



Elmar Frac Products Spotlight

ASEP™ · Elmar™ · DynaWinch™ · Artex™

Elmar | **NOV** Completion & Production Solutions



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Our Wireline Frac Solutions

Hard working wireline frac crews need tough equipment built for reliability, easy maintenance, and top performance. Our wide range of wireline frac products are engineered and built to the highest standards giving you the benefits of durability in a compact and lightweight design.

From field-proven Artex™ trucks to lightweight well pressure control equipment, we have all the wireline equipment to make you successful on the frac site.

Slick Cable Pack-off

Our 10,000 and 15,000 psi slick cable pack-offs are designed to seal against moving slick jacketed cable under pressure.

The patent-pending lightweight slick cable pack-off works by squeezing either of two independent seal assemblies which are wrapped around the wire. The upper element is used as the primary barrier with the lower element providing back-up; lubricant can be injected above each element. The line wiper rubber is fitted at the top of the pack-off to clean the wire and keep the WPCE clean.

Additionally, the pack-off features an integrated ball check valve and lower line wiper to ensure lubrication oil is retained and well debris kept out. The pack-off is uniquely designed to ensure that the operator is always in control of the pack-off, facilitating fine control of break away cable friction during initial in-hole movement without loss of control.



The lightweight slick cable pack-off can be rated for up to 15,000 psi working pressure (for static cable) and H₂S service and is designed so that the rubber elements in direct contact with the wire can be easily replaced. It is available with full material traceability and third party certification.

A small combination control unit can be used to operate all features. Alternatively, two hand pumps and hoses operate the packing elements while two further pumps and hoses provide lubricant.

Features

- Temperature class: P-V -20°F to 250°F (-29°C to 121°C)
- Material class: DD, sour service
- Designed for smooth-surface jacketed (slick) cable
- 9701048319 rated to 10,000-psi WP (15,000-psi T.P.)
- 9701048644 rated to 15,000-psi WP (22,500-psi T.P.)
- Hydraulic pressure up to 10,000-psi WP

Dimensions and Weights

Working Pressure	Height	Weight
10,000 psi	26 in. (67 cm)	50 lb (23 kg)
15,000 psi	24 in. (62 cm)	46 lb (21 kg)

Part Numbers

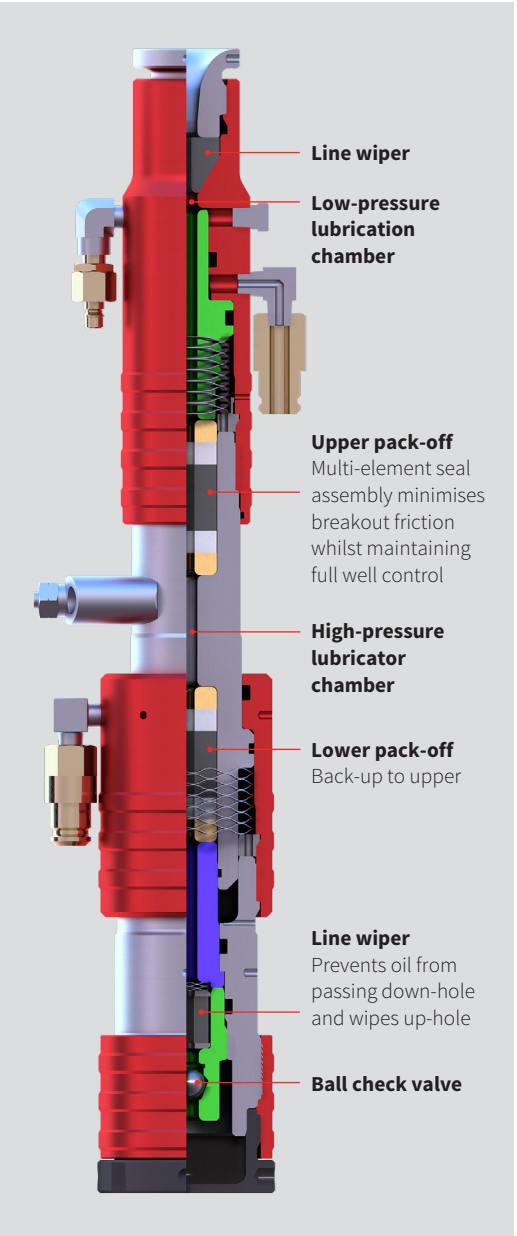
Part Number	WP	Service	Lower Connection	Seal Kit
L-9701048319	10,000 psi	H ₂ S	3-3/4"-8thd (2.500") Elmar	L-9701048319K
L-9701048644	15,000 psi	H ₂ S	3-3/8"-8thd (2.720") Elmar	L-9701048644K

Note: Various lower adapters are available to suit your existing quick union needs. Line size to be specified at time of ordering.

