



## Composite Frac Plugs



# MILL E-Z™

### INNOVATION REVEALED

Magnum's **Mill E-Z™ Composite Plugs** are used for temporary isolation in multi-stage vertical or horizontal completion operations. The **Mill E-Z™** line includes the Ball Drop, Bridge Plug, Flo-Back and Flo-Back with Bio-Ball Plugs—all to bring you the best in your isolation efforts.

Comprised of proprietary composite material that ensures a low metallic content, the **Mill E-Z™** can be quickly and easily milled and circulated back to surface. And with the addition of a Pump-Down wiper element, **Mill E-Z™** products are a perfect fit for horizontal applications.

### FEATURES

- 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
- Millable cast iron slips
- High differential pressure rating
- Low temp and high temp materials conducive to a wide range of environments
- Patented precision shearing device
- Efficient wireline deployment speeds of up to 450 feet per minute
- Setting is done via a universal setting sleeve and adapter
- Simple valve control by surface pressure manipulation



# Composite Frac Plugs

## BALL DROP PLUG

CASING SPECS				PLUG SPECS					OPERATING RANGES			
O.D. inch (mm)	Weight Range lb/ft (kg/m)	Min. I.D. inch (mm)	Max. I.D. inch (mm)	O.D. inch (mm)	I.D. inch (mm)	Length inch (mm)	Ball Size inch (mm)	Setting Tool	Low Temp/ Low PSI	Low Temp/ High PSI	Mid Temp/ High PSI	High Temp/ High PSI
2-7/8 (73.0)	6.4-7.9 (9.5-11.8)	2.32 (59.0)	2.44 (62.0)	2.15 (54.6)	0.75 (19.1)	17.5 (444.5)	1.00 (25.4)	Magnum "A-1", Baker #5 or Owen 1-11/16" SHORTY	Not Yet Available			
3-1/2 (88.9)	7.70 (11.5)	3.07 (77.9)	3.07 (77.9)	2.83 (71.8)								
	9.30-10.20 (13.8-15.2)	2.92 (74.2)	2.99 (75.9)	2.73 (69.2)								
	12.95 (19.3)	2.75 (69.9)	2.75 (69.9)	2.50 (63.5)								
4 (101.6)	9.50-11.0 (14.1-16.4)	3.48 (88.3)	3.55 (90.1)	3.19 (81.0)	1.36 (34.5)		1.75 (44.5)	Magnum A-1, Baker #10 or Owen 3-5/8" COMPACT		250F 10k PSI (121C) (68.9MPa)	300F 10k PSI (149C) (68.9MPa)	375F 10k PSI (191C) (68.9MPa)
4-1/2 (114.3)	9.50-13.50 (14.1-20.1)	3.92 (99.6)	4.09 (103.9)	3.57 (90.7)								
	15.10-17.10 (22.5-25.4)	3.75 (95.4)	3.83 (97.2)	3.44 (87.4)								
5 (127.0)	23.20 (15.6)	4.04 (102.7)	4.04 (102.7)	3.57 (90.7)								
	11.50-18.00 (17.1-26.8)	4.28 (108.6)	4.56 (115.8)	3.92 (99.6)	1.90 (48.3)	24.0 (609.6)	2.125 (54.0)	Magnum A-1, Baker #20 or Owen 3-5/8" COMPACT	250F 8k PSI (121C) (55.2MPa) Composite/ NBR Elastomer	Composite/ NBR Elastomer	Composite/ NBR Elastomer	Composite/ FKM Elastomer
5-1/2 (139.7)	14.00 (20.8)	5.01 (127.3)	5.01 (127.3)	4.60 (116.8)								
	15.50-20.00 (23.1-29.8)	4.78 (121.4)	4.95 (125.7)	4.30 (109.2)								
	23.00-26.80 (34.2-39.9)	4.50 (114.3)	4.67 (118.6)	4.13 (104.8)								
7 (177.8)	17.00-20.00 (25.3-29.8)	6.46 (164.0)	6.54 (166.1)	5.95 (151.1)	2.50 (63.5)							
		23.00-35.00 (34.2-52.1)	6.00 (152.5)	6.37 (161.7)								
7-5/8 (193.7)	24.00-33.70 (35.7-50.2)	6.77 (171.8)	7.03 (178.4)	6.25 (158.8)								

Casing Specs are according to API Tubing/Casing Dimension Chart information.



