

# NATIONAL CRANE

Subsidiary of Kidde, Inc.

**KIDDE**

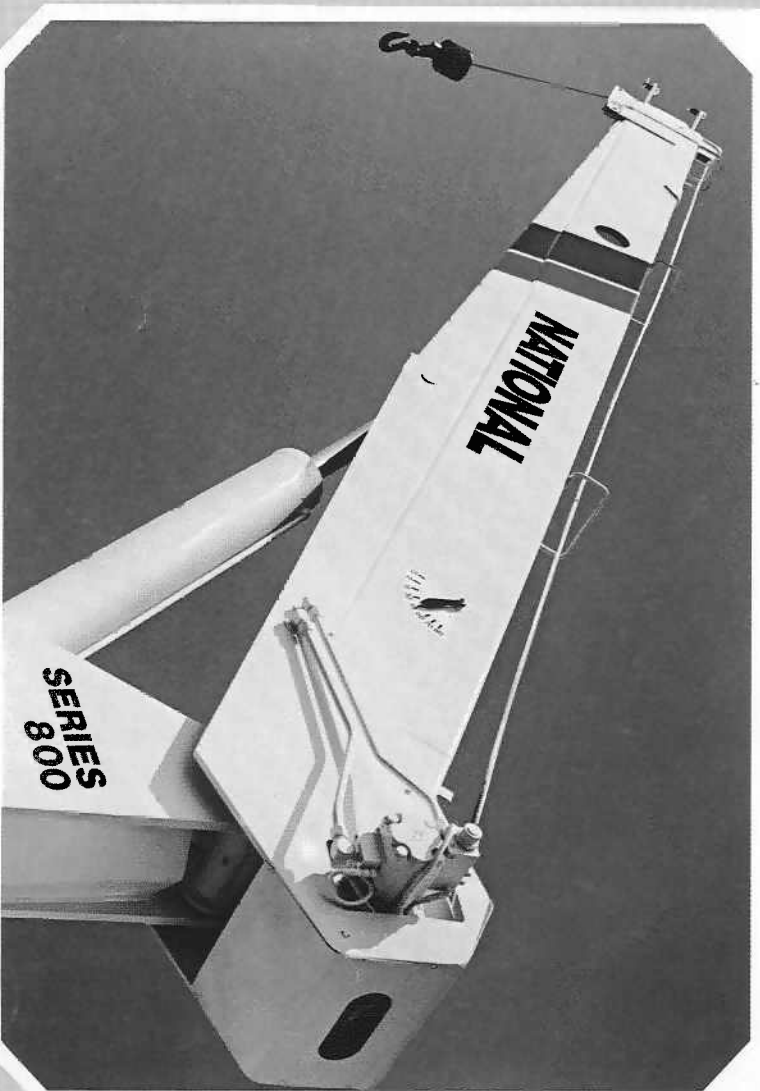
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**Service Center**