Slick Cable Pack-off Control Module

The air-operated control unit neatly delivers all required functions in one easy-to-operate package.

The unit features three air pumps, one for each function; in addition each circuit has a hand pump incase of air failure. The unit provides pressure for each pack-off piston and lubrication oil minimizes friction and packing wear.



10,000 and 15,000-psi WP combination control unit

Elmar™ QuickLatch™: A rapid and safe wireline PCE connector, **robust and simple by design.**

Our Concept

Use our new QuickLatch connector to make a fast, safe connection when you need it most. Minimize delays on the frac site and keep your people safe with the integrated speed and safety features.

The QuickLatch has a unique combined quick test/load test feature and an interlock, preventing inadvertent opening when well pressure is present.

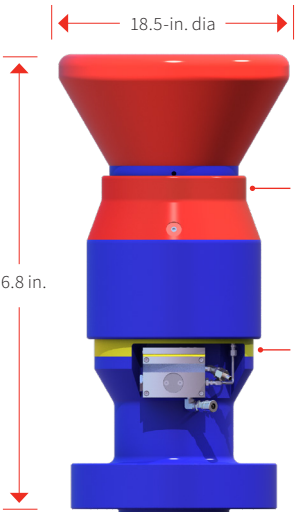
QuickLatch Standard

Our compact QuickLatch connector features a single external moving piston to maximize reliability and keep the mechanism safe from handling damage.

The standard orientation features the stinger pin on PCE quick connect; this facilitates applications where night cap installation is required.

Weight: 396-kg including the night cap.

Figure A



Weight: 873 lb (396-kg)

Colour coding
Each latch is clearly identified with a large painted band, making operation from the control module logical and safe.

Indicator
A highly visible yellow band makes visual identification of latching easy to see from a distance.

Entry guide

The entry guide is designed to make connection to the PCE as simple as possible, the wide-entry guide is moulded in high-visibility and tough red rubber. This allows your crane operator to easily see the guide and aligns the stinger to the bore.

Stinger

The stinger is designed to protect the seals from damage with a long parallel bore aligning the assembly before engaging the seals. The stinger is replaced with a night cap when the well needs to be secured.

Piston

The piston sleeve means minimum of external moving parts maximising reliability and resistance to damage. The large diameter gives the power needed to draw the stinger into position and latch the keys.

Keys

Tough stainless steel keys draw in and lock the stinger holding the pressure loads and keeping the seals engaged. The multi-rib profile gives large load holding surface area for long life and reliability. The 4° taper on the rear key face prevents the latch from being forced opened by well pressure, even if hydraulic control is lost.

Smart manifold

Our manifold brings safety and efficiency features to your operations. Once the piston sleeve has engaged the keys, an automatic pressure quick test and key load test is performed. This can be easily seen on the control panel ensuring you know when it's safe to start. A wellbore interlock prevents unlatching the stinger if well pressure is present. The wrong latch can't be released by accident in the heat of the moment.

Integrated flange

A tough integrated 6BX169 flanged connection makes for simple and reliable connection to your wellhead. Other connections can be supplied on request.

QuickLatch with Night Cap Arm

The night cap is easily removed and fitted using the control module with the night cap arm system. Robust and simple hydraulic cylinders retract the night cap and rotate it to a storage pot for safe keeping during operations. No parts of the night cap arm system protrude above the entry guide when the cap is removed, making it easier for your crane operators when stabbing the PCE.



QuickLatch Inverted

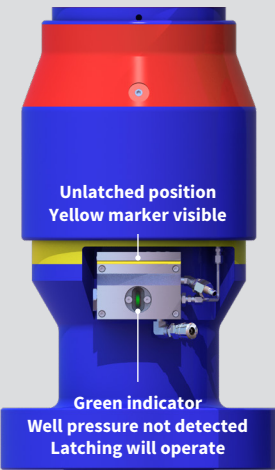
When your operations don't require night caps, our inverted QuickLatch reduces your equipment cost. Connected to the PCE, and with the stinger pin on the well head, a single latch can be used for all of the wells on the pad. This single latch allows a simpler low-cost control module to complete your cost reductions.



