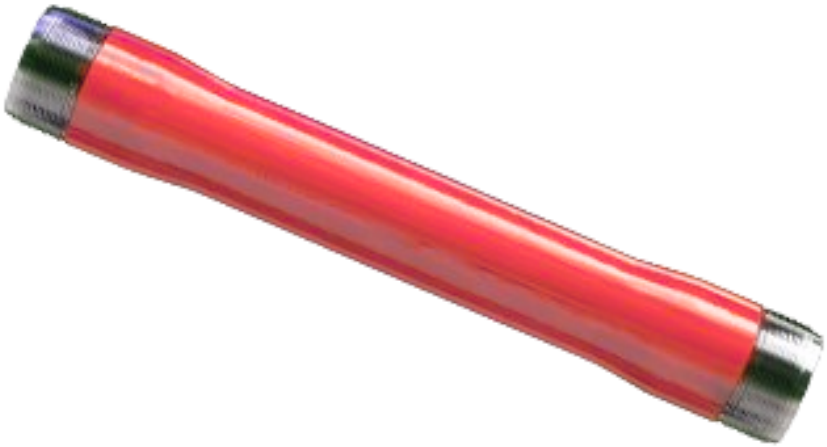
- Available in a variety of sizes to work with new and existing X and XN profile nipples.
- Retractable locking keys that provide reliable locking, and ease of retrieval.
- Compatible with standard weight tubing, ensuring ease of integration into diverse completion setups.

X-Lock mandrel

XN-Lock mandrel

Pup Joint

AZM Pup joints are non-standard lengths of piping used to adjust the height of full length tubing, drill pipe, line pipe, or casing strings. As the drill string, production tubing, or casing is lowered into the well bore a pup joint is added to the pipe string in order to adjust the length of the string to its exact requirements.



Pup joints are offered in either two or five foot increments with custom lengths available on request. They are distinguished by the type of piping they are used with such as casing pup joints, tubing pup joints, or drill pipe pup joints. They are also distinguished by the nominal outside diameter of the pipe itself ranging from 3/4" to 20″ or more dependent on the type of tubular goods they mate with.

Crossover

AZM Crossover sub is mainly used to connect upper and lower drill tools into different connectors in drilling operations. Also, it can be used to protect other tooling in the drill stem (called saver sub) or be used to deliver outgoing air to the bit face just above the bit (called bit sub).

The length of crossover subs is generally measured from shoulder to shoulder. Typical lengths range from 6" - 28" long going up in increments of 2 inches with AISI 4145H, AISI 4145H Mod, AISI 4340, AISI 4140-4142 and Non-magnetic material.

All connections are phosphate-coated or copper-plated to improve resistance to corrosion. Crossover subs come in three basic types: A Pin (male) * Box (female); B Pin (male) * Pin (male); C Box (female) * Box (female)

Flow Coupling

AZM Flow Coupling is a thick-walled section of tubing that minimizes the resultant effect of internal erosion that occurs in a tubing string from changes in the internal cross-section of a flowing well.

These are used to protect the tubing string from the abrasive action of flowing gas or oil when positioned opposite the perforations. It may also be used directly below the well head to protect from the abrasion of doing a hydraulic fracturing operation down the annulus.

Full tubing ID is maintained through the Blast Joint with the OD same as tubing couplings. As standard it is available in API tubing connections.

Length, Connection is available as per requirement

Coupling

AZM API 5CT Couplings A Vital Component in Oil and Gas Industry API 5CT couplings, an integral part of the oil and gas industry's tubing and casing connections, play a crucial role in ensuring the structural integrity and efficient operation of subterranean well systems. The American Petroleum Institute (API) has established a set of rigorous standards, specifically API 5CT, to govern the design, manufacture, and testing of these couplings. API 5CT, or the Specification for Casing and Tubing, is a comprehensive guideline that ensures the quality and performance of tubular goods used in drilling and production operations.

