## WESMAR in Command in Demanding Offshore Oil Industry

Oil crew/supply vessels like the 165 foot Keith G. McCall working the offshore oil rigs off Mexico's coast represent a new trend...speed and comfort. The Keith G. and its sister ship Milton R. McCall both have WESMAR's powerful 200 hp tunnel thrusters. They allow for smooth docking and for holding position in the often rough offshore waters where the oil rig platforms are stationed.



#### Second WESMAR for Dahl Tug & Barge



The 110 foot Ocean Eagle contracts and charters for big jobs all over the west coast. "Captains need to be able to turn her around in her own length and hold to a barge or dock so deck hands can get a line up," said owner Fred Dahl of Dahl Tug and Barge. "The thruster also takes a lot of stress out of docking."

## Power, Efficiency & WESMAR Give Tug Her Strength

The 109 foot Combi Tug Noelani is a high power, high efficiency tug thanks in

part to the 350 HP V2-36 hydraulically driven stainless steel tunnel thruster, which replaced a not-so-powerful retractable thruster. "We can just snug up on the barge and move it using the WESMAR counter rotating system," says her owner, Ron Greger owner of Greger Pacific marine.

#### WESMAR DPC200 Thruster on 190 Ft. Landing Craft

The 190 foot landing craft, Caribbean Express, uses a WESMAR DPC200 dual prop, counter rotating bow thruster for better maneuverability in shallow water. Sunstate Marine Services, Inc.



delivered the vessel and Norm Lesmerises, Shipyard Manager said "The Caribbean Express is a unique vessel with the ability to push her nose right up to the shore where a drop-ramp raises and lowers to load/unload equipment. Maneuverability is really needed with a vessel this size. She's long and narrow and the waters she's in can be very shallow. We can't be at the mercy of the wind or tide. The thruster with her dual prop 40% more power operates efficiently and effectively. It has greatly enhanced the maneuverability of the vessel."

#### WESMAR"

#### 'Thruster of Choice' For U.S. Fireboats



Twin Fireboats **Three Forty Three** (inset) and **Firefighter II**, (137 feet and 500 tons each), are the nation's largest fireboats. **Firefighter II**, works out of Staten Island, **Three Forty Three** works on the Hudson River in Manhattan. The WESMAR bow thrusters ensure their ability to hold snug against the larger ferries to safely transfer and evacuate people during emergencies.



The 79-foot **American United** Ranger Class fireboat is in service at Logan Airport (Boston). They are named after the American and United Airline flights that were hijacked and flown into the World Trade Centers. This high powered fireboat operates as an emergency response search and rescue vessel and depends on its WESMAR thruster to maneuver in challenging environments and to hold steady for water rescues.



The 65-foot **City of Portland** is a fully equipped water ambulance and fireboat stationed in Portland, Maine. Thanks to her WESMAR thrusters she is able to respond to the outer islands where she maneuvers in and out of small bays and channels.

## WESMAR

Western Marine Electronics 14120 NE 200th Street Box 7201 Woodinville, WA 98072 USA

> Tel: 1-425-481-2296 Fax: 1-425-486-0909 shakimi@wesmar.com www.wesmar.com



Authorized WESMAR Dealer

#### RAJKOT MARINE L.L.C.

Joy A. Gomez Managing Director

P.O. Box 30741, Sharjah, U.A.E. Tel: 971 06 5687002 Fax: 971 06 5687002

Mob: 971 50 4628276 radimate@eim.ae www.rajkotdiesels.com





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### The WESMAR Story

WESMAR products are designed to make your time on the water more pleasurable while protecting your investment. We are the leading US manufacturer of dual prop counter rotating stainless steel bow and stern thrusters, digital gyro stabilized roll fin stabilizer systems, and numerous sonar for fishing, navigation and waterside security. The company brings 47 years of design and manufacturing to the marine industry, providing equipment to commercial, private and government operations around the world. WESMAR's network of support includes over 350 trained service personnel, dealers and distributors dedicated to customer support. To these partners and to thousands of boat owners around the world the WESMAR brand means reliable, rugged, commercial grade bow and stern thrusters; high-powered triple axis gyro-driven roll fin stabilizer systems, custom hydraulics and advanced sonar systems.

