

BMW Presse



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SPEECH GIVEN BY EBERHARD VON KUENHEIM, CHAIRMAN OF  
THE BOARD OF BAYERISCHE MOTOREN WERKE AKTIENGE-  
SELLSCHAFT ON THE OCCASION OF THE 48TH FRANKFURT  
MOTOR SHOW

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Ladies and Gentlemen,

Many of you know me quite well from various personal talks we have had in the past. As a result, you also know that I am generally quite envious of you because of your interesting job and the many activities it offers you. Today, however, hardly anybody can envy you despite the many scenarios you have experienced or will be experiencing on this special occasion: From various rostrums and from different speakers you will be hearing the same old story time and again.

This story is quite a simple one: Business is fine, even if our sales curves are not going up as rapidly as in recent years. We have some problems, but we will certainly solve them just as we have solved similar and even greater problems in the past. After all, we have many achievements to look back on - to be quite frank even a few more achievements than our competitors. And to make sure that things continue this way, we have already introduced a few new

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models which, as I am happy to say, have received a positive response from the experts - that is from you yourselves. So if it were not for the producers of petroleum and for politicians, we could all sit back and relax far more than we are doing at the moment.

Obviously, I am over-simplifying and exaggerating the situation at the same time. You will certainly have noticed the undertone in all of our talks with leading people in the car industry: What is on our mind is not so much current business or sales, say, in 1980. Rather, it is the further development of the car industry that is giving us a lot to think about.

Some manufacturers, for example, are planning to increase their capacities very considerably throughout Europe - despite the fact that we already have an over-capacity in this part of the world. While this naturally expresses a lot of optimism, it also shows that those manufacturers are determined to survive the very keen competition we must expect in the years to come: As each manufacturer wants to use his own capacities in full, only the others are to have excessive capacities.

There is also a shift in sales in various European markets, as we can see from the current car sales and registration figures. However, I am not referring here to the trend towards smaller cars - a trend much bandied about, but far from being as clear as that: This is a problem in North America, not on our continent. Our problem, rather, is a different one: In the 1980's Europe will be the toughest market with the keenest intercontinental competition - provided, of course, that our free market structure is maintained in the years to come.



The third pointer that indicates significant changes in the current situation is the fact that the car industry has now started investing in completely new technologies for the future - which should actually make us feel very optimistic. On the other hand, however, innovations always mean a considerable risk and a lot of insecurity. Just consider the rotary-piston engine as an example of what I mean.

10 years ago many people assumed that the motor car had already been developed into a mature product without teething trouble. Today, on the other hand, we know that in some respects the motor car is just entering its second major phase of development.

This makes one thing obvious: If the motor car is subject to significant changes, the manufacturing process for making cars will also change - and so will the supplier industry that provides car manufacturers with the parts they need. They will also have to come up to higher requirements as far as engineering and manpower are concerned.

Only a technological lead over other manufacturers can guarantee our future. In the interest of our customers, changes in styling for the sake of fashion - the forecasting of which is a favourite pastime of some of you - are no longer justified. We feel it is more important and far more progressive to provide innovation from the inside. As you will know, this is precisely the step we have taken with the new 7 series. And this is also the approach we will continue to take in future.

What will the technologies of the future involve?

First, we must consider the use of electronic systems in our cars, as we emphasized publicly on the occasion of the International Transport Exhibition in Hamburg this summer. And you know



yourselves, ladies and gentlemen, what a positive response this gave us.

Second, we must consider our continuing research on engines and drive systems. This, indeed, was the subject we dealt with at our First Engineering Conference held last autumn. One of our new development lines, an engine that switches the cylinders on and off according to traffic requirements, will in fact be shown to the public here in Frankfurt. While this engine, despite its 6 cylinders, will one day allow you to drive very economically indeed, it will also offer you maximum power and performance that only 6 cylinders are able to provide. Here in Frankfurt, this concept will be demonstrated with a range of our models reaching from the BMW 320 to the 745i, and including, of course, the M 1. We are convinced that this is the maximum number of cylinders you need.

All other technological advances, like lightweight construction using new materials and designs, are important, but routine engineering tasks. They bring about reductions in weight which, starting this year, we provide with all our models, and they are one of the many factors that will contribute to a considerable decrease in the fuel consumption of our cars.

At this point please allow me to repeat the important news we already gave you this summer: Starting now, the average fuel consumption for the entire range of BMW cars will be about 7 % less than for the comparable models that we were building last year. This means that BMW has already passed the half-way mark in achieving the fuel savings that the West German car industry has promised the Bonn government for the mid-1980's.

Some people claim that we introduced these improvements under



the pressure of the current energy debate and that the remaining 7 or 8 per cent saving can be achieved within 18 months. However, you as experts in the field obviously realize that matters are not that simple. After all, reducing fuel consumption to such an extent requires years of research and testing - and this also applies to our research engine and our ETA engine, which some of you were able to test last October, i.e. prior to the second energy debate we are currently experiencing. So in actual fact the answer is simple: We have learnt the lesson of the first energy debate and we have acted accordingly.

In addition, we have taken these steps without changing two essential aspects that apply to our cars: outstanding quality and outstanding performance. And you can rest assured that we will continue to maintain these qualities at the same standard also in future.

The current market situation shows clearly that our car range meets current requirements and represents the signs of our times. At the same time the number of incoming orders for BMW cars is a bit higher than it was last year. And if you consider that last year we had periods of extraordinarily high incoming orders, you will easily realize that we are very satisfied with the current situation.

By the end of this year we expect to sell a total of more than 335,000 cars, which is 4 % more than last year. In fact, we are only able to reach this production figure by using our capacities in full - and we still have bottlenecks, especially in the production of engines.

These bottlenecks explain two things: First, they show you why we still have relatively long delivery periods for some of our models. Second they indicate why we cannot produce more than 180



units/day of our 6 Series and 7 Series models, irrespective of whether car markets are expanding or not.

What do we expect from next year? No doubt you will remember the recent forecasts of various research institutes. We do not expect any dramatic drops in domestic car registrations. For BMW, specifically, we expect sales which are as high as this year's, and that implies a growing market share. Our export markets will take up the largest part of the production increase we can achieve.

At a constant share of about 60 % in our total sales, the 3 Series has for a number of years been by far the most important car range within our total production output, and the wide gammut of power units it is supplied with gives us a lot of flexibility: If the continuing demand for the more powerful models in the 3 Series should change in the future, and if the demand for the less powerful models should become greater, this would not present any problems.

Our 5 Series, which to our surprise some of you have already declared dead, is still very successful and up-to-date. In fact this is why we have decided, on the occasion of this Frankfurt Motor Show, to introduce an additional 5 Series model to be produced by our Motor Sport Company.

Thanks to the introduction of the 635 CSi, which has once again made our coupes the top performers in the market, the BMW coupe range currently has the highest growth rate of all of our model series. This also makes us feel quite confident that the 735i we are introducing on the occasion of this Frankfurt Motor Show - and, indeed, the new 7 Series generation as a whole - will generate similar strong impulses.



Our 7 Series cars have also been very successful in numerous markets, although the sales situation in Germany in the course of the past few months has naturally not been so good. However, we must note in this context that the German market is very sensitive to forthcoming changes and the introduction of new models, particularly if they are discussed in public. But in all of our export markets the 7 Series has been very successful indeed: Looking at the rest of Europe, you will see that in 1978 BMW was the most successful exporter of large cars made in Germany. And all the data we currently have at our disposal confirm that we still hold this No 1 position at this very moment.

Is it really necessary, ladies and gentlemen, for me to tell you that there will also be large cars in future - just like there will also be large flats or large aircraft able to accommodate a larger number of paying passengers? Since this point has already been discussed quite sufficiently, I don't think it is necessary for me to emphasize it once again.

The differences in fuel consumption between a large saloon and a small car are indeed quite insignificant: The BMW 732i fitted with the Digital Ignition System we have introduced as a 'first' together with Bosch does 26.2 mpg at a constant 75 mph. For comparison, the BMW 316 is not much more economic at 28.0 mpg.

In summary, ladies and gentlemen, I feel that the confidence with which we look into the future is justified even from your critical perspective.

This confidence is based on three factors:

- The continuing demand for individual transport and, accordingly, individual vehicles of all kinds.



- The joy of motoring which is here to stay as a typical element of human life.
- And, finally, the ability of the car industry to introduce genuine innovations.

Ladies and gentlemen, thank you very much for your attention.

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Präsentation:  
48. Internationale  
Automobil-Ausstellung  
IAA Frankfurt 1979

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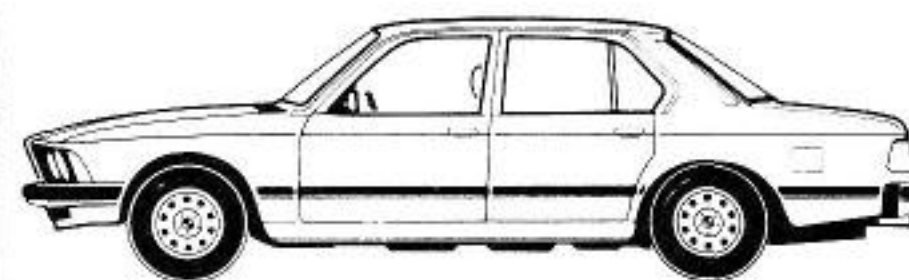
# BMW Programm 1980

Presentation:  
48. International  
Motor Show  
Frankfurt 1979

Présentation:  
48. Salon International  
de l'Automobile  
Frankfurt 1979

Presentazione:  
48. Salone Internazionale  
dell'Automobile  
Frankfurt 1979

BMW 745i



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### BMW Model Year 1980

The BMW range for 1980 is widely updated or further developed to a considerable extent. Technically speaking, a new generation of large, six-cylinder cars was brought onto the market (the 7-series sedans and 6-series coupes). At the same time the fittings and equipment for all models of the 3, 5, 6 and 7 series were updated.

General use of injection engines in the large class makes a far wider performance band possible, along with considerably lower consumption. Up-to-date progress is displayed in the optimal use of fuel and, among other features, in the consumption reduction connected with this. 7-series models of the 1980 model year, the 728i and 735i (184/197/218 hp) use a remarkable 7.4 % less fuel when compared to the 1979 range (with carburetor engines). For the 6-series coupes, the 628 CSi, 633 CSi and 635 CSi (184/197/218 hp) models, it was even possible to achieve a 10.3 % reduction. Digital engine electronics, which BMW was the first to install as standard equipment, play a key role here. A microcomputer - which remains maintenance free throughout the car's life - takes information from various sensors and calculates ideal ignition and injection points for each turn of the crankshaft, using digital electronics. All important engine procedures are optimized with its assistance: consumption, emissions, performance and output characteristics - throughout all operational conditions and load ranges.

On the component side a five-speed gearbox which lowers revs by 20 % is introduced in the 735i, and on special order for the other models. This makes driving even more comfortable, less noisy, yet more economical. Furthermore, an onboard computer is available optionally, allowing programming and recall of 12 different functions. For instance this can calculate precise instantaneous fuel consumption, average consumption and fuel range remaining, all serving to make the driver aware of consumption.



Many further items of equipment are also available in new models for the large class, including heated outside mirror or driver's door lock, digital clock with automatic brightness regulation, automatic climate control or a theft warning system.

Almost unchanged outwardly, this new generation of BMW sixes embodies a wide-ranging total of technically advanced, contemporary yet pacesetting development elements.

An updating of equipment has also been applied to the four-door 5-series consisting of BMW 518 (four cylinders), 520, 525 and 528 i (six cylinders), as well as to the two-door 3-series which includes the four-cylinder 316 and 318 plus the six-cylinder 320 and 323i. Standard equipment for all these models now includes an outside mirror electrically adjusted from inside the car, three-point, automatic safety belts left and right in the rear with a central lap belt and belt latches mounted on the front seats.

One option is the five-speed gearbox in an economy version available for all models while five speeds are also offered in a sport version for the six-cylinder models.

Aerodynamic refinement was applied to the new outside mirror and front spoiler (3-series). The sixes also have a standard digital clock (optional with the rev counter only for the 520).

These and many other detail improvements make the BMW cars of the 1980 model year up-to-date automobiles providing real driving pleasure even today.



Trim improvements to the 3 and 5 series for the 1980 model year

<u>3- Series (Standard)</u>	<u>316</u>	<u>318</u>	<u>320</u>	<u>323i</u>
- Outside mirror, electrically adjustable from inside car	x	x	x	x
- Rear fog light, integrated with taillight unit	x	x	x	x
- Halogen H 4 headlights	x	*	*	*
- New instrument panel Heater adjustment by twist-knobs Symbols replace lettering Separate side window defrosting	x	x	x	x
- Digital clock			x	x
- Additional grab handle for codriver			x	x
- Automatic, three-point seat belts outside and center lap belt in rear	x	x	x	x
- Trunk lighting			x	x
- Automatic gearbox (optional)		*	*	x
- New front spoiler design				
<u>3- Series (Special equipment)</u>				
- Five speed gearbox (comfort model)	x	x	x	x
- Five-speed gearbox (sport model)			x	x
<u>5- Series (Standard)</u>	<u>518</u>	<u>520</u>	<u>525</u>	<u>528i</u>
- Outside mirror, electrically adjustable from inside car	x	x	x	x
- Digital clock			x	x
- Rear seat area heating	x	x	x	x
- Belt latch on seat	x	x	x	x
- Automatic, three-point seat belts outside and center lap belt in rear	x	x	x	x
<u>5- Series (Special equipment)</u>				
- Five-speed gearbox (comfort model)	x	x	x	x
- Five-speed gearbox (sport model)		x	*	*

x = new

\* = already offered



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**The 3-Series**  
(Model year 1980)

BMW 316	Four cylinders
BMW 318	
BMW 320	Six cylinders
BMW 323i	

Four model variations are available in the 3-series: two fours and two sixes. The BMW 316 with 1.6 liter engine (66 kW/90 hp) and BMW 318 with 1.8 liter engine (72 kW/98 hp) are four-cylinder cars which run on normal fuel. The BMW 320 with a 2.0 liter carburetor engine (90 kW/122 hp) and BMW 323i with 2.3 liter injection power plant (105 kW/143 hp) are sixes using super. Compression for the 316/318 is 8.3:1, that of the 320 9.2:1 and the 323i has 9.5:1. Optimal fuel utilization is thus achieved, in conjunction with the Solex downdraft compound carburetor or Bosch K-Jetronic injection plus transistorized ignition. In comparison to the 1979 model year there is a remarkable 6% fuel saving.

The engines have quite obviously inherited the silky smoothness, efficiency and economy from the larger BMW sixes. The cars are clothed in a timelessly simple body which could never deny its ties to the overall BMW family. Safety stood in the foreground during design of this body:

- Computer-calculated crush zones front and rear with programmed buckling points
- Integrated roll-over bar



- Reinforced side pillars and door sills with special sheet metal profile
- Safety hood latch
- Fuel tank located ahead of rear axle (capacity 58 l./15.3 gal.)

Standard automatic belts front and rear as well as front headrests serve passenger safety while last but not least there is the thorough functional consideration of the interior as a whole.

All operating elements are arranged in an arc within reach of the driver. All dials are in clear view - even at night thanks to non-reflecting orange illumination - while levers, switches and pedals are all reached easily. An expansive panoramic view is oriented to driver and codriver while full noise insulation favors radio reception. A heated rear window with control light for all models, individual front seats with full lateral support, infinitely adjustable back rests clear to the reclining position, belt latches mounted on the seats, a heater and ventilation system with three-stage blower and newly-designed, easily manipulated rotary switches are all highly effective.

This overall concept brings even greater active safety with fewer driving problems while a carefully attuned chassis adds to advanced driving comfort.

An optional automatic gearbox is available for the 318 and 320, as well as for the 323i now.

#### New Standard

- Dashboard with new heater controls
- Outside mirror, electrically adjustable from inside the car (all models)
- Rear fog light integrated with rear light group (all models)
- Halogen headlights (new for the 316 and thus on all models now)



- Digital clock (320, 323i)
- Overhead grab handle for codriver (320, 323i)
- Trunk illumination (320, 323i)

Special equipment

- |                                |              |
|--------------------------------|--------------|
| - Five-speed gearbox (economy) | (all models) |
| Five-speed gearbox (sport)     | (320, 323i)  |
| - Automatic gearbox            | (323i)       |

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**The 5-Series**  
(Model year 1980)

BMW 518	Four cylinders
BMW 520	
BMW 525	Six cylinders
BMW 528i	

With the introduction of the 2 liter, six-cylinder engine for the BMW 520, this 5-series could be characterized as the six-cylinder range. Yet the four-cylinder BMW 518 remains as a proven model for moving into the four-door, 5-series realm.

The 520, 525 and 528i models with their cultivated, vibrationfree and powerful BMW six-cylinder engines, make up an upper middle class group which already stakes its claim in the performance data: 90 kW/122 hp for the BMW 520, 110 kW/150 hp for the BMW 525 and 135 kW/184 hp for the BMW 528i. Acceleration values from 0 to 100 km/h (62 mph) are 12.4, 10.1 and 9.3 seconds, respectively. The remarkable factor in all this is that, despite elevated driving performance, these sixes still offer low consumption, thanks to optimum combustion. Compared to the 1979 range, the consumption reduction amounts to a remarkable 5.9 %.



All cars in this 5-series have been further upgraded for the 1980 model year.  
In addition to new colors they received:

New Standard

- Outside mirror electrically adjustable from inside the car (on all models now)
- Rear seat area heating (all models)
- Belt latch on seat (all models)
- Three-point, automatic safety belt on either side in back with lap belt in the middle (all models)
- Digital clock (525, 528i)

Special equipment

- |                                |            |
|--------------------------------|------------|
| - Five-speed gearbox (economy) | all models |
| Five-speed gearbox (sport)     | 520        |

All 5-series cars are available with ZF automatic gearbox.



**The 6-Series**  
(Model year 1980)

BMW 628 CSi

BMW 6633 CSi

BMW 635 CSi

The injected coupe models, BMW 628 CSi, 633 CSi and 635 CSi, are exclusive vehicles which meet every demand, present and future, when it comes to aesthetic or technical factors. Functionality characterizes these automobiles whose timeless lines underscore the understatement trend while perfected technology - in driving performance, comfort and safety - fulfills far more than the minimum legal requirements. These are true BMWs in their imposing yet effortless handling, always available performance and convincing driving cultivation. More favorable consumption values were achieved for these models as well, averaging 10.3 % below the figures for models from the previous year.

With engine outputs of 136 kW/184 hp (628 CSi), or even 145 kW/197 hp and 160 kW/218 hp (633 and 635 CSi), there are no acceleration problems, just as there can be no deceleration problems thanks to double, dualcircuit brakes with servo and vented discs, front and rear. Servo steering works precisely while its boost feature thinks with you. It is keyed to engine revs and thus stronger when driving slowly or parking, less obvious at high speeds when one wants full contact with the road surface. Engine, transmission and chassis are technologically up to the level of the latest knowledge from science and research. The body is laid out for passenger safety with rigid passenger cell, roll-over bar, crush zones using programmed buckling points, and front hood catches. The trunk with a volume of 413 l (14.6 ft.<sup>3</sup>) is unusually large for a coupé.



The heat-resistant glass in all windows comes in a standard light bronze tone. Also standard are covered automatic belts front and rear, four integrated headrests and ergonomically arranged dials as well as operational levers. Night lighting is by an orange-colored floodlight, making driving then a pleasure. A touch on the button suffices for the onboard computer to immediately provide the whole picture: on brake fluid level, engine oil level, level in the radiator and washer bottle, brake pad wear and condition of brake and tail lights.

All coupés are fitted with standard leather upholstery, velour carpets, electric window lifts in front and a central locking system. The 635 CSi is optionally available, at no extra charge, with Recaro sport seats. As the most sporting car in this lineup, it enjoys the aerodynamic aid of front and rear spoilers which reduce uplift considerably for such a fast automobile.

All models can be delivered with an automatic gearbox if desired.

New

Standard

- Outside driving mirror with heat (all models)
- Belt latch on seat (all models)
- Digital clock (all models)
- Digital engine electronics (633 CSi)

Special equipment

- |                                   |                      |
|-----------------------------------|----------------------|
| - Five-speed gearbox (economy)    | all models           |
| - Automatic speed control         | all automatic models |
| - Heated front seats (all models) |                      |



**The 7-Series**  
(Model year 1980)

BMW 728i

BMW 732i

BMW 735i

Models in the large class, the BMW 728i, 732i and 735i, received decisive further development - to become the cars of the eighties. Demands for active and passive safety, environmental compatibility, low noise, operational comfort and effortless handling, along with up-to-date energy conservation, have already been fulfilled to a great degree. The general use of injected engines allows an even wider performance band with considerably lower consumption. This demonstrates technical progress via optimal fuel utilization. Digital engine electronics, offered only with the 732i for the time being, should be pointed out. BMW is the first manufacturer to make this a standard feature. (See also the chapter on Digital Engine Electronics.) This 7-series for the model year 1980 uses 7.4 % less fuel than its predecessors.