# Composite Frac Plugs

## BRIDGE PLUG

CASING SPECS				PLUG SPECS			OPERATING RANGES			
O.D. inch (mm)	Weight Range lb/ft (kg/m)	Min. I.D. inch (mm)	Max. I.D. inch (mm)	O.D. inch (mm)	Length inch (mm)	Setting Tool	Low Temp/ Low PSI	Low Temp/ High PSI	Mid Temp/ High PSI	High Temp/ High PSI
2-3/8 (60.3)	4.7 (7.0)	1.995 (51.3)	1.995 (51.3)	1.75 (44.5)	16.38 (416.1)	Magnum "A-1", Baker #5 or Owen 1-11/16" SHORTY	Not Yet Available	Not Yet Available		
2-7/8 (73.0)	6.4-7.9 (9.5-11.8)	2.32 (59.0)	2.44 (62.0)	2.15 (54.6)	17.50 (444.5)					
3-1/2 (88.9)	7.70 (11.5)	3.07 (77.9)	3.07 (77.9)	2.83 (71.8)						
	9.30-10.20 (13.8-15.2)	2.92 (74.2)	2.99 (75.9)	2.73 (69.2)						
	12.95 (19.3)	2.75 (69.9)	2.75 (69.9)	2.50 (63.5)						
4 (101.6)	9.50-11.0 (14.1-16.4)	3.48 (88.3)	3.55 (90.1)	3.19 (81.0)	23.88 (606.6)	Magnum A-1, Baker #10 or Owen 3-5/8" COMPACT	250F 8k PSI (121C) (55.2MPa) Composite/ NBR Elastomer	250F 10k PSI (121C) (68.9MPa) Composite/ NBR Elastomer	300F 10k PSI (149C) (68.9MPa) Composite/ NBR Elastomer	375F 10k PSI (191C) (68.9MPa) Composite/ FKM Elastomer
4-1/2 (114.3)	9.50-13.50 (14.1-20.1)	3.92 (99.6)	4.09 (103.9)	3.57 (90.7)						
	15.10-17.10 (22.5-25.4)	3.75 (95.4)	3.83 (97.2)	3.44 (87.4)						
5 (127.0)	23.20 (15.6)	4.04 (102.7)	4.04 (102.7)	3.57 (90.7)	23.80 (604.5)	Magnum A-1, Baker #20 or Owen 3-5/8" COMPACT				
	11.50-18.00 (17.1-26.8)	4.28 (108.6)	4.56 (115.8)	3.92 (99.6)						
5-1/2 (139.7)	14.00 (20.8)	5.01 (127.3)	5.01 (127.3)	4.60 (116.8)						
	15.50-20.00 (23.1-29.8)	4.78 (121.4)	4.95 (125.7)	4.30 (109.2)						
	23.00-26.80 (34.2-39.9)	4.50 (114.3)	4.67 (118.6)	4.13 (104.8)						
7 (177.8)	17.00-20.00 (25.3-29.8)	6.46 (164.0)	6.54 (166.1)	5.95 (151.1)	24.0 (609.6)					
	23.00-35.00 (34.2-52.1)	6.00 (152.5)	6.37 (161.7)	5.75 (146.1)						
7-5/8 (193.7)	24.00-33.70 (35.7-50.2)	6.77 (171.8)	7.03 (178.4)	6.25 (158.8)						

Casing Specs are according to API Tubing/Casing Dimension Chart information.



