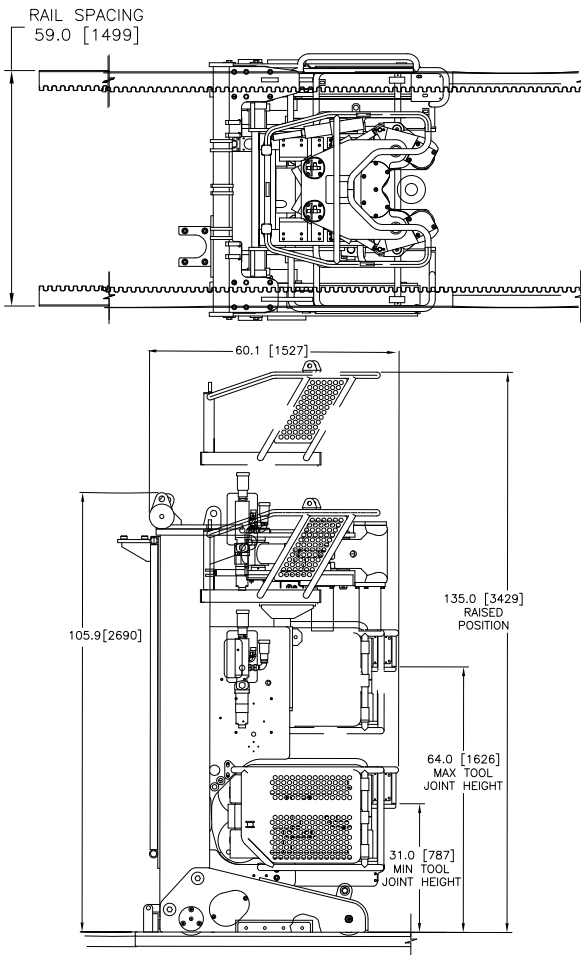


AR3200™



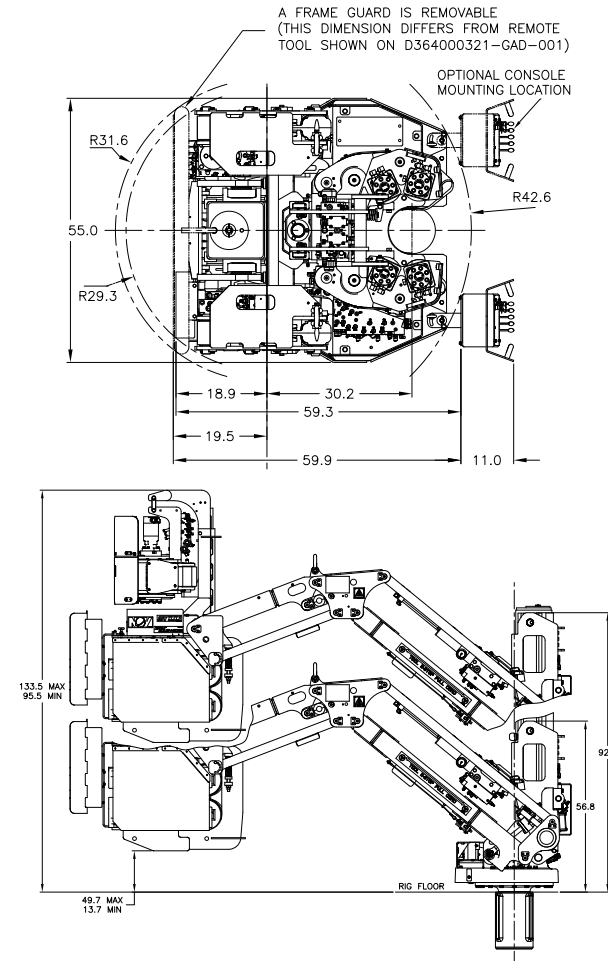
Technical specifications

Options	Mud bucket, dooper, bit breaker, local remote, casing module, rotation table
Remote controlled from drillers cabin	Yes
Mount	Track mounted
Shutoff valve	Manual
Rotation angle	N/A
Tubular connection OD range	3 1/2" to 9 3/4"
Spin speed	100 RPM (nominal on 5" DP)
Spin torque	2,000 ft.-lbs. (2,711 Nm)
Assembly Weight	12,100 lbs. (5,580 kg)
Maximum make-up torque	100,000 ft.-lbs. (135,582 Nm)
Maximum break-out torque	120,000 ft.-lbs. (162,698 Nm)
Connection height	31" to 64" (787 mm to 1,625 mm)
Horizontal travel	Variable-track
Vertical adjustment	33"
Casing ready	Yes
HYDRAULIC REQUIREMENTS	
Minimum	45 GPM @ 2,000 psi (170 LPM @ 135 bar)
Maximum	45 GPM @ 2,500 psi (170 LPM @ 172 bar)

The AR3200 ensures safe and effective make-up and break out of drill string connections. The compact size and light weight is suitable on applications with limited drill floor space. Track type travel allows tong clearance around well center when tool is brought to parked position.

- Gateless torque wrench
- Economy of rig floor space – no hanging tools
- Track mounted
- Spinning wrench may counter-rotate to seat threads, then safely spins-in
- Available with remote options distancing personnel from the drill floor hazards

