General Specifications

Link-Belt® "ABS/API" Series

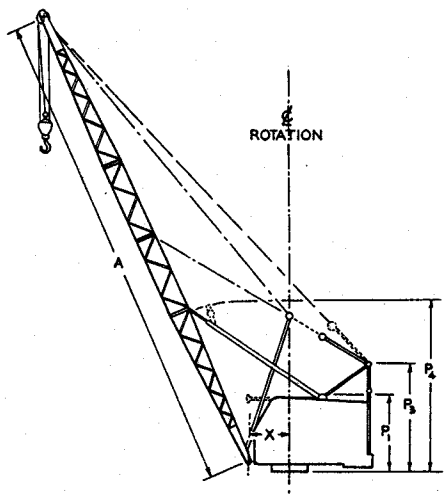
Wire rope offshore cranes

Specifications applicable to ABS/API models . . .

48A, 78A, 108B, 138A, 218A, 238A

Maximum lifting crane capacities①			
Model		**U.S. tons**	***metric tons***
48A	ABS	18.40	*16.69*
	API	17.05	*15.46*
78A	ABS	35.25	*31.97*
	API	35.20	*31.93*
108B	ABS	40.85	*37.05*
	API	49.20	*44.62*
138A	ABS	64.95	*58.91*
	API	62.75	*56.91*
218A	ABS	88.20	*79.99*
	API	80.70	*73.19*
238A	ABS	114.30	*103.67*
	API	97.80	*88.70*

Figure 1



①Crane ratings as indicated comply with structural safety factors of ABS or API Specifications 2-C.

General dimensions (Refer figure 1)			48A	78A	108B	138A	218A	238A
Basic angle boom length	A	Feet *meters*	25 *7.62*	35 *10.67*	40 *12.19*	50 *15.24*	50 *15.24*	50 *15.24*
Basic tubular boom length	A	Feet *meters*	← Not Offered →					
Overall height, low gantry①	P_1	Feet *meters*	7′ 1″ *2.16*	8′ 2″ *2.49*	8′ 6″ *2.59*	8′ ½″ *2.45*	8′ 1½″ *2.48*	8′ 8½″ *2.65*
Overall height, retractable gantry raised①	P_3	Feet *meters*	N/A	11′ 4″ *3.45*	12′ 0″ *3.66*	N/A	N/A	N/A
Overall height, boom live mast vertical①	P_4	Feet *meters*	14′ 4″ *4.37*	N/A	N/A	27′ 11″ *8.51*	28′ 2″ *8.58*	34′ 8½″ *10.57*
Radius of boom hinge pin	X	Feet *meters*	2′ 8″ *0.81*	3′ 1″ *0.93*	3′ 2″ *0.96*	3′ 2″ *0.96*	3′ 6″ *1.07*	3′ 6″ *1.07*
Height of boom hinge pin①	— —	Feet *meters*	1′ 7¾″ *0.50*	2′ 3¾″ *0.71*	2′ 5¼″ *0.77*	3′ 7⅛″ *1.09*	3′ 2¼″ *0.97*	3′ 2¾″ *0.98*

① Measured from bottom of roller path mounting plate (78A and 108B) or from bottom of turntable bearing mounting base or mounting plate (48A, 138A, 218A, and 238A).

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(Supersedes #CRF8496-11-73
and Addendum #CR1045380.4)

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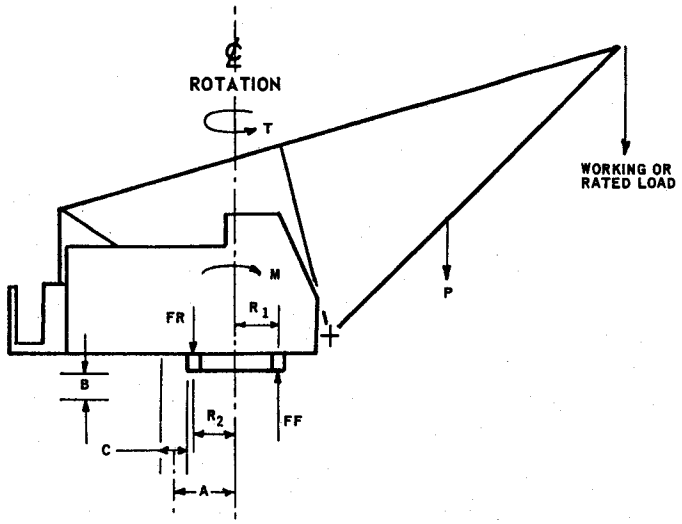
Figure 2