# Composite Frac Plugs

## FLO-BACK PLUG

CASING SPECS				PLUG SPECS				OPERATING RANGES			
O.D. inch (mm)	Weight Range lb/ft (kg/m)	Min. I.D. inch (mm)	Max. I.D. inch (mm)	O.D. inch (mm)	I.D. inch (mm)	Length inch (mm)	Setting Tool	Low Temp/ Low PSI	Low Temp/ High PSI	Mid Temp/ High PSI	High Temp/ High PSI
2-7/8 (73.0)	6.4-7.9 (9.5-11.8)	2.32 (59.0)	2.44 (62.0)	2.15 (54.6)	0.50 (12.7)	18.38 (466.9)	Magnum "A-1", Baker #5 or Owen 1-11/16" SHORTY	Not Yet Available			
3-1/2 (88.9)	7.70 (11.5)	3.07 (77.9)	3.07 (77.9)	2.83 (71.8)							
	9.30-10.20 (13.8-15.2)	2.92 (74.2)	2.99 (75.9)	2.73 (69.2)							
	12.95 (19.3)	2.75 (69.9)	2.75 (69.9)	2.50 (63.5)							
4 (101.6)	9.50-11.0 (14.1-16.4)	3.48 (88.3)	3.55 (90.1)	3.19 (81.0)	0.63 (16.5)	23.88 (606.6)	Magnum A-1, Baker #10 or Owen 3-5/8" COMPACT	250F 10k PSI (121C) (68.9MPa) Composite/ NBR Elastomer	250F 10k PSI (121C) (68.9MPa) Composite/ NBR Elastomer	300F 10k PSI (149C) (68.9MPa) Composite/ NBR Elastomer	375F 10k PSI (191C) (68.9MPa) Composite/ FKM Elastomer
4-1/2 (114.3)	9.50-13.50 (14.1-20.1)	3.92 (99.6)	4.09 (103.9)	3.57 (90.7)							
	15.10-17.10 (22.5-25.4)	3.75 (95.4)	3.83 (97.2)	3.44 (87.4)							
5 (127.0)	23.20 (15.6)	4.04 (102.7)	4.04 (102.7)	3.57 (90.7)				250F 8k PSI (121C) (55.2MPa) Composite/ NBR Elastomer			
	11.50-18.00 (17.1-26.8)	4.28 (108.6)	4.56 (115.8)	3.92 (99.6)							
5-1/2 (139.7)	14.00 (20.8)	5.01 (127.3)	5.01 (127.3)	4.60 (116.8)	0.88 (22.4)	24.0 (609.6)	Magnum A-1, Baker #20 or Owen 3-5/8" COMPACT				
	15.50-20.00 (23.1-29.8)	4.78 (121.4)	4.95 (125.7)	4.30 (109.2)							
	23.00-26.80 (34.2-39.9)	4.50 (114.3)	4.67 (118.6)	4.13 (104.8)							
7 (177.8)	17.00-20.00 (25.3-29.8)	6.46 (164.0)	6.54 (166.1)	5.95 (151.1)							
	23.00-35.00 (34.2-52.1)	6.00 (152.5)	6.37 (161.7)	5.75 (146.1)							
7-5/8 (193.7)	24.00-33.70 (35.7-50.2)	6.77 (171.8)	7.03 (178.4)	6.25 (158.8)							

Casing Specs are according to API Tubing/Casing Dimension Chart information.

For more information, and to find a representative near you, visit [www.magnumoiltools.com](http://www.magnumoiltools.com).

Copyright © 2018 Magnum Oil Tools International, Ltd. All Rights Reserved.

REV - July 30, 2018 3:43 PM

This presentation contains proprietary and/or confidential information that is the exclusive and sole property of Magnum Oil Tools International, Ltd. The presentation also includes information that contains intellectual property rights owned by and/or assigned to Magnum Oil Tools International, Ltd. The information from the presentation shall not be disclosed to any third party without express written consent from Magnum Oil Tools International, Ltd. prior to disclosure.