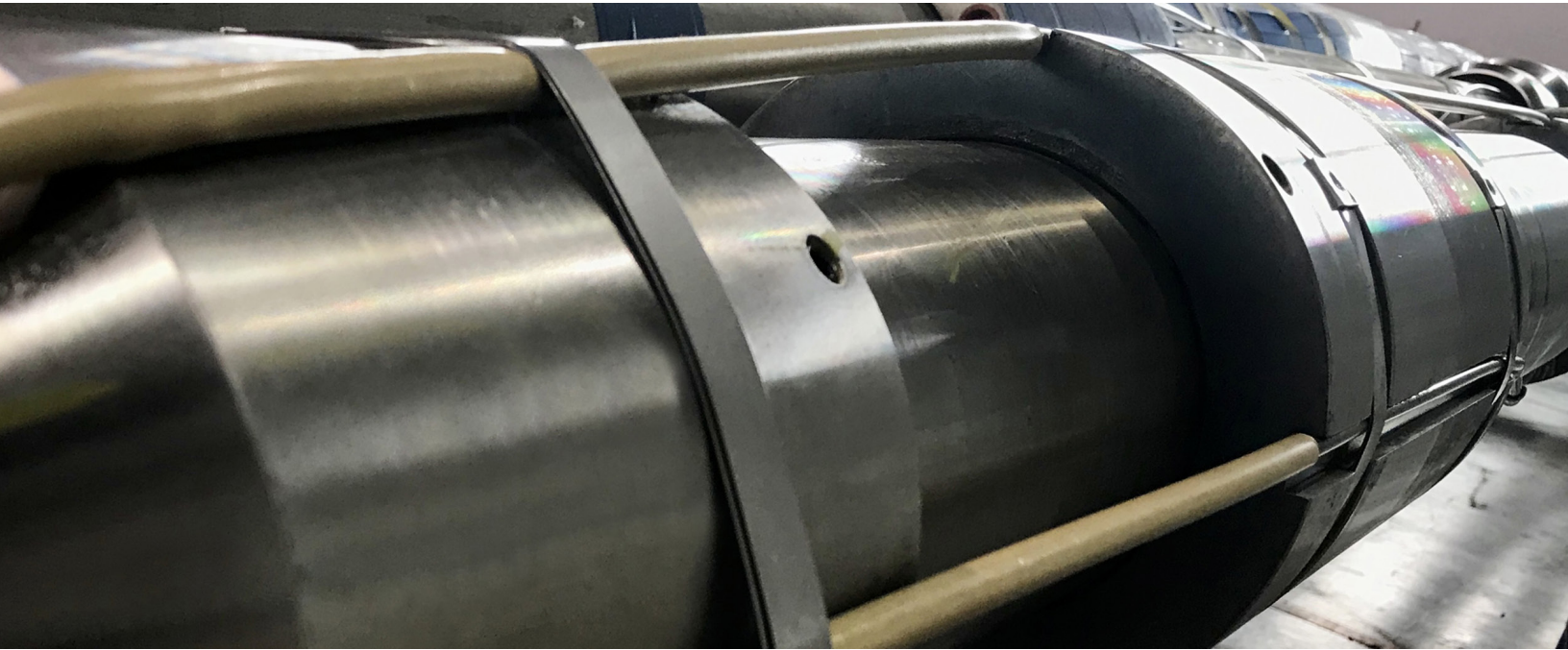




COMPLETION SERVICES

SECTION 6

Intelligent Systems



INTELLIGENT SYSTEMS

Hydraulic-Actuated Well Completion (HAWC™) System

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Hydraulic- Actuated Well Completion (HAWC™) System

HAWC™ is Superior's intelligent well completion package, consisting of a pass-through production packer and independently operated hydraulic control sleeves. The system has numerous applications in deepwater, multizone, high-angle completions, and production field management. It provides flexibility to selectively control flow from various zones in a single well and has the capability to remotely shift between producing zones, thereby maximizing overall production. With real-time measurement of downhole temperature and pressure, operators can isolate and adjust the internal flow. The HAWC™ system is known for its reliability, and provides consistent long-term performance in challenging downhole environments.

APPLICATIONS

- Deepwater wells
- Multizone completions
- Remote production/injection access
- High-angle completions
- Production field management

Features and Benefits

- Reliably and economically controls multiple completions in a single well and remotely shifts production between zones to optimize field production
- Provides an additional barrier for well control operations when demobilizing the rig
- The HAWC well completion package includes:
 - HAWC system valves that allow remote flow control of multiple zones
 - High-pressure isolation production packer with multiple pass-throughs
 - The integration of surveillance equipment that provides real-time, reliable, multizone measures of downhole temperature and pressure



Hydraulic-Actuated Well Completion (HAWC™) System

SYSTEM COMPONENTS

1. Hydraulic Set Instring Pass Through Packer (cut or shear release)
2. Break assembly
3. Upper HAWC System Valve (w/ "R" Profile Sub)
4. Lower HAWC System Valve (w/ "R" Profile Sub)
5. Pressure containing shroud assembly

TECHNICAL DATA

Differential Pressure Rating	Up to 15,000 psi (103.42 MPa) VO Rated w/ 10% Safety Factor and Temperature De-Rated
Maximum Temperature	350°F (177°C)

Hydraulic-Actuated Well Completion (HAWC™) System													
Casing Size		Casing Drift Diameter		Lower Sleeve				Upper Sleeve				Connection	
inch	mm	inch	mm	Size		ID		Size		ID		inch	mm
9 5/8	244.5	8.5	2.159	3.5	88.9	2.75	69.9	3.5	88.9	2.75	69.9	3.437	76.2
						2.813	71.45	4.5	114.3	3.347	85.013		
9 7/8	250.8	8.5	2.159	3.5	88.9	2.75	69.6	3.5	88.9	2.75	69.9	3.437	76.2
						2.813	71.45	4.5	114.3	3.347	85.013		
10 3/8	257.17	8.5	2.159	3.5	88.9	2.75	69.6	3.5	88.9	2.75	69.9	3.437	76.2
						2.813	71.45	4.5	114.3	3.347	85.013		

REFERENCES

HydroSeal HP-PT packer data sheet
HAWC system accessories data sheet
HAWC system valve data sheet
TIP-PT packer data sheet
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