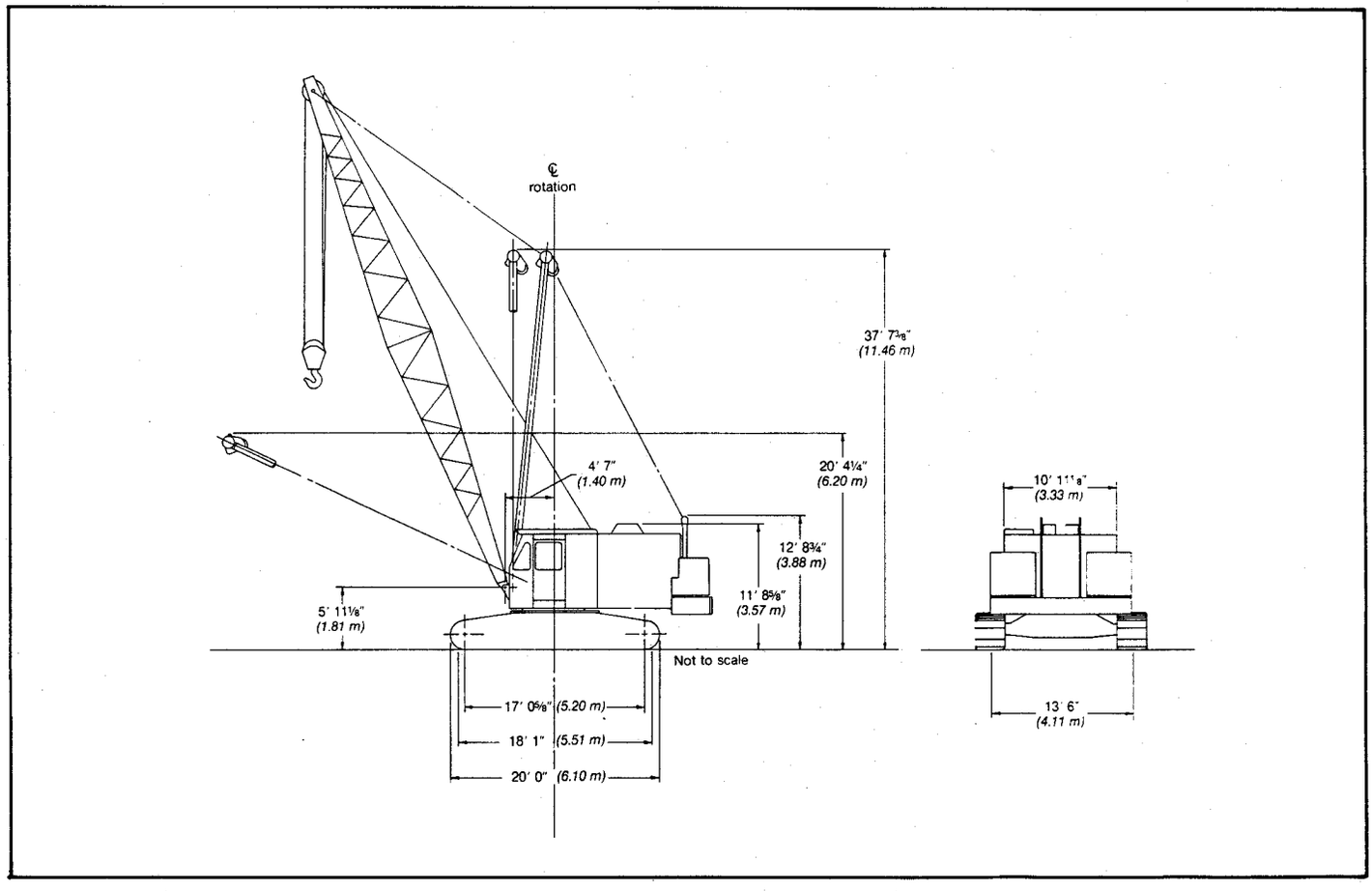
FMC

General Specifications

Link-Belt® 100-ton *(90.70 metric ton)*
Wire rope crawler crane/excavator

LS-338



General dimensions	Feet	*meters*
Basic boom length, angle and tubular	50' 0"	*15.24*
Overall width with:	—	—
38" *(0.81 m)* track shoes	16' 8"	*5.08*
44" *(1.12 m)* track shoes	17' 2"	*5.19*
Minimum ground clearance	1' 2"	*0.36*
Clearance under counterweight "A"	3' 10 9/16"	*1.18*
Clearance under counterweight "AB"	3' 10 9/16"	*1.18*
Clearance width less crawler side frames, counterweight and catwalks	— 14' 6"	— *4.42*
Overall width of counterweight	13' 6"	*4.11*

General dimensions	Feet	*meters*
Overall width for transport	—	—
less side frames and catwalks;	—	—
axles in line with upper	11' 0"	*3.35*
Width of cab less catwalks	10' 11⅛"	*3.33*
Width of cab with catwalks both sides	15' 0"	*4.57*
Tailswing of counterweight "A"	15' 1½"	*4.61*
Tailswing of counterweight "AB"	15' 1½"	*4.61*
Overall height for transport:	—	—
Basic machine less crawler side frames	11' 6"	*3.50*
Basic revolving upperstructure only	9' 0"	*2.74*

GENERAL INFORMATION ONLY

Machine working weights — approximate

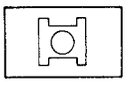
Based on standard machine including GM 6-71N diesel engine and friction clutch, turntable bearing, independent boom hoist, independent swing and travel, swing brake, drum rotation indicators and 13′ 6″ *(4.11 m)* gauge by 20′ 0″ *(6.10 m)* long crawler lower with removable side frames and 38″ *(0.97 m)* wide track shoes plus the following:	Crawler mounting 20′ 0″ *(6.10 m)* overall length			
	Counterweight "A"		Counterweight "AB"	
	Pounds	*kilograms*	Pounds	*kilograms*
Lifting crane — includes necessary drum laggings, main load hoist wire rope and one of the following booms:				
Basic 50′ *(15.24 m)* angle boom	141,067	*63 988*	168,567	*76 462*
Basic 50′ *(15.24 m)* tubular boom	140,542	*63 750*	168,042	*76 224*
Dragline — includes two dragline head sheaves, fairlead, necessary drum laggings, hoist and inhaul wire rope and one of the following booms:				
Maximum 80′ *(24.38 m)* angle boom	141,372	*64 126*	—	—
Maximum 80′ *(24.38 m)* tubular boom	139,872	*63 446*	—	—
Clamshell — includes two dragline head sheaves, necessary drum laggings, holding and closing wire ropes and one of the following booms:				
Maximum 80′ *(24.38 m)* angle boom	140,372	*63 673*	—	—
Maximum 80′ *(24.38 m)* tubular boom	138,862	*62 988*	—	—