Indication

Well pressure and latched/unlatched

Presence of well pressure within the QuickLatch is shown by a red indicator built into the smart manifold block which can be seen through a Perspex® window. When in the unlatched position, the yellow marker is visible, while there is no indicator visible when latched.



QuickLatch Control Module

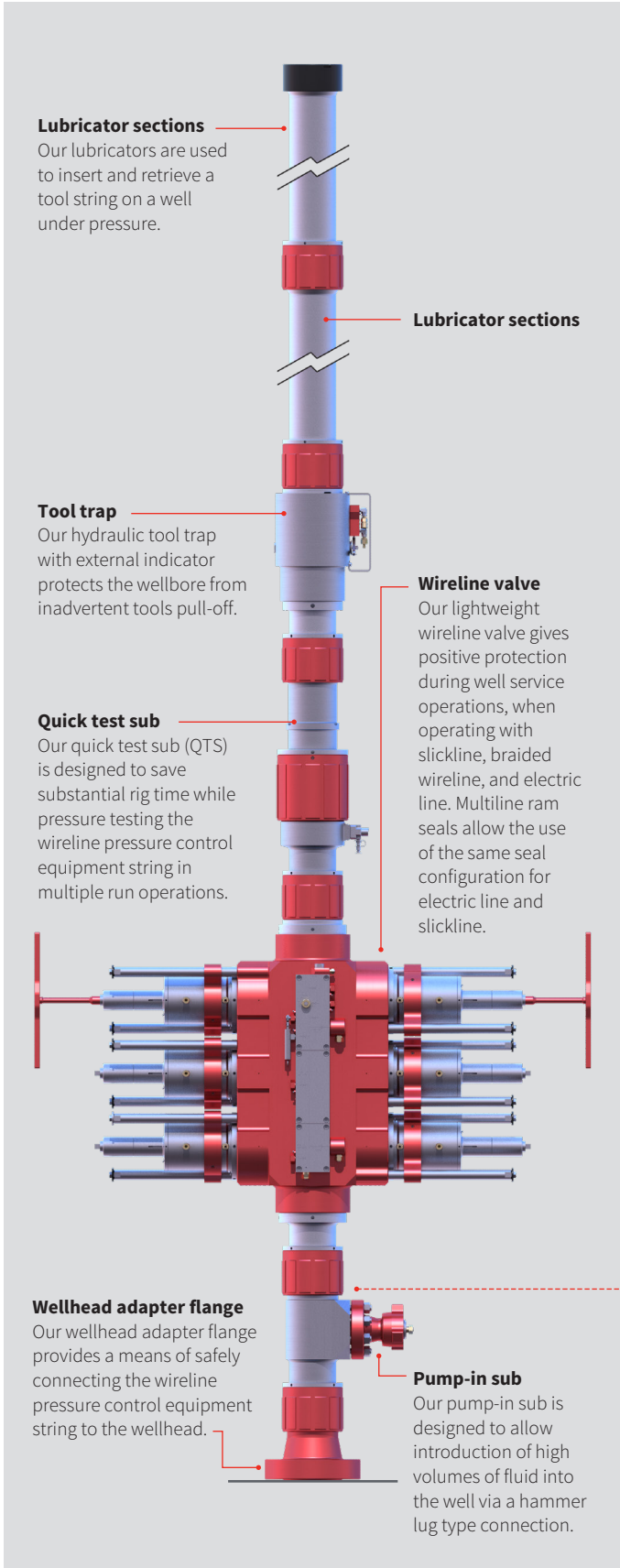
Our QuickLatch control module (QLCM) is an aluminium skid based, diesel powered control module.

The QLCM is designed to operate a QuickLatch and night cap arm on up to four independent wellheads.

Features

- Modular design – options for 1 to 4 control sets
- 3 x 120-ft twin hoses on a common reel for each set
- Redundancy provided by hand pump, auxiliary pressure supply and quick connect bulkhead
- Optional hydraulic tank heater and reel rewind motor
- Automatic idle setting to save fuel when not in use
- Colour coded panel (see figure A, page 6)
- Dimensions and weights (3,000-psi WP version)
 - (H) 51 in. (130 cm)
 - (W) 70 in. (178 cm)
 - (D) 58 in. (148 cm)
 - (Weight) 3,300-lb (1,500-kg)

