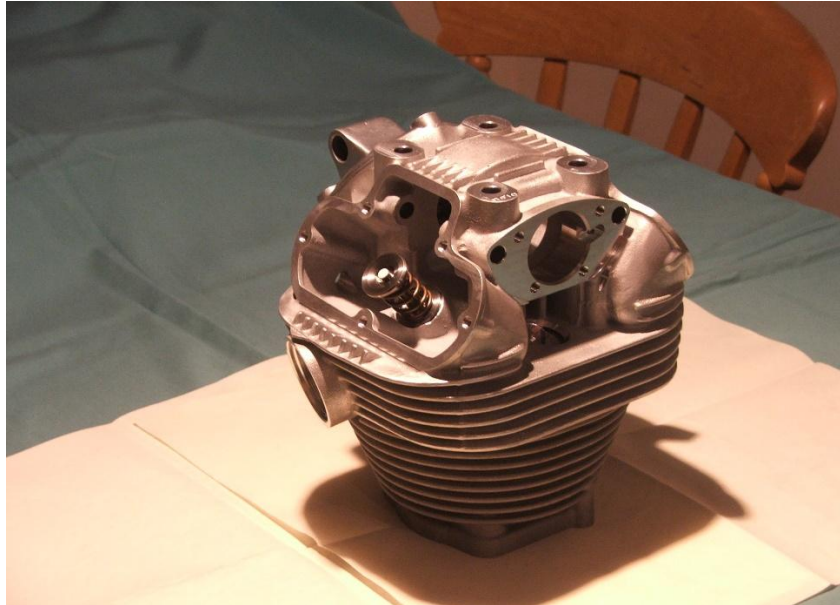


450cc

Cylinder Heads, Barrels and Pistons

Heads: The Misano design is based upon the later widecase heads which were specifically designed to allow a larger bore size and 450 engines and desmodromic versions were made from the same core casting. This new design produces high performance.



The ports and valve geometry have been optimised to allow far better performance than the original heads could achieve. All heads are supplied with two 10mm plug holes, the second plug situated to the rear of the bevel tunnel where the 450 decompressor plunger is fitted. The valve sizes are 41mm inlet, 34mm exhaust and both have 7mm diameter stems. The combustion chamber has an extensive continuous squish band which requires a modified piston. This squish band is extremely effective in the 450 head.

New patterns were made to produce these sand-cast heads which are cast in LM25 aluminium alloy and heat treated to TF spec. The heads are also treated to a special process before heat-treatment to ensure minimum porosity. Each head is fully machined on CNC equipment by an F1-approved supplier to ensure consistency and repeatability.

Each Misano head is supplied complete with guides, seats, valves, valve stem seals and the retained cam bearing. The Misano head has been designed to use the readily available coil spring, collet and retainer set sold by Lacey Ducati. Existing cams can be used and there is no need to machine out the internal cam tunnel for very high lift cams. All existing rocker covers, bevel gear (gazer)/rev counter covers and cam bearing support block are used. Whilst Misano heads have been designed and manufactured to go racing they can also be run on road engines, giving a significant performance improvement over standard heads. In fact these heads will double the output of a standard Ducati 436cc engine. Any component not supplied with the head - or which is missing from your engine - can be purchased from Lacey Ducati. The current price of a 450 cc Misano Cylinder head is £2,495.00 plus UK VAT (20%).

Barrels: The 10-fin 450 barrel is significantly different to the 250/350 barrels and will require a completely different set of casting patterns. We are discussing with Ducati racers around the world their preferred bore sizes before we finally commit to new patternwork.

This photo shows the difference between the two barrels



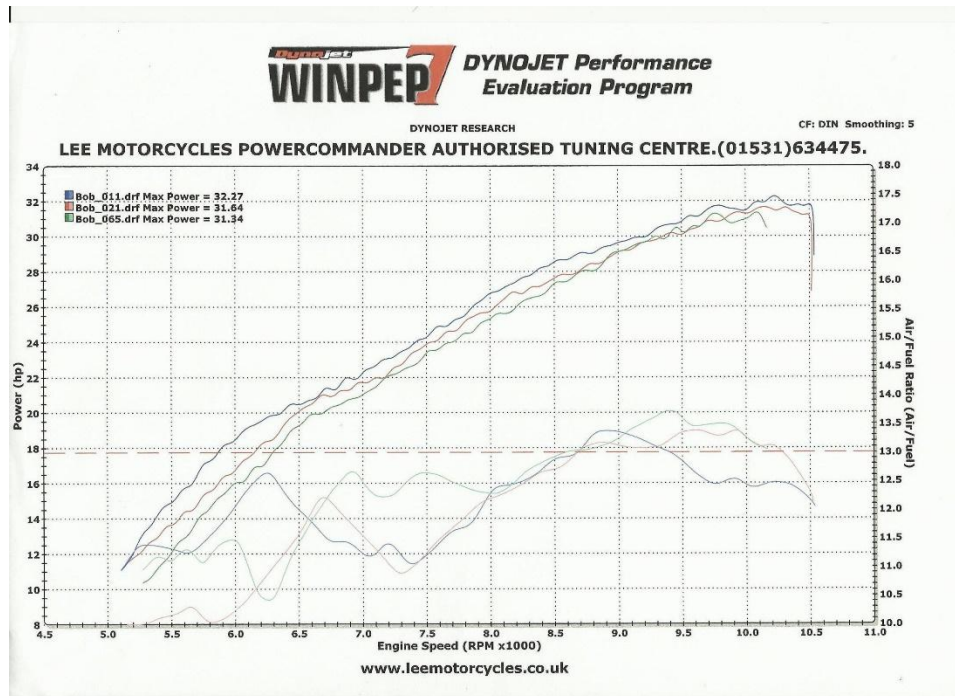
To reach a full 500 cc engine capacity it is possible to fit a 92 mm piston with the standard 75 mm stroke. We hear that some racers use pistons as big as 94 mm diameter. Any bore size above 88 mm will require a Nikasil liner

Pistons: The Misano combustion chamber has a significant and continuous squish area which requires pistons to suit. These Misano pistons are designed to be able to run in existing barrels and iron liners. These 450 cc pistons are available in two bore sizes, 87.50 mm and 88.00 mm. With the standard stroke these provides a capacity of 451 cc and 456 cc respectively. The current price of a 450 cc Misano piston is £205.00 plus UK VAT (20%).



Performance:

The standard 436 cc Ducati engine produced 24 bhp. Early tests with the Misano head and piston produced 48 bhp on an 88 mm bore x 80 stroke engine (487 cc).



As can be seen from the dyno chart, this Misano engine produces good power from 3,000 rpm up to 7,750 rpm. A broad spread of torque is ideal for the road as well as on-track.

Contact: Please contact us at misano1@outlook.com to discuss your project and for us to answer all of your questions.

Pricing update August 2015.