The BLITZ™ coiled tubing (CT) frac sleeve system delivers targeted stimulation treatments to a nearly unlimited number of stages with efficiency and ease, helping customers to control costs and improve production potential in unconventional wells. With a rugged, resettable BLITZ annular packer, positive location capabilities, and single-shift and multishift frac sleeve options, the system represents a new level of flexibility and reliability for CT fracturing operations.

Although CT sleeve systems are gaining popularity due to their large stage count potential, targeted treatments, and operational efficiency, most systems cannot accurately locate sleeves once they are installed downhole, prolonging operations and driving up costs. This is because these systems rely on depth correlation, which is imprecise and often requires excessive repositioning of the bottomhole assembly (BHA) to find the casing collar, and subsequently engage and shift sleeves. This pulling and pushing through the casing not only increases coil cycling and nonproductive time (NPT), it quickly compounds the time it takes to move from stage to stage—driving up overall job time.

Unlike any other CT fracturing system, the BLITZ packer BHA includes a collet-locating system that provides a positive weight indication when each sleeve has been engaged, as well as when it has been shifted. This ensures proper BHA spacing and depth throughout operations, enabling rapid, uninterrupted fracturing from toe to heel.

Both the single-shift and multishift frac sleeves are mechanically operated and can be shifted using either the BLITZ packer BHA or an HB-3™ shifting tool. The BLITZ multishift frac sleeve offers added operational flexibility because it can be opened and closed an unlimited number of times. This feature enables operations such as:

- Closing sleeves to shut off nonproductive stages
- Opening sleeves to restimulate selected stages

**Applications**
- Unconventional wells
- Extended-reach laterals
- Selective restimulation and zone shut-off

**Benefits**
- Enables treatment of a nearly unlimited number of stages
- Ensures proper BHA positioning to minimize tool travel time and NPT
- Delivers controlled treatment volumes to targeted clusters
- Supports aggressive pumping
- Recovers quickly from screenouts
- Creates no ID restrictions
- Collects downhole data to aid with treatment optimization
- Offers single-shift and multishift sleeve designs for added flexibility
• Closing sleeves after fracturing to allow
  the formation to heal and reopening
  them at a later date.

After the BLITZ frac sleeves have been
installed, the BLITZ packer BHA is run in
hole to actuate sleeves and to isolate stages.
Because the packer BHA can withstand
annular flow rates up to 70 ft³/min
(2 m³/min), it is ideal for extended-reach
applications where tools may need to be
pumped down to bottom.

Once the packer locates and shifts a sleeve
to the open position, it moves below the
frac ports and sets via a small compressive
force to isolate the stage. The stimulation
treatment is delivered, and the packer is
released and moved uphole to the next
sleeve, and the process is repeated.

A circulation sub with customized flow
nozzles is positioned directly above the
packer to circulate out any sand that settles
on or around the BHA, helping to ensure
reliable packer release. The circulation sub
also enables real-time bottomhole pressure
monitoring so treatments can be adjusted
on the fly and premature screenouts can be
avoided. If a screenout does occur, the sand
can be circulated out by simply pumping
down through the CT, significantly reducing
NPT. If perforations need to be added after
sleeves have been installed, the circulation
sub can perform sand jetting to establish
additional reservoir communication points
along the well for increased access.

In addition to delivering real-time pressure
data, the BLITZ system BHA can also
collect pressure and temperature data
during treatments. This information allows
customers to conduct post-treatment
analyses on stimulation effectiveness to
help optimize future jobs, and to evaluate
restimulation potential.

Because the BLITZ frac sleeves have no
inside diameter (ID) restrictions, no
post-stimulation milling is required for
production to begin. This also helps to
simplify future access.

Contact your local representative today or
visit www.bhge.com/BLITZ to find out more
about the new BLITZ CT frac sleeve system,
and how it can deliver fast, effective fracs on
your next job.

The BLITZ CT packer BHA’s positive location system ensures accurate BHA spacing and depth, helping to reduce tool wear and NPT, and shortening sleeve-to-sleeve move times.

| BLITZ single-shift and multishift CT frac sleeve specifications |
|-------------------|-----------------|---------------|-----------------|---------------|-----------------|---------------|
| Casing      | Casing weight | Packer outside diameter | Sleeve outside diameter | Sleeve inside diameter | Material rating | Pressure rating | Flow area |
| 4.5 in.     | 9.5 to 13.5 lb/ft | 3.77 in. | 5.750 in. | 3.920 in. | 3.740 in. | 80 to 110 ksi | 12,000 psi | 827 bar | 7.57 in.² | 48.84 cm² |
|             | 15.1 lb/ft     | 3.60 in. |               |               |            |               | 15,000 psi | 1,034 bar |
| 5.5 in.     | 17.0 lb/ft     | 4.718 in. |          |             |          |               |            |             |
|             | 20.0 to 23.0 lb/ft | 4.530 in. | |               |          |               |            |             |

Contact your local representative for more information.

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