Maximum load values and reaction loadings — ABS models only

(Refer figure 2 above)			48A	78A	108B	138A	218A	238A
Front reaction	FF	Pounds *kilograms*	137,900 *62 551*	246,700 *111 903*	275,400 *124 921*	544,000 *246 758*	697,000 *316 159*	785,000 *356 076*
Rear reaction	FR	Pounds *kilograms*	88,300 *40 053*	170,500 *77 339*	198,600 *90 085*	360,000 *163 296*	472,000 *214 099*	510,000 *231 336*
Moment at centerline of rotation	M	Foot lbs. *joules*	362,000 *490 872*	752,600 *1 020 526*	980,700 *1 329 829*	1,871,000 *2 537 076*	2,513,000 *3 407 628*	2,783,000 *3 773 748*
Torsional load	T	Foot lbs. *joules*	27,600 *37 426*	41,500 *56 274*	59,600 *80 818*	60,200 *81 631*	76,900 *104 276*	91,600 *124 210*
Thrust	P	Foot lbs. *joules*	57,600 *78 106*	107,200 *145 363*	128,800 *174 653*	203,000 *275 653*	258,000 *349 848*	334,300 *453 311*
Reaction location	R_1	Feet *meters*	1.60 *0.49*	1.82 *0.55*	2.08 *0.63*	2.08 *0.63*	2.16 *0.66*	2.16 *0.66*
Reaction location	R_2	Feet *meters*	1.60 *0.49*	1.82 *0.55*	2.08 *0.63*	2.08 *0.63*	2.16 *0.66*	2.16 *0.66*

Maximum load values and reaction location — API models only

(Refer figure 2 above)			48A	78A	108B	138A	218A	238A
Front reaction	FF	Pounds *kilograms*	183,400 *83 190*	347,500 *157 620*	421,000 *190 966*	571,000 *259 006*	680,000 *308 448*	790,000 *358 344*
Rear reaction	FR	Pounds *kilograms*	132,400 *60 057*	221,000 *100 246*	263,400 *119 478*	470,000 *213 192*	569,000 *258 098*	645,000 *292 572*
Moment at centerline of rotation	M	Foot lbs. *joules*	504,800 *684 509*	985,400 *1 336 202*	1,420,500 *1 926 198*	2,129,000 *2 886 924*	2,673,000 *3 624 588*	3,075,000 *4 169 700*
Torsional load	T	Foot lbs. *joules*	27,600 *37 426*	41,500 *56 274*	59,600 *80 818*	60,200 *81 631*	76,900 *104 276*	91,600 *124 210*
Thrust	P	Foot lbs. *joules*	66,000 *89 496*	130,000 *176 280*	176,300 *239 063*	239,000 *324 084*	305,000 *413 580*	364,000 *493 584*
Reaction location	R_1	Feet *meters*	1.60 *0.49*	1.82 *0.55*	2.08 *0.63*	2.08 *0.63*	2.16 *0.66*	2.16 *0.66*
Reaction location	R_2	Feet *meters*	1.60 *0.49*	1.82 *0.55*	2.08 *0.63*	2.08 *0.63*	2.16 *0.66*	2.16 *0.66*

Minimum clearance dimensions — for removing vertical swing shaft

(Refer figure 2, page 2)			48A	78B	108B	138A	218A	238A
Centerline of rotation to centerline of swing shaft	A	Inches *millimeters*	16 *406.4*	19½ *495.3*	21½ *546.1*	38 *965.2*	41 *1041.4*	41 *1041.4*
Clearance under mounting plate required to remove vertical swing shaft	B	Inches *millimeters*	21½ *546.1*	26 *660.4*	32 *812.8*	12½ *317.5*	12¾ *323.9*	15¾ *400.1*
Diameter of swing pinion access opening	C	Inches *millimeters*	8 *203.2*	10½ *266.7*	10 *254.0*	①	①	①

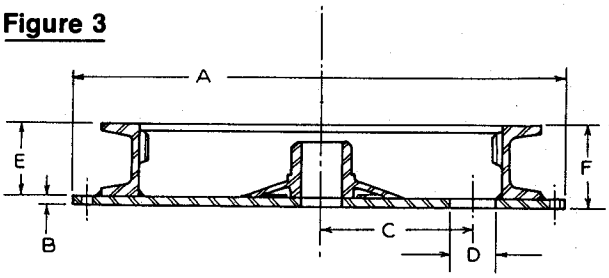
① Not applicable — machine equipped with external ring gear and swing pinion.

