

BOW THRUSTER 20

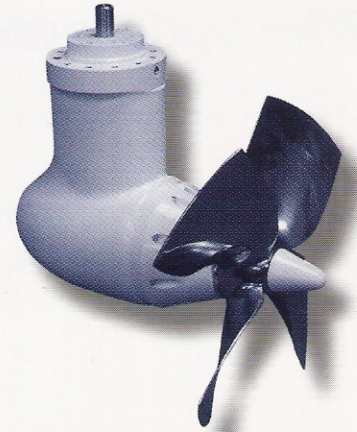
THRUSTER TECHNICAL SHEET

NAIAD Marine has continuously developed and produced innovative marine equipment such as Roll Stabilizers, Bow Thrusters, Steering Gear and Integrated Hydraulic Systems. NAIAD Bow Thrusters culminate from many years of intensive development and rigorous testing, so you receive a quality NAIAD product guaranteed to last. Our wide range of models are designed to accommodate vessels from luxury yachts to commercial workboats, with NAIAD being the preferred choice of naval architects, builders and yachtsmen worldwide.

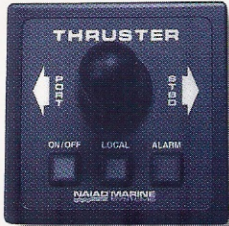
NAIAD Thruster Facts:

Gear Housing Facts:

- ✓ Moderate propeller speeds result in reduced operating noise.
- ✓ Separate seal housing can be removed without disturbing propeller shaft assembly.
- ✓ Propeller shaft is rigidly supported in powerful-three bearing configuration.
- ✓ Positive pressure in gear housing ensures against contamination.
- ✓ Rugged spiral bevel gear construction, built to last.
- ✓ CNC precision-machined housing and components.



Control System Facts:



- ✓ True proportional control (variable thrust) through the thrusters entire operating range.
- ✓ Control system accepts as many as five remote control stations.
- ✓ On, off and transfer of control may be initiated from any control station.
- ✓ Logic Control Box may be installed in any convenient location to simplify and shorten cable runs to control stations.
- ✓ Audible and Visible indicators allow convenient system monitoring.
- ✓ Other shipboard hydraulic systems are easily integrated with the NAIAD Thruster.

Tunnel Facts:

- ✓ Tunnels are supplied with premounted saddles to accept propeller gear housing and motor bell housing.
- ✓ Tunnels are available in steel, aluminum and reinforced fiberglass, matching the vessel's hull material.

Support Service Facts:

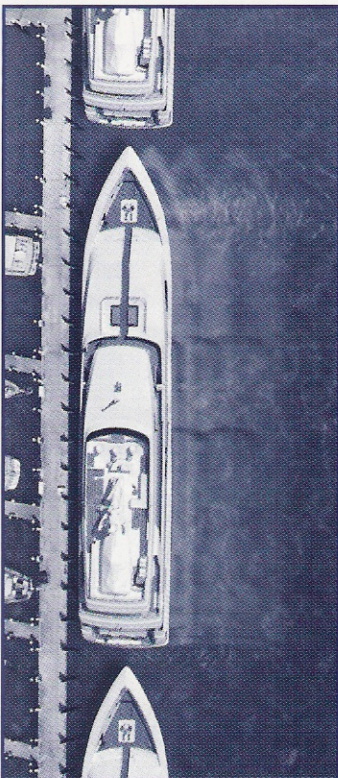
- ✓ Detailed manual is provided for each NAIAD Bow Thruster.
- ✓ Commissioning of your vessel performed through our network of experienced service technicians.
- ✓ Internationally recognized after-sale support.

Warranty Fact:

- ✓ We are so confident in the reliability of our NAIAD Bow Thrusters that each system is covered by an exceptional 2 year warranty. Consult NAIAD for details.