Weight deductions for transporting — approximate

Deduct for removal of the following:	Crawler mounting 20′ 0″ *(6.10 m)* overall length	
	Pounds	*kilograms*
Crawler side frames with:	—	—
38″ *(0.97 m)* shoes	38,160	*17 309*
44″ *(1.12 m)* shoes	39,410	*17 876*
Counterweight "A"	25,000	*11 340*
Counterweight "AB"	52,500	*23 814*
50′ *(15.24 m)* angle boom	5,968	*2 707*
50′ *(15.24 m)* tubular boom	5,182	*2 351*
Basic revolving upperstructure less counterweight	45,200	*20 503*

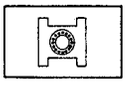
General specifications

Mounting — crawler



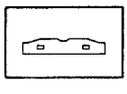
Lower frame

All-welded, stress relieved, precision machined; line bored for traction shaft. Machined surface provided for mounting turntable bearing.



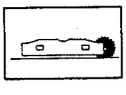
Turntable bearing

Outer race with external ring (swing) gear bolted to lower frame.



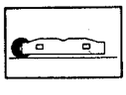
Crawler side frames

All-welded, stress relieved, precision machined. Removable; positioned on cross axles by dowels and held in place with two patented, adjustable wedgepacks per side frame. Four optional hydraulic cylinders (two on each end of lower frame) provided to assist in side frame assembly/dissassembly; drive chains remain intact.



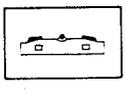
Track drive sprockets

Cast steel, heat treated, involute splined to shafts which are mounted on bronze bushings. One-piece track/chain drive sprockets mounted on bronze bushings; one per side frame.



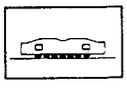
Track idler wheels

Cast steel, heat treated; mounted on bronze bushings. One track idler wheel per side frame.



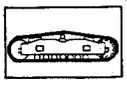
Track carrier slide rails

Tracks slide on rails; four rails on top of each side frame.



Track rollers

Heat treated, mounted on bronze bearings. Ten rollers per side frame.



Tracks

Heat treated, self-cleaning, multiple hinged track shoes joined by one-piece full floating pins. 43 shoes per side frame. *Standard:* 38″ *(0.97 m)* wide. *Optional:* 44″ *(1.12 m)* wide.

Track/chain adjustment — Track drive chains adjusted by shimming axles of chain drive sprockets. Track adjusted with threaded adjusting bolts attached to track idler (wheel) axles.

Independent travel

Standard. Three-piece traction shaft, joined with involute splined couplings; inner traction shaft mounted on bronze bushings in precision bored lower frame. Outer traction shaft engages splines in chain drive sprockets which are mounted on bronze bushings in side frames. Powered by bevel gear drive enclosed in oil within lower frame.

Travel speed — 0.875 m.p.h. *(1.41 km/h).*

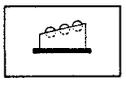
Gradeability — 30% based on machine equipped with "AB" counterweight, 50′ *(15.24 m)* tubular boom, boom live mast, and 44″ *(1.12 m)* shoes.

Steering — Power hydraulic. Travel/steer jaw clutches hydraulically engaged, spring released. Spring applied, hydraulically released travel/steer/digging/parking external contracting band brakes simultaneously released by interconnecting mechanical linkage. Brakes automatically set when steel levers are in neutral. Two 20″ *(0.51 m)* diameter by 4″ *(101.60 mm)* wide brake bands; effective lining area 186 square inches *(1 200 cm²)* per brake. Steer brakes also serve as parking/digging brakes.

Ground contact area and ground bearing pressure (based on machine equipped with boom live mast and 50′ *(15.24 m)* tubular boom)

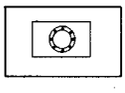
Counterweight	Track shoes		Ground contact area		Ground bearing pressure	
	Inches	*meters*	Square inches	*cm²*	P.s.i.	*kPa*
"A" — 25,000 lbs. *(11 340 kg)*	38 44	*0.97* *1.12*	16,460 19,060	*106 220* *122 998*	8.5 7.4	*58.61* *51.02*
"AB" — 52,500 lbs. *(23 814 kg)*	38 44	*0.97* *1.12*	16,460 19,060	*106 220* *122 998*	10.2 8.9	*70.40* *61.37*

Revolving upperstructure



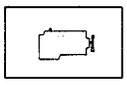
Frame

All-welded, stress relieved, precision machined; machinery side housings welded integral with frame.



Turntable bearing

Inner race of bearing bolted to machined surface on under side of frame.

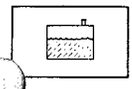


Engines

Full pressure lubrication, oil filter, oil cooler, air cleaner, fuel filter, hour meter, and hand throttle. Optional hand throttle (lever type on swing control lever) and foot throttle available. Manual control shutdown for GM engine, electrical shutdown for Cummins engine.

Engine specifications	GM 6-71N with friction clutch	GM 6-71N with hydraulic coupling	GM 6-71N with torque converter ①	Cummins N855-P235 with torque converter ②
Number of cylinders	6	6	6	6
Bore and stroke — inches — *(mm)*	4¼ x 5 108 x 127	4¼ x 5 108 x 127	4¼ x 5 108 x 127	5½ x 6 143 x 150
Piston displacement — cu. in. — *(cm³)*	425.6 6 975.58	425.6 6 975.58	425.6 6 975.58	855 14 013
High idle speed — r.p.m. Engine r.p.m. at full load speed	2,065 1,915	2,065 1,915	2,250 2,100	2,350 2,100
Net engine h.p. at full load speed	171 *(127 515 W)*	171 *(127 515 W)*	208 *(155 106 W)*	208 *(155 106 W)*
Peak torque — ft. lbs. — *joules* Peak torque — r.p.m.	532 *721.39* 1,200	532 *721.39* 1,200	572 *775.63* 1,400	572 *775.63* 1,500
Electrical system Batteries	12-volt 1 — 12-volt	12-volt 1 — 12-volt	12-volt 1 — 12-volt	12-volt 2 — 12-volt
Clutch or power take-off	Friction clutch #SP211-HP1	Hydraulic coupling Twin Disc #SP211-HP1	Disconnect between engine and converter	Disconnect between engine and converter
Transmission — Number chain wheel teeth Number engine pinion teeth	— 93 18	— 93 18	— 93 26	— 93 28

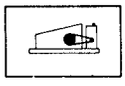
①Allison TCDOA 475 single stage converter
②Twin Disc three stage converter



Fuel tank

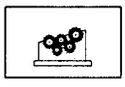
106 gallon *(401.21 L)* capacity; equipped with fuel sight level gauge, flame arrester, and filler pipe cap with locking eye for padlock.