Hook roller path mounting dimensions

(Refer figure 3 below)		78A		108B	
		Inches	*millimeters*	Inches	*millimeters*
Length and width of hook roller path mounting plate①	A	65¼ dia. 60 dia.	*1 657.4 dia.* *1 524.0 dia.*	72 dia. 66 dia.	*1 828.8 dia.* *1 676.4 dia.*
Hook roller path mounting plate thickness	B	1¼	*31.8*	1¼	*31.8*
Centerline of rotation to centerline of swing pinion access opening	C	19½	*495.3*	21½	*546.1*
Diameter swing pinion access opening	D	10½	*266.7*	10	*254.0*
Overall height of roller path	E	$9^{21}/_{32}$	*245.3*	10¾	*273.1*
Overall height of roller path and mounting plate	F	$10^{29}/_{32}$	*277.0*	12	*304.8*

① Upper figure indicates bolt-on unit; lower figure indicates weld-on unit.

Figure 3

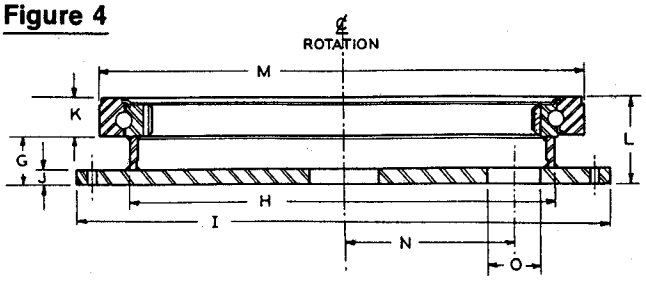


Turntable bearing mounting dimensions

(Refer figures 4 and 5 below)		48A②		138A③		218A③		238A③	
		In.	*mm*	In.	*mm*	In.	*mm*	In.	*mm*
Overall height turntable bearing mounting base	G	4¾	*120.6*	15¾	*400.1*	16	*406.4*	16	*406.4*
Diameter turntable bearing mounting base	H	$42^{1}/_{16}$	*1 067.0*	65¼	*1 657.4*	71	*1 803.4*	71	*1 803.4*
Diameter turntable bearing mounting plate	I	53	*1 346.2*	70	*1 778.0*	76¾	*1 949.0*	76¾	*1 949.5*
Turntable bearing mounting plate thickness	J	1½	*38.1*	2	*50.8*	2	*50.8*	2	*50.8*
Overall height turntable bearing only	K	3¾	*95.3*	6⅜	*161.9*	6½	*165.1*	6¾	*171.5*
Overall height turntable bearing and mounting	L	8½	*215.9*	22⅛	*562.0*	22½	*571.5*	22¾	*577.9*
Diameter turntable bearing	M	48⅛	*1 222.4*	69	*1 752.6*	75	*1 905.0*	75	*1 905.0*
Centerline rotation to centerline of swing pinion access opening	N	16	*406.4*	①	—	①	—	①	—
Diameter swing pinion access opening	O	8	*203.2*	①	—	①	—	①	—

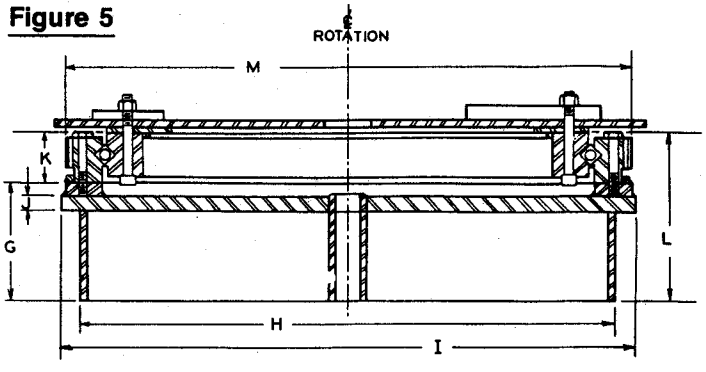
① Not applicable — machine equipped with external ring gear and swing pinion.
② Refer figure #4 below.
③ Refer figure #5 below.

