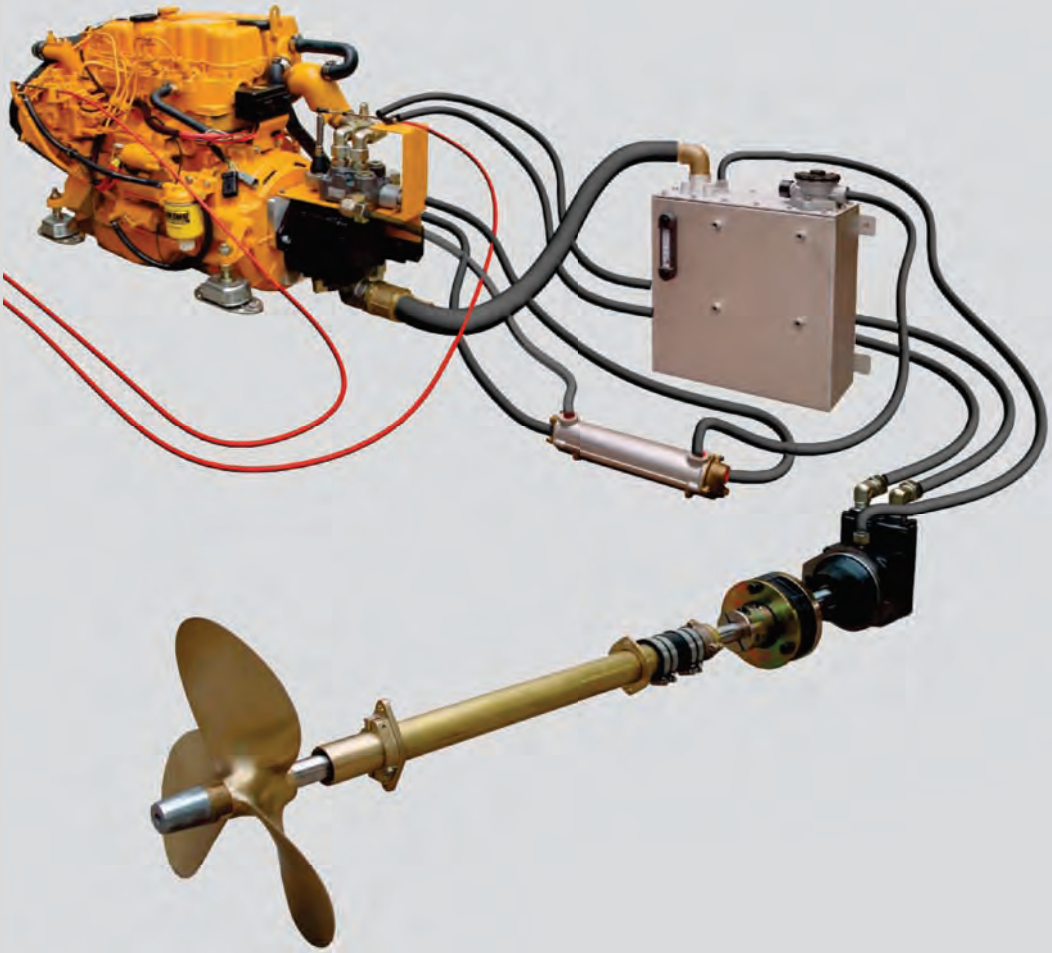
POWER HYDRAULICS HYDRAULIC MARINE PROPULSION

In many cases it may be preferable to drive the propeller shaft by means of a **hydraulic motor**, instead of using the conventional set up of engine and gearbox. One of the major benefits of hydraulic propulsion is that the propulsion engine does not need to be installed in line with the propeller shaft. This means that the engine may be fitted in any suitable place on board, even athwartships. In addition, should the propeller become fouled or touch the bottom due to running aground, the risk of damage to the propeller shaft assembly, the hydraulic motor or the main engine is almost nil. An integrated pressure relief valve ensures that in the event of overloading, the hydraulic motor is safely bypassed. **Particularly in the case of hire craft, this is clearly a great advantage.** The hydraulic motor is engaged in a smooth and noiseless manner. The complete assembly is vibration free and the propeller thrust is not transmitted onto the engine, but onto the hydraulic motor instead, which is flexibly mounted on its own bed.



HOW IT WORKS

A hydraulic vane pump is fitted to the engine in place of the gearbox. This pump draws hydraulic fluid from a storage tank and delivers it under pressure to the speed and direction control valve. The control valve determines the direction and volume of hydraulic flow to the hydraulic vane motor, which can then rotate clockwise or counter clockwise as selected. This hydraulic motor drives the propeller shaft via a flexible coupling. The VETUS system uses a hydraulic pump and motor with fixed swept volumes. The transmission ratios (reduction) in the propulsion system are achieved by the difference in volume between the vane pump and the hydraulic motor. The reduction between the engine RPM and the shaft RPM is 2:1 for models HPM4.15, HPM4.17 and HPM4.55 and 1.9:1 for model HPH4.65.The maximum permissible engine power is 50 kW (67 HP), with a maximum engine speed of 3,000 RPM. In most cases a shaft diameter ø 25 mm will suffice. The output flange of the VETUS hydraulic motor fits all VETUS flexible couplings, as described on page 48-51.

AVAILABLE AS AN OPTION

One of the mechanical remote controls. Will regulate shaft speed and direction of rotation.

SCOPE OF SUPPLY

VETUS hydraulic vane motor

Stainless steel storage tank

VETUS hydraulic vane pump

VETUS hydraulic propulsion is available in 4 versions:

MODEL HPM4.15
has a VETUS M4.15 marine diesel engine of 24.3 kW (33 hp).

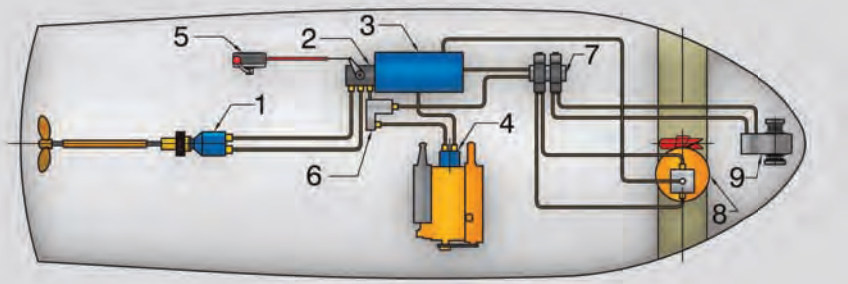
MODEL HPM4.17
has a VETUS M4.17 marine diesel engine of 30.9 kW (42 hp).

MODEL HPM4.55
has a VETUS M4.55 marine diesel engine of 38 kW (52 hp).

MODEL HPH4.65
has a VETUS VH4.65 marine diesel engine of 48 kW (65 hp).

All versions include:

- Hydraulic vane pump
- Adapter flange and coupling to fit the pump to the relevant engine
- Hydraulic vane motor
- 35 litre hydraulic oil tank
- Oil cooler
- Control valve
- Flexible engine mounts
- Engine instrument panel and loom



1. Hydraulic vane motor
2. Mechanically operated control valve
3. Stainless steel storage tank
4. Hydraulic vane pump
5. Remote control handle with cable
6. Connection for ancillary devices
7. Control unit for ancillary devices
8. Bow thruster
9. Anchor windlass