Power train



Transmission

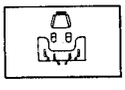
FMC quadruple roller chain enclosed in chain case and running in oil.



Machinery gear train

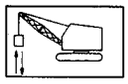
"Full Function" design, two-directional power available to all operating shafts; shafts mounted on anti-friction bearings in precision bored machinery side housings. All load hoist, swing, and boomhoist functions independent of one another. Components such as gears, pinions, chain wheels, brake drums and clutch spiders involute splined to shafts. Drum gear/clutch drum assemblies bolted together and mounted on shafts on anti-friction bearings. Machine-cut teeth on drum gears, pinions, spur gears, and chain wheel.

Principal operating functions



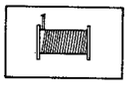
Control system

Speed-o-Matic® power hydraulic control system requiring no bleeding. Variable operating pressure transmitted to all two-shoe clutch cylinders as required. System includes constant displacement, engine driven, vane type hydraulic pump to provide flow of oil; accumulator to maintain system operating pressure, unloader valve to control pressure in accumulator, relief valve to limit maximum pressure buildup in system, full-flow filter with 40 micron disposable filter element, and variable pressure control valves to control drum clutches and other operating cylinders.



Load hoisting and lowering

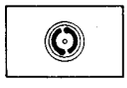
Wire rope drum gear train (front and rear main, and optional third, operating drums) powered by chain transmission from engine.



Load hoist drums

Front and rear main operating drums — Two-piece, removable, smooth or grooved laggings bolted to adapter which is splined to drum shaft. Extended length shafts permit installation of optional power load lowering clutches; special length shaft required for, and furnished with, optional planetary drive units for either or both drums.
— Lifting crane operation: 20″ *(0.51 m)* front and rear smooth drum laggings.
— Clamshell or magnet application: 20″ *(0.51 m)* front and rear grooved drum laggings.
— Dragline application: 18″ *(0.46 m)* front and 20″ *(0.51 m)* rear grooved drum laggings.

Third operating drum – Optional; mounts forward of front main operating drum. Two-piece 13¼″ *(0.34 m)* root diameter smooth drum lagging bolted to brake drum. Brake drum splined to shaft.



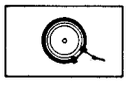
Drum clutches

Speed-o-Matic® power hydraulic two-shoe clutches; internal expanding, lined shoes. Clutch spiders splined to shafts; clutch drums bolted to drum spur gears and mounted on shafts on anti-friction bearings.

Load hoist clutches — Speed-o-Matic® power hydraulic two-shoe clutches. Front and rear main operating drums 30″ *(0.76 m)* diameter, 6½″ *(0.16 m)* face width; effective lining area 418 square inches *(2 697 cm²)*. Optional third drum 20″ *(0.51 m)* diameter, 5″ *(0.13 m)* face width; effective lining area 215 square inches *(1 387 cm²)*.

Load lowering clutches — Optional; Speed-o-Matic® power hydraulic two-shoe clutches. Front and/or rear main operating drums 23″ *(0.58 m)* diameter, 6″ *(0.15 m)* wide.

Drum planetary drive units – Optional; available for load hoist on either or both front and rear main operating drums to allow 70% increase of standard load hoist line speed. Planetary units mount on extended drum shafts between drum spur gears and two-shoe clutch drums. Two-shoe clutches control standard line speeds. Planetary drive units controlled by external contracting band brakes through push button located on clutch control levers.

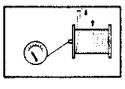


Drum brakes

Two-piece, external contracting band; brake drum involute splined to shaft. Mechanically foot pedal operated; foot pedal equipped with latch to permit locking brake in applied position.

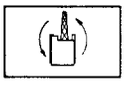
Front and rear main drums — Brakes 38″ *(0.96 m)* diameter, *(0.13 m)* face width; effective lining area 547 sq. in. *(3 530 cm²)*.

Optional third drum — Brake 27″ *(0.69 m)* diameter, 4″ *(101.60 mm)* face width, effective lining area 256 sq. in. *(1 652 cm²)*.



Drum rotation indicators

Standard for front and rear main operating drums. Two rotating dials mounted on control stand; dials actuated by flexible shaft drive from front or rear main operating drum.



Swing system

Spur gear driven; single bevel gears (enclosed and running in oil) on horizontal and vertical swing shafts. Swing pinion, involute splined to vertical swing shaft, meshes with external teeth of swing gear.

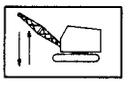
Swing clutches

Speed-o-Matic® power hydraulic two-shoe clutches. 30″ *(0.76 m)* diameter, 6½″ *(0.15 m)* face width; lined shoes.

Swing brake — External contracting band; spring applied, hydraulically released by operator controlled lever. Brake drum involute splined to vertical swing shaft. Brake 18″ *(0.46 m)* diameter, 4″ *(101.60 mm)* face width; effective lining area 161 sq. in. *(1 039 cm²)*.

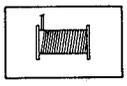
Swing lock — Mechanically controlled pawl engages external teeth of turntable bearing swing (ring) gear.

Maximum swing speed — 3.20 r.p.m.



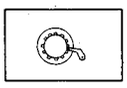
Boom hoist/ lowering system

Independent, spur gear driven. Precision control boom hoisting and lowering through power hydraulic two-shoe clutches.



Boomhoist drum

Dual laggings splined to shaft. 11¼" *(0.28 m)* root diameter grooved.

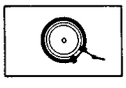


Boomhoist drum locking pawl

Operator controlled; mechanically applied and released.

Boom hoist/ lowering clutches

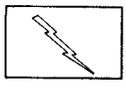
Speed-o-Matic® power hydraulic two-shoe clutches. One each for boom hoisting and boom lowering; 20" *(0.51 m)* diameter, 5" *(0.13 m)* face width.