From 1965 when WESMAR broke a design barrier creating a solid state CRT display sonar, essentially an underwater radar for fishing, the company began its long history of research and innovation that has created product lines uniquely suited to the roughest marine environments of the world, yet unmatched in design and widely heralded for their long maintenance-free life and worldwide support.

#### **WESMAR Products**

## Roll Fin Stabilization Systems For Enhanced Comfort and Safety

WESMAR's DSP4800 series roll fin stabilizer systems use an advanced high-powered digital processor and advanced triple axis gyro and state-of-the-art electronics leading the industry in comfort, safety, and fuel savings during cruising and at anchor.







Horizontal wave lines track how the vessel is responding

Regardless of size, all vessels have their own roll characteristics depending on hull shape and loading. Wave motions initiate this, and if in close synchronization with the hull's natural roll period, roll may build to uncomfortable or even dangerous proportions.

The roll must be stopped before it starts; otherwise you fight the vessel's momentum as well as the forces of the sea. WESMAR's DSP4800 Active Digital Stabilizer, instantly reacts to control this roll by combining a memory component of your vessel's individual roll factor with input from its digital triple axis gyro to instantly stop the roll.

#### Save Fuel, Save Time, Be Safe

#### Select between three system options:

Standard Digital Stabilization

Offering the high-speed gyro and control of roll, with on-screen display of fin movement in real time.

Digital Stabilization and Lift

Gyro and controller software maintain the fins in a positive lift position during all stabilization movement, providing maximum fuel savings.

Digital Stabilization, Lift and At Anchor

The At Anchor mode monitors incoming swells and automatically controls fin movement to reduce the roll.

For Bill Hammer, Alaska longliner for ground fish and halibut, the installation of WESMAR stabilizers savesfuel, time, improves safety for his crew and gets his catch home quicker and fresher.



The 56-ft Longliner Silver Lady

#### Bow and Stern Thrusters

Thrusters for Fiberglass, Aluminum, Steel and Wood Vessels 30 to 200+ Feet

WESMAR stainless steel counter rotating propeller bow and stern thrusters provide up to 40% more thrust with the same input power as single propeller thrusters. This technology allows a smaller tunnel diameter with less drag which further improves fuel efficiency.

Proportional control allows safe and efficient docking in ever crowded waterfront space.

Saddle version up to 150 HP







Stainless Steel Bow and Stern Thrusters for Safe Maneuvering

- Stainless Steel Props
- Low Maintenance Design
- •Easy Retrofit and Upgrade

- More Thrust per Input Power
- Precise Control

WESMAR bow and stern thrusters save time, fuel and are environmentally friendly.

#### Sonars

#### Fish Detection, Navigation and Security Sonar

WESMAR's wide range of precision searchlight sonars give 360 degrees of detailed information beneath and around the vessel. These high-tech sonars are a must on the open water where vessels are concerned with avoiding objects near the surface and in shallow water where large rocks, reefs, and shoals created by storms and objects sunken in shipping lanes or navigable channels pose the risk.

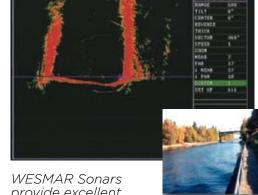
#### Active Beam Stabilization

To keep the beam focused the transducer array itself is stabilized with WESMAR's next generation advanced gyro-electric stabilization. The stabilization provides finite alignment of the sonar array in rough sea conditions and stops the sonar sound beam from encountering the surface or seabed when the sonar is scanning at long ranges ahead of the vessel.

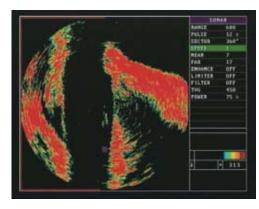
#### Digital Link

Long interconnect cable runs are subject to noise and low sonar performance. WESMAR's new digital link between the sonar electronics (near the transducer) and

the computer console in the wheelhouse operate noise free for maximum sonar performance.



provide excellent shallow water navigation through locks, marinas, and other shallow water areas.



