

# Hydraulic Thrusters

Sub-Atlantic's range of hydraulic thrusters have become the preferred propulsion for ROVs and cable burial/maintenance vehicles. Working in a highly aggressive environment, they have earned a reputation for reliability, efficiency and exceptional performance.



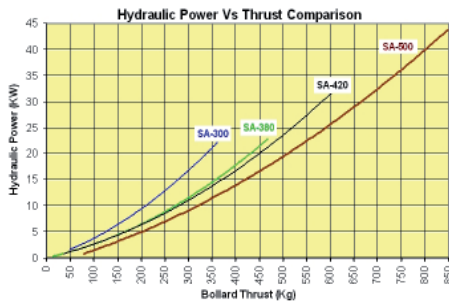
- Proven Reliability - Low Parts Usage
- Efficient
- Forward/Reverse Thrust within 5% band
- Quick-Change Seal Cartridge
- Reliable Ceramic Sealing Surfaces
- Lightweight
- DNV Witnessed Performance
- Easily Retro-Fittable
- 4 Standard Propeller Sizes
- Various Interchangeable Motor Options
- New! Thruster Guards Available

Sub-Atlantic hydraulic thrusters are reliable due to a rugged, lightweight construction and a ceramic shaft sealing system. These thrusters also benefit from producing near equal forward/reverse efficiency within a 5% band. The data from our performance testing has been witnessed by DNV to ensure your system design performs exactly as expected. These thrusters also benefit from the ability to fit any motor displacement size to any of the four thruster sizes due to the common, one-size motor/thruster interface. This is advantageous when accurately matching to vehicle hydraulic system parameters.



## Available Sizes

Standard range is available in four propeller sizes, SA300, SA380, SA420 & SA500, the designation represents the diameter of the propeller in millimetres. Standard motor sizes are 20, 30, 41, 61, 103 and 119 cc. Our hydraulic motors all have identical mounting interfaces to the thruster body, no matter the motor displacement. This makes them particularly suitable for interchanging with different propeller sizes to obtain higher running efficiencies. For example, in an application where limited hydraulic power and oil flow is available but maximum thrust is required, an SA-380 thruster (which normally uses a 40cc motor) can be simply fitted with a 30cc motor and used instead of a SA300-30. By using the larger propeller, increased efficiency can be achieved without the requirement for more oil flow.



- SA300, SA380 and SA420 units are generally used on work ROVs, SA420 and SA500 generally for cable ROVs.
- Options of motor displacement, propeller size, motor manufacturer and mounting style can also be supplied. In certain cases, we can produce specials to customer's requirements.

## DNV Witnessed Test Data

When selecting hydraulic propulsion thrusters for an underwater vehicle design, many highly important considerations such as efficiency, pressure and flow, weight, size and forward/reverse characteristics must be taken into account. Failure to correctly interpret these or to use inaccurate data will result in a system with inferior

performance and incapable of meeting expectations. During the development phases of the 'SA' range, Sub-Atlantic evaluated various competitors' thruster products. We found that the actual test results and weights proved to be vastly different from the data claimed in their technical publications. Sub-Atlantic therefore introduced a policy to ensure that all our own test performance data was witnessed by a reputable third party certification organisation (DNV). It is this commitment and confidence in our product that will give you peace-of-mind. Remember and ask for independently witnessed test data before you purchase your system or better still, test it yourself.

## Forward/Reverse Efficiency

Comparing input power to the output thrust, our forward and reverse thrust curves fall within a 5% band. This is important in a typical vectored configuration as the overall system performance will only be as good as the average forward/reverse thrust. For the same power input, performance exceeds other thrusters on the market.

## Innovative Shaft Sealing

Thrusters incorporate our proven ceramic wear ring technology. The ceramic ring provides a durable hard surface that prevents wear to shaft and the resultant seal damage and flooding.



## Quick Change Seal Carrier

Seals are mounted in a carrier that can be changed in minutes to minimise vehicle downtime.



## Easy Air Bleeding

Thruster bodies include five specially located bleed screws for

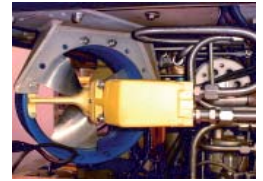
quick and easy removal of air during commissioning and operation.

## Bearing Life

Heavy duty taper roller bearings are used to provide long a working life.

## SA-300/1002-(20 or 30cc)

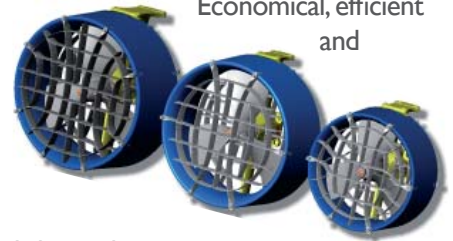
This is a version of the SA300 with special mountings to fit Innerspace 1002 brackets. This is



a particularly useful option for carrying out a quick retrofit on ROV frames with permanently welded thruster brackets.

## Thruster Guards New!

Economical, efficient and



lightweight guards are now available in strong injection moulded plastic.