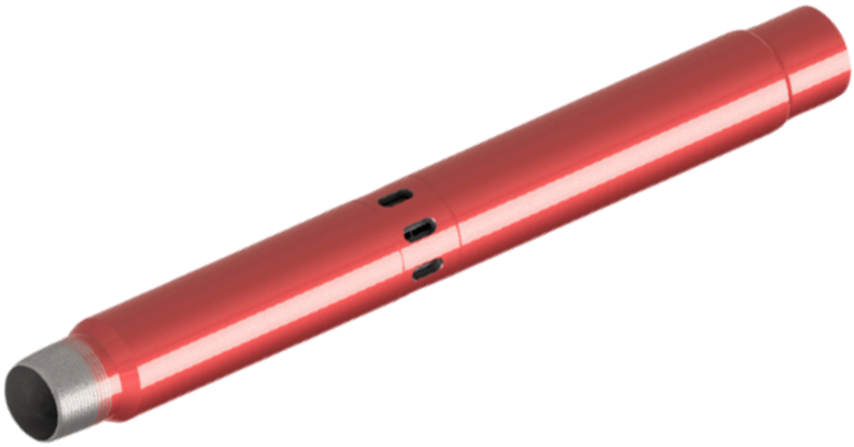
The 'C' in 5CT stands for Casing, which is a large-diameter pipe used to support the wellbore, while 'T' signifies Tubing, which is employed to extract oil or gas from the reservoir. The coupling, connecting these tubes, is a critical element in maintaining the strength and sealing properties of the entire system. API 5CT couplings are designed to withstand extreme conditions, such as high pressure, temperature fluctuations, and mechanical stress. They are manufactured from high-strength steel, providing resistance against corrosion and wear.

These couplings are engineered with precision threads that allow for secure and leak-proof connections, minimizing the risk of well failures. The API 5CT standard specifies several grades of steel for couplings, each with its own mechanical properties tailored to specific well conditions The API 5CT standard specifies several grades of steel for couplings, each with its own mechanical properties tailored to specific well conditions

Sliding sleeve door

AZM sliding sleeve is a downhole tool used to establish communication, when desired, between the tubing and annulus. Selective and /or top No-Go locking devices are available for use with the sleeve. It has seal bores above and below the ports, and a top No-Go shoulder and locking groove.

The sliding sleeve locates, seals and retains flow control accessories that have either top No-Go or selective locks.



Connection is available as per requirement

Hydraulic Set Retrievable Packer

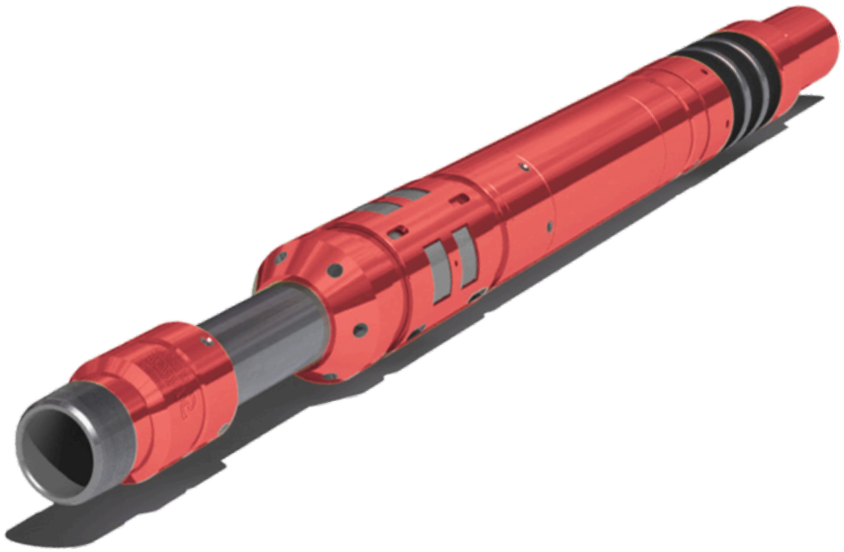
AZM Hydraulic-set retrievable packer is designed for low to medium pressure applications. The short body length makes it ideal for high angle deviations and horizontal applications. This compact, economical packer requires no mandrel movement. Straight pull release, pressure equalization, and shear out features provide quick release and easy retrieval.

APPLICATION:-

- Production, injection, and zonal isolation.
- Single-string selective completions or dual-string completions with multiple packers.
- Deviated wells or other applications when rotation for installation or removal is not beneficial.

