

MODEL 8020 DC BRUSHLESS THRUSTERS



The heavy lifter in Tecnadyne's thruster arsenal, the Model 8020 produces over 230kg forward thrust, yet weighs only 15kg in water. Using the same technology as all Tecnadyne thrusters, of which over 4,000 units have been delivered to customers worldwide, the Model 8020 is rapidly becoming the defacto standard for electric powered heavy work ROV's due to its incredible power to weight ratio, high electromechanical efficiency and the intrinsic reliability of its magnetically coupled propeller and DC brushless motor.

As with all Tecnadyne thrusters, the propeller of the Model 8020 is magnetically coupled. 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 8020 achieves 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 6.7/1 ratio planetary gearset, the Model 8020 delivers maximum reliability, high efficiency and high power in an extremely compact, lightweight and easy to maintain package. The stainless steel propeller, available in both right and left hand rotations, combined with a custom designed Kort nozzle, give the Model 8020 extremely high Bollard thrust and open water efficiency.

For full ocean depth rating (the standard configuration), the electronics module is installed in a remote, one atmosphere housing (either the customers housing or one supplied by Tecnadyne) and the thruster is oil filled and pressure compensated.

The Model 8020 is available for operation at voltages from 150vdc to 330vdc (300vdc standard) supplied by a well filtered battery bank, rectified and filtered AC or a DC power supply. In addition to the main power, a +/-5v analog speed and direction control signal is required. Alternately, a full servo RS232 or RS485 input controller is available and 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 8020 is 750 meters - full ocean depth with pressure compensated housings and remote electronics, is also available. Customer specified subsea connectors and cables, stainless steel or titanium housings, custom mountings and custom propeller and Kort nozzle combinations are also available.

MODEL 8020 SPECIFICATIONS

Bollard Output

505lbf (230kg) forward
290lbf (132kg) reverse
w/ either right hand or
left hand stainless steel
propeller

Input

300vdc, 42A power
(12.9 KW at alternate
voltages)
+/-5v analog speed
command

Weight

56lb (25.5kg) in air
34lb (15.5kg) in water

Depth Rating

2,500ft (750m) standard
and full ocean depth (oil
filled)

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

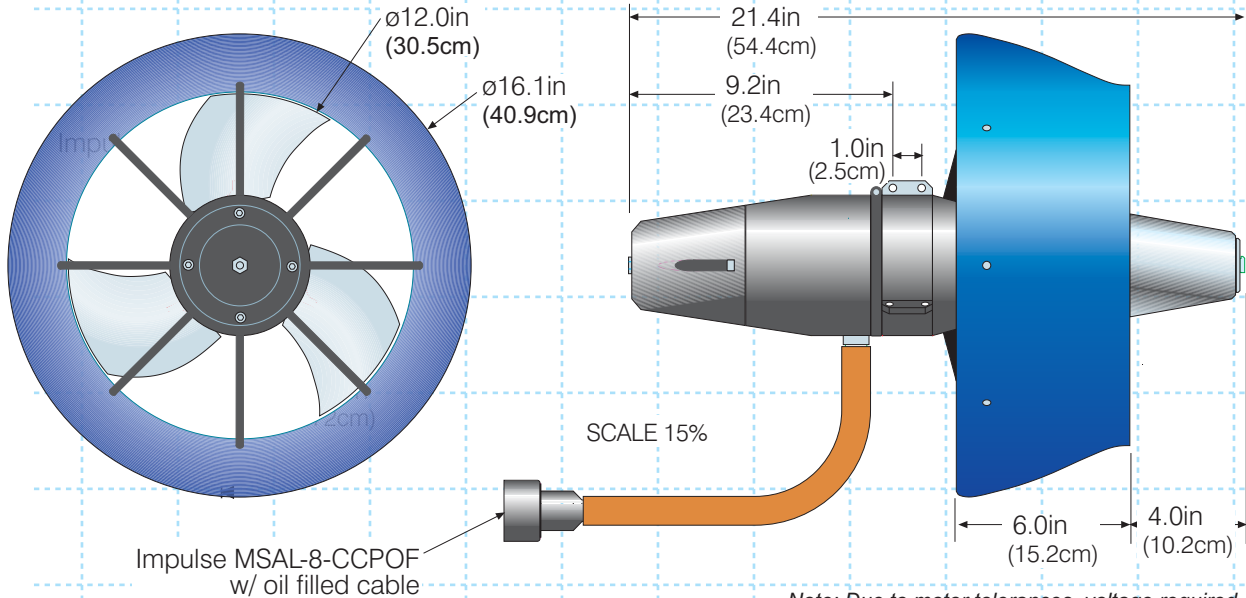
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(140-175vdc) 150
 (190-225vdc) 200
 (260-330vdc) 300

0750 (750 meter depth rating)
 OFRE (Oil filled, remote electronics)

Mn (Impulse MSAL-8-CCPOF w/ oil filled cable of n meters)
 Pn (SeaCon MSAL-20-CCPOF w/ oil filled cable of n meters)
 X (Customer specified connector)



Specifications subject to change without notice

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