ST-100™



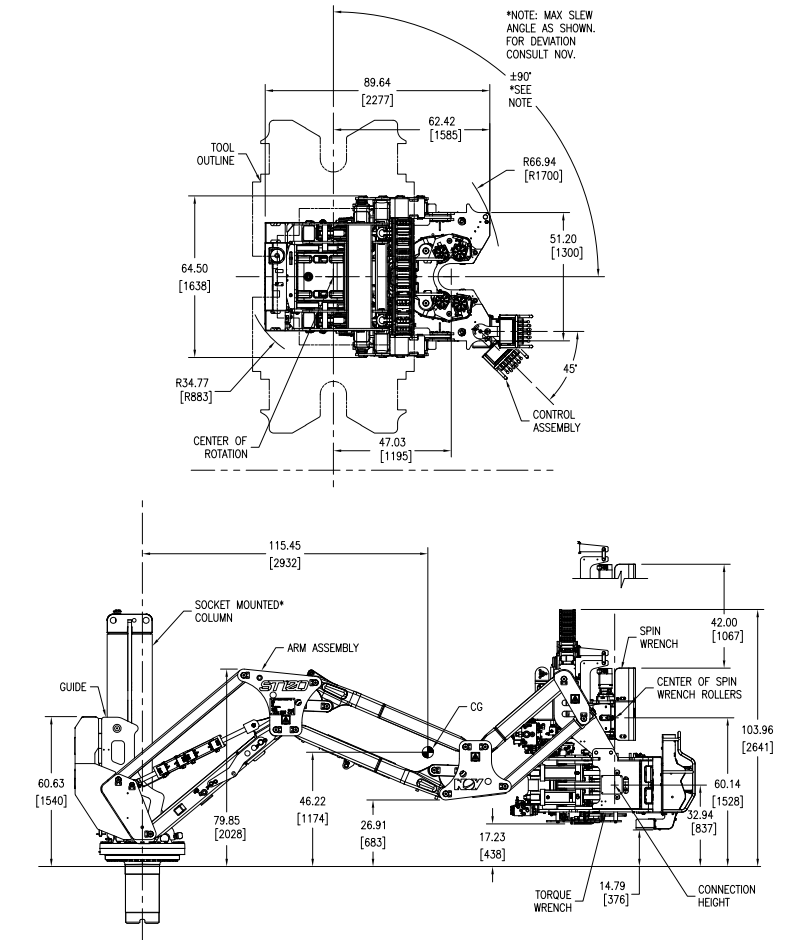
Technical specifications

Options	5' or 8' reach (manual/remote)
Remote controlled from drillers cabin	Yes
Connection hoses	Complete with 25' long connection hoses
Mount	Floor socket mounted
Shutoff valve	Manual
Rotation angle	90° (Limited only by service loop hoses)
Tubular connection OD range	4" to 9 3/4"
Spin speed	80 RPM min. (nominal on 5" DP, 45 GPM, 170 LPM)
Spin torque	3,000 ft.-lbs. (4,067 Nm)
Assembly weight	11,500 lbs. (4,763 kg) (installed weight)
Maximum make-up torque	100,000 ft.-lbs. (135,582 Nm)
Maximum break-out torque	120,000 ft.-lbs. (162,698 Nm)
Connection height	30.4" to 66.4" (762 mm to 1,676 mm)
Horizontal travel	60" (1,524 mm or 96" (2,438 mm)
Vertical adjustment	36" (914 mm)
Casing ready	No
HYDRAULIC REQUIREMENTS	
Minimum	35 GPM @ 2,500 psi (132 LPM @ 172 bar)
Maximum	55 GPM @ 3,000 psi (208 LPM @ 207 bar)

The ST-100 sets the standard for performance and reliability. Incorporating modern technology with the field proven AR3200 Torque Wrench and the ST-120/MPT200 Spin Wrench, our performance and quality is unmatched. The ST-100 ensures fast and reliable handling of all your drilling connections.

- Compatible with virtually any drill floor and comes with 5' or 8' reach option
- Transfer barrier allows a manual machine to deploy to same location every time while still fully retracting, taking full advantage of small footprint
- Soft Clamp feature extends the life of the tool joint and make up in a single bit
- Equipped with slewing capabilities to operate at well center and mousehole
- Available with remote options distancing personnel from drill floor hazards

