

MWPCR CEMENT RETAINER

The MWPCR Cast Iron Drillable Cement Retainer's modular, field proven design makes it a versatile tool in a variety of applications. The MWPCR may be set mechanically or on a wireline setting tool by changing the top slips.

The MWPCR also converts to a permanent bridge plug by replacing the sleeve valve with a solid plug [Conversion Kit].

Features

- Cast iron drillable design
- Simple, surface-controlled valve automatically closes when the stinger is removed
- Converts between mechanical or wireline set by changing top slips
- Components rotationally locked for easy drill out.
- Temperature rating to 350 ° F.
- Differential pressure rating to 10,000 Psi.

Benefits

- Allows pressure-testing before squeeze
- Valve protects sensitive zones in low-fluid wells
- Convertibility reduces inventory requirements
- Fast drill out saves rig time

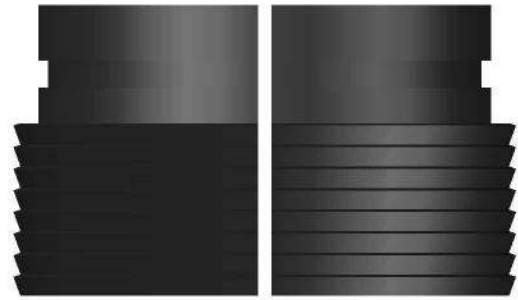
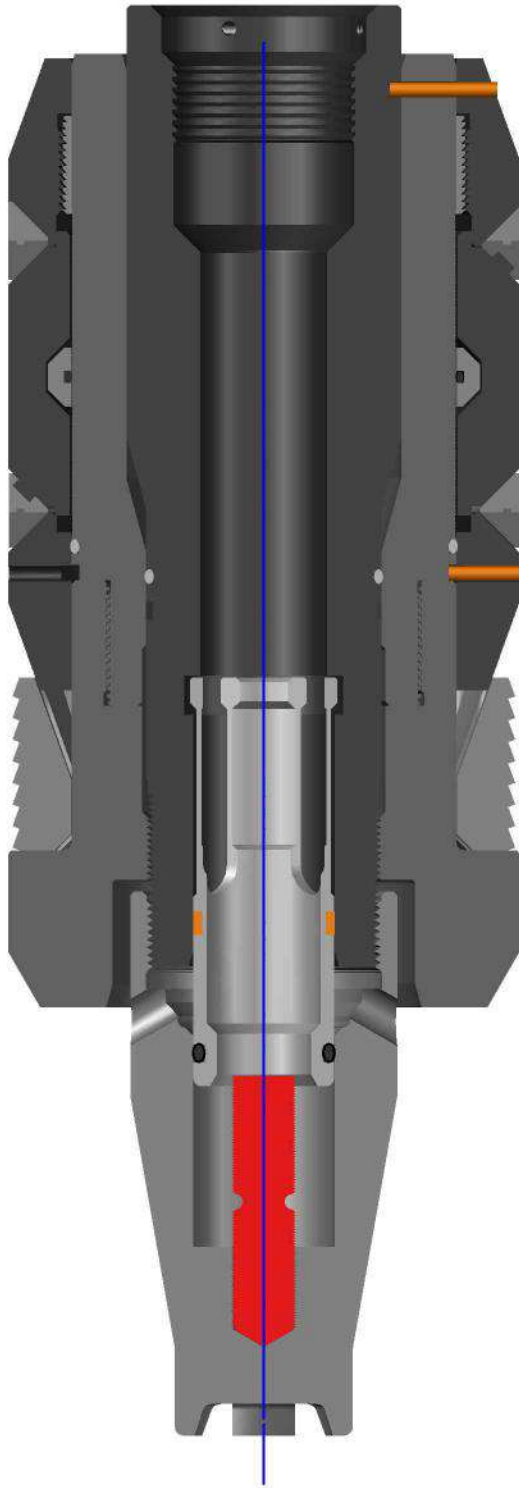
Applications