The chassis - always "faster" than the engine at BMW - uses a modern, two-joint, spring leg front axle. Through the ingenious application of a second ball joint an imaginary pivot was created which gives a new type of steering kinematics for a car of this size and concept. This further increases driving behaviour and comfort quite noticeably, even - or particularly - over poor roads. Equally attuned is the angled trailing arm and spring leg rear axle as well as the diagonal, dual-circuit brake system with hydraulic boost and four disc brakes (fronts inner vented).



The three high performance variations on the six-cylinder engine used here have the following data: 135 kW/184 hp for the 728i, 145 kW/197 hp for the 732i and 160 kW/218 hp for the 735i (all with L-Jetronic injection and transistorized ignition).

Cockpit design, in consequent accord with ergonomic knowledge, won't wear down a driver with unnecessary puzzles. All operating elements favor a natural seating position, no matter what the driver's build, since both driving seat and steering wheel can be adjusted to any anatomy. Operational elements and control instruments are identified by international symbols. Covered automatic belts (front and rear), headrests, and interior upholstery all meet highest demands for passenger safety. As in the coupé, there is naturally a check-control unit.

The standard equipment for all three models includes heated rear and front door panels, integrated roll-over bar, electronic speedometer, rev counter and 85 l. (22.4 gal.) tank, as well as cavity sealing and underbody protection, built-in ease of service and repair, first aid kit placed in the central armrest, electrically adjustable outside mirror (also optional for the codriver side), provision for a telephone, door reflectors and tinted glass all around to complete the offering.

When it comes to the equipment sector, a five-speed gearbox which reduces revolutions by 20 % to make driving even more comfortable with less noise and greater consumption economy, is standard on the 735i, optional on the other models. This is laid out in the customary shift pattern with fifth gear right and forward in a separate plane. Furthermore, an onboard computer which makes programming and recall of 12 different functions possible is available as special equipment.



For instance, it can calculate precise, instantaneous fuel consumption, average consumption and remaining range on available fuel. Thus one can drive with constant awareness of consumption while planning a fuel stop in good time.

Many other useful equipment details (optional for the time being) are also offered on new models for the large class. For instance, there are a heated outside mirror or driver's door lock, digital clock with automatic brightness regulation, an automatic climate control unit and even a theft warning system.

Almost unchanged outwardly, this new generation of large, six-cylinder BMW models embraces a considerable range of technically advanced, up-to-date and pacesetting development elements.

All models are optionally available with automatic gearbox.



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**BMW 745 i**

(Model year 1980 - available in the spring of 1980)

The market demand for a combination of space and comfort within the 7-series range plus the driving performance of the ever-popular BMW 3.0 Si was met by development of the BMW 745i.

Following extensive studies, BMW decided on the power plant concept of a turbocharged engine which combines lower consumption and low weight with reduced emission of pollutants, justifiable cost and good noise damping in an optimum manner.

The characteristics of this power plant with intercooling, ambient air valve and bypass control represent the latest level of technology and demonstrate the goal of BMW development work: no more capacity, not more than six cylinders which would only mean higher weight, but rather future-oriented technology.

Full blower pressure, already available at 2500 rpm, leads to performance and torque characteristics which could only be realized otherwise in an atmospheric-induction engine of at least 4.5 liter capacity.

However, the BMW 745i not only sets new standards in the engine sector. Standard equipment, including choice of manual or automatic gearbox, hydro-pneumatic self-leveling for the rear axle, anti-block brake system (ABS) and onboard computer, leave few technical peers on the international luxury sedan market.

In short: Outstanding power reserves with no losses, not even in the automatic version, a chassis providing exceptional safety as well as comfort in a vehicle with economy on the same level, plus control and information bases on the most modern electronics and computer technology.



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## BMW M1

The BMW M1 was planned and laid out for motor racing. An everyday road car was developed from a race car.

The BMW M1 was designed from the ground up for the tough conditions of motor racing. It can do far more than will ever be demanded of a road car; more in the realms of safety, chassis dynamics and aerodynamics. Its true limits lie in the racing realm, not in everyday use. They were set by the 850 hp of the competition car, not by the 277 of a production engine. With the M1 BMW engineers have achieved a goal they set for themselves, a most impressive one: a chassis which is "faster" than its engine output.

If the word "optimization" is justified at all in the context of today's automotive technology, it is particularly apt for the concept and development of the M1 power plant. This 6-cylinder, inline engine offers the ideal basis for a high performance power plant since it is free of unbalanced forces as well as 1st- and 2nd-order couples. Design of the 4-valve, cross flow cylinder head required considerable time and involved test runs. BMW engineers experimented with the combustion chambers for 12 years.

It is no exaggeration to speak in terms of a new peak in BMW engine development, alone for the sheer technical fascination this 6-cylinder engine generates. Its range of capabilities extends, depending on intended purpose, from 204 kW (277 hp) in the standard version, through 470 hp in the "tame" racing version (Group 4), to the all-conquering 850 hp Turbo version for the Group 5 M1 which will compete in the Special Production Car category of the World Championship for Makes.



The most intriguing fact about this engine is that, with appropriate modifications, it meets all legal requirements for road use as well as the demands for maximum output. To handle the lateral cornering forces made possible by the M1's chassis without engine damage, dry sump lubrication was fitted. Regardless of extreme g forces generated in curves, under braking, or when accelerating, this always supplies the necessary oil quantity.

A fully-electronic Marelli ignition system with contactless regulation from the flywheel, ensures proper sparks.

Engine power is turned into motion by a sporting five-speed gearbox which is mounted longitudinally, like the engine.

Gearbox and final drive form a transaxle unit, flanged behind the engine. The limited slip differential offers 40% lockup.

The BMW M1 chassis was conceived from the first to meet far tougher requirements than any previous, conventional sport car faced.

The favorable balance of axle forces obligatory in modern race cars and the very low center of gravity (460 mm or 1.8") necessary for racing, set forth additional optimum physical and dynamic conditions. The chassis of a road-going M1 is identical to that of a Group 4 version apart from more comfortable mounting of moving parts and corresponding spring/shock absorber settings. Suspension front and rear is by lateral links, as is normal in race car design. Dual lateral links, light alloy wheel carriers, Bilstein gas-pressure shock absorbers and concentric height-adjustable coil springs as well as anti-roll bars ensure road contact for the generously dimensioned Pirelli P7 tires (205/55 VR 16 in front, 225/50 VR 16 in back).



Generously dimensioned, internally ventilated, fixed-caliper disc brakes (ATE) with automatic adjustment are used front and rear. Dimensions of the dual-circuit brake system with brake boost and pressure limiter for the rear wheels, guarantees absolute directional stability, even under extreme braking.

The M1 has a frame of high-quality, box-section steel tubing, offering extreme resistance to torsional or bending moments. Energy-absorbing components for the car's frontsection were developed via thorough crash testing. The passive safety of this BMW M1 meets the elevated safety requirements of racing. In conjunction with a fiberglass body bonded and riveted to the frame as well as an integrated roll bar and structural carriers in the A- and C-pillars and the roof area, this gives a safety cell which is rigid in all dimensions.

As is the case with BMW production cars, an ergonomically optimum cockpit has been provided for the driver, featuring easy operation of all controls plus immediate reading of both controls and information elements.



**SPECIFICATIONS: BMW M1 - PRODUCTION VERSION**

<b>Engine</b>	Water-cooled 6-cylinder inline, 4 valves per cylinder, twin overhead camshafts with duplex roller-chain drive; mounted midship
<b>Displacement, cc/cu in.</b>	3453/211
<b>Bore, mm/in.</b>	93.4/3.71
<b>Stroke, mm/in.</b>	84.0/3.31
<b>Power at rpm, bhp DIN</b>	277 at 6500
<b>kW</b>	204 at 6500
<b>Torque at rpm, lb-ft</b>	239 at 5000
<b>Nm</b>	330 at 5000
<b>Maximum engine speed, rpm</b>	7000
<b>Mean piston speed at maximum power, m/sec / ft/sec</b>	17.4/57.1
<b>Compression ratio</b>	9.0:1
<b>Fuel delivery system</b>	Kugelfischer-Bosch mechanical fuel injection; 3 double intake pipes with 6 throttles, 46-mm diameter each
<b>Fuel octane rating required</b>	98 RON
<b>Fuel-tank capacity, 1/Imp. gal.</b>	2 x 58 = 116 / 22.5
<b>Lubrication</b>	full pressure with dry sump; triple suction pump at crankcase, pressure pump in oil reservoir

**ELECTRICAL SYSTEM**

<b>Battery</b>	12V/55 Ah
<b>Generator</b>	alternator 14V/65A
<b>Ignition</b>	contactless fully electronic digital, Magneti-Marelli; flywheel-determined timing
<b>Sparkplugs</b>	Bosch X 4 CS



## CHASSIS

Frame	separate steel with fiberglass body	
Front suspension	unequal-length lateral A-arms, light alloy wheel carriers	
Rear suspension	unequal-length lateral A-arms, light alloy wheel carriers	
Shock absorbers/springs	Bilstein gas-filled/ concentric coils, adjustable for height	
Anti-roll bars	front	23-mm
	rear	19-mm
Brakes	internally ventilated fixed- caliper; dual hydraulic circuits, booster, pressure limiter for rear wheels	
Disc diameter, mm/in.	front	300/11.8
	rear	297/11.7
Disc thickness, mm/in.	front	32/1.26
	rear	26/1.02
Effective pad area, cm <sup>2</sup> /in. <sup>2</sup>	front	96/14.9 per wheel
	rear	69/10.7 per wheel
Handbrake	mechanically actuated separate calipers on rear discs	
Steering	rack & pinion; axially adjustable two-joint column	
Wheels	cast light alloy, front 7 x 16 in. rear 8 x 16 in. flat form for low aerodynamic drag	
Tires	Pirelli P7, front 205/55VR-16 rear 225/50VR-16	



# POWER TRANSMISSION

Clutch	F & S hydraulically actuated 2-disc, dry	
Gearbox	ZF 5-speed manual with inte- grated final drive	
Ratios	1st gear	2.42
	2nd	1.61
	3rd	1.14
	4th	0.846
	5th	0.704
	reserve	2.86
Final drive ratio		4.22
Differential	limited slip, 40%	

# DIMENSIONS, mm/in.

Wheelbase	2560/100.8
Track, front	1550/61.0
rear	1576/62.0
Length	4360/171.7
Width	1824/71.8
Height, unloaded	1140/44.9
Ground clearance, load	125/4.9
Turning circle, m/ft	13/42.7



BMW AG



## **BMW's Digital Motor Electronics**

### **Trail-blazing engine technology**

in the BMW 732 i and 633 CSi

For all its six-cylinder engines, BMW makes use of non-contact transistor ignition. As with so many other measures, this is employed, inter alia, to follow the trend of making engines ever more economical in terms of consumption. By the use of this type of ignition, a higher performance is achieved with a reduction in fuel consumption of about 5%.

Transistor ignition works with two linear functions. By means of centrifugal control and vacuum control, it was possible to arrive at a good compromise as regards the ignition timing adjustment, but optimal adjustment to the actual operational state of the motor was not yet possible. Microelectronics have solved this problem as well. BMW engineers developed digital motor electronics.

#### The Concept

'Digital motor electronics' means a microcomputer, i.e. an integrated electronic system for the control of the firing angle as well as of the quantity of fuel for driving an internal combustion engine. A microcomputer is the core of the ignition and it constitutes a fixed-programme minicomputer.

Digital motor electronics control both the ignition as well as the injection of the L-Jetronic. By means of ignition timing control, the optimal adjustment is achieved of:

- a) performance
- b) consumption and thus efficiency
- c) the composition of the exhaust gases
- d) driving behaviour.



### Design and Method of Operation

To control the ignition timing, closing angle, and injection timing or fuel quantity, electrical, electromechanical or electromagnetic impulses are scanned by suitable sensors in every possible operating phase, and are then fed into the control device. There a microcomputer processes the data, and takes into account the air pressure and the outside temperature as well.

The ignition performance graph, by means of which the computer is programmed, is divided into load points and revolutions per minute. By multiplying these points (16 x 16), 256 memory locations are obtained. Each of these memory locations can be filled with an individual ignition time.

Due to the enormous speed of computation, at every revolution a new calculation and sensing can take place, so that the optimal ignition timing is always maintained.

### Advantages of Digital Motor Electronics

Nowadays engines are adjusted for average driving conditions over long periods--and this applies to servicing as well. Due to the varying driving conditions--starting from cold, heavy traffic in the cities--and to the varying temperatures, an auto cannot attain automatically the most favourable emission and consumption values. But electronic control of the ignition and fuel supply can adapt these factors to the current conditions on a continuous basis. The direct consequences are fewer pollutants in the exhaust gas and a lower consumption of fuel.



Since with this type of ignition there are no mechanically-operated components in use, the system can be regarded as almost proof against wear and tear. It is not even necessary to service the installation, since the ignition timing is programmed to remain unchanged throughout the entire life of the engine, and cannot maladjust itself.

#### Safety, Cleanliness and Economy due to Electronics

In the past decade the demands made on the automobile have basically altered, and have made the application of new technology essential. The important demands made on the auto of today are: safety, cleanliness and economy. These demands compelled the application of electronics in the automobile for the control and regulation of mixture and of ignition. As a result of the rapidly advancing technology in the field of semi-conductors and of sensors, electronics will certainly take over further technically and economically important functions in the auto.



BMW AG



## TECHNICAL DATA

	BMW 316	BMW 318	BMW 320	BMW 323 i
<u>ENGINE</u>				
Type	4-cylinder, inline engine, water-cooled	4-cylinder, inline engine, water-cooled	6-cylinder, inline engine, water-cooled	6-cylinder, inline engine, water-cooled
Capacity (cc./in. <sup>3</sup> ) effective	1573/96.0	1766/107.7	1990/121.4	2315/141.2
Stroke (mm/in.)	71/2.80	71/2.80	66/2.60	76.8/3.03
Bore (mm/in.)	84/3.31	89/3.51	80/3.15	80/3.15
Performance at 1/min. kW DIN hp	66/6000 90/6000	72/5800 98/5800	90/6000 122/6000	105/5800 143/5800
Torque at 1/min. (mkp) (lb.-ft.) (Nm)	12.5/4000 90.4/4000 123/4000	14.5/4000 104.9/4000 142/4000	16.3/4000 117.9/4000 160/4000	19.4/4500 140.3/4500 190/4500
Compression ratio Mixture preparation	8.3 : 1 Carburetor	8.3 : 1 Carburetor	9.2 : 1 Carburetor	9.5 : 1 Injection
Maker	Solex down- draft compound carburetor	Solex down- draft compound carburetor	Solex down- draft compound carburetor	Bosch
Type	DIDTA 32/32	DIDTA 32/32	4 A 1 with TN Starter	K-Jetronic
Fuel inquired	Normal	Normal	Super	Super
<u>POWER TRAIN</u>				
Clutch	F+S single- plate, dry diaphragm spring clutch with torsional vibration damper and automatic adjustment	F+S single- plate, dry diaphragm spring clutch with torsional vibration damper and automatic adjustment	F+S single- plate, dry diaphragm spring clutch with torsional vibration damper an automatic adjustment	F+S single- plate, dry diaphragm spring clutch with torsional vibration damper and automatic adjustment



	BMW 316	BMW 318	BMW 320	BMW 323 i
Gearbox	4-speed Getrag with Borg Warner synchronization	4-speed Getrag with Borg Warner synchronization	4-speed Getrag with Borg Warner synchronization	4-speed Getrag with Borg Warner synchronization
Ratios				
1st gear	3.764 : 1	3.764 : 1	3.764 : 1	3.764 : 1
2nd gear	2.043 : 1	2.043 : 1	2.043 : 1	2.043 : 1
3rd gear	1.320 : 1	1.320 : 1	1.320 : 1	1.320 : 1
4th gear	1.000 : 1	1.000 : 1	1.000 : 1	1.000 : 1
Reverse	4.096 : 1	4.096 : 1	4.096 : 1	4.096 : 1
Automatic 3-speed gearbox		ZF 3 HP 22	ZF 3 HP 22	ZF 3 HP 22
Ratios				
1st gear		2.478 : 1	2.478 : 1	2.478 : 1
2nd gear		1.478 : 1	1.478 : 1	1.478 : 1
3rd gear		1.000 : 1	1.000 : 1	1.000 : 1
Reverse		2.090 : 1	2.090 : 1	2.090 : 1
Rear axle ratio	4.10 : 1	4.10 : 1	3.64 : 1	3.45 : 1
Special option	ZF multi-plate limited slip differential Approx. 25 % lockup	ZF multi-plate limited slip differential Approx. 25 % lockup	ZF multi-plate limited slip differential Approx. 25 % lockup	ZF multi-plate limited slip differential Approx. 25 % lockup

## WHEEL SUSPENSION

Front	Independent with large caster angle, small caster offset and offset in wheel center; spring leg with coil and supplementary springs	Independent with large caster angle, small caster offset and offset in wheel center; spring leg with coil and supplementary springs	Independent with large caster angle, small caster offset and offset in wheel center; spring leg with coil and supplementary springs	Independent with large caster angle, small caster offset and offset in wheel center; spring leg with coil and supplementary springs
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## BMW 316

Lateral force compensation via offset and angled coil springs; torsion bar stabilizer doubles as tension strut

## BMW 318

Lateral force compensation via offset and angled coil springs; torsion bar stabilizer doubles as tension strut

## BMW 320

Lateral force compensation via offset and angled coil springs; torsion bar stabilizer doubles as tension strut

## BMW 323 i

Lateral force compensation via offset and angled coil springs; torsion bar stabilizer doubles as tension strut  
  
Hydraulic supplementary damper on tension stroke, in direction of tension, to reduce roll tendency and increase body damping

Track (mm/in.)  
(at permitted axle load)

Rear

1 366/53.8  
with 5" rim width

Independent, rear axle carrier/gear-box unit with vibration-isolated three-point suspension, rubber-bushed angled trailing arms, spring legs with coil and supplementary springs, swing bracket on differential, anti-dive brake compensation

1 366/53.8  
with 5" rim width

Independent, rear axle carrier/gear-box unit with vibration-isolated three-point suspension, rubber-bushed angled trailing arms, spring legs with coil and supplementary springs, swing bracket on differential, anti-dive brake compensation

1 387/54.7  
with 5 1/2" rim width

Independent, rear axle carrier/gear-box unit with vibration-isolated three-point suspension, rubber-bushed angled trailing arms, spring legs with coil and supplementary springs, swing bracket on differential, anti-dive brake compensation

Stabilizer

1 388/54.7  
with 5 1/2" rim width

Independent, rear axle carrier/gear-box unit with vibration-isolated three-point suspension, rubber-bushed angled trailing arms, spring legs with coil and supplementary springs, swing bracket on differential, anti-dive brake compensation

Stabilizer

Track (mm/in.)  
(at permitted axle load)

1 373/54.1  
with 5" rim width

1 373/54.1  
with 5" rim width

1 396/55.0  
with 5 1/2" rim width

1 401/55.2  
with 5 1/2" rim width

Spring travel

Front (mm/in.)  
Rear (mm/in.)

