

NEW PRODUCT

CYLINDER KIT Ø 102 mm 496,8 cc

YAMAHA YZ 450 F 2020-2022



PART NUMBER:
P400485100092

- INCLUDED IN THE KIT:**
- Cylinder
 - Piston Kit
 - Gasket Kit

A powerful engine with added performance: Athena is pleased to present the new **big bore cylinder kit**, developed for **Yamaha YZ 450 F 2020-2022**.

Completely designed in Italy by the R&D department, this kit is an aftermarket solution that significantly boosts **torque and power** without compromising the motorcycle's **efficiency and safety**. The kit only includes Athena's top-quality components: an aluminum cylinder with nickel-plated cylinder walls, a forged piston for maximum resistance, and a gasket set manufactured using a state-of-the-art process.

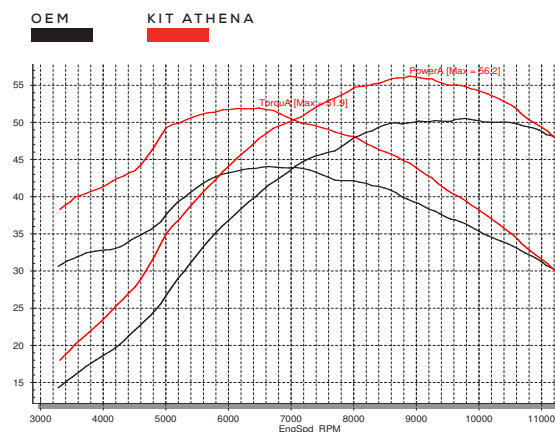
After several prototypes and quality checks, the cylinder kit was tested under extreme conditions **on the Dyno and the track**. The result is a **reliable kit** that delivers explosive power at low, medium and high revs.

The Big Bore cylinder kit for Yamaha YZ 450 F 2020/2022 can be installed **without any crankcase machining** despite the increased size.

TECHNICAL DATA

	OEM	KIT ATHENA*
DISPLACEMENT	449.3 cm ³	496.8 cm ³
BORE	97 mm	102 mm
STROKE	60.8 mm	60.8 mm
COMPRESSION RATIO	13,1:1	13,4:1
POWER CURVE	50.5 HP 9800 RPM	56.2 CV 8800 RPM

* Data referred to a bike with a stock setting engine + Athena cylinder kit



TECHNICAL FEATURES

The Yamaha YZ 450 F 2020-2022 engine is identical in regard to its compactness and lightweight feel. Along with the new Athena Big Bore cylinder kit, it boasts of excellent torque and power performance, delivering over six hp more than the original cylinder kit. To achieve these results, Athena engineers designed top-quality precision components:

BIG BORE ALUMINUM CYLINDER

Besides modifying the cylinder following Yamaha's overhaul of the YZ 450 F engines after 2020, which changed the shape and inclination of the cylinder along with the oil passages, Athena engineers adjusted the machining to deliver a significant increase in the bore to Ø102 mm.

Despite the increased size, the R&D department has designed this kit without having to bore the crankcases and with no additional machining required.

Produced by **gravity casting** and a **heat treat process**, designed to **improve its mechanical characteristics**, the Athena cylinder ensures **maximum resistance** even at the highest temperatures. The liner is designed to ensure a premium smooth finish lasting a lifetime, due to a special coating in nickel and silicon carbides.



HIGH-QUALITY FORGED PISTON

Designed by Athena engineers, who studied the cylinder and created a system that outperforms the original. The piston delivers a superior **power explosion** at low to medium revs and at high engine speeds. The results, which also showed a marked **increase** in **torque** and **compression ratio**, came from bench and track tests.

Manufactured by reverse extrusion, using high-precision technology, this **forged piston** delivers **ideal flow** and features polished profiles for **perfect front flame amplification**.

The **segments** provide an optimized tangential load for a correct **balance between lubrication and sealing**, while the **piston pin** comes in high-quality alloy steel for maximum resistance.



ITALIAN-MADE GASKET SET

The kit contains the gaskets required to install the cylinder kit, including the cylinder head gasket and base gasket, redesigned by Athena engineers to fit the new Yamaha cylinder oil passages.

The **rubber-coated metal base gasket** features **silicon creasing** in critical areas on its surface that R&D engineers identified during the design phase. The creasing is near the crankcase joints and is ideal for preventing **liquid leakage**.

In contrast, the **MLS (Multi-Layer Steel gasket) head gasket** is constructed with three blades: the outer blades are in rubberized sheet metal, while the central one is in AISI301 stainless steel to **withstand high levels of compression**.