Boom hoist brake

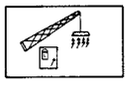
One external contracting band brake; spring applied, hydraulically released. Brake drum involute splined to shaft. Brake 28" *(0.71 m)* diameter, 4½" *(0.12 m)* face width; effective lining area 321 sq. in. *(2 071 cm²)*.

Boomhoist limiting device — Provided to restrict hoisting boom beyond recommended minimum radius; located on exterior right hand side of operator's cab.



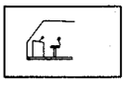
Electrical system

Battery, 12 volt, 225 ampere hour; either one or two batteries depending on engine. *Optional:* battery lighting system, including two sealed beam automotive type adjustable headlights located on cab front roof, one interior cab light and automotive type wiring. *Optional:* additional 50 watt sealed beam automotive type headlight mounted on boom (three maximum quantity recommended). *Optional:* Onan independent light plant with single cylinder, four cycle, air cooled diesel engine with remote electrical starting, 3,000 watt, 120-volt, three-wire, single phase, 60 cycles A.C. including wiring in conduit, three interior cab lights, trouble lamp with cord, two 300 watt adjustable flood lights on cab front roof and necessary cab extensions. *Optional:* additional 300 watt floodlights available for mounting on cab and boom. **Note**: Independent light plant cannot be furnished in conjunction with magnet generator package.



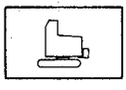
Magnet generator/ control package

Optional. 27.5 kw magnet generator, belt driven off engine power take-off shaft, for use with 230-volt magnets rated at 81 to 115 operating amperes; rheostat, controller, magnet lift control button on rear drum lever, drop control button on swing lever, and Rud-o-Matic #1848 combination tagline/magnet cable take-up reel.



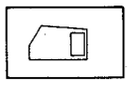
Operator's cab

Full-vision, equipped with safety glass panels. Operator's door is hinged; front window slides on ball bearing rollers. Standard equipment includes dry chemical fire extinguisher, machinery guards. *Optional:* electric windshield wiper, cab heater, defroster fan, Lexan window panels, and sound reduction material.



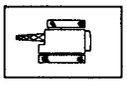
Elevated operator's cab

Optional. 5' 6" *(1.67 m)* higher than standard operator's cab. Catwalk is required along operator's side.



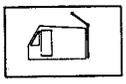
Machinery cab

Equipped with warning horn, sliding doors (two at rear, one at each rear side, and one at right front side) for machinery access, roof-top access ladder, and skid-resistant finish on roof.



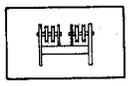
Catwalks

Optional for operator's side or both sides of standard cab. Required for operator's side of elevated cab. Channel and floor plate construction with hand railings.



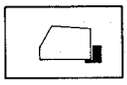
Gantry

Fixed low, mounted to revolving upperstructure frame to support boom suspension system.



Gantry bail

Mounted to gantry headshaft. Contains four 12" *(0.30 m)* root diameter sheaves mounted on bronze bushings for 10-part boomhoist wire rope reeving; six sheaves for 14-part boomhoist wire rope reeving with boom live mast.

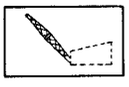


Counterweight

Removable; held in position by "T" bolts. *Standard:* "A" counterweight — 25,000 lbs. *(11 340 kg). Optional* "AB" counterweight — 52,500 lbs. *(23 814 kg)* available for lifting crane service only; three-piece allowing for reduction to weight "A". (Refer to counterweight requirement instructions with lifting capacity chart).

Counterweight removal device – Optional. Counterweight can be raised or lowered with rope mechanism. Rope drum splined to boomhoist drum shaft. Counterweight is lowered with boomhoist brake and raised with boom hoist clutch.

Booms and jibs



Tubular boom

Two-piece basic boom 50' *(15.24 m)* long with open throat top section; 60" *(1.52 m)* wide, 54" *(1.37 m)* deep at connections. Alloy steel round tubular chords 3⅝" *(92.08 mm)* outside diameter.

Base section — 25' *(7.62 m)* long; boomfeet 2¾" *(69.85 mm)* wide on 54½" *(1.37 m)* centers.

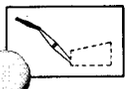
Boom extensions — Available in 10', 20', 30' and 40' *(3.05, 6.10, 9.14 and 12.19 m)* lengths with appropriate length pendants.

Boom connections — In-line pin connections.

Boom top section — 25' *(7.62 m)* long.

Boom midpoint suspension pendants — Required for tubular boom lengths exceeding 150' *(45.72 m).*

FMC



Tubular jib

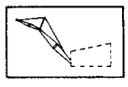
Two-piece basic jib 30′ *(9.14 m)* long; 36″ *(0.91 m)* wide, 30″ *(0.76 m)* deep at connections. Alloy steel tubular chords 2¼″ *(57.15 mm)* outside diameter.

Base section — 15′ *(4.57 m)* long; mounted to boom headshaft hubs.

Jib extensions — Available in 10′, 15′, 20′ and 30′ *(3.05, 4.57, 6.10 and 9.14 m)* lengths; maximum jib length permitted — 60′ *(18.29 m)*.

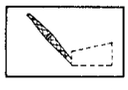
Jib connections — In-line pin connections.

Jib tip section — 15′ *(4.57 m)* long; single peak sheave 21″ *(0.53 m)* root diameter mounted on anti-friction bearings.



Jib mast

12′ 7⅝″ *(3.85 m)* high, mounted on jib base section. One deflector sheave, mounted on anti-friction bearings, mounted within mast to guide jib load hoist line. Jib frontstay line and jib backstay line pin at top of jib mast.



Angle boom

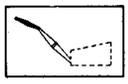
Two-piece basic boom 50′ *(15.24 m)* long with open throat top section; 48″ *(1.22 m)* wide, 48″ *(1.22 m)* deep at connections. Alloy steel chord angles 4″ x 4″ x ⅜″ *(101.60 x 101.60 x 9.53 mm)*.

Base section — 25′ *(7.62 m)* long; boomfeet 2¾″ *(77.85 mm)* wide on 54½″ *(0.86 m)* centers.

Boom extensions — Bolted connections available in 5′, 10′, 15′, 20′ and 30′ *(1.52, 3.05, 4.57, 6.10 and 9.14 m)* lengths with appropriate length pendants. Pin connections available in 10′, 20′ and 30′ *(3.05, 6.10 and 9.14 m)* lengths with appropriate length pendants.

