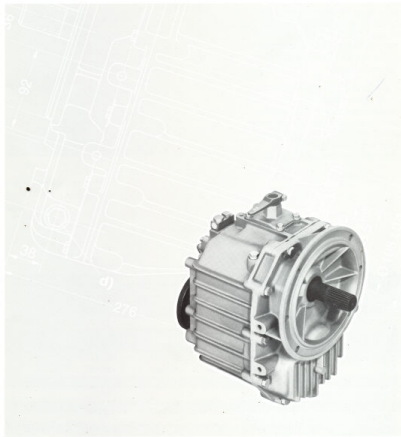
HURTH

HBW 450 Marine Transmissions



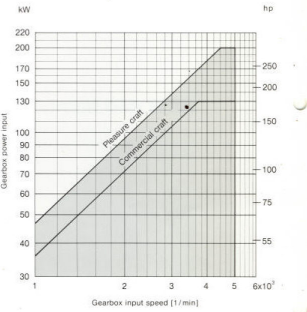
HBW 450

Description

HURTH HBW marine transmission units are equipped with a positively driven, mechanically operated helical gearing system. The multiple disc clutch is actuated by a servo system. Gear changing thus requires only minimum effort and provision can be made for single-lever remote control. The HBW permits direct reversing at top speed of the engine, eg in emergency cases. The torque transmission capacity of the clutch is limited and thus sudden output loading will not affect the engine. When mooring on rivers, when sailing or on tow, the propeller can idle (gear lever in 'O' position). Idling of the engine with the propeller shaft standing still will not cause damage to the transmission.

For operation under arduous conditions, such as high ambient temperatures or continuous operation at high speeds, especially when the reverse is used as the main direction of travel, a cooling system is required which can be integrated in the fresh water circuit.

Power diagram



Technical data			HBW 450–1,5	HBW 450–2	HBW 450–3
Forward gear 'A', ratio		i	1.55	2.04	2.95
Reverse gear 'B', ratio		i	1.55	2.06	3.01
Input torque $M_{max.}$	pleasure craft	Nm	440		
	commercial craft	Nm	350		
Power input P_{max}	pleasure craft	kW(hp)	200(272)		
	commercial craft	kW(hp)	132(180)		
Input speed n_{max}		1/min	5000		
Propeller thrust F_{max}		N	13 500		
Weight without oil		kg	36		
Oil quantity		l	1.8		
Oil grade			Automatic Transmission Fluid (ATF)		

General information

All transmission units immersion lubricated. Operating temperature of transmission oil not to exceed + 110°C.

Install flexible torsion coupling* between engine and gearbox to compensate for shaft displacement.

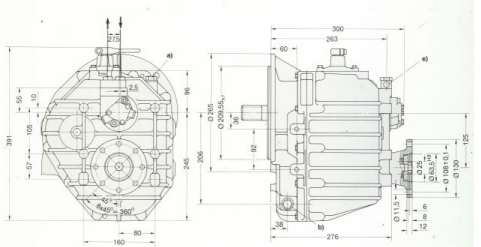
Preferably use flexible coupling between transmission and propeller shaft to compensate for angular deviations.

Inclination of transmission in a longitudinal direction not to exceed an angle of 20° in continuous operation.

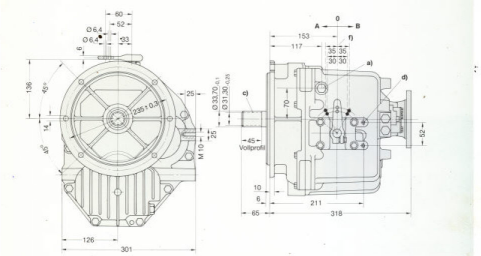
Always set gear lever to 'O' position when propeller is idling (while sailing or on tow). Gear lever may be moved to position opposite direction of travel to block propeller shaft.

* Coupling available from HURTH.

Main dimensions



a) Oil dipstick and filler screw 17mm b) Oil drain plug 17mm width across flats c) SAE 26 teeth • DP 20/40 • 30° • Flat Root • Class 6
d) M 8/12 deep e) Adapter omitted if cooler is used, fitting 3/8" BSP/14 deep oil ↑ to cooler ↓ from cooler f) Minimum lever travel



View of mounting flange, engine side

Rotation of output shaft in lever position **A** = opposite direction
B = same direction

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