- Cementing
- Stimulation
- Well abandonment
- Temporary or permanent zone isolation

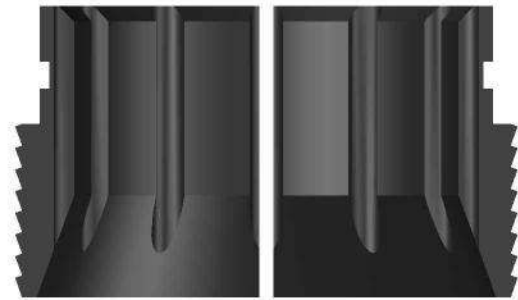
Essential accessories

- Magnus Stinger Seal Assembly
- Magnus Mechanical Setting Tool
- Magnus Force Hydraulic Setting Tool [HST]

MWPCR CEMENT RETAINER



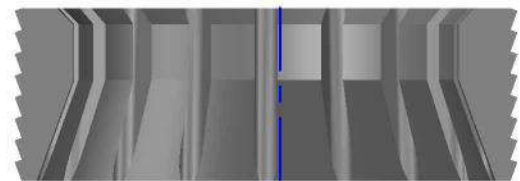
Mechanical slip (Upper)



Mechanical slip (Inner view)



Wire line slip (Upper)

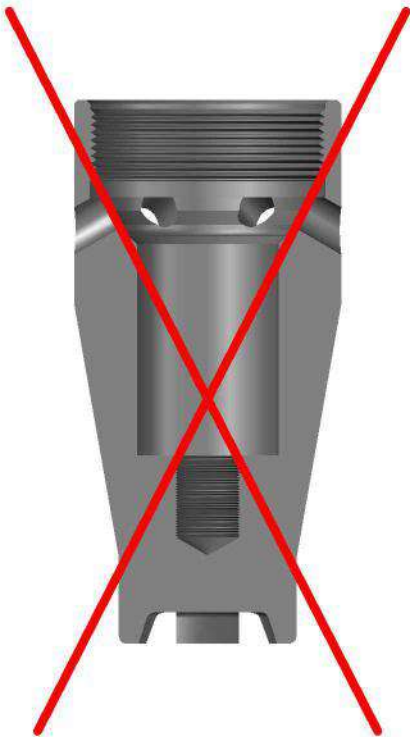
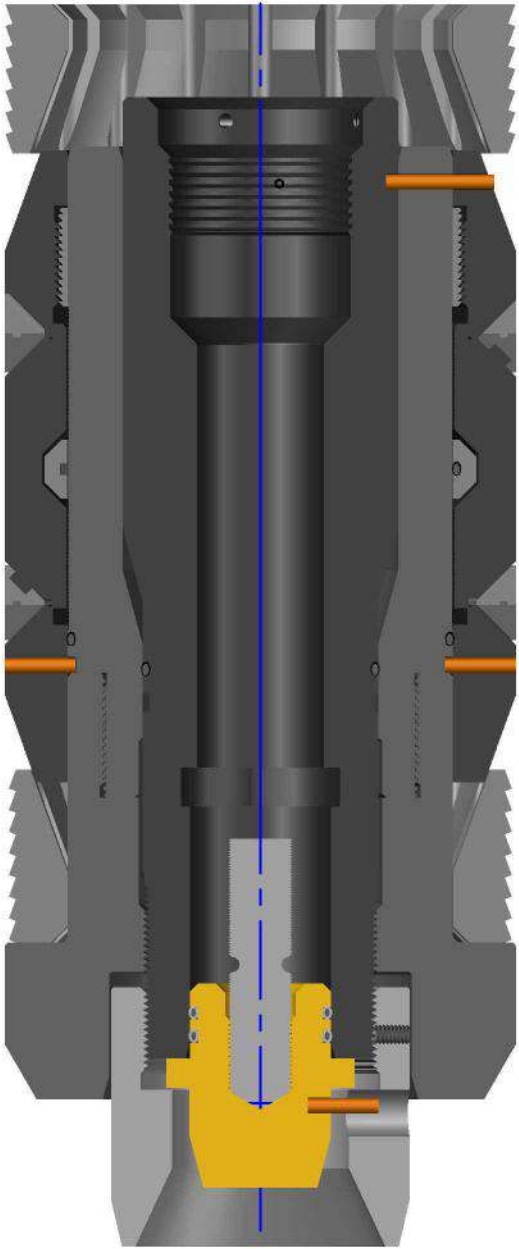