Boom connections — Bolted or pin connected.

Boom top section — 25′ *(7.62 m)* long.



Angle jib

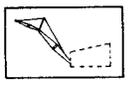
Two-piece basic jib 20′ *(6.10 m)* long; 24″ *(0.61 m)* wide, 20″ *(0.51 m)* deep at connections. Alloy steel main chord angles, 2½″ x 2½″ x 5/16″ *(63.50 x 63.50 x 7.95 mm)*.

Base section — 10′ *(3.05 m)* long; mounted to bracket welded on end boom top section.

Jib extensions — Available in 10′ and 15′ *(3.05 and 4.57 m)* lengths; maximum jib length permitted — 40′ *(12.19 m)*.

Jib connections — Bolted.

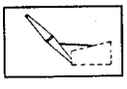
Jib tip section — 10′ *(3.05 m)* long; single peak sheave 15⅞″ *(4.57 m)* root diameter mounted on anti-friction bearings.



Jib mast

10′ *(3.05 m)* high, mounted on jib base section. One deflector sheave mounted on anti-friction bearings, mounted within mast to guide jib load hoist line. Two equalizer sheaves mounted on top of mast — one for jib frontstay line, one for jib backstay line.

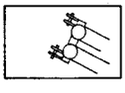
Items applicable to both tubular or angle booms and jibs



Boom stops

Dual rail, retractable tubular type; spring-loaded bumper ends.

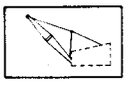
Boom stop warning indicator — Mounts on boom base section; visually warns operator that boom is near minimum radius and boom stops are approaching seating condition. When boom stop disengages, indicator is spring released to original position.



Boomhoist bridle

Serves as connection between boom pendants and boomhoist reeving. Bridle contains five 12″ *(0.30 m)* root diameter sheaves, mounted on bronze bushings, for ten-part boomhoist reeving for use without boom live mast; seven sheaves required for 14-part boomhoist reeving for use with boom live mast.

Spreader bar — Arched to clear main load hoist rope; installed at inner (lower) end of boom top section pendants. Required on boom lengths exceeding 60′ *(18.29 m)* without boom live mast, and boom lengths exceeding 150′ *(45.72 m)* with boom live mast, with or without jib. On boom lengths 60′ *(19.28 m)* through 140′ *(42.67 m)* spreader cannot be used with jib.



Boom live mast

Welded plate/tube construction. 30′ *(9.14 m)* long from center of head shaft to mounting pin; mounts on front of frame near boomfeet. Supports boomhoist bridle and boom midpoint suspension pendants. Required for both tubular and angle boom lengths over 60′ *(18.29 m)* when using jib, and for all boom lengths over 100′ *(30.48 m)* without jib. Mast may be used for machine assembly/disassembly, but it is not intended for general crane service. **Note**: Refer to Performance Specifications for boom live mast lifting capacities.

Auxiliary load hoist sheaves — Two 6½″ *(0.15 m)* root diameter sheaves, mounted on bronze bushings, grooved for ¾″ *(19 mm)* diameter wire rope. For use of boom live mast as a short boom.

Live mast stops — When using mast as short boom, main boom stops must be attached to cab for live mast backstops to function properly. Live mast backstops must be manually positioned.

Boompoint machinery — Lifting crane: four 21″ *(0.53 m)* root diameter head sheaves for angle boom; five 21″ *(0.53 m)* root diameter head sheaves for tubular boom; clamshell or dragline: two 26¼″ *(0.67 m)* root diameter head sheaves. All sheaves mounted on antifriction bearings.

Boompoint sheave guards — Standard for crane/clamshell/dragline service. Upper sheave guard: single tubular guard bolted to top side of boom head. Lower sheave guards: tubular roller guards mounted on anti-friction bearings; five for crane service, three for clamshell/dragline service.

GENERAL INFORMATION ONLY

Deflector rollers — Deflect main or third drum hoist line off boom to avoid chafing. **Angle boom**: one roller standard on boom top section; one additional required for boom lengths 100′ *(30.48 m)* through 120′ *(36.58 m)*, two additional required for boom lengths beyond 120′ *(36.58 m)*. **Tubular boom**: two rollers standard on boom top section; one additional required for boom lengths 100′ *(30.48 m)* through 210′ *(36.58 m)*; two additional required for boom lengths over 120′ *(36.58 m)* through 160′ *(48.77 m)*; three additional required for boom lengths beyond 160′ *(48.77 m)*.

Jib mast stops — Telescoping type; pinned from jib mast to boom top section and from mast to jib base section.

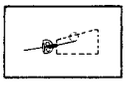
Jib staylines — Back staylines attached between top of jib mast and base of boom top section on tubular boom. Back staylines attached between top of jib mast and peak of jib.

Boom carrying equipment — For carrying boom in horizontal position with live mast at approximate 15′ *(4.57 m)* overall clearance height from ground. May be used with tubular booms 50′ through 120′ *(15.24 through 36.28 m)* and with angle booms 50′ through 110′ *(15.24 through 33.53 m)*. Boom suspension system uses two links at each end at the 7′ 6″ *(2.29 m)* pendant portion of basic pendants. The free ends of the links are pinned together shortening overall pendant length, lowering live mast relative to the boom. Booms cannot be used to handle loads with reduced mast height.

Auxiliary equipment

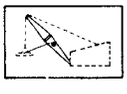
Boom angle indicator

Standard with either crane boom. Pendulum type, mounted on boom base section.



Fairlead

Optional. Full revolving type with barrel, sheaves, and guide rollers mounted on anti-friction bearings.



Tagline

Optional. Spring wound drum type mounted on crane boom. Rud-o-Matic® models:
— 1248, double barrel with 20″ *(0.51 m)* reel for booms not exceeding 80′ *(24.38 m)*; for use with 1¾ to 4 cubic yard *(1.34 to 3.06 m³)* clamshell buckets.
— 1248, double barrel with 30″ *(0.76 m)* reel for booms not exceeding 100′ *(30.48 m)*; for use with 1¾ to 2 cubic yard *(1.34 to 1.53 m³)* clamshell buckets.
— 1848, triple barrel with 30″ *(0.76 m)* reel for booms not exceeding 100′ *(30.48 m)*; for use with 4 to 5 cubic yard *(3.06 to 3.82 m³)* clamshell buckets.

