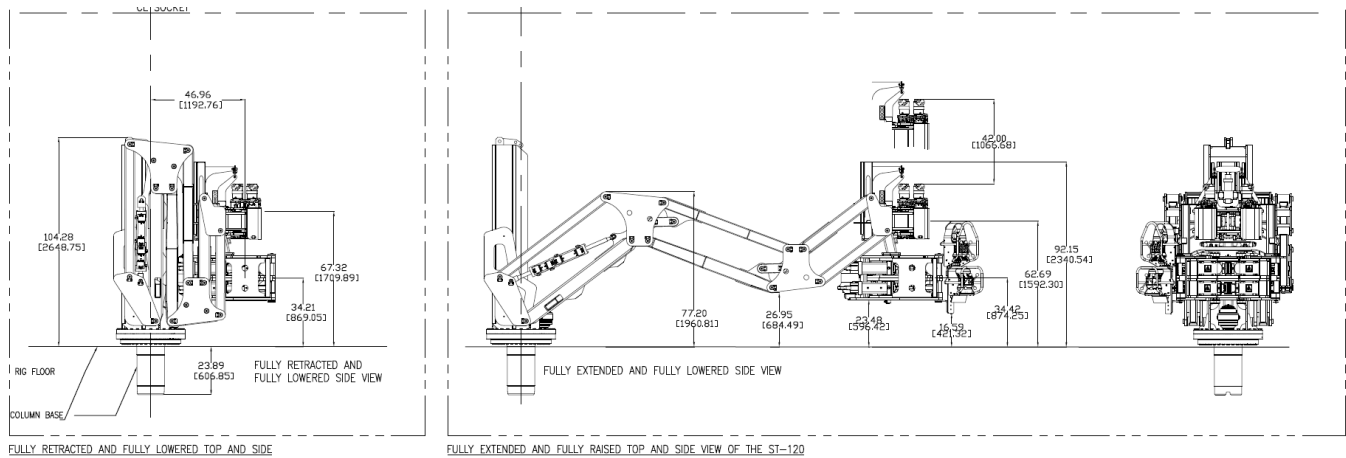


The ST-120 Iron Roughneck from National Oilwell Varco combines compact design with maximized reach and takes it to an unprecedented level. Completely retracted, the tool extends just over 5 feet from the pivot, minimizing its footprint and leaving more room on the rig floor. The tool travels a 12 feet fully extended allowing versatile layout configurations. With its trackless design, the new ST-120 continues to improve drill floor safety.

The innovative torque wrench design has a full 60 degrees of rotation and three-point bite which means better grip, quicker make-up and less box deformation on the connection by applying more accurate make-up torque. Combined with a high-torque spinning wrench design the ST-120 is equipped to handle today's high-performance drill pipe connections.

With small spaces in mind, the compact size of the ST-120 means replacement of your existing Iron Roughnecks is easy. Even tough roughneck installations under the blocks are no problem as the maximum vertical height of the frame is less than 120 inches.



Performance Data	
Connection Range (Box OD)	3-7/8"-10"
Make Up Torque	100,000 ft-lbs
Break Out Torque	120,000 ft-lbs
Torque Wrench Rotation	60 degrees
Torque Wrench Clamping System	3 point clamp
Spin Wrench Torque	3,000 ft-lbs on 5" drill pipe
Spin Wrench Speed	0-80 rpm on 5" drill pipe
Design Data	
Service	Make Up and Break Out of drill pipe, collars, BHA, and stabilizers
Operational Environment	
Roll/Pitch	4 degree pitch, single amplitude on 10 second period, 50 ft roll center below rig floor
Heave	12% acceleration force
Wind	None
Design Temperature	-20C min to 40C max
Ice Thickness	None
Survival Environment	

Roll/Pitch	20 degree pitch, single amplitude on 10 second period, 50 ft roll center below rig floor <i>(ST-120 in secured parked position)</i>
Heave	30 ft on 10 second period <i>(ST-120 in secured parked position)</i>
Construction	
Certifications	CE/ATEX
Main Structure Material	ASTM A500, A572, A36
Product Data	
Weight (floor socket mounted tool)	19,500 lbs
Weight (floor base mounted tool)	20,000 lbs
<i>NOTE: For installation and dimensional data, please reference ST-120 GA drawing number D364000314-GAD-001</i>	
Utility Consumption	
Operating Hydraulic Oil Flow Rate	45 GPM
Maximum Hydraulic Flow Rate	65 GPM
Operating Hydraulic Oil Pressure	2500 PSI
Maximum Input Hydraulic Oil Pressure	3000 PSI
Lubrication / Hydraulic Fluid	
Hydraulic Oil	ISO/ASTM VG 46
Gear Oil	AGMA No. 7 EP, ISO/ASTM VG 460
Grease	NLGI Gr. No. 2 EP lithium based
Surface Treatment	
Paint Specification	NOV VPS00001
Color	RAL 3003
Hydraulic Piping	
Tubing	Stainless Steel 316L
Hose	Exceeds SAE 100R16 Type S
Fittings	Carbon Steel, Yellow Zinc Chromate