192/7.6  
208/8.2

192/7.6  
208/8.2

192/7.6  
208/8.2

192/7.6  
208/8.2



	BMW 316	BMW 318	BMW 320	BMW 323 i
<u>STEERING</u>				
	ZF rack and pinion	ZF rack and pinion	ZF rack and pinion	ZF rack and pinion
Overall ratio	21.1 : 1	21.1: 1	21.1 : 1	21.1 : 1
Steering wheel turns = stroke (mm/in.)	1 = 38/1.5	1 = 38/1.5	1 = 38/1.5	1 = 38/1.5
Total wheel turns = stroke (mm/in.)	4.05 = 154/6.1	4.05 = 154/6.1	4.05 = 154/6.1	4.05 = 154/6.1
Steering wheel diameter (mm/in.)	380/15	380/15	380/15	380/15
<u>RIMS</u>				
Width-"Diameter"	5 J x 13	5 J x 13	5 1/2 J x 13	5 1/2 J x 13
<u>TIRES</u>				
	Steel radial 165 SR - 13	Steel radial 165 SR - 13	Steel radial 185/70 HR 13	Steel radial 185/70 HR 13
<u>BRAKE SYSTEM</u>				
	2-circuit brake system with servo and pressure reduction Circuit 1 for front wheels Circuit 2 for rear wheels	2-circuit brake system with servo pressure reduction Circuit 1 for front wheels Circuit 2 for rear wheels	2-circuit brake system with servo pressure reduction Circuit 1 for front wheels Circuit 2 for rear wheels	2-circuit brake system with servo and pressure reduction Circuit 1 for front wheels Circuit 2 for rear wheels
Front	2-piston, fixed-saddle, disc brakes Unvented	2-piston, fixed-saddle, disc brakes Unvented	2-piston, fixed-saddle, disc brakes Unvented	2-piston, fixed-saddle, disc brakes Inner-vented
Disc diameter (mm/in.)	255/10.1	255/10.1	255/10.1	255/10.1
Disc thickness (mm/in.)	12.7/0.5	12.7/0.5	12.7/0.5	22/0.9
Effective pad area per wheel (cm <sup>2</sup> /in. <sup>2</sup> )	2x38/5/6	2x38.5/6	2x38.5/6	2x38.5/6



	BMW 316	BMW 318	BMW 320	BMW 323 i
Rear	Drum brakes with Simplex shoes	Drum brakes with Simplex shoes	Drum brakes with Simplex shoes	Disc brakes Unvented
Brake drum/disc diameter (mm/in.)	250/9.9	250/9.9	250/9.9	258/10.2

## ELECTRIC SYSTEM

Generator	Alternator	Alternator	Alternator	Alternator
Generator output (W)	630	630	910	910
Battery capacity	12 V/36 Ah	12 V/36 Ah	12 V/44 Ah	12 V/55 Ah
Headlights	Two-headlight system Halogen H4 50/55	Two-headlight system Halogen H4 50/55	4-headlight system Halogen H 1 55	4-headlight system Halogen H 1 55
Rear lights				
right	4-chamber lights	4-chamber lights	4-chamber lights	4-chamber lights
left	5-chamber lights with rear fog light	5-chamber lights with rear fog light	5-chamber lights with rear fog light	5-chamber lights with rear fog light
Trunk lighting	Indirect	Indirect	Indirect	Indirect
Heated rear window	Standard	Standard	Standard	Standard
Option	Headlight cleaning system	Headlight cleaning system	Headlight cleaning system	Headlight cleaning system

## BODYWORK

All-steel, unitary body, exceptionally rigid passenger cell with very solid pillar cross sections and roll-over bar in the middle. Enlarged crush zones with programmed buckling points front and rear	All-steel, unitary body, exceptionally rigid passenger cell with very solid pillar cross sections and roll-over bar in the middle. Enlarged crush zones with programmed buckling points front and rear	All-steel, unitary body, exceptionally rigid passenger cell with very solid pillar cross sections and roll-over bar in the middle. Enlarged crush zones with programmed buckling points front and rear	All-steel, unitary body, exceptionally rigid passenger cell with very solid pillar cross sections and roll-over bar in the middle. Enlarged crush zones with programmed buckling points front and rear
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## BMW 316

## BMW 318

## BMW 320

## BMW 323 i

Cavity sealing with underbody protection  
Hood with programmed buckling points  
Catch hook for improved hood fastening  
2-stage safety lock

Cavity sealing with underbody protection  
Hood with programmed buckling points  
Catch hook for improved hood fastening  
2-stage safety lock

Cavity sealing with underbody protection  
Hood with programmed buckling points  
Catch hook for improved hood fastening  
2-stage safety lock

Cavity sealing with underbody protection  
Hood with programmed buckling points  
Catch hook for improved hood fastening  
2-stage safety lock

WINDOWS

## ● Front

two, fully-disappearing windup windows of single-plate safety glass

two, fully-disappearing windup windows of single-plate safety glass

two, fully-disappearing windup windows of single-plate safety glass

two, fully-disappearing windup windows of single-plate safety glass

## Rear

Optional: pivoting windows

Optional: pivoting windows

Optional: pivoting windows

Optional: pivoting windows

## Front

Laminated

Laminated

Laminated

Laminated

## Rear

Single-plate, tempered safety glass. Heated rear pane

Single-plate, tempered safety glass. Heated rear pane

Single-plate, tempered safety glass. Heated rear pane

Single-plate, tempered safety glass. Heated rear pane

SEATS

## ● Front

two individual seats with recliner hardware for infinite rake adjustment  
3-point, automatic belts  
Height-adjustable headrests

two individual seats with recliner hardware for infinite rake adjustment  
3-point, automatic belts  
Height-adjustable headrests

two individual seats with recliner hardware for infinite rake adjustment  
3-point, automatic belts  
Height-adjustable headrests

two individual seats with recliner hardware for infinite rake adjustment  
3-point, automatic belts  
Height-adjustable headrests



	BMW 316	BMW 318	BMW 320	BMW 323 i
Rear	3-man bench 3-point, auto- matic belts outside, lap belt in middle	3-man bench 3-point, auto- matic belts outside, lap belt in middle	3-man bench 3-point, auto- matic belts outside, lap belt in middle	3-man bench 3-point, auto- matic belts outside, lap belt in middle

## MEASUREMENTS

Door width (mm/in.)	1015/40 (inner)	1015/40 (inner)	1015/40 (inner)	1015/40 (inner)
Shoulder width front (mm/in.) rear (mm/in.)	1315/51.8 1300/51.2	1315/51.8 1300/51.2	1315/51.8 1300/51.2	1315/51.8 1300/51.2
Fuel tank	Located ahead of rear axle, under rear seat for safety Filler on right side	Located ahead of rear axle, under rear seat for safety Filler on right side	Located ahead of rear axle, under rear seat for safety Filler on right side	Located ahead of rear axle, under rear seat for safety Filler on right side
Fuel capacity incl. reserve (l./gal.)	58/15.3 (7/1.9 res.)	58/15.3 (7/1.9 res.)	58/15.3 (7/1.9 res.)	58/15.3 (7/1.9 res.)
Trunk capacity (l./ft. <sup>3</sup> )	460/16.24 absolute, 404/14.3 by VDA and ADAC cube method	460/16.24 absolute, 404/14.3 by VDA and ADAC cube method	460/16.24 absolute, 404/14.3 by VDA and ADAC cube method	460/16.24 absolute, 404/14.3 by VDA and ADAC cube method

## HEATING - VENTILATION

Heater with water-side regulation, 4-blade radial fan, maximum airflow: 11 kg/24.3 lb. per min.	Heater with water side regulation 4-blade radial fan, maximum airflow: 11 kg/24.3 lb. per min.	Heater with water-side regulation, 4-blade radial fan, maximum airflow: 11 kg/24.3 lb. per min.	Heater with water-side regulation, 4-blade radial fan, maximum airflow: 11 kg/24.3 lb. per min.
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	BMW 316	BMW 318	BMW 320	BMW 323 i
Warm air distribution	2 warm air vents in foot wells, 3 vents for front pane defrosting and 2 side pane defroster jets integrated in side grills	2 warm air vents in foot wells, 3 vents for front pane defrosting and 2 side pane defroster jets integrated in side grills	2 warm air vents in foot wells, 3 vents for front pane defrosting and 2 side pane defroster jets integrated in side grills	2 warm air vents in foot wells, 3 vents for front pane defrosting and 2 side pane defroster jets integrated in side grills
Fresh air distribution	Draftless summer ventilation, separately adjustable, left and right with outlets in the central dash, on the sides and in front panel	Draftless summer ventilation, separately adjustable, left and right with outlets in the central dash, on the sides and in front panel	Draftless summer ventilation, separately adjustable, left and right with outlets in the central dash, on the sides and in front panel	Draftless summer ventilation, separately adjustable, left and right with outlets in the central dash, on the sides and in front panel

BMW AG



## BMW 316

## BMW 318

## BMW 320

## BMW 323 i

DIMENSIONS

Length (mm/in.)		4355/171.6	4355/171.6	4355/171.6	4355/171.6
Width (mm/in.)		1610/63.4	1610/63.4	1610/63.4	1610/63.4
Height (mm/in.)		1380/54.4	1380/54.4	1380/54.4	1380/54.4
Wheelbase (mm/in.)		2563/101	2563/101	2563/101	2563/101
Track (mm/in.)					
At permitted axle loading					
Front		1366/53.8	1366/53.8	1387/54.7	1388/54.7
Rear		1373/54.1	1373/54.1	1396/55.0	1401/55.2
Turning circle					
wheels (m/ft.)	l.	9.4/30.8	9.4/30.8	9.4/30.8	9.4/30.8
	r.	9.6/31.5	9.6/31.5	9.6/31.5	9.6/31.5
Turning circle					
walls (m/ft.)	l.	10.2/33.5	10.2/33.5	10.2/33.5	10.2/33.5
	r.	10.4/34.1	10.4/34.1	10.4/34.1	10.4/34.1
Empty weight (kg/lb.)		1020/2249	1020/2249	1115/2459	1135/2503
Load (kg/lb.)		420/926	420/926	435/959	435/959
Trailer weight with					
brakes (kg/lb.)					
12 % grade		1200/2646	1200/2646	1200/2646	1200/2646
			(A 1000/2205)	(A 1200/2646)	(A 1200/2646)
without brakes (kg/lb.)		500/1103	500/1103	500/1103	500/1103
Permitted roof					
load (kg/lb.)		75/165	75/165	75/165	75/165
Top speed					
(km/h-mpg)		160/99	165/103	181/113	190/118
Acceleration (s.)					
0-100 km/h (62 mph)		13.8	11.9	10.7	9.5
Fuel consumption					
ECE-A (70) l./100/mpg					
90 km/h (56 mph)		7.4/31.8	7.2/32.6	7.5/31.3	7.7/30.5
120 km/h (75 mph)		10.1/23.3	9.7/24.2	10.1/23.3	10.5/22.4
City cycle		11.1/21.2	11.9/19.8	13.0/18.1	14.3/16.4



## BMW 518

## BMW 520

## BMW 525

## BMW 528 i

ENGINE

Type	4-cylinder, inline engine, water-cooled	6-cylinder, inline engine, water-cooled	6-cylinder, inline engine, water-cooled	6-cylinder, inline engine, water-cooled
Capacity (cc./in. <sup>3</sup> )	1766/107.7	1990/121.4	2494/152.1	2788/ 170.1
Stroke (mm/in.)	71/2.80	66/2.60	71.6/2.82	80/3.15
Bore (mm/in.)	89/3.51	80/3.15	86/3.39	86/3.39
Performance at 1/min. kW DIN hp	66/5800 90/5800	90/6000 122/6000	110/5800 150/5800	135/5800 184/5800
● Torque at 1/min. (mkp) (lb.-ft.) (Nm)	14.3/3700 103.4/3700 140/3700	16.3/4000 117.9/4000 160/4000	21.2/4000 153.3/4000 208/4000	24.5/4200 177.2/4200 240/4200
Compression ratio	8.3	9.2	9.0	9.3
Mixture preparation	1 downdraft compound carburetor	1 downdraft compound carburetor	1 downdraft compound carburetor with TN starter	Injection
Make	Solex	Solex	Solex	Bosch
Type	DIDTA 32/32	4 A 1	4 A 1	L-Jetronic
Fuel required	Normal	Super	Super	Super

POWER TRAIN

● Clutch	Hydraulically- actuated, single-plate, dry clutch with torsional vibration damper	Hydraulically- actuated, single-plate, dry clutch with torsional vibration damper	Hydraulically- actuated, single-plate, dry clutch with torsional vibration damper	Hydraulically- actuated, single-plate, dry clutch with torsional vibration damper
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BMW 518

BMW 520

BMW 525

BMW 528 i

ENGINE

Type	4-cylinder, inline engine, water-cooled	6-cylinder, inline engine, water-cooled	6-cylinder, inline engine, water-cooled	6-cylinder, inline engine, water-cooled
Capacity (cc./in. <sup>3</sup> )	1766/107.7	1990/121.4	2494/152.1	2788/ 170.1
Stroke (mm/in.)	71/2.80	66/2.60	71.6/2.82	80/3.15
Bore (mm/in.)	89/3.51	80/3.15	86/3.39	86/3.39
Performance at 1/min. kW DIN hp	66/5800 90/5800	90/6000 122/6000	110/5800 150/5800	135/5800 184/5800
● Torque at 1/min. (mkp) (lb.-ft.) (Nm)	14.3/3700 103.4/3700 140/3700	16.3/4000 117.9/4000 160/4000	21.2/4000 153.3/4000 208/4000	24.5/4200 177.2/4200 240/4200
Compression ratio	8.3	9.2	9.0	9.3
Mixture preparation	1 downdraft compound carburetor	1 downdraft compound carburetor	1 downdraft compound carburetor with TN starter	Injection
Make	Solex	Solex	Solex	Bosch
Type	DIDTA 32/32	4 A 1	4 A 1	L-Jetronic
Fuel required	Normal	Super	Super	Super

POWER TRAIN

Clutch	Hydraulically- actuated, single-plate, dry clutch with torsional vibration damper	Hydraulically- actuated, single-plate, dry clutch with torsional vibration damper	Hydraulically- actuated, single-plate, dry clutch with torsional vibration damper	Hydraulically- actuated, single-plate, dry clutch with torsional vibration damper
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	BMW 518	BMW 520	BMW 525	BMW 528 i
Gearbox	4-speed with locking synchronization	4-speed with locking synchronization	4-speed with locking synchronization	4-speed with locking synchronization
Ratios				
1st gear	3.764 : 1	3.764 : 1	3.855 : 1	3.855 : 1
2nd gear	2.043 : 1	2.043 : 1	2.203 : 1	2.203 : 1
3rd gear	1.320 : 1	1.320 : 1	1.402 : 1	1.402 : 1
4th gear	1.000 : 1	1.000 : 1	1.000 : 1	1.000 : 1
Reverse	4.096 : 1	4.096 : 1	4.300 : 1	4.300 : 1
Rear axle ratio	4.27 : 1	3.90 : 1	3.64 : 1	3.45 : 1
Special option	Automatic gearbox ZF-3 HP 22	Automatic gearbox ZF-3 HP 22	Automatic gearbox ZF-3 HP 22	Automatic gearbox ZF-3 HP 22

#### WHEEL SUSPENSION

Front	Independent with large caster angle, small caster offset and offset in wheel center; spring leg with coil and supplementary springs  Lateral force compensation via offset and angled coil springs; torsion bar stabilizer	Independent with large caster angle, small caster offset and offset in wheel center; spring leg with coil and supplementary springs  Lateral force compensation via offset and angled coil springs; torsion bar stabilizer	Independent with large caster angle, small caster offset and offset in wheel center; spring leg with coil and supplementary springs  Lateral force compensation via offset and angled coil springs; torsion bar stabilizer	Independent with large caster angle, small caster offset and offset in wheel center; spring leg with coil and supplementary springs  Lateral force compensation via offset and angled coil springs; torsion bar stabilizer
Rear	Independent, rear axle carrier/gear-box unit with vibration-isolated	Independent, rear axle carrier/gear-box unit with vibration-isolated	Independent, rear axle carrier/gear-box unit with vibration-isolated	Independent, rear axle carrier/gear-box unit with vibration-isolated



## BMW 518

## BMW 520

## BMW 525

## BMW 528 i

three-point suspension, rubber-bushed, angled trailing arms, spring legs with coil and supplementary springs, swing bracket on differential, anti-dive brake compensation

three-point suspension, rubber-bushed, angled-trailing arms, spring legs with coil and supplementary springs, swing bracket on differential, anti-dive brake compensation

three-point suspension, rubber-bushed, angled trailing arms, spring legs with coil and supplementary springs, swing bracket on differential, anti-dive brake compensation  
Stabilizer

three-point suspension, rubber-bushed, angled trailing arms, spring legs with coil and supplementary springs, swing bracket on differential, anti-dive brake compensation  
Stabilizer

Spring travel  
Front (mm/in.)  
Rear (mm/in.)

200/7.88  
200/7.88

200/7.88  
200/7.88

200/7.88  
200/7.88

200/7.88  
200/7.88

Torsion bar  
Stabilizer (Std.)  
Front  
Rear

x

x

x

x

x

x

STEERING

ZF worm and roller, three-piece tie rod, steering box behind front axle

ZF worm and roller, three-piece tie rod, steering box behind front axle

ZF worm and roller, three-piece tie rod, steering box behind front axle

ZF recirculating ball power steering

Box ratio

16.4 : 1

16.4 : 1

19.1 : 1

14.5 : 1

Overall ratio

19.1 : 1

19.1 : 1

22.3 : 1

16.9 : 1

Steering column adjustment

Optional longitudinal

Optional longitudinal

Longitudinal adjustment

Longitudinal adjustment

Steering wheel diameter (mm/in.)

400/15.8

400/15.8

400/15.8

400/15.8



	BMW 518	BMW 520	BMW 525	BMW 528 i
<u>RIMS/WHEELS</u>	5 1/2 J x 14 H 2	5 1/2 J x 14 H 2	5 1/2 J x 14 H 2	6 J x 14 H 2
<u>TIRES</u>	175 SR 14 tubeless	175 SR 14 tubeless	175 HR 14 tubeless	195/70 VR 14 tubeless
<u>BRAKE SYSTEM</u>	2-circuit brake system with servo for rear brakes, pressure re- duction and pad wear warning signal  Circuit 1 for all 4 wheels Circuit 2 for front wheels	2-circuit brake system with servo for rear brakes, pressure re- duction and pad wear warning signal  Circuit 1 for all 4 wheels Circuit 2 for front wheels	2-circuit brake system with servo for rear brakes, pressure re- duction and pad wear warning signal  Circuit 1 for all 4 wheels Circuit 2 for front wheels	2-circuit brake system with servo for rear brakes, pressure re- duction and pad wear warning signal  Circuit 1 for all 4 wheels Circuit 2 for front wheels
Front	Vented disc with fixed saddle 2M4-40	Vented disc with fixed saddle 2M4-40	Vented disc with fixed saddle 2M4-40	Vented disc with fixed saddle 2M4-40
Disc diameter (mm/in.)	280/11	280/11	280/11	280/11
Rear	Drum	Drum	Disc	Disc
Drum/disc diameter (mm/in.)	250/9.9	250/9.9	272/10.7	272/10.7
<u>ELECTRIC SYSTEM</u>	12 V alternator	12 V alternator	12 V alternator	12 V alternator
Generator output (W)	630	770	770	910
Battery capacity (Ah)	36	44	55	55
Headlights	4-headlight system with 4 x 55/60 W Halogen bulbs, simultaneous switching	4-headlight system with 4 x 55/60 W Halogen bulbs, simultaneous switching	4-headlight system with 4 x 55/60 W Halogen bulbs, simultaneous switching	4-headlight system with 4 x 55/60 W Halogen bulbs, simultaneous switching
Option	Headlight wash and cleaning system	Headlight wash and cleaning system	Headlight wash and cleaning system	Headlight wash and cleaning system



## BMW 518

## BMW 520

## BMW 525

## BMW 528 i

BODYWORK

All-steel,  
fully rigid  
safety body,  
welded to  
floor pan,  
energy-absorb-  
ing nose and  
tail sections

All-steel,  
fully rigid  
safety body,  
welded to  
floor pan,  
energy-absorb-  
ing nose and  
tail sections

All-steel,  
fully rigid  
safety body,  
welded to  
floor pan,  
energy-absorb-  
ing nose and  
tail sections

All-steel,  
fully rigid  
safety body,  
welded to  
floor pan,  
energy-absorb-  
ing nose and  
tail sections

Windows  
Front

Fully-disap-  
pearing,  
windup  
windows

Fully-disap-  
pearing,  
windup  
windows

Fully-disap-  
pearing,  
windup  
windows

Fully-disap-  
pearing,  
windup  
windows

Rear

Heated rear  
pane

Heated rear  
pane

Heated rear  
pane

Heated rear  
pane

Seats  
Front

2 individual  
seats with  
recliner hard-  
ware for  
infinite rake  
adjustment  
3-point auto-  
matic belts  
height-adjust-  
able head-  
rests

2 individual  
seats with  
recliner hard-  
ware for  
infinite rake  
adjustment  
3-point auto-  
matic belts  
Height-adjust-  
able head-  
rests

2 individual  
with vertical  
adjustment and  
recliner hard-  
ware for  
infinite rake  
adjustment  
3-point auto-  
matic belts  
Height-adjust-  
able head-  
rests

2 individual  
with vertical  
adjustment and  
recliner hard-  
ware for  
infinite rake  
adjustment  
3-point auto-  
matic belts  
Height-adjust-  
able head-  
rests

Rear

Bench seat,  
armrests on  
doors

Bench seat,  
armrests on  
doors

Bench seat,  
armrests on  
doors

Bench seat,  
armrests on  
doors

MEASUREMENTS

Door width (outer)

Front (mm/in.)

1000/39.4

1000/39.4

1000/39.4

1000/39.4

Rear (mm/in.)

870/34.3

870/34.3

870/34.3

870/34.3

Shoulder width

Front (mm/in.)

1380/54.4

1380/54.4

1380/54.4

1380/54.4

Rear (mm/in.)