Integrated Hydraulic System Facts:

- ✓ Our team of hydraulic specialists will customize a central hydraulic system to suit your vessel's specific requirements.
- ✓ NAIAD's Integrated Hydraulic Systems are easily integrated with other equipment such as stabilizers, steering gear, windlasses, capstans, davits and passerelles.
- ✓ NAIAD's Systems reduce complexity, maximize performance and provide single source responsibility.

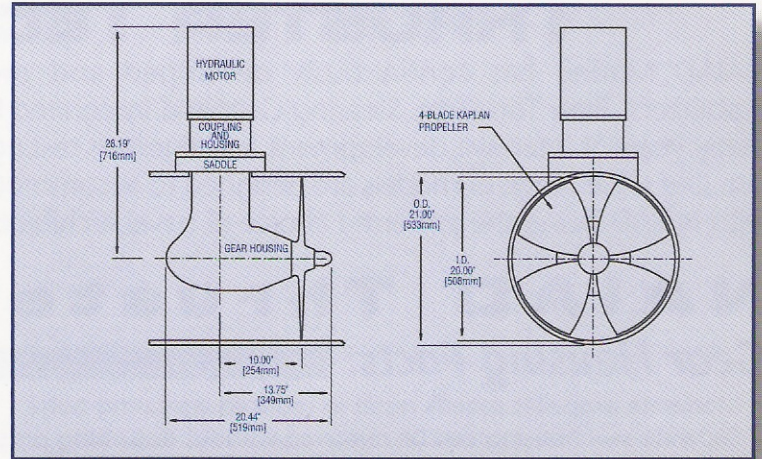


NAIAD Bow Thruster 20 Specifications

NAIAD Marine's extensive knowledge of marine engineering has enabled us to design and manufacture heavy duty equipment strong enough for the commercial market, yet priced for the yacht market.

Rated Output	80 HP	60 kW
Nominal Thrust	1855 lb*	8.26 kN*
Nominal Vessel Size	90-130 ft	27-40 meters
Nominal Diameter (External)		
GRP	20.98 inches	533 mm
Steel	20.98 inches	533 mm

*Thrust will vary with installation factors.
Figures shown are nominal, not theoretical maximum.



Drive Options

In order to provide the highest quality and most flexible line of Bow Thrusters, NAIAD provides numerous drive options:

Gear housing input drives

- ✓ Hydraulic motor (closed or open loop hydraulic configurations)
- ✓ Electric motor (on-off, soft-start or fully proportional)

Hydraulic pump drives

- ✓ Main engine PTO
- ✓ Generator PTO
- ✓ Gearbox PTO
- ✓ Electric motor
- ✓ Dedicated diesel engine

Quality Materials

NAIAD's Bow Thruster line is available for steel, fiberglass, aluminum and wood vessels. NAIAD products are manufactured in Van Dusen & Meyer's modern manufacturing facility and subject to the same rigid quality standards as equipment produced for the United States defense and aerospace industries.

Tunnels

Steel:	ASTM A106(HFS) Tube
Aluminum:	Alloy UNS A95083
GRP:	Isophthalic polyester resin filament wound

Gear Housing

Aluminum:	UNS A03570-T7
Stainless Steel:	UNS J92602(ACI CF20) Passivated

NAIAD Bow Thruster Model	Diameter		Nominal Vessel Size		Nominal Power		Nominal Thrust		Fully Proportional Controls	Drive Options	
	inches	mm	Feet	Meters	HP	kW	Lb.	kN		Hyd.	Elec.
12	12	305	40-80	12-25	30	22	640	2.80	YES	YES	YES
16	16	406	70-110	21-34	60	45	1280	5.61	YES	YES	YES
20	20	508	90-130	27-40	80	60	1855	8.26	YES	YES	YES
24	24	610	100-150	30-46	110	82	2360	10.50	YES	YES	YES
30	30	762	120-180	36-55	200	150	4390	19.54	YES	YES	YES
36	36	915	130-240	40-73	300	215	6290	28.00	YES	YES	YES



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