

# Vantage

## Modular CT logging head system

### APPLICATIONS

- All CT electric-line (e-line) interventions (e.g., production logging, perforating)
- Offshore, land, desert, and Arctic environments
- Oil, gas, and injector wells

### ADVANTAGES

- Saves rig-up time through reliable performance, modular interchangeability, and the unique design of the bayonet CT connector
- Enables rapid deployment through preassembled and pretested connector and termination head that can be stabbed through the injector and stuffing box
- Offers plug-and-play connectivity
- Improves flow paths while enabling interventions in small-ID completions
- Allows multiple runs without changeout
- Allows long string deployments

One of the main challenges in a CT e-line intervention is performing the operation as quickly as possible without equipment failure (i.e., loss of signal in the middle of the logging run). Assembling the electrical terminations at the end of the CT usually requires a significant amount of rig-up time. When multiple runs are needed, regular maintenance of the assembly is necessary to ensure adequate performance, which further increases rig-up time. In addition, when perforating is performed in the same intervention, the propensity for BHA failure increases.

The Vantage\* modular CT logging head system was designed to standardize e-line CT connectivity and improve its reliability. The Vantage system offers a versatile and reliable suite of tools suitable for logging and perforating applications that demand moderate flow-through capabilities.

The modular-component concept was designed to connect with plug-and-play connections that physically and electrically couple the components. These connections enable rapid interchange and reduced nonproductive time.

Each Vantage system component serves a unique function that, as a system, provides

- wired CT connectivity
- flowback protection
- downhole tool disconnection
- deployment under pressure.

The Vantage system incorporates an innovative CT bayonet connector and a cable termination module with flush OD that enables the connections and cable to be partially terminated and tested before they are sent to the well site. Then, at the well site, the CT with the bayonet connector and cable termination can be stabbed through the injector head.

The system's rugged design increases the reliability and safety of the CT head for perforating applications. Hardened replaceable wear rings extend the tool's life and protect Inconel® housings from abrasion and wear. This design allows increased flow rates with less pressure loss, less erosion, and more debris tolerance. High-strength corrosion-resistant-alloy materials offer superior performance in the most challenging environments.



1) Bayonet connector.

2) Cable termination tool plus wired check valve.

3) Wired cycle disconnect plus quick stab connector.

4) Deployment bar.

## Reliability

High-strength, corrosion-resistant alloy materials offer superior performance in the most challenging environments. Hardened replaceable wear rings extend the tool's life and protect expensive Inconel® housings from abrasion and wear. The rugged design

- increases the reliability and safety of the CT head for perforating applications
- allows increased flow rates with less pressure loss, less erosion, and more debris tolerance.

With the Vantage 2½-in system, flow can be diverted all the way through the assembly, enabling hydraulic operation of wired-through tools below.

### Vantage 1⅞-In Specifications

|                            | Cable Termination Tool                         | Wired Check Valve                                   | Wired Cycle Disconnect                       | Quick Stab Connector                         | Deployment Bar                               |
|----------------------------|--|---|--|--|--|
| Outside diameter           | 1.695 in [4.3 cm]                              | 1.695 in [4.3 cm]                                   | 1.695 in [4.3 cm]                            | 1.695 in [4.3 cm]                            | 1.695 in [4.3 cm],<br>1.51-in [3.8-cm] seal  |
| Tool length                | 26.77 in [68 cm]<br>(2.23 ft [0.68 m])         | 24.34 in [61.8 cm]<br>(2.021 ft [0.62 m])           | 26.41 in [67.1 cm]<br>(2.20 ft [0.67 m])     | 2.75 in [7 cm]<br>(0.23 ft [0.07 m])         | 84 in [213.4 cm]<br>(7 ft [2.13 m])          |
| Working pressure           | 13,500 psi [0.09 MPa]                          | 13,500 psi [0.09 MPa]                               | 13,500 psi [0.09 MPa]                        | na†  | na   |
| Tensile strength           | 40,000 lbm [18,144 kg]                         | 40,000 lbm [18,144 kg]                              | 40,000 lbm [18,144 kg]                       | 40,000 lbm [18,144 kg]                       | 40,000 lbm [18,144 kg]                       |
| Temperature range          | 0 degF to 375 degF<br>[−18 degC to 191 degC]   | 0 degF to 375 degF<br>[−18 degC to 191 degC]        | 0 degF to 375 degF<br>[−18 degC to 191 degC] | 0 degF to 375 degF<br>[−18 degC to 191 degC] | 0 degF to 375 degF<br>[−18 degC to 191 degC] |
| Max. flow rate             | 1 bbl/min [0.16 m³/min]                        | 1 bbl/min [0.16 m³/min]                             | No flow                                      | No flow                                      | No flow                                      |
| Pressure at max. flow rate | 128 psi [0.88 MPa]<br>(with wired check valve) | 128 psi [0.88 MPa]<br>(with cable termination tool) | na   | na   | na   |
| Fluid compatibility        | Acid, H <sub>2</sub> S                         | Acid, H <sub>2</sub> S                              | Acid, H <sub>2</sub> S                       | Acid, H <sub>2</sub> S                       | Acid, H <sub>2</sub> S                       |
| Cable type                 | Mono, coaxial, hepta                           | na  | na   | na   | na   |
| Conductor                  | Mono   | Mono  | Mono   | Mono   | Mono   |

### Vantage 2½-In Specifications

|                            | Cable Termination Tool                       | Wired Check Valve                            | Wired Cycle Disconnect                       | Slim Line Adapter                            | Quick Stab Adapter                           |
|----------------------------|--|--|--|--|--|
| Outside diameter           | 2.5 in [6.35 cm]                             |
| Tool length                | 26.3 in [66.8 cm]                            | 31.3 in [79.5 cm]                            | 35.0 in [88.9 cm]                            | 14.2 in [36.1 cm]                            | 19.5 in [49.5 cm]                            |
| Working pressure           | 22,000 psi [151.68 MPa]                      |
| Tensile strength           | 58,000 lbm [26,308 kg]                       |
| Temperature range          | 0 degF to 350 degF<br>[−18 degC to 177 degC] | 0 degF to 350 degF<br>[−18 degC to 177 degC] | 0 degF to 350 degF<br>[−18 degC to 177 degC] | 0 degF to 350 degF<br>[−18 degC to 177 degC] | 0 degF to 350 degF<br>[−18 degC to 177 degC] |
| Max. flow rate             | 3.0 bbl/min [0.48 m³/min]                    | 3.0 bbl/min [0.48 m³/min]                    | 3.0 bbl/min [0.48 m³/min]                    | 3.0 bbl/min [0.48 m³/min]<br>per plug        | 3.0 bbl/min [0.48 m³/min]<br>per plug        |
| Pressure at max. flow rate | 324 psi [2.23 MPa]                           |
| Fluid compatibility        | Acid, H <sub>2</sub> S                       |
| Bottom connection          | 2.1875-10 SA box                             | 2.1875-10 SA box                             | 2.1875-10 SA box                             | 2½ wireline 31 pin                           | 2½ wireline 31 pin                           |
| Cable type                 | Mono, coaxial, hepta                         | na   | na   | na   | na   |
| Conductor                  | Hepta, mono                                  |

†na = not applicable