Figure 4



Model 48A

Figure 5

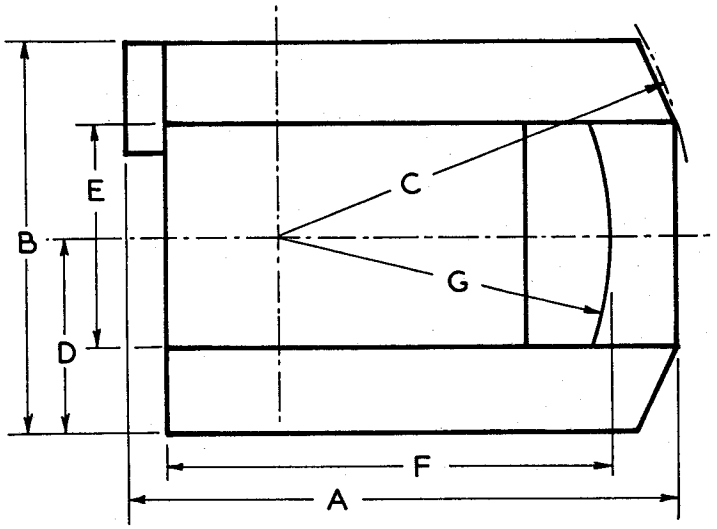


Models 138, 218 & 238

Dimensions of crane revolving upperstructure less boom

(Refer figure 6 below)			48A	78A	108B	138A	218A	238A
Overall length with catwalk	A	Feet *meters*	13′ 10″ *4.21*	16′ 10″ *5.13*	18′ 3″ *5.57*	24′ 1″ *7.34*	25′ *7.62*	25′ *7.62*
Overall width with catwalk	B	Feet *meters*	12′ 3″ *3.73*	13′ 0″ *3.96*	13′ 2¼″ *4.02*	17′ 3″ *5.26*	17′ 3″ *5.26*	17′ 3″ *5.26*
Tailswing of catwalk	C	Feet *meters*	11′ 6″ *3.51*	13′ 3″ *4.04*	14′ 2″ *4.32*	16′ 10″ *5.13*	17′ 9″ *5.41*	17′ 9″ *5.41*
Centerline rotation to outside of catwalk	D	Feet *meters*	6′ 1½″ *1.87*	6′ 6″ *1.98*	6′ 7⅛″ *2.05*	8′ 7½″ *2.63*	8′ 7½″ *2.63*	8′ 7½″ *2.63*
Overall width without catwalk	E	Feet *meters*	7′ 6″ *2.29*	7′ 10″ *2.38*	8′ 0″ *2.44*	11′ 0″ *3.35*	11′ 0″ *3.35*	11′ 0″ *3.35*
Overall length without catwalk	F	Feet *meters*	11′ 8 13/16″ *3.57*	14′ 3⅛″ *4.35*	15′ 1⅛″ *4.60*	22′ 2¼″ *6.76*	22′ 7½″ *6.90*	23′ 1½″ *7.05*
Tailswing of counterweight only	G	Feet *meters*	8′ 9″ *2.67*	10′ 6½″ *3.21*	11′ 5″ *3.48*	14′ 10½″ *4.53*	15′ 3¼″ *4.66*	15′ 8⅞″ *4.79*

Figure 6



Gross operating weight —

	48A	78A	108B	138A③	218A③	238A
Pounds	22,410	40,485	51,675	64,400	73,900	108,700
kilograms	*10 165*	*18 364*	*23 440*	*29 212*	*33 521*	*49 306*

③Add 12,000 lbs. *(5 443 kg)* with optional "B" counterweight.

General specifications

Revolving upperstructure

Frame

All-welded, stress relieved, precision machined.

Machinery side housings — All-welded, stress relieved, line or stub bored for positive shaft and gear alignment. Depending on specific model, side housings may be either fabricated integrally with upper frame or as separate units which bolt on machined surfaces on upper frame.

Mounting of upperstructure on supporting structure

Hook roller path

Double-flanged, machined roller path with integral ring (swing) gear; welded to mounting plate which can either be welded or bolted to supporting structure. Swing pinion meshes with ring (swing) gear. (Standard on 78A and 108B).