Navigate into unfamiliar harbors with a clear sonar picture of the channel, reefs and rocks.

Cruising in the blind is in the past. WESMAR sonar will give you a picture of the underwater, 360 degrees around your vessel.



## **TCS780**

# Trawl Sonar with Multiple Functions



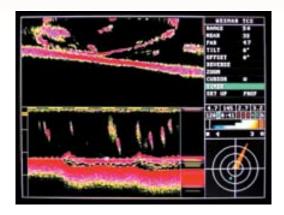
- Forward Scan to Measure Door Spread
- High Frequency Profile for Net Geometry and Fish Entry
- High Frequency Vertical Sounder to follow Bottom and Footrope
- Depth, Temperature, and Level Monitor are Standard
- Works with up to Six Catch Sensors
- Optional Current Measurement Function
- Lightweight at just 65lbs or 29kgs



# Improve Catch Volume, Catch Quality And Save Fuel With The New TCS780 and TCS380 Trawl Sonars...

The WESMAR TCS780 Trawl Sonar incorporates requests and ideas from captains and fish masters around the world who are forever looking for ways to improve the quality of the catch while reducing fuel consumption.







#### Forward Scan:

The forward looking transducer will scan forward marking doors and tracking fish, measure door spread and bridle lengths, and determine if the doors are horizontal or one is above or below the other. The forward looker will also confirm that the fish are not passing over the bridles.

#### Spilt Screens:

Select Profile & Down Sounder or Forward Scan & Down Sounder or Forward Scan & Profile for simultaneous viewing. Each transducer has its own adjustments to bring out the best resolution. The Down Sounder keeps a steady view of the net opening, fish and footrope while the captain can take measurements in the other screen. Activate the 4X zoom feature and follow the footrope and bottom relation.

#### Lightweight:

The TCS 780 weighs 29 kgs, 18 kgs lighter than other headrope units with the forward scanning capability. One person, not two or three, is needed to handle the sled.

#### Catch Sensors:

A large codend can use more than four sensors to monitor the catch rate. WESMAR catch sensors are quick to respond providing the best protection from overfilling the net.

#### Improve your catch capability with these options:

#### Including powerful wheelhouse electronics

#### Hand Control:

A new processing module with more power than ever before, better graphics and response time takes the place of the TCS770 console with knobs. The hand control makes the operation easier and more accessible throughout the wheelhouse. For even greater convenience an optional wireless remote control is available.

#### Data Output:

Depth and Temperature data are available as NMEA outputs. Connect the TCS780 to a compatible video sounder and view a depth line across the screen that represents the positions of the net. Align the net line with fish targets on the screen before the fish reach the net.

#### Tow Timer:

Timer will start automatically when the system is turned on. Or, reset the timer any time.

#### Talking Catch Sensors:

A beep signals the number of the sensor that have triggered eliminating the need to watch the screen.

#### **Better Interface:**

The trawl sonar screen is never covered by a menu when adjustments are made. The effect of all adjustments is immediately visible on the screen.

#### Quicker Update in Split Screen:

By managing the transmit interval of the profile & sounder transducers, the profile picture will update much faster.

#### Better Net View:

A larger 220 degree profile sector is now available in split screen. This keeps the headrope in view during turns without adjusting dome offset.

#### Compatibility:

New processing module and cable power driver are compatible with the following WESMAR headrope units (sleds): 780, 770, 380, 345, 335. Any of these sleds can be carried on the vessel to suit the fishing conditions.

## Profile the net opening with the compact lightweight TCS380 Trawl Sonar.

For both bottom and mid water, the TCS380 has a variety of features developed to optimize catch.

#### **Pressure Sensor**

Will constantly monitor the depth of the headrope making it possible to align the net with the fish as they pass under the boat.

#### Depth Sounder

On the bottom, the depth sounder will indicate how far down the slope the net is fishing.

#### Spilt Screen

With split screen or two monitors, the profile and down sounder are displayed at the same time.



