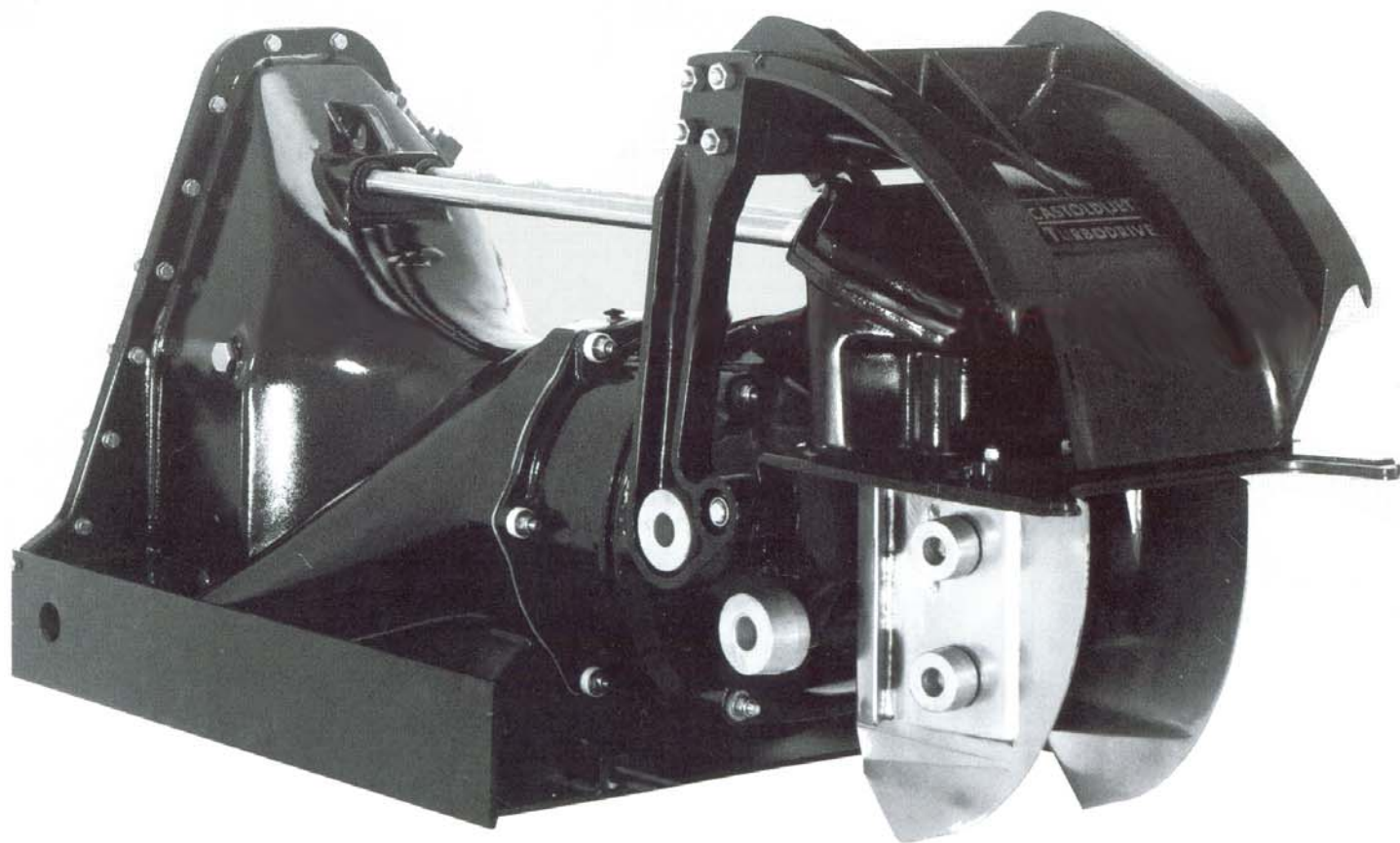
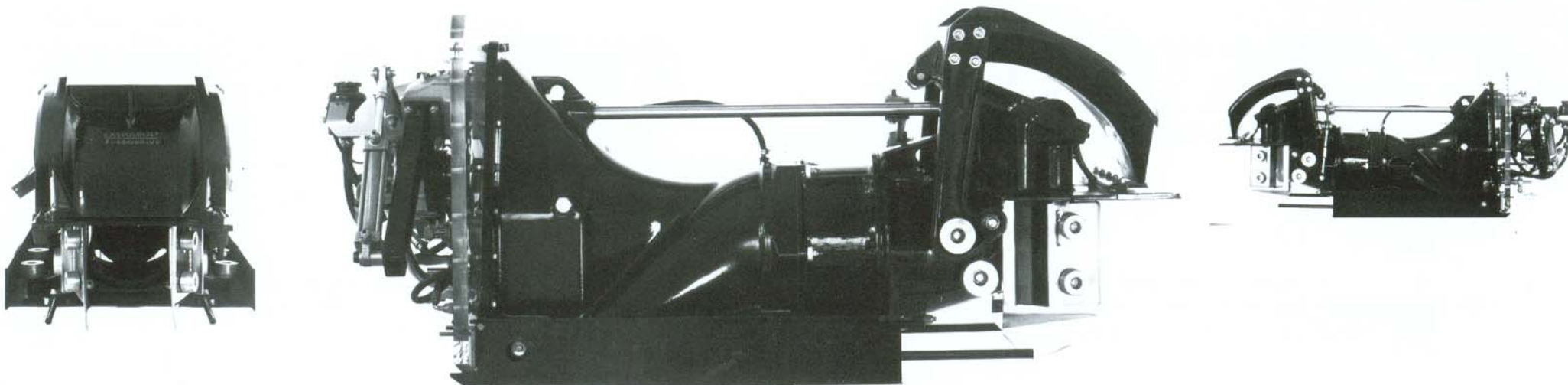