1375/54.2

1375/54.2

1375/54.2

1375/54.2



	BMW 518	BMW 520	BMW 525	BMW 528i
Fuel capacity incl. reserve (l./gal.)	70/18.5	70/18.5	70/18.5	70/18.5
Trunk (l./ft. <sup>3</sup> )	620/21.9	620/21.9	620/21.9	620/21.9

#### HEATING AND VENTILATION

Dual-circuit,  
fresh air  
heater with  
water-side  
regulation,  
finely-dosed  
temperature  
control for  
feet and in-  
terior, extra  
heater duct  
for rear heat.  
Defroster  
system for  
front and  
side panes.  
Venting via  
rear side  
pillars

Dual-circuit,  
fresh air  
heater with  
water-side  
regulation,  
finely-dosed  
temperature  
control for  
feet and in-  
terior, extra  
heater duct  
for rear heat.  
Defroster  
system for  
front and  
side panes.  
Venting via  
rear side  
pillars

Dual-circuit,  
fresh air  
heater with  
water-side  
regulation,  
finely-dosed  
temperature  
control for  
feet and in-  
terior, extra  
heater duct  
for rear heat.  
Defroster  
system for  
front and  
side panes.  
Venting via  
rear side  
pillars

Dual-circuit,  
fresh air  
heater with  
water-side  
regulation,  
finely-dosed  
temperature  
control for  
feet and in-  
terior, extra  
heater duct  
for rear heat.  
Defroster  
system for  
front and  
side panes.  
Venting via  
rear side  
pillars



BMW 518

BMW 520

BMW 525

BMW 528 i

DIMENSIONS

Length (mm/in.)	4620/182	4620/182	4620/182	4620/182
Width (mm/in.)	1690/66.6	1690/66.6	1690/66.6	1690/66.6
Height empty (mm/in.)	1425/56.2	1425/56.2	1425/56.2	1425/56.2
Wheelbase (mm/in.)	2636/103.9	2636/103.9	2636/103.9	2636/103.9
Track (mm/in.) at permitted axle loading	Front 1422/56 Rear 1466/57.8	1422/56 1466/57.8	1422/56 1470/57.9	1422/56 1470/57.9
Turning circle wheels (m/ft.)	9.6/31.5	9.6/31.5	9.6/31.5	9.6/31.5
Turning circle walls (m/ft.)	10.5/34.4	10.5/34.4	10.5/34.4	10.5/34.4
Empty weight (kg/lb.)	1240/2734	1310/2889	1350/2977	1410/1309
Load (kg/lb.)	460/1014	460/1014	460/1014	460/1014
Permitted total weight (kg/lb.)	1700/3749	1770/3903	1810/3991	1870/4123
Permitted axle load				
Front (kg/lb.)	850/1874	860/1896	900/1985	940/2073
Rear (kg/lb.)	970/2139	1000/2205	1010/2227	
Trailer weight with brakes (kg/lb.) 12 % grade	1200/2646	1400/3087 (A 1000/2205)	1600/3258 (A 1300/2867)	1600/3528
without brakes (kg/lb.)	500/1003	500/1003	500/1003	500/1003
Top speed (km/h-mph)	160/99	180/112	193/120	208/129
Acceleration (s.) 0-100 km/h (62 mph)	14.8	12.4	10.1	9.3
Fuel consumption				
Standard (l./100-mph)	9.8/24.0	10.3/22.8	10.4/22.6	10.6/22.2
ECE-A (70)				
90 km/h (56 mph)	7.8/30.1	7.6/30.9	7.9/29.8	8.3/28.3
120 km/h (75 mph)	10.6/22.2	10.2/23.0	10.4/22.6	10.4/22.6
City cycle	12.6/18.7	12.7/18.5	14.3/16.4	17.1/13.7



**BMW 628 CSi****BMW 633 CSi****BMW 635 CSi****ENGINE**

	6-cylinder, inline engine, water-cooled	6-cylinder, inline engine, water-cooled, with digital engine electronics	6-cylinder, inline engine, water-cooled
Capacity (cc./in. <sup>3</sup> )	2788/170	3210/195.8	3453/210.6
Stroke (mm/in.)	80/3.15	86/3.39	84/3.31
Bore (mm/in.)	86/3.39	89/3.51	93.4/3.68
Performance at 1/min. (kW)	135/5800	145/5500	160/5200
DIN hp	184/5800	197/5500	218/5200
Torque at 1/min. (Nm)	240/4200	285/4300	310/4000
(mkp)	24.5/4200	29/4300	31.6/4000
(lb.-ft.)	177.2/4200	209.8/4300	228.6/4000
Compression ratio	9.3 : 1	9.3 : 1	9.3 : 1
Mixture preparation	Electronic injection with automatic choke	Electronic injection, digitally controlled with automatic choke	Electronic injection with automatic choke
Make	Bosch	Bosch	Bosch
Type	L-Jetronic	L-Jetronic with digital engine electronics	L-Jetronic
Fuel required	Super	Super	Super

**POWER TRAIN**

Clutch	Diaphragm-spring clutch MF 240 Sph with interior hydraulic actuation and self-centering clutch release bearing	Diaphragm-spring clutch MF 240 Sph with interior hydraulic actuation and self-centering clutch release bearing	Diaphragm-spring clutch MF 240 Sph with interior hydraulic actuation and self-centering clutch release bearing
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	BMW 628 CSi	BMW 633 CSi	BMW 635 CSi
Gearbox, mechanical	Fully-synchronized 4-speed gearbox with Borg Warner synchronization by Getrag 262/9	Fully-synchronized 4-speed gearbox with Borg Warner synchronization by Getrag 262/9	Fully-synchronized 5-speed gearbox with Borg Warner synchronization by Getrag 265/5.70
Ratios			
1st gear	3.855 : 1	3.855 : 1	3.717 : 1
2nd gear	2.203 : 1	2.203 : 1	2.403 : 1
3rd gear	1.402 : 1	1.402 : 1	1.766 : 1
4th gear	1.000 : 1	1.000 : 1	1.263 : 1
5th gear			1.000 : 1
Reverse	4.300 : 1	4.300 : 1	4.234 : 1

Automatic, 3-speed gearbox (Optional)	ZF 3 HP 22 gearbox with Fichtel & Sachs hydraulic converter	ZF 3 HP 22 gearbox with Fichtel & Sachs hydraulic converter
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	Simpson ratio set	Simpson ratio set	Simpson ratio set
Ratios			
1st gear	2.478 : 1	2.478 : 1	2.478 : 1
2nd gear	1.478 : 1	1.478 : 1	1.478 : 1
3rd gear	1.000 : 1	1.000 : 1	1.000 : 1
Reverse	2.090 : 1	2.090 : 1	2.090 : 1
Rear axle ratio	3.45 : 1	3.25 : 1	3.07 : 1
	25 % limited slip differential (Optional)	25 % limited slip differential (Optional)	25 % limited slip differential (Optional)

## WHEEL SUSPENSION

Front	Independent with large caster angle, small caster offset and offset in wheel center; spring leg with coil and supplementary springs	Independent with large caster angle, small caster offset and offset in wheel center; spring leg with coil and supplementary springs	Independent with large caster angle, small caster offset and offset in wheel center; spring leg with coil and supplementary springs
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## BMW 628 CSi

## BMW 633 CSi

## BMW 635 CSi

Lateral force compensation via offset and angled coil springs; torsion bar stabilizer

Lateral force compensation via offset and angled coil springs; torsion bar stabilizer

Lateral force compensation via offset and angled coil springs; torsion bar stabilizer

Hydraulic supplementary damper on tension stroke, in direction of tension, to reduce roll tendency and increase body damping

● Track (mm/in.)  
at permitted  
axle load

1422/56

1422/56

1422/56

Rear

Independent rear axle carrier/gear-box unit with vibration-isolated three-point suspension, rubber-bushed, angled trailing arms, spring legs with coil and supplementary springs, anti-dive brake compensation, Stabilizer

Independent rear axle carrier/gear-box unit with vibration isolated three-point suspension, rubber-bushed, angled trailing arms, spring legs with coil and supplementary springs, anti-dive brake compensation, Stabilizer

Independent rear axle carrier/gear-box unit with vibration-isolated three-point suspension, rubber-bushed, angled trailing arms, spring legs with coil and supplementary springs, anti-dive brake compensation, Stabilizer

● Track (mm/in.)  
at permitted  
axle load

1487/58.6

1487/58.6

1487/58.6

Spring travel  
(mm/in.)

Front, uncompressed  
compressed

106/4.2  
94/3.7

106/4.2  
94/3.7

106/4.2  
94/3.7

Rear, uncompressed  
compressed

102/4.0  
115/4.5

102/4.0  
115/4.5

105.5/4.2  
106/4.2

STEERING

ZF recirculating ball, hydraulic power steering

ZF recirculating ball, hydraulic power steering

ZF recirculating ball, hydraulic power steering



	BMW 628 CSi	BMW 633 CSi	BMW 635 CSi
Box ratio	14.5 : 1	14.5 : 1	14.5 : 1
Overall ratio	16.9 : 1	16.9 : 1	16.9 : 1
Steering wheel turns	1.75 left 1.75 right	1.75 left 1.75 right	1.75 left 1.75 right
Steering wheel diameter (mm/in.)	380/15	380/15	380/15
Steering column	Longitudinally adjustable safety column with displaceable spindle and deformation element to meet all existing safety requirements	Longitudinally adjustable safety column with displaceable spindle and deformation element to meet all existing safety requirements	Longitudinally adjustable safety column with displaceable spindle and deformation element to meet all existing safety requirements

#### RIMS

Width - Diameter

Light alloy wheels fixed by nuts

6 J x 14

Light alloy wheels fixed by nuts

6 J x 14

Light alloy wheels fixed by nuts

6 1/2 J x 14

#### TIRES

Steel radial  
195/70 VR 14

Steel radial  
195/70 VR 14

Steel radial  
195/70 VR 14

#### BODYWORK

All-steel, unitary body with rigid passenger cell, solid pillar cross sections and roll-over bar in the middle: crush zones with programmed buckling points front and rear; front lid notched; programmed buckling points and catch hook to arrest lid in frontal collision

All-steel, unitary body with rigid passenger cell, solid pillar cross sections and roll-over bar in the middle: crush zones with programmed buckling points front and rear; front lid notched; programmed buckling points and catch hook to arrest lid in frontal collision

All-steel, unitary body with rigid passenger cell, solid pillar cross sections and roll-over bar in the middle: crush zones with programmed buckling points front and rear; front lid notched; programmed buckling points and catch hook to arrest lid in frontal collision

Windows

Total glazed area:  
291 dm<sup>2</sup>/28.4 ft.<sup>2</sup>  
Parsol Bronze, heat-resistant glass standard

Total glazed area:  
291 dm<sup>2</sup>/28.4 ft.<sup>2</sup>  
Parsol Bronze, heat-resistant glass standard

Total glazed area:  
291 dm<sup>2</sup>/28.4 ft.<sup>2</sup>  
Parsol Bronze, heat-resistant glass standard



## BMW 628 CSi

## BMW 633 CSi

## BMW 635 CSi

ELECTRIC SYSTEM

Generator	65 A at 14 V	65 A at 14 V	65 A at 14 V
Generator output	770 W	910 W	910 W
Battery capacity	66 Ah	66 Ah	66 Ah
Headlights	4-headlight system (5 3/4" Ø) with Halogen H1 bulbs, 55 W	4-headlight system (5 3/4" Ø) with Halogen H1 bulbs, 55 W	4-headlight system (5 3/4" Ø) with Halogen H1 bulbs, 55 W
Rear lights, left	Rectangular, 5-chamber lights with rear fog lamp	Rectangular, 5-chamber lights with rear fog lamp	Rectangular, 5-chamber lights with rear fog lamp
right	Rectangular, 4-chamber lights	Rectangular, 4-chamber lights	Rectangular, 4-chamber lights
Information unit	7 test lamps for engine oil level, radiator water level, brake fluid level, windshield washer level, brake pad wear, brake lights, rear lights. When no functional interruptions are present, all control lamps will light when test button is used	7 test lamps for engine oil level, radiator water level, brake fluid level, windshield washer level, brake pad wear, brake lights, rear lights. When no functional interruptions are present, all control lamps will light when test button is used	7 test lamps for engine oil level, radiator water level, brake fluid level, windshield washer level, brake pad wear, brake lights, rear lights. When no functional interruptions are present, all control lamps will light when test button is used
Ignition system	Contactless transistor coil ignition	Fully-electronic timing adjustment by micro-processor	Contactless transistor coil ignition
Central locking	Standard	Standard	Standard
Seats	Leather standard	Leather standard	Leather standard
Front	Individual seats with recliner hardware for infinite rake adjustment. Height and tilt adjustment for driver's seat. Inserted headrests, adjustable for height and tilt with lock.	Individual seats with recliner hardware for infinite rake adjustment. Height and tilt adjustment for driver's seat. Inserted headrests, adjustable for height and tilt with lock.	Individual seats with recliner hardware for infinite rake adjustment. Height and tilt adjustment for driver's seat. Inserted headrests, adjustable for height and tilt with lock.



	BMW 628 CSi	BMW 633 CSi	BMW 635 CSi
Rear	Rear seats individually shaped with center armrest, integrated headrests adjustable for height and tilt.	Rear seats individually shaped with center armrest, integrated headrests adjustable for height and tilt.	Rear seats individually shaped with center armrest, integrated headrests adjustable for height and tilt.

## MEASUREMENTS

Shoulder width			
Front (mm/in.)	1406/55.4	1406/55.4	1406/55.4
Rear (mm/in.)	1374/54.1	1374/54.1	1374/54.1
Fuel tank	Fuel tank with 3 vent lines to overflow chamber, locking gas cap standard	Fuel tank with 3 vent lines to overflow chamber, locking gas cap standard	Fuel tank with 3 vent lines to overflow chamber, locking gas cap standard
Fuel capacity incl. reserve (l./gal.)	70/18.5	70/18.5	70/18.5
Trunk (l./ft. <sup>3</sup> )			
VDA norm	413/14.6	413/14.6	413/14.6
absolute	530/18.7	530/18.7	530/18.7

## HEATING - VENTILATION

	True water-side regulated heater with 4-blade radial fan (infinitely variable). Temperature control via 270° curved disk valve	True water-side regulated heater with 4-blade radial fan (infinitely variable). Temperature control via 270° curved disk valve	True water-side regulated heater with 4-blade radial fan (infinitely variable). Temperature control via 270° curved disk valve
Warm air distribution	Maximum heater output 8000 kcal/h (9.3 kW) 2 warm air outlets in foot wells (front), 3 outlets for windshield defrosting and 2 side window defroster jets integrated in side grills	Maximum heater output 8000 kcal/h (9.3 kW) 2 warm air outlets in foot wells (front), 3 outlets for windshield defrosting and 2 side window defroster jets integrated in side grills	Maximum heater output 8000 kcal/h (9.3 kW) 2 warm air outlets in foot wells (front), 3 outlets for windshield defrosting and 2 side window defroster jets integrated in side grills



BMW 628 CSi

BMW 633 CSi

BMW 635 CSi

Fresh air distribution

Maximum airflow  
11.8 kg/min. (26.1  
lb.) Fresh air  
on driver and co-  
driver sides via  
1 each horizontal  
and vertical,  
tilting side grill  
and a middle grill.

Maximum airflow  
11.8 kg/min. (26.1  
lb.) Fresh air  
on driver and co-  
driver sides via  
1 each horizontal  
and vertical,  
tilting side grill  
and a middle grill.

Maximum air flow  
11.8 kg/min. (26.1  
lb.) Fresh air  
on driver and co-  
driver sides via  
1 each horizontal  
and vertical,  
tilting side grill  
and a middle grill.

BMW AG



## BMW 628 CSi

## BMW 633 CSi

## BMW 635 CSi

DIMENSIONS

Length (mm/in.)	4755/187.4	4755/187.4	4755/187.4
Width (mm/in.)	1725/68.0	1725/68.0	1725/68.0
Height (mm/in.) empty	1365/53.8	1365/53.8	1365/53.8
(all values, DIN standard 70020)			
Wheelbase (mm/in.)	2626/103.5	2626/103.5	2626/103.5
Track (mm/in.) at permitted axle loading			
Front	1422/56.0	1422/56.0	1422/56.0
Rear	1487/58.6	1487/58.6	1487/58.6
Turning circle wheels (m/ft.)	10.1/33.1	10.1/33.1	10.1/33.1
Turning circle walls (m/ft.)	11.2/36.7	11.2/36.7	11.2/36.7
Empty weight (kg/lb.)	1450/3197	1470/3241	1500/3308
Load (kg/lb.)	380/838	360/794	360/794
Trailer weight with brakes (kg/lb.) 12 % grade	1800/3969 (A 1600/3528)	1800/3969 (A 1600/3528)	1800/3969 (A 1600/3528)
without brakes (kg/lb.)	650/1433	650/1433	650/1433
Permitted roof load (kg/lb.)	75/165	75/165	75/165
Top speed (km/h-mph)	210/131	215/134	222/138
Acceleration (s.) 0-100 km/h (62 mph) (Manual gearbox only)	9.3	7.9	7.6
Fuel consumption ECE-A(70) l./100-mph			
90 km/h (56 mph)	8.2/28.7	8.6/27.3	8.5/27.7
120 km/h (75 mph)	10.1/23.3	10.4/22.6	10.3/22.8
City cycle	17.7/13.3	18.4/12.8	19.3/12.2



	BMW 728 i	BMW 732 i	BMW 735 i
<u>ENGINE</u>	6-cylinder, 4-stroke, inline engine, water-cooled	6-cylinder, 4-stroke, inline engine, water-cooled	6-cylinder, 4-stroke, inline engine, water-cooled
Capacity (cc./in. <sup>3</sup> ) effective	2788/170	3210/195.8	3453/210.6
Stroke (mm/in.)	80/3.15	86/3.39	84/3.31
Bore (mm/in.)	86/3.39	89/3.51	93.4/3.68
Performance at 1/min. kW DIN hp	135/5800 184/5800	145/5500 197/5500	160/5200 218/5200
Torque at 1/min. mkp lb./ft. Nm	24.5/4200 177.2/4200 240/4200	29.1/4300 210.5/4300 285/4300	31.6/4000 228.6/4000 310/4000
Compression ratio	9.3 : 1	9.3 : 1	9.3 : 1
Mixture preparation	Electronic fuel injection with automatic choke (Bosch)	Electronic fuel injection with automatic choke (Bosch)	Electronic fuel injection with automatic choke (Bosch)
Type	L-Jetronic	L-Jetronic * with digital engine electronics	L-Jetronic
Fuel required	Super 97.5 RON 87 MON	Super 97.5 RON 87 MON	Super 97.5 RON 87 MON



BMW 728 i

BMW 732 i

BMW 735 i

POWER TRAIN

## Clutch

F+S diaphragm-spring clutch  
M 240 k Sph  
with interior hydraulic clutch  
actuation and self-centering clutch release bearing

F+S diaphragm-spring clutch  
M 240 k Sph  
with interior hydraulic clutch  
actuation and self-centering clutch release bearing

F+S diaphragm-spring clutch  
M 240 k Sph  
with interior hydraulic clutch  
actuation and self-centering clutch release bearing

## Gearbox, mechanical

Fully-synchronized 4-speed gearbox with Borg-Warner synchronization from Getrag (Type 262/9)

Fully-synchronized 4-speed gearbox with Borg-Warner synchronization from Getrag (Type 262/9)

Fully-synchronized 4-speed gearbox with Borg-Warner synchronization from Getrag (Type 265/6.10)

## Ratios

1st gear  
2nd gear  
3rd gear  
4th gear  
5th gear  
Reserve

3.855 : 1  
2.203 : 1  
1.402 : 1  
1.000 : 1  
-  
4.300 : 1

3.855 : 1  
2.203 : 1  
1.402 : 1  
1.000 : 1  
-  
4.300 : 1

3.822 : 1  
2.202 : 1  
1.398 : 1  
1.000 : 1  
0.812 : 1  
3.705 : 1

## Gearbox, automatic

Automatic, 3-speed gearbox from ZF with F+S hydraulic torque converter  
Simpson gear set

Automatic, 3-speed gearbox from ZF with F+S hydraulic torque converter  
Simpson gear set

Automatic, 3-speed gearbox from ZF with F+S hydraulic torque converter  
Simpson gear set



## BMW 728 i

## BMW 732 i

## BMW 735 i

## Ratios

1st gear	2.478 : 1	2.478 : 1	2.478 : 1
2nd gear	1.478 : 1	1.478 : 1	1.478 : 1
3rd gear	1.000 : 1	1.000 : 1	1.000 : 1
Reserve	2.09 : 1	2.09 : 1	2.09 : 1

Rear axle  
transmission

Short-neck  
differential  
with hypoid  
bevel gears  
carried by  
tapered roller  
bearings

Short-neck  
differential  
with hypoid  
bevel gears  
carried by  
tapered roller  
bearings

Short-neck  
differential  
with hypoid  
bevel gears  
carried by  
tapered roller  
bearings

## Ratio

3.64 : 1

3.45 : 1

3.25 : 1

## Special equipment

Multi-plate  
limited-slip  
differential  
from ZF with  
pre-tensioned  
inner plates  
25 % lockup

Multi-plate  
limited-slip  
differential  
from ZF with  
pre-tensioned  
inner plates  
25 % lockup

Multi-plate  
limited-slip  
differential  
from ZF with  
pre-tensioned  
inner plates  
25 % lockup

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	BMW 728 i	BMW 732 i	BMW 735 i
<u>B O D Y W O R K</u>	All-steel unitary body welded to floor pan, sedan bodywork, rigid beam cross sections, roll-over bar in middle	All-steel unitary body welded to floor pan, sedan bodywork, rigid beam cross sections, roll-over bar in middle	All-steel unitary body welded to floor pan, sedan bodywork, rigid beam, cross sections, roll-over bar in middle
Windows	Untinted	Untinted	Complete Parsol Bronze
Side	Single-plate tempered safety glass, fully retracting. Window cranks alongside armrests	Single-plate tempered safety glass, fully retracting. Window cranks alongside armrests	Single-plate tempered safety glass, fully retracting. Window cranks alongside armrests
Windshield	Laminated glass	Laminated glass	Laminated glass
Rear window	Single-plate tempered safety glass with 15 printed heater conductors	Single-plate tempered safety glass with 15 printed heater conductors	Single-plate tempered safety glass with 15 printed heater conductors
Seats, front	2 individual seats with recliner hardware, adjusting to sleeper position, inserted headrests adjustable for height and tilt, seat height adjustment	2 individual seats with recliner hardware, adjusting to sleeper position, inserted headrests adjustable for height and tilt, seat height adjustment	2 individual seats with recliner hardware, adjusting to sleeper position, inserted headrests adjustable for height and tilt, seat height adjustment



## BMW 728 i

## BMW 732 i

## BMW 735 i

## Seats, rear

Bench seat with  
central armrest

Bench seat with  
individual seat  
forms and central  
armrest.  
Headrests  
adjustable for  
height and tilt

Bench seat with  
individual seat  
forms and central  
armrest.  
Headrests  
adjustable for  
height and tilt,  
with integrated  
first aid kit

## Safety belts

Three-point safety  
belts with con-  
cealed mounting  
for front seats.  
Belt latch inte-  
gral with seat

Three-point safety  
belts with con-  
cealed mounting  
for front seats.  
Belt latch inte-  
gral with seat

Three-point safety  
belts with con-  
cealed mounting  
for front seats.  
Belt latch inte-  
gral with seat

Three-point safety  
belts left and  
right in rear,  
additional lap  
belt in the middle

Three-point safety  
belts left and  
right in rear,  
additional lap  
belt in the middle

Three-point safety  
belts left and  
right in rear,  
additional lap  
belt in the middle

## Special equipment

Individual,  
electrically  
adjusted rear  
seats

Individual,  
electrically  
adjusted rear  
seats



## BMW 728 i

## BMW 732 i

## BMW 735 i

STEERING

RPM-controlled hydraulic steering with common hydraulic pump for steering and brake servo operation

RPM-controlled hydraulic steering with common hydraulic pump for steering and brake servo operation

RPM-controlled hydraulic steering with common hydraulic pump for steering and brake servo operation

Steering box

ZF recirculating ball, hydraulic steering, type 8055

ZF recirculating ball, hydraulic steering, type 8055

ZF recirculating ball, hydraulic steering, type 8055

Ratio

15.7 : 1

15.7 : 1

15.7 : 1

Steering wheel turns

3.8

3.8

3.8

Steering wheel diameter  
(mm/in.)