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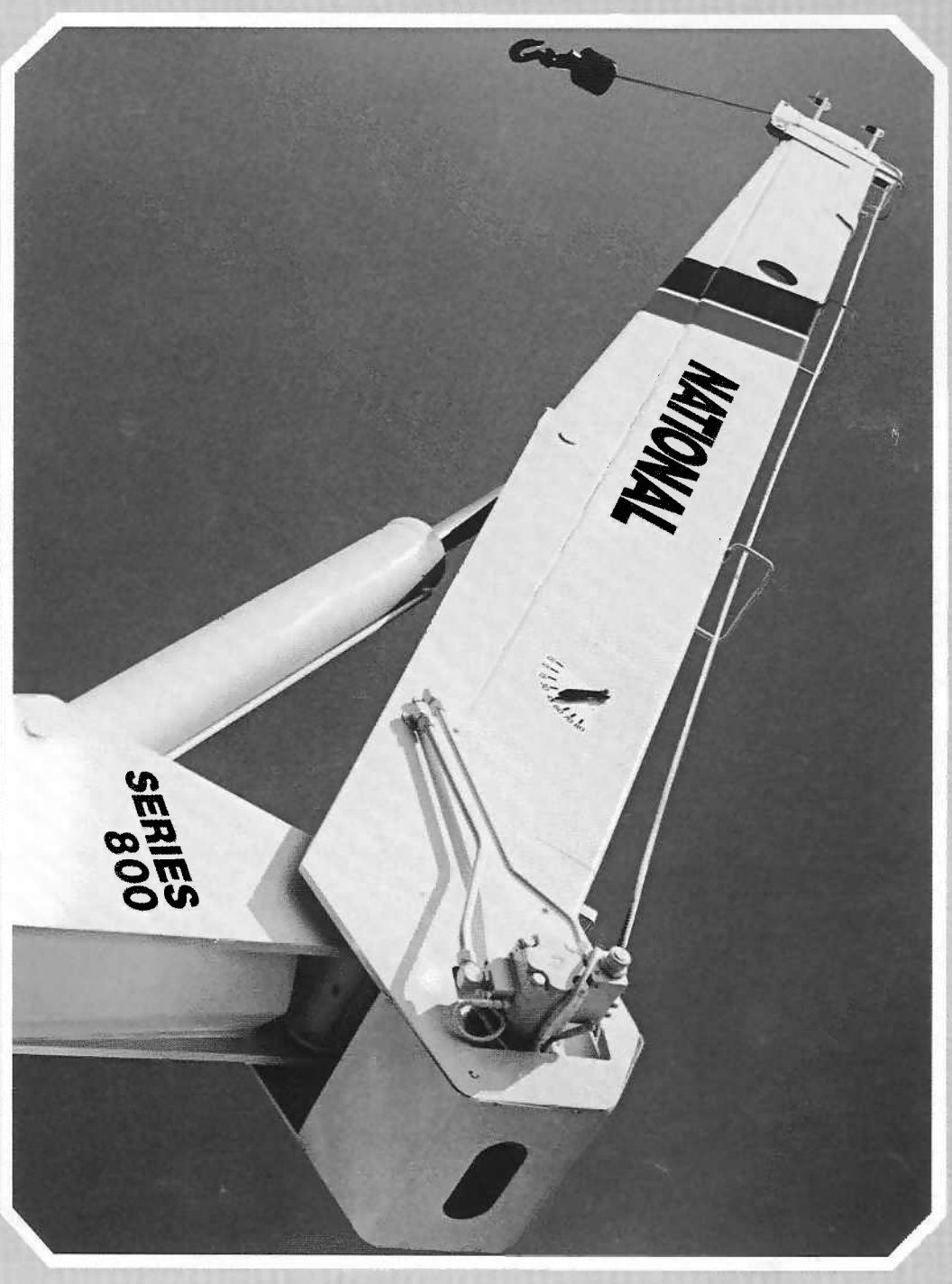
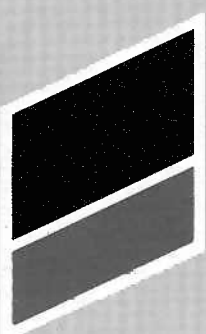
Your National Crane Dealer:



National reserves the right to change designs, prices and specifications at any time without notice.

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# THE NATIONAL MARINE LIFTING SYSTEM



**PEDESTAL-MOUNTED HYDRAULIC  
MARINE CRANES AND EQUIPMENT**

# NATIONAL MARINE CRANES

National builds hydraulic cranes for shipboard, dockside, offshore, and other marine uses. And no one builds them better.

National marine cranes are built to rigid specifications and strict quality control standards. They are tough and durable. They will give you years of profitable service. Plus, every crane is part of National's comprehensive Marine Lifting System.

The National Marine Lifting System gives you a wide selection of boom lengths and capacities you can job-match to your needs. And National cranes are specifically engineered for maximum performance in harsh marine environments.

National's pedestal-mounted hydraulic marine cranes are the versatile alternative for many jobs now done by manpower or by lifting methods that are not adequately matched to the job. More and more people are finding Nationals the most cost-efficient lifting system for docks, fishing boats, oil terminals, offshore platforms, and many other uses.

Think about it. How many jobs do you have that could be done faster and more profitably with a cost-efficient National marine crane?