FEATURES:-

- No downward mandrel movement makes this tool ideal for stacked packer completions.
- Straight-pull release, adjustable up to 50,000 lb (22,680 kg), eliminates the need to rotate the tubing to release the packer, saving valuable rig time.
- Shear screws, isolated from the hydraulic pressure, require low shear-out force, making the tool easy to release, even at full pressure differential.
- Built-in bypass ports equalize pressure across the packer for easy retrieval.
- Short overall length allows packer to negotiate highly deviated wells and severe doglegs for shorter run-in.
- Highly deviated wells and severe.
- Offshore oil and gas wells with low to medium pressure.



Hydraulic Set Retrievable Packer

CASING		SETTING PRESSURE	MAX. O.D. OF TOOL (IN.)	MIN. I.D. OF TOOL (IN.)
SIZE (IN)	WEIGHT (LB/FT.)	MINIMUM (PSI)		
5.500	14.0 - 17.0	3,500	4.625	1.940
	20.0 - 23.0	3,500	4.500	1.940
6.625	20.0 - 24.0	3,500	5.661	2.375
	24.0 - 28.0	3,500	5.625	2.375
	28.0 – 32.0	3,500	5.438	2.375
7.000	17.0 – 20.0	3,500	6.250	2.375
	17.0 – 20.0	3,500	6.250	2.900
	20.0 - 26.0	3,500	6.000	2.375
	20.0 - 26.0	3,500	6.000	2.900
	23.0 – 29.0	3,500	6.000	2.375
	23.0 – 29.0	3,500	6.000	2.900
	26.0 – 32.0	3,500	5.891	2.375
	26.0 – 32.0	3,500	5.891	2.900

Service Packer (RTTS)

AZM Service Packer consists of a compression set packer with hydraulic hold down that is designed to provide an extra measure of dependability for rugged service.

The hydraulic actuated upper hold down provides more than the usual surface area to assure the packer will not move up the hole.

It is ideally suited for high pressure, high temperature service work. Some unique features of the AZM Service Packer include positive rotational lock on all internal connections, which allow for extreme values of torque (left-and or right- hand) to be transmitted through the packer.

Backup rings on all the o-rings provide for more reliable sealing at high temperature and pressure.

AZM Service Packer also come with extra long top and bottom subs, which allow
for hydraulic tong make-up and break out.

FEATURES :-

- Hydraulic actuated upper hold down lips.
- Positive rotational locks on all internal connections.
- Back-up rings on all the O-rings provide for more reliable sealing at high temperature.
- and high pressure.
- Available with extra-long top and bottom subs allowing hydraulic tong make-up and break-out.

Service Packer (RTTS)

Casing				Packer		
OD (in)	Weight (Lbs.)	Min. I.D. (in)	ax ID (in)	Max OD (in)	Min OD (in)	Standard Thread Connections
4-1/2	15.1-17.7	3.696	3.826	3.593	1.75	2-3/8"I.F.
	11.6-13.5	3.92	4	3.781	1.75	2-3/8"I.F.
5	15-18	4.276	4.408	4.125	1.75	2-3/8"I.F.
	11.5-15	4.408	4.56	4.25	1.75	2-3/8"I.F.
5-1/2	17-23	4.67	4.892	4.5	1.75	2-3/8"I.F.
	13-17	4.892	5.044	4.641	1.75	2-3/8"I.F.
7	38-46.4	5.626	5.92	5.525	2.688	3-1/2"I.F
	32-38	5.92	6.094	5.781	2.688	3-1/2"I.F
	26-32	6.094	6.276	5.954	2.688	3-1/2"I.F
	17-23	6.366	6.538	6.188	2.688	3-1/2"I.F
7-5/8	33.7-39	6.625	6.765	6.453	2.688	3-1/2"I.F
	24-29.7	6.875	7.025	6.67	2.688	3-1/2"I.F
9-5/8	58.4-59.4	8.407	8.435	8.25	3.75	4-1/2"I.F.
	43.5-53.5	8.535	8.755	8.365	3.75	4-1/2"I.F.
	32.3-43.5	8.755	9.001	8.584	3.75	4-1/2"I.F.
10-3/4	71.1-73.2	9.406	9.45	9.125	3.75	4-1/2"I.F.
	51-55.5	9.76	9.85	9.5	3.75	4-1/2"I.F.
11-3/4	60-71	10.586	10.772	10.406	3.75	4-1/2"I.F.
13-3/8	48-77	12.275	12.715	12	3.75	4-1/2"I.F.