Hook rollers

Heat treated, conical hook-type rollers mounted on anti-friction bearings; shim adjusted to compensate for roller path or roller wear. Eight rollers mounted in four equalized pairs — two pairs front and rear. (Standard on 78A and 108B).

Turntable bearing

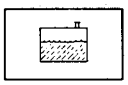
Complete with integral, external ring (swing) gear. Inner race of bearing is bolted to revolving upperstructure; outer race with ring (swing) gear is bolted to mounting plate which is either fixed to a mounting base, which is in turn fixed to the supporting structure, or fixed direct to the supporting structure.

Engines

Diesel: full pressure lubrication, oil filter, oil cooler, air cleaner, fuel filter, hour meter, foot and hand throttles, and spark arrester exhaust system. Optional hydrostarter or air starter.

Engine specifications	48A	78A	108B	138A	218A	238A
Manufacturer Series	GM 3-53N	GM 3-71N	GM 4-71N	GM 6-71N①	GM 6-71N①	GM 6-71N①
Number cylinders Bore and stroke — inches *— millimeters*	3 3⅞ x 4½ *98 x 114*	3 4¼ x 5 *108 x 127*	4 4¼ x 5 *108 x 127*	6 4¼ x 5 *108 x 127*	6 4¼ x 5 *108 x 127*	6 4¼ x 5 *108 x 127*
Piston displacement — cubic inches *— cm_2*	159.2 *2 609.3*	212.7 *3 486.2*	283.7 *4 649.8*	425.6 *6 975.6*	425.6 *6 975.6*	425.6 *6 975.6*
High idle speed r.p.m. Engine r.p.m. at full load speed Net engine horsepower at full load speed *— kilowatts*	2,100 1,935 60 *45*	1,990 1,815 84 *63*	1,990 1,850 112 *84*	1,950 1,800 165 *123*	1,950 1,800 165 *123*	2,040 1,900 171 *128*
Peak torque — foot pounds *— joules*	164 *222.38*	271 *367.48*	351 *475.96*	1,400 *1898.4*	1,400 *1898.4*	1,400 *1898.4*
Peak torque r.p.m.	1,000	1,200	1,200	Converter stall	Converter stall	Converter stall
Electrical system Batteries	12-volt 2-6 volt	12-volt 2-6 volt	12-volt 2-6 volt	12-volt 1-12 volt	12-volt 1-12 volt	12-volt 1-12 volt
Clutch or power take-off	Friction clutch	Friction clutch	Friction clutch	Disconnect between engine and converter①	Disconnect between engine and converter①	Disconnect between engine and converter①
Transmission — Number chain wheel teeth Number engine pinion teeth	— 123 16	— 161 17	— 161 17	— 161 21	— 161 28	— 171 21

①Allison single stage torque converter #TCD0-475.

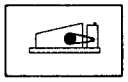


Fuel tank

Equipped with fuel gauge, flame arrestor, and filler pipe cap with locking eye for padlock.

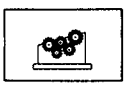
Tank capacity	48A	78A	108B	138A	218A	238A
Gallons (U.S.) *Liters*	20.5 *78*	43 *163*	58 *220*	75 *284*	75 *284*	75 *284*

Power train



Transmission

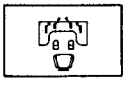
FMC Link-Belt® roller chain (triple or quadruple strand depending on specific machine model) enclosed in oil tight chain case; pump driven oil stream lubrication with independent oil sump. Machine-cut teeth on engine pinion and chain wheel.



Machinery gear train

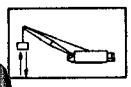
"Full-Function" design, two-directional power available to all operating shafts; shafts mounted on anti-friction bearings in precision bored machinery side housings. All load hoist, swing, and boomhoist functions independent of one another. Components such as gears, pinions, chain wheels, brake drums 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



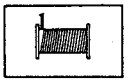
Control system

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

Front and rear main operating drums gear driven; powered by chain transmission from engine.



Load hoist drums

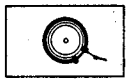
Front and rear main operating drums — Two-piece, removable, smooth or grooved laggings bolted to adapter which is splined to drum shaft. Extended length shafts permit installation of optional power load lowering clutches; special length shaft required for, and furnished with, optional planetary drive units for either or both drums.

Drum clutches

Load hoist 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.

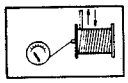
Load lowering clutches — Same style and type as load hoist clutches. Standard on front and rear drums of 48A, 78A, 108B. Standard on rear drum only, optional on front drum of 138A, 218A, 238A.