### Stronger, Lighter Booms

Extra strength and lighter weight mean greater capacity. Our telescopic booms are fabricated from four high-strength, low-alloy steel members welded with perpendicular corners. This box-section construction lets us use thicker top and bottom plates for extra strength,



and thinner side plates for increased capacity through lower boom weight. The high strength steel members are welded with advanced, automatic low hydrogen techniques for extra strong seams. All corner seams are ultrasonically tested for proper weld penetration.

### Sequential Extension

National introduced sequential, full-load extension to the industry. Our telescoping boom sections interlock for sequential extension with larger, stronger boom sections extending first for greater strength. National's patented locks are mechanical, not hydraulic, for greater reliability with no wasted hydraulic power. This is just one example of our engineering excellence paying off in performance for you.

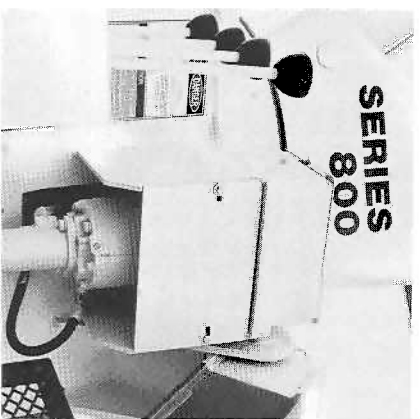
### Marine Conditioning

Full marine conditioning is standard on all cranes. The National marine conditioning program gives you longer crane life with less maintenance. All external surfaces are sand blasted, coated with inorganic zinc primer, painted and covered with a durable chlorinated rubber topcoat. All interior surfaces and cylinders are carefully primed and painted to help prevent corrosion.

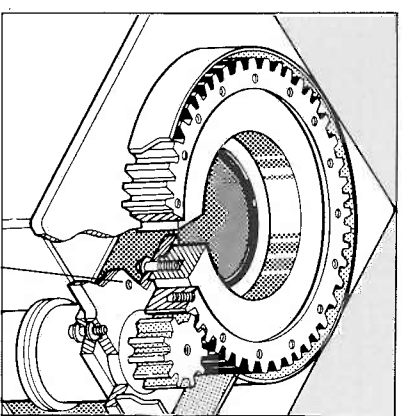
All lift cylinder rods and boom pivot pins are stainless steel to withstand the rigors of corrosive salt water and chemical environments. Continuous welds are made wherever possible to prevent the formation of corrosion in crevices.

### Fast, Sure Slewing

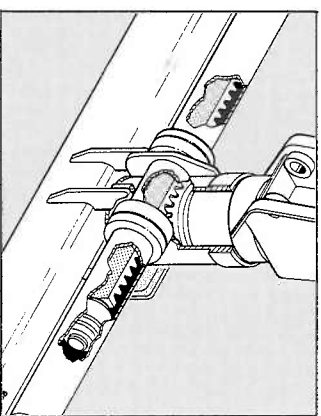
National turret drives are specifically engineered for fast, smooth, controlled slewing. They require minimum maintenance, even under harsh marine conditions, and routine service is easy.



The Marine 800 uses a tough planetary rotation gearbox for efficiency, strength and durability.



The Marine 400, 600A and 800 are equipped with a planetary rotation gearbox. The units have extra heavy bearings below the drive pinion to ensure proper tooth alignment for smooth rotation under maximum rated loading. The turret glides smoothly on a low inertia ball bearing race.



The Marine 200 gives you the precision of rack and pinion rotation.

Positive slewing stops are available on the Marine 400, 600A and 800 to limit boom rotation between 60° and 375° in 45° intervals to prevent the boom from contacting rigid structures. Standard rotation on these models is 375° non-continuous. On the Series 200 standard rotation is 390° non-continuous. Continuous rotation is available on some models for maximum flexibility.

# NATIONAL TELESCOPING MARINE CRANES

### Marine 200

6,000 LBS.\*  
Capacity at 10 ft.

10,700 LBS.\*  
Maximum Capacity

The National Marine 200 is an inexpensive, shorter radius telescoping crane for use on smaller boats and barges, in general purpose dockside and terminal work, and on offshore platforms. The 200 is ideal for many jobs where larger capacity cranes prove inefficient and expensive.

