

# Well Intervention

## Production optimization

### Galea™ Autonomous Well Intervention System

The system replaces larger, conventional and more labor-intensive wireline rig-up, such as solids and scale removal. Galea™ can be configured in different operating modes to suit a range of applications and environments.

In **fully autonomous mode**, Galea™ is particularly well suited to locations where access to the wellsite may be challenging, hazardous or even impossible at certain times of the year. In this mode Galea™ is permanently installed onto the wellhead and deploys a toolstring into the well either at regular intervals according to the requirements of the operator, or at intervals defined by the well conditions. Between interventions, the tool string is parked within a short lubricator section which is mounted directly above dual shear-and-seal electrically actuated gate valves. These valves, in conjunction with the stuffing box, provide a triple barrier between the well bore and environment during normal production operations.

In **semi-autonomous mode**, Galea™ performs a pre-programmed intervention sequence, initiated either locally or remote from the wellsite. This configuration is particularly suited to multi-well platforms or pads where regular interventions – such as paraffin wax scraping operations – are required. Having Galea located at the wellsite year-round for repetitive and routine operations eliminates the dependency on wireline unit or truck availability and reduces the impact of operations on the local environment around the wellsite.

In **manual mode**, Galea™ acts as a small-footprint, quick rig-up intervention solution that is operated locally using familiar wireline winch controls. Significant time savings can be made during rig-up and rig-down when compared to conventional operations and when not in use, the system occupies a fraction of the space required for a standard slickline winch unit and PCE package.

With round-the-clock remote monitoring from anywhere in the world offering complete peace of mind, Galea™ can increase production, lower OPEX costs, reduce HSE exposure for operational personnel and significantly reduce the carbon footprint of intervention operations.

#### Features and Benefits

- Allows production to continue in remote locations or areas that are inaccessible to wireline crews at certain times of the year
- Intervention intervals defined by well conditions rather than availability of wireline crew and equipment
- Reduced safety risk for personnel due to reduced manual handling at the well site
- Reduced environmental impact to field and surrounding areas
- Lower investment due to reduction in manpower and associated overheads
- 24/7 monitoring from anywhere in the world
- Reduction in overall costs versus traditional wireline intervention operations





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Technical specifications		
	Current	In development
<b>Codes</b>	API 6A	API 6A
<b>Service</b>	H2S NACE MR 0175	H2S NACE MR 0175
<b>Operational limits</b>		
<b>Working pressure (max)</b>	5,000 psig	10,000 psig
<b>Temperature range (within well)</b>	-20°F to 250°F (-29°C to +121°C)	-20°F to 250°F (-29°C to +121°C)
<b>Temperature range (ambient)</b>	-4°F to +104°F (-20°C to +40°C)	-40°F to +104°F (-40°C to +40°C)
<b>Overall stick-up height</b>	20ft. (6.1m)	Per customer requirements
<b>General</b>		
<b>Minimum internal diameter</b>	3-1/16"	Per customer requirements
<b>Connections</b>	3-1/16" 5,000psi, API flange	Per customer requirements
<b>Gate valve</b>		
<b>Valve closing time</b>	30 sec (max)	30 sec (max)
<b>Valve opening time</b>	30 sec	30 sec
<b>Visual position indicator</b>	Yes (open/close)	Yes (open/close)
<b>Manual override</b>	Yes (with interlock)	Yes (with interlock)
<b>Stuffing box</b>		
<b>Type</b>	Automated elastomer	Automated elastomer
<b>Wire size</b>	0.092"	0.108" or 0.125"
<b>Winch</b>		
<b>Drive</b>	Worm and pinion	Worm and pinion
<b>Power</b>	12v DC or 24v DC	12v DC or 24v DC
<b>Load (max)</b>	992 lbs (450 kg)	1,984 lbs (900 kg)
<b>Drum capacity</b>	4265' (1,300 m)	> 10,000' (3,048 m)
<b>Slickline</b>		
<b>Wire diameter (min)</b>	0.092"	0.108" or 0.125"
<b>Cable length for intervention</b>	4265' (1300 m)	> 10,000' (3048 m)
<b>Material</b>	Steel	Per customer requirements

Note: Other sizes, configurations and pressure ratings are available to meet most applications, for more information contact your local Expro representative or email [wellintervention@expro.com](mailto:wellintervention@expro.com)