Drum planetary drive units — Optional; available for high speed load hoist (right side) on rear drum of 138A, 218A, 238A only. 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.



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.

Load hoist drum laggings	**Root diameter**	**48A**	**78A**	**108B**	**138A**	**218A**	**238A**
Front drum	Inches *meters*	8½① *0.21*	12① *0.30*	13¼① *0.34*	14① *0.36*	17¼① *0.44*	17¼① *0.44*
Rear drum	Inches *meters*	8½① *0.21*	14② *0.36*	13¼① *0.34*	14① *0.36*	17¼① *0.44*	17¼① *0.44*

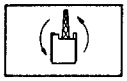
①Smooth ②Grooved

Load hoist clutches		**48A**	**78A**	**108B**	**138A**	**218A**	**238A**
Diameter of drum	Inches *meters*	14 *0.36*	18 *0.46*	20 *0.51*	18 *0.46*	20 *0.51*	23 *0.58*
Face width	Inches *millimeters*	3½ *88.9*	4½ *114.3*	5 *127.0*	4½ *114.3*	5 *127.0*	6 *152.4*

Load lowering clutches		**48A**	**78A**	**108B**	**138A①**	**218A①**	**238A①**
Diameter of drum	Inches *meters*	14 *0.36*	18 *0.46*	20 *0.51*	18 *0.46*	20 *0.51*	23 *0.58*
Face width	Inches *millimeters*	3½ *88.9*	4½ *114.3*	5 *127.0*	4½ *114.3*	5 *127.0*	6 *152.4*

①Optional on front drum.

Front and rear drum brakes		**48A**	**78A**	**108B**	**138A**	**218A**	**238A**
Diameter of brake	Inches *meters*	18 *0.46*	23 *0.58*	27 *0.69*	32 *0.81*	34 *0.86*	34 *0.86*
Face width	Inches *millimeters*	3 *76.2*	3¾ *95.25*	4½ *114.3*	4 *101.60*	4½ *114.3*	5 *127.0*
Effective lining area	Sq. Inches *cm²*	137 *88.3*	215 *1 385*	309 *1 994*	327 *2 110*	392 *2 526*	432 *2 788*



Swing system

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

Swing clutches

Speed-o-Matic® power hydraulic two-shoe clutches; lined shoes.

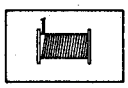
Swing brake — External contracting band; spring applied, hydraulically released by operator controlled lever.

Swing lock — Operator controlled, mechanical, double-tooth pawl engages teeth of swing (ring) gear.

Maximum swing speed (r.p.m.)	
48A — 4.8	138A — 3.4
78A — 4.2	218A — 3.0
108B — 4.0	238A — 2.8

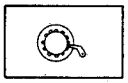
Boom hoist/ lowering system

Independent, spur gear driven. Precision control of boom hoisting and lowering. Speed-o-Matic® power hydraulic two-shoe clutches control boom hoisting on all models and boom lowering on 48A, 78A and 108B. Boom lowering on 138A, 218A and 238A controlled by low speed planetary drive unit. Optional — high speed power hydraulic two-shoe boom lowering clutch, in addition to low speed planetary drive unit, available on 138A, 218A and 238A.



Boomhoist drum

See chart below for description and size.



Boomhoist drum locking pawl

Operator controlled; mechanically applied and released. Engages ratchet ring which is integral with flange of boomhoist wire rope drum.

Swing clutches		**48A**	**78A**	**108B**	**138A**	**218A**	**238A**
Diameter of clutch	Inches *meters*	14 *0.36*	18 *5.49*	20 *6.10*	18 *5.49*	20 *6.10*	23 *7.01*
Face width	Inches *millimeters*	3½ *88.9*	4½ *114.3*	5 *127.0*	4½ *114.3*	5 *127.0*	6 *152.4*

Swing brake		**48A**	**78A**	**108B**	**138A**	**218A**	**238A**
Diameter of brake	Inches *meters*	12 *0.30*	11 *0.28*	14 *0.36*	18 *0.46*	20 *0.51*	20 *0.51*
Face width	Inches *millimeters*	2 *50.8*	2 *50.8*	2¼ *57.2*	3 *76.2*	3¼ *82.55*	3¼ *82.55*
Effective lining area	Sq. inches *cm₂*	59 *381*	47 *303*	74 *477*	130 *837*	154 *994*	154 *994*