GENERAL INFORMATION ONLY

Link-Belt® LS-338 Performance Specifications

Boom live mast — lifting capacities when used as short boom ①

Boom live mast radius		Upper with or without counterweight	
Feet	*meters*	Pounds	*kilograms*
13 ②	*3.96*	47,000	*21 319*
15	*4.57*	47,000	*21 319*
20	*6.10*	47,000	*21 319*
25	*7.62*	30,000	*13 608*
28	*8.53*	23,000	*10 433*

① Boom live mast stops must be in proper working condition and operative. Use of live mast as short boom is intended for machine assembly or disassembly only. It should not be used for general crane service. 4-parts ⅞" *(22 mm)* diameter Type "N" wire rope are required.
② Live mast must never be operated at less than 13' *(3.96 m)* radius.

Wire rope and rope drum data

Main load hoist wire rope length — for angle ① and tubular ② open throat booms using ⅞" *(22 mm)* diameter wire rope

Parts of line	Boom lengths															
	50' *(15.24 m)*		60' *(18.29 m)*		70' *(21.34 m)*		80' *(24.38 m)*		90' *(27.43 m)*		100' *(30.48 m)*		110' *(33.53 m)*		120' *(36.58 m)*	
	Feet	*meters*	Feet	*meters*	Feet	*meters*	Feet	*meters*	Feet	*meters*	Feet	*meters*	Feet	*meters*	Feet	*meters*
1	120	*36.58*	140	*42.67*	160	*48.77*	180	*54.86*	200	*60.96*	220	*67.06*	240	*73.15*	260	*79.25*
2	180	*54.86*	210	*64.01*	240	*73.15*	270	*82.30*	300	*91.44*	330	*100.58*	360	*109.73*	390	*118.87*
3	240	*73.15*	280	*85.34*	320	*97.54*	360	*109.73*	400	*121.92*	440	*134.11*	480	*146.30*	520	*158.50*
4	300	*91.44*	350	*106.68*	400	*121.92*	450	*137.16*	500	*152.40*	550	*167.64*	600	*182.88*	650	*198.12*
5	360	*109.73*	420	*128.02*	480	*146.30*	540	*164.59*	600	*182.88*	660	*201.17*	720	*219.46*	780	*237.74*
6	420	*128.02*	490	*149.35*	560	*170.69*	630	*192.02*	700	*213.36*	770	*234.70*	840	*256.03*	910	*277.37*
7	480	*146.30*	560	*170.69*	640	*195.07*	720	*219.46*	800	*243.84*	880	*268.22*	960	*292.60*	1,040	*316.99*
8	540	*164.59*	630	*192.02*	720	*219.46*	810	*246.89*	900	*274.32*	990	*301.75*	1,080	*329.18*	1,170	*356.62*
9③	600	*182.88*	700	*213.36*	800	*243.84*	900	*274.32*	1,000	*304.80*	1,100	*335.28*	1,200	*365.76*	1,300	*396.24*
10③	660	*201.17*	770	*234.70*	880	*268.22*	990	*301.75*	1,100	*335.28*	1,210	*368.80*	1,320	*402.34*	1,430	*435.86*

Parts of line	Boom lengths															
	130' *(39.62 m)*		140' *(42.67 m)*		150' *(45.72 m)*		160' *(48.77 m)* ③		170' *(51.82 m)* ③		180' *(54.86 m)* ③		190' *(57.91 m)* ③		200' *(60.96 m)* ③	
	Feet	*meters*	Feet	*meters*	Feet	*meters*	Feet	*meters*	Feet	*meters*	Feet	*meters*	Feet	*meters*	Feet	*meters*
1	280	*85.34*	300	*91.44*	320	*97.54*	340	*103.63*	360	*109.73*	380	*115.82*	400	*121.92*	420	*120.02*
2	420	*128.02*	450	*137.16*	480	*146.30*	510	*155.45*	540	*164.59*	570	*173.74*	600	*182.88*	630	*192.02*
3	560	*170.69*	600	*182.88*	640	*195.07*	680	*207.26*	720	*219.46*	760	*231.65*	800	*243.84*	840	*256.03*
4	700	*213.36*	750	*228.60*	800	*243.84*	850	*259.08*	900	*274.32*	950	*289.56*	1,000	*304.80*	1,050	*320.04*
5	840	*256.03*	900	*274.32*	960	*292.61*	1,020	*310.90*	1,080	*329.18*	1,140	*347.47*	1,200	*365.76*	1,260	*384.05*
6	980	*298.70*	1,050	*320.04*	1,120	*341.38*	1,190	*362.71*	1,260	*384.05*	1,330	*405.38*	1,400	*426.72*	1,470	*448.06*
7	1,120	*341.38*	1,200	*365.76*	1,280	*390.14*	1,360	*414.53*	1,440	*438.91*	1,520	*463.30*	1,600	*487.68*	1,680	*512.06*
8	1,260	*384.05*	1,350	*411.48*	1,440	*438.91*	1,530	*466.34*	1,620	*493.78*	1,710	*521.21*	1,800	*548.64*	1,890	*576.07*
9③	1,400	*426.72*	1,500	*457.20*	1,600	*487.68*	1,700	*518.16*	1,800	*548.64*	1,900	*579.12*				
10③	1,540	*469.39*	1,650	*502.92*	1,760	*536.45*	1,870	*569.98*	1,980	*603.50*						

① Open throat angle boom lengths: 50' through 150' *(15.24 through 45.72 m)*.
② Open throat tubular boom lengths: 50' through 200' *(15.24 through 60.96 m)*.
③ For tubular boom only.