400/15.8

400/15.8

400/15.8

Steering column

Longitudinally adjustable, column with 2 joints and displaceable spindle

Longitudinally adjustable, column with 2 joints and displaceable spindle

Longitudinally adjustable, column with 2 joints and displaceable spindle

RIMS

Steel disk wheels

Steel disk wheels

Alloy wheels

Dimensions

6 J x 14 H 2-B

6 1/2 J x 14 H 2-B

6 1/2 J x 14H 2-B

TIRE S

Steel radial tires

Steel radial tires

Steel radial tires

Dimensions

195/70 HR 14

205/70 HR 14

205/70 VR 14



## BMW 728 i

## BMW 732 i

## BMW 735 i

WHEEL SUSPENSION

## Front

Independent with large caster angle, small caster offset and offset in wheel center; spring legs with coil and supplementary springs

Lateral force compensation via offset and angled coil springs; torsion bar stabilizer doubles as tension strut.

Hydraulic supplementary damper on tension stroke, in direction of tension, to reduce roll tendency and increase body damping  
Anti-dive compensation

Independent with large caster angle, small caster offset and offset in wheel center; spring legs with coil and supplementary springs

Lateral force compensation via offset and angled coil springs; torsion bar stabilizer doubles as tension strut.

Hydraulic supplementary damper on tension stroke, in direction of tension, to reduce roll tendency and increase body damping  
Anti-dive compensation

Independent with large caster angle, small caster offset and offset in wheel center; spring legs with coil and supplementary springs

Lateral force compensation via offset and angled coil springs; torsion bar stabilizer doubles as tension strut.

Hydraulic supplementary damper on tension stroke, in direction of tension, to reduce roll tendency and increase body damping  
Anti-dive compensation

Track width (mm/in.)  
at permitted axle load

1508/59.4

1502/59.2

1502/59.2

## Rear

Independent, rear axle carrier/gear-box unit with vibration-isolated three-point suspension, rubber-bushed angled trailing arms, spring legs with coil and supplementary springs, swing bracket on differential, anti-dive brake compensation

Independent, rear axle carrier/gear-box unit with vibration-isolated three-point suspension, rubber-bushed angled trailing arms, spring legs with coil and supplementary springs, swing bracket on differential, anti-dive brake compensation

Independent, rear axle carrier/gear-box unit with vibration-isolated three-point suspension, rubber-bushed angled trailing arms, spring legs with coil and supplementary springs, swing bracket on differential, anti-dive brake compensation

Track width (mm/in.)  
at permitted axle  
load

1522/60.0

1516/59.7

1516/59.7

Spring travel  
Front (mm/in.)

uncompressed  
compressed

102/4.0  
96/3.8

102/4.0  
96/3.8

102/4.0  
96/3.8



	BMW 728 i	BMW 732 i	BMW 735 i
Rear uncompressed	124/4.9	124/4.9	124/4.9
compressed	109.5/4.3	109.5/4.3	109.5/4.3

## BRAKE SYSTEM

	2-circuit brake system, split diagonally, with hydraulic servo and common hydraulic pump for brakes and steering, as well as pressure reservoir for brakes	2-circuit brake system, split diagonally, with hydraulic servo and common hydraulic pump for brakes and steering, as well as pressure reservoir for brakes	2-circuit brake system, split diagonally, with hydraulic servo and common hydraulic pump for brakes and steering, as well as pressure reservoir for brakes
Front	Ventilated brake discs with fixed saddles M4-40	Ventilated brake discs with fixed saddles M4-40	Ventilated brake discs with fixed saddles M4-40
Disc diameter (mm/in.)	280/11	280/11	280/11
Disc thickness (mm/in.)	22/0.9	22/0.9	22/0.9
Effective pad area per wheel (cm <sup>2</sup> /in. <sup>2</sup> )	96/14.9	96/14.9	96/14.9
Rear	Non-ventilated brake discs with fixed saddles M 33	Non-ventilated brake discs with fixed saddles M 33	Non-ventilated brake discs with fixed saddles M 33
Disc diameter (mm/in.)	280/11	280/11	280/11
Disc thickness (mm/in.)	10/0.4	10/0.4	10/0.4
Effective pad area per wheel (cm <sup>2</sup> /in. <sup>2</sup> )	50/7.75	50/7.75	50/7.75
Brake servo	Hydraulic brake boost with diaphragm reservoir regulation on control slide principle	Hydraulic brake boost with diaphragm reservoir regulation on control slide principle	Hydraulic brake boost with diaphragm reservoir regulation on control slide principle



	BMW 728 i	BMW 732 i	BMW 735 i
Emergency brake	Dual-servo drum brakes on rear wheels, bowden cable to hand brake handle between front seats	Dual-servo drum brakes on rear wheels, bowden cable to hand brake handle between front seats	Dual-servo drum brakes on rear wheels, bowden cable to hand brake handle between front seats
Ratio	9 : 1	9 : 1	9 : 1

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## BMW 728 i

## BMW 732 i

## BMW 735 i

ELECTRIC SYSTEM

Generator	Alternator, Bosch K 1 - 14 V Output 65 A	Alternator, Bosch K 1 - 14 V Output 65 A	Alternator, Bosch K 1 - 14 V Output 65 A
Battery capacity	12 V 55 Ah	12 V 66 Ah	12 V 66 Ah
Headlights	Dual-headlight units, sealed Light opening 170 mm/6.7 in.Ø dipped beam; 135 mm/5.3 in.Ø high beam H 4/H 1 55/55 Halogen bulbs	Dual-headlight units, sealed Light opening 170 mm/6.7 in.Ø dipped beam; 135 mm/5.3 in.Ø high beam H 4/H 1 55/55 Halogen bulbs	Dual-headlight units, sealed Light opening 170 mm/6.7 in.Ø dipped beam; 135 mm/5.3 in.Ø high beam H 4/H 1 55/55 Halogen bulbs
Rear lights	Rectangular, 5- chamber lights including rear fog light on left	Rectangular, 5- chamber lights including rear fog light on left	Rectangular, 5- chamber lights including rear fog light on left
Information unit	Table with 3 reserve control lights in place of information unit	7 test lamps for engine oil level, brake fluid level, radiator water level, wind- shield washer level, brake pad wear, brake lights, rear lights. When no functional interruptions are present, all control lamps will light if test button is operated	7 test lamps for engine oil level, brake fluid level, radiator water level, wind- shield washer level, brake pad wear, brake lights, rear lights. When no functional interruptions are present, all control lamps will light if test button is operated



	BMW 728 i	BMW 732 i	BMW 735 i
Speedometer	Electronic with sensor on rear axle transmission	Electronic with sensor on rear axle transmission	Electronic with sensor on rear axle transmission
Ignition system	Breakerless transistor coil ignition	Digital engine electronics and electronic ignition adjustment with micro processor	Breakerless transistor coil ignition

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## BMW 728 i

## BMW 732 i

## BMW 735 i

HEATING AND  
VENTILATION

Newly-developed heater with air-side regulation, servo water cut-off valve and 4-blade radial fan with 4 fan speeds

Newly-developed heater with air-side regulation, servo water cut-off valve and 4-blade radial fan with 4 fan speeds

Newly-developed heater with air-side regulation, servo water cut-off valve and 4-blade radial fan with 4 fan speeds

Max. heater output  
(kcal/h)  
(kW)

9.760  
11.4

9.760  
11.4

9.760  
11.4

Air distribution

3 outlets for windshield defrosting, 4 outlets in each front door, directed upwards to clear side windows. Side vent on driver's side, twin vents in center and twin vents on passenger side of instrument panel, adjustable horizontally and vertically with cutoff. Cutoff for central vent.

3 outlets for windshield defrosting, 4 outlets in each front door, directed upwards to clear side windows. Side vent on driver's side, twin vents in center and twin vents on passenger side of instrument panel adjustable horizontally and vertically with cutoff. Cutoff for central vent.

3 outlets for windshield defrosting, 4 outlets in each front door, directed upwards to clear side windows. Side vent on driver's side, twin vents in center and twin vents on passenger side of instrument panel, adjustable horizontally and vertically with cutoff. Cutoff for central vent.



BMW 728 i

1 outlet each  
side of heater,  
left and right  
in front foot  
wells  
4 outlets in  
each front door  
directed down-  
wards to heat  
door  
1 outlet each  
side of central  
tunnel to heat  
rear compartment  
Fresh air vent  
for rear  
passenger  
compartment  
in central  
tunnel unit

BMW 732 i

1 outlet each  
side of heater,  
left and right  
in front foot  
wells  
4 outlets in  
each front door  
directed down-  
wards to heat  
door  
1 outlet each  
side of central  
tunnel to heat  
rear compartment  
Fresh air vent  
for rear  
passenger  
compartment  
in central  
tunnel unit

BMW 735 i

1 outlet each  
side of heater,  
left and right  
in front foot  
wells  
4 outlets in  
each front door  
directed down-  
wards to heat  
door  
1 outlet each  
side of central  
tunnel to heat  
rear compartment  
Fresh air vent  
for rear  
passenger  
compartment  
in central  
tunnel unit

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BMW 728 i

BMW 732 i

BMW 735 i

DIMENSIONS

Length (mm/in.)	4860/191.5	4860/191.5	4860/191.5
Width (mm/in.)	1800/70.9	1800/70.9	1800/70.9
Height (mm/in.) at empty weight	1430/56.3	1430/56.3	1430/56.3
Wheelbase (mm/in.) at permitted axle loading	2795/110.1	2795/110.1	2795/110.1
Turning circle (m/ft.)	11.6/38	11.6/38	11.6/38
Empty weight (kg/lb.)	1490/3286	1530/3374	1530/3374
Permitted load (kg/lb.)	470/1036	470/1036	470/1036
Trailer weight (kg/lb.) with brakes, 12 % grade	1600/3528 With special permission, 1900 kg/4190 lb. trailer weight for grades of 8 % maximum	1600/3528 With special permission, 200 kg/4410 lb. trailer weight for grades of 8 % maximum	1600/3528 With special permission, 2000 kg/4410 lb. trailer weight for grades of 8 % maximum
without brakes	650/1433	650/1433	650/1433
Permitted roof load (kg/lb.)	100/221	100/221	100/221
Trunk capacity (l./ft. <sup>3</sup> ) VDA method	480/16.8	480/16.8	480/16.8
Fuel capacity (l./gal.)	85/22.4	85/22.4	85/22.4
Top speed (km/h-mpg)	196/122	205/127	212/132
(0 - 100 km/h (62 mph)	9.5	8.7	8.0
Fuel consumption ECE-A(70) l./100-mpg			
90 km/h (56 mph)	8.9/26.4	8.9/26.4	8.6/27.3
120 km/h (75 mph)	11.2/21.0	11.5/20.4	10.8/21.8
City cycle	17.6/13.4	18.7/12.6	20.0/11.8



## BMW 745 i

### ENGINE

#### Layout of the 6-cylinder engine:

Based on the 3.2 liter engine, with  
exhaust turbocharger and exhaust-side  
regulation.

L-Jetronic with air volume sensor

#### Performance:

185 kW (252 hp)

#### Torque:

360 Nm (265 lb./ft.)

#### Compression:

7.0 : 1

#### Exhaust valves:

made of heat resistant material  
(Nimonic)

#### Lubrication:

Thermostatically controlled engine oil  
cooler (like 735 i), plus attachment  
for turbocharger lubrication

#### Compressor cooler:

To cool compressed intake air  
(improved economy)

#### Ambient air valve:

Integrated with compressed air duct,  
to recirculate compressed air already  
passed through air volume sensor  
unit to intake side of turbine on over-  
run, as regulated by air pressure in  
collector



Exhaust manifold:

a heat-resistant casting (Ni-Resist)

Exhaust turbocharger:

Single-rotor design with good response in lower revolution range

Exhaust bypass valve:

To regulate blower pressure, located between exhaust manifold and exhaust turbocharger in a "flow unit".

## ENGINE ELECTRICS

Ignition system:

Breakerless transistor coil ignition with inductive sensor, mechanical ignition advance and retarded ignition in full-throttle realm

## MIXTURE PREPARATION

L-Jetronic with air volume sensing and analog-controlled fuel injection

## EXHAUST SYSTEM

Front exhaust pipe with single-tube connection to exhaust turbocharger and fork to dual-tube unit, muffler and connecting pipes suitable adjusted



## BODYWORK - EQUIPMENT

Elevated equipment level matching 735 i, with onboard computer added

### Onboard computer:

Located in heater-control front plate, right (replacing clock)

Basic readout, time of day

### Optional readouts:

Stopwatch function  
Outside temperature  
Arrival time  
Average speed  
Consumption  
Range on fuel load  
Distance to pre-selected goal  
Arrival time (following input of distance to goal)

### Further functions:

Time switch (for extra accessories)  
Anti-theft protection (through code input)

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### GEARBOX mechanical

Fully-synchronized 5-speed ZF gearbox

Ratios:

1st gear : 3,822 : 1

2nd gear : 2,202 : 1

3rd gear : 1,398 : 1

4th gear : 1,000 : 1

5th gear : 0,813 : 1

Reserve : 3,705 : 1

### ● GEARBOX automatic

Automatic, 3-speed gearbox, 3 HP-22 from ZF, further strengthened from Type 735 i

Ratios match 728 i - 735 i

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●



## CLUTCH

Two-plate, diaphragm-spring clutch with extended action

## REAR AXLE

Self-leveling (maintaining most constant possible ride height and wheel camber)

Ratios:

3.38 : 1 with mechanical gearbox  
3.25 : 1 or 3.15 : 1 with automatic gearbox

## BRAKES

Front brakes

Inner-vented, disc thickness 25 mm/1 in.  
(Type 728 i - 735 i: 22 mm/0.9 in.)

Rear brakes:

Non-ventilated, disc thickness 12 mm/0,5 in.  
(Type 728 i - 735 i: 10 mm/0,4 in.)

## PERFORMANCE

Top speed:

Above 220 km/h-137 mph

Acceleration

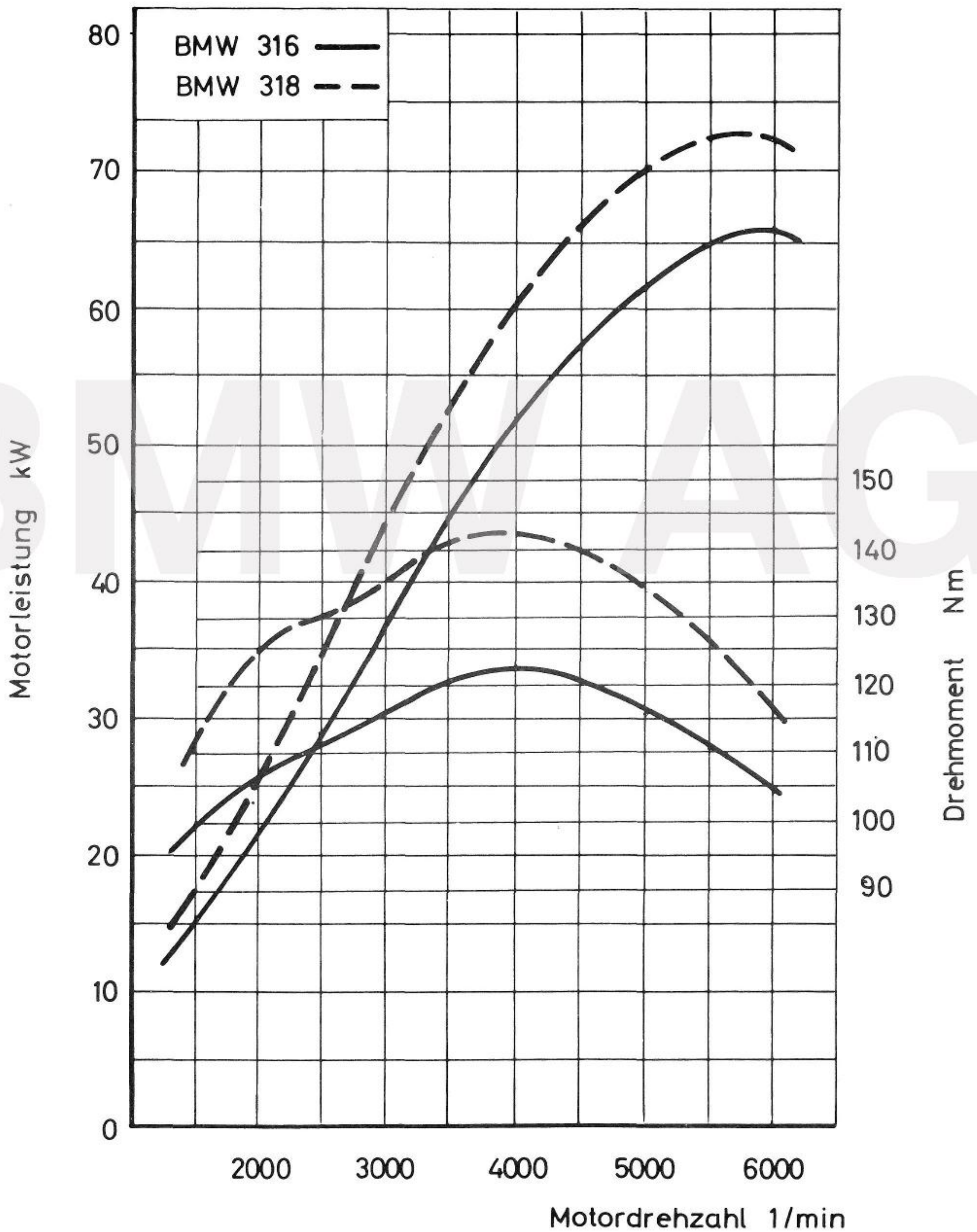
0 - 100 km/h (62 mph)

Less than 7.5 s.





