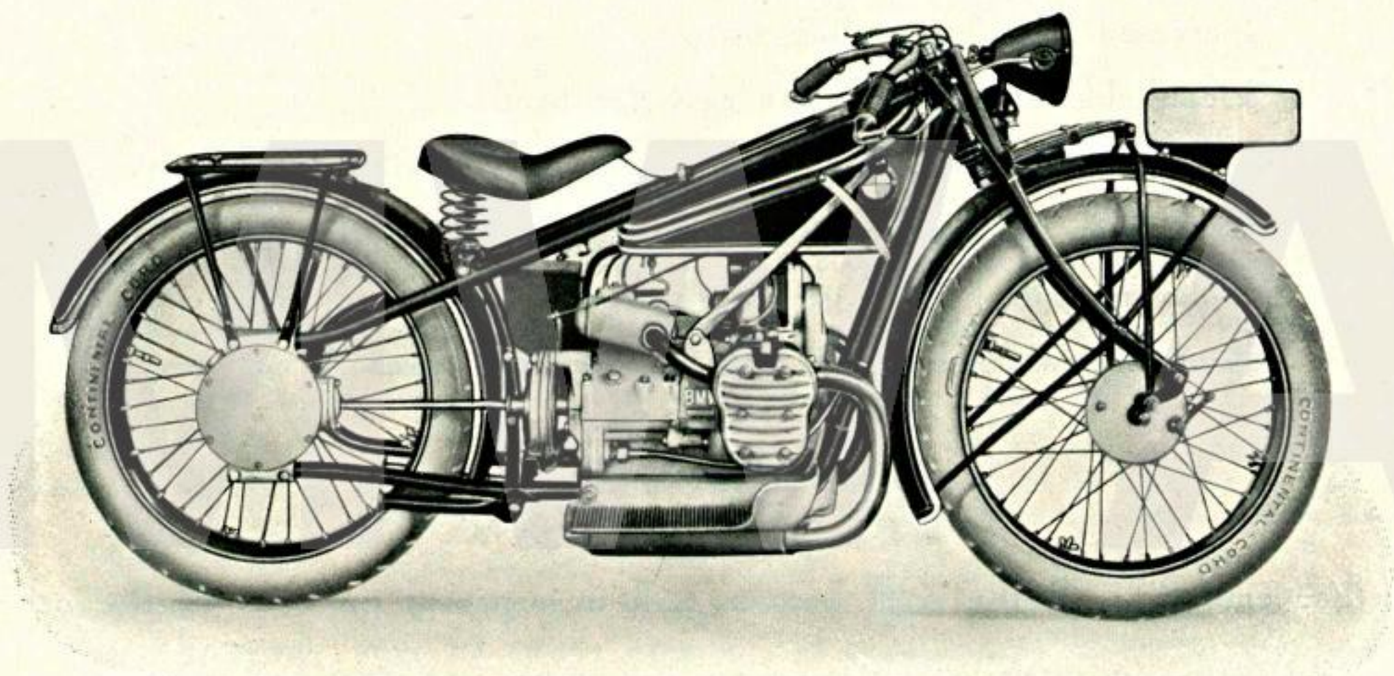
# BAYERISCHE MOTOREN WERKE A.G.

## MUNICH

(GERMANY)



# THE
# B.M.W. TOURING MOTOR CYCLE

## 12 h. p. MODEL R 42 500 c.c.

1000 VI. 26.

The new B. M. W. touring model R 42 represents the latest and most progressive form of engineering development applied to our touring models R 32, which have proved their worth during the last two years in many different races and reliability trials.

In designing the R 42 model it has been our endeavour to procure, with all possible expedience, every step of technical progress and every item of riding experience for the benefit of our wide circle of clients and friends, as we intend also in the future to keep up the fame of our models as being

## the most modern Touring Motor Cycle of the highest quality

ever put on the market.

