



Wellhead Support System

The Wellhead Support System (WSS) provides external support and a safety barrier on existing wells during intervention operations. The WSS overcomes questionable wellhead strength caused by corrosion and/or subsidence and ensures compliance with regulatory requirements for safety barriers above the wellhead. The WSS distributes the weight of blowout preventers and other well intervention equipment into the ground adjacent to the well rather than through the wellhead.

Weatherford engineers configure each WSS on a case-by-case basis. The existing well layout and planned operations determine the WSS components. A system typically consists of a riser joint, two support frame assemblies on either side of the wellhead or cellar, main support beams, a split bowl around the riser joint, and adjustable beam supports along the main beams. The support frame assemblies hydraulically extend to the required height, and then slips are set on the riser. Once the desired load setting is achieved, the mechanical support/lock system can be pinned and set in place, and hydraulic pressure can be stopped while the structure provides long-term wellhead support.

The WSS has a maximum total support capacity of 400,000 lb (181,437 kg) and a nominal lifting stroke of 60 in. (1,524 mm).



Weatherford engineers configure wellhead support systems based on the specific needs of each location to support the added weight of blowout preventers and other well intervention equipment.

Applications

- Well intervention projects on existing land wells
- Support of snubbing equipment operations



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Features, Advantages, and Benefits

- Mechanical telescoping tubes on the support frame assemblies can be adjusted by means of a pinned sleeve and a threaded collar mechanism to support the load for an extended time.
- The system accommodates a wide range of 200-ton (181,437-kg) split bowls.
- The fully adjustable system enables conformance to many well situations.
- The system assembles quickly and safely with bolts and requires no welding.
- The innovative, compact design minimizes obstructions to provide greater access for well work operations.
- Substructure support components can increase the height of the WSS.

Specifications

Lifting stroke (ft., m)	5 1.524
Support frame spacing, center to center (in., mm)	144 to 240 3,658 to 6,096
Main beam spacing, inside opening (in., mm)	8 to 26 0.2 to 0.7

Main beams	W12	W36
Support capacity (lb, kg)	150,000 68,039	400,000 181,437
Height range (ft., m)	10.33 to 15.33 3.150 to 4.674	12.25 to 17.25 3.721 to 5.245

Options

For configurations with height limitations, an option for W12 × 136 main beams (with a corresponding reduction in system capacity) is available. The maximum distance between the main beams is 26 in. (660 mm).

Weatherford engineers must evaluate requests that require additional spacing.