CASTOLDI JET

TURBODRIVE 337

Highly efficient, heavy duty, advanced complete marine water-jet propulsion unit for commercial, military and pleasure boats.





SPECIFICATIONS

The Castoldi water Jet unit type "Turbodrives 337" is an advanced versatile marine drive propulsion system particularly suitable to be installed in commercial, military and pleasure boats with planing hulls.

The TD 337 general configuration shows the water intake placed completely outside the hull, as most part of the unit itself.

Many benefits follow from this feature such as: a very easy installation, being enough to cut only one hole through the transom, and not through the hull to fix it, the option by easily adjusting the jet mounting to vary and optimize the boat trim, the option to select if to install the unit completely outside or partially or totally recessed into the hull taking or the minimum space inside the boat, and the best course. Furthermore being the water intake placed as far as possible from the bow of the boat, aeration in rough sea run during vessel pitching is minimized.

The special designed water intake is placed transversally to the keel line reducing the time of passage over obstacles and debris.

Turbodrives 337 casing is made of super tough light weight special aluminium alloy for marine use which is given the most sophisticated anti-corrosion finish possible being hard anodized up to 60 Microns and becoming by this way very durable, while, its most important parts as: impeller, impeller housing, shafting, steering deflectors, etc, are manufactured in stainless steel.

Turbodrives 337 has several features that make this model stand out from other marine propulsion units:

Built in gear box to adapt the power and r.p.m. characteristics of the engine to the jet drive.

Disconnecting clutch to engage and disengage the impeller.

Remote operated movable debris screen to clean the jet unit water intake.

Special electronic hydraulic controls for the best manoeuvrability.

SCOPE OF USE

1) Planing boats

Planing boats	1 x TD 337	2 x TD 337	3 x TD 337
Maximum suggested A.U.W. (t.o.n.) (All Up Weight of the boat, means its full displacement, including people, fuel, equipment)	6-7.5	14.5-17.5	24.5-30
Maximum suggested power input Kw (HP) for certification without certifications	324 (600) 600 (800)		

2) Semi-planing boats

Hull drag for these boats is usually higher than for planing ones. Therefore a lighter A.U.W. than for planing boats must be considered.

3) Displacement boats

For these boats, the speed depends more on efficient hull shape than on input power or A.U.W. The input power should not exceed the suggested power value.
A.U.W. can be increased for efficient long and narrow boats.