#### **Trawl Sonar**

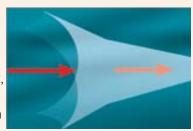
#### **Specifications**

#### Trawl Current Direction:

Equipped with three sensors, the TCS780 headrope unit (sled) is able to detect the direction and flow of the current at the headrope. Trawl efficiency is achieved when the current is perpendicular to the mouth of the net. The current direction indicator on the TCS780 trawl system gives the essential information to adjust the net for optimum fish catch. Positioning the net ahead of fish that swim with the current will fill the net much faster reducing tow time and fuel consumed.

#### Trawl Speed:

Current at fishing depth can be different than current at the surface. By monitoring the water flow at the mouth of the net, the current vessel speed can be set to catch the fish that might be lost, saving fuel as well. Both trawl speed and current direction information are sent to the vessel through the net sounder cable, a reliable link unaffected by depth and water conditions.





#### Inner-Net Speed:

The WESMAR INS 85 inner net speed sensor is a new sensor that measures the water speed inside the net and communicates acoustically with the TCS 780 sled. Typically the inner-net sensor is installed inside the intermediate, close to the codend. Water should flow smoothly through the net taking the

fish with it to the codend. If the water flow slows because of the water blockage or the net being filled with fish, the fish can swim out and escape. The WESMAR INS 85 inner net speed sensor will sense the change in the water flow signaling the skipper it is time to haul back.

#### TCS780 HEADROPE UNIT (SLED)

1800m Working Depth:

Frequency: 110kHz Forward Scan, 8.5 x 8.5 degrees

110kHz Downsounder, 28 x 28 degrees

180kHz Profile, 4 x 30 degrees OR: 300kHz Profile, 2.3 x 25 degrees

Stabilizer: Forward Scan +/- 30 degrees

Trawl Current Direction: Relative to net opening Trawl Speed: 0.5 to 9.9 knots

Inner-Net Speed: 0.5 to 9.9 knots

Catch Sensors: 1 to 6 Wesmar sensors, 1 to 4 other sensors 1 to 6 Wesmar sensors, 1 to 4 other sensors

Depth Sensor: Meter, Fathom, Feet +0.1 degree Centigrade Temperature:

Weight: 65lbs, 29.5 kg dry: 20.9 lbs, 9.5 kg wet

#### WHEELHOUSE ELECTRONICS TCS780/380

PROCESSING MODULE

Hand Controller: Wired hand controller (connect any number)

> Optional Radio Link No Voltage Required

Input Voltage: Data Output: NMEA, depth, temp or both Up to 9 hours and 59 minutes Tow Timer: Talking Catch Sensors: Speaker in wired hand controller

Video Output: VGA, 640 x 480

L 26cm, W 10cm, H 22.9cm Dimensions:

#### TCS380 HEADROPE UNIT (SLED)

1000m N/A

200kHz Down Sounder, 28 x 28 degrees

300kHz Profile, 4 x 30 degrees

N/A N/A

Relative to net opening

0.5 to 9.9 knots 0.5 to 9.9 knots

Meter, Fathom, Feet +0.1 degree Centigrade

26.5lbs, 12 kg dry: 9.9 lbs, 4.5 kg wet

#### CABLE POWER DRIVER

110/220V AC, 100 watts Input Voltage: Output Voltage: 120V DC @ 0.8A

Test Cable:

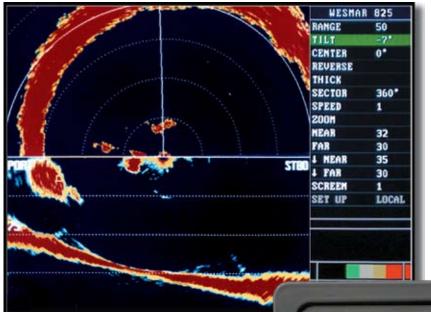
Interconnect Cable: Cable to Processing module 10.6m L 38cm, W 16.5cm, H 44.5 cm Dimensions:





## **HD825 Series Sonar**

A New Generation of Digital Searchlight Sonar Designed for Purse Seining



- All digital searchlight sonar specially designed for purse seining, but highly effective for all sonar applications
- Lightning Fast Blackfin Internal Computer
- Quick, Hands-on Sonar Controls Keep You On the Fish, Not the Menu
- Spot fish way out in front
- Push a button for a quick reverse for a second look
- New linear display unwraps the bottom for better view of fish and bottom hardness



45 Years of Searchlight Sonar Development

for Commercial and Sport Fishing and Navigation



## New Controls for Purse Seining or Any Sonar Application

WESMAR's New control panel is designed for quick and easy operation to find fish, fast. Following a school of fish and navigating the boat have become much easier with the HD825. There are no menus to scroll when tracking the fish so your eyes stay on the fish. Changes to



range, sector, bearing, and tilt are immediate because each has its own separate control. The quick reverse feature is perfect. Once fish are detected you can hit quick review and waste no time returning to the fish.

### **Digital Design**

#### ·New Digital Design

The HD825 uses the same powerful Black Fin processor as the high-end HD850 sonar. Powerful digital detection capability and digital communications without cable loss or electrical interference enhances performance. Bright, sharp target colors for detecting dispersed fish.

WESMAR's gravity stabilization operates in both the forward scan and in down sounder mode. With long stroke option, lower the dome below bubble area for unmatched performance.

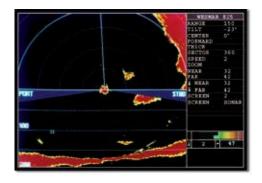


### Searchlight Advantage

No Sonar has better directivity than WESMAR engineered transducers. One hundred percent of the transducer surface area points in the direction of the fish in a sharp narrow beam. Dispersed fish and hard-to-mark fish are detected clutter-free. An Omni sonar, with a diffused beam, allows dispersed fish and fish near the bottom to go undetected.

#### Split Screen Mode

More Information; Greater Clarity

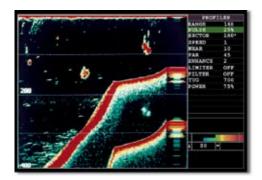


View both forward scan and profile scan on same screen.

Split Screen, top part forward scan, lower part profile, each with separate adjustments.

#### Stabilized Down Sounder

Stays Focused on the Bottom



Full Screen Sounder for rough days when conventional sounders lose picture, the sonar transducer can be locked down for a reliable stabilized sounder picture with zoom. White line is available to distinguish fish from bottom.

#### HD825 Series

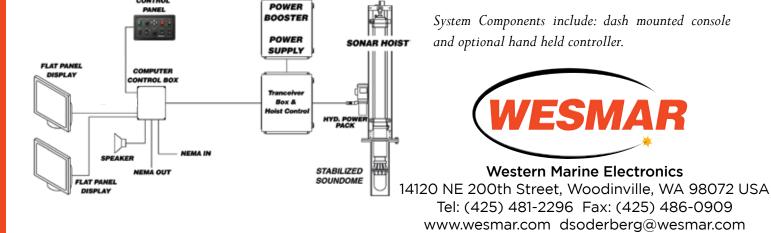
#### **Specifications**

HD825/160-6	Frequency kHz Type of Hoist Hoist Height Retraction Time Soundbeam	160 kHz Lead Screw 19 inches 20 seconds 6.5°V 6.5°H	HD825/60-8	Frequency kHz Type of Hoist Hoist Height Retraction Time Soundbeam	60 kHz Lead Screw 22 inches 25 seconds 10°V 15°H
HD825/160-6 FT	Frequency kHz Type of Hoist Hoist Height Retraction Time Soundbeam	160 kHz Hydraulic 25.7 inches 3 seconds 6.5°V 6.5°H	HD825/60-8 FT	Frequency kHz Type of Hoist Hoist Height Retraction Time Soundbeam	60 kHz Hydraulic 33.5 inches 4 seconds 10°V 15°H
HD825/110-8	Frequency kHz Type of Hoist Hoist Height Retraction Time Soundbeam	110 kHz Lead Screw 22.0 inches 25 seconds 6.5°V 9°H	HD825/110-10	Frequency kHz Type of Hoist Hoist Height Retraction Time Soundbeam	110 kHz Hydraulic 58.3 inches 6 seconds 5°V 7°H
HD825/110-8 FT	Frequency kHz Type of Hoist Hoist Height Retraction Time Soundbeam	110 kHz Hydraulic 33.5 inches 4 seconds 6.5°V 9°H	HD825/60-10	Frequency kHz Type of Hoist Hoist Height Retraction Time Soundbeam	60 kHz Hydraulic 58.3 inches 6 seconds 8.5°V 11.0°H