GENERAL INFORMATION ONLY

LS-338 performance specifications

Wire rope and rope drum data — (continued)

Jib load hoist rope lengths (whipline) — using 7/8" (22 mm) diameter wire rope

Jib length	Parts of line	Boom lengths															
		50' (15.24 m)		60' (18.29 m)		70' (21.33 m)		80' (24.38 m)		90' (27.43 m)		100' (30.48 m)		110' (33.53 m)		120' (36.58 m)	
		Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters
20' ① (6.10 m)	1	160	48.77	180	54.86	200	60.96	220	67.06	240	73.15	260	79.25	280	85.34	300	91.44
	2	235	71.63	265	80.77	295	89.92	325	99.06	355	108.20	385	117.35	415	126.49	445	135.64
30' (9.14 m)	1	180	54.86	200	60.96	220	67.06	240	73.15	260	79.25	280	85.34	300	91.44	320	97.54
	2	265	80.77	295	89.91	325	99.06	355	108.20	385	117.35	415	126.49	445	135.64	475	144.78
40' (12.19 m)	1	200	60.96	220	67.06	240	73.15	260	79.25	280	85.34	300	91.44	320	97.54	340	103.63
	2	295	89.92	325	99.06	355	108.20	385	117.35	415	126.49	445	135.64	475	144.78	505	153.92
50' ② (15.24 m)	1	220	67.06	240	73.15	260	79.25	280	85.34	300	91.44	320	97.54	340	103.63	360	109.73
	2	325	99.06	355	108.20	385	117.35	415	126.49	445	135.64	475	144.78	505	153.92	535	163.07
60' ② (18.29 m)	1	240	73.15	260	79.25	280	85.34	300	91.44	320	97.54	340	103.63	360	109.73	380	115.82
	2	355	108.20	385	117.35	415	126.49	445	135.64	475	144.78	505	153.92	535	163.07	565	172.21

Jib length	Parts of line	Boom lengths													
		130' (39.62 m)		140' (42.67 m)		150' (45.72 m)		160' (48.77 m)③		170' (51.82 m)③		180' (54.86 m)③		190' (57.91 m)③	
		Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters
20' ① (6.10m)	1	320	97.54	340	103.63	360	109.73	← Not applicable →							
	2	475	144.78	505	153.92	535	163.07								
30' (9.14 m)	1	340	103.63	360	109.73	380	115.82	400	121.92	420	128.02	440	134.11	460	140.21
	2	505	153.92	535	163.07	565	172.21	595	181.36	625	190.50	655	199.64	685	208.79
40' (12.19 m)	1	360	109.73	380	115.82	400	121.92	420	128.02	440	134.11	460	140.21	480	146.30
	2	535	163.07	565	172.21	595	181.36	625	190.50	655	199.64	685	208.79	715	217.93
50' ② (15.24 m)	1	380	115.82	400	121.92	420	128.02	440	134.11	460	140.21	480	146.30	500	152.40
	2	565	172.21	595	181.36	625	190.50	655	199.64	685	208.79	715	217.93	745	227.08
60' ② (18.29 m)	1	400	121.92	420	128.02	440	134.11	460	140.21	480	146.30	500	152.40	520	158.50
	2	595	181.36	625	190.50	655	199.64	685	208.79	715	217.93	745	227.08	775	236.22

① Angle boom only.
② Tubular boom only.
③ Maximum angle boom length on which jib can be mounted is 150' (45.72 m); 160' through 190' (48.77 through 57.91 m) boom lengths apply only to tubular boom.

Drum wire rope capacities

Wire rope layer	Front or rear drum — 20" (0.51 m) root diameter smooth lagging								Boomhoist drum — 11¼" (0.29 m) root diameter smooth lagging			
	7/8" (22 mm) wire rope				1" (26 mm) wire rope				¾" (19 mm) wire rope			
	Rope per layer		Total wire rope		Rope per layer		Total wire rope		Rope per layer		Total wire rope	
	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters
1	119	36.27	119	36.27	105	32.00	105	32.00	35	10.67	35	10.67
2	135	41.15	254	77.42	121	36.88	226	68.88	42	12.80	77	23.47
3	145	44.20	399	121.62	131	39.93	357	108.81	47	14.33	124	37.80
4	156	47.55	555	169.16	142	43.28	499	152.10	52	15.85	176	53.64
5	166	50.60	721	219.76	152	46.33	651	198.42	56	17.07	232	70.71
6	177	53.95	898	273.71	162	49.38	813	247.80	62	18.90	294	89.61
7	187	57.00	1,085	330.17	173	52.73	986	300.53				
8	198	60.35	1,283	391.06								

Wire rope layer	Front or rear drum — 20" (0.51 m) root diameter grooved lagging				Front drum (inhaul) — 18" (0.46 m) root diameter grooved lagging				Third drum — 13¼" (0.34 m) root diameter smooth lagging			
	7/8" (22 mm) wire rope				1" (26 mm) wire rope				7/8" (22 mm) wire rope			
	Rope per layer		Total wire rope		Rope per layer		Total wire rope		Rope per layer		Total wire rope	
	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters
1	108	32.92	108	32.92	88	26.82	88	26.82	81	24.69	81	24.69
2	135	41.15	243	74.07	110	33.53	198	60.35	95	28.96	176	53.64
3	145	44.20	388	118.26	120	36.58	318	96.93	105	32.00	281	85.65
4	156	47.55	544	165.81	131	39.93	449	136.86				
5	166	50.60	710	216.41	141	42.98	590	179.83				
6	177	53.95	887	270.36	152	46.33	742	226.16				
7	187	57.00	1,074	327.36	162	49.38	904	275.54				
8	198	60.35	1,272	387.71	173	52.73	1,077	328.27				

FMC

LS-338 performance specifications

Wire rope and rope drum data — (continued)

Clamshell or dragline wire rope lengths using one part of line

Attachment	Function	Boom lengths											
		50′ (15.24 m)		60′ (18.29 m)		65′ (19.81 m)		70′ (21.34 m)		75′ (22.86 m)		80′ (24.38 m)	
		Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters
Clamshell	Holding	130	39.62	150	45.72	160	48.77	170	51.82	180	54.86	190	57.91
	Closing	180	54.86	200	60.96	210	64.01	220	67.06	230	70.10	240	73.15
Dragline	Hoist	130	39.62	150	45.72	160	48.77	170	51.82	180	54.86	190	57.91
	Inhaul	75	22.86	85	25.90	90	27.43	95	28.96	100	30.48	105	32.00

Boom hoist wire rope lengths — with boom live mast: 640′ *(195.07 m)*
— without boom live mast: 350′ *(106.68 m)*

Rope size and type

Wire rope application	Size and type used
Boomhoist	¾" *(19 mm)* diameter, Type "W"
Main load hoist	⅞" *(22 mm)* diameter, Type "N"
Jib load hoist (1-part)	⅞" *(22 mm)* diameter, Type "P"
Jib load hoist (2-part)	⅞" *(22 mm)* diameter, Type "N"
Third drum	⅞" *(22 mm)* diameter, Type "N"
Clamshell holding (hoist) or closing	⅞" *(22 mm)* diameter, Type "M"
Dragline hoist	⅞" *(22 mm)* diameter, Type "D"
Dragline inhaul	1" *(26 mm)* diameter, Type "T"
Boom pendants	
— for boom with live mast	1¼" *(32 mm)* diameter, Type "N"
— for boom without live mast	1½" *(38 mm)* diameter, Type "N"
Boom midpoint suspension pendants	⅞" *(22 mm)* diameter, Type "N"
Jib frontstay line	¾" *(19 mm)* diameter, Type "N"
Jib backstay line	¾" *(19 mm)* diameter, Type "N"

Wire rope types

Type "D" — 6 x 25 (6 x 19 class), filler wire, improved plow steel, preformed, independent wire rope center, right lay, lang lay.