Wire line slip (Inner view)

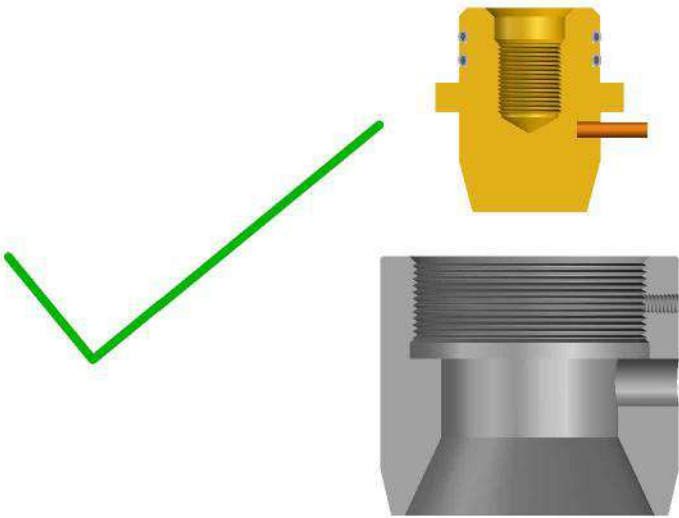
MWPCR CEMENT RETAINER SPECIFICATIONS

CASING				CEMENT RETAINER DETAILS		
O.D. (in./mm)	Weight (lb/ft, kg/m)	I.D. (in./mm)		Maximum O.D. (in./mm)	CAST IRON RETAINER	
		Minimum	Maximum		Wireline Set	Mechanical Set
4-1/2" 114.3	9.50 to 15.10 14.14 to 22.47	3.826 97.18	4.090 103.89	3.593 91.26	WS - 412 - 1002	MS - 412 - 1001
5 127.0	11.50 to 18.0 17.11 to 26.79	4.276 108.61	4.560 115.82	3.937 100.00	WS - 500 - 1002	MS - 500 - 1001
5-1/2 139.7	13.00 to 23.00 19.35 to 24.23	4.670 118.62	5.118 130.00	4.312 109.52	WS - 512 - 1002	MS - 512 - 1001
5-3/4 146.1	14.00 to 25.00 20.83 to 37.5	4.890 124.21	5.290 134.37	4.700 119.38	WS - 534 - 80	MS - 534 - 1001
6-5/8 168.3	17.00 to 34.50 25.30 to 51.34	5.575 141.61	5.290 155.83	5.375 136.53	WS - 658 - 1002	MS - 658 - 1001
7.00 177.8	17.00 to 35.00 25.30 to 52.09	6.004 152.50	6.538 166.07	5.688 144.48	WS - 700 - 1002	MS - 700 - 1001
7-5/8 193.7	20.00 to 39.00 29.76 to 58.04	6.625 168.28	7.125 180.98	6.312 160.32	WS - 758 - 1002	MS - 758 - 1001
8-5/8 219.1	24.00 to 49.00 35.72 to 72.92	7.511 190.78	8.097 205.66	7.125 180.98	WS - 858 - 1002	MS - 858 - 1001
9-5/8 244.5	29.30 to 61.10 43.60 to 90.93	8.375 212.73	9.063 230.20	8.125 206.38	WS - 958 - 1002	MS - 958 - 1001
10-3/4 273.1	32.75 to 60.70 48.74 to 90.33	9.660 245.36	10.192 258.88	9.440 239.78	WS - 1034 - 1002	MS - 1034 - 1001
11-3/4 298.5	60.00 to 83.00 89.29 to 123.52	10.192 258.88	10.772 273.61	9.937 252.40	WS - 1134	MS - 1134
	38.00 to 60.00 56.55 to 89.29	10.772 273.61	11.150 283.21	10.440 265.18	WS - 1134 - 1002	MS - 1134 - 1001
13-3/8 339.7	48.00 to 72.00 71.43 to 107.15	12.347 313.61	12.715 322.96	12.000 304.80	WS - 1338 - 1002	MS - 1338 - 1001
16 406.4	65.00 to 128.00 96.73 to 190.48	14.438 366.73	15.250 387.35	14.125 358.78	WS - 1600 - 1002	MS - 1600 - 1001
18 457.2	70.58 to 87.50 105.03 to 130.21	17.088 434.04	17.250 438.15	16.650 422.91	WS - 1800 - 1002	-
18-5/8 473.1	87.50 130.21	17.480 443.99	18.000 457.20	17.125 434.98	WS - 1858 - 1002	-
20 508.0	94.00 to 133.00 139.89 to 197.93	18.330 465.58	19.124 485.75	18.375 466.73	WS - 2000 - 1002	-
30 762.0	157.73 to 310.00 234.73 to 461.33	28.000 711.20	29.000 736.60	27.500 698.50	WS - 3000 - 1002	-