The most important improvements as compared to former models, are mentioned hereunder:

**Increase of engine power to 12 h. p., notwithstanding the same cylinder capacity, achieved by means of an improved utilisation of the compression chamber and an increased cylinder cooling surface.**

**Detachable aluminium alloy cylinder heads.**

**External contracting brake acting on the vibration damper drum.**

**Cantilever springs with shock absorber (recoil spring leaf)**

**Noiseless spiral bevel gear on rear wheel.**

**Rims suitable for normal and balloon type tyres.**

This model further embodies all the well known and unsurpassed qualities of the other B. W. M. types, viz:

**Low centre of gravity and low saddle position, ensuring good riding qualities.**

**All gearing is effectively enclosed in oil-tight casings; consequently no soiled clothes need be feared.**

**Excellent front-wheel suspension, clean design of the engine affording easy access to all its parts and control levers.**

**Exceptionally good qualities of the engine due to the cylinders protruding laterally at right angles to the riding direction, the consequence being increased engine power on low fuel consumption and little wear of materials.**

**The universally recognised advantages of shaft drive.**

**The use of the most appropriate materials of first grade quality, selected and fitted with high precision, in accordance with the best machine shop practice.**

# GENERAL DESCRIPTION.

**Frame:** The steel-tube double frame of closed triangle form is kept very rigid in the front part and combines great mechanical resistance with an elegant outline. The height of the saddle and the handlebars are in perfect harmony with each other, as well as in regard to their position to the ground, so that the greatest comfort ensues for the rider. The spring stand, which is fitted under the frame behind the gear box, is so low, that the machine does not sink in when placed on soft ground. A well-suspended and comfortable pillion-seat may be fitted to the luggage carrier. The dimensions of the frame, forks, and mudguards are such as to allow the use of 27"×3½" balloon tyres.

**Springs:** The strong cantilever spring on the forks, together with the suspension of the front wheel, provide smooth, riding without bumping. The spring has further been fitted with a recoil leaf acting as shock absorber. A strong damping effect will consequently be maintained even on the worst roads. The springing of the saddle is specially satisfactory and will greatly contribute to the comfort of the rider.

**Engine:** The air-cooled, four-stroke engine with opposed twin cylinders, forms one unit block with the clutch and gear box. All movable parts, including the flywheel are encased in a dust- and oil-proof housing. The cylinders are placed at right angles to the riding direction and are suitably protected by the footboards, which are slightly valanced and join closely to the engine block. They are strongly reinforced in order to avoid breakage. The cylinders are provided with detachable heads, made of aluminium alloy. The valves, pistons and cylinders themselves can therefore be inspected by loosening a few bolts, without dismantling the actual cylinders. The cooling surface is increased by numerous cooling fins, as a result of which the engine will not run hot even on the longest and steepest hills. The good cooling quality also ensures a very low oil consumption, amounting to about 1 litre per 600 kilometres, or about 215 miles per pint. The exhaust gases from the cylinders are drawn off by special mufflers underneath the footboards and do not cause any annoyance to the rider. The silencer is detachable and may be taken apart for cleaning purposes. Its efficient silencing qualities comply with police regulations.

**Carburettor:** B. M. W. Special. Its simple design also make the operation simple and easy. Careful observance of the position of the levers will be rewarded by high engine power and low petrol consumption. The flow of gas and air is controlled by means of two separate levers and Bowden wires, operating two piston throttle valves. Hot air is drawn from the flywheel housing, where it has also been mechanically freed from road dust. This carburettor guarantees easy starting and sweet low running.

**Ignition:** is effected by a Bosch magdyno, the drive of which is encased in an oil-tight and dust-proof casing. With Bosch magneto-dynamos the „pre-ignition" position of the lever is towards the outside of the engine.

**Lubrication:** All moving parts of the engine are continually supplied with oil by a central automatic gear type pump. All exterior pipes are strictly avoided. The pump and all the piping connected with the same are suitably protected from impurities by the interpolation of an oil strainer.

**Transmission:** is effected by a strong propeller shaft and an elastic vibration damper, coupled between the former and the gearing. The design of the drive is simple and sturdy. Sturdy spiral bevel gear and drive pinions are used to ensure noiseless running. The casing for the bevel gearing is part of the frame. The three-speed gear is designed in such a way as to make each gear reduce the speed of the preceding one by about one third. The change speed lever is easily accessible and is conducted automatically in a gate which affords an easy and efficient change-over. The ratios are chosen so as to enable the speed to be graduated between 5 and 100 kilometres (i. e. 3 —60 miles) per hour with a normal number of engine revolutions.

**Clutch:** The single plate clutch with Ferodo fabric lining is operated by hand. This design makes it impossible for oil from the engine and gears to get between the friction surfaces of the clutch discs.

