

Controlled Tension Release

Safely releases downhole assembly if guns are stuck downhole

APPLICATIONS

- Tubing-conveyed perforating (TCP) operations when guns become stuck

FEATURES

- Simplified release of gun string
- Insensitivity to short-duration overpulls or shock
- Oil-orifice delay system and multistage crushable element
- Mating fishing tool available for fishing operations

The controlled tension release (CTR) is a fullbore safety release device for TCP operations. It is typically placed between the packer and the TCP guns.

If the guns become stuck, the rest of the tubing string and completion tools can be retrieved by actuating the CTR. Pulling on the string with a predetermined tension and duration actuates the CTR, enabling retrieval of the running assembly.

The CTR cannot be activated by an accidental short duration overpull or by the shock of firing the TCP guns because of an oil-orifice delay system and multistage crushable element. The tension required for activation depends on the crushable element selected. The time required to disconnect depends on the size of the selected flow restrictor orifice and the duration of overpull (typically 5 to 15 min).

After the bottom subassembly of the CTR is released, it becomes the top of the fish left downhole and can be retrieved with the threaded fishing tool provided with each CTR.

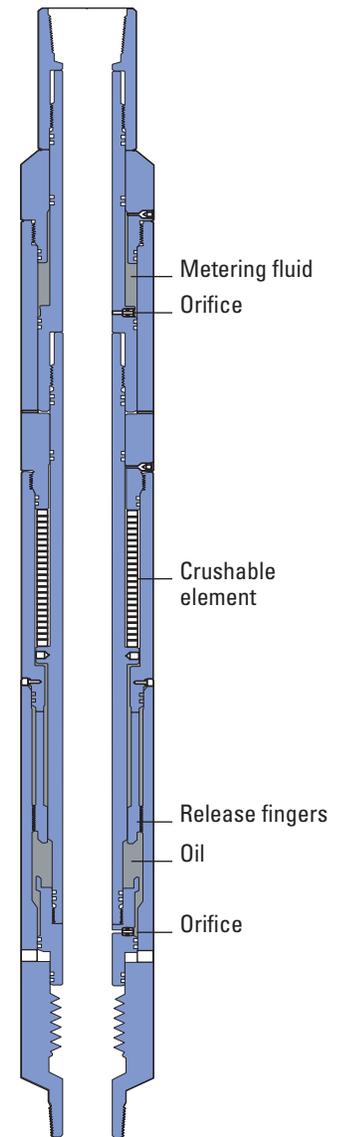
Specifications

| | |
|--|---------------------|
| Max. OD, in [mm] | 4.620 [117.4] |
| Min. ID, in [mm] | 2.330 [59.2] |
| Length, in [cm] | 69.5 [176] |
| Pressure rating, psi [MPa] | |
| Hydrostatic | 20,000 [138] |
| Differential | 10,000 [69] |
| Temperature rating, degF [degC] | 400 [204] |
| Max. tensile strength for fishing (after release), lbf [N] | 260,000 [1,156,537] |
| Tensile strength of fingers, [†] lbf [N] | 168,000 [747,301] |
| Overpull for release, lbf [N] | |
| 50,000-lbf [222,411-N] element | 55,000 [244,652] |
| 75,000-lbf [333,617-N] element | 85,000 [378,099] |
| 100,000-lbf [444,822-N] element | 115,000 [511,545] |

Connection

| | |
|---------------------|--|
| CTR—top | 2 ⁷ / ₈ EUE box |
| CTR—bottom | 2 ⁷ / ₈ EUE pin |
| Fishing tool—top | 3 ¹ / ₂ IF box |
| Fishing tool—bottom | 3 ¹ / ₂ Acme pin |

Note: CTRs are available in additional sizes and for special applications.
[†] Tensile strength rating at 75% min. yield.



CTR safety release device.