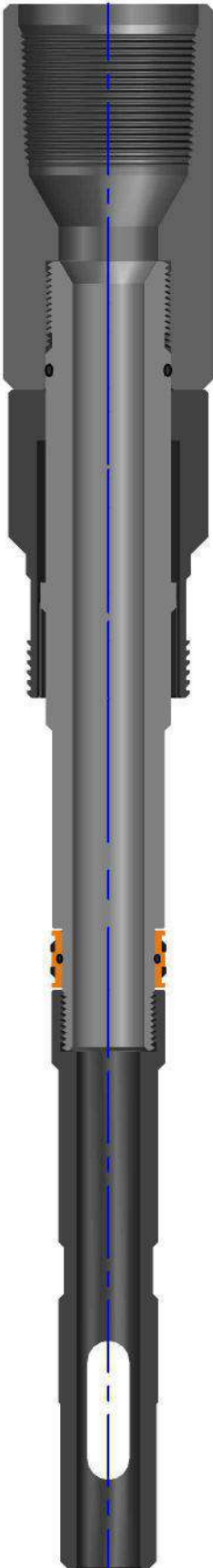
CEMENT RETAINER TO BRIDGE PLUG CONVERSION



**CEMENT RETAINER TO BRIDGE PLUG
CONVERSION KIT**



CAST IRON PRODUCTS



MAGNUS STINGER SEAL ASSEMBLY

Magnus Stinger Seal Assembly is a tubing conveyed latching seal assembly that is used to operate the sliding valve in a MWPCR Cement Retainer previously set on wireline. The stinger can be run with a suitable connection star guide or tubing centralizer to provide for easier entry into the cement retainer.

Magnus Stinger Seal Assembly features a built in snap out indicator. This provides positive control when the work string is picked up to close the slide valve.

