



MAGNUM SERIES™

INNOVATION REVEALED

The **Magnum Series™** is a multi-configuration plug used to temporarily isolate multi-stage vertical or horizontal completion operations. The base model of the **Magnum Series™** is a ball drop configuration. When combined with three additional on-the-fly inserts (Bridge Plug, Flo-Back, or Flo-Back with Bio-Ball), this tool provides the service company with optimum on-site versatility. Comprised of proprietary composite material and having a low metallic content, the **Magnum Series™** can be quickly and easily milled and circulated back to surface.

Magnum Ball Drop: After setting, the tool remains open for fluid flow and allows wireline services to continue until the ball drop isolation procedure has started. Once the surface-dropped ball is pumped down and seated into the inner funnel top of the tool, the operator can pressure up against the plug to achieve isolation.

Magnum Bridge Plug: The Bridge Plug, or “Kill Plug,” has “top venting” ability, which allows for upper and lower equalizations during drill out.

Magnum Flo-Back: When the pressure below the plug is greater than the pressure above, the one-way check valve will allow the two zones to commingle. The operator can independently treat or test each zone and then remove the flo-back plug(s) in one trip with conventional milling or drilling tools.

Magnum Flo-Back with Bio-Ball: Also built with a one-way check valve, this plug temporarily isolates bottom hole pressure by utilizing an aqueous-soluble Bio-Ball sealer. After the Bio-Ball has dissolved, the check valve will allow bottom hole pressure to flow through the plug.

FEATURES

- Consistent drill times of 30 minutes or less
- Can be converted into a Magnum Series™ Cement Retainer
- Set on wireline, coiled tubing or production tubing using conventional setting tools
- Milled-out using coiled tubing or power swivel
- Millable cast iron slips
- Positive lock-up feature to ensure plugs do not spin while milling
- Utilizes conventional setting tools
- Patented precision shearing device
- Unique pump-down element design requires less fluid and pump pressure to deploy plug horizontally
- Efficient wireline deployment speeds of up to 450 feet per minute
- Custom O.D. plugs are available upon request



Pump-Down Ring Available
for Horizontal Applications



Composite Frac Plugs

| 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) | Ball Drop Min I.D. inch (mm) | Flo-Back Min 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 |
| 4 (101.6) | 9.50-11.00 (14.1-16.4) | 3.48 (88.4) | 3.55 (90.1) | 3.19 (81.0) | 1.25 (31.8) | 0.50 (12.7) | 26.00 (660.4) | 1.75 (44.5) | Magnum "A-1," Baker #10 or Owen | 250°F 8K PSI (121°C) (55.2MPa) Green Composite/ HSN Elastomer | 250°F 10K PSI (121°C) (68.9MPa) Yellow Composite/ HSN Elastomer | 300°F 10K PSI (149°C) (68.9MPa) Blue Composite/ HSN Elastomer | 400°F 10K PSI (204°C) (68.9MPa) Blue Composite/ Viton 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) | | | | | | | | | |
| 5 (127.0) | 15.10-17.10 (22.5-25.4) | 3.74 (95.0) | 3.83 (97.2) | 3.44 (87.4) | | | | | | | | | |
| | 23.20 (15.6) | 4.04 (102.7) | 4.04 (102.7) | 3.57 (90.7) | | | | | | | | | |
| 5-1/2 (139.7) | 18.00-21.40 (26.8-31.8) | 4.13 (104.8) | 4.28 (108.6) | 3.75 (95.3) | 1.80 (45.7) | 0.63 (16.0) | 28.0 (711.2) | 2.13 (54.0) | Magnum "A-1," Baker #20 or Owen | 250°F 8K PSI (121°C) (55.2MPa) Green Composite/ HSN Elastomer | 250°F 10K PSI (121°C) (68.9MPa) Yellow Composite/ HSN Elastomer | 300°F 10K PSI (149°C) (68.9MPa) Blue Composite/ HSN Elastomer | 400°F 10K PSI (204°C) (68.9MPa) Blue Composite/ Viton Elastomer |
| | 11.50-18.00 (17.1-26.8) | 4.28 (108.6) | 4.56 (115.8) | 3.92 (99.6) | | | | | | | | | |
| | 14.00 (20.8) | 5.01 (127.3) | 5.01 (127.3) | 4.60 (116.8) | | | | | | | | | |
| 6-5/8 (168.3) | 24.00-32.00 (35.7-47.6) | 5.68 (144.1) | 5.92 (150.4) | 5.38 (136.5) | 2.50 (63.5) | 1.00 (25.4) | 31.50 (800.1) | 2.75 (70.00) | Magnum "A-1," Baker #20 or Owen | 250°F 8K PSI (121°C) (55.2MPa) Green Composite/ HSN Elastomer | 250°F 10K PSI (121°C) (68.9MPa) Yellow Composite/ HSN Elastomer | 300°F 10K PSI (149°C) (68.9MPa) Blue Composite/ HSN Elastomer | 400°F 10K PSI (204°C) (68.9MPa) Blue Composite/ Viton Elastomer |
| 7 (177.8) | 17.00-23.00 (25.3-34.2) | 6.37 (161.7) | 6.54 (166.1) | 5.95 (151.1) | | | | | | | | | |
| | 23.00-32.00 (34.2-47.6) | 6.09 (154.8) | 6.37 (161.7) | 5.75 (146.1) | | | | | | | | | |
| 7-5/8 (193.7) | 24.00-33.70 (35.7-50.2) | 6.78 (171.8) | 7.03 (178.4) | 6.25 (158.8) | 2.50 (63.5) | 2.13 (54.0) | 36.00 (914.4) | 2.50 (63.5) | Magnum "A-1," Baker #20 or Owen | 250°F 8K PSI (121°C) (55.2MPa) Green Composite/ HSN Elastomer | 250°F 10K PSI (121°C) (68.9MPa) Yellow Composite/ HSN Elastomer | 300°F 10K PSI (149°C) (68.9MPa) Blue Composite/ HSN Elastomer | 400°F 10K PSI (204°C) (68.9MPa) Blue Composite/ Viton Elastomer |
| 8-5/8 (210.1) | 28.00-40.00 (41.7-59.5) | 7.73 (196.2) | 8.02 (203.7) | 7.38 (187.3) | | | | | | | | | |
| 9-5/8 (244.5) | 32.30-40.00 (48.1-59.5) | 8.84 (224.4) | 9.00 (228.6) | 8.38 (212.7) | | | | | | | | | |
| | 43.50-53.50 (64.7-79.6) | 8.54 (216.8) | 8.76 (222.4) | 8.13 (206.4) | | | | | | | | | |

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

OPTIONAL PUMP DOWN KIT SIZES

| PUMP DOWN RING OD in. (mm) | DUROMETER | MATERIAL |
|----------------------------------|-----------|----------|
| 3.00 (76.2) | 70 | Nitrile |
| 3.25 (82.6) | | |
| 3.75 (95.3) | | |
| 4.00 (101.6) | | |
| 4.25 (108.0) | | |
| 4.40 (111.8) | | |
| 4.50 (114.3) | | |
| 4.90 (124.5) | | |

BRIDGE PLUG CONVERSION KIT AVAILABLE



For more information, and to find a representative near you, visit www.magnumoiltools.com.

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Rev - January 22, 2018 9:57 AM

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