Type "M" — 6 x 25 (6 x 19 class), filler wire, extra improved plow steel, preformed, independent wire rope center, right lay, lang lay.

Type "N" — 6 x 25 (6 x 19 class), filler wire, extra improved plow steel, preformed, independent wire rope center, right lay, regular lay.

Type "P" — 19 x 7 non-rotating, extra improved plow steel, preformed, wire strand core.

Type "T" — 6 x 30 flattened strand, extra improved plow steel, preformed, independent wire rope center, right lay, lang lay.

Type "W" — 6 x 26 (6 x 19 class), extra improved plow steel, preformed independent wire rope center, right lay, alternate lay.

Available line speed and line pull① — based on Cummins N855-P235 ② ③ diesel engine with three stage twin disc torque converter developing maximum net horsepower as defined by P.C.S.A. Standard No. 1.

Attachment	Front or rear drum							Third drum						
	Root diameter	Wire rope diameter		Line speed — first layer		Line pull — first layer		Root diameter	Wire rope diameter		Line speed — first layer		Line pull — first layer	
		Inches	mm	F.p.m.	m/min	Pounds	kilograms		Inches	mm	F.p.m.	m/min	Pounds	kilograms
Crane, clamshell, or dragline hoist	20" *(0.51 m)*	⅞	22	166	50.60	27,300	12 383	13¼" *(0.34 m)*	⅞	22	168	51.21	25,300	11 476
		1	26	167	50.90	27,100	12 293							
Dragline inhaul	18" *(0.46 m)*	1	26	151	46.02	29,100	13 200							

Permissible line speed and pull① — based on Type "N" wire rope strength, single part line.

Attachment	Front or rear drum							Third drum						
	Root diameter	Wire rope diameter		Line speed — first layer		Line pull — first layer		Root diameter	Wire rope diameter		Line speed — first layer		Line pull — first layer	
		Inches	mm	F.p.m.	m/min	Pounds	kilograms		Inches	mm	F.p.m.	m/min	Pounds	kilograms
Crane, clamshell, or dragline hoist	20" *(0.51 m)*	⅞	22	166	50.60	22,700	10 297	13¼" *(0.34 m)*	⅞	22	168	51.21	22,700	10 297
		1	26	167	50.90	27,100*	12 293*							
Dragline inhaul	18" *(0.46 m)*	1	26	151	46.02	29,100*	13 200*							

*Limited by engine capabilities

① Maximum permissible load on single part of line: 22,700 lbs. *(10 297 kg)* for ⅞" *(22 mm)* diameter Type "N" wire rope; 14,800 lbs. *(6 713 kg)* for ⅞" *(22 mm)* Type "P" wire rope; 29,600 lbs. *(13 427 kg)* for 1" *(26 mm)* diameter Type "N" wire rope.

② Cummins N855-P235 engine not recommended for duty cycle purposes.

③ Data applicable only to Cummins N855-P235 engine package. If required, similar data for other engine packages available from Sales Office.

FMC

LS-338 performance specifications

Load hoisting performance ① — line speeds are maximum for full throttle operation (2,100 r.p.m. full load speed) with Cummins N855-P235 diesel engine equipped with three stage twin disc torque converter with optional tail shaft governor override.

Single line load ②		Front or rear drum — 20" *(0.51 m)* root diameter smooth or grooved laggings using ⅞" *(22 mm)* diameter wire rope											
		Line speed											
		First layer rope				Fourth layer rope				Eighth layer rope			
		Standard		High speed ③		Standard		High speed ③		Standard		High speed ③	
Pounds	*kilograms*	F.p.m.	*m/min*	F.p.m.	*m/min*	F.p.m.	*m/min*	F.p.m.	*m/min*	F.p.m.	*m/min*	F.p.m.	*m/min*
5,000	*2 268*	267	*81.38*	428	*130.45*	329	*100.28*	516	*157.28*	407	*124.05*	618	*188.37*
10,000	*4 536*	248	*75.59*	360	*109.73*	297	*90.53*	403	*122.83*	353	*107.59*	431	*131.37*
15,000	*6 804*	226	*68.88*	284	*86.56*	261	*79.55*	292	*89.00*	291	*88.70*	286	*87.17*
20,000	*9 072*	202	*61.57*	219	*66.75*	222	*67.67*	213	*64.92*	232	*70.71*	199	*60.66*
25,000	*11 340*	178	*54.25*	170	*51.82*	185	*56.39*	160	*48.77*	185	*56.39*	140	*42.67*
30,000	*13 608*	154	*46.94*	135	*41.15*	155	*47.24*	121	*36.88*	149	*45.42*	95	*28.96*

Single line load ②		Third drum — 13¼" *(0.34 m)* root diameter smooth lagging using ⅞" *(22 mm)* diameter wire rope					
		Line speed					
		First layer rope		Second layer rope		Third layer rope	
Pounds	*kilograms*	F.p.m.	*m/min*	F.p.m.	*m/min*	F.p.m.	*m/min*
5,000	*2 268*	269	*81.99*	300	*91.44*	330	*100.58*
10,000	*4 536*	248	*75.59*	272	*82.91*	295	*89.92*
15,000	*6 804*	224	*68.28*	241	*73.46*	255	*77.72*
20,000	*9 072*	198	*60.35*	207	*63.09*		

GENERAL INFORMATION ONL

① Date applicable only to Cummins N855-P235 engine package. If required, similar data for other engine packages available from Sales Office.
② Maximum permissible load on single part of line: 22,700 lbs. *(10 297 kg)* for ⅞" *(22 mm)* diameter Type "N" wire rope; 14,800 lbs. *(6 713 kg)* for ⅞" *(22 mm)* Type "P" wire rope; 29,600 lbs. *(13 427 kg)* for 1" *(26 mm)* diameter Type "N" wire rope.
③ Machine equipped with optional high speed planetary drum drive units.

We are constantly improving our products and therefore reserve the right to change designs and specifications.

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