Displacement boats	1 x TD 337	2 x TD 337	3 x TD 337
Maximum suggested A.U.W. (Kg.)	11.000	26.000	45.000
Maximum suggested power input HP (Kw)	200/240 (270/325)		

SPECIFICATIONS

- Design standards: R.I.Na.
- Pump type: single stage, axial flow
- Impeller diameter (at inlet): 337 mm.
- Suitable engines:
 - Up to 441 kw (600 hp) (for certification).
 - Up to 600 kw (800 hp), (without certification).
- Built-in gear box: with n° 26 gear wheels'ratios available.
- Disconnecting clutch: positive dog clutch type.
- Unit weight-dry (including gear box, clutch, rams, brackets, oil pump): 373 kg.
- Volume of entertained water: 68,7 lt.
- Volume of oil contained into the gear box: 9 lt.
- Transom angle: 90°
- Rotation: clockwise looking to the input flange.
- Inspection hatch: outboard.
- Castings: Cast G.Al.Si.7 aluminium alloy.
- Impeller shaft: Aquamet 17 (17,4 PH) stainless steel.
- Impeller: 3 blades Cast Aisi 316 stainless steel.
- Impeller housing: Cast Aisi 316 stainless steel.
- Intake screen: movable, precision casted Aisi 316 stainless steel bars.
- Corrosion protection:
 - Hard anodizing treatment (60 Microns) on all aluminium alloy parts.
 - 4 layers of special paint.
 - Cathodic protection with sacrificial zinc alloy anods.
- Internal levers: high strenght bronze.
- Bearings: all oil lubricated.
 - 1 front input shaft radial roller bearing.
 - 1 front input shaft axial roller bearing.
 - 1 tail input shaft radial roller bearing.
 - 1 front impeller shaft thrust roller bearing.
 - 1 intermediate impeller shaft radial roller bearing.
 - 1 tail impeller shaft radial roller bearing.
- Seals: Input shaft seal:
 - rubber covered lip seal.
- Impeller shaft seal:
 - silicon carbide face type mechanical seal.
 - BPR (additional feeding intake) for slow and/or heavy boats.
 - Input flange: suits up to 180 mm. driveshaft flange.