Storm Valve

AZM Storm Valve, which is run above the Service Packer, provides a means to isolate the tubing below the packer and disconnect the running string by 10 to 14 turns of left-hand rotation. The running string can be reconnected, and the valve opened to equalize pressure for packer retrieval. The Storm Valve features an expendable plug that provides through-bore access for circulation or wireline passage.

APPLICATION :-

- Weather-related emergencies.
- Wellhead repair.

FEATURES :-

- Valve closes automatically when disconnecting the running string.
- Valve equalizes automatically when reconnecting running string.
- Expendable plug for through-bore access.
- Rugged alloy-steel construction.
- Tool-joint connections.

Storm Valve

Valve Size (In)	Max. O.D. (in.)	in. I.D. (in.)	Standard Thread Connections
4-3/4	4.750	1.490	3-1/2" IF
6-1/8	6.125	2.000	4-1/2" IF
	7.160	2.000	5-1/2" HT55-375

Unloader Valve

AZM Unloader Valve is a high-pressure accessory tool for a compression-set service packer.
AZM allows pressure to equalize above and below the packer before the packer is unset and permits fluid bypass during running in or out of the hole. It can be locked in the open or closed position by a quarter- turn of the pipe. The valve can be equipped with tool joint connections, making it compatible with the RTTS packer.

APPLICATION :-

- High-pressure and high-temperature testing and treating operations.
- Drillstem and production testing.

FEATURES :-

- Can be locked in open or closed position.
- Large bypass area for fluid circulation.
- Tool joint or tubing connections available.
- Top connection keyed to prevent torque overload.
- Unloader seals protected from fluid flow in open position.
- High-strength alloy steel construction.

Unloader Valve

Size (in)	Max OD	Min ID	Standard Thread Connections
2-3/8	3.750	1.750	2-3/8"EU 8 RD
			2-3/8" I.F.
2-7/8	4.118	2.125	2-7/8"EU 8 RD
3-1/2	5.500	2.688	3-1/2" I.F.
4-1/2	7.250	3.750	4-1/2" I.F.

Shear safety joint

AZM shear safety joint enables the positive release of the tubing string in completions with expected retrieval challenges. The joint is used between packers in single, dual, and triple completions. It is also used when rotational release is not wanted.

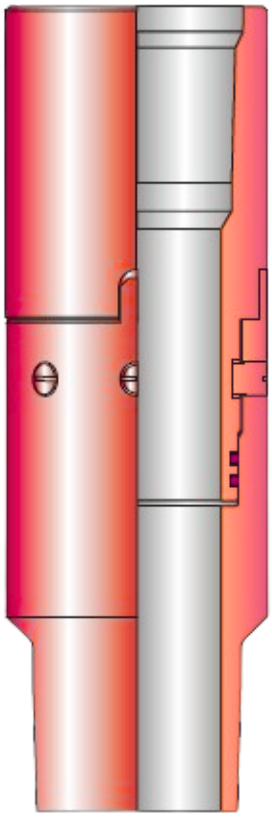
The safety joint is easily adjusted in the field for various straight-pull release shear values. It can also be adjusted to compensate for hydraulic conditions that exist when the string is landed or conditions that are created by well treatment. These safety shear joints are keyed so torque through the tool does not load the shear screws. (Non-keyed versions are also available).

APPLICATIONS:-

- Single, dual, and stacked-packer completions.
- Fracturing, acidizing, and remedial workovers.

FEATURES:-

- The simple design provides a reliable, inexpensive method for straight-pull emergency shear release.
- Easily adjustable shear values compensate for hydraulic conditions.



Mechanical Set Retrievable bridge Plug

AZM Mechanical Set Retrievable bridge Plug is a high pressure plug for multiple zone and selective single
zone operations such as acidizing, fracturing, cementing, and testing.

It features a large internal by-pass to reduce swabbing when running and retrieving. The by-pass closes during the setting of the plug and open prior to releasing the upper slips to equalize pressure when unsetting. The by-pass is located directly below the upper slips to help wash debris when the by-pass is open.

This tool can be set in tension and compression. It can be set shallow in unsupported casing to contain pressure while working on wellhead equipment. It can be set in tension making it ideal for setting shallow to test wellhead equipment and also deep, high pressure wells.

APPLICATION :-

- High-pressure and high-temperature testing and treating operations.
- Storm packer applications.
- Drill stem and production testing.

