

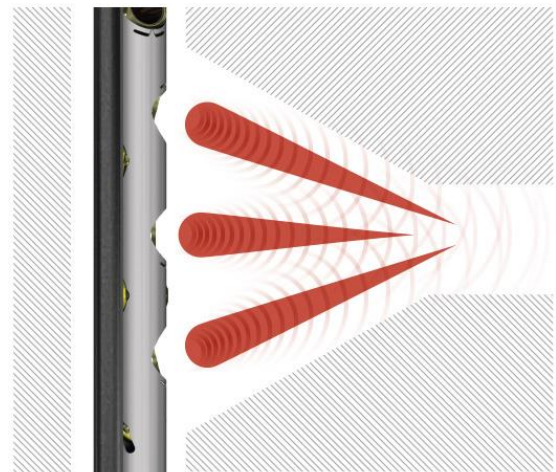
## Why TriStim®?

TriStim® exploits the beneficial aspects of firing a bank of three angled charges which intersect, allowing the converging shockwaves to interact constructively. TriStim® displays significant improvements in penetration, tunnel volume and flow efficiency when compared with conventional configuration. Modelling work indicates a number of further technical benefits resulting in enhanced flow, offering significant economic and operational performance enhancements.

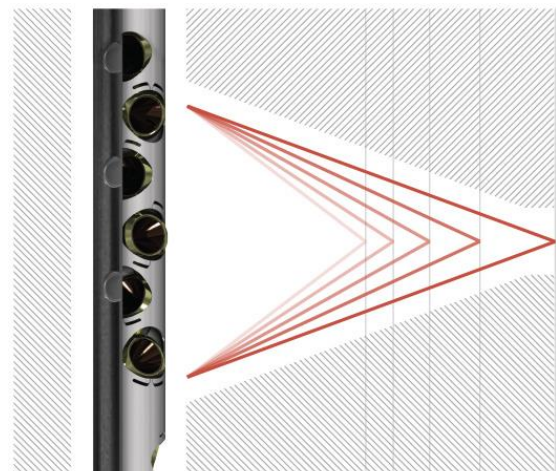
### Key Features/Benefits

- *Standard industry equipment with a configuration change of charge angles*
- *Standardised plug and play gun system for ease of interface*
- *Productivity uplift greater than 50% (PI) based on API Section IV testing and inflow modelling by independent consultancy LR Synergy*
- *300% increase in perforation tunnel volume & 84% increase in surface area*
- *Fracture dynamics significantly enhanced through optimized geometry & up to 85% reduction in skin, resulting in treatment pressure reductions*
- *Simplicity and cost savings; no downside or incremental risk for the operator*