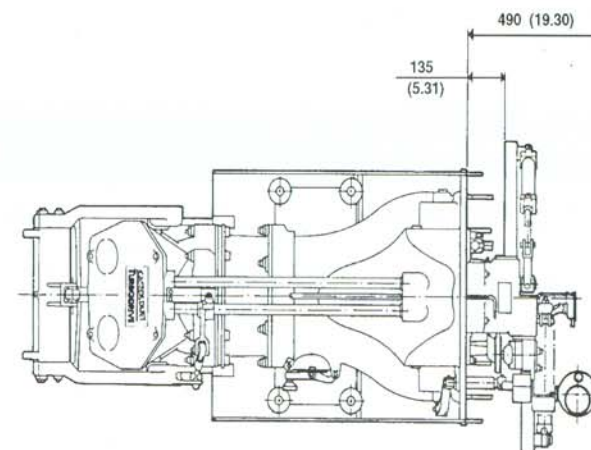
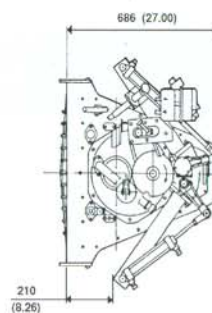
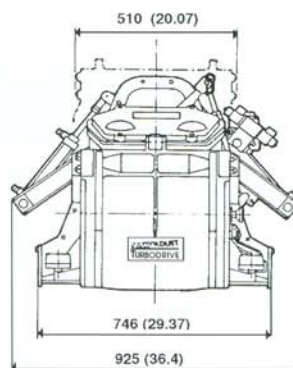
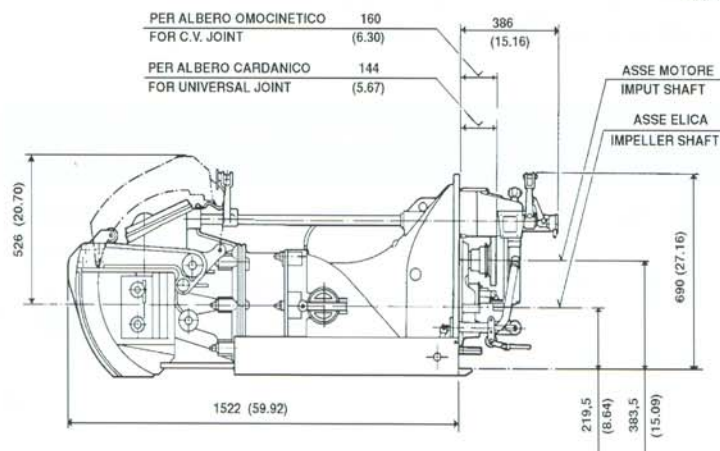
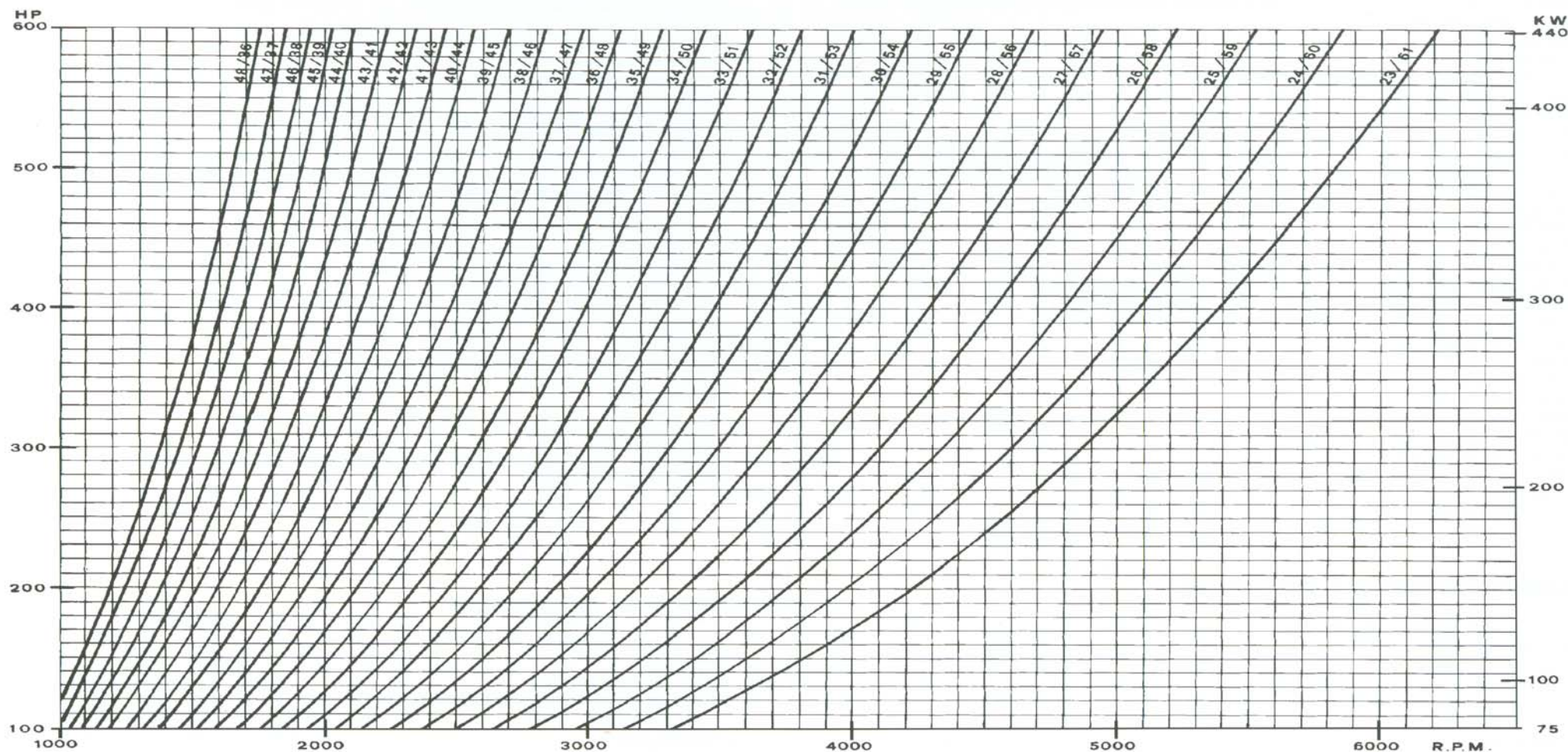


DIAGRAMMA PER LA SELEZIONE DEL RAPPORTO INGRANAGGI - GEAR WHEELS RATIO SELECTION CHART



GEAR WHEELS RATIO SELECTION CHART

To match a given engine with the proper gear ratio, first locate net horse power of the engine on the vertical grid line, then locate operating r.p.m. on the horizontal grid line.