ST-120™

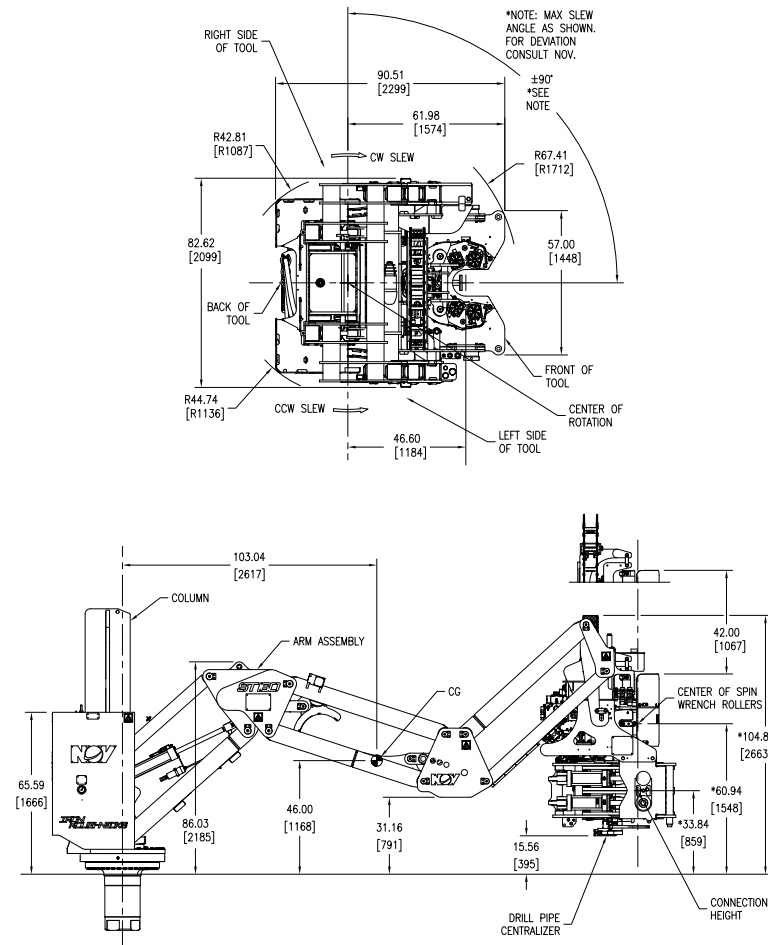


Technical specifications

Options	12' reach (manual/remote)
Remote controlled from drillers cabin	Yes
Connection hoses	Complete with 25' long connection hoses
Mount	Floor socket mounted
Shutoff valve	manual
Rotation angle	90° (limited only by service loop hoses)
Tubular connection OD range	3 1/2" to 10"
Spin speed	80 RPM min. (nominal on 5" DP)
Spin torque	3,000 ft.-lbs. (4,067 Nm)
Assembly weight	19,800 lbs. (8,981 kg) (installed weight)
Maximum make-up torque	100,000 ft.-lbs. (135,582 Nm)
Maximum break-out torque	120,000 ft.-lbs. (162,698 Nm)
Connection height	31.5" to 73.4" (800 mm to 1,864 mm)