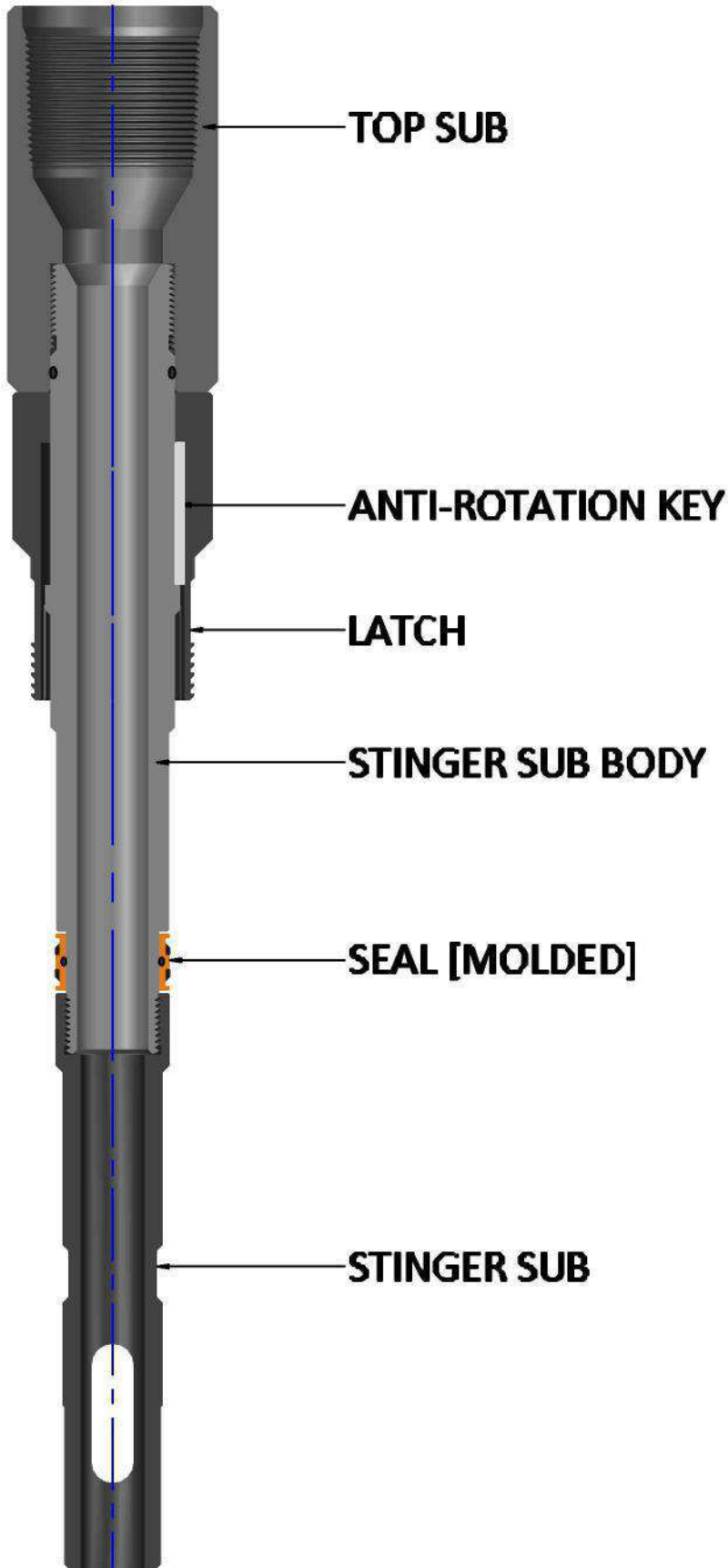
The snap out indicator re-engages each time the work string is lowered to open the valve. The snap out indicator helps prevent the seal from pumping out during pumping operations or tubing testing. The snap out indicator may be removed from the cement retainer by straight pull or by rotation if desired.