## Engineer's Selection Manual

Our publication, 'Hydraulic Propulsion Selection Manual for Engineers' provides extensive data required for the correct selection of your thruster system. It includes thruster pressure/flow curves for different current velocities, installation details, drawings, etc. Download this valuable document from our website or request a copy

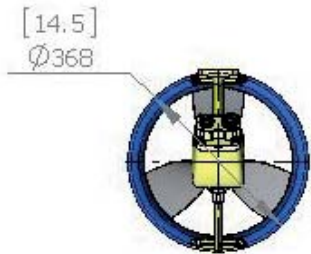
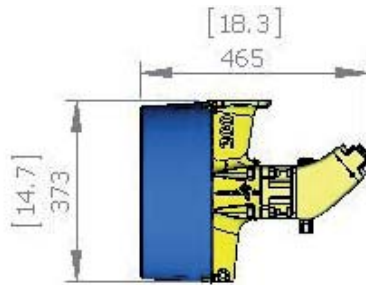


## Propulsion Components

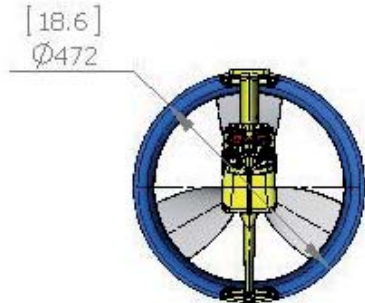
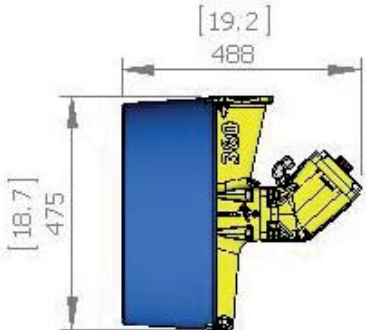
We also supply HPUs up to 280 kW / 375 HP, thruster control packs and a range of compensators to complete your propulsion system.



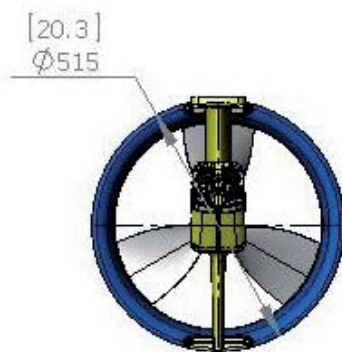
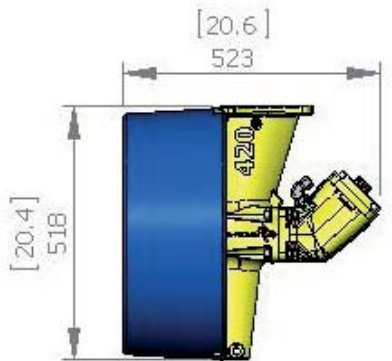
**Model SA-300 (20 & 30 cc)**  
**Refer to Drawing 0283-GA**  
**Weight in Air: 17.4 kg / 38.3 lb**  
**Weight in Water: 9.8 kg / 21.6 lb**



**Model SA-380 (41 cc)**  
**Refer to Drawing 3836-GA**  
**Weight in Air: 27.0 kg / 59.5 lb**  
**Weight in Water: 14.0 kg / 30.9 lb**

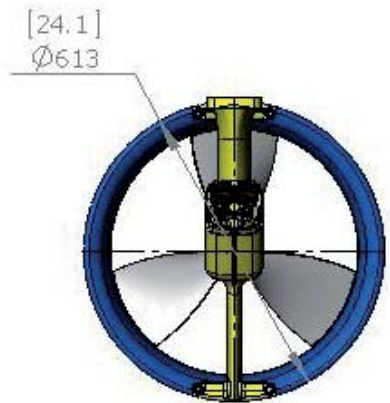
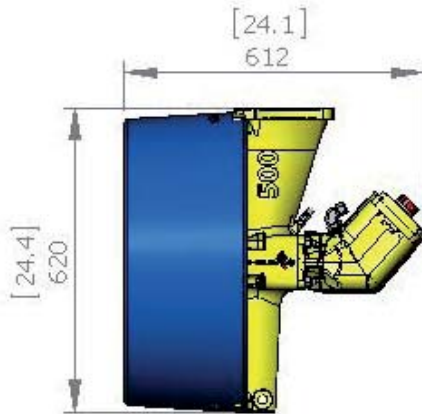


**Model SA-420 (61 cc)**  
**Refer to Drawing 0301-GA**  
**Weight in Air: 33.0 kg / 72.7 lb**  
**Weight in Water: 17.0 kg / 37.5 lb**

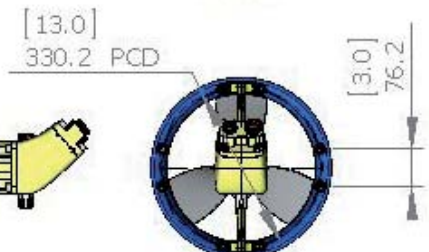
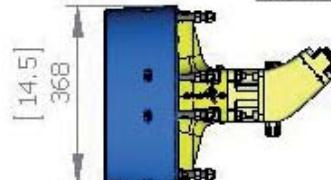
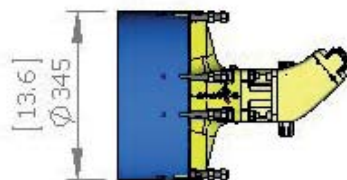


■ 3D CAD models are available on request

**Model SA-500 (103 & 119 cc)**  
**Refer to Drawing 3863-GA**  
**Weight in Air: 59 kg / 130 lb**  
**Weight in Water: 31 kg / 68.3 lb**



**Model SA-300-I002 (20 & 30 cc)**  
**Innerspace Replacement**  
**Drawing 1412-GA**  
**Weight in Air: 18.4 kg / 40.5 lb**  
**Weight in Water: 10.9 kg / 24.0 lb**



**Tunnel Version**

**Standard Version**

*The specification details are illustrative for marketing purposes only. Actual equipment may be different as a result of product improvement or other reasons. Specific interface and performance information should be reconfirmed at time of order placement.*



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