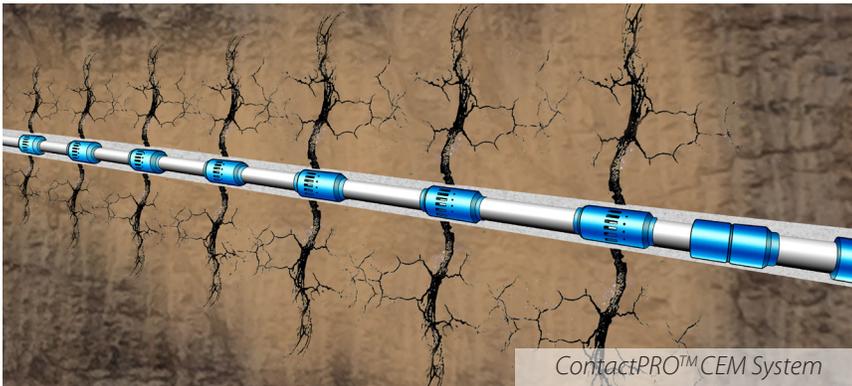


## OVERVIEW

The ACTS ContactPRO™ CEM system is a multi-stage fracturing valve completion solution that enables the stimulation of multiple single-entry point zones along the wellbore, with zonal isolation achieved through cementing the completion string in place. The system components incorporate compact torque-through designs with efficiency and reliability in mind. Up to 61 stages can be performed with a 4½" [114.3 mm] completions system in a single wellbore with up to 15,000 psi [103 MPa] pressure capability and minimum ball on seat performance of 6,000 psi [41 MPa]. The system can be combined with alternative completions systems for hybrid applications to allow for additional stages in longer laterals.

## CEMENTED SYSTEM - HOW IT WORKS



The completion liner is run in the wellbore with a float shoe on bottom. The ContactPRO™ CEM valves are specifically designed for cemented applications, incorporating features which prevent valve lock-up. A unique cement inhibiting grease is applied to the valves prior to shipping which ensures the cement will not set up in the valves' internal geometries and allow for effective cleaning. A collapsible wiper ball wipes the completion string as it passes through each ContactPRO™ CEM valve and the ACTS Cemented Pressure Actuated Toe Valve. The collapsible wiper ball will seat inside and activate the ACTS Liner Closing Valve to complete the cementing operation and isolate the completion string. Once the cement has set, pressure is applied from surface to perform a casing integrity test. Following a successful test, the ACTS Cemented Pressure Actuated Toe Valve is activated and fracturing operations can begin. Incrementally larger Frac Balls are then pumped from the surface to initiate each ContactPRO™ CEM valve providing access to the reservoir and allowing stimulation operations to be performed at each stage along the wellbore. The system enables continuous pumping and reduces overall completions time.

## Applications

- Cemented Horizontal Multi-stage Completions
- Conventional and Unconventional Reservoirs
- Hybrid Completions
- Liner or Monobore Completions
- High Pressure, High frac-rate Completions

## ContactPRO™ Features and Benefits

- Compact Packer and Valve design – no pup joints and can be torqued through
- Up to 61 stage count on 4½" [114.3 mm] Cemented system
- Recessed ball seat design provides superior ball on seat performance over competing systems (minimum 6,000 psi [41 MPa] on standard system)
- Full bore system, post milling
- Permanent Lock or Re-closable versions
- Reliable re-sealability upon reclosing through non-elastomeric V-seal stacks
- Premium thread and metallurgies available for various wellbore environments

## ContactPRO™ CEM Multi-stage Fracturing System

After the frac operations are complete, the frac balls will unseat and allow production to commence. A range of non-dissolvable and dissolvable ball options are provided which can be tailored to your unique application. One ball material type available is dissolvable when exposed to water, which does not require chlorides to be present for the dissolving action to occur. The valves' seats and balls are available in 1/24" [1.06 mm] and 1/16" [1.59 mm] increments permitting increased interval density capability to enable increased stimulation pump rates and production optimization. The ball seats are designed with anti-rotational features to ensure reliable seat mill-out performance in open or closed modes, giving full bore access if required.



### VALVE STYLE AND FEATURES

Style	Application	Description
ContactPRO™ CEM PL	Cemented	Permanent Lock
ContactPRO™ CEM RC	Cemented	Re-closable*

\*Can be shifted closed post mill-out with shifting tool conveyed on coil tubing or jointed pipe

### SYSTEM SPECIFICATIONS\*

System Size**	Casing Weight	Stage Count
4½" [114.30 mm]	11.60-13.50 lb/ft [17.26-20.09 kg/m]	up to 61
4½" [114.30 mm]	15.10 lb/ft [22.47 kg/m]	up to 59

\*Valve mechanical characteristics meet or exceed the API specifications of host liner

\*\*5½" [139.70 mm] system available on request