Motor - Leistung - Drehmoment - Drehzahl





**BMW 316 BMW 318**  
Performance Diagram

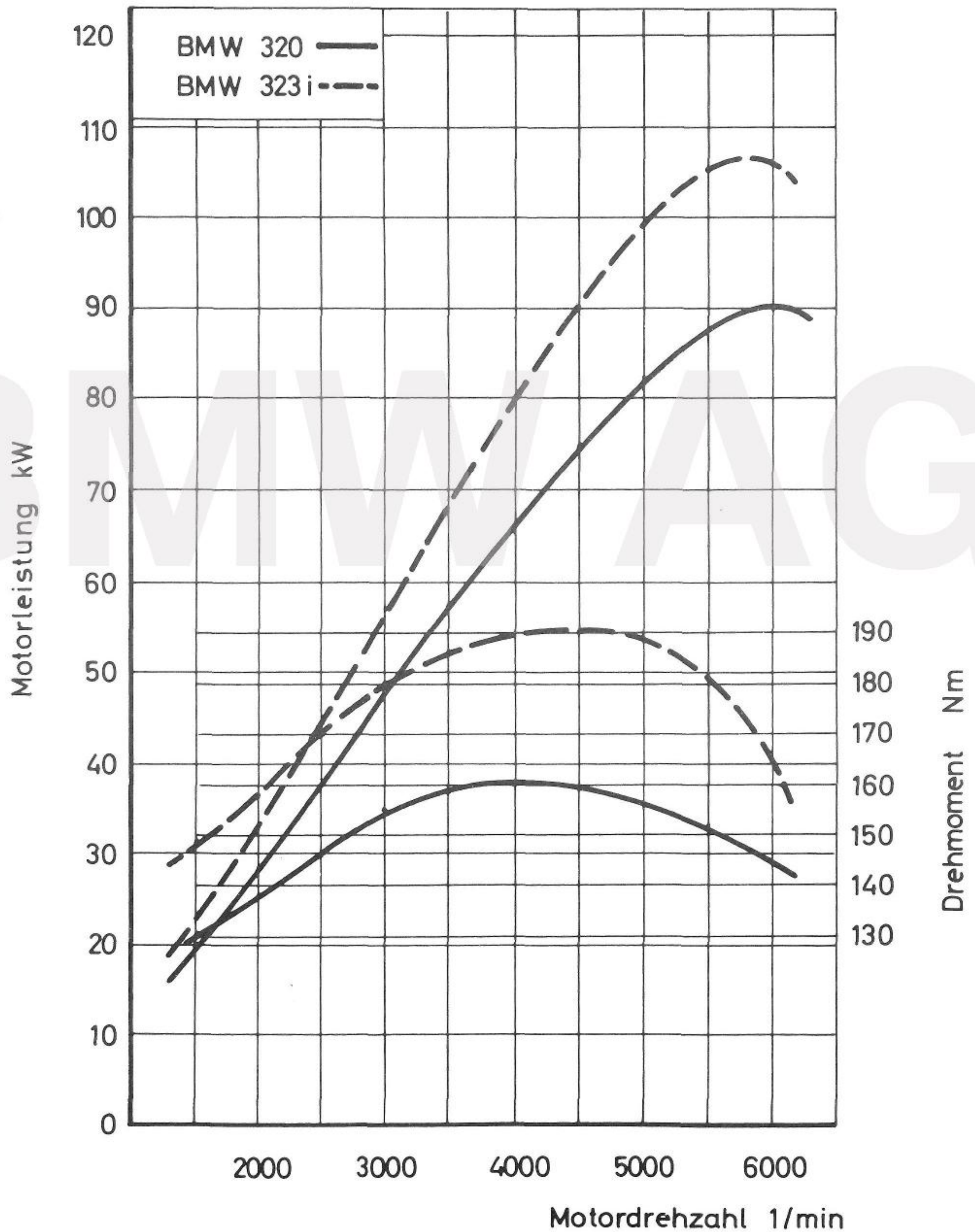
**BMW 316 BMW 318**  
Courbe caractéristique

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Motor - Leistung - Drehmoment - Drehzahl





**BMW 320 BMW 323i**  
Performance Diagram

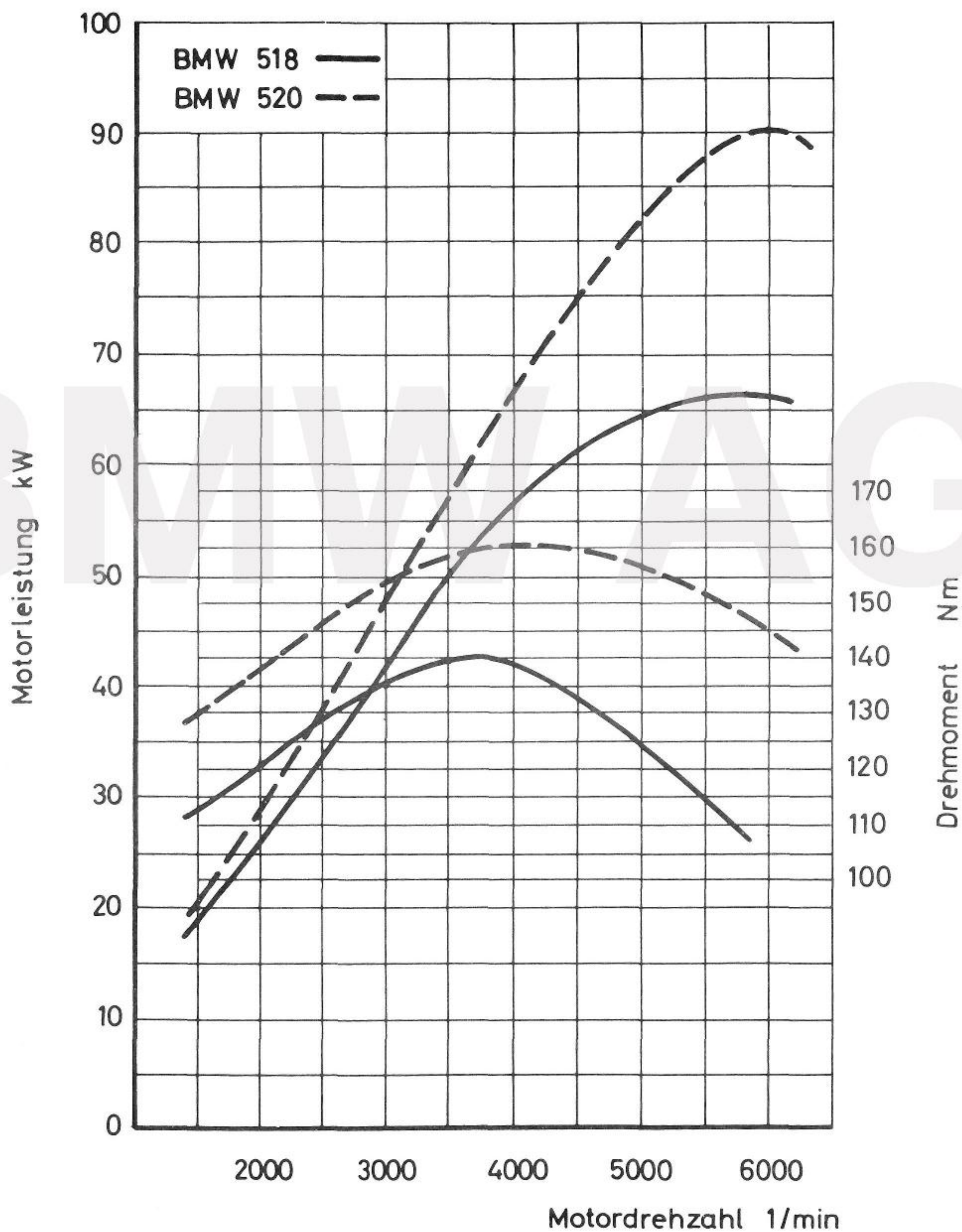
**BMW 320 BMW 323i**  
Courbe caractéristique

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Motor - Leistung - Drehmoment - Drehzahl





**BMW 518 BMW 520**  
Performance Diagram

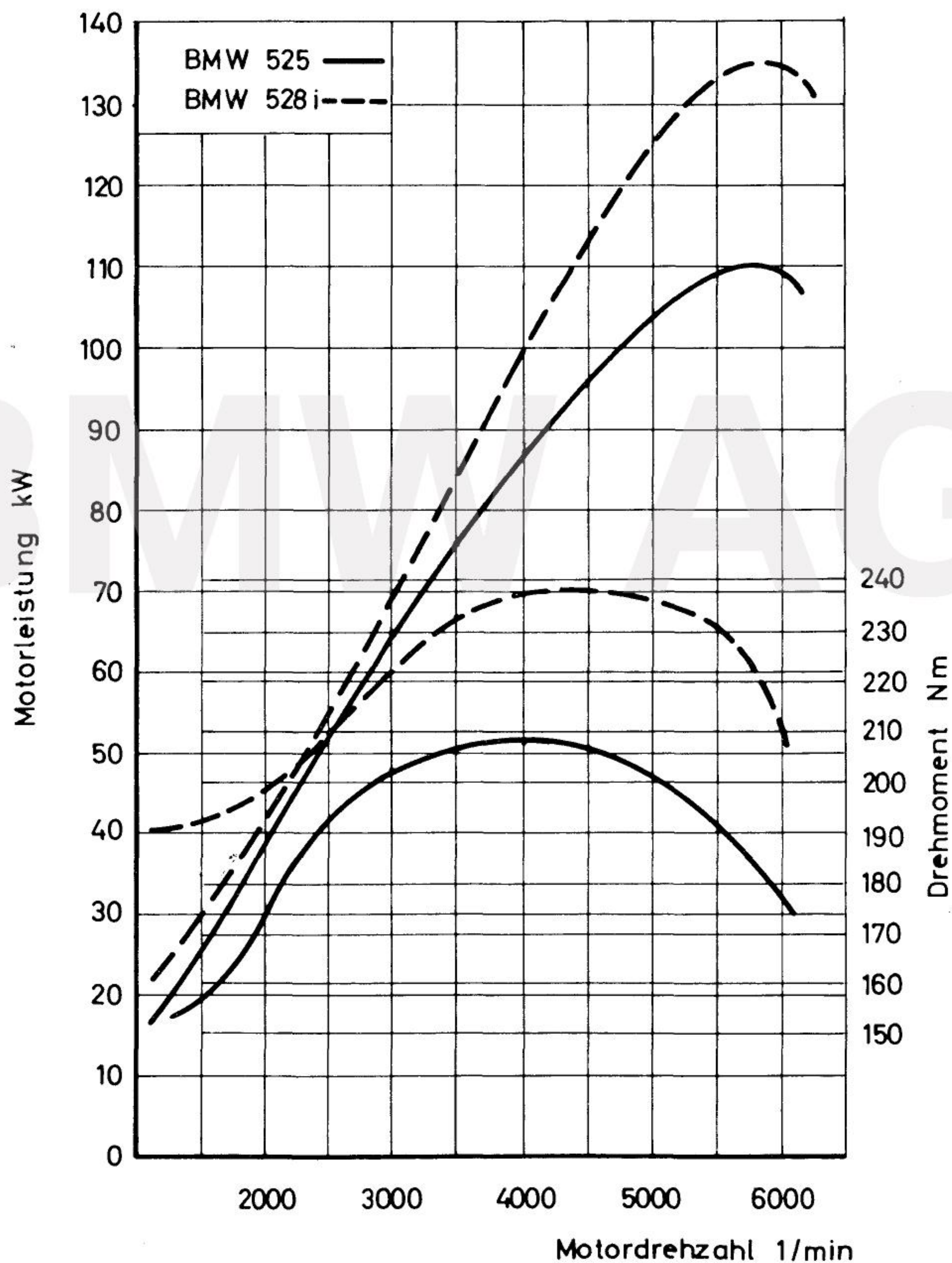
**BMW 518 BMW 520**  
Courbe caractéristique

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Motor - Leistung - Drehmoment - Drehzahl



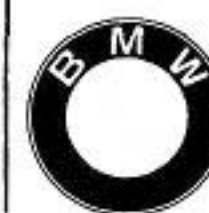


**BMW 525 BMW 528i**  
Performance Diagram

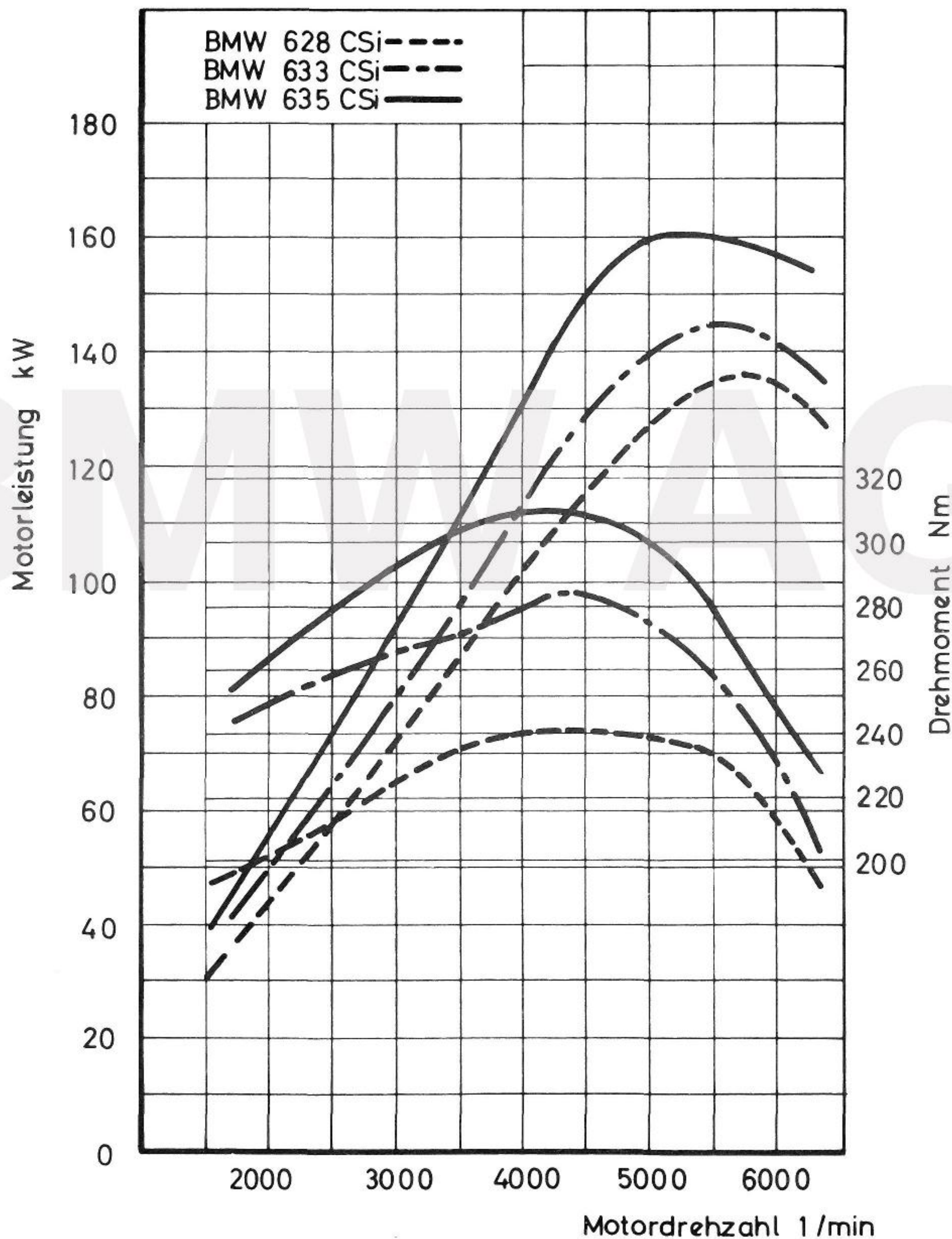
**BMW 525 BMW 528i**  
Courbe caractéristique

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Motor - Leistung - Drehmoment - Drehzahl





**BMW 628 CSi BMW 633 CSi BMW 635 CSi**  
Performance Diagram

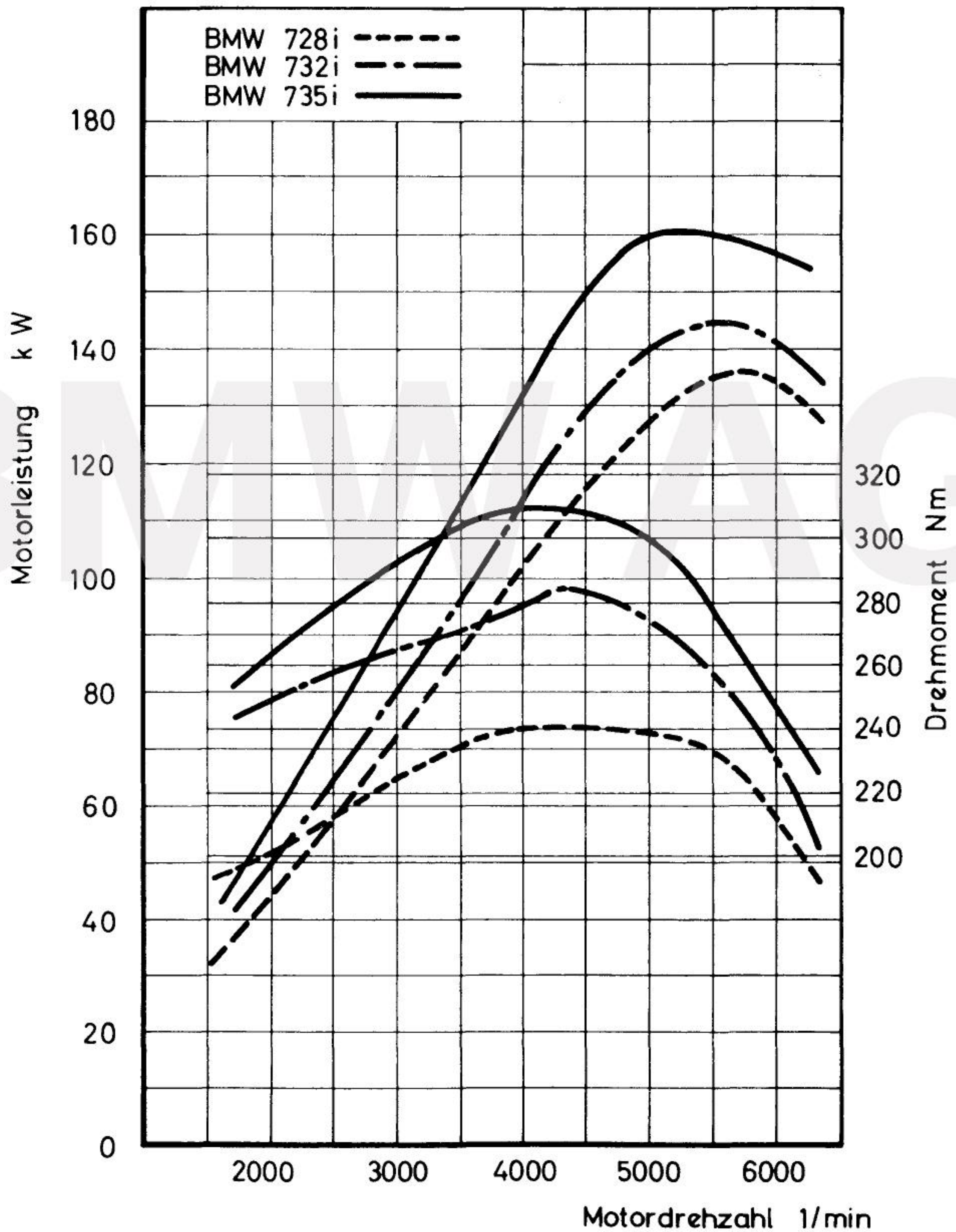
**BMW 628 CSi BMW 633 CSi BMW 635 CSi**  
Courbe caractéristique

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Motor – Leistung – Drehmoment – Drehzahl





**BMW 728i BMW 732i BMW 735i**  
Performance Diagram

**BMW 728i BMW 732i BMW 735i**  
Courbe caractéristique

BMW AG

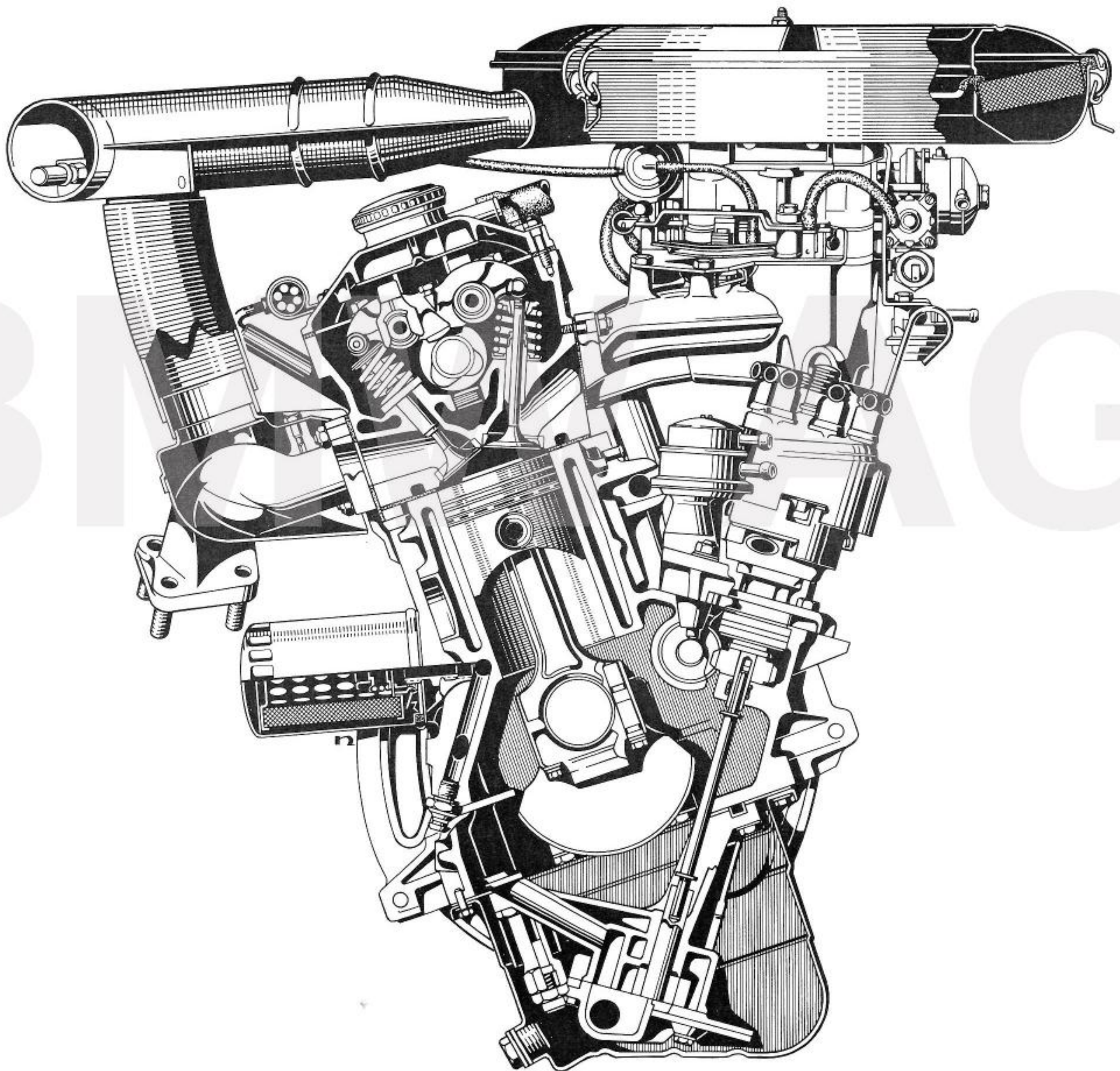


**BMW 320 BMW 520**

Schnittbild des Sechs-Zylinder-Vergasermotors

A 79/94

**BMW**





**BMW 320 BMW 520**

Leistung kW (PS): 90 (122)  
bei l/min.: 5.800  
max. Drehmoment Nm: 160  
bei l/min.: 4.000

