

# Symphoni addressable perforating system

## Maximize unconventional reservoir potential

The **Symphoni™ addressable perforating system** is the next generation unconventional perforating platform, driving cost reduction and lowering the complexity of work for field crews at the wellsite.

Fully flexible and customizable, the plug-and-play gun system simplifies assembly at wellsite using addressable/selectable guns without the use of ported subs—a common source of nonproductive time. The system comes with a disposable tandem connector and surface checkout system to ensure operational integrity before running in hole.

Conventional pump-down perforating techniques can be costly, in terms of both production and efficiency. Port plugs and additional connections can lead to misfires, creating NPT. And, time spent initiating and executing between clusters, assembling and verifying the perforating system between each deployment between wellhead connections leads to invisible lost time.

The Symphoni perforating system is fully assembled in a manufacturing environment for rapid delivery and connection in the field, reducing

operating time and NPT. Designed to eliminate wire connections and port plugs which, in the past, have been prone to failures, the customizable multigun system maximizes production by increasing clusters per stage with confidence.

### Enhanced HSE features

The Symphoni perforating system design eliminates the effect of static electricity, uncontrolled stray voltage and current, and radio frequency saturation on the wellsite by using integrated circuitry with a failsafe mechanism to prevent surface detonation. When combined with the addressable release tool from Baker Hughes, the system also prevents uncontrolled surface separation. The system is also completely disposable and recyclable, reducing waste and saving time.

### Fully compatible systems

All Baker Hughes shaped charges are fully compatible with the Symphoni perforating system, including the new **TrueJet™ uniform-hole perforating charges** which expand our portfolio

### Applications

- Unconventional reservoirs
- Plug-and-perf completions

### Benefits

- Reduces onsite operating time for perforating operations
- Reduces NPT by eliminating port plugs and wiring on wellsite
- Maximizes production by increasing clusters per stage with confidence
- Provides a significantly safer operating system in an operations environment with potential stray voltage and radio frequency emissions

of shaped charges to address the unconventional market. In addition, the Symphoni perforating system can use **DeepConnect™ charges**, which work with high-temperature explosives required in ultradeep frontiers.

Contact your Baker Hughes representative to learn how the Symphoni addressable perforating system can improve connection to—and production from—your reservoir.

## Symphoni modular cluster features and technical specifications

- Integrated modular plug-and-play design
- Compatible with Baker Hughes standard charges and industry commercial charges
- Up to 29 clusters per run

### Modular Cluster Specifications

Gun size	2.5-in. (63.5 mm)	3.125-in. (79.4 mm)
Temperature rating*	325° F (163°C)	
Pressure rating	0° Phase	13,000 PSI (89.6 MPa)
	180° Phase	18,000 PSI (124.1 MPa)
	60° Phase	20,000 PSI (137.8 MPa)
	90° Phase	20,000 PSI (137.8 MPa)
Top connection	1 <sup>5</sup> / <sub>8</sub> -in. go pin	

## Symphoni cartridge features and technical specifications

- Highest safety standard against radio frequencies, stray voltages, and static electricity
- Real-time monitoring to check guns
- Gun skipping capability

### Cartridge Specifications

	All Sizes
Temperature rating*	350° F (177°C)
Pressure rating	20,000 PSI (137.8 MPa)
Insulation resistance	500 mega ohms
DC voltage resistance	500 VDC for up to 10 seconds API RP67 tested and approved
AC voltage resistance	API RP67 tested and compliant
Radio frequency	
Max number of cartridges per run	30