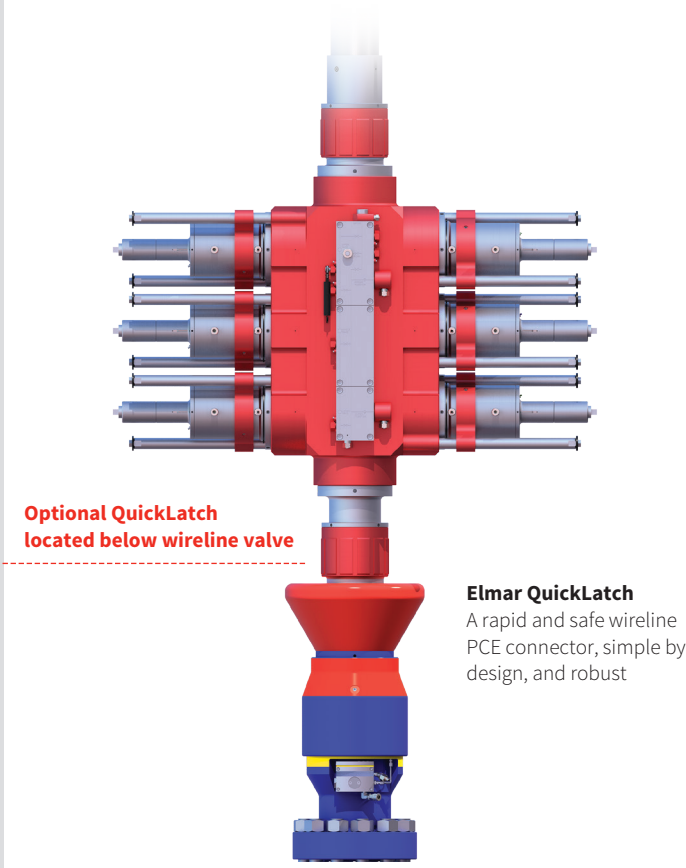




We have introduced a 12.5kpsi, 5 1/8-in. ID wireline pressure control set in response to demand from service companies who conduct pump down operations on unconventional wells. Some components such as the pump-in sub, tool trap, and quick test sub are 60% lighter than the 15kpsi equivalent and reduce the crane load rating requirement.

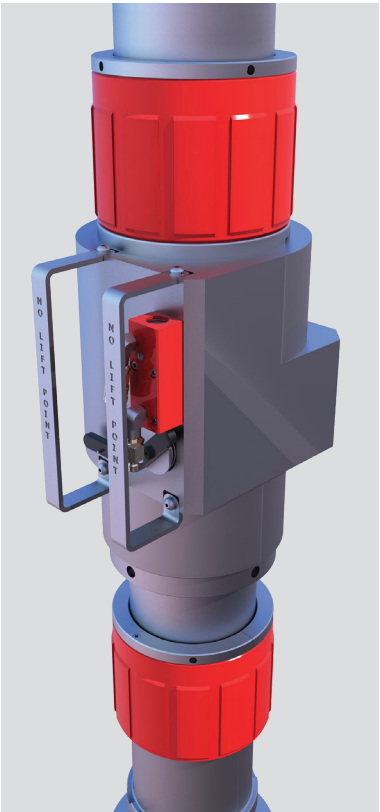
Features and Benefits

- Lightweight equipment reduces crane requirements
- 12,500-psi to suit frac pressures
- Hi-grip collars
- Optional patented constrictor seals