Horizontal travel	144" (3,658 mm)
Vertical adjustment	42" (1,067 mm)
Casing ready	No
HYDRAULIC REQUIREMENTS	
Minimum	45 GPM @ 2,500 psi (170 LPM @ 172 bar)
Maximum	65 GPM @ 3,000 psi (246 LPM @ 207 bar)

The ST-120 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.

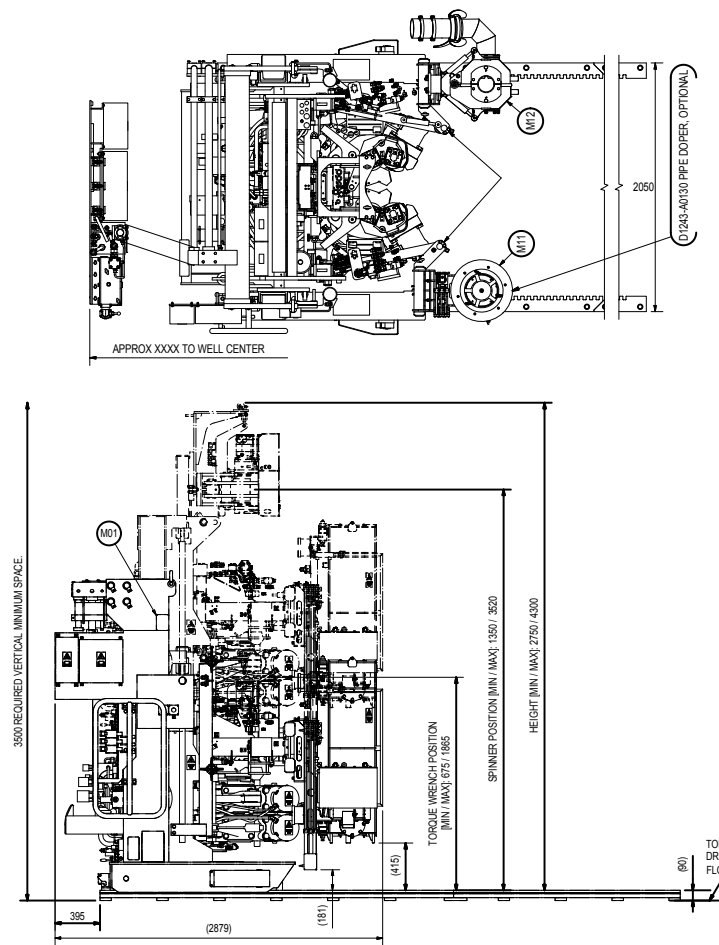
- Travels a full 12 feet, allowing versatile layout configurations
- Full 60 degrees of rotation and 3 point bite for better grip, quicker make-up
- Easy replacement with compact size
- Maximum vertical height of 120 inches
- Fully automated controls from either the driller's control console or remote available