FEATURES :-

- Heavy-duty mandrel supports high hang-off weights.
- Backup rings on O-rings seal for high pressure and temperature.
- Tool joint connections are standard.
- Rotationally locked end connections for torque transmission.
- Quarter-turn set, pickup unset.
- Standard automatic jay mechanism.

Mechanical Set Retrievable bridge Plug

Casing				Bridge Plug
OD	**Weight**	**Min. I.D**	**Max ID**	**Tool OD**
(In)	(Lbs./ft.)	(in)	(in)	(in)
4-1/2	9.5 - 13.5	3.92	4.09	3.75
5	11.5 - 15.0	4.4	4.56	4.28
	18.0 - 20.8	4.15	4.276	4
5-1/2	20.0 - 23.0	4.67	4.778	4.5
	14.0 - 20.0	4.77	5.004	4.625
6-5/8	24.0 - 32.0	5.67	5.921	5.5
7	26.0 - 32.0	6.09	6.276	5.875
	20.0 - 26.0	6.27	6.456	5.969
7-5/8	24.0 - 29.7	6.87	7.025	6.672
	33.7 - 39.0	6.62	6.765	6.453
8-5/8	28.0 - 40.0	7.72	8.017	7.531
9-5/8	32.3 – 43.5	8.755	9.001	8.5
	43.5 – 53.5	8.535	8.755	8.25
10-3/4	32.75-51.0	9.85	10.192	9.625
	51.0-65.7	9.56	9.85	9.312
11-3/4	42.0-71.0	10.586	11.084	10.375
13-3/8	54.5-77.0	12.275	12.615	12
14	82.5-101.5	12.688	12.876	12.438
16	65.0-109.0	14.688	15.25	14.438
18-5/8	87.5-117.5	17.439	17.775	17
20	133.0-169.0	18.376	18.73	18

Spring Loaded Retrieving Tool

AZM retrieving tool for mechanical set retrievable bridge plug runs and retrieves the mechanical set retrievable bridge plug. A one-quarter left turn at the tool releases the plug.

The field-proven tool design minimizes the risk of its breaking away from the plug during retrieval. The running J-pins can exit the tool only after the spring force is overcome.

FEATURES :-

- Mill-toothed shoe
- Sturdy design
- Left-hand release standard
- Straight Straight set down to re-attach
- Right-hand release available

Connection as per requirment.

Casing Specification	RTMRB Specification
Casing Size	Max. OD (in.)
OD (in.)	
4	3.125
4 1/2	3.75
5	4
5 1/2	4.5
6 5/8	5.438
7	5.875
7 5/8	6.25
8 5/8	7.5
9 5/8	8
10 3/4	9.312
11 3/4	10.37
13 3/8	11.75

FH Packer

AZM FH is the industry-standard, hydrostatic-set and shear-release single-string retrievable packer. It can be used in the following applications: production, injection, and zonal isolation; single-string selective completions or dual-string completions with multiple packers; deviated wells or other applications when rotation for installation or removal is not beneficial; when it is beneficial to displace and set packers after the well is flanged up; when testing the tubing string before packer setting or to independently set and test individual packers in multiplepacker completions is beneficial.

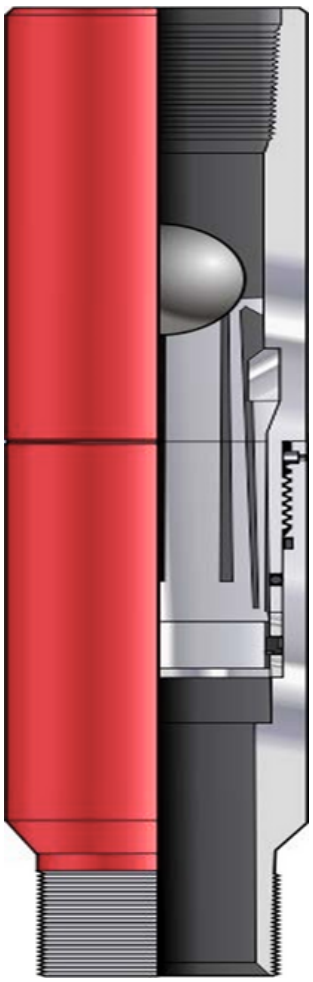
The FH packer is hydraulically activated by applying tubing pressure against a plugging device below the packer. The packer requires only straight pull to release.