TriStim® Cone



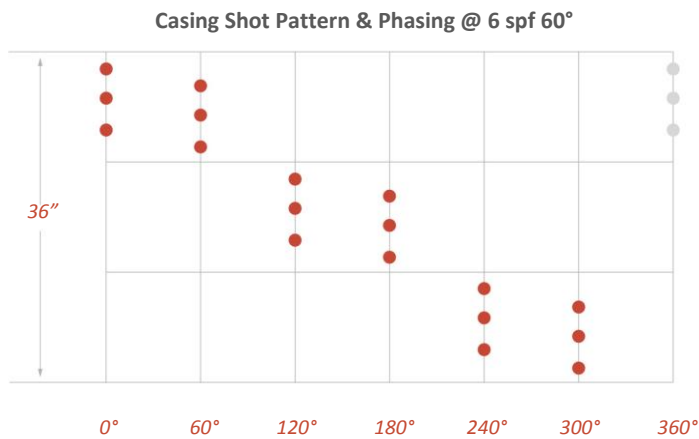
Outer charge angle / Penetration depth



20° 17.5° 15° 12.5° 10°

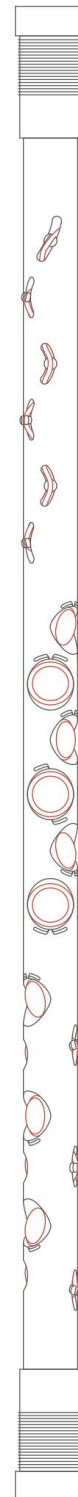
# Applications

- *Conventional production*
- *Stimulation*
- *Hydraulic Fracturing*



### 2 7/8" TriStim Specs

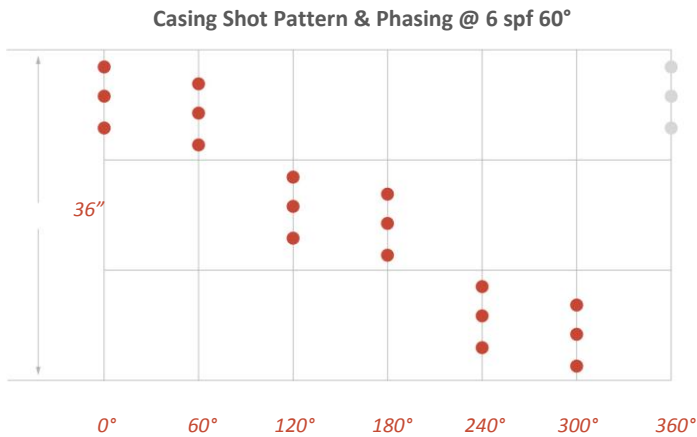
Gun Type	<i>Expendable, Scalloped</i>
Gun OD	<i>2.875"</i>
Gun swell (fluid)	<i>3.06"</i>
Shots per ft	<i>6</i>
Loaded weight per ft (per m)	<i>13.75 lbs (20.47kg)</i>
Blank weight per ft (per m)	<i>11.61 lbs (17.28kg)</i>
Charge load	<i>15g</i>
Detonating Cord	<i>80gr Extra High Velocity</i>
Max Pressure (psi)	<i>20,000</i>
Tensile Strength	<i>1,110,000 N / 249,000 lbf</i>
Carrier Thread	<i>2 1/2" – 6 TPI Acme</i>



1. All charges types are available: RDX, HMX & HNS
2. Temperature rating based on explosive type
3. Charge angle selection is determined by Delphian Ballistics ProBallistics Analysis

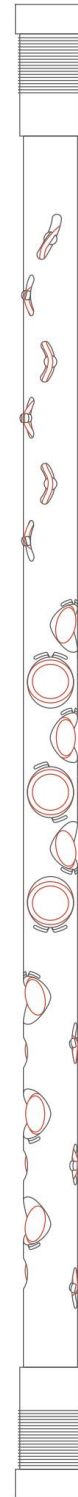
# Applications

- *Conventional production*
- *Stimulation*
- *Hydraulic Fracturing*



### 3 1/8" TriStim Specs

Gun Type	<i>Expendable, Scalloped</i>
Gun OD	<i>3.125"</i>
Gun swell (fluid)	<i>3.46"</i>
Shots per ft	<i>6</i>
Loaded weight per ft (per m)	<i>13.13 lbs (19.51kg)</i>
Blank weight per ft (per m)	<i>10.03 lbs (15.10kg)</i>
Charge load	<i>22.7g</i>
Detonating Cord	<i>80gr Extra High Velocity</i>
Max Pressure (psi)	<i>22,500</i>
Tensile Strength	<i>1,380,000 N / 310,000 lbf</i>
Carrier Thread	<i>2 3/4" – 6 TPI Acme</i>

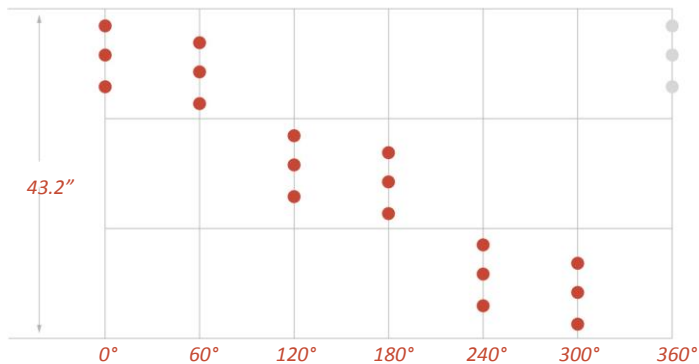


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## Applications

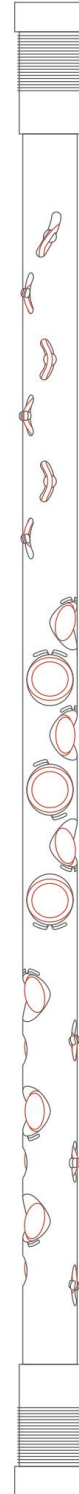
- *Conventional production*
- *Stimulation*
- *Hydraulic Fracturing*

Casing Shot Pattern & Phasing @ 6 spf 60°



### 4 1/2" TriStim Specs

Gun Type	<i>Expendable, Scalloped</i>
Gun OD	<i>4.500"</i>
Gun swell (fluid)	<i>4.88"</i>
Shots per ft	<i>5</i>
Loaded weight per ft (per m)	<i>13.14 lbs (19.51kg)</i>
Blank weight per ft (per m)	<i>10.17 lbs (15.10kg)</i>
Charge load	<i>39g</i>
Detonating Cord	<i>80gr Extra High Velocity</i>
Max Pressure (psi)	<i>16,000</i>
Tensile Strength	<i>1,770,000 N / 398,000 lbf</i>
Carrier Thread	<i>3 15/16" – 6 TPI Acme</i>



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2. Temperature rating based on explosive type
3. Charge angle selection is determined by Delphian Ballistics ProBallistics Analysis