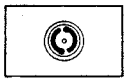
Boomhoist drum	**48A**	**78A**	**108B**	**138A**	**218A**	**238A**
Drum design	Single①	Single①	Single①	Single②	Single②	Single②
Root diameter	7″ *0.18 m*	9″ *0.23 m*	9″ *0.23 m*	10½″ *0.27 m*	11¼″ *0.29 m*	12¼″ *0.31 m*

①Grooved ②Smooth

Boom hoist/lowering clutches		**48A**	**78A**	**108B**	**138A**	**218A**	**238A**
Boom hoist clutch — Diameter	Inches *meters*	14 *0.36*	18 *0.46*	20 *0.51*	18 *0.46*	20 *0.51*	23 *0.58*
Face width	Inches *millimeters*	3½ *88.9*	4½ *114.3*	5 *127.0*	4½ *114.3*	5 *127.0*	6 *152.4*
Boom lowering clutch — Diameter	Inches *meters*	14 *0.36*	18 *0.46*	20 *0.51*	① –	① –	① –
Face width	Inches *millimeters*	3½ *88.9*	4½ *114.3*	5 *127.0*	① –	① –	① –

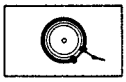
①Low speed planetary drive unit — standard.

Boomhoist brake		**48A**	**78A**	**108B**	**138A**	**218A**	**238A**
Diameter of brake	Inches *meters*	14 *0.36*	19 *0.48*	22 *0.56*	26 *0.66*	28 *0.71*	28 *0.71*
Face width	Inches *millimeters*	3 *76.2*	3 *76.2*	3 *76.2*	4 *101.6*	5 *127.0*	5 *127.0*
Effective lining area	Sq. Inches *cm²*	107 *690*	151 *974*	174 *1 123*	275 *1 775*	234 *1 510*	372 *2 401*



Boom hoist/ lowering clutch

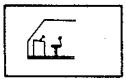
Speed-o-Matic® power hydraulic two-shoe clutches; internal expanding, lined shoes. (See chart page 7.)



Boom hoist brake

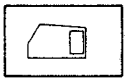
Single external contracting band brake; spring applied, hydraulically released. Brake drum involute splined to shaft. (See chart page 7.)

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



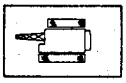
Operators cab

Full-vision, equipped with safety glass panels. Standard equipment includes dry chemical fire extinguisher, adjustable cushioned seat with head and arm rests. Optional available equipment — sound reduction material, air operated windshield wiper.



Machinery cab

Equipped with warning horn, doors on sides and rear for machinery access, roof-top access ladder, hand/grab rails, and skid-resistant finish on roof.



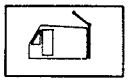
Catwalks

Optional — available along operator's side, both sides of cab, and/or across rear of cab — depending on specific machine model (refer to price lists). Fabricated steel with extruded metal floor grating and hand railings.

Gantry — Fixed low; mounted to revolving upperstructure frame — standard on ABS/API-48A only.

Fixed low; mounted at top rear of machinery side housings — standard on ABS/API-138A, 218A and 238A.

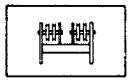
Supports boom suspension system.



Gantry

Retractable high; mounted at top and rear of cab — standard on ABS/API-78A and ABS/API-108B.

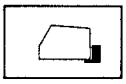
Supports boom suspension system.



Gantry bail

Mounted to gantry head shaft; supports boom suspension system. Equipped with sheaves, mounted on anti-friction bearings, to accommodate boomhoist reeving. (See chart below.)

Gantry bail	**48A**	**78A**	**108B**	**138A**	**218A**	**238A**
Number bail sheaves Sheaves root diameter	4 8" *(0.20 m)*	4 12" *(0.30 m)*	5 12" *(0.30 m)*	6 12" *(0.30 m)*	8 12" *(0.30 m)*	7 15" *(0.38 m)*
Number parts of wire rope in boomhoist reeving	10	10	10	14	16	16

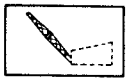


Counterweight

Counterweight	**48A**	**78A**	**108B**	**138A**	**218A**	**238A**
Number pieces	One	One	One	Two①	Two①	Two
Pounds *kilograms*	9,200 *4 173*	13,200 *5 988*	19,200 *8 709*	30,000 *13 608*	33,000 *14 969*	47,000 *21 319*

①Includes 12,000 lbs. *(5 443 kg)* optional "B" counterweight.

