

FMC API-238A maximum allowable capacities

With 48" deep angle boom with 10' boom tip extension

Refer to All notes at bottom

Serial
Number

221H1 365-110

Boom			Capacities "AB" Cwt.	Parts of Line
Length	Radius	Angle		
100'	25'	77.6°	95,100	5
	30'	74.6°	86,900	4
	35'	71.6°	73,900	4
	40'	68.6°	64,100	3
	45'	65.5°	56,300	3
	50'	62.3°	50,000	3
	55'	59.0°	44,800	3
	60'	55.6°	40,600	2
	65'	52.0°	36,900	2
	70'	48.3°	33,800	2
	75'	44.4°	31,000	2
	80'	40.1°	28,600	2
	85'	35.4°	26,400	2
	90'	30.1°	24,500	2
	95'	23.8°	22,800	2
	100'	15.2°	21,200	1
	104'	0.0°	14,400	1

10 Ft. Boom Tip Extension			Capacities "AB" Cwt.	Parts of Line
Length	Radius	Angle		
100'	30'	77.5°	10,000	1
	35'	74.8°	10,000	1
	40'	72.0°	10,000	1
	45'	69.2°	10,000	1
	50'	66.4°	10,000	1
	55'	63.4°	10,000	1
	60'	60.4°	10,000	1
	65'	57.3°	10,000	1
	70'	54.0°	10,000	1
	75'	50.6°	10,000	1
	80'	47.1°	10,000	1
	85'	43.3°	10,000	1
	90'	39.2°	10,000	1
	95'	34.7°	10,000	1
	100'	29.5°	10,000	1
	104'	25.4°	10,000	1

Lifting Crane Notes:

1. Loads shown are in pounds and in all cases are limited by strength capabilities of the machine. Proper design of the substructure to withstand the loadings imposed and proper attachment of the mounting plate to the substructure shall be the responsibility of the purchaser. Loads are in compliance with API spec 2C "Specifications for Offshore Cranes". Boom tip not to be more than 17.3 feet below boom foot. A deduction must be made from these capacities for weight of load handling equipment such as hook block, hook, sling, grapple, load weighing devices, etc. except for hoist rope.
2. Do not lift load on 10' boom tip extension when main hook is in use.
3. Wire rope used for main load must be 1" diameter, L-BS type "N", with a minimum breaking strength of 103,400 pounds. The recommended number of parts of line are indicated in the chart above.
4. Wire rope used for tip extension load hoist must be 7/8" diameter, L-BS type "N" with a minimum breaking strength of 79,600 pounds or 7/8" diameter, L-BS type "P" with a minimum breaking strength of 65,000 pounds.
5. Wire rope used for boom hoist must be 7/8" diameter, L-BS type "T", with a minimum breaking strength of 83,800 pounds.
6. Wire rope used for pendants must be 1-3/4" diameter, L-BS type "N", with a minimum breaking strength of 306,000 pounds.
7. See Operator's Manual for boom hoist reeving diagram. See Parts Manual for lengths required for all rope used on this machine.
8. When a different boom length is installed, this capacity plate must be replaced with a plate corresponding to the new boom length.
9. Live mast must be used for all capacities on this chart.
10. These capacities apply only to the machine as originally manufactured and normally equipped by FMC Corporation Cable Crane and Excavator Division.
11. L-BS type "T" wire rope is 6 x 30 — flattened strand — extra improved plow steel — preformed — independent wire rope center — right lay — lang lay.
12. L-BS type "N" wire rope is 6 x 25 (6 x 19 class) filler wire — extra improved plow steel — preformed — independent wire rope center — right lay — regular lay.
13. L-BS type "P" wire rope is 19 x 7 non-rotating — extra improved plow steel — preformed — wire center core.



FMC Corporation
Cable Crane & Excavator Division
Cedar Rapids Iowa 52406

KEY SHEET & GENERAL INFORMATION

Plant Order No. BN81-365 Model API-238A Serial No. 22TH1-365IC
Distributor Bado Equipment Co. Shipped January 1982

TURNTABLE- BRG. Rotek s/N 19300-A1
BOOM HOIST BALL & BRIDLE 16 PART LINE Low Gantry
CTWT. LOWERING DEVICE Manual CTWT "A" 27,000 (12,247 Kg) 22B383
"B" 20,000 (9,072 Kg) P/N 22B386
FRONT DRUM SHAFT w/lowering clutch LAGGING 22D202 - 17-1/4" (.44m)
REAR DRUM SHAFT w/2 speed hoisting LAGGING 22D202-17-1/4" (.44m)
BOOM HOIST SHAFT w/2 speed lowering LAGGING 22E69-12-1/4" (.31m) WEDGE 1Y87
ENGINE GM1064 7001 s/N 6A0425841 ELECTRIC SYSTEM
POWER TAKE OFF Allison TCD0475 s/N 1210073302 SPEC. NO. 81L24
THROTTLE CONTROLS Hand & Foot HEAD MACHY.
ATTACHMENTS 1-50' (15.24m) angle boom; 1-20' (6.10m) boom ext; 1-30' (9.14m) boom ext; 2 -
hoist line deflector rollers, 1 five ton tip ext.

