

The GP500 & GP600 are pure racing engines. Fully balanced parallel twins, delivering high power outputs in an extremely lightweight compact package, they represent the ultimate in race-winning performance.



Shown with barrel throttles and inlet ports to the front



Shown with butterfly throttles and exhaust ports to the front



The engines are available to OEMs, race teams and individual competitors. Build options include 6-speed sequential transmission (cassette-style) with dry clutch or a fixed reduction gear for watercraft and snowmobiles etc.; butterfly or barrel throttles; EFI or carburetors; intake ports oriented to the front or rear; dry or wet sump. Optional upgrades include magnesium crankcases and covers; kick or electric starter; slipper clutch; titanium connecting rods and valve and a billet or carbon clutch cover. A one year 24 hour response technical back up and a vehicle installation check are included in the purchase price. Upgraded support packages are also available.

Technical Specification

Version Usage	GP500 Road race motorcycle Superkart etc.	GP600 Supermoto, Racing ATV & Quad, Snowmobile, PWC etc.
Configuration	Two cylinders - inline	Two cylinders - inline
Capacity	500	598
Max power range	75-110 bhp	70-105 bhp
Rated speed	14,000 rpm	11,200 rpm
Max torque	Circa 55 Nm depending on specification	Circa 60 Nm depending on specification
Peak BMEP	14.0 bar	12.6 bar
Valves	2 intake, 2 exhaust per cylinder	2 intake, 2 exhaust per cylinder
Valve actuation	Direct acting DOHC - gear & chain drive	Direct acting DOHC - gear & chain drive
Ignition	Single , central spark plug	Single , central spark plug
Cooling	Water with integral mechanical pump	Water with integral mechanical pump
Lubrication - pressure	Forced pressure feed with integral centrifuge	Forced pressure feed with integral centrifuge
Lubrication - scavenge	Integral mechanical scavenge pump	Integral mechanical scavenge pump
Oil supply	Remote dry sump tank	Wet sump or dry sump options
Starting system	Remote	Kick or electric options
Electrical	Crank mounted generator	Crank mounted generator
Vibration cancellation	Maxsym balance system Fully balanced primary & secondary forces	Maxsym balance system Fully balanced primary & secondary forces
Construction		
Crank cases	Horizontally split aluminium castings	Horizontally split aluminium castings
Crank shaft	One piece steel forging	One piece steel forging
Connecting rod	Two piece steel forging	Two piece steel forging
Piston	Aluminium forging - 2 rings	Aluminium forging - 2 rings
Liner	Removable aluminium alloy - Nicasil plated	Removable aluminium alloy - Nicasil plated
Cylinder head	Aluminium monoblock casting - no head gasket	Aluminium monoblock casting - no head gasket
Fuel/Ignition system		
Fuel type	Calibrations available for race fuels from 95 RON upwards	Calibrations available for race fuels from 95 RON upwards
Fuel delivery	Sequential fuel injection	Flat slide carburetors or EFI as 500cc
Ignition source	Single double ended coil	Single double ended coil
Transmission		
Primary drive	The engine is available with a motorcycle type 6 speed gearbox or a fixed reduction gear PTO	Gear
Clutch	Dry - multi plate	Dry - multi plate
Gearbox configuration	Cassette - removable without splitting crankcases	Cassette or reduction gear option
Gears	6 speeds sequential shift	6 or 1 fixed speed as required
Package size		
Height	431 mm	434 mm
Width (crank axis)	308 mm	308 mm
Depth	311 mm inc transmission	311 mm inc transmission
Weight	30 - 37.5 kg inc transmission dependant on specification. 24-30 kg engine only	30 - 37.5 kg inc transmission dependant on specification. 24-30 kg engine only
Environmental		
Noise level	Below equivalent 2-stroke	Below equivalent 2-stroke
Exhaust pollutants	Nominally 90% cleaner than 2-stroke but unregulated	Nominally 90% cleaner than 2-stroke but unregulated
Maintenance schedule		
In season maintenance	Rebuild with new parts as required twice during season	Oil+filter each meeting. Tappet check twice per season
Season end maintenance	Rebuild with new parts as required in off season	Rebuild with new parts as required in off season

Maxsym reserves the right to alter specifications at any time