MODEL 520
DC BRUSHLESS THRUSTERS

Proven in the world's harshest subsea environments, Tecnadyne's thrusters have been at the forefront of propulsion technology for over 20 years. With over 1,400 units delivered to customers worldwide, the Model 520 is Tecnadyne's most successful thruster. Recently superceded by the Model 560, which is 30% more efficient and produces 70% more thrust with no increase in size and weight, the legacy Model 520 will be available for use in existing designs for the forseeable future.

The propeller of the Model 520 is magnetically coupled using a design perfected by Tecnadyne. With this design, a magnet array in the hub of the propeller is driven by a matching magnet array attached to the drive motor. By eliminating the rotating drive shaft and shaft seals that always seem to leak over time, the Model 520 acheives extremely high reliability. Additionally, the magnetic coupling will ratchet if overloaded, preventing damage caused by objects jammed in the propeller. And since the water lubricated propeller bearings are external to the pressure housing, they can be easily replaced in several minutes.

Employing a high RPM, low inertia DC brushless motor, coupled to a 6/1 ratio planetary gearset, the Model 520 delivers maximum reliability, high efficiency and high power in an extremely compact , lightweight and easy to maintain package. A Nylon propeller and Kort nozzle combine to give the Model 520 extremely high Bollard thrust and open water efficiency.

For depths to 750 meters, the power and control electronics are housed within the hard anodized aluminum motor casing, greatly simplifying the installation and electrical interface. For 1,500 meters, stainless steel portions of the pressure housing are replaced with titanium and for full ocean depth rating, the electronics are installed in a remote, one atmosphere housing (either the customers housing or one supplied by Tecnadyne) and the thruster is oil filled for pressure tolerance.

The Model 520 is available for operation at voltages from 24vdc to 330vdc (150vdc standard) supplied by a well filtered battery bank, rectified and filtered AC or a DC power supply. In addition to the main power, the thruster requires isolated 12vdc instrumentation power and a +/-5v analog speed and direction control signal. Alternately, a full servo RS232 or RS485 input controller is available but this must be installed in a remote, one atmosphere housing. Please refer to the Tecnadyne website for detailed installation and interface instructions.

The standard depth rating of the Model 520 is 750 meters --1,500 meters and full ocean depth are available options. Customer specified subsea connectors and cables, stainless steel or titanium housings and custom mountings are also available.

MODEL 520 SPECIFICATIONS

Bollard Output
23lbf (10.4kg) forward
13lbf (5.9kg) reverse
w/ Nylon propeller

Input
150vdc, 3.1A power
(525 watts at alternate voltages)
+12v, 200mA isolated instrumentation power
+/-5v analog speed command

Weight
4.0lb (1.8kg) in air
3.0lb (1.4kg) in water

Depth Rating
2,500ft (750m)standard
5,000ft (1,500m) and full ocean depth (oil filled) optional

(1,000m & greater depth subject to US Govt. export approval)

TECNADYNE
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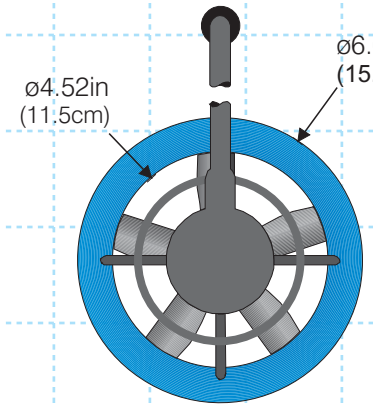
Part Number: 520 - _ _ _ - _ _ - _ _ _ _

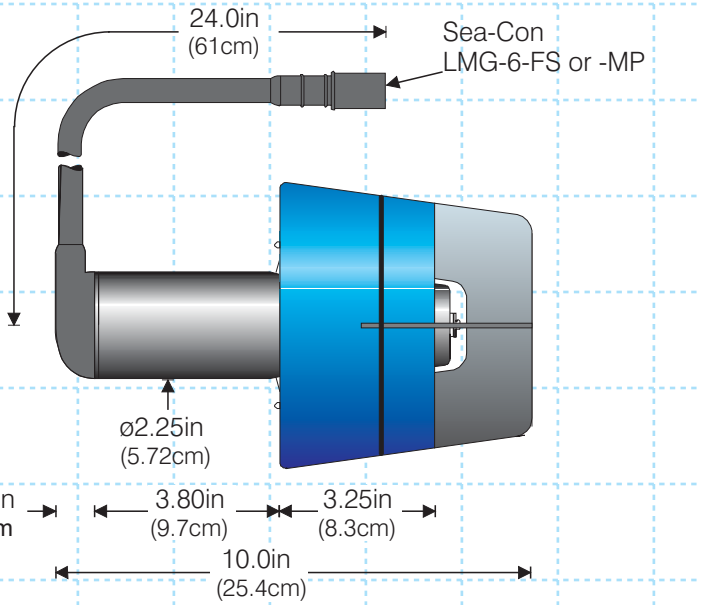
(22-26vdc) 024, (28-32vdc) 030
(40-44vdc) 044, (46-50vdc) 048
(56-60vdc) 060, (70-75vdc) 075
(95-105vdc) 100, (125-135vdc) 130
(145-155vdc) 150, (190-210vdc) 200
(220-240vdc) 230, (250-280vdc) 260