Boom Length	Available	1 section	2 section
Marine 200	16 ft.	1 section	2 section

### Marine 400

8,000 LBS.\*  
Capacity at 10 ft.

16,000 LBS.\*  
Maximum Capacity

The Marine 400 offers a wide range of boom lengths and solid dependability in medium-duty work. Its mid-range capacity and reliability have made it the workhorse of fishing fleets.

Boom Length	Available	3 section	3 section	3 section
Marine 400	37 ft.	3 section	3 section	3 section
	46 ft.			
	55 ft.			

### Marine 600A

13,500 LBS.\*  
Capacity at 10 ft.

25,000 LBS.\*  
Maximum Capacity

For medium to heavy-duty general lifting cycles the National Marine 600A has the capacity and telescoping booms you need. It's equally at home handling fishing, cargo, offshore, or dockside chores.

Boom Length	Available	3 section	3 section	3 section
Marine 600A	38 ft.	3 section	3 section	3 section
	47 ft.			
	55 ft.			
	66 ft.			

### Marine 800

20,000 LBS.\*  
Capacity at 10 ft.

34,000 LBS.\*  
Maximum Capacity

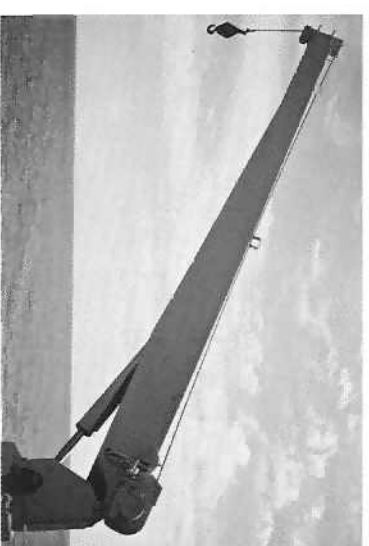
When it comes to heavy-duty cycles and long reaches in general lifting, more and more shipbuilders are specifying the National Marine 800. Its extra heavy-duty construction and tough planetary drive rotation mean more work-time and less downtime, even under extreme duty.

Boom Length	Available	2 section	3 section	3 section	4 section
Marine 800	39 ft.	2 section	3 section	3 section	4 section
	56 ft.				
	75 ft.				

Load rating charts for all National Telescoping Marine Cranes are shown on pages 5 and 6.

## MARINE CRANES NATIONAL FIXED BOOM

National fixed boom marine cranes are designed for maximum duty cycles and long periods of inactivity encountered in off-shore service. Their smaller size and lighter weight, coupled with few parts to maintain, make them an obvious choice. Customized fixed-length booms are available. Contact our factory for details.

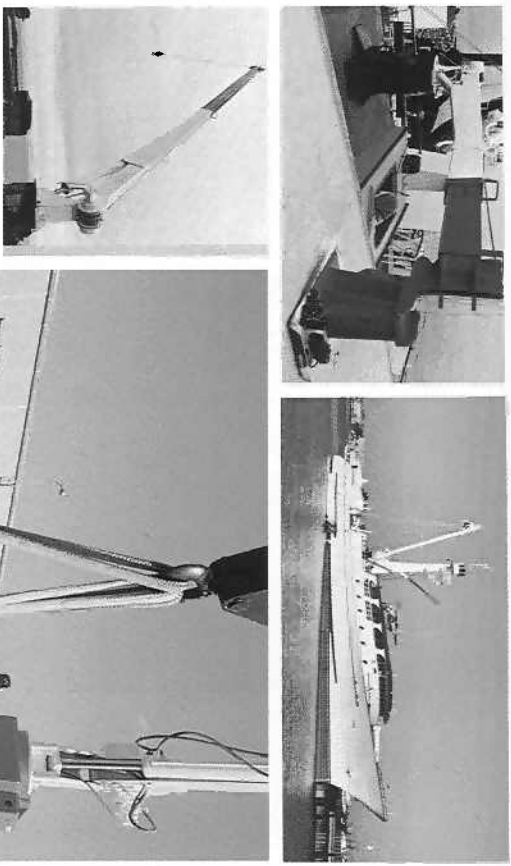


Capacity at 10 ft.*	Maximum Capacity*	Boom Length Available
Marine 200	6,000 lbs.	16 ft.
Marine 400	8,000 lbs.	22 ft.
Marine 600A	13,500 lbs.	25 ft.
Marine 800	20,000 lbs.	22 ft.