ST-160™

Technical specifications

Options	13.5' reach (remote)
Remote controlled from drillers cabin	Yes
Connection hoses	Complete with 25' long connection hoses
Mount	Floor socket mounted
Shutoff valve	Manual
Rotation angle	90° (limited only by service loop hoses)
Tubular connection OD range	3 1/2" to 10"
Spin speed	80 RPM min. (nominal on 5" DP)
Spin torque	3,467 ft.-lbs. (4,700 Nm)
Assembly weight	26,000 lbs. (10,886 kg) (installed weight)
Maximum make-up torque	140,000 ft.-lbs. (189,815 Nm)
Maximum break-out torque	160,000 ft.-lbs (216,931 Nm)
Connection height	31.88" to 73.88" (810 mm to 1,877 mm)
Horizontal travel	162" (4,115 mm)
Vertical adjustment	42" (1,067 mm)
Casing ready	Yes
HYDRAULIC REQUIREMENTS	
Minimum	55 GPM @ 3,000 psi (200 LPM @ 207 bar)
Maximum	65 GPM @ 3,000 psi (246 LPM @ 201 bar)

The ST-160 fully extended travels 13.5 feet, allowing versatile layout configurations. With its trackless design, the new ST-160 continues to improve drill floor safety. The addition of a quick disconnect Drill Pipe Module to a universal casing hanger provides the customer and casing crews a safe alternative for operating casing tongs.

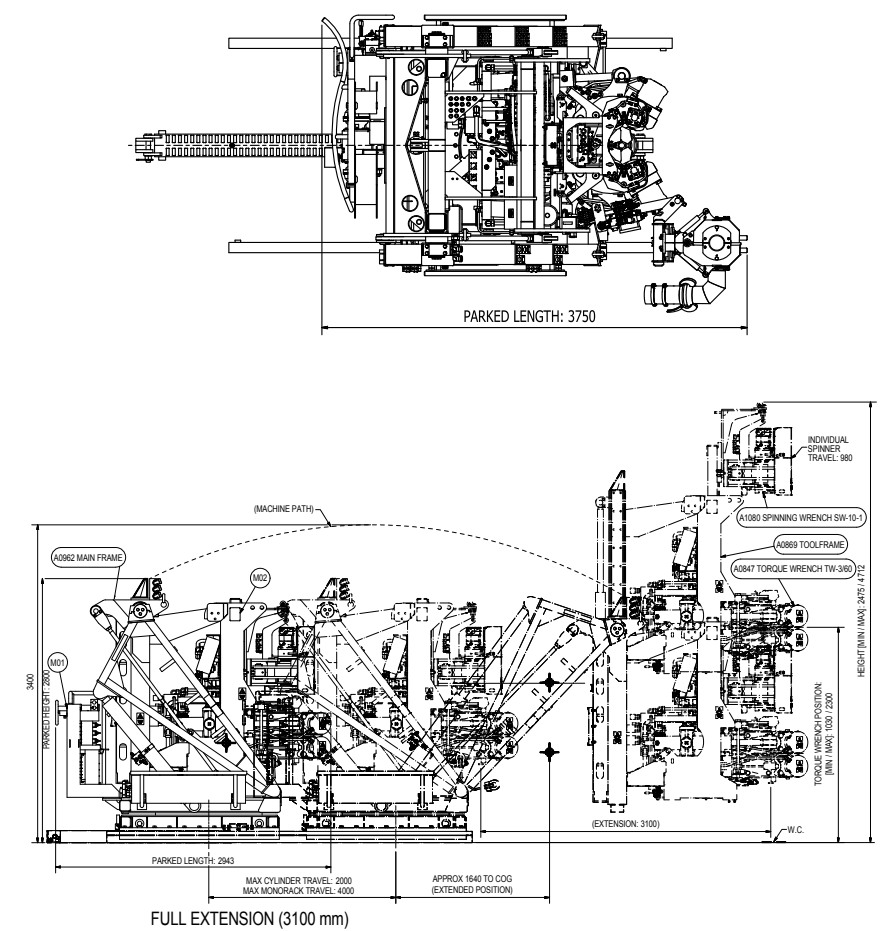
- More torque for connections requiring a higher than normal break-out torque
- Full 60 degrees of rotation and 3 point bite which means better grip, quicker make-up
- Height adjustable spinning wrench
- Equipped to handle today's high performance drill pipe connections
- Fully automated controls from either driller's control console or wireless remote control

