

Model		TS 190 H-di	TS 190 R-di	TS 230 H-di	TS 230 HN-di
Type		-	-	-	-
Engine Model		Water-cooled horizontal 4 stroke diesel motor	Water-cooled horizontal 4 stroke diesel motor	Water-cooled horizontal 4 stroke diesel motor	Water-cooled horizontal 4 stroke diesel motor
Combustion		Direct Injection	Direct Injection	Direct Injection	Direct Injection
Aspiration		Natural	Natural	Natural	Natural
No. of Cylinders		1	1	1	1
Cyl. Bore x Stroke, mm		110 x 106	110 x 106	112 x 115	112 x 115
Displacement, cc		1007	1007	1132	1132
Direction of Rotation		Counter clockwise (seen from the flywheel side)	Counter clockwise (seen from the flywheel side)	Counter clockwise (seen from the flywheel side)	Counter clockwise (seen from the flywheel side)
Governor System		Ok	Ok	Ok	Ok
Cooling System		Hopper	Radiator	Hopper	Hopper
Lubrication System		Forced lubrication with a trochoidal pump	Forced lubrication with a trochoidal pump	Forced lubrication with a trochoidal pump	Forced lubrication with a trochoidal pump
Starting System		Manual (Hand Crank)	Manual (Hand Crank)	Manual (Hand Crank)	Manual (Hand Crank)
Fuel Type		Diesel Oil	Diesel Oil	Diesel Oil	Diesel Oil
Rated Output, kW (PS)/min-1		-	-	-	-
Fuel Tank Capacity, liter		-	-	-	-
Specific Fuel Consumption, gr/dk jam		170	170	168	168
Lubrication Oil, liter		16.3	4	22.8	22.8
Colling Water Capacity, liter		-	-	-	-
Dimentions: Length x Width x Height, mm		881,5 x 454,5 x 660	894,5 x 454,5 x 660	963.5 x 467,5 x 657	963.5 x 467,5 x 657
Dry Weight, kg		186	192	205.5	205.5
Fuel		Diesel Fuel	Diesel Fuel	Diesel Fuel	Diesel Fuel
Lubrication Oil		SAE 40 CC/CD	SAE 40 CC/CD	SAE 40 CC/CD	SAE 40 CC/CD
Continuous Rated Output	Rotation Speed, rpm min-1 Or PS/ min-1	16/2200	16/2200	19/2200	19/2200
Max. Output	Rotation Speed, rpm min-1 Or PS/ min-1	19/2200	19/2200	23/2200	23/2200
No-Load Max. Rotation Speed, rpm		2200	2200	2200	2200
Air Cleaning System		Dry Element Air Filter	Dry Element Air Filter	Dry Element Air Filter	Dry Element Air Filter
Balancer		Available	Available	Available	Available
Balancer System		Dual Balancer System	Dual Balancer System	Dual Balancer System	Dual Balancer System
Compression Ratio		16.3	16.3	16.1	16.1
Valve Position		Over Head Valve	Over Head Valve	Over Head Valve	Over Head Valve
Ignition System		Pressurized Air	Pressurized Air	Pressurized Air	Pressurized Air
Exhaust Silencer		Available	Available	Available	Available