

# PremiumPort



## PremiumPort3 OCI

ACT's (Absolute Completion Technologies') PremiumPort 3 OCI (PP3OCI) is an innovative downhole multi-stage full-bore valve that can be shifted to a 1) open, 2) closed, or 3) ICD (Inflow Control Device) position, thereby providing flexibility and economy in stimulating and/or producing/injecting complex reservoir intervals. The PP3OCI can be supplied separately or as an integral part of ACT's advanced ICD screens capable of both sand control and flow control.

With the PP3OCI a completion can be run in several modes, such as with valves closed to allow floating string downhole to minimize torque and drag. Valves can then be opened (via shifting tool as discussed below) to selectively acidize followed by shifting to ICD mode for production to prevent/delay water coning by equalizing production "influx" from heel to toe (or for injection to equalize toe-to-heel "outflux" for water/steam injectors). Individual zones can subsequently be acidized or closed depending on production results.

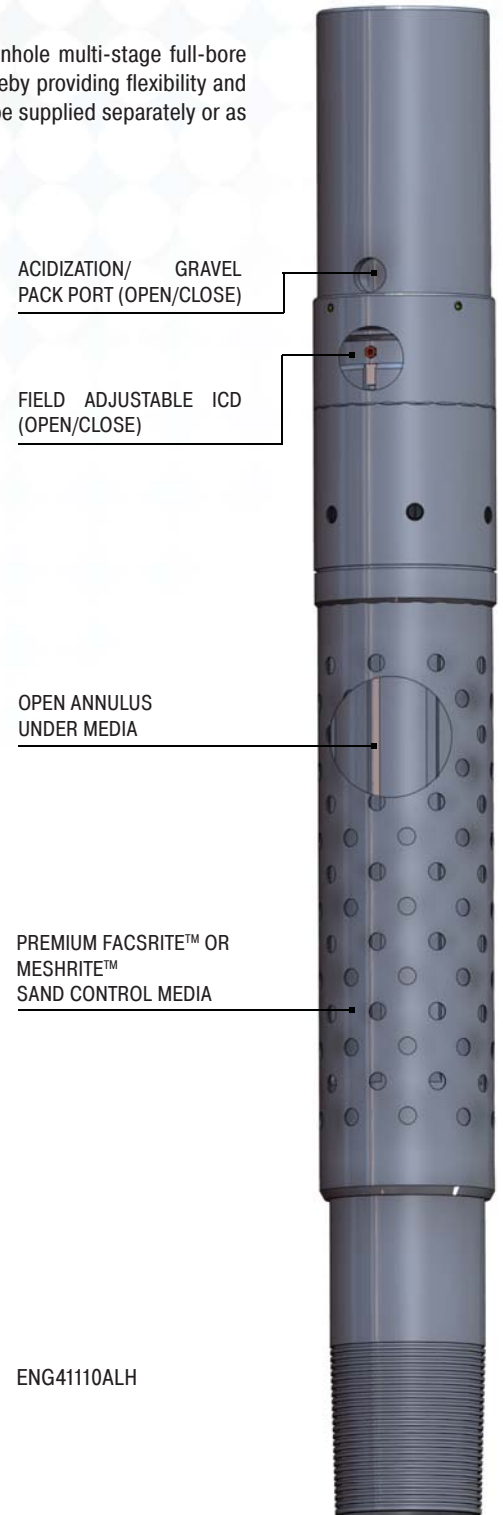
Alternatively, the completion can be run with valves open for gravel packing, and then shifted to ICD mode. Or, the completion can be run with valves in ICD mode for production/injection. Individual zones can subsequently be acidized or closed depending on production response.

For different applications/objectives ACT offers 4 other PP valves: i) PP2OC (to add extra acidizing valves in the completion string); ii) PP3CII to allow a second ICD setting or higher flow through the media for acidizing or gravel packing; iii) PP4OCII to add an external port to PP3CII to bypass the media; iv) PP4CIII to allow an additional ICD setting to PP3CII. Other variations for specialty applications are available on request.

Each PP valve in the completion string can accommodate a unique bio-tracer to provide surface indication of the oil and water flux from each valve. For consolidated reservoirs, the PP3OCI can be integrated with ACT's FloRite™ ICD (i.e., FloRite PP3) screen which combines flow nozzles with FacsRite™ sand control media. Annulus compartmentalization can be achieved with either swell packers or ACT's new HydroElement™ hydraulically set packer. For reservoirs that are not consolidated, the PP3OCI can be integrated with ACT's FluxRite™ ICD screen (i.e., FluxRite PP3) which combines flow nozzles with the popular MeshRite™ sand control media.

The PP3OCI utilizes three one-inch diameter stimulation ports that provide an abundance of flow area, and up to six (standard is 4) field-adjustable nozzles of varying sizes (standards are 4.0, 2.5 and 1.6 mm) made of Tungsten Carbide and coated with Titanium Nitride for maximum erosion/corrosion resistance. Each valve is designed to the highest tensile strength and operating differentials of 5000 psi to accommodate high pump rates of various fluids and/or sand mixtures with minimal pressure drop. In its closed position the PremiumPort's ICD and stimulation port components are not exposed to internal string pressures.

Each flow port and ICD is isolated by the selective ports proprietary seal mechanism that utilizes volume diversion technology to virtually eliminate the risks of seal washout caused by sudden high pressure differential, and seal erosion caused by high volume solids during opening, closing, and stimulating.