Boom



Angle boom

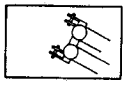
Boom	48A	78A	108B	138A	218A	238A
Basic length	25′ *7.62 m*	35′ *10.67 m*	40′① *12.19 m*	50′ *15.24 m*	50′ *15.24 m*	50′ *15.24 m*
Maximum length	80′ *24.38 m*	100′ *30.48 m*	100′ *30.48 m*	150′ *45.72 m*	150′ *45.72 m*	150′ *45.72 m*
Type connections	Bolted	Bolted	Bolted	Bolted	Bolted	Bolted
Main chords — Type	Angle	Angle	Angle	Angle	Angle	Angle
Size	2½″x2½″x¼″ *63.5x63.5x 6.4 mm*	3″x3″x⅜″② *76.2x76.2x 9.5 mm*	3½″x3½″x⅜″③ *88.9x88.9x 9.5 mm*	4″x4″x⅜″ *101.6x101.6x 9.5 mm*	4″x4″x⅜″ *101.6x101.6x 9.5 mm*	4″x4″x⅜″ *101.6x101.6x 9.5 mm*
Boompoint sheaves — Number	3	4	3④	3⑤	3⑤	3⑤
Root diameter	12″ *0.30 m*	18″ *0.46 m*	18″ *0.46 m*	21″ *0.53 m*	21″ *0.53 m*	21″ *0.53 m*

①34″ x 34″ *(0.86 x 0.86 m)* angle boom.
42″ x 42″ *(1.07 x 1.07 m)* pin-connected angle boom with 4″ x 4″ x 5/16″ *(101.6 x 101.6 x 7.94 mm)* main chords is optional for ABS or API-108B.
②Base section only. Top section and extensions have 3″ x 3″ x 5/16″ *(76.2 x 76.2 x 7.9 mm)* main chords.
③Base section only. Top section and extensions have 3½″ x 3½″ x 5/16″ *(88.9 x 80.9 x 7.9 mm)* main chords.
④42″ x 42″ *(101.6 x 101.6 mm)* angle boom equipped with three 18″ *(0.46 m)* diameter boompoint sheaves.
⑤Four or five 21″ *(0.53 m)* root diameter boompoint sheaves optional.

Boom stops

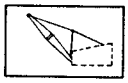
Dual, rigid type with spring loaded bumper ends; mounted on cab roof — standard on ABS/API-48A.

Dual tubular, lever type with spring loaded bumper ends — standard on ABS/API-78A, 108B, 138A, 218A, 238A.



Boomhoist bridle

Serves as connection between boom pendants and boomhoist wire rope reeving. Equipped with sheaves mounted on anti-friction bearings.



Boom live mast

Mounts on front of frame near boom feet. Supports boomhoist bridle and boomhoist wire rope reeving.

Boom angle indicator

Pendulum type, mounted on boom base section.

Boom tip extension — Fabricated steel, equipped with single sheave mounted on anti-friction bearings. 48A-tip extension 8′0″ *(2.44 m)* long, 5,000 lbs. *(2 268 kg)* maximum capacity. 78A, 108B, 138A, 218A, 238A-tip extension 10′0″ *(3.05 m)* long, 10,000 lbs. *(4 536 kg)* maximum capacity.

Boomhoist bridle

Model	Number sheaves	Root diameter
48A	5	8″ *(0.20 m)*
78A	5	11″ *(0.28 m)*
108B①	5	10¼″ *(0.26 m)*
138A	7	12″ *(0.30 m)*
218A	8	12″ *(0.30 m)*
238A	8	15″ *(0.38 m)*

①For ABS/API-108B 34″x34″ *(0.86x0.86 m)* angle boom only.
ABS/API-108B 42″x42″ *(1.07x1.07 m)* angle boom is equipped with 5 12″ *(0.30 m)* sheaves.

Boom tip extension sheaves	
Model	**Root diameter**
48A	12″ *(0.30 m)*
78A	17⅞″ *(0.45 m)*
108B	17⅞″ *(0.45 m)*
138A	17⅞″ *(0.45 m)*
218A	17⅞″ *(0.45 m)*
238A	17⅞″ *(0.45 m)*