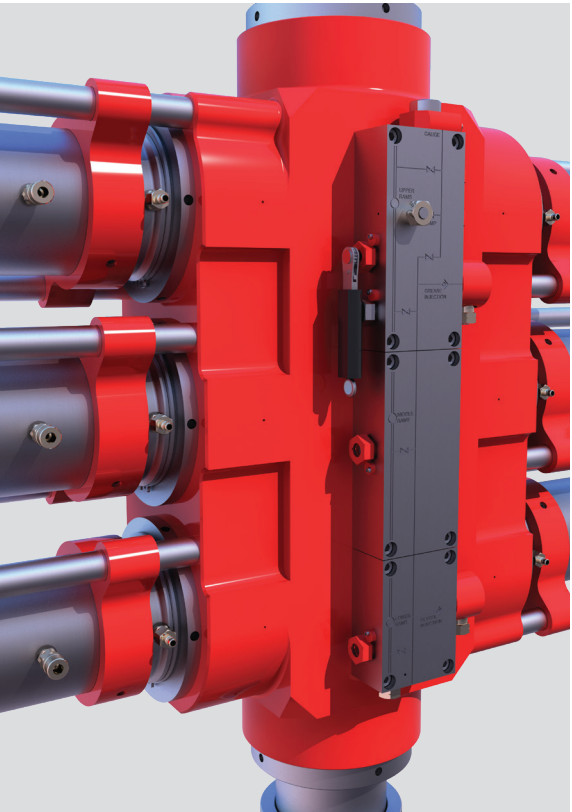


High-strength API 6A and NACE MR0175 compliant low alloy steel is used in the union ends and integral lubricators, with the remainder of the equipment based on re-engineered existing 15kpsi products enabling the sharing of many key ancillary components between sets and therefore reducing the required spares stockholding for Elmar customers. The wireline valve can be fitted with Elmar's ground-breaking and patented constrictor inner seals which are the only third party certified wireline inner seals on the market.

