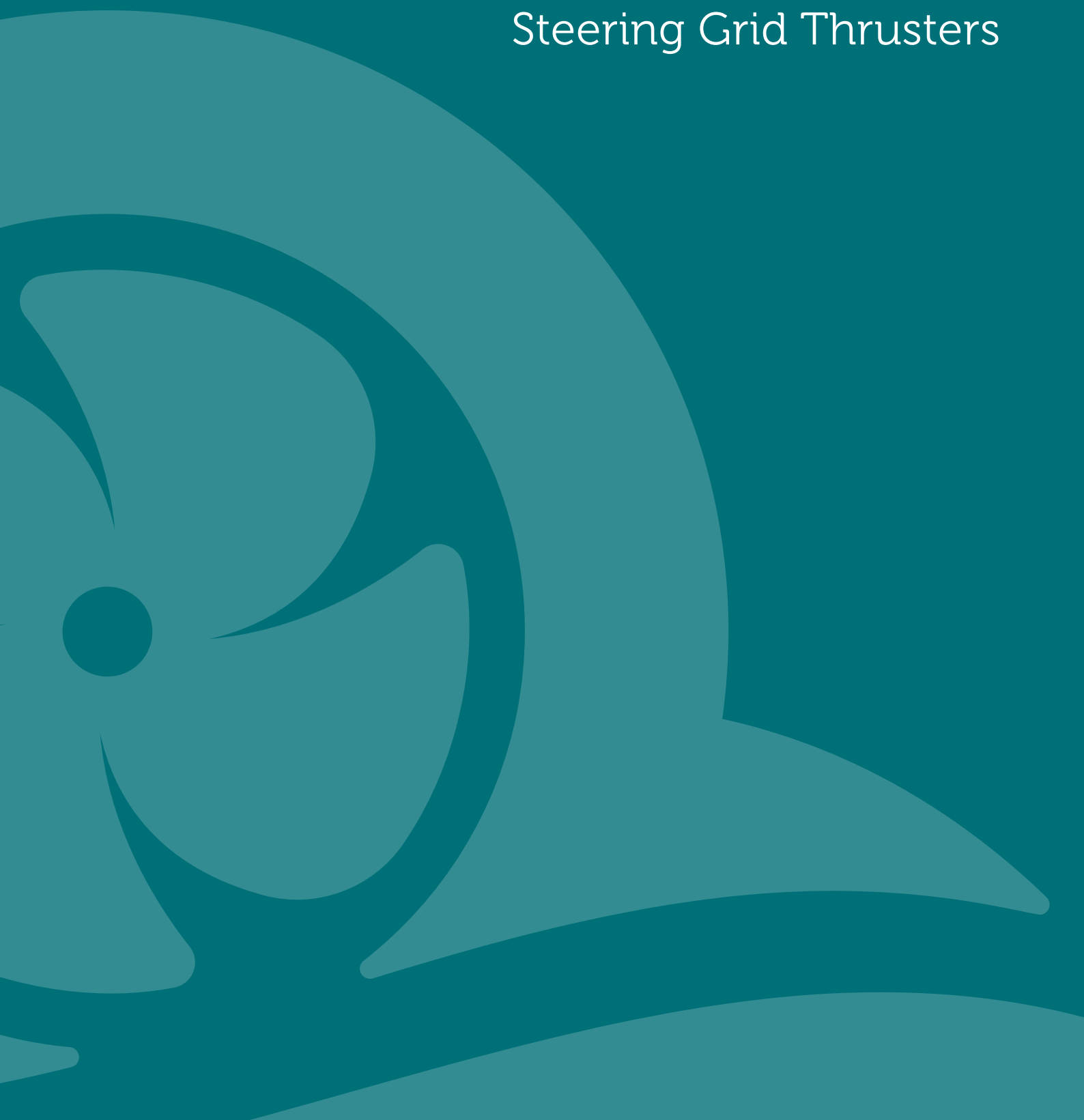




VERHAAR OMEGA



Channel Thrusters Steering Grid Thrusters





VERHAAR OMEGA

CHANNEL THRUSTERS

Thruster Model	Prop. dia. [mm]	Input speed [rpm]	Gear ratio [i]	Output Speed [rpm]	Tip Speed [m/s]	Max. Power [kW]	Max. Power [hp]
03800	825	1800 2200	3.00 3.73	600 589	25.9 25.4	220	299
03100	1015	1800 2200	3.00 3.73	600 589	31.9 31.3	300	408
31120	1200	1800 2100	4.1 4.1	439 512	27.6 32.1	393	534
31130	1300	1800 2000	4.1 4.1	439 487	31.1 33.2	441	600
31135	1300	1800 2100	4.44 4.44	405 473	27.6 32.2	530 600	721 816
31140	1400	1800	4.42	407	29.8	660	898
31170	1700	1800	5.0	360	32.0	955	1299