SPECIFICATION GUIDE

CEMENT RETAINER SIZE	STINGER THREAD CONNECTION [BOX UP]
4-1/2" thru 5-3/4"	2-3/8" EUE 8RD
6-5/8" thru 30"	2-7/8" EUE 8RD

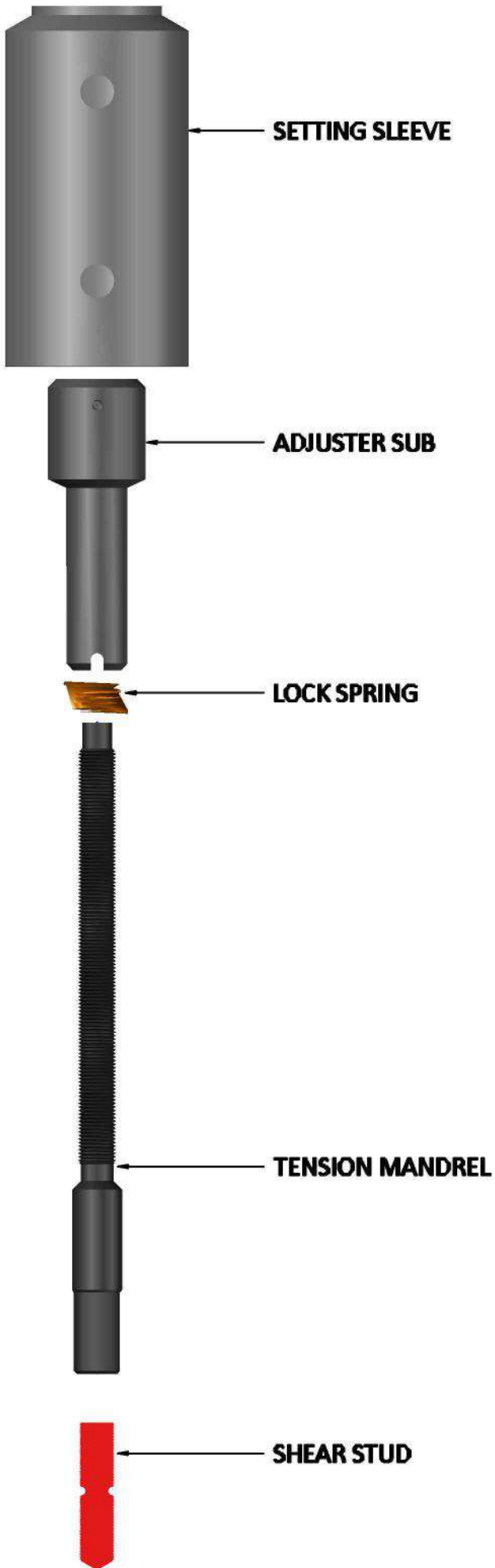
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MAGNUS STINGER PART DETAILS

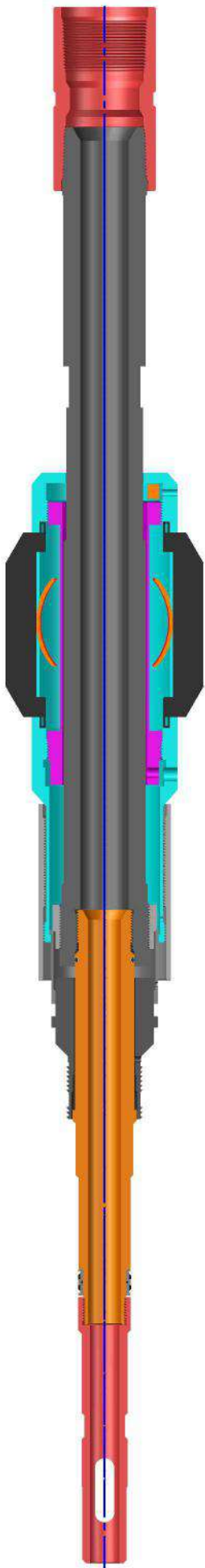


CAST IRON PRODUCTS

**WIRE LINE ADAPTER KIT [WLAK]
FOR MWPCR CEMENT RETAINER**



CAST IRON PRODUCTS



Magnus Force MST MECHANICAL SETTING TOOL [with Drag Blocks]

The Magnus Force MST is designed to run and mechanically set the Permanent Cement Retainer or Cast Iron Bridge Plug at any depth on tubing or drill pipe.