\*All capacities are based on the following system operating pressures. For systems with other pressures, contact the factory for information.

Marine 200	2,500 psi
Marine 400	2,600 psi
Marine 600A	2,650 psi
Marine 800	2,650 psi

Load ratings are shown in pounds on these charts. They make no allowance for such factors as the effect of freely suspended loads, winds, or operating speeds. The operator, therefore, must reduce load rating in order to take these conditions into account. Weights of accessories must be deducted from the chart capacities. Do not exceed capacities at any reduced boom length. **Overloading may cause structural collapse!**



**DO NOT OPERATE CRANES OR ACCESSORIES WITHIN 10 FEET OF LIVE POWER LINES.**

**SERIES 400**

**Load Moment at Mounting Surface**

1,404,000 in-lb

**Rotational Force**

120,000 in-lb

**Thrust Load at Mounting Surface**

24,000 lbs.

**Mounting Bolts and Nuts**

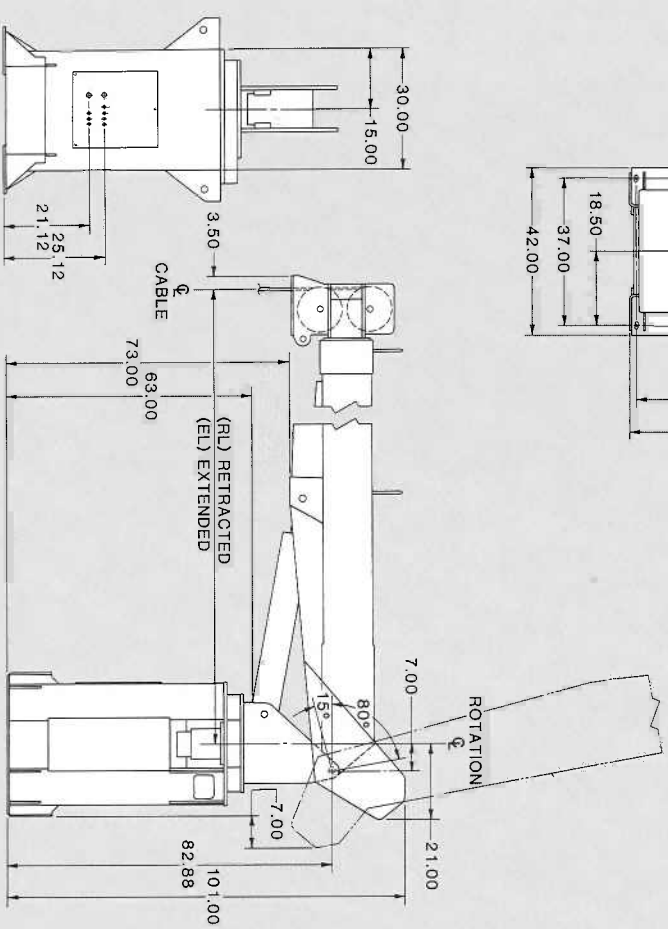
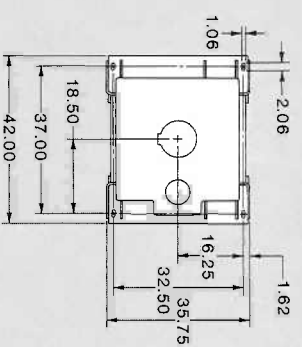
1-8 UNC Grade 8, extending 2 1/2" above the mounting surface. Torqued to 900 ft/lbs.

**Rotational Stop Locations**

Rotational stops which allow minimum of 60° rotation up to 375° rotation in any desired quadrant. Contact factory for details.

