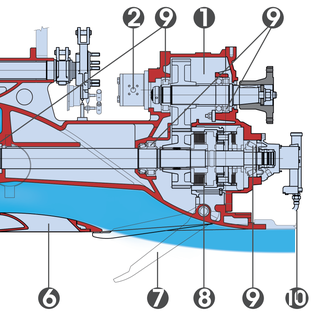
So different from all the competitors on the market, due to its many advanced exclusive features.
Much more than a simple pump, it is a complete, integrated marine propulsion system.



5 IMPELLER VIBRATION RUBBER DAMPER

This item damps vibrations if any transitory cavitation occurs at the impeller. Because this device has no shaft bearing function, it can withstand a large degree of wear without affecting the waterjet's integrity.

6 B.P.R. (optional)

This unique patented device provides an auxiliary water flow by-pass to the main water intake allowing an increase in the power operational range and thrust on low speed heavy boats, as well as a take-off improvement for middle speed heavy boats. It never affects full speed efficiency and can easily be retrofitted.

7 MOVABLE PROTECTION GRID ON WATER INTAKE

The inlet grid protects the water intake from the suction of floating debris. It performs self-cleaning operations by rejecting the same through the shift opening of the flush mounted hydrodynamically profiled set of bars. The helmsman can activate the system, when the pressure gauge indicates a pressure drop in the waterjet duct.

8 CLEAR-DUCT

superior anti-clogging system (optional)

The waterjet duct and intake cleaning system are assured through the synchronized simultaneous electrically controlled operations of impeller rotation reversing and the intake grid opening. This generates a back flushing, which is ejected through the water intake without any obstruction caused by the grid bars.
The whole operation is feasible using special parts, all included in the Castoldi integrated gearbox.

9 ALL BEARINGS OIL LUBRICATED

All the bearings are lubricated by the same gearbox oil.
They never come into contact with seawater and are sized for several thousand hours of life.

10 OIL LEVEL TRANSDUCER

(standard and available only on large models)

The oil level transducer allows for remote level control.

FULL PROTECTION AGAINST MARINE CORROSION

The whole unit is protected by a hard anodizing treatment, plating all light-alloy components with 60 microns thickness of aluminum oxide (ceramic), three layers of special paint and cathodic protection by zinc anodes.

CASTOLDI

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CASTOLDIJET

H.C.

TURBODRIVE H.C. RANGE

CASTOLDI

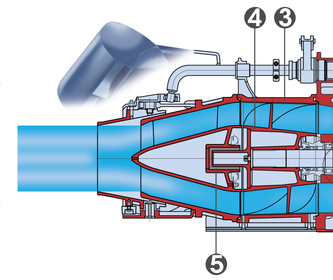
Castoldi unique Waterjet Drive.

1 INTEGRATED GEARBOX

with hydraulic multi-disc clutch

The integrated gearbox with its wide range of transmission ratio options (No. 17 to N. 25 depending on the waterjet drive model) is the ultimate solution for engine coupling system with multiple advantages at one stroke:

- A very fine r.p.m. matching for every selected engine. This means full power absorption without over or under-loading the engine regardless of boat speed, resulting in extended engine life.
- Less weight. The integrated Castoldi gearbox is very light and simple as it is contained in the waterjet casing. It does not require an oil heat exchanger because its lubrication oil is cooled through the waterjet's surface contact with the surrounding water. Therefore, the propulsion system weight is lower, compared to that of competitors, where marine transmissions must be added to the engine.
- The use of a single unique stainless steel cast impeller, designed with the best geometry ever tested, without the constraints of having to modify it for adaptation to the engine. The impeller has optimized efficiency and cavitation resistance under any operating conditions and meets high standards of quality production processes.
- The lifting of the jet input flange allows for a shorter and better-aligned cardan shaft without the need to trim the unit, allowing a drastic reduction in the engine room length. This is a clear advantage, given that long transmissions and forward engine installations may reduce the top speed due to moving the boat's centre of gravity forward.
- The lowering of the impeller shaft and, consequently the centre of thrust, results in better manoeuvrability and boat running stability; moreover this allows the design of a flat, straight duct enabling the water stream to flow smoothly with minimum hydrodynamic losses at high speed.



2 HYDRAULIC PUMP

Directly splined to the input shaft, thus avoiding any vulnerable belts.

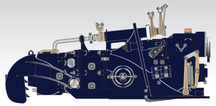
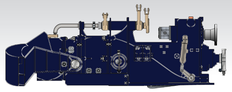
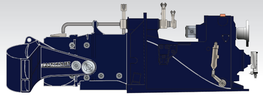
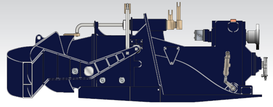
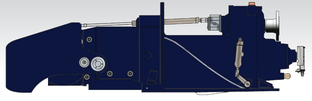
3 TITANIUM IMPELLER HOUSING LINER

(standard on large models).