Ln (SeaCon LMG-6FS w/ cable length of n meters)
Mn (SeaCon LMG-6MP w/ cable lentgh of n meters)
X (Customer specified connector)

0750 (750m depth)
1500 (1500m depth)
OFRE (oil filled remote electronics)

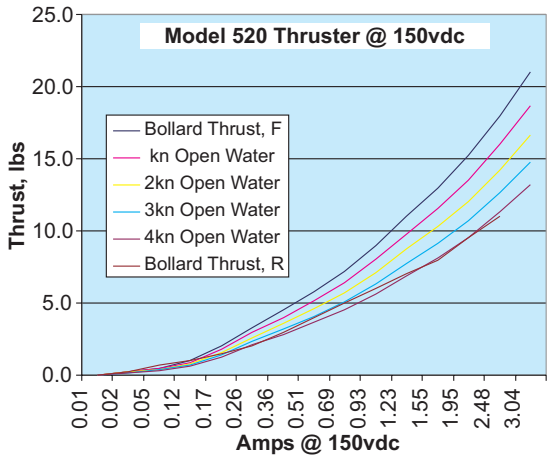


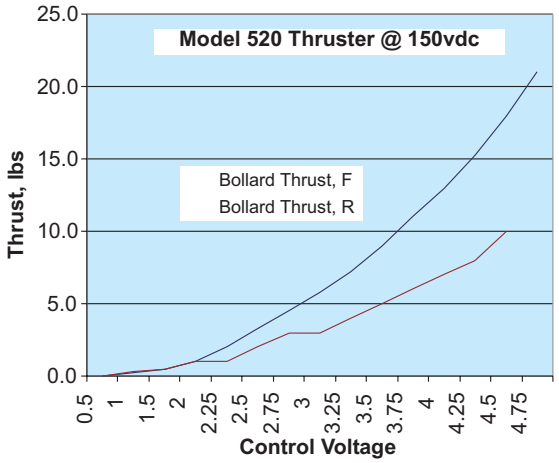
SCALE 1:4

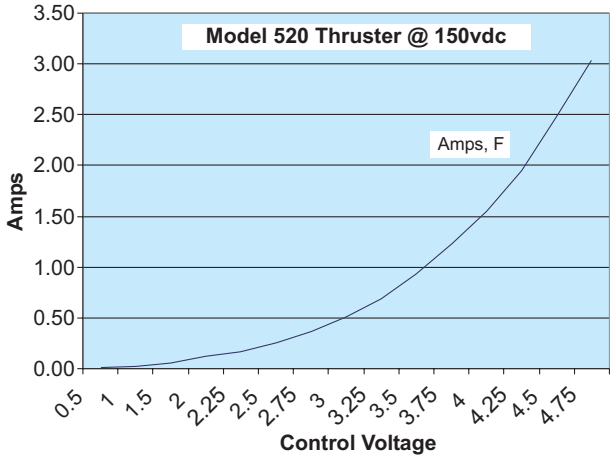


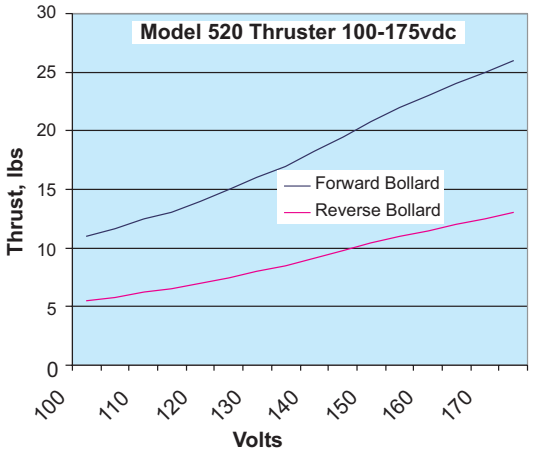
Note: Due to motor tolerances, voltage required to acheive rated Bollard thrust can vary +/-5%

Specifications subject to change without notice









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