Each model can be supplied in the following executions:

- **2-channels:**
 - ✓ SB & PS
- **3-channels**
 - ✓ SB & PS
 - ✓ emergency propulsion
- **4-channels**
 - ✓ SB & PS
 - ✓ emergency propulsion
 - ✓ slowing down the vessel (emergency brake)
- With or without Gondola:



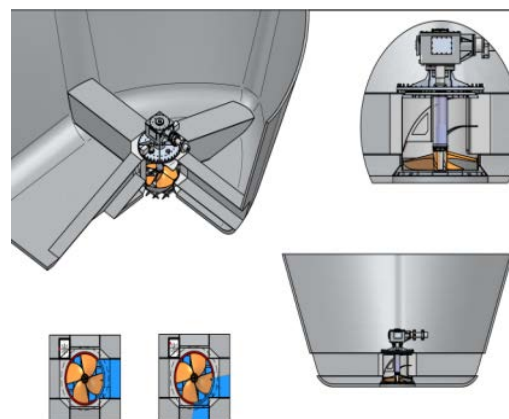
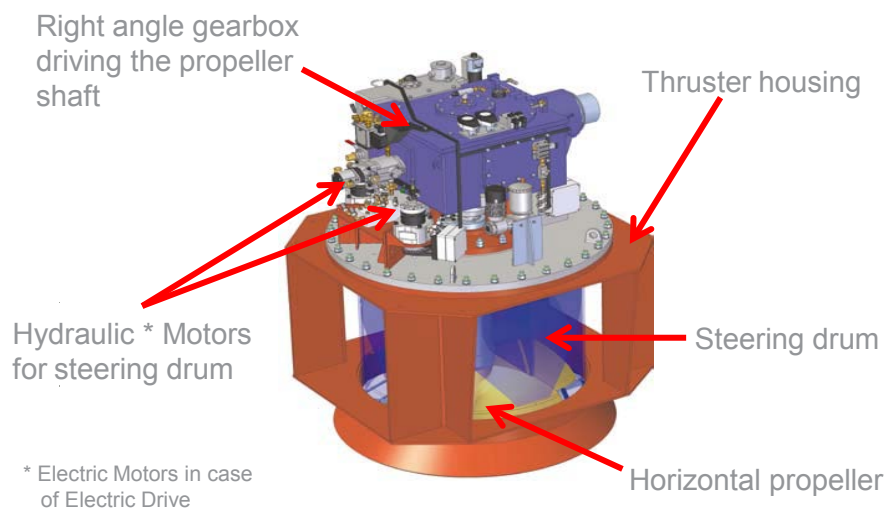
Channel Thruster with standard housing



Channel Thruster with customized housing ('Gondola')



VERHAAR OMEGA



WORKING PRINCIPLE

Verhaar Omega Channel Thruster characteristics:

- Thrust in all directions (360°)
- Can be used as Auxiliary and also as Main Propulsion
- The gear box and the thruster each have its own sealing.
- Both the Propeller and the Steering Drum have its own drive, which increases the reliability
- Both the gear box and thruster have its own bearings
- Propeller rotates in one direction only (no reverse gear required)
- Quick changeover of thrust direction at maximum propeller speed (approx. 6 sec. from SB to PS)
- Maximum bollard pull (18,3 lbf/hp) at minimum draught of 1 to 1,5 ft
- Keeps on generating thrust when sailing at a speed of 6 to 7 knots
- No flanking rudders needed (tug-push boats)

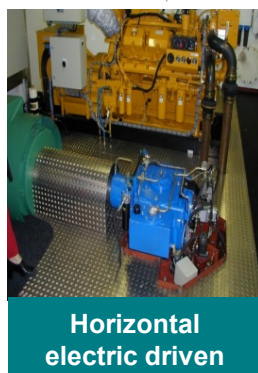


- Low noise compared to a tunnel thruster
- No protruding parts underneath vessel (no risk of damage)
- Eco-friendly (no risk of oil spill)
- Maintenance friendly (no risk of water ingress, minimum down time)