#### Notes:

- 1. A Power Booster is provided with all units.
- 2. All soundomes are urethane with stainless steel tops.
- 3. Four screens of operation: Full Screen Sonar; Split Screen Sonar/Profile; Split Screen Linear Scan/Profile; and Full Screen Sounder.

#### **HD825 Block Diagram**



#### PRODUCT WARRANTY

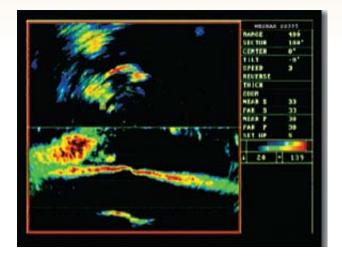
Commercial warranty and consumer limited warranty, disclaimer, and remedies. Seller warrants title, materials, and workmanship on equipment, except components manufactured by others for which seller assigns, as permitted, the original manufacturer's warranty. Seller's warranty period for all applicable express or implied warranties shall be ninety (90) days after installation or one (1) year after date of shipment to the original buyer, whichever time period expires first. Nonconforming equipment reported to seller during the applicable warranty period and returned to seller at buyer's expense and risk shall be repaired, or replaced at seller's option. If seller is unable or unwilling to repair or replace such reported and returned nonconforming equipment within a reasonable time, then buyer shall be entitled to a refund of the purchase price of the equipment as buyer's sole remedy. This paragraph sets forth buyer's exclusive remedies for nonconforming goods. This commercial warranty and consumer limited warranty is in lieu of all other warranties, express or implied, including design, course of dealing, merchantability, and fitness for a particular purpose.

NOTE: LIMITATION OF SELLER'S COMMERCIAL AND CONSUMER LIABILITY. Seller shall not be liable on any claim for loss of use, revenue, or profit, for injury, or for any other incidental or consequential damages, regardless of the basis for buyer's claim(s), including, but not limited to, the law of contract, warranty, or tort. In no case shall seller's liability on any claim(s) exceed the amount paid to seller for the purchased goods.

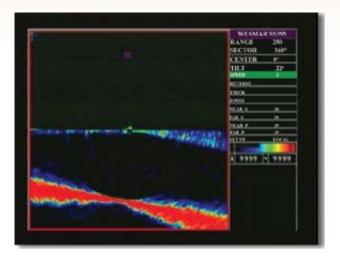
## SS395 Sonar

#### Specialized Navigation and Fish Detection Sonar

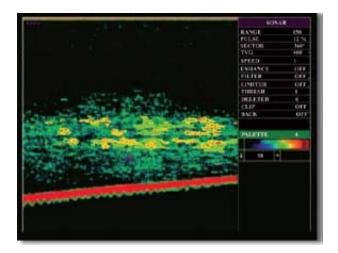
The SS395 Sonar is the combination of navigational sonar and fish detection technology used for specialized commercial fishing, game fishing, and navigation in ports around the world.



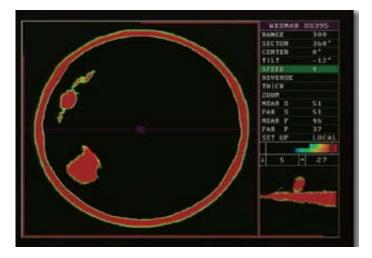
The SS395 in Split Screen Mode . The top screen shows fish ahead to port and profile shows fish off the bottom



The SS395 in Profile View.