**Weight**

Model 437: 5,120 lbs.  
Model 446: 5,520 lbs.  
Model 455: 5,870 lbs.



**SERIES 800**

**Load Moment at Mounting Surface**

3,150,000 in-lb

**Rotational Force**

220,000 in-lb

**Thrust Load at Mounting Surface**

45,000 lbs.

**Mounting Bolts and Nuts**

1-8 UNC Grade 8, extending 2 1/2" above the mounting surface. Torqued to 800 ft/lbs.

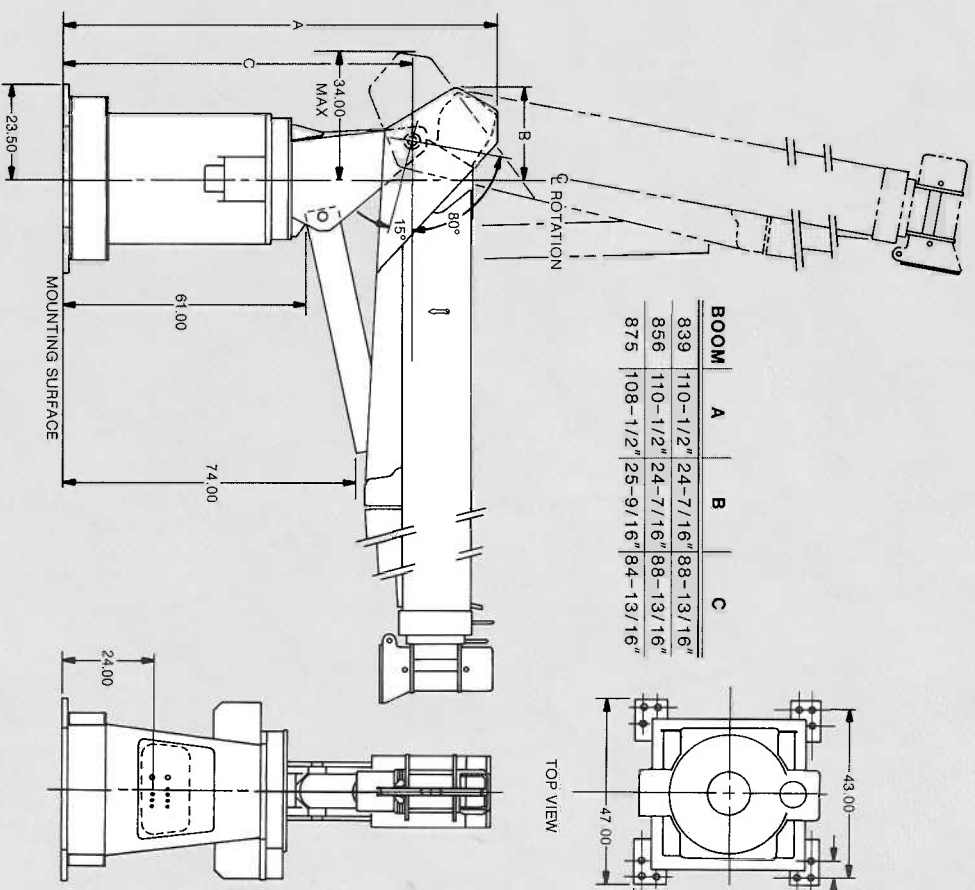
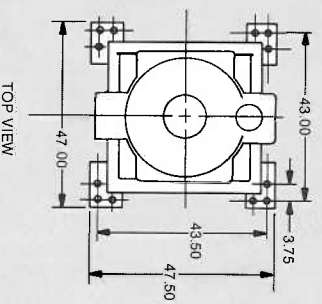
**Rotational Stop Locations**

Rotational stops which allow minimum of 60° rotation up to 375° rotation in any desired quadrant. Contact factory for details.

**Weight**

Model 839: 7,950 lbs.  
Model 856: 9,050 lbs.  
Model 875: 10,900 lbs.