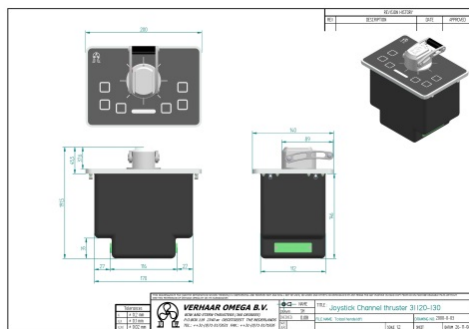


Depending on your individual needs or preferences, Verhaar Omega provides a complete range of drives, controls and accessories:

- Electric motors, with both horizontal as vertical installation;
- Hydraulic motors;
- Diesel engines.



- Inverters
- Motor starters
- Control panels: Bridge, wing and local panels and also portable wireless control panels
- PLC interface with the vessels monitoring and control system (PMS, VDR, DP)



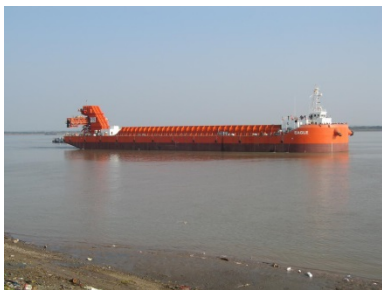


VERHAAR OMEGA

(GONDOLA) CHANNEL THRUSTERS HAVE BEEN INSTALLED ON:



Push boats



Barges



Inland vessels



Pontoons



Dredgers



Jack-up rigs



VERHAAR OMEGA

STEERING GRID



Thruster Model	Prop. diameter [mm]	Input speed [rpm]	Max. Power [kW]	Max. Power [hp]
VBS350	350	1800 2200	50	68
VBS400	400	1800 2200	90	122
VBS500	500	1800 2200	103	140
VBS600	600	1800 2200	162	220
VBS700	700	1800 2200	232	315
VBS800	800	1800 2200	294	400
VBS900	900	1800 2200	353	480
VBS1000	1000	1800	404	550
VBS1200	1200	1800	478	650
VBS1400	1400	1800	662	900

Application

- Intended for shallow draught vessels like inland vessels, barges, dredgers, pontoons, etc.
- Vessels that require a take home device (emergency propulsion)

Characteristics

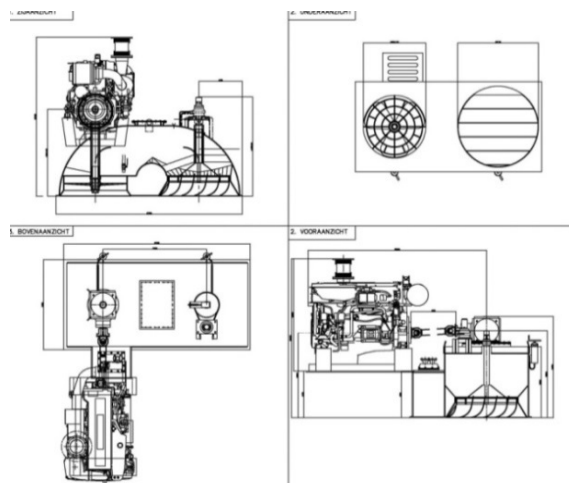
- Thrust in all directions (360°)
- Can also be used as main propulsion
- Keeps on generating thrust even when sailing at a speed of 6 to 7 knots
- Propeller rotates in one direction only (no reverse gear required)
- Compact design - suitable for narrow engine rooms
- Often used for retrofits on existing vessels
- No protruding parts underneath vessel and therefore low risk of damage



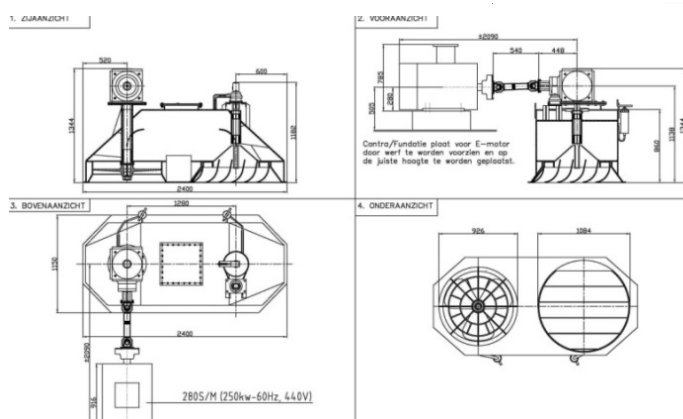
VERHAAR OMEGA

DRIVE ARRANGEMENTS:

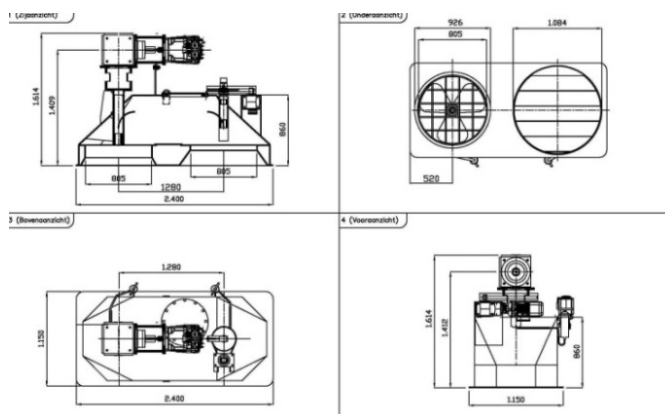
Diesel drive -



- Electric drive



Hydraulic drive -





VERHAAR OMEGA

DELIVERY PROGRAM



VERHAAR OMEGA

Manoeuvring Equipment

Product:	Channel Thruster
Model:	2, 3 or 4 channel execution
Range:	220 - 955 kW
Possible drive:	electric, hydraulic or diesel

Product:	Steering grid
Model:	VBS
Range:	103 - 662 kW
Possible drive:	electric, hydraulic or diesel

Product:	Transverse Tunnel Thruster	
Model:	Fixed Pitch Propeller type OFP	Controllable Pitch Propeller type OCP
Range:	25 - 1100 kW	300 - 1100 kW
Possible drive:	electric, hydraulic or diesel	electric, hydraulic or diesel

Product:	V-Pod propulsion and manoeuvring system
Model:	600 / 670 / 760 / 850 / 960
Range:	330 - 2500 kW
Possible drive:	incorporated e-motor

Product:	NEW !! Z-drive propulsion
Model:	OZD 120 / 160 / 190 / 220 / 250
Range:	400 - 2400 kW



VERHAAR OMEGA

Marine Air & Nitrogen systems

Product:	Nitrogen Generator
Min/max Purity:	95%
Range:	15 - 5500 nm ³ /h

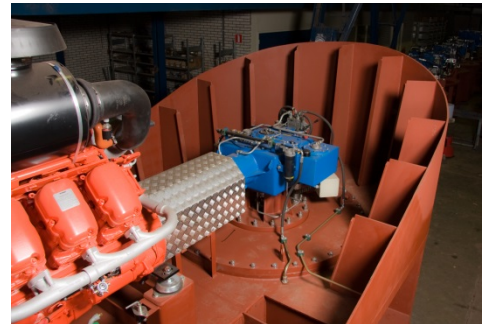
Product:	High-Purity Nitrogen Generator
Min/max Purity:	up to 99.5%
Range:	15 - 1300 nm ³ /h

Product:	Compressed Air Systems
Model:	Starting air compressors, Working air compressors
Range:	Customized Air Systems & off-the-shelve Atlas-Copco compressors



VERHAAR OMEGA

Channel Thruster



Steering Grid

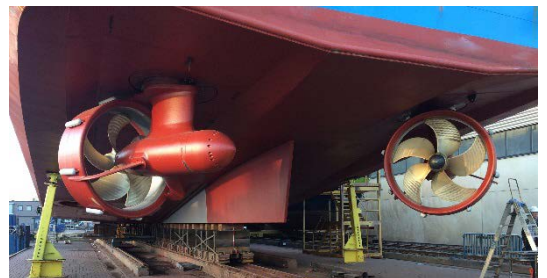


Transverse Thrusters:

- Fixed Pitch Propeller
- Controllable Pitch Propeller



V-POD propulsion system



Z-DRIVE propulsion system



Marine Air Compressors & Nitrogen Systems





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