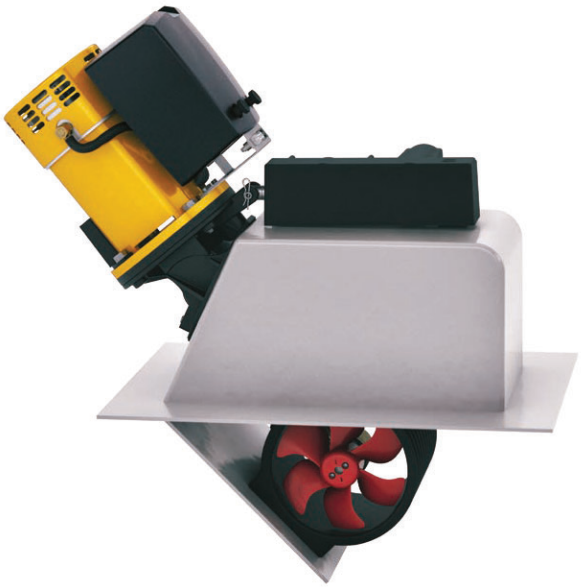
RETRACTABLE DC BOW AND STERN THRUSTERS

Want a thruster but your hull is too shallow for a tunnel thruster? Here's the solution:

For any thruster to work properly, the propeller and the tunnel in which it is mounted must be adequately submerged. Without this, the thruster will create a whirlpool at the water's surface, on the suction side of the boat and pump a mixture of air and water, instead of all water, with a great reduction in thrust.



The minimum submersion of the top of the tunnel/tube/duct is considered to be half of the tunnel/duct/propeller diameter. As an example, the top of the tunnel for a thruster running in a 300 mm / 12" tunnel must be at least 150 mm / 6" below the water. This applies equally to bow and stern thrusters. In addition, a bow thruster must be as far forward as the waterline and underwater profile of the boat will allow, and the stern thruster as far aft as possible, in both cases to create the maximum turning effect when the thruster is activated. If the design of the vessel is such that these forward and aft thruster locations are in parts of the hull which are too shallow for a conventional athwartship (crosswise) tunnel or stern tube to be adequately submerged, then the solution is to install a Retractable thruster.

A VETUS Retractable DC electric thruster in housed entirely inside the hull when not in use, but when sideways force is required for docking or maneuvering, the thruster swings down into the water, then retracts when docking and maneuvering operations are safely completed. These retractable thrusters may be used in bow and stern applications.

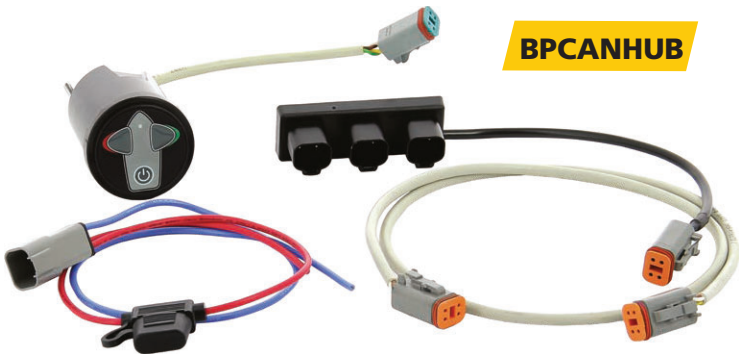
The VETUS retractable has some big advantages

The benefits of the VETUS Retractable Thruster reside in its simplicity, strength, ease of installation and limited service requirements. Those benefits include:

- The ability to equip a shallow draft boat, including a sailboat with a cutaway forefoot and raised stern, with thrusters
- Constructed around a time-tested standard VETUS DC thruster.
- A simple and sturdy swing mechanism, with a minimum of moving parts. The thruster pivots on a permanently lubricated and substantial bearing.
- The propeller revolves in a short duct, creating focused flow and minimum energy losses
- The hull bottom plate (lid) is attached directly to the propeller duct so no additional or complex mechanism is required to open or close it – it swings in and out with the thruster.
- When the thruster is retracted and the bottom plate closed, the retractable creates slightly less drag than a standard tunnel, which may be significant on a racing sailboat
- Fiberglass housing and electronic control mechanism (excl. the dashboard panel and cables) are supplied in the base package.
- The thrusters deploys and retracts automatically, as the control panel is (de-)activated, so no separate controls need to be operated.
- It will also retract automatically if the thruster has not been used in fifteen minutes
- Electronic sensing protects the actuator of the swing machanism from damage in event of an overload or jam
- There is a one and a half second time delay when changing thrust direction to prevent shock loads on gears, drive mechanism and swing mechanism.
- The thruster(s) and their control panels are connected by cables carrying digital V-CAN signals (VETUS canbus type) allowing future integration into boat-wide electronic systems and information displays

VETUS Retractable Thrusters are suitable for installation in power and sail boats ranging from 30 to 60 feet. They are available at thrust (effective power) ratings of 55 KgF, 60 KgF, 75 KgF, 95 KgF, 125 KgF and 160 KgF, at 12Volts and 24 Volts. See next page for specifications.

VETUS strongly advices the use of original V-CAN connection cables to ensure an optimal connection between controls and truster.



BPCANHUB

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RETRACTABLE DC BOW AND STERN THRUSTERS

Type	STE5512D	STE5524D	STE6012D	STE6024D	STE7512D	STE7524D
Voltage (V)	**12**	**24**	**12**	**24**	**12**	**24**
Ignition Protection	-	-	-	-	-	-
Thrust (N/kgf) **(effective power output)**	550/55	600/60	650/65	700/70	800/80	850/85
Power (kW)	3	3	3	3	4,4	4,4
Motor, reversible D.C.	✓	✓	✓	✓	✓	✓
Tunnel diameter, internal (mm)	150	150	185	185	185	185
Weight (kg)	26	26	28	28	31	31
Current consumption (A)	350	200	280	140	500	250
Operating time (min.)	4	4	5	5	2	3
Main fuse, "slow blow" (A)	250	125	200	100	355	200
Batteries 12V min./max. (Ah)	1x105/1x200	2x55/2x70	1x105/1x145	2x70/2x145	1x120/1x225	2x150/2x143
Battery cables, length plus/min cables (m/mm²)	0-12/70	0-23/35	0-11/50 11-16/70	0-20/25	0-8/70 8-11/95	0-21/50
Battery main switch model BATSW	250	250	250	250	250	250
Dimensions, closed: Height (mm) A	361	361	396	396	396	396
Length (mm) B	703	703	722	722	745	745
Width (mm) C	265	265	273	273	286	286
Dimensions, open: Height (mm) D	411	411	464	464	478	478
Length (mm) E	648	648	643	643	666	666
Width (mm) C	265	265	273	273	286	286

Type	STE9512D	STE9524D	STE12512D	STE12524D	STE16024D
Voltage (V)	**12**	**24**	**12**	**24**	**24**
Ignition Protection	-	-	-	-	-
Thrust (N/kgf) **(effective power output)**	950/95	1050/105	1250/125	1400/140	1600/160
Power (kW)	5,7	5,7	5,7	5,7	7
Motor, reversible D.C.	✓	✓	✓	✓	✓
Tunnel diameter, internal (mm)	185	185	250	250	250
Weight (kg)	35	35	41	41	49
Current consumption (A)	610	320	800	450	540
Operating time (min.)	3	3,5	3	2,5	4,5
Main fuse, "slow blow" (A)	425	200	500	300	355
Batteries 12V min./max. (Ah)	1x165/2x145	2x105/2x145	1x220/2x200	2x150/2x165	2x165/4x165
Battery cables, length plus/min cables (m/mm²)	0-10/95 10-12/120	0-21/50	0-9/120 9-12/150	0-20/70	0-29/120
Battery main switch model BATSW	600	250	600	250	600
Dimensions, closed: Height (mm) A	396	396	481	481	481
Length (mm) B	770	770	916	916	952
Width (mm) C	333	333	403	403	425
Dimensions, open: Height (mm) D	517	517	558	558	586
Length (mm) E	690	690	846	846	870
Width (mm) C	333	333	403	403	425