BOOM	A	B	C
839	110-1/2"	24-7/16"	88-13/16"
856	110-1/2"	24-7/16"	88-13/16"
875	108-1/2"	25-9/16"	84-13/16"



SIDE VIEW

REAR VIEW

# NATIONAL MARINE CRANES TECHNICAL DATA

	Marine 200	Marine 400	Marine 600A	Marine 800
<b>Capacity at 10 ft.*</b>	6,000 lbs.	8,000 lbs.	13,500 lbs.	20,000 lbs.
<b>Max. Capacity*</b>	10,700 lbs.	16,000 lbs.	25,000 lbs.	34,000 lbs.
<b>Rotation</b>				
Non-Continuous	390°	375°	375°	375°
Continuous	N/A	N/A	Optional	Optional
Speed	56 sec.	89 sec.	86 sec.	81 sec.
<b>Controls</b>				
Dual Side	Optional	Optional	Optional	Optional
RVC	Optional	Optional	Optional	Optional
Console	Optional	Optional	Optional	Optional
<b>Hydraulic Requirements</b>				
Boom	5.5 gpm/2,500 psi	5.5 gpm/2,600 psi	12 gpm/2,650 psi	12 gpm/2,650 psi
Winch	12.5 gpm/2,500 psi	12.5 gpm/3,050 psi	21 gpm/3,050 psi	21 gpm/3,050 psi
<b>Winch</b>				
Standard Model	Tulsa 9	CP5500	Braden PD-12	Braden PD-12
Line Pull Bare	6,100 lbs.	6,450 lbs.	10,200 lbs.	10,200 lbs.
Line Speed Full	42 fpm	92 fpm	93 fpm	93 fpm
Optional Model	N/A	Braden PD-12		
Line Pull Bare		10,200 lbs.		
Line Speed Full		55 fpm		

\*All boom capacities are based on the following system operating pressures. For systems with other pressures, contact factory for information.

Marine 200	2,500	Marine 600A	2,650
Marine 400	2,600	Marine 800	2,650

## POWER PACK SPECIFICATIONS

**Components:** Electric Motor, Hydraulic Pump, Mounting Bracket

### Electric Motor:

Types: A. Totally Enclosed Fan-Cooled (TEFC)  
 B. Explosion Proof, Class I, Group D (XP)  
 Speed: 1,800 rpm  
 Voltage: 230/460 AC  
 Hertz: 60 Hz  
 Phase: 3

(Due to potential wiring variances, motor starter is not included.)

**Mounting Bracket:** Heavy-duty, steel base weldment with six mounting holes.

### Balance Vane Hydraulic Pump

	Marine 200	Marine 400	Marine 600	Marine 800
<b>Pump:</b>				
Single pump*	Single pump* 25 hp	Single pump* 25 hp	Tandem pump 50 hp	Tandem pump 50 hp
<b>Flow Rate:</b>				
Boom:	5.5 gpm*	5.5 gpm*	12 gpm	12 gpm
Winch:	12.5 gpm	12.5 gpm	21 gpm	21 gpm
<b>Pressure:</b>				
Boom:	2,500 psi	2,600 psi	2,650 psi	2,650 psi
Winch:	2,500 psi	3,050 psi	3,050 psi	3,050 psi

\*Hydraulic control system must be equipped with 70:30 flow divider (70% flow to winch circuit; 30% flow to boom circuit.)

# NATIONAL MARINE CRANES WARRANTY AND PARTS

## The National Warranty

No product is better than its warranty. And no warranty is better than the company behind it.

We didn't get to be one of America's largest manufacturers of telescoping cranes by building less than the best. Or backing them with less than the most comprehensive warranty possible.

Our warranty covers your crane against defects in materials or workmanship for 6 full months from the date of shipment, subject to the conditions of the warranty.

When you select a National crane, you're getting more than just a crane. You're getting a nationwide dealer warranty service network, strong



warranty protection and our special concern for every product we make. Read our warranty. Then, don't settle for less. For complete information, write National Warranty Service, Waverly, NE 68462.

## The National Parts System

Because even National cranes need parts, we back our dealers with an immediate, extensive parts supply. That way, your crane can get back on the job fast.

We have a highly trained parts and service staff to answer dealer service questions and expedite parts shipping. Most National parts can be on their way within 48 hours on request.