**BMW 320 BMW 520**

Section drawing of the six-cylinder carburetor engine

**BMW 320 BMW 520**

Power kW (PS): 90 (122)  
at l/min.: 5.800  
max. torque Nm: 160  
at l/min.: 4.000

BMW AG

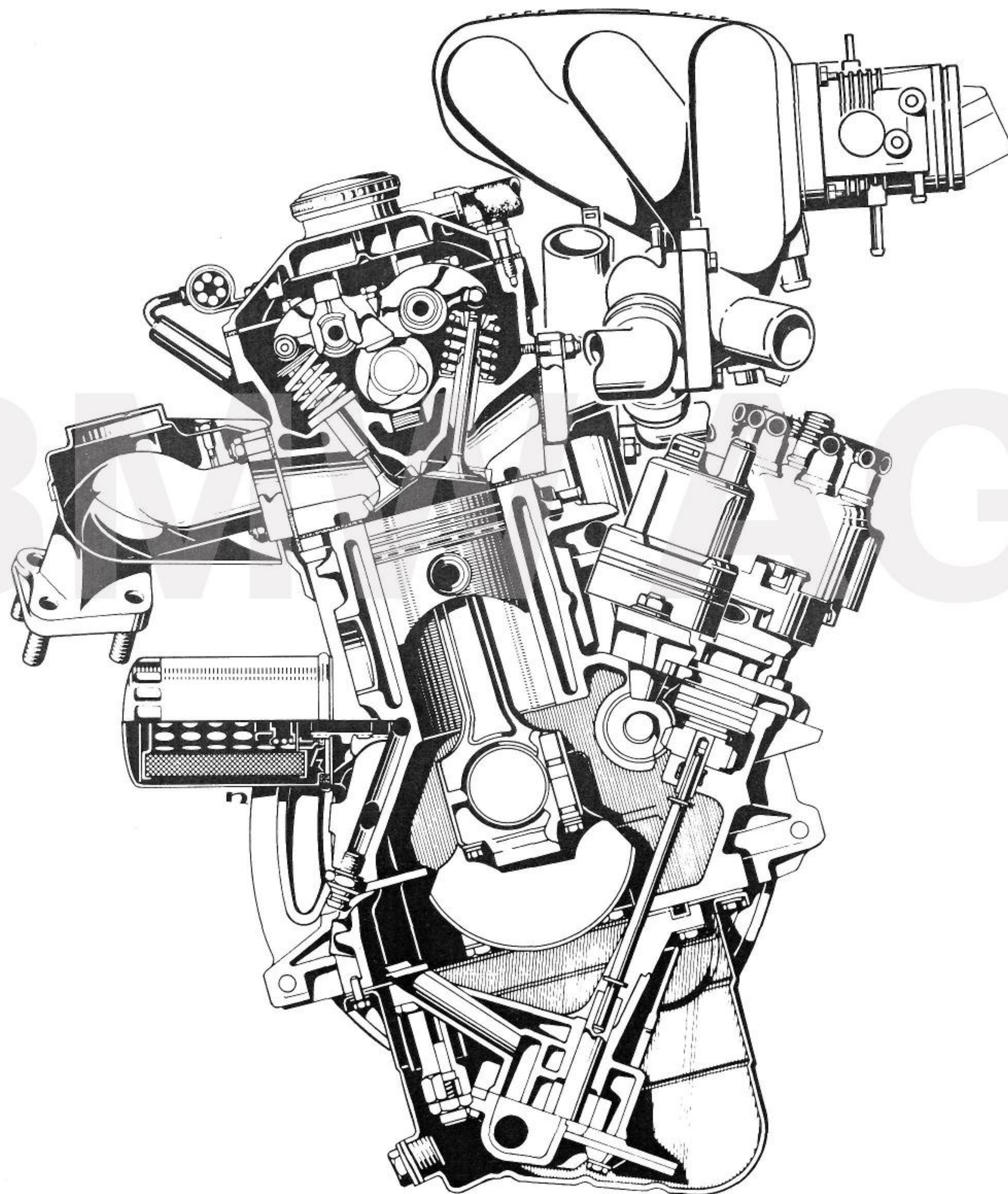


**BMW 323i**

Schnittbild des Sechs-Zylinder-Einspritzmotors

A 79/95

**BMW**





**BMW 323i**

Leistung kW (PS): 105 (143)  
bei l/min.: 5.800  
max. Drehmoment Nm: 190  
bei l/min.: 4.500

**BMW 323i**

Section drawing of six-cylinder injection engine

**BMW 323i**

Power kW (hp): 105 (143)  
at l/min.: 5.800  
max. torque Nm: 190  
at l/min.: 4.500

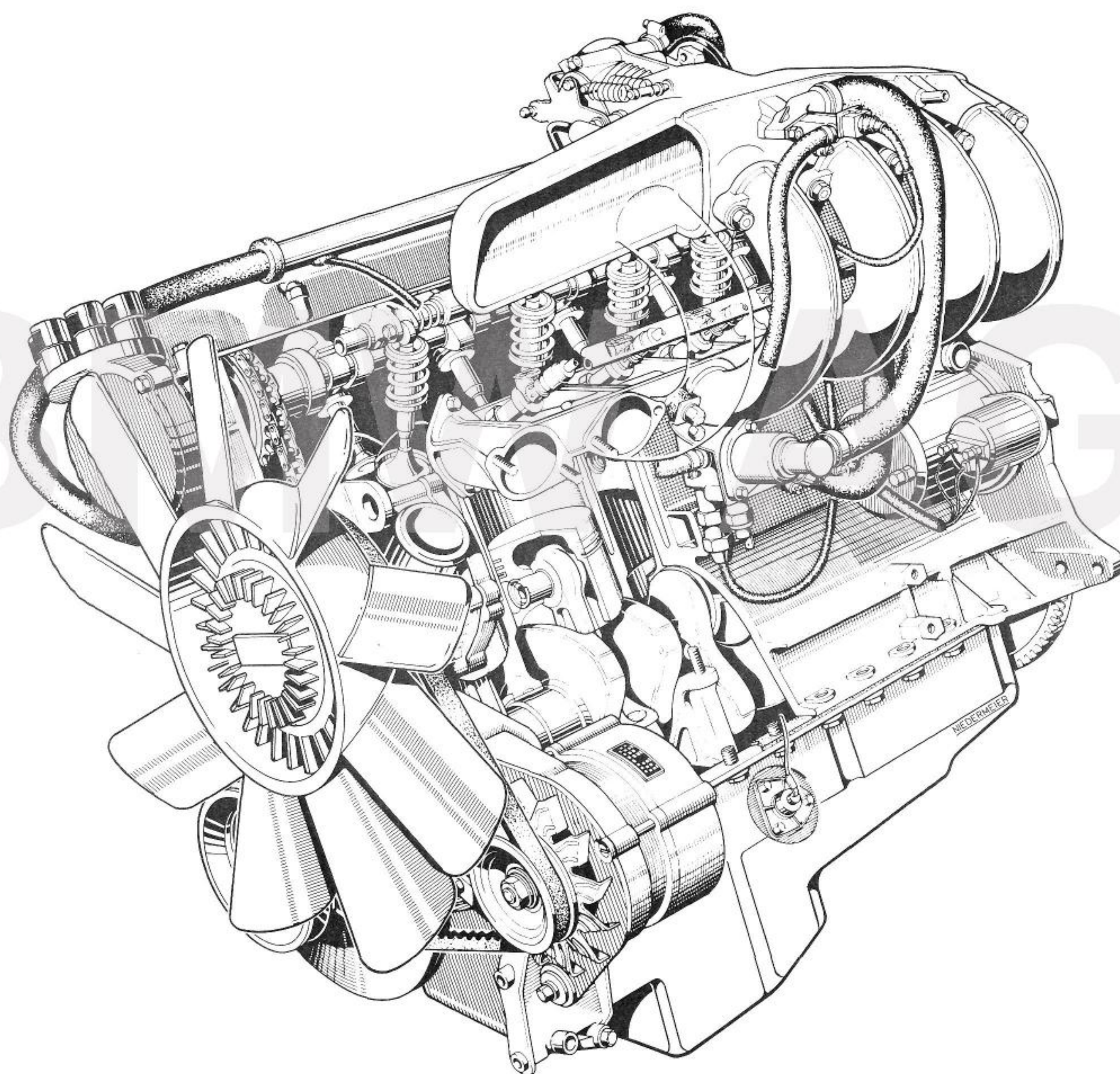
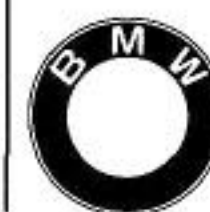
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BMW Motor 3,2 ltr. mit Motronic  
BMW 633 CSi BMW 732i

A 79/96

BMW





BMW 3.2 ltr. engine showing, Motronic  
BMW 633 CSi BMW 732i

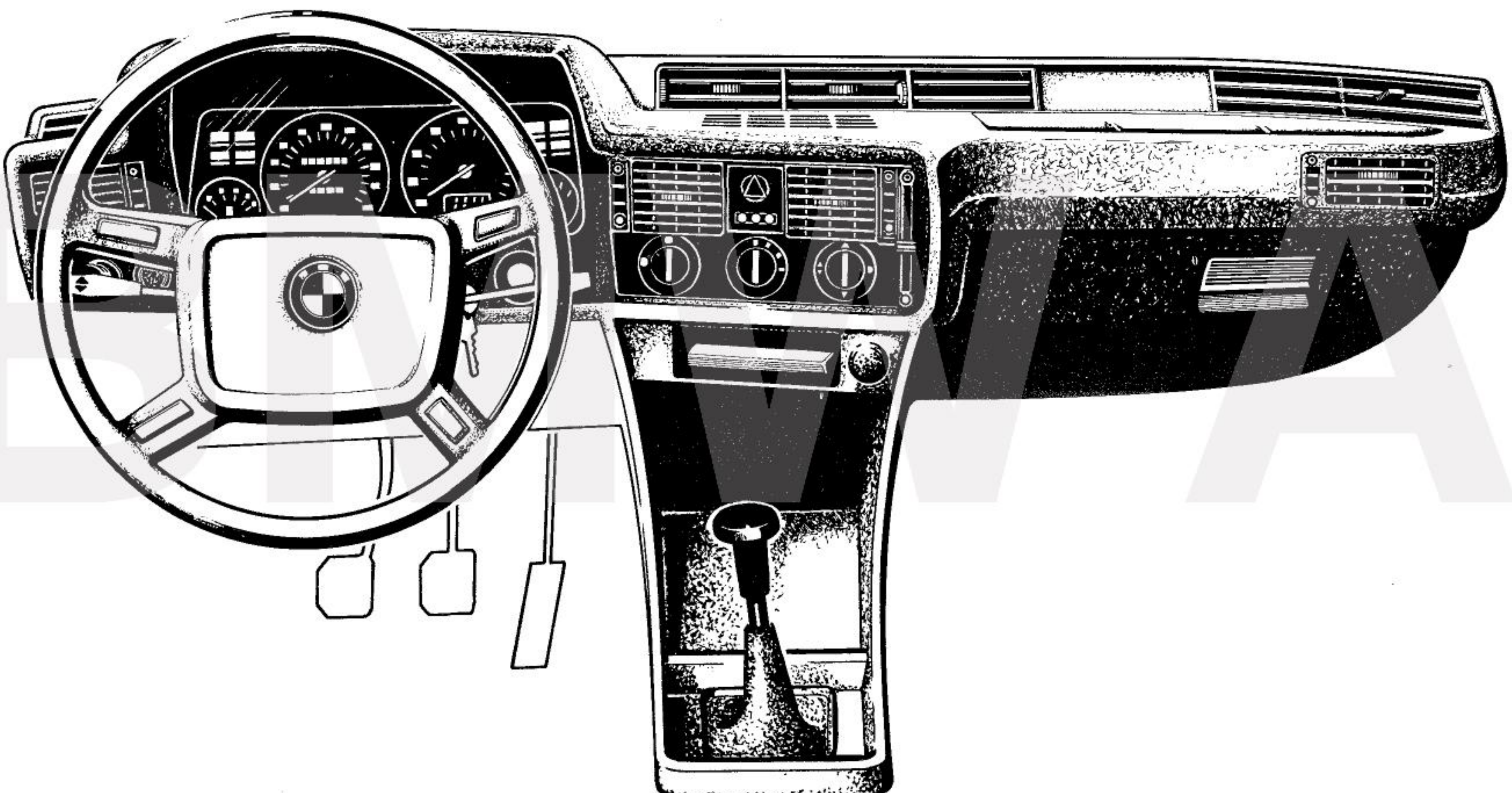
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BMW 316 BMW 318 BMW 320 BMW 323i  
Cockpit

A 79/97

BMW





Neugestaltetes Cockpit mit symbolbezeichneten Drehreglern.  
Digitalzeituhr im Drehzahlmesser.

**BMW 316 BMW 318 BMW 320 BMW 323i**  
Cockpit

Newly arranged cockpit includes rotary switches with symbol  
identifications. A digital clock is integrated into the rev. counter.

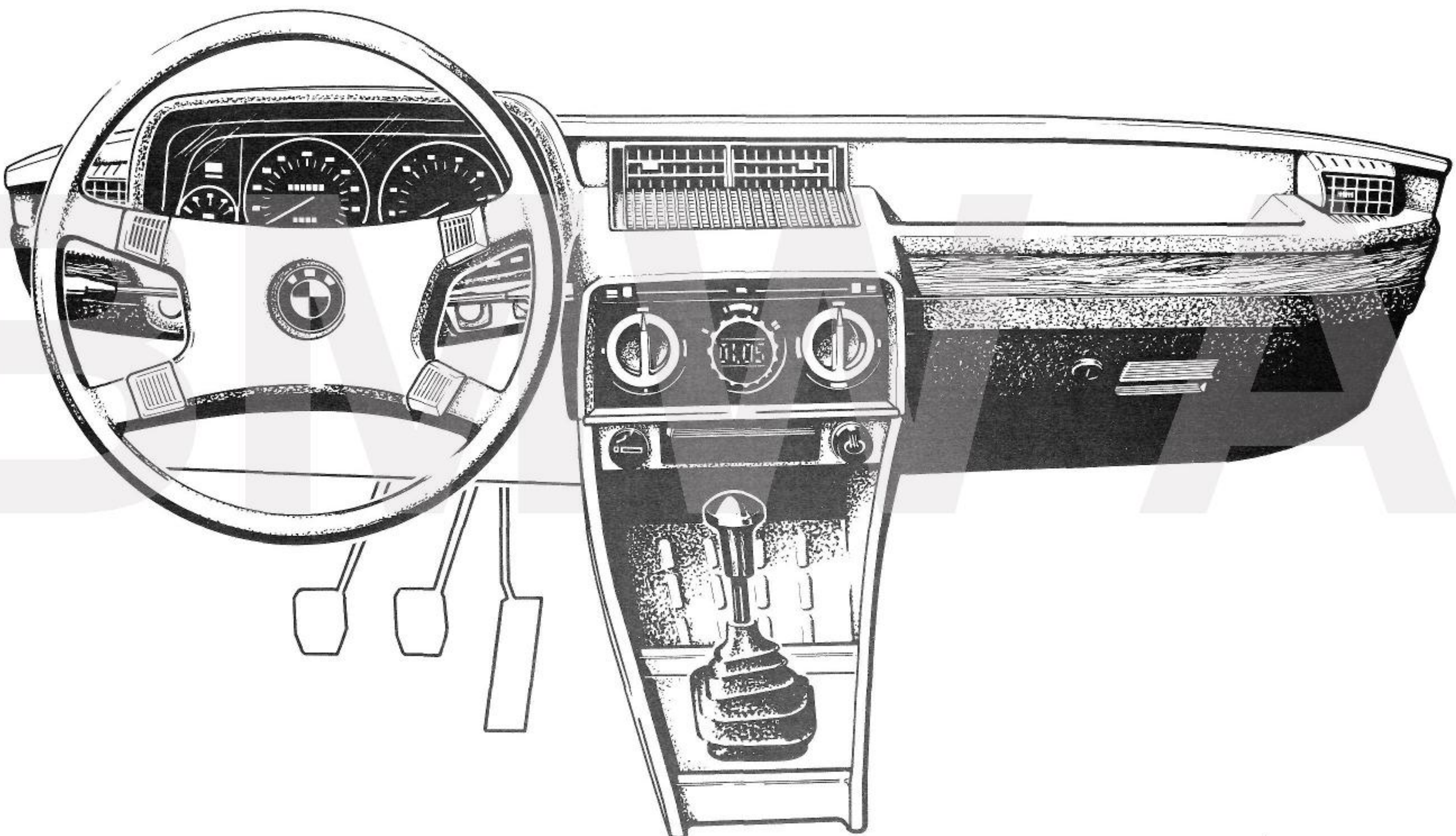
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**BMW 518 BMW 520 BMW 525 BMW 528i**  
Cockpit

A 79/98

**BMW**





Cockpit mit im Gebläse-Drehregler integrierter Zeituhr.

**BMW 518 BMW 520 BMW 525 BMW 528i**

Cockpit

The cockpit includes a rotary blower switch into with a digital clock incorporated.

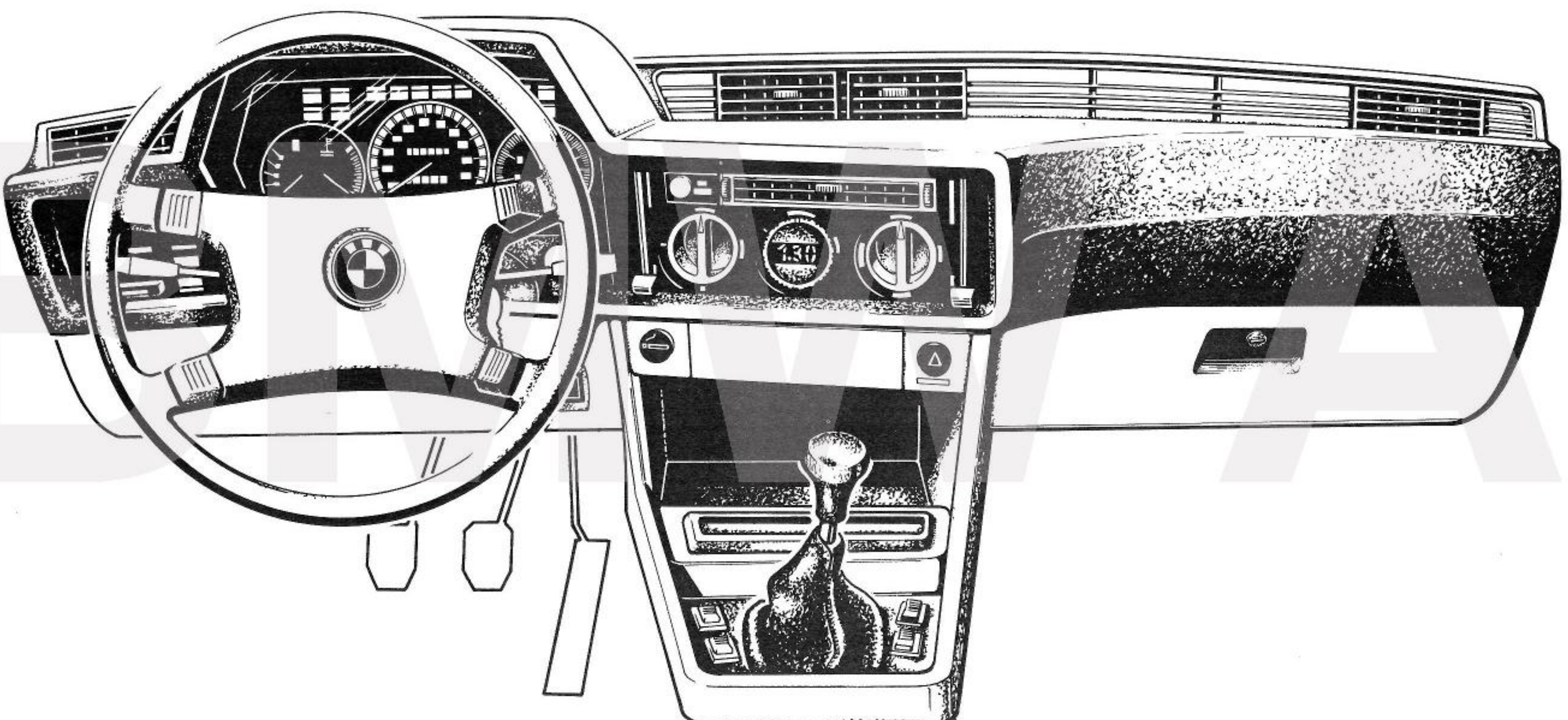
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**BMW 628 CSI BMW 633 CSI BMW 635 CSI**  
Cockpit

A 79/99

**BMW**





**BMW 628 CSi BMW 633 CSi BMW 635 CSi**

Nach ergonomischen Gesichtspunkten wurde das Cockpit der BMW 6er-Reihe konzipiert. Digitalzeituhr im Gebläsedrehknopf integriert.