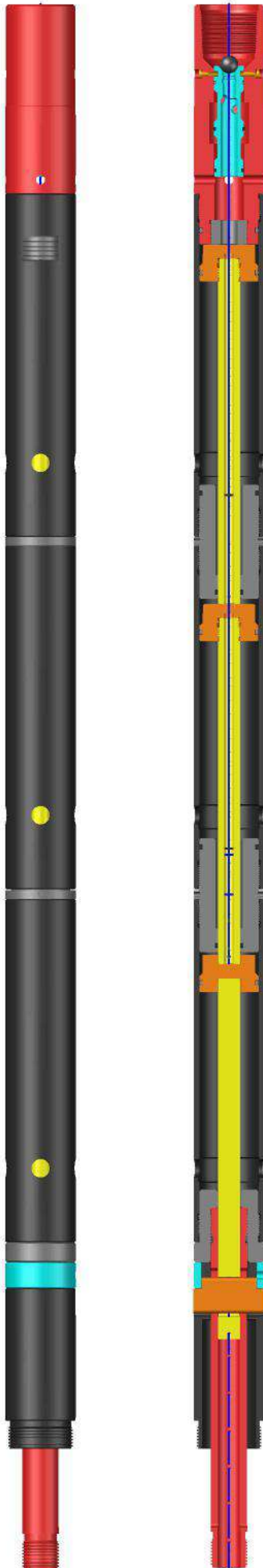
APPLICATIONS

- Setting cement retainer or bridge plug on tubing or drill pipe
- Squeeze cementing
- Well abandonment
- Temporary or permanent zone isolation

FEATURES, ADVANTAGES AND BENEFITS

- Positively locked to cement retainer or bridge plug to avoid premature setting or loss of tool in well
- Top slips partially covered to protect from accidental damage and pre set
- Can quickly be configured to set cement retainer or bridge plug
- Drag blocks are fitted with Tungsten Carbide buttons for long field life

CAST IRON PRODUCTS



Magnus Force HST HYDRAULIC SETTING TOOL

MagnusForce Hydraulic Setting tools translates hydraulic pressure applied to the tubing to a force transmitted through the wireline adapter kit to the sealbore packer, plug, or cement retainer to fully set the slips and pack-off the rubber element.

MagnusForce Hydraulic Setting tool and wireline adapter kit are assembled to a packer bridge plug, or cement retainer that is commonly set with a wireline deployed pressure setting tool.

Use of MagnusForce Hydraulic setting tool is particularly well suited for installation of packer, plug or retainers in highly deviated or horizontal well bores where wireline operations are impractical.

FEATURES

- Applications where wireline setting tools are not recommended
- Tubing is drained after setting packer or plug
- Tandem applications possible
- Auto-fill and tubing-drain features able to be deactivated
- Push and Pull of assembly is possible

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Magnus Force HST HYDRAULIC SETTING TOOL

OPERATION

As the piston moves downwards, the cross link, which connect the lower piston rod and cross link sleeve, forces the cross link sleeve downward. While the setting mandrel which is attached to the lower end of the packer body by means of adapter kit remains stationary, the cross link sleeve forces the adapter sleeve of the adapter kit and the upper end of the packer body, downward. In this manner a squeeze action is applies to the packer, forcing the slips and the packing elements to set and pack off.

Approximately 800 Psi pressure is required to set the upper slips. After the top slips are set, the packer setting and release can be completed either by applied tension, by pump pressure, or by any combination of two. The adapter kit and setting assembly may then be removed from the well.

As the upper piston moved downward to the cylinder connector, ports in the lower end of the upper cylinder are uncovered, allowing the fluid in the tubing to unload as the setting assembly is retrieved.

SPECIFICATION GUIDE

SIZE (in)	TOOL Max. Psi.	PULL (Max. Lbs.)	TOOL OD (in.)	EFFECTIVE PISTON AREA In. sq. / Piston	CONNECTION TOP / BOTTOM BAKER E-4
#20	10,000	138,000	3.812	7.00	2-7/8 EUE/SIZE 20

APPLIED FORCE WITH PRESSURE Piston Area = 6.990 in. sq. / piston

Psi.	FORCE (Lbs.)	
	w/2 PISTONS (Total Area = 13.980 in. sq.)	w/3 PISTONS (Total Area = 20.970 in. sq.)
1,000	13,980	20,970
2,000	27,960	41,940
3,000	41,940	62,910
4,000	55,920	83,880
5,000	69,900	-
6,000	83,880	-

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