The FH is the large-bore version of the FH packer. Features, advantages and operational procedures are the same as those for the FH packers

Hydro Trip Pressure Sub

The AZM Hydro Trip Pressure Sub features a ball seat design that assures expansion of the collet-type fingers into their groove in the top sub once the brass screws are sheared permitting a full-opening ID for passage of tripping balls, wireline tools, etc. The Model Hydro-Trip Pressure Sub is installed in the tubing string below a hydraulically actuated tool such as a hydrostatic packer to provide a method of applying the tubing pressure required to activate the tool.

To set a hydraulic / hydrostatic packer, the recommended size tripping ball is circulated through the packer to a seat in the Hydro-Trip Pressure Sub and sufficient tubing pressure is applied to activate the setting mechanism in the packer. After the packer is set, a pressure increase shears the brass screws and forces the ball seat down until the fingers snap into a groove in the top sub. The Hydro-Trip Pressure Sub is then full-opening, and the ball passes down through the tubing.



Pump Out Plug (POP)

AZM Pump Out Plug: It is used as tubing plugging device simultaneously allows hanging more tubing string down the line as per requirement this is made up with the tail pipe below the packer to be set. The ball seat and the ball with spring etc., are blown out of the sub to the bottom of the well without dropping a ball to seal.

The tubing can be pressured up tubing below the plug should have sufficient I.D clearance to permit passage of the ball, ball seat, spring etc.

Electric Submersible Pump (ESP) Packer

The ESP Packer with revolutionary patent pending features that will give you 100% peace of mind that your well integrity is secure every time.

The ESP Packer is specifically designed to meet client needs and expectations and is available in multiple configurations, materials, pressure ratings to fit all casing sizes and well environments.

Casing Scraper

Conventional Standard Casing Scraper is ideal for the removal of dirt which maybe let over the inside wall of casing such as solid cement, hard wax, various salt crystals or deposits,perforation burs,iron oxide residues resulted from rusting, so as to make all down hole tools pass through unblocked.

Especially when a small circular clearance is available between the down hole tools and casing inside diameter, the complete scrapping becomes more necessary before further working.

At present in the large petroleum well crapping in the internal wall of casing by use of casing scraper is a necessary step

Casing Brush

AZM Casing Brush is a robust, 360° free rotating contact, wellbore clean-up tool and can be run individually or modularly as part of the Wellbore Clean-Up System.

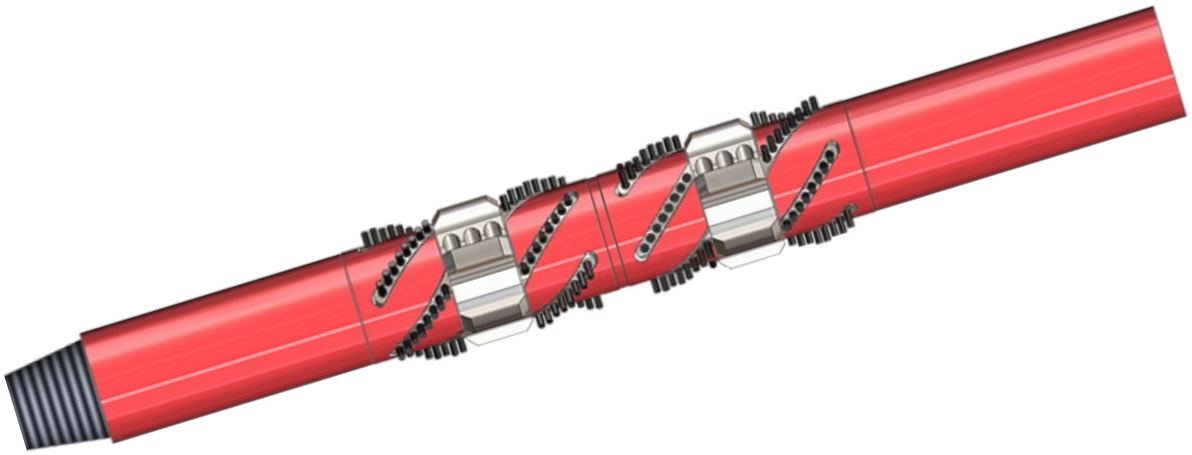
The Casing Brush can be adapted to suit any casing size and drill pipe combination.