MISCELLANEOUS air starter, catwalks & railings, automatic brakes, anti-two block, auto-
matic function kickout system, air operated windshield wiper, hot water heater, x-proof
machine functions, 1,000' of 1" type "N" hoist line, DNV certification

AREA 3 - UPPER FRAME

3-1-71.0 Revolving Frame
3-2-15.0 Seat
3-6-33.0 Swing Lock
3-10-64.0 Ctwt. Removal
3-11-12.0 Grease Lines
3-12-25.0 Bail
3-14-15.0 Fuel System (GM)

AREA 4 - VERTICAL SHAFTS & MACHY.

4-3-31.0 Swing Shaft

AREA 5 - HORIZONTAL SHAFTS

5-0-6.0 Gear Train
5-1-54.0 Reverse Shaft
5-1-58.1 Reverse Lines

AREA 5 - CONTINUED

5-2-43.0 Reduction Shaft
5-3-26.0 Front Drum Shaft
5-3-56.1 Front Drum Lines
5-4-31.0 Rear Drum Shaft
5-4-61.1 Rear Drum Lines
5-7-64.0 Planetary Lines
5-7-72.0 Planetary Drive
5-8-22.0 Planetary Drive "Slow Down"
5-8-74.0 Boom Hoist Shaft
5-8-96.1 Boom Hoist Brake & Pawl
5-9-15.1 Boom Hoist Lines
5-9-25.0 Clutch Cylinder
5-9-44.0 Rotating Joint
5-10-5.0 Clutch Assembly
5-12-92.0 Drum Rotation Indicator
5-14-4.0 Front & Rear Brakes
Swing Brake



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KEY SHEET & GEN. INFO (continued)

Model 238A Serial No. 22TH1-365IC

AREA 6 - UPPER ENGINES & CONTROLS

6-5-60.0 Engine
6-6-38.0 Hydraulic Drive
6-8-73.0 Shut Down Controls
6-8-86.0 Engine Throttle
6-8-92.0 Throttle Controls In Cab
6-17-30.0 Master Clutch Control
6-24-67.0 Instrument Panel

6-36-5.0 Pinion
6-37-5.0 Chain
6-38-22.0 Chain Case

AREA 7 - HYDRAULIC CONTROLS

7-1-7.0 Accumulator
7-1-8.0 Hydraulic Power Assembly
7-2-1.0 Unloading Valve
7-2-2.0 Check Valve
7-2-29.0 Oil Filter
7-4.0 Relief Valve
7-4-118.0 Brake Actuator - "Auto"
7-4-121.0 Cab Plumbing
7-4-122.1 Pressure & Return Lines
7-4-197.0 Hyd. Controls - "Auto" Brakes
7-4-198.0 Brake Actuator Mtg. - "Auto"
7-5-1.0 Pump Assembly
7-8-117.0 Control Valve
7-8-153.0 B.H. Kickout Valve
7-9-37.0 Master Clutch & Swing Brake Controls
7-9-46.0 Control Levers
7-10-48.0 Control Stand
7-8-94.0* Swing Control Valve

AREA 8 - ANGLE BOOM & MACHINERY

8-1-23.0 Boom & Extension
8-2-29.0 Head Machinery
8-5-11.0 10' Tip Extension
8-7-14.0 Boom Backstops
8-9-8.0 Mast & Bridle Assembly
8-10-3.0 Deflector Roller Assembly

AREA 9 - BOOM

9-1-17.0 Foot Pin Removal
9-10-48.0 Boom Hoist Kickout

AREA 14 - CAB & HOUSE

14-1-185.0 House
14-1-126.0 Operator's Cab
14-2-24.0 Drum Guards
14-5-44.0 Catwalks

AREA 16 - WIRE ROPE

16-0-1.0 Wire Rope Spec.
16-3-15.0 Wire Rope Requirements

AREA 18 - MISCELLANEOUS

18-1-2.0 Angle Indicator
18-9-57.0 Decals & Labels

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