MPT-270™

Technical specifications

Options	Mud bucket, doper, local remote, bit-breaker, casing module, rotation table
Remote controlled from drillers cabin	Yes
Connection hoses	Complete including loop bracket
Mount	Track mounted
Shutoff valve	Manual
Rotation angle	N/A (rotation plate optional)
Tubular connection OD range	3 1/2" to 10" (2 7/8" kit optional)
Spin speed	0-100 RPM min. (nominal on 5" DP)
Spin torque	3,467 ft.-lbs. (4,700 Nm)
Assembly weight	14,990 lbs. (6,800 kg)
Maximum make-up torque	200,000 ft.-lbs. (up to 270,000 Nm)
Maximum break-out torque	200,000 ft.-lbs. (up to 270,000 Nm)
Connection height	26.5" to 73.5" (675 mm to 1,865 mm)
Horizontal travel	Variable track
Vertical adjustment	See connection height
Casing ready	Yes
HYDRAULIC REQUIREMENTS	
Minimum	111GPM @ 3000 psi (420 LPM @ 207 bar)
Maximum	115 GPM @ 3050 psi (435 LPM @ 210 bar)

The HydraTong multi-purpose tong concept ensures safe and effective make-up of drill pipe, collars, and casing. The modular design allows tool frames to be interchanged to run drill pipe or various casing sizes. It includes the latest Torque Wrench design, which allows 60 degrees rotation ensuring efficiency during make-up and break-out of connections.

- High torque self-aligning spinning wrench
- High accuracy control possibilities
- Robust and maintenance optimized torque wrench
- Dual elevators for spinner and torque wrench
- Sensors for anti-collision system and MMC
- Tool joint finder and stabbing guide

ARN-270™

Technical specifications

Options	Mud bucket, doper, bit breaker, local remote, casing module, track base
Remote controlled from drillers cabin	Yes
Connection hoses	Complete including loop bracket
Mount	Slew base welded to drill floor or track base
Shutoff valve	Manual
Rotation angle	65° (limited only by service loop hoses)
Tubular connection OD range	3 1/2" to 10" (2 7/8" kit optional)
Spin speed	0-100 RPM (nominal on 5" DP)
Spin torque	3,467 ft.-lbs. (4,700 Nm)
Assembly weight	18,500 lbs. (8,400 kg)
Maximum make-up torque	200,000 ft.-lbs. (up to 270,000 Nm)
Maximum break-out torque	200,000 ft.-lbs. (up to 270,000 Nm)
Connection height	41" to 91" (1,030 mm to 2,300 mm)
Horizontal travel	122" (3,100 mm) trackless, variable by track
Vertical adjustment	See connection height
Casing ready	Yes
HYDRAULIC REQUIREMENTS	
Minimum	111GPM @ 3000 psi (420 LPM @ 207 bar)
Maximum	115 GPM @ 3050 psi (435 LPM @ 210 bar)

The HydraTong ARN models let the drill floor remain trackless due to the articulated arm design. In addition, the unit has a modular design allowing interchanging between different tool frames, e.g. from an ordinary tool frame to the casing tong module. The ARN-270 includes the latest torque wrench design, which allows 60 degrees rotation, ensuring efficiency during make-up and break-out of connections.

- Triple grip design ensures better and more accurate torque
- High accuracy control possibilities
- Robust maintenance optimized torque wrench
- Dual elevators for spinner and torque wrench
- Trackless extension towards pipe target
- Optional portable control unit, radio or cable
- Sensors for anti-collision system and MMC
- Tool joint finder and stabbing guide