APPLICATIONS:

- Wellbore Clean Up
- Drilling
- Fishing
- Completions

FEATURES:

- High fluid bypass to allow debris to flow past the stabilizers and brush sleeve.
- Brushes give optimum shearing action with the least amount of restriction to returning well fluid.
- Sizes also available for risers and completion liners.

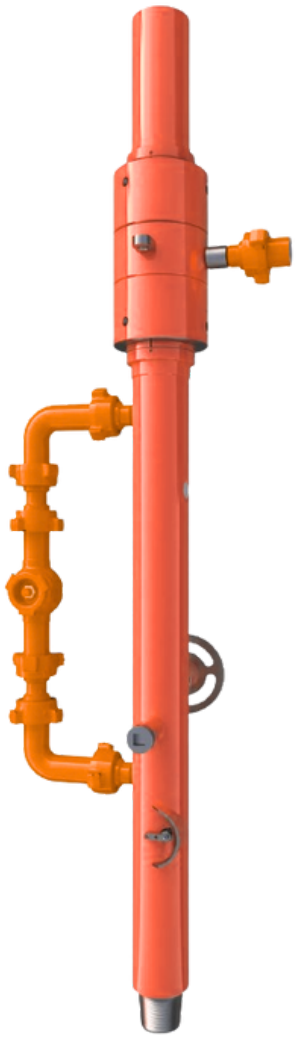


Top Drive Cementing Head

AZM Top Drive Cementing Head is designed specifically for cementing liners when a top drive system is employed on the drilling rig. The manifold consists of a swivel, plug drop assembly, ball drop assembly, plug indicator sub and a fluid bypass manifold.

The Cementing Head permits cement and displacing fluids to be pumped without passing through the rig's top drive assembly, eliminating potential problems with cement contaminating critical components in the top drive.

The TDCH is suitable for running and cementing all types of liner hangers, including rotating liner hangers.



No Turn Tool

AZM Dynamic Torque Anchor has been developed to provide a simple and reliable solution for tubing back- off when progressing cavity pumps are used.

The unique patented design allows for easy running and retrieval in a variety of downhole conditions including:

Drill Pipe Gauge Carrier

The Tubing Force Gauge measures the compressive and tensile forces at specific locations within the tubing string by measuring and recording axial strain, temperature, and internal and external pressure. The pressure and temperature are valuable data on their own, but also required to calibrate the strain measurement to deliver an accurate force. The tool withstands 50g acceleration and records 10 million samples at 10 samples per second powered by 4 replaceable AA batteries. All data is easily downloaded by USB.

There are many factors affecting the net forces on down hole tools and within the tool string including buoyancy, temperature changes, tubing ballooning/collapse, hydraulic forces from tapered strings and tool piston effects, wellbore geometry (doglegs/deviations), casing/hole drag. Until now, assumptions were made to estimate the resulting force from these factors, as there was no way to measure and record down hole forces. Knowing the tubing/drill string forces lets you optimize your down hole configuration and operation for safety and efficiency.

Cross Coupling Cable Clamp Protector

AZM Cross Coupling Cable Clamp Protector are used to protect any configuration of ESP cables, control lines or encapsulated lines in the wellbore. These use channels to shield control lines as they transit across the coupling to prevent damage during installation or retrieval of completions.

These are available in unique lock system which does not require any pneumatic gun for installation.

Control Line

A small-diameter hydraulic line used to operate downhole completion equipment such as the Surface Controlled Subsurface Safety Valve (SCSSV). Available in various sizes and materials including Monel for highly corrosive environment. Quick specifications guide is furnished underneath for quick reference. Consult factory for detailed specifications.