### Features Benefits:

- Valve can be shifted to open, closed or ICD mode
- Full bore; no restricted ID
- Proven seal technology, tested to 1500 reciprocations at 2000 lbs with no observed seal degradation
- Large flow through area allowing very high flow rates
- Available for sweet or sour service environments and HTHP applications
- Unlimited open, close, and reopen possibilities to control water and allow for future stimulation operations
- Same design for profile control for production and injection applications
- Valves can be shifted in any order
- Time to manipulate each valve is only ~30 seconds
- Each valve can be shifted with CT while pulling out of hole without depressurization
- No work string depressurization necessary to release from valve
- Procedures available for determining valve position if unknown

Singapore  
13B Bukit Pasoh Road  
Singapore 089827  
direct: +65 6296 3273 fax: +65 6296 3554  
email: info@absoluteCT.com

Canada  
#9, 2816 21st Street NE  
Calgary, Alberta T2E 6Z2  
direct: 403-266-5027 fax: 403-265-2601  
email: info@absoluteCT.com

[WWW.ABSOLUTECT.COM](http://WWW.ABSOLUTECT.COM)



# PremiumPort



Upon activation, the selective port's sealing technology is designed to maintain the integrity of the interior of the valve to ensure consistent, reliable, and safe operation during future manipulations.

## PortPositive Shifting Tool (PPST)

PP valve positions are shifted downhole using ACT's patent pending PortPositive Shifting Tool (PPST) which guarantees positive indication of valve manipulation on every operation. The PPST can be run on any work string, either coil tubing (CT) or jointed pipe. The treatment fluid is injected either down the workstring or the annulus (between work string and casing). The PPST is staged by differential pressure created in the work string by either increasing pressure or circulating fluids that expand an integral bladder; the bladder both activates retractable keys that shift the PP3OCI into a desired position and protect the shifting tools internal components from solids deposition thereby virtually eliminating any risk of failure.

The PPST automatically releases when a PP valve is shifted to the desired position. Any of the PP valves in the well can be selectively manipulated to any position, in any order, and on one trip while concurrently stimulating any interval of choice. Any number of PP valves can be activated on a single trip. The PPST comes complete with two fluid control valve options, the LF for low fluid level wells and the FH for full fluid wells.

## PortPositive Shifting Tool LF

The PPST LF configuration is run in wells with low fluid levels and minimum reservoir pressure. A low level equalization valve added to the PPST maintains a full column of fluid in the work string. The keys of the PPST are activated by pumping past an orifice that creates differential pressure that expands the shifting tools unique internal bladder.

Stopping pumping immediately depressurizes the tool while maintaining a full fluid head in the work string eliminating any wait time and associated costs after performing service operations at each port. Clean out operations can be maintained while pumping through the fluid control valve. An increased pressure differential relative to an increase in predetermined pump rates will shear the fluid control valve from its seat to

clear the work string of any restrictions. A dropped ball serves as a hydraulic secondary release.

## PortPositive Shifting Tool FH

The PPST FH option is utilized on new drills or higher pressured reservoirs that can support a full column of fluid. The FH fluid control valve is normally closed; upon pressurization, the PPST's unique internal bladder is expanded thereby triggering the shifting keys. The PP valve is then shifted to its desired position; if required stimulation can be completed before the PP Valve is shifted. Over-pressurization of the work string changes the FH fluid control valve into its equalized position which relaxes the bladder and contracts the shifting keys.

Downward movement of the work string will not close the FH control valve thereby allowing, if required, full circulation at the bottom of the tool for well clean out. An upward movement of the work string changes the FH fluid control valve back to its closed position resetting the shifting tool for subsequent operations.

## Procedure for Valve Manipulations of the PremiumPort 3 OCI

### A) Open the ICD Ports - Close the Stimulation Ports

The PPST is positioned below the PP3OCI valve. The work string is pressurized, and the shifting tool is then simply pulled through the valve. A slight over-pull indicates movement of the PP3OCI valve indicator ring, followed by the automatic release of the shifting tool. Equalization of the work string at the shifting tool retracts the setting keys.

### B) Open the Stimulation Ports

The PPST is positioned above the PP3OCI valve. The work string is pressurized, and then the shifting tool is simply pushed through the valve. A slight decrease in force indicates movement of the PP3OCI valve indicator ring, followed by the automatic release of the shifting tool. No operator error is possible. Equalization of the work string at the shifting tool retracts the setting keys.

### C) Close the Valve

A second shifting tool run in series on the work string closes the PP3OCI valve. The PPST is positioned below the PP3OCI valve; the work string is pressurized and then the shifting tool is simply pulled through the valve. A slight over-pull will indicate movement of the PP3OCI valve indicator ring, followed by the automatic release of the shifting tool. No operator error is possible. Equalization of the work string at the shifting tool retracts the setting keys.

Size	OD in	ID in
3.5	4.5	3
4.5	5.2	3.875
5.5	6.2	Drift
6 5/8	7.5	Drift



Singapore  
13B Bukit Pasoh Road  
Singapore 089827  
direct: +65 6296 3273 fax: +65 6296 3554  
email: info@absoluteCT.com

Canada  
#9, 2816 21st Street NE  
Calgary, Alberta T2E 6Z2  
direct: 403-266-5027 fax: 403-265-2601  
email: info@absoluteCT.com

[WWW.ABSOLUTECT.COM](http://WWW.ABSOLUTECT.COM)