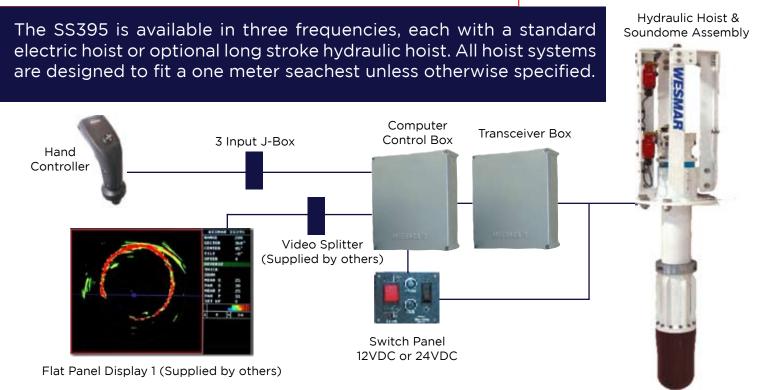
The SS395 in Sounder Mode showing a light scaling of fish off the bottom.



The SS395 in 360 degree view of bottom with fish to port. Thickness mode isolates the fish in lower right-hand screen.



## **SS395 Specifications**



#### SS395-E-60-110-160 Electric Hoist

HOIST:

• Height:

60, 110 — 60cm, 22.75in 160 — 50cm, 19.75in

• Minimum seachest:

60, 110 — 57cm, 22.5in 160 — 53cm, 21in

• Travel:

60, 110 — 30cm, 11in 160 — 20.3cm, 8in

• Seachest (Opt.):

60, 110 — 8in schedule 40 160 — 6in schedule 80

• Travel time:

60, 110 — 24 seconds 160 — 19 seconds

Voltage:

60, 110, 160 - 12 to 24VDCis

SONAR:

Voltage:

60, 110, 160 — 12 to 32V DC

Transmit power:

60 - 1200 watts 110 - 1100 watts

160 -1000 watts

• Sound Beam:

60 — 14 H X 9 V

 $110 - 8 H \times 5 V$ 

160 - 6.5 conical

### SS395-H-60-110-160 Quick Retraction Hydraulic Hoist

HOIST:

• Height:

60, 110, 160 - 84cm, 33in

• Minimum seachest:

60 - 75cm, 29.5in

110 — 65cm, 25.5in

160-61cm, 24in

• Travel:

60, 110, 160 — 47cm, 18in

• Seachest (Opt.):

60, 110 — 8in schedule 40

160 — 6 in schedule 80

• Travel time:

60, 110, 160 - 4 seconds

• Voltage:

60, 110, 160 — 12 or 24VDC

SONAR:

Voltage:

60, 110, 160 — 12 to 32V DC

• Transmit power:

60 - 1200 watts

110 - 1100 watts

160 - 1000 watts

• Sound Beam:

60 - 14 H X 9 H

 $110 - 8.5 \,\mathrm{H}\,\mathrm{x}\,6\,\mathrm{V}$   $160 - 6.5 \,\mathrm{conical}$ 



Western Marine Electronics 12140 NE 200th Street, Woodinville, WA 98072 Tel: (425) 481-2296 Fax: (425) 486-0909 www.wesmar.com dsoderberg@wesmar.com

#### PRODUCT WARRANTY

Commercial warranty and consumer limited warranty, disclaimer, and remedies. Seller warrants title, materials, and workmanship on equipment, except components manufactured by others for which seller assigns, as permitted, the original manufacturer's warranty. Seller's warranty period for all applicable express or implied warranties shall be ninety (90) days after installation or one (1) year after date of shipment to the original buyer, whichever time period expires first. Nonconforming equipment reported to seller during the applicable warranty period and returned to seller at buyer's expense and risk shall be repaired, or replaced at seller's option. If seller is unable or unwilling to repair or replace such reported and returned nonconforming equipment within a reasonable time, then buyer shall be entitled to a refund of the purchase price of the equipment as buyer's sole remedy. This paragraph sets forth buyer's exclusive remedies for nonconforming goods. This commercial warranty and consumer limited warranty is in lieu of all other warranties, express or implied, including design, course of dealing, merchantability, and fitness for a particular purpose.

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