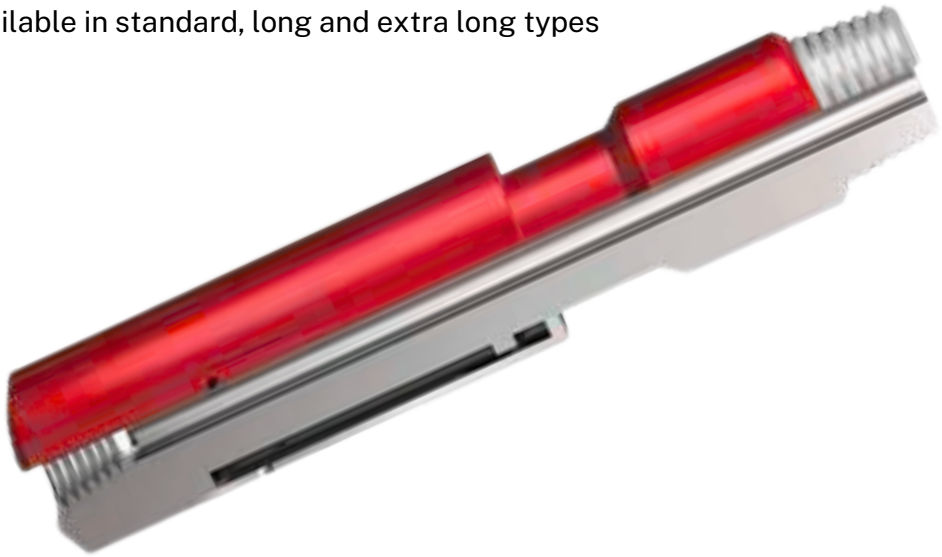
Junk Basket

AZM Junk Basket is an easy-to-use junk retrieval tool designed to effectively remove small objects such as bit cones, slips, hand tools, and tail chains from the hole.

Boot type Junk Basket, which are normally run just above the drill bit, have a cup for catching objects too heavy to be completely circulated out of the hole. This is particularly advantageous in junk milling operations.

Boot type Junk Basket are constructed from high quality steel, completely stress-relieved after cup and rib guides have been welded to the main body. Rib guides prevent the cup from becoming crushed and help guide the tool through tight places upon withdrawal from the hole.

Junk Subs are available in standard, long and extra long types



SIZE	Max. O.D. (Inches)	Max. Sleeve I.D. (Inches	END CONNECTIONS	Overall Length (OAL)
7.000”	5-1/2”	1-1/2”	3-1/2” Reg. Pin Up x Box Down	32” (inch)
9-5/8”	7”	2.00”	4-1/2” Reg. Pin Up x Box Down	34” (inch)

Fishing Magnets

AZM Fishing Magnets are the best special purpose Fishing tools available for retrieving un-drillable objects having magnetic attraction. Small odd shaped items which cannot be caught by other conventional (inside or outside catch) fishing tools, are readily attracted and retrieved by Fishing Magnets.

Magnets are available in sizes from
1 inch O.D. through 20 inches O.D., and with all popular threaded pin connections, for wire line or pipe operation.

They are capable of exerting pulls from 5 pounds to 3,000 pounds, depending on size; and full circulation may be maintained through most of the magnets during service.

The Magnet Charger is available as an optional accessory.

SIZE	Max. O.D. (Inches)	Suitable Hole Size (Inch)	END CONNECTIONS	Approx. Pull in Lbs.
7.000”	5”	5-5/8” – 6”	2-7/8” Reg. Pin	350 Lbs
9-5/8”	7”	7-5/8” – 8-1/2”	4-1/2” Reg. Pin	600 Lbs.,

BOP Jetting SUB

AZM BOP Jetting SUB is a simple and robust BOP jetting device. It allows jetting of the BOP ram cavities, annular and wellhead to dislodge debris. It is available with variable external diameters to suit surface and subsea BOP stacks.

Debris can collect inside the BOP and wellhead area during drilling, due to the sudden drop in fluid annular velocity. This debris can then fall back into the well, during completion deployment, preventing setting of packers or installation of the tubing hanger.

FEATURES:

- Replaceable jetting nozzles
- Dart activated Shear-able Sleeve allows the jetting ports to be opened on demand
- Shear pins can be configured for various shear settings
- Dart can be fished to re-establish flow below the tool if desired.
- Available with various external diameters for various applications.
- Available in API and Premium thread connections.
- Full through bore for circulation.

SIZE	Max. Tool O.D. (Inches)	Max. Sleeve I.D. (Inches)	END CONNECTIONS	Overall Length (OAL)
13-5/8”	11’’	2.125’’	NC 50 Box x Pin	32’’ (inch)

Our Certificates

AZM is An ISO 9001 CERTIFIED ORGANISATION

ISO 9001 : 2015

ISO 14001 : 2015

ISO 45001 : 2018

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