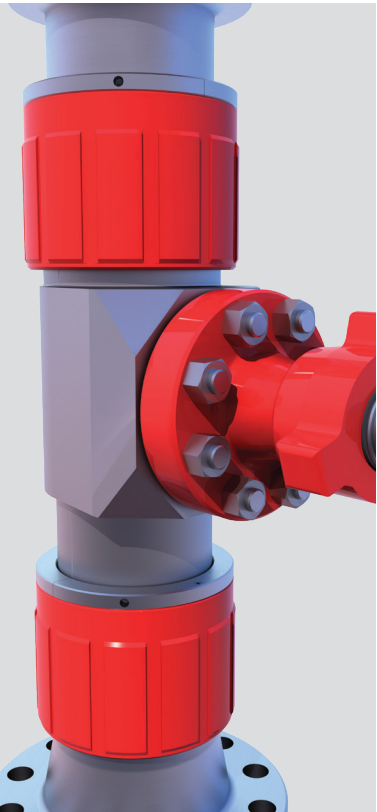
60%
Lighter
than the 15kpsi
equivalent



Re-engineered weight saving design



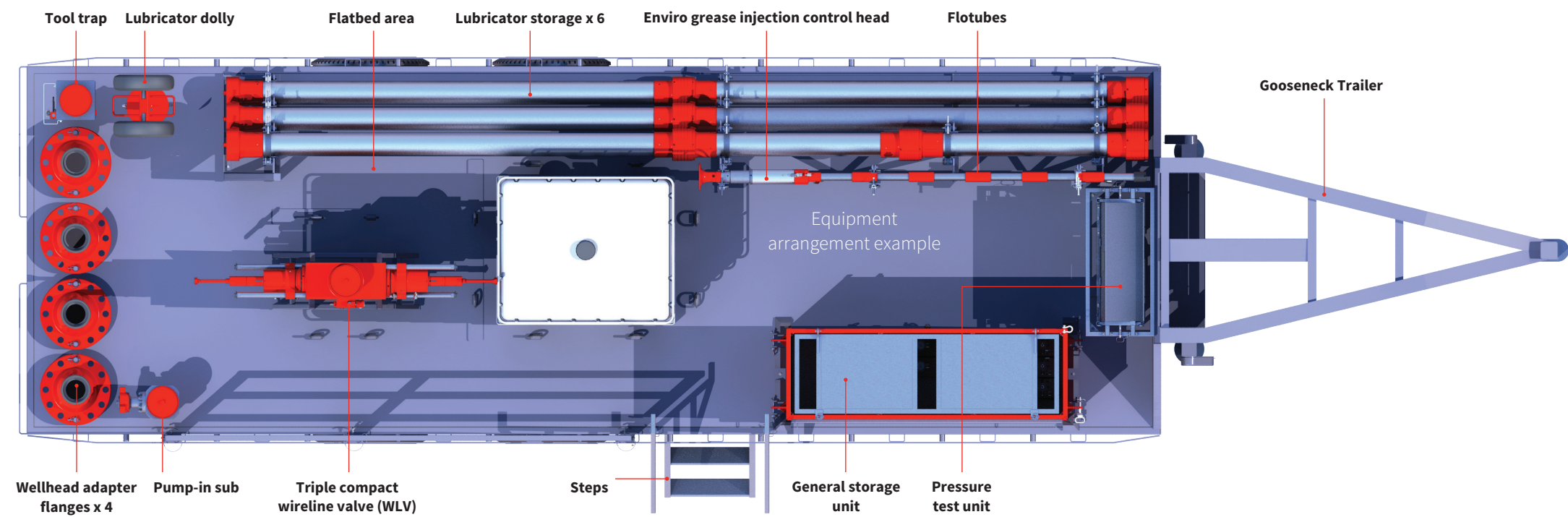
Triple compact wireline valve



Pump-in sub

Weight Comparison Chart

Set Description	Triple Compact BOP	Tool Trap	Quick Test Sub	Pump-In Sub	Lubricator		
					6 ft	8 ft	10 ft
5.12 in. B21 15k	3,153 lb (1,430 kg)	897 lb (407 kg)	1,091 lb (495 kg)	816 lb (370 kg)	1,102 lb (500 kg)	1,345 lb (610 kg)	1587 lb (720 kg)
5.12 in. E45 12.5k	2,780 lb (1,261 kg)	434 lb (197 kg)	430 lb (195 kg)	322 lb (146 kg)	357 lb (162 kg)	472 lb (214 kg)	584 lb (265 kg)
5.12 in. E32 10k	2,169 lb (984 kg)	300 lb (136 kg)	236 lb (107 kg)	220 lb (100 kg)	295 lb (134 kg)	388 lb (176 kg)	467 lb (212 kg)

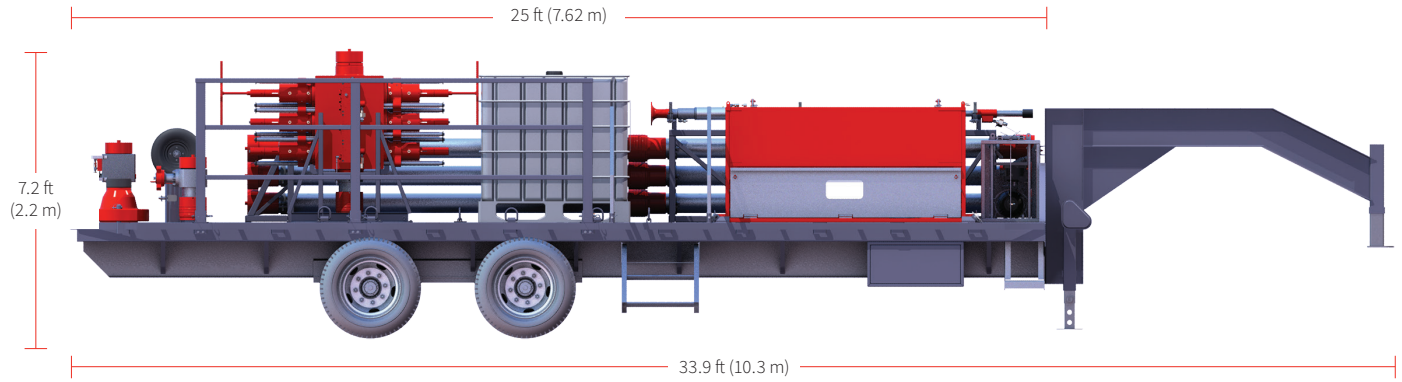


Make sure nothing gets left behind, and haul all the gear you need to get the job done on one trailer unit. Our gooseneck WPCE trailers can be custom configured to suit the equipment you need in the field. Whether you need a QuickLatch connector set and control module or a full WPCE string, we will make the trailer that suits you and maximises your efficiency.

Generous deck space and high-capacity axles and brakes, with a 30,000-lb load rating means we can configure the trailer to your requirements. Attention to detail makes a difference; with our careful engineering and weight distribution you will have a trailer that is easily towed and safe on the highway. Finished in your colours these trailers make a statement on the professionalism and commitment to efficiency you bring to the job.

Features and Benefits

- Custom configuration to suit your WPCE needs
- High-capacity trailer with heavy duty axles and brakes
- Anti-slip surfaces, hand rails, and access steps to minimise accidents in the field
- Balanced weight distribution for easy and safe towing



Frac Ball Launcher

Our compact frac ball launcher can be mounted to a WLV or pump-in sub and holds up to ten frac balls from 1.5 to 2.38-in., giving you maximum flexibility in your plug and perf equipment layout. Balls are easily loaded through the quick union cap minimising downtime. Once loaded, frac balls are reliably launched one at a time with a robust and simple hydraulic mechanism that can be driven from most commonly available hydraulic control modules or with a dedicated control line on our QuickLatch control module.

Features and Benefits

- Compact ball launcher
- Up to 10 balls 1.5 to 2.38-in.
- Simple hydraulic control
- Easy to mount on WLV or PIS

