



Telescopic Crane 2820

Technical Specifications

Material Handling Systems



Specifications	2-Hydraulic
Crane Rating*	28,000 ft-lb (3.9 tm)
Horizontal Reach (from center of rotation)	20' 6" (6.3 m)
Hydraulic Extensions	48" and 60" (121.9 cm and 152.4 cm)
Manual Extension	None
Lifting Height (from base of crane)	22' 2" (6.8 m)
Crane Weight	1400 lb (635 kg)
Crane Storage Height	31" (78.7 cm)
Mounting Space Required (crane base)	20" x 21" (50.8 cm x 53.3 cm)
Optimum Pump Capacity	6 gpm (22.7 L/min)
System Operating Pressure	3000 psi (206.8 bar)
Center of Gravity Horizontal from centerline of rotation Vertical from bottom of crane base	37" (94 cm) 18" (45.7 cm)
Tie-Down Bolt Pattern	14-3/4" x 14-3/4" (37.5 cm x 37.5 cm)
Rotational Torque	9000 ft-lb (1.3 tm)
Minimum Chassis Specifications	
Chassis Style	Conventional cab
Front Axle Rating (GAWR)	5600 lb (2540 kg)
Rear Axle Rating (GAWR)	11,000 lb (4990 kg)
Wheelbase	137" – 161" (348 cm – 409 cm)
Cab-to-Axle	60" – 84" (152 cm – 213 cm)
Resistance to Bending Moment (RBM) Frame section modulus Frame yield strength	420,000 in-lb (4840 kg-m) 8.4 cu in (21.3 cm³) 50,000 psi (3447.4 bar)

*Crane rating (ft-lb) is the rated load (lb) x the respective distance (ft) from centerline of rotation with all extensions retracted and lower boom in horizontal position. This is the ANSI B30.5 standard.



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2820 Telescopic Crane

Performance Characteristics

Rotation	400° (7 rad)	58 seconds
Lower Boom Elevation	-0° to +72° (0 to +1.3 rad)	12 seconds up 15 seconds down
Extension Cylinder (2)	48" and 60" (121.9 cm and 154.2 cm)	18 seconds out 17 seconds in
Winch	One-part line Two-part line	27 fpm 13.5 fpm

Power Source (PTO-driven)

Integral-mounted hydraulic pump and PTO application. Other standard power sources may be used. Minimum power required is 15 hp based on 6 gpm (22.7 L/min) at 3000 psi (207 bar).

Cylinder Holding Valves

The holding sides of all cylinders are equipped with integral-mounted counterbalance valves or load-holding check valves to prevent sudden cylinder collapse in case of hose or other hydraulic component failure.

Rotation System

Turntable bearing with external worm gear powered with a high-torque hydraulic motor through a self-locking worm.

Hydraulic System (PTO-driven)

Open-centered, full-pressure system that requires 6 gpm (22.7 L/min) optimum oil flow at 3000 psi (206.8 bar). Four-spool, stack-type, remote control valve with 30' (9.1 m) control cable. System includes control valve and return-line filter.

Excessive Load Limit System (ELLS)

The ELLS limits overloading of the crane. Dual pressure switches mounted on the lift cylinder sense various overload conditions. When in an overload situation, the winch-up, extension-out, and boom-down functions are stopped. To relieve the situation, raise the boom, retract the extensions, or lower the winch.

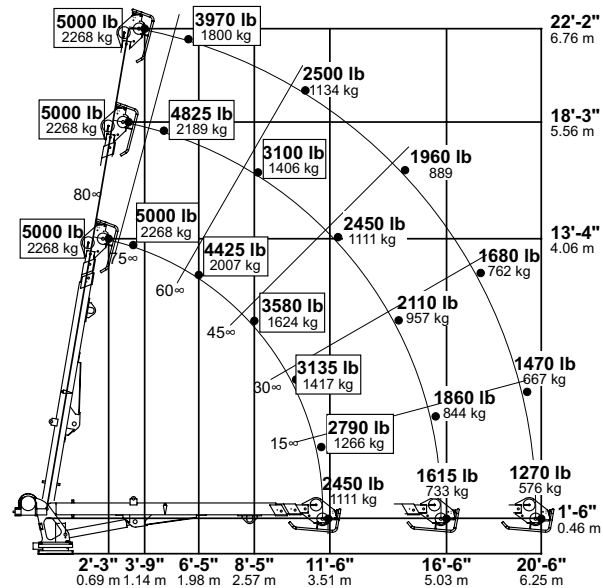
Winch

The winch is powered by a hydraulic motor through a 31:1 ratio worm gear drive with a mechanical brake. The winch is equipped with 85' (26 m) of 5/16" (0.8 cm) 6x25 FW PRF RRL IWRC IPS wire rope. An anti-two-block device is included to prevent the lower block or hook assembly from coming in contact with the boom sheave assembly. The winch assembly complies with ANSI B30.5 standards.

Notes

1. GAWR means Gross Axle Weight Rating and is dependent on all components of the vehicle such as axles, tires, wheels, springs, brakes, steering, and frame strength meeting the manufacturer's recommendations. Always specify GAWR when purchasing a truck.
2. Minimum axle requirements may increase with use of diesel engines, longer wheelbase, or service bodies. Contact the factory for further information.
3. Weight distribution calculations are required to determine final axle loading.
4. All chassis, crane, and body combinations must be tested to ensure stability per ANSI B30.5 standards.

Capacity Chart



- Maximum one-part line capacity is 2500 pounds (1134 kg). For greater loads use two-part line; capacity is 5000 lb (2268 kg).
- Weights of load-handling devices are part of the load lifted and must be deducted from the capacity.
- Values in the box indicate when the use of a two-part line is required.

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