**Brakes:** The foot brake, acting on the vibration damper drum, is constructed in the form of an external contracting brake with Ferodo fibre lining and has been proved by our extensive and thorough tests to be equal to a first class automobile brake, both as regards its smooth, yet strong action, as well as its decidedly long life. The adjustment is effected by an adjusting screw without the need of tools. A hand-controlled brake on the front wheel, of the internal expanding type, increases the element of safety considerably, specially on hill roads. The machine is consequently also less subject to wear than in cases where both brakes act on the rear wheel.

**Protection against theft:** A hole in the brake drum is provided for the application of a padlock.

**Wheels:** Owing to the wide mudguards, we have made it possible for the wheels to be equipped with balloon tyres, 27×3½", but the new 26×3" tyres (for 1596-CC 1 rims) may also be used. The former have been found to be specially suitable, as greater comfort and a higher average speed is achieved when riding on very bad roads. The rims and spokes are of such strong design as to be able to sustain the greatest strain. The wheels can be detached in a minimum of time. In the case of the rear wheel the machine is put on the stand, the axle bolt taken out and the retaining ring removed, whereupon the wheel is free to be taken out. To remove the front wheel, the whole machine is tilted sideways onto one of the valanced footboards, and, after both nuts have been loosened, the wheel may be pulled out of the shackles without further difficulty.

**Mudguards:** The dimensions and profiles of the mudguards are carefully selected and protect both rider and machine from road mud and splashes, without materially affecting the cooling of the cylinders.

**Starting device:** The engine is started by means of a kickstarter of exceptionally strong design, the teeth of which are fully enclosed in the gear case and always remain in mesh. The machine need not be pushed. The clutch is slowly engaged by means of a lever on the left handlebar, and a smooth shockless start of the engine will ensue, without any harmful effects on the engine.

**Tank:** The construction of the tank suspension ensures easy access from the top. The capacity is about 14 litres or 3 gallons, which would suffice for trips of about 400 kilometres or 250 miles.

**Speedometer:** This instrument is neatly fitted in the tank and is driven automatically from the gears. The design has proved to be absolutely reliable, even in very bad weather. It is also provided with a counter showing the total number of kilometres or miles ridden.

**Footboards:** The footboards are slightly valanced and of such a sturdy design that they fully protect the cylinders against any damage resulting from falls or collisions. They further join closely to the engine casing so as to intercept all splashes and mud.

**Saddle:** This is manufactured by first class specialist firms and adds materially to the rider's comfort as a result of its good springing qualities. It further provides a good seat and general hold for the rider. The low height (72 cm or 28") easily permits even very small riders to touch the ground.

**Handlebars:** The pattern of the handlebars and the way in which their height is tuned to that of the saddle, as well as their distance from the latter, represent the most favourable conditions with regard to a healthy and comfortable riding position.

**Tools:** The tool box is incorporated in the lower section of the gear box and opens on the left hand side, just above the footboard, where it is easily accessible, entirely protected from dirt, and affords a good view of its interior. All the tools needed for the maintainance of the machine are supplied.

**Accessories:** The following accessories are supplied with and fitted to the machine: 1 complete Bosch Magdyno equipment, consisting of magdyno, headlight with bright and dim light, battery and switch box, and complete wiring system.

**Extra fittings:** The following fittings can be supplied on demand at an extra charge: 1 Bosch electric horn, 1 bulb horn, 1 tail lamp, which can also be employed as inspection lamp, 1 special pillion saddle complete with footrests.

**Engine power and dimensions:** B. M. W. Twin-cylinder, Type M 43, stroke 68 mm, bore 68 mm, 494 c. c., 12 b. h. p. (1,9 tax h. p.).

**Fuel consumption:** About 3 litres pro 100 kilometres or 95 miles per gallon.

**Oil consumption:** 1/6 litre per 100 kilometres, or about 215 miles per pint.

**Weight:** Weight of machine without accessories: about 135 kilos or 297 lbs.
Weight of machine with complete accessories: about 142 kilos or 312 lbs.
Weight of crate about 46 kilos or 102 lbs.
Weight of sea-packing (strong box with oilpaper lining) about 130 to 135 kilos or 286 to 297 lbs.
Dimensions of box. Length 2,25 m (7' 4") — breadth 0,60 m (2') — height 1,09 m (3' 7").

**Patent protection:** The design of the engine and its parts is thoroughly protected by numerous letters patent and bears our registered trade-mark.

**We reserve all rights to alter the design and types of our machines at any time, without previous notice, and the above text and illustrations are therefore not to be considered as absolutely binding.**



Druck: Hanns Lindner, München, Ainmillerstr. 6