The point of intersection of the two grid lines will indicate the correct Jet gear ratio for the horse power and operating r.p.m. of the engine.

Diagrams which have been experimentally determined with a laboratory boat are furthermore available:

- Diagram showing the Water Powers as a function of boats speed.
- Diagram showing Jet dynamic thrust curves.

STANDARD EQUIPMENT

- Fixing hardware
- Hydraulic pump mounted on the water jet unit and driven by its own input shaft for reversing deflector, steering and clutch control.
- Complete Castolfi electronic/hydraulic set up control system for the reversing deflector including:
 - Hydraulic cylinder
 - Hydraulic hoses
 - Position indicator instrument
 - Solenoid-valve
 - Water proof, heavy duty transom potentiometer
 - Electronic STP unit
 - Castoldi "El-Hy" control lever with rotating knob with water proof potentiometer.
The movement of the same is synchronized with the movement of the reversing deflector.
- Complete station steering system including:
 - Helm steering pump with stainless steel steering wheel
 - Hydraulic cylinder
 - Hydraulic hose
 - Position indicator gauge
 - Tie rod(s) with multiple jet
- Complete clutch system including:
 - Cable
 - Control lever
- Complete intake screen rake system including:
 - Cable with sheathing
 - Control lever
- Input flange to suit up to 180 mm diameter driveshaft flange.
- Impeller spanner
- Installation, operation and maintenance manual in Italian, English, French
- Pressure-vacuum gauge

OPTIONAL EQUIPMENT

- Twin control station kit
- Driveshaft
 - Constant velocity joint
 - Double element torsionally flexible driveshaft
 - Cardan shaft
- Flexible joint
- Spares kit
- Certifications
- Steering linkage for catamarans
- Discharge nozzles with different diameter
- Panel for reverse and steering control by Joy-Sticks when jet is used as secondary propulsion system, complete with potentiometer, solenoid-valve, electronic STP units



TO ORDER, QUOTE

- Max brake horse power and corresponding r.p.m. of the engine.
- Required optional equipment.
- Length of cables.
- Electric system, 12 or 24 V.

CASTOLDI "TURBODRIVE 337" ADVANTAGES

- Higher top speeds for planing boats in respect to fixed pitch propellers and stern drivers with subcavitating propellers and consequent better fuel economy (from 20 knots up)
- Limited in board room requirement.
- Outstanding manoeuvrability at all speed with 360 degrees thrusting for docking. Great course stability.
- Ease of installation, alignment and trim optimization.
- The maximum field of employment from offshore to shallow inshore waters due to a great sea keeping characteristics and to the best shallow waters capability.
- The maximum active and passive safety with reverse thrust power braking ability at speed.
- Low under water noise.
- Absence of vibrations caused by propellers, V drives and axes subjected to bending and torsional stresses and reduced internal noise.
- Minimum service requirement.
- Easy maintenance.
- Maximum endurance and protection from electrolysis and corrosion.
- No possibility to overload the engine and reduced engine wear as jet power absorption at constant speed is insensitive to boat speed. Therefore thrust remains constant even if hull drag increases (due to variation of payload, to presence of fouling on to the hull, etc.).



La Castoldi S.p.A; si riserva il diritto di apportare in qualsiasi momento e senza preavviso, eventuali modifiche di componenti od accessori che ritiene necessarie per esigenze tecniche o commerciali, senza ritenersi impegnata ad aggiornare questa pubblicazione.

CASTOLDI S.p.A. withhold the right to introduce, at any time and without previous a notice, such modifications of components and accessories as might be deemed necessary for technical or commercial reasons, without any obligation to bring up-to-date this leaflet.

CASTOLDIJET

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