**BMW 628 CSi BMW 633 CSi BMW 635 CSi**

**Cockpit**

The cockpit of the BMW 6 Series has been designed in the light of ergonomics. Digital clock integrated into a rotary blower switch.

**BMW 628 CSi BMW 633 CSi BMW 635 CSi**

**Cockpit**

Le cockpit des voitures de la série 6 a été conçu selon les aspects de l'ergonomie.

**BMW 628 CSi BMW 633 CSi BMW 635 CSi**

**Cockpit**

Il cockpit della Serie 6 CS BMW è stato concepito in base a precisi criteri ergonomici.

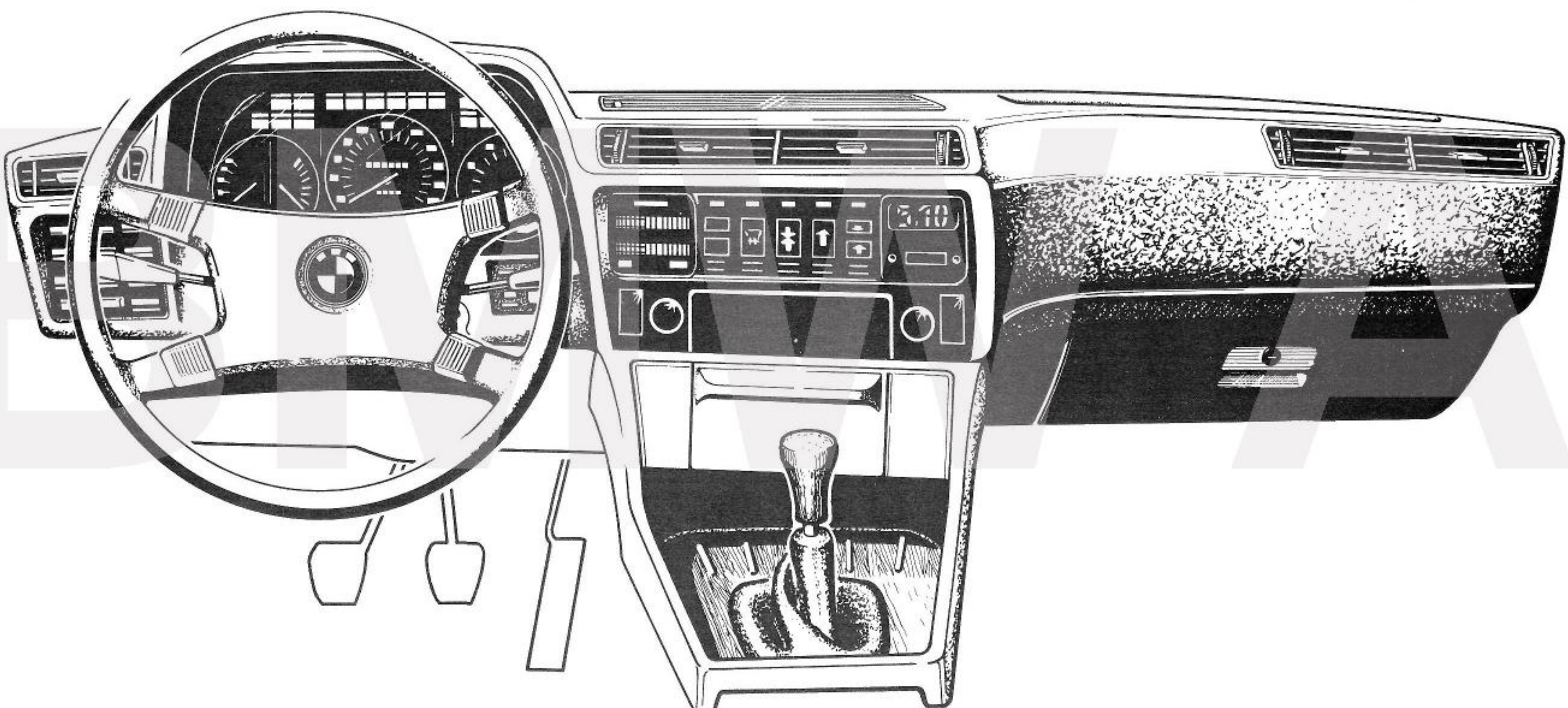
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**BMW 728i BMW 732i BMW 735i**  
Cockpit

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**BMW**





**BMW 728i BMW 732i BMW 735i**

Das nach ergonomischen Gesichtspunkten gestaltete Cockpit der BMW 7er-Reihe mit der neuen Kontroll- und Bedienungsanlage von Heizungs- und Belüftungssystem im Mittelbereich.

**BMW 728i BMW 732i BMW 735i**

Cockpit

The cockpit of the BMW 7 series, which has been designed from the ergonomic standpoint, with the new controls and operating panel of the heating and ventilation system in the medium ranges.

**BMW 728i BMW 732i BMW 735i**

Cockpit

Le cockpit des voitures de la série 7 conçu selon les aspects de l'ergonomie avec, dans la zone centrale, la nouvelle installation de commande et de contrôle du système de chauffage et de ventilation.

**BMW 728i BMW 732i BMW 735i**

Cockpit

Il cockpit della Serie 7 BMW, disegnato in base a criteri ergonomici, con il nuovo impianto di controllo e di comando del riscaldamento e dell'aerazione, e settore centrale.

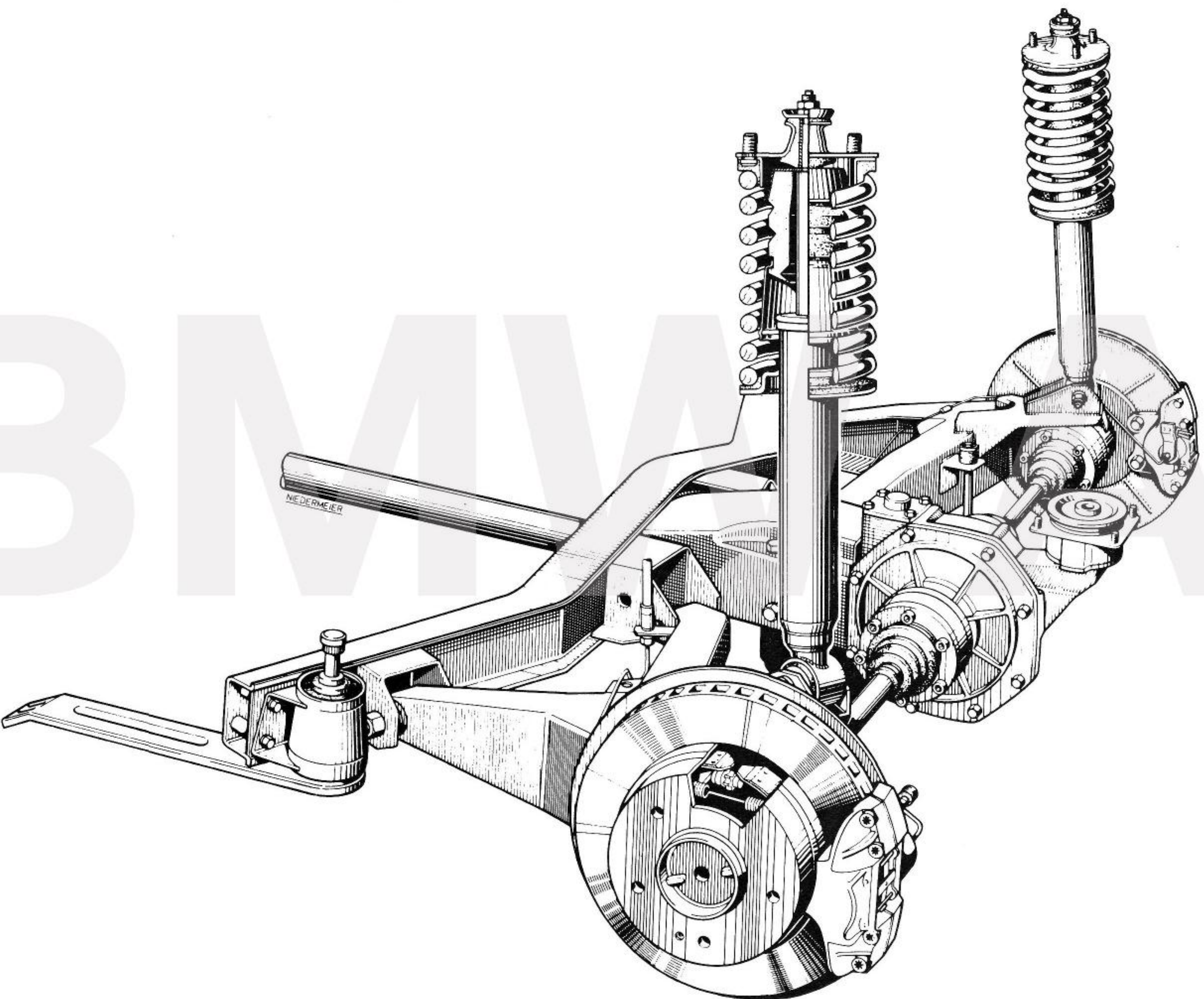
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BMW 628 CSI BMW 633 CSI BMW 635 CSI  
Hinterachse

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BMW





**BMW 628 CSi BMW 633 CSi BMW 635 CSi**

Schräglenker-Hinterachse mit innenbelüfteten  
Scheibenbremsen, Bremsnickausgleich.

**BMW 628 CSi BMW 633 CSi BMW 635 CSi**

Rear axle

Inslined guide rod for rear axle with internally aircooled disk  
brakes, anti-dive brake compensation.

**BMW 628 CSi BMW 633 CSi BMW 635 CSi**

Pont arrière

Pont arrière à bras obliques avec freins à disque à  
ventilation interne, effet anti-plongée.

**BMW 628 CSi BMW 633 CSi BMW 635 CSi**

Assale posteriore

Assale posteriore a bracci triangolari oscillanti, con freni a  
disco autoventilanti.

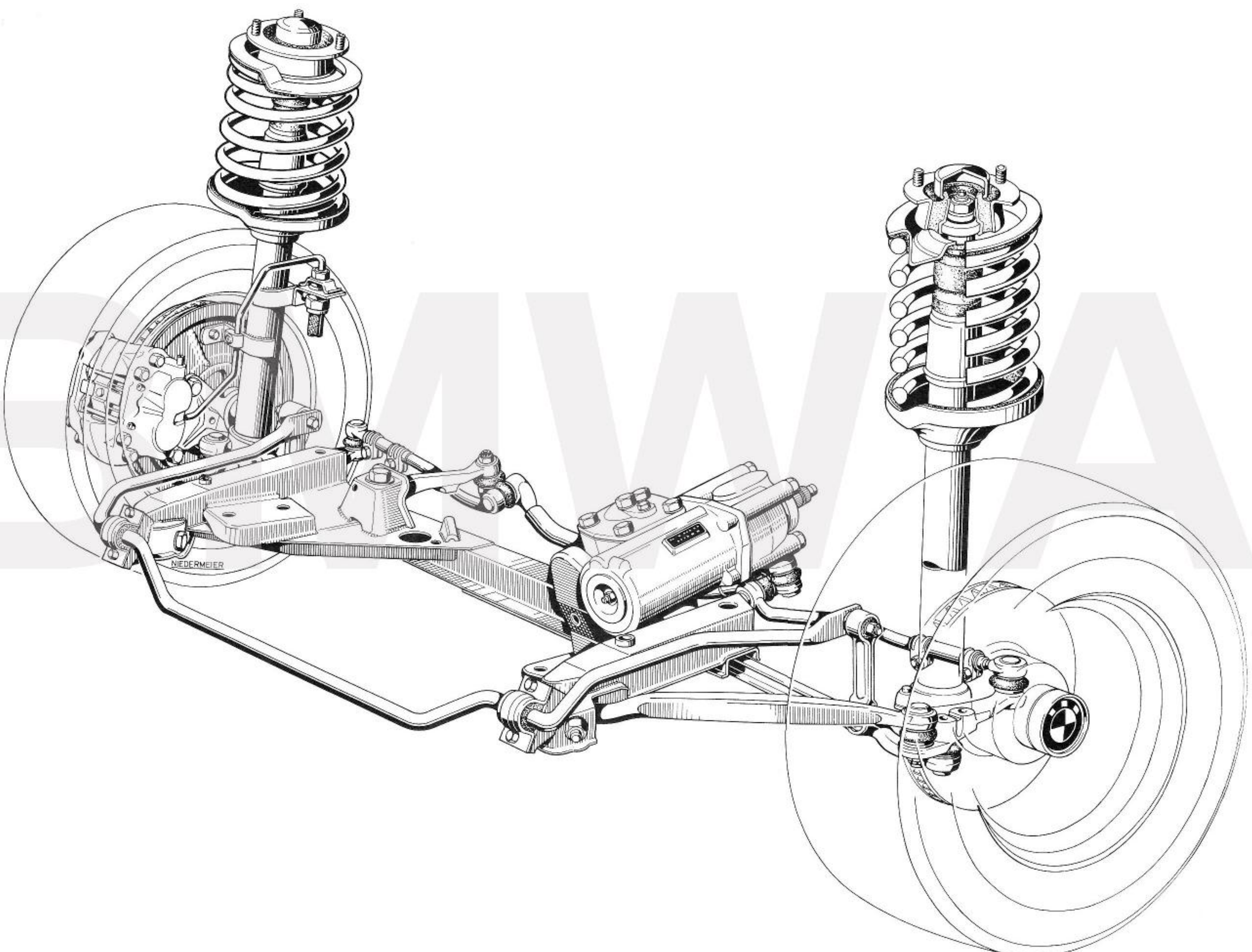
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**BMW 728i BMW 732i BMW 735i**  
Vorderachse

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**BMW**





**BMW 728i BMW 732i BMW 735i**

Doppelgelenk-Federbeinachse mit imaginärem unteren Drehpunkt, kleinem positiven Lenkrollradius und Bremsnickausgleich.

**BMW 728i BMW 732i BMW 735i**

Front axle

Double swivelling shock absorber leg axle with imaginary lower center of rotation, small positive steering roller radius and braking pitch compensation.

**BMW 728i BMW 732i BMW 735i**

Pont avant

Jambe de suspension à double articulation avec centre de rotation inférieure imaginaire, faible rayon de roulis positif et effet anti-plongée.

**BMW 728i BMW 732i BMW 735i**

Assale anteriore

Assale a doppio snodo e montanti molleggiati con centro di rotazione immaginario inferiore, piccolo braccio a terra positivo e compensazione di beccheggio in frenata.

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**Table of Consumption Values for Standard- / 5-Speed Overdrive / Automatic Models**

Consumption figures acc. DIN 70030, Section I, RV 6/78

Model / transmission	90 km/h 56 mph	120 km/h 75 mph	city
BMW 316/5/-	7,4/6,7/-	10,1/9,2/-	11,1/11,1/-
BMW 318/5/A	7,2/6,3/8,4	9,7/8,8/11,6	11,9/11,9/11,0
BMW 320/5/A	7,5/7,2/7,5	10,1/9,6/10,3	13,0/13,0/12,0
BMW 323i/5/A	7,7/7,2/8,1	10,5/9,5/11,1	14,3/14,3/12,5
BMW 518/5/-	7,8/7,2/-	10,6/9,6/-	12,6/12,6/-
BMW 520/5/A	7,6/6,9/8,1	10,2/9,2/10,8	12,7/12,7/12,2
BMW 525/5/A	7,7/7,4/8,9	10,4/9,7/11,2	14,3/14,3/14,4
BMW 528i/5/A	8,3/7,3/9,1	10,4/9,5/11,3	17,1/17,1/16,1
BMW 628 CSi/5/A	8,2/6,8/8,8	10,1/9,2/11,1	17,7/7,7/16,7
BMW 633 CSi/5/A	8,6/7,8/8,9	10,4/9,7/10,9	18,4/18,4/17,8
BMW 635 CSi/x/A	7,6/x/9,8	9,4/x/11,6	19,0/x/18,6
BMW 728i/5/A	8,8/8,1/9,6	11,2/10,4/12,1	17,8/17,8/17,4
BMW 732i/5/A	8,9/8,5/9,7	11,5/10,8/12,3	18,7/18,7/18,1
BMW 735i/x/A	8,6/x/9,7	10,8/x/12,1	20,0/x/19,5

x = 5-speed overdrive standard eq. (BMW 635 CSi: close ratio 5-speed)



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**B M W in facts and figures****The First Six Months of 1979**

BMW were able to continue the successful trend of the previous year into the first half of 1979. It was possible to consolidate the Group's market position in the Federal Republic of Germany and on important foreign markets, and to build it up yet further. More than 181.000 automobiles were produced; that is about 11 % more than in the same period of the previous year. Domestic registrations rose by 11 %, and exports grew by 7 %.

The turnover of BMW AG increased in the first six months of 1979 by almost 18% to 3.5 billion DM; in the whole BMW Group, it rose by about 20% to 3.9 billion DM. Profitability is satisfactory.

The consistent model policy and attention paid to the models were important prerequisites for this result. BMW disposes of a balanced model range, including the three model series, the BMW 3, 5 and 7 series topped by the coupé and the M 1. BMW automobiles are characteristic for their future oriented engineering, combined with sporting performance and with comfort, with functional beauty and reliability.

To maintain this claim into the future is a constant challenge, particularly in times when competition on the automobile markets of the entire world is growing more intense for divers reasons. It was the energy debate of 1973 which caused BMW to push ahead still harder with fuel-saving concepts of every kind, within the framework of its technical development program. In the fall of 1978 the first results, in the shape of several new engine designs, were disclosed to the specialist press. These comprise firstly an efficiency-optimized internal combustion engine (the BMW Eta motor), secondly a concept for the automatic switching off of individual cylinders at cruising



speeds, and finally a BMW diesel engine with exhaust gas turbocharger. These developments, which will be ready for series production in the next few years, will lead to fuel savings of up to 25 %. This constitutes more than twice the savings which the German automobile industry had promised the Federal Government by 1985.

Parallel with these new engine designs, BMW has thrust ahead with its other developments, so successfully that BMW automobiles, as from the fall of 1979, will be consuming on average across the whole range about 7 % less fuel than comparable 78-models.

BMW's leading position as regards progress in automobile engineering will be reinforced by other innovations. For example, from the fall of 1979, BMW will be the first manufacturer in the world to offer digital engine electronics, which at all times calculate the optimal and thus the most economical ignition and injection values, to save fuel. The BMW on-board computer will be available with the top models. Its functions, among other benefits, make really energy-conscious driving possible.

The BMW tradition of exclusive and technically progressive automobiles will apply in the future, as today. Due to the already high level of attainment, this demands a high degree of innovation, endurance, but also of investment capital.

The investments of BMW AG in fixed assets, at about 3 billion DM, will in the next five years be more than double the amount invested in the previous five-year period. After five booming years, the remainder of 1979 will probably bring the long-awaited approximation of automobile demand to the long-term trends. The competition for quality will gain in significance. BMW is fully prepared for the challenges of the future.



**BMW in Figures**  
**1st Halfyear of 1979**

compared with same period  
of previous year

			January to June		Change
			1979	1978	in %
<u>Turnover</u>					
BMW AG in	Germany	mill.DM	1840.0	1526.0	+ 20.6
	abroad	mill.DM	1659.0	1451.0	+ 14.6
	total	mill.DM	3499.0	2977.0	+ 17.5
BMW	Group	mill.DM	3898.0	3.256.0	+ 19.7
<u>Production</u>					
- Automobiles		units	181,334	163,581	+ 10.9
- motor-cycles		units	13,646	15,255	- 10.5
<u>Automobile sales</u>					
in Germany		units	89,525	78,598	+ 13.9
abroad		units	92,404	85,963	+ 7.5
total		units	181,929	164,561	+ 10.6
<u>Motor-cycle sales</u>					
in Germany		units	5,927	4,230	+ 40.1
abroad		units	10,462	7,369	+ 41.6
total		units	16,389	11,619	+ 41.1
<u>Personnel at 30th June</u>					
BMW AG			35,719	34,036	+ 4.9
BMW Group			40,704	38,589	+ 5.5



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