Best resistance to marine corrosion and wear, for the longest operational life.

4 IMPELLER

The Castoldi impeller is a true axial inducer type design and is recognized as having the best efficiency, cavitation resistance and lowest weight compared to any other type of pump.
It operates on a volume system with high flow rate and low pressure.
Because of its volume design, increased blade tip clearance due to wear, does not significantly compromise its efficiency. This can be contrasted to what happens to mixed flow impellers, operating with low flow rate and high pressure, which are much more vulnerable to this type of clearance issue, leading to fast and dramatic speed loss.

TURBODRIVE H. C. RANGE	MODEL	IMPELLER DIAMETER AT INLET MM	DRY WEIGHT KG	IMPELLER MATERIAL	IMPELLER HOUSING MATERIAL	CLUTCH	MOVABLE DEBRIS SCREEN GRID	INTEGRATED GEAR BOX RATIOS NUMBER	AVAILABLE CONTROLS	FAST BOATS						SLOW BOATS
										MAX POWER INPUT mHP - (KW)		MAXIMUM RECOMMENDED DISPLACEMENT TONS (*)				MAX POWER INPUT mHP - (KW)
										INTERMITTENT DUTY	CONTINUOUS DUTY	SINGLE INSTALLATION	TWIN INSTALLATION	TRIPLE INSTALLATION	QUADRUPLE INSTALLATION	
	**TURBODRIVE 240 H.C.**	238	130	AISI 316 STAINLESS STEEL	AISI 316 L STAINLESS STEEL TITANIUM	MULTI-DISC HYDRAULIC CLUTCH	MECHANICALLY OPERATED	18	MECHANICAL / HYDRAULIC ELECTRIC / HYDRAULIC ELECTRONIC / HYDRAULIC ACES	420 - (309)	350 - (258)	2.5 - 3	6 - 7	-	-	130 - (96)
	**TURBODRIVE 284 H.C.**	282	193	AISI 316 STAINLESS STEEL	AISI 316 L STAINLESS STEEL TITANIUM	MULTI-DISC HYDRAULIC CLUTCH	ELECTRICALLY OPERATED + CLEAR-DUCT (OPTIONAL)	25	MECHANICAL / HYDRAULIC ELECTRIC / HYDRAULIC ELECTRONIC / HYDRAULIC ACES	600 - (441)	500 - (367)	4 - 4,5	10 - 12	17 - 20	-	185 - (136)
	**TURBODRIVE 340 H.C.**	337	307	AISI 316 STAINLESS STEEL	AISI 316 L STAINLESS STEEL TITANIUM	MULTI-DISC HYDRAULIC CLUTCH	ELECTRICALLY OPERATED + CLEAR-DUCT (OPTIONAL)	25	MECHANICAL / HYDRAULIC ELECTRIC / HYDRAULIC ELECTRONIC / HYDRAULIC ACES	850 - (625)	710 - (522)	6 - 7	15 - 18	26 - 30	-	262 - (193)
	**TURBODRIVE 400 H.C.**	400	480	DUPLEX STAINLESS STEEL	TITANIUM	MULTI-DISC HYDRAULIC CLUTCH	ELECTRICALLY OPERATED + CLEAR-DUCT (OPTIONAL)	21	MECHANICAL / HYDRAULIC ELECTRIC / HYDRAULIC ELECTRONIC / HYDRAULIC ACES	1.200 - (882)	1.000 - (736)	10 - 12	24 - 28	40 - 50	60 - 70	370 - (272)
	**TURBODRIVE 490 H.C.**	490	890	DUPLEX STAINLESS STEEL	TITANIUM	MULTI-DISC HYDRAULIC CLUTCH	ELECTRICALLY OPERATED + CLEAR-DUCT (OPTIONAL)	20	MECHANICAL / HYDRAULIC ELECTRIC / HYDRAULIC ELECTRONIC / HYDRAULIC ACES	1.800 - (1.324)	1.500 - (1.103)	17 - 20	40 - 50	70 - 83	100 - 120	555 - (408)
	**TURBODRIVE 600 H.C.**	600	1.580	DUPLEX STAINLESS STEEL	TITANIUM	MULTI-DISC HYDRAULIC CLUTCH	ELECTRICALLY OPERATED + CLEAR-DUCT (OPTIONAL)	25	ELECTRIC / HYDRAULIC ELECTRONIC / HYDRAULIC ACES	2.700 - (1.985)	2.250 - (1.655)	28 - 34	70 - 84	120 - 143	170 - 207	830 - (610)

* The maximum recommended displacement is purely indicative as this depends from hull shape, LCG, installed power etc.. Please contact Castoldi S.p.A. for any application.