

## HYDRAULIC BOW AND STERN THRUSTERS

### Type BOW..HMD

These are the thrusters for the most demanding of work situations and are available in power outputs of 55 Kilograms Force (Kgf), 95 Kgf, 160 Kgf, 230 Kgf, 310 Kgf, 410 Kgf and 550 Kgf. They operate in hydraulics systems delivering flow rates ranging from 13 litres / 3.4 U.S. gallons per minute to 91 litres / 24 U.S. gallons per minute, at pressures ranging from 165 bar/ 2393 p.s.i. to 280 bar / 4061 p.s.i., all depending on thruster model selected.

VETUS hydraulic thrusters are able to run continuously, although not as primary propulsion units. They delivery high power and great reliability, with no electrical connections at the thruster or pump(s) and they need little routine maintenance. These thrusters are available with several control heads, in three control regimens, including proportional control.

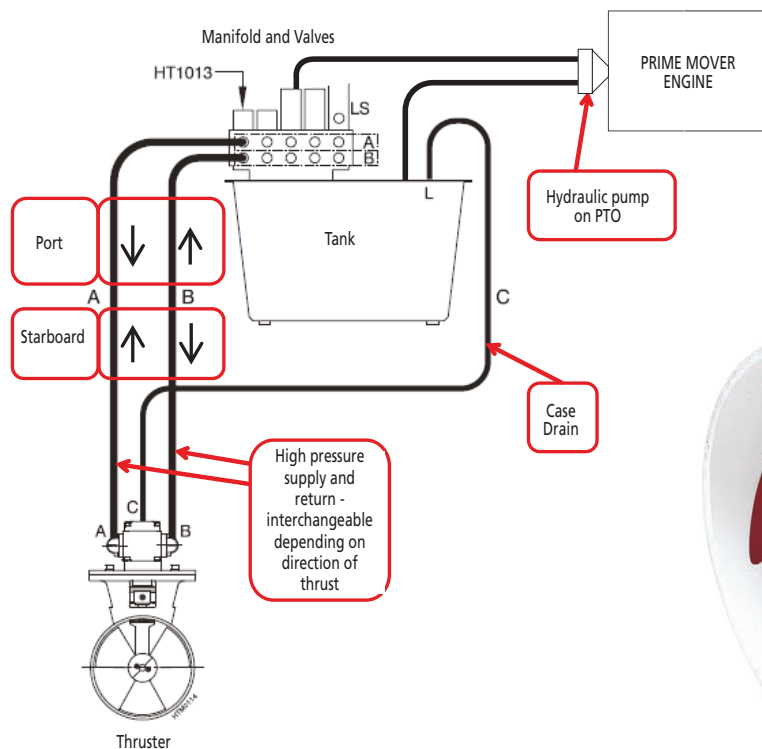
The skill and knowledge set required to plan, integrate and implement a hydraulic installation work is extensive, and includes all of the skills required to install electric thrusters and a lot more. Such work should not be undertaken by persons, however generally experienced in boat work, who have not received formal training in power hydraulics theory and practice. Access to local hydraulic hose and fitting suppliers is also essential for a well-organized and successful installation.

If an existing hydraulic system can deliver the pressure and flow required by the thruster(s) appropriate for your vessel, it is often possible to add VETUS thrusters to the system, but VETUS also offers complete hydraulic systems as described in this catalogue section.

**Whether you buy a complete hydraulic system from VETUS, or just the thrusters, a VETUS customer support team member will review the entire system with you to ensure that your thrusters work well after installation.**

See next page for specifications.

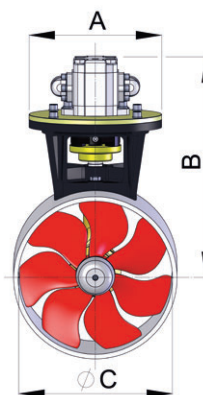
#### The connections and flow of oil for a thruster



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### Type BOW...HMD

Specifications	BOW55HMD	BOW95HMD	BOW160HMD	BOW230HMD	BOW310HMD
Thrust N (kgf) (power output)	550 (55)	950 (95)	1600 (160)	2300 (230)	3100 (310)
Hydraulic motor power kW	3,5	6,0	12,3	16,4	26,8
Hydraulic motor speed rpm	3000	4100	3730	2540	2760
Hydraulic motor capacity cm <sup>3</sup> /rev	4,2	4,2	8,4	16,8	27
Flow rate l/min	13	18	28	40	70
Operating pressure bar	165	230	260	245	230
Internal tunnel diameter mm	150	185	250	300	300
A mm Ø	160	200	240	258	258
B mm	258	276	345	431	455
C mm Ø	150	185	250	300	300

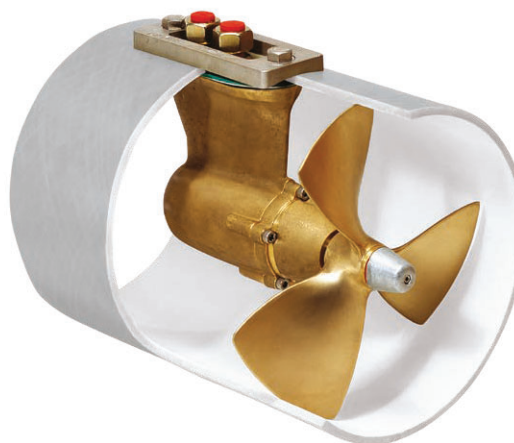


Type	Specifications	Tunnel diam. (mm)
<b>BOW55HMD</b>	Hydraulic bow thruster 55 kgf incl. hydraulic motor 3,5 kW	150
<b>BOW95HMD</b>	Hydraulic bow thruster 95 kgf incl. hydraulic motor 6,0 kW	185
<b>BOW160HMD</b>	Hydraulic bow thruster 160 kgf incl. hydraulic motor 12,3 kW	250
<b>BOW230HMD</b>	Hydraulic bow thruster 230 kgf incl. hydraulic motor 16,4 kW	300
<b>BOW310HMD</b>	Hydraulic bow thruster 310 kgf incl. hydraulic motor 26,8 kW	300
<b>BP1053</b>	Bronze propeller for BOW22024D / BOW230HM	
<b>BP1182</b>	Bronze propeller for BOW310HM	

### Type BOW...HM

The hydraulic motor for types BOW410HM and BOW550HM is located within the tailpiece.

Specifications	BOW410HM	BOW550HM
Thrust N (kgf) (power output)	4100 (410)	5500 (550)
Hydraulic motor power kW	22	33
Hydraulic motor speed rpm	1920	1920
Hydraulic motor capacity cm <sup>3</sup> /rev	45	45
Flow rate l/min	92	92
Operating pressure bar	180	280
Internal tunnel diameter mm	400	400



Type	Specifications	Tunnel diam. (mm)
<b>BOW410HM</b>	Hydraulic bow thruster 410 kgf, incl. hydro motor 22 kW	400
<b>BOW550HM</b>	Hydraulic bow thruster 550 kgf, incl. hydro motor 33 kW	400
<b>BP1259</b>	Bronze propeller for BOW410HM	
<b>